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Virgin Islands Ecological Resource Collection

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University of the Virgin Islands

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BLACK HERITAGE TREE PROJECT

American shortsightedness can teach us a few lessons

Olasee Davis is a graduate student at Stephen F. Austin State University in Nacogdoches, Texas.

Guest editorial

Olasee Davis

Practices related to wildlife management that we often take for granted have actually come into existence over a period of many hundreds of years.

Early on wildlife management practices, or what may be a noticeable lack of management practices, seemed to have had their basis in the philosophical views of the local populations. In 1776, we agreed that governments were instituted among men to secure certain inalienable rights for all men, that among these were life, liberty, and the pursuit of happiness.

But by our standards today, early America was an economically depressed area, and freedom is limited when people must spend most of their working moments procuring the necessities of life. So it became patriotic, consistent with the national goal, to develop the land, be successful in business, raise large families, and populate the country.

At first the goal and morality of the country was freedom, and the development of the land was a means to accomplish that goal. But as time went, on the means became as important as the goal. Economic growth became the driving force in America as in the Virgin Islands today. This of course greatly influenced the use or abuse of all our natural resources.

Records of early settlers in America measured the wildlife in terms as "incredible numbers." We can be reasonably sure that those early Americans probably greatly overestimated the true picture in the eastern part of the country. And of course, they had no way of knowing about the vast herds of buffalo in the plains.

The early settlers chose to live along the coast, and one of the reasons for this was because this was the major habitat of most wildlife species. As you might guess, it did not take long for hunting pressure to cause a rapid depletion in the early game populations along the coast. In the Virgin Islands of course, coastal areas are not being hunting for wildlife, but rapid developments that are destroying wildlife habitats.

By 1639, regulations on deer hunting in America was imposed by the town charter of Newport, Rhode Island. In 1698 two colonies, Connecticut and Massachusetts imposed limits on deer hunting. By that time however, the deer herds were almost gone.

So some regulatory groups were finaliy established in America. In 1844, the New York Sporting Club was formed. A few years later the New York State Game Protective Society was established. In 1865, Massachusetts formed the first state administered game and fish commission. Eventually, other states in the country established laws to regulate the use of wildlife.

As long as hunting was done mainly for subsistence there were few problems related to the destruction of wildlife by hunters.

It was not until overseas markets opened up that Indians, company trappers, and free trappers found that Europeans would pay hefty prices for beaver pelts. Supplying furs for felt hats and feathers for ladies hats soon took a great toll on specific wildlife species in America. Thus, passenger pigeons could be easily killed during nesting season, and this shortsightedness led to the extinction of them in 1914. The vast herd of buffalo fell and by 1890, only 500,000 deer remained in North America.

In contrast, coastal areas in the Virgin Islands are being developed at an escalated rate, especially on St. Croix. How long will it take the people of the Virgin Islands to see the over development of our coastal areas.

We all agree that such practices on wildlife in America were shortsighted, and this is why some species of wildlife became extinct. Regardless of how much things change in the name of 'progress, some things will always remain the same.

Is this true today?

In the 1900's, the Lacey Act made the interstate transportation of game taken against state law a federal crime. In 1903, the first Bird Sanctuary on Pelican Island was established. In 1910, the first large scale practice of public game management on public owned lands began in the National Forest.

It was president Theodore Roosevelt's philosophical view when he said that all the outdoor resources should be treated as one. That conservation through wise use is a public responsibility and private ownership is a public trust. He also said game and fishery management is a question of how to best manage our resources without evicting ourselves.

Other laws were established such as acts to control soil erosion, to establish a wildlife society, and to protect endangered species and fish and wildlife.

We in the Virgin Islands are making the same mistake that early Americans made.

This time, it is not hunting, but developers and legislators who are not concerned about the environmental impact

Who knows, by the year 2000 most or all beach fronts in the Virgin Islands or coastal areas could be developed. The only way that people of the Virgin Islands can protect precious natural resources is by protecting the future for future generations.

Protect the Leatherbacks

Olasee Davis is a local environmentalist. This personal opinion does not necessarily reflect the opinions of his employer, the University of the Virgin Islands' Cooperative Extension Service.

Olasee Davis

Guest Editorial

The Crucians of Sandy Point beach habitat on the island of St. Croix are threatened by trash. Sandy Point has become a dumping site instead of a wildlife sanctuary for the endangered Leatherback turtles. Those who use the beach as recreation, those who live in the general area, and those who felt that Sandy Point is a good place to dump their trash are actually perpetuating the extinction of the Leatherback turtles — the forgotten Crucians.

The Leatherback turtles have been around for 150 million years. These creatures were alive before the dinosaurs existed on Earth, much less man. The Bible stated that "God gave man dominion over the fish of the sea, the fowl of the air, the cattle, and over all creeping things that move upon the earth."

It seems that man is losing the ability to manage the natural resources on earth that was entrusted to him by his Creator. Thus, of all creatures on Earth, man is the only one with the ability to tailor the abundance of most species to fit his desires.

In 1978, the U.S. Fish and Wildlife Service designated Sandy Point as a refuge for the Leatherback turtles. The following year, the National Marine Fisheries Service took a step further by designating the surrounding water of Sandy Point as a critical habitat for the sea turtles.

Four years later, Sandy Point was purchased by the federal government. This was to protect the sea-turtle habitats and its wildlife for generations to come. Wildlife now threatened in the Virgin Islands can be maintained only by protecting those populations that still exist and preserve what remains of their habitats.

Sandy Point beach is near a salt pond which is 500 acres, the biggest in the Virgin Islands, that should be protected against future development. This salt pond has been used in the past as a dumping site. It should not be. We should take more pride in our surrounding environment. In a sense, every one of us is to blame for the current dilemma as dumping trash continues at Sandy Point.

It is the accumulated actions of all of us — those of us who admire beautiful beaches like Sandy Point, those of us who are concerned about the fragility of the Earth's ecology, and those of us who do nothing but complain. We are all at fault, because all of us want Sandy Point beach to remain beautiful and clean, but we are not doing our part by keeping the area clean.

We need to shift our societal values from an appetite of overdevelopment to a concern for environmental quality, from the need of dependency on tourism to a need of a more diversified economy. Davis Bay on the island of St Croix was once a major nesting site for sea turtles. Today, a hotel is built on the beach front.

The lesson of the sea turtles is not that environmental and economic concerns are incompatible, but that the longer society lacks the political will or courage to act to protect wildlife habitats, the harder it is to find a solution.

We, the people of these islands, are capable of reversing environmental degradation if we can muster our political will. Most of us often sit back and close our eyes to a problem instead of being part of the solution. By all accounts, our political will to clean up the environment is not so much on the rise.

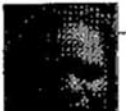
So, how can we solve the Sandy Point problem? Cleaning up beaches is almost always more complicated than we originally imagined. The struggle to clean up our environment has shown that often it is the hidden or unknown agents that wreak most havoc.

Let us take pride toward our environment by keeping it clean. We can start by taking our trash when we leave Sandy Point beach. Fishing, disposable diapers and plastic bags are especially threatening to sea turtles because they mistake them for jellyfish, their main food. We should also keep our dogs, vehicles, and horses off designated areas of Sandy Point beach during the nesting season from March to July.

If we do not do something now to clean up Sandy Point beach, the Leatherback turtles will then really be the forgotten Crucians.

Saving our natural heritage

Olasee Davis is a student at Stephen F. Austin University in Nacogdoches, Texas.



Guest editorial

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Being a native Virgin Islander, I am very concerned about what is happening in these islands. Although, I am presently in Texas working toward my master's degree in agriculturc, I keep up politically, socially, and economically on what's happening in the islands.

What makes me write this is the controversy over Salt River. Salt River is one of the most important archaeological, historic and natural sites in the Virgin Islands.

The destruction of tropical forests in the world today is so extensive, so devastating, so irrevocable that humanity may soon lose its richest, most diverse and most valuable biotic resource. As a consequence, life will lose forever much of its capability for continued evolution.

Salt River is a germ plasm in itself. It is a system with wildlife that, if destroyed by the construction of another hotel and condo without regarding the ecological system, will be especially affected. But countless other organisms — less spectacular insects, mollusks, native plant species — will be lost, and the esthetic and cultural losses to future generations will be incalculable.

In the Virgin Islands, particularly St. Croix, there are diverse ful mountain sites and in which that biological genocide is in full swing.

Scientists estimate that of the between 8 million and 30 million species of plants and animals on earth, a vast preponderance live in tropical ecosystems. Thus, the destruction of such habitats for wildlife as the breathtaking Salt River site can be lost forever if not preserved now.

The U.N. Food and Agriculture Organization estimates that 7.5 million hectares of closed forest and 3.8 million hectares of open forest currently are being destroyed each year. If this rate continues, it could be all over in about 20 years. Think about that for a moment!

Politicians, businessmen and developers hardly ever are interested in the preservation of such rare natural sites as Salt River. The decisions they make concerning the fate of the beautiful V.I. landscape always are in terms of short-range profit, not long-range wisdom.

The trend, of course, has been the other way. We have persisted in our political and economic domination of our environment.

Futhermore, some of our leaders in the Virgin Islands — the biologically ignorant — have continually beaten the drum for rapid development, not minding that the environment cannot be exploited on a permanent basis without destroying it.

We must teach our children these facts: that the world's carrying capacity is finite; that there are too many people now; that the actual, very real collision between resources (including food production, clean living space, wetlands, tropical forests) and population is the biggest, most fundamental, and most nearly insoluble problem that has ever confronted mankind.

Whether a wild ecosystem of any sort will long survive will depend upon its resolution. The outlook of life is not hopeful. However, the people of the Virgin Islands still have the opportunity to protect and preserve lands that all Virgin Islanders and visitors alike can enjoy — especially Salt River.

Instead of another hotel or condo, we need more parks and farms. The mountains of drought- and famine-ridden Ethiopia were covered with forest 100 years ago. The majestic landscape of the Virgin Islands can become as bare as the once-green hills of Ethopia.

Let us support a National Park of the Virgin Islands to fight and to preserve Salt River as part of our natural heritage. It is a good cause, a good investment for future generations to come.

Furor over the environment

Olasee Davis is a former USDA district supervisor in the Virgin Islands for Agricultural Stabilization and Conservation Service.

Olasee Davis

It was back in 1984 or 1985 that an outside developer tried to purchase Fountain Valley on St. Croix, which was really 17 estates including such estates as Sweet Bottom, Annaly, Mount Stewart, Ross Hill and so on. It was some four thousand acres of primarily agricultural land including forest lands, steep slope mountains, rich fertile soils, flood plains and beach fronts. This area was also known for slave revolts, which made the area sentimental to Virgin Islanders beside the natural beauty of the land.

Today, this area is owned by Carambola Beach Resort Real Estate Sales. Some people then and now believe that the Virgin Islands government and some of our senators sold their birthrights when Fountain Valley was purchased by an outside developer. During that time, many Virgin Islanders and Continentals alike became very concerned about the environmental impact Fountain Valley development might have on the environment. In 1986, St. Croix Environmental Association was born, which grew out of a few concerned citizens for the environment to over 1,000-member strong.

Thus, the environment has created an ongoing furor between developmentalists, industrialists, and environmentalists, with still the majority of the people of the Virgin Islands bewildered by sound and fury signifying little or nothing in their eyes.

The environment came into focus when former President Ronald Reagan's Secretary of Interior James Watt inspired the wrath of environmentalists through plans to industrialize the very lands we had been appointed to watch over. Self-appointed environmental watchdog groups have sprouted up since the '70s, annoying industries and the law alike with outrageous and occasionally illegal efforts to protect the land from destruction.

Greenpeace to the nation has become known as the "Amnesty International" of the environment, chasing large whaling tankers in rubber dinghy and spraying pure white baby seals with a harmless dye to prevent fur traders from clubbing them to death.

Earth First, a relative newcomer to the environmental scene was created in honor of the late Edward Abbey's novel, "The Monkey Wrench," which inspired them to throw a monkey wrench into the works of man's so-called progress. Abbey who referred to the Earth First movement as "heores" died and was buried illegally in the desert outside of Tucson about three years ago.

Last year, Earth First came under criticism for sabotaging the logging industry on the mainland by "spiking trees," a dangerous and potentially deadly booby trap. Some members of Earth First hammered long nails until they were deeply embedded in the tree trunk. When a nail was struck by a saw blade, the nail splinters and sends aerial spikes flying. The saw blade was often broken and a potentially dangerous loss of control may result.

And so it goes, an omnipresent battle of the wits between ecology and economy, with no definitive rules or prizes. The ongoing effort to preserve the world is, for the most part, nonviolent and uneventful, with a few exceptions occasionally striking the headlines.

For the average citizen recycling has been hailed as the first logical step in the resurrection of the earth's resource power. Its popularity peaked in the '70s, buoyed by environmentalists and the rising cost of raw materials. Today tires are converted into energy in California plants, plastic containers are shaped into jungle gym equipment and aluminum and paper have enjoyed multiple rebirths through recycling processes.

The most successful recycling campaign belongs to Reynolds Aluminum, one of the first companies to take the idea to the general public. In addition to the Reynolds program, joint recycling programs are in the works from other industrial giants, including Du Pont, Dow, Amoco, Mobil and Occidental.

Mobil and Genpak, a food packaging manufacturer in Glens, N.Y. also have joined forces to attack the plastic threat. the two companies have designed the first recycling plant in the United States able to transform fast-food containers into pea-sized pellets. These pellets will return to the public as wall insulation and industrial packaging.

To my knowledge, there is no recycling plant in the Virgin Islands — although a recycling program was institutionalized on St. Croix before Hurricane Hugo deathly blowed to these islands. However, such companies as Hess Oil Refinery and Vialco should get involved in the recycling business since they added pollution to our environment. Recycling is simply a good business opportunity. For example, recycling plastics on the continental United States cost companies 40 cents per pound to clean and prepare for use approximately 20 cents less per pound than newly manufactured materials.

If you wish to begin a recycling program of your own, keep the following tips in mind:

- Aluminum, paper and glass are the most common household recycleables.
- Prices vary by center and value, but the average is 10 to 15 cents per pound.
- Contact the recycling center you plan to use beforehand and ask for a list of materials they will accept.
- Separate the materials you wish to recycle, glass and aluminum.
- Bag your materials in large garbage bags instead of sacks.

Let's do something: Save Jack and Issac Bay area

Olasee Davis

Guest Editorial

Olasee Davis is an environmentalist. His opinion does not necessarily reflect that of his employer, the University of the Virgin Islands Cooperative Extension Service.

Evidence indicates that when Christopher Columbus landed on the land of St. Croix in 1493, the dominant vegetation throughout the Virgin Islands, except for a few wetland areas, was forest. Today, such forest has subsequently all but disappeared from the once luxuriantly forested Virgin Islands.

Most forest in the Virgin Islands today is dry forest with the exception of small patches of moist forest. Thus, dry forest is the most extensive terrestrial habitat in the Virgin Islands, containing the largest number of species of animals such as birds. The Southgate Pond on St. Croix alone has around 96 species of birds and 26 of which are considered threatened or endangered in the Virgin Islands.

If these islands are to remain a tourist destination in the Caribbean, we must recognize the need to preserve and protect certain natural areas such as dry and moist forest, coastal areas, salt ponds, and mangrove areas.

There is talk of subdivision in the Jack Bay area on St. Croix. Jack and Isaac Bay is a good example of a unique area on St. Croix because of its diversified dry forest ecosystem, containing endangered species of animals and plants that can't be found anywhere else on the island.

If development occurs, such species as the St. Croix ground lizard, agouti, endemic snakes, and endemic plants will be threatened or become extinct. This area also has the last known habitat of Crucian iguana.

To disturb this area means an entire ecosystem is at risk, thus losing probably the last relatively undisturbed gene pools in the Virgin Islands. The search for pharmaceutical plants in the tropics is big business. Areas like Jack and Isaac Bay, relatively undisturbed for centuries, has potentially economical important natural resources for the Virgin Islands.

Just recently, four new plant species were found in Jack Bay area. A new record for St. Croix, this finding definitely puts these plants on the endangered species list because each is the only species of its kind. These plants must be protected if development occurs.

Jack and Issac Bay also represent two of the most environmentally sensitive fragile ecosystems on St. Croix. The V.I. Soil Survey classified these areas as extremely limited for development, although there are some flat areas. We know that money talks in the Virgin Islands, and those who are supposed to represent these islands' best interest tend to overlook the facts and permit such confounded development.

I was told that this area also is a breeding ground for lobsters, seabirds and probably the endangered sea turtles, not to mention rare species such as Nassau grouper, red hinds and whelk.

Over the years, studies have been made on St. Croix's East End ecosystem. In 1978, the National Oceanic and Atmospheric Administration recommended that "East End should remain in its present state, and integrated into the Territorial Park System." The area also has some of the finest reef systems in the Eastern Caribbean, occurring at Buck Island and around the eastern part of St. Croix. Thus, Jack and Isaac Bay beaches are considered to be among the best snorkeling areas in the Caribbean.

From what you've read thus far, it should be clear that the marine environment of the East End should be protected. The terrestrial environment of these areas are a valuable resource in itself. Any type of development occurring on Jack and Isaac Bay areas affect not only the land, but the marine environment as well.

I can say, however, that if any part of the upper slopes of Jack and Isaac Bay is cleared for subdivision, shrubs, native ornamental plants, and the cactus community that cover the area now would no longer prevent runoff. Thus, revegetation would be extremely slow due to aridity and poor soil and pollution of the surrounding bays by sediment from the fragile hillsides. This would cause a significant change to the terrestrial environment and definitely degrade the marine environment.

These developers who want to develop Jack Bay area will tell us that they would not damage the environment to a large extent, but what will happen to the long-range impact? Instead of this land benefiting a few rich people, it can benefit the entire Virgin Islands and visitors alike if the land become a territorial park. Most Virgin Islanders hardly know the heart of these islands' natural environment. Visitors and people who decided to make these islands their homes know more natural areas than we do.

The final analysis is that this unspoiled area of St. Croix must be protected. Franklin Roosevelt once said "Do something. If it works, do it some more, if it doesn't work, do something else." With that spirit in mind, Jack and Isaac Bay can become a territorial park if the people of the Virgin Islands do something.

Be fruitful: control weeds

. . . . and some of the seeds fell among thorns, and the thorns grew up, and choked it, and it yields no fruit. . . . "

—Mark 4:3, 7.

Olasee Davis

Our environment

And so it has been for thousands of years; the seed is still sown and the thorns are still there. To derive the most from a garden, you must sew in a thornless environment.

When you decided to have a garden in your backyard, did you realize native plants have lived there for centuries, growing and dying and depositing seeds in the soil? Seeds can stay dormant in a given environment for years until the right environmental condition becomes appropriate for germination.

Seeds also can be carried into your garden by the wind or with contaminated garden seed, mulch, manure or on human clothes.

However, depending on what you want to do with your garden, some or all native plants must be discouraged.

For these undesirable plants we call "weeds," control is one of the principal factors determining crop production. Mulching, cultivation, intercropping and chemical herbicides all have a place this control.

Some of the less-desirable weed control practices, however, include burning and hand-pulling. Burning has been practiced for many years as a means of general weed control, but it is dangerous, wasteful and oftentimes not very effective. Hand-pulling weeds is back-breaking and time-consuming, although sometimes it is necessary.

Mulching that covers the soil suppresses weeds and protects plant roots. Mulch prevents weed seeds from germinating and also keeps moisture in the soil from which desirable plants benefit.

Mulch is composed of black plastic sheeting or organic material like grass clippings, sawdust and leaves. Plastic mulch is effective, easy to apply and plentiful, but might be de biodegradable in the soil. Rain cannot penetrate it, so watering must be done under the plastic by drip-irrigation lines.

Organic mulches are effective and rain can penetrate them. They are not as easy to apply as black plastic sheetings, nor are they as plentiful. Be certain they are free of weed seeds.

To cultivate for weed control, you must not let your hoe or harrow dig into the soil deeper than about 1 or 2 inches.

Deep cultivation can bring seeds to the soil surface where they will germinate and establish themselves as weeds. Cultivation also increases water loss by disturbing the soil. Therefore, you should cultivate shallowly to decrease water loss.

Intercropping is growing more than one crop in the same garden at a time. To discourage weed growth you can grow any crop that you want as long as the soil is always covered. Sweet potatoes can be grown with corn, melons with tomatoes, or green beans with bananas. These crops are not paired in any special order; many combinations will work. Also, crop leaves covering the soil blocks sunlight that would encourage weed growth.

The use of chemical herbicides as plant killers is another option. Chemical herbicides are either selective or non-selective. Selective herbicides will harm certain plants, while non-selective herbicides will harm all your plants. Chemical weed control is the longest-lasting method of weed control.

If you have tried many of these methods and they all seem to fail, do not be discouraged. Perhaps the weed is edible and can be served for supper. Weeds have a role to play in our environment, whether it grows among thorns, stony ground or scorched ground.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

If everyone plants a tree, V.I. forests will survive

Olasee Davis

Our environment

When Columbus made his second voyage to the Virgin Islands, these islands were still covered by a large dry forest ecosystem. Between 1700 and 1850, most of St. Croix was cleared and planted with sugarcane and cotton. Also, St. John's forest was cleared extensively for cultivation, and St. Thomas also was cleared to a certain extent during that period.

The Virgin Islands' tropical dry and moist forest once flourished on these islands extensively, covering miles of land. The jungle-like forest took millenia to develop. Today, about 74,000 acres of tropical forest are being lost each day worldwide, and each day, hundreds of species become extinct — thus many before they even are known to man.

Important and fascinating as it is, however, our forest is just part of our green inheritance. Thus, the genius of evolution and plant-survival strategies, and the genius of hundreds of generations of Virgin Islanders are the capital on which we live today.

For example, the bowl of rice on your table is a gift of the ancestral wild rice, of the centuries of rice growers, of the skill of modern botanists, of the disease-resistance of wild rice, and of the work of soil micro-organisms.

What should we do for rice today if the first wild rice had been plowed under by a bulldozer to make way for a Neanderthal holiday resort? Plants have been symbols of the Earth's life force and have provided solace to the human race.

Yet we in the Virgin Islands are squandring this green inheritance in ignorance, thoughtless impatience and greed, failing to appreciate either the beauty of these islands or the value of what we destroy.

By the late 1920s, our local wood industries in these islands were confined to nothing but charcoaling, bay-oil extraction, and some small-scale cabinet making.

Almost all the forestland was destroyed by cutting down trees and not replanting trees on a large scale.

Do we think that the Queen Mary Highway trees on St. Croix were planted by themselves? Or that the large stand of mahogany forest in the cemetery on St. Thomas just happens to be there?

For the most part, native conservationists planted these trees. A good friend told me during the 1930s that schoolchildren planted trees along St. Croix roadsides. Today, we all benefit from these trees.

However, many of us do not realize that the Earth's atmosphere is an delicate balance of gases that interact with plants and animals in the biosphere system to maintain the temperature and moisture conditions that are best for life on the planet.

Thus, trees are important to our climatic condition here in the Virgin Islands. We are feeling the heat these days, and summer has just begun. This could be a warming of the Earth that is accelerating at an ominous pace.

In 1989, I was told that it was very hot before Hurricane Hugo hit these islands. What causes hurricanes is the warm air from the ocean that interacts with other elements, thus creating an atmosphere for a hurricane. Hurricanes are the ocean's way of releasing heat.

As trees grow, they remove carbon dioxide from the air, store carbon in the trees and the soil, and release oxygen into the atmosphere. The trees thereby produce clean air for us.

During the 1950s, the U.S. Agriculture Department's Forestry Service started a program on St. Croix. It basically was the promotion of the lumber industry and the production of local planting stock.

Today, the St. Croix Environmental Association has a program called V.I. Releaf, which gets the community involved in planting trees throughout the island.

SEA has taken steps to get Island Dairies to advertise the V.I. Releaf program, but it can be successful only if everyone To get involved, call SEA at 773-1989.

Remember, the tropical rain forest is where the air is thick mist, where tree frogs sing, where fish walk onto land, and flowers bloom as big as fruit trees. It is the home of half of all living things on our planet.

If destruction of these forests is not ended, by the end of this century, up to 20 percent of all life on Earth will be destroyed. We can save the Virgin Islands forest land by everyone planting a tree.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Native plants depend on us for their survival

Olasee Davis

Our environment

While in Dallas a few years ago, I worked at a painting and interior decoration company as general manager of landscaping. During that time a law was passed that 75 percent of the plants used for landscaping sites where developers planned to build should be native.

Why should we use native plants in the Virgin Islands for landscaping? Why should we preserve native plants?

There are many reasons for preserving native plants. Some are ecological, connected with how plants function in ecosystems.

Extinction is the ultimate catastrophe for a species. Species are products of thousands or even millions of years of evolution. Once species are lost, replacement is so slow that on the human time scale it seems as if it does not occur.

There are other catastrophes as well. Ecosystems need not just a few plant species but adequate numbers for interaction. Rarely if ever do we know what population level is necessary, but our knowledge of ecosystems tells us there must be a level for each species.

Moreover, for survival of a species, especially in tropical climates, broad variation in the gene pool must be maintained. Native plants do much better in the Virgin Islands than imported ones because they are in the environment in which they have evolved for thousands of years.

Another reason for preserving native plants is people. Homo sapiens, the species we belong to, deservedly or not is a strange member of our ecosystem, though we may not acknowledge or even recognize the fact.

That we depend on other species for food, shelter and medicine is well known. However, it is not so well known that we are also psychologically dependent on other species that make our surroundings familiar to us.

In doing that, plants give us a sense of protection, comfort, peace, even inspiration. In the richness of their diversity plants contribute to our human delight.

Many times people ask me which plant they should plant. My suggestions depend on the area the person lives in, the soil type and the environment. For example, cacti grow well on the eastern side of St. Croix because of the low rainfall. On the other hand, our territorial flower, Ginger Thomas, grows all over the island because the plant is able to adapt to all types of soils and climactic conditions.

Because of rapid development, we are losing many native plant species. Moreover, most local nurseries do not sell native plants.

Native plants cost less to maintain. Also, native plants need less water and insecticide. Some imported plants might die because they cannot adapt to our soils. Therefore, it makes sense to protect and preserve our native plants.

Native plants are useful in landscaping in such settings as hotels and homes. This is one way to preserve native species.

Because we have only a few native plants, the Division of Fish and Wildlife, the University of the Virgin Islands Cooperative Extension Service and others have put together a list of endangered plant and animal species of the Virgin Islands.

If any vegetation has to be removed for construction or any other reason, people should make sure that there are no endangered plants on the land. One can contact the Cooperative Extension Service and the Department of Planning and Natural Resources for information. There is a law in the Virgin Islands now to protect endangered plants and animals.

We must remember that protecting an entire habitat is important for the preservation of a species. Nowadays, people say they used to see a particular plant growing in a certain area but not any more. For their survival, native plants depend on us as much as we depend on them.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Planning, not lip service, will save our environment

Olasee Davis is an environmentalist. His opinion does not necessarily reflect that of his employer, the University of the Virgin Islands Cooperative Extension Service.

Olasee Davis

Guest Editorial

Mankind is responsible for most of the major land disturbances in the world, but there is something in his moral character that makes him feel responsible for correcting the results of his action.

This responsibility is deep rooted, not only in Judeo-Christian tradition but also in the so-called primitive cultures.

For example, the Maori of New Zealand say, "The land is a mother that never dies."

Many African traditional religions tie the concepts of human productivity and afterlife to the ground on which a person was raised.

Disturbance and neglect of the land are thought to alter man's very relationship to God. The Bible, both Old and New Testaments, teaches stewardship of the land's natural resources.

However, in the Virgin Islands, we seem to have lost that relationship with the land. We do as we please with land not realizing that we are part of the natural environment.

Today, we are developing a land-and water-use plan for the Virgin Islands which should have been done years ago. As a people, we should have recognized how important good land stewardship is to a healthy environment. Thus, unplanned development in these islands is taking place so rapidly in land is not suitable for any type of development.

Yet, we continue to believe more development is good for our economy.

The question is development for whom? Who benefits from these large developments?

Thus, housing is built in areas where it should not be built. Estate St. George on the island of St. Croix is a good example where a housing development is buildt on a flood-plain area. Here, we are creating another problem that can be avoided.

Also in the early '70s, our governor allowed housing development to take place in the Mon Bijou lowland areas of St. Croix. To this day, people get flooded everytime there is a heavy rain. Is this what we call good planning? There are numerous examples throughout the Virgin Islands where the land has been raped because we failed to establish a land- and water-use plan.

I was told that the Planning and Natural Resources Department has established a goal for the Virgin Islands' land- and water-use plan. This goal they said is to "achieve a quality-living environment through ronment. "I am glad we recognize how important it is to protect our natural resources, but it is only a commitment on paper.

The reality is we speak from our mouth, but not from our heart. Not too long ago, good agricultural land was cleared for St. Croix's second high school. This land was raped by removing the vegetations and soil that protect it. Later on, they decided to build the second high school sometime in 1993.

Meanwhile, the land remains barren where wind erosion and soil erosion destroy the land.

As citizens of these islands, we need to play a more vital role to influence the behavior of those empowered to make decisions on land development.

We need to participate in the planning process from the beginning. The most effective results are achieved when industry, citizens, planners, elected officials and agencies share their experience, knowledge, and goals and jointly create a plan acceptable to all people of these islands.

Press, radio, and television coverage of large land development in sensitive areas of these islands and the efforts of community groups make the people of these islands aware of the issues and the importance of the decision making process.

If we accept Leopold's land ethic as good stewardship of the land, then failure to rehabilitate land we disturb is as unthinkable as not to aid the victims of an automobile crash.

St. Croix Friday

Protect park from donkeys

Olasee Davis

Our environment

Environmentalists and experts on the Yellowstone staff battle, often unsuccessfully, with other interest groups on the National Park Service's handling of the bison that roam the park. Here in the Virgin Islands our own national park on St. John is faced with a similar situation with donkeys.

The donkeys, which originated in northeast Africa, were introduced to the Caribbean in the middle of the 16th century. Today these animals are recognized as "exotic species."

In 1716 some Danish settlers began to clear forests on St. John to plant sugar cane and cotton. Windmills were used in the crushing of sugar cane until they were replaced by animal treadmills. Thus donkeys became a factor in agricultural production in the Virgin Islands.

Donkeys were also used as transportation. At that time, donkeys were not a problem to St. John's ecosystem because they were tethered or confined in one place by farmers.

With the introduction of vehicles to St. John, use of donkeys decreased. As agriculture declined on the island, donkeys became an exotic species, and by the 1950s most donkeys were released to roam freely.

Back then, we never thought donkeys would become a nuisance by breaking fences, destroying other property, braying loudly at night, or destroying vegetation.

Whenever a species is introduced to an environment without taking into consideration its food habits and migration patterns, and without a predator to control it, the animal will eventually disrupt the ecosystem, and certain species of plants can become extinct.A system of checks and balances ensures survival of all species.

For a couple of years, concern has been growing among St. John residents, local government officials and Park Service staff about the ecological effects of the expanding donkey population. It is estimated there are 240 to 300 donkeys.

Since the Virgin Islands National Park brings millions of tourist dollars to the local economy, the Park Service is trying to find ways to control the donkey population. In the past, donkeys have been shot by park rangers and St. John residents.

Before St. John was cultivated, the island was covered by forest. Today second-growth forest is 50 to 100 feet tall. This forest contains a large number of native plant species, but concern is growing that donkeys, wild goats and wild pigs may prevent the continued regeneration of some native species.

On the other hand, some residents of St. John want to protect the donkey. They say donkeys should be protected because they are exotic animals and part of the Virgin Islands' natural heritage.

As at Yellowstone, Park Service officials in the Virgin Islands face a tough situation. There is no easy answer to the donkey problem on St. John.

If we want to protect the V.I. National Park ecosystem, then as concerned residents and environmentalists we must work together to solve the problem. After all, the donkey did not ask to become a resident of the Virgin Islands.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Spiders important in the environment

By OLASEE DAVIS
Special to the AVIS

In the Bible, the book of Proverbs mentions that there are four things that are small on the planet, but they are exceedingly wise among insects in their size.

The ants, badgers, locusts and spiders are all wise creatures. Proverbs 30:20 says, "the spider taketh hold with her hands, and is in kings' palaces."

When God created the earth, everything was in harmony with the environment until man came into the picture.

We all know the biblical story of the creation of the world. At that time, the ecosystem was in balance. For every prey there was a predator to keep the animal kingdom in balance.

Years ago, the Virgin Islands had poisonous snakes. St. Croix and the rest of the Virgin Islands cultivated sugarcane as the major crop.

Rats and snakes became a problem because rats destroyed the sugar cane crop while snakebites were deadly to people. So mongooses were introduced into the Virgin Islands to kill snakes and rats.

In this case, the mongooses were the predators while the rats and the snakes were the prey. As a result of the introduction of the mongoose, the mongoose killed the snakes, but not the rats. Why not?

Nature has a balancing system that keeps everything in check of each other. The mongoose hunts during the day, whereas the rat hunts at night. So rats remain a problem.

In our society, cobwebs in our house are considered signs of sloppy housekeeping and usually vacuumed up pretty fast.

But spiders actually are very useful creatures, not making any fuss, just quietly going about their business of killing insects.

How much better to have a house full of spiders than flies, mosquitoes, wasps or what have you.

Well, human nature being what it is, spiders in the house will continue to end up in the vacuum cleaner.

Outside in the garden and field however, spiders are another matter, very acceptable indeed.

No one can fail to be impressed by the strength and beauty of cobwebs, particularly when covered with dew and shining in the morning sun. "Cobweb," by the way, derives from "Coppe," the Old English word for spider. Thus, "coppeweb" eventually became cobweb.

When I was in graduate school in Nacogdoches, Texas, a few years ago, my daughter and her mother and two brothers used to visit me. Because I was an agriculture student, the children used to visit my research plots.

We enjoyed watching a yellow garden spider and its large web hung between tomato plants. To us, the web always seemed perfect so we did not know if the spider ever caught anything or remade the web every night.

In a recent report in American Horticulturist magazine suggests spiders are extremely useful in our gardens, much more than we think.

Susan Reichert, a professor at the University of Tennessee, found that insect damage to her vegetable plots decreased 60-80 percent when spiders were present.

Professor Reichert also found spiders from 11 different families were feeding on garden pests. This is a good example where predators and prey balance things in the natural environment.

Professor Reichert further stated that most of the spiders in our gardens will never be noticed and none are poisonous.

Thus garden spiders provide excellent preventative control of harmful insects, keeping their numbers down to an acceptable level.

However, spiders will stay in our gardens only if the environmental conditions suit them.

So when the spider ended up in the King's palaces they were probably telling the king not to use insecticide because they were put there by nature to control flies.

Olasee Davis is local environmentalist. His opinion does not necessarily reflect that of his employer, the University of the Virgin Islands Cooperative Extension Service.

St. Croix rainforest on endangered list

By Olasee I. Davis

Commentary

Not very long ago, the Virgin Islands were covered with forest. The islands' forest seemed inexhaustible, always reasonably renewable. Today, it is all too clear, it is not. The rainforest on St. Croix is threatened by subdivision development. The northwestern section of St. Croix is the last stand of secondary growth forest. This area also receives the most rain thus having the most potential use for storing large bodies of fresh water for public use.

Needless to say, we in the Virgin Islands continue to wrench trees from the ground or destroy their environment and, whether for reason of pressing immediate need or for greed, the destruction of St. Croix's rainforest will be a tragedy to St. Croix's tourist industry, not to mention the benefits it has for residents of these islands.

It is a sad fact that few people in the Virgin Islands, whether the local tiller of the soil or the modern entrepreneur, have any real regard for the environment. If this trench of subdivision continues in the rainforest area on St. Croix, the whole forest ecosystem will be lost forever. The biological environmental process of the rainforest ecosystem with its diversity of plants and animal species will become nothing more than another concrete jungle.

Even so if the greenhouse effect never materializes, changes in the planetary albedo caused by deforestation and desertification may upset temperature control. Loss of forest causes loss of cloud cover, which accounts for three quarters of global albedo value. We cannot afford to lose trees because basically we have a dry climate, thus removing large areas of forest changes the rainfall biosphere system in the Virgin Islands.

We know very little about the incredibly complex, inter-related mechanisms of atmosphere, climate, and plants to resolve such conflicting theories. I do know, however, if large areas of modifications occur in the rainforest area on St. Croix by subdivision development, there will be a significant change in the vegetation ecology which affects the life system of the whole forest ecosystem.

We can learn, however, from countries such as Brazil, where cutting forest not only reduces rainfall locally, but also affects the unnatural spread of deserts in nearby countries, such as Peru. If this subdivision becomes a more common site in the rainforest areas of St. Croix, then the area might become drier. It was Plato who said that what "compared with what it was, our land is like the skeleton of a body waste by disease. The plump soft parts have vanished, and all that remains is the bare carcass."

As a people, we must understand, the removal of trees usually demonstrates how essential trees are-or have been-as guardians of the environment. Thus, the Virgin Islands' forestland, particularly on the island of St. Croix, safeguard the soil on the steep slopes of hills and mountains watersheds where streams have their sources. Cut the forest down and our soil is washed away, thus landslides occur. For those who do not know, it takes a thousand years to build one inch of top soil.

So as the rainfall water rushes into our gut (which cannot contain the sudden onslaught), overspill of guts occur. Thus, when the floods eventually subside, there can be long periods when out guts are dry, for the slow-releasing sponge of trees is no longer there to trickle moisture into the atmosphere. This ... can cause

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long periods of drought in the Virgin Islands which diminish our water supply.

The story of the Garden of Eden expresses a universal characteristic of man's love for his environment. From the Africa "Tree of Life" to the Greek columns our architecture, arts, artifacts, and poetry all reflect the deep impression which flowers and foliages make on the human consciousness. Such appreciation is a luxury; thus if we do not protect St. Croix's rainforest, then we will lose part of our heritage that took place thousands of years to develop.

O... Davis is an environmentalist. His opinion does not necessarily reflect that of his employer, the University of the Virgin Islands Cooperative Extension Service.

Take steps to protect your cistern water — and health

Olasee Davis

Our environment

Many people in the Virgin Islands do not realize that, in our environment, there are all kinds of particles such as dust flying into the air that affect our quality of drinking water.

Some of our neighbor islands get their drinking water from lakes, streams, or rivers, while most residents of the Virgin Islands get their water from cisterns. Furthermore, the Virgin Islands Code requires that all building constructed in the territory, including public housing, must have their own cisterns.

Many cisterns serve more than 25 people year round or have more than 15 service connections. Therefore, they are considered community water supplies systems that must comply with Safe Drinking Water Act requirements. All community water supplies in the Virgin Islands must be tested monthly for the presence of any pathogen that might enter into the drinking-water supplies.

But the Safe Drinking Water Act does not cover privately owned cistern water quality because it only covers cisterns serving at least 25 people. It does cover cisterns at hotels, guest houses, public and private schools and hospitals.

Because most private cisterns in the Virgin Islands serve fewer than 25 people, they could be reservoirs of enteric disease and must be treated.

In the United States alone, about 95 percent of the rural population depends upon groundwater for drinking. But in the Virgin Islands, almost two-thirds of the population relies on rainfall.

I think there is a need for the public to be aware of the importance of high-quality water to life, the need to use water wisely and to know how some development can affect water quality.

Sometimes our water supplies are contaminated and frequently perceived to be jeopardized by industrial chemicals or from septic tank system or other sources such as pesticides.

From 1986 to 1987, the University of the Virgin Islands Water Resources Research Center conducted a experiment to determine chlorination efficiency on cistern water quality. This experiment was conducted on private homeowners' cisterns, hotel cisterns and guest house cisterns on St. Thomas.

During this experiment, all samples were screened for fecal coliform and fecal streptococcus, a common pathogen that is found in drinking water sometimes.

The study on private cisterns revealed that, if only overall averages were considered, then not one of the 20 cisterns on St. Thomas would have met Safe Drinking Water Act standards. This contamination, however, is more an environmental problem than from man-made sources such as septic-tank systems according to the study.

Therefore, the Safe Drinking Water Act should cover private cisterns because the majority of Virgin Islands residents' cisterns are not now covered by it.

Pathogens such as pseudomones seruginosa known to cause urinary tract infections, ear infections and diarrheal disease were found during the study on St. Thomas in 54 percent of the 304 samples taken.

assume that St. Croix private cisterns probably are contaminated even though this study was not done on that island.

However, adding household bleach at the appropriate amount of 5 fluid ounces of bleach per 1,000 gallons of water at least once a month is very effective in controlling disease in cistern water. When chlorination is combined with proper cistern-maintenance practices, your water should be safe to drink.

The following are recommendations based upon the test results from the University of the Virgin Islands Water Resources Research Center.

1. All openings leading into or out of the cistern should be screened.

2. All trees should be trimmed back so as not to overhang the roof, and to provide free space of 10 to 20 feet.

3. Chlorination with household bleach, preferably monthly.

4. A cistern cleaning at least once every five years — more often in areas of blowing leaves or dust.

5. Fit the collection box or drain pipe with a first-flush device that would dump the first few gallons to waste before entering the cistern.

6. Or use a non-charcoal filter on the water before it enters the cisterns.

7. Have the water analyzed quarterly for coliform and pseudomonas aeruginosa.

Public understanding of the nature of water quality is essential for public health. We live in an environment that harbors diseases and protecting drinking water is a must for all residents of these islands.

For further information on how to treat your cistern water you can call the Water Resources Research Center at the University of the Virgin Islands on St. Thomas at 776-9200, ext. 1235, Caribbean Safe Water Lab on St. Thomas at 776-5222 or St. Croix at Ocean Research Systems at 773-3246.

Since we are in the rainy season, it is more important to check your cistern's water quality. Remember, prevention is better than cure.

The more we know of storms the more we ought to pray

Olasee Davis

Our environment

Sept. 17-18, 1991, was the second anniversary of the night Hurricane Hugo destroyed and damaged homes, businesses, historical buildings, uprooted trees, and killed one or two people in the Virgin Islands. We have a lot to thank God for. But are we?

There is talk on the streets that some of us are even more wicked after Hurricane Hugo hit these islands in 1989. One person said to me, 'Olasee, it was just a warning from God, but next time things could be different.'

Dramatic weather changes are ahead. The causes and prediction of them are the subject of many scientific theories related to the world's global climate. Was the drought of 1983 in the central United States and other countries such as Ethiopia caused by changes in climactic conditions?

How will volcanic activity increasing and propelling tons of debris into the atmosphere affect the world's climate? Is the ozone layer of the earth being reduced by peaks in solar activity or by introduction of man-made chemicals into the atmosphere? Will this increase ultraviolet radiation reaching the earth, affect man, plant growth and change weather patterns?

Despite all the science and technology being applied to studying weather, accurate forecasting is still limited to the short term because these conditions are ever-changing in the earth's atmosphere. The Bible even mentioned that there will be signs in nature in these last days of Earth's history.

Millions of years ago, dinosaurs became extinct. Some scientists attribute the extinction of the dinosaurs to global weather changes. But, on a global scale, says one climatologist, "we have seen evidence of an overall warming trend despite the variations from year to year."

Since 1980, scientists have been aware of the greenhouse effect. A Swedish chemist, Svante Arrhenius, first advanced the hypothesis that an increase in the atmospheric concentration of carbon dioxide would raise the earth's surface temperature and lead to changes in other aspects of climate, such as rainfall.

According to Mr. William M. Gray of Colorado State University, an expert on tropical cyclones, "We experienced relatively few dangerous hurricanes in the 1970s and 1980s. However, we may be facing more frequent 'killer' storms in the decades to come."

Some effects of an atmospheric warming are catastrophic. For example, large parts of Africa, the Middle East, India and China might become wetter as a result of global warming, and thus more hospitable to agriculture.

In 1989, the warming of the Atlantic Ocean along with other chemical reactions in the atmosphere created a monster like Hurricane Hugo. Carbon dioxide and other gases prevent part of the heat from land and water from escaping to outer space. Thus, as carbon dioxide accumulates, enough heat may be trapped to gradually warm the atmosphere. If this greenhouse effect continues to increase, we better believe that we will have more hurricanes like Hugo or even more dangerous in the years to come.

We want to do as we please in this life by eliminating our tropical rain forests, polluting the air, and so on. We cannot have it both ways. Man must realize that, although God gave him dominion over all living things on Earth, God is still omnipotent. In spite of what man says about global weather changes, let us thank God for sparing our lives again through another hurricane season.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Vegetation reduces ecological disasters of erosion

Olasee Davis

Our environment

Any land covered by forest, shrubs, crops or grass in the Virgin Islands is protected from heavy rain when it falls. The ground cover, such as leaves and other organic materials in the forest, bushes and crops thereby reduces runoff and increases the amount of rainfall entering the soil, replenishing the groundwater table.

Unfortunately, because of the rash of unplanned development in the Virgin Islands, erosion is becoming a common sight, every time it rains.

Many of us do not realize that erosion is our biggest environmental problem. Light industries in the Virgin Islands pose no major threat, when compared with erosion's ecological disasters. Soil erosion pollutes our shorelines, reduces the aesthetic and recreational value of the water, carries away large amounts of topsoil, and leaves behind barren, rocky ground that is impossible to revegetate or cultivate in some places of the islands.

Furthermore, erosion picks up human waste from privies and septic areas, endangering the sea and threatening public health and the marine environment.

Most environmental problems of erosion in the Virgin Islands are man-made. They result from clearing large areas of land for development — particularly on steep slopes and coastal areas — and the filling or obliterating of natural waterways and wetlands.

If not planned properly, the present subdividing of St. Croix rainforest areas and the full-scale development throughout the Virgin Islands will cause massive destruction to land and marine life. Roads built on steep slopes have an equally great or even greater impact on the environment as roads built on flat land do.

I observe that many roads laid across mountainous areas in the Virgin Islands are left with vertical banks that slough and slide downhill, causing serious land-slip. It seems that hardly any new roads built now have any good engineering plans to reduce runoff by disposing adequately the silt produced and the water collected.

Even some of the natural vegetation in our guts along roadsides are being changed or destroyed instead of being replaced after roads are built or widened.

We need to create mechanisms and procedures to prevent future man-made erosion in the Virgin Islands. For every development, private or public, that will entail construction, clearing or grading of land, an environmental-impact report — not an environmental-assessment report — should be submitted. Although environmental-assessment reports are required by law, I do not believe they truly are effective at preventing erosion and other environmental problems.

Years ago, we hardly had any flooding, because the water would follow its natural course. Waterways and guts served their rightful purpose. There was more foliage to soak up the runoff and bring it underground, where it is most beneficial. Today, however, many of the former waterways are plugged up by trash or filled in by development, so they no longer can handle the flow of water. Therefore, flooding and erosion occur every time it rains.

As a people, we can write letters to our legislators, to help protect our few remaining wetlands from development. Wetlands, including salt ponds and mangrove swamps, are natural protective buffers for the sea.

These salt ponds collect fresh water from runoff, allow the soil and silt to settle out rather than enter the sea, and actually filter pollution and contaminants out of the water, helping keep beaches clean.

Many of our salt ponds have been destroyed totally by development. These ponds could have prevented eroded soil from vanishing into the sea. As with salt ponds, dams also can serve as a collector of runoff water, recharging our underground aquifer. Therefore, building more dams in the Virgin Islands can reduce erosion.

The Bible lays out 10 commandments for us to follow. W.C. Lowdermilk, former assistant chief of the Soil Conservation Service, added an 11th commandment when he said, "Thou shalt safeguard the fields from erosion, thy living waters from drying up, and thy forest from desolation, and protect thy hills from overgrazing by thy herds. If any shall fail in this stewardship of the land, thy fruitful fields shall become sterile, stony ground and wasting gullies, and thy descendants shall decrease and live in poverty."

It is not somebody else's job to protect our island environment, it is ours alone.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Virgin Islanders must beware of unplanned development

Wildlife habitats, green space vital for residents, tourists

Olasee Davis

Our environment

St. Thomas hardly has any green space left. The countryside of the island has been urbanized out of almost all its natural beauty and recreational value in an astoundingly short period of time.

I am a native of St. Thomas, and I know what the island used to look like. When I was a young boy growing up in the '70s, there was a lot more open space in a country-like setting.

Today, one can look around, and it is alarmingly evident that the scenic beauty of St. Thomas is at stake as well as that of St. Croix and St. John.

The economic growth and continued rapid development in these islands make proper planning even more imperative. Time is against us, and the situation cannot be emphasized enough: There is too much unplanned development.

The Lindqvist Beach area on the eastern side of St. Thomas is probably the last open beach left in that part of the island.

For example, Sugar Bay Plantation of St. Thomas was a seasonal wetland area until a few months ago, when the area was bulldozed for the development of condominiums.

This area was notable for its rare, threatened or endangered species of animals and plants.

Such species as Bahamas ducks, great egrets and brown-throated parakeets visited the area. Great blue herons, showy egrets, black-crowned night herons and Caribbean coots are all part of Sugar Bay Plantation's natural habitat.

Sugar Bay Plantation has an abundance of wildlife. On a misty morning, for example, one can see local deer feeding on forbs grasses or shrubs. This area is also known for three species of bats and for the Least bittern.

In Sugar Bay, the Virgin Islands people have lost a natural habitat to which animals had migrated from as far away as North America before heading to South America. How much more wildlife and crucial habitat for endangered plants and animals must we lose to unplanned development?

Valuable, large trees have been destroyed. The Sugar Bay area is a dry forest and brush ecosystem.

The Virgin Islands Division of Fish and Wildlife pointed out that "the difference here (in the Sugar Bay area) is undoubtedly the present area of shallow brackish water on the meadow."

Certainly it accounts for the relatively large numbers of water birds, but it also attracts other species by providing various food items, such as insects, grasses and succulents.

Furthermore, the Division of Fish and Wildlife stated, "The Virgin Islands boa is the most vulnerable of these organisms to the potential impacts of the development."

The Virgin Islands boa, found in the Sugar Bay area, is a rare local snake that needs to be protected. How many animals can we say are truly native?

Thus, common sense teaches us that we should protect indigenous animals that are unique to our islands' ecology. These animals' survival is important for residents and tourists alike.

In countries such as Kenya, income from tourists viewing wildlife is of critical importance to the national economy.

I attended graduate school in Texas, where wildlife plays a major part in the state economy.

Thus, the economic value of wildlife is becoming increasingly recognized So protecting wildlife habitats becomes vital.

In the Virgin Islands, tourism accounts for almost 70 percent of our gross national product, but so far, we never seriously have considered protecting sensitive areas for viewing by our tourists and residents.

It does not have to be just viewing our wildlife, but viewing the natural environment.

The Creque Dam area in St. Croix is an example of natural environmental beauty. This area has some unique flora. It is also the home of Spanish moss and of our rare local peripatus.

If the tourist industry develops to its fullest on St. Croix, Creque Dam could be one of the major visiting sites for tourists and locals alike.

The Caledonia area of St. Croix is another natural site with dramatic beauty. This area is the last refuge of the exceedingly rare native owls.

Every effort by the people of the Virgin Islands should be made to protect and preserve from exploitation this magnificent ravine and forest area with its waterfalls and small streams.

Development also is threatening our cays (pronounced "keys"), the small islands surrounding us. Such cays as Little Saba, Turtledove Key and Flat Key off the south shore of St. Thomas should be protected for wildlife.

Savanna Island, southwest of St. Thomas, also should be protected. This area has potential as a wildlife refuge or as a base for marine biology studies. The reptile fauna in this area is unique.

Other island cays, such as Dutchcap, Cricket Rock and Cockroach, are some of the best areas in the Virgin Islands for seabirds' habitat.

These island cays are breeding areas for blue-faced boobies. Our fishing industry depends on these birds to a certain extent, because they guide fishermen to the fish.

As open space becomes scarce in these Virgin Islands, the once country-like setting will be nothing but another city.

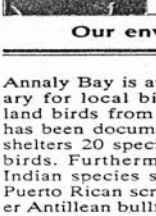
A lot of people from St. Thomas are coming to St. Croix to live, mainly because of affordable land and more open space.

St. Croix people should realize that the island's open space is threatened by unplanned development. It already has started. We better protect open space or live on top of one another.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

The Daily News, December 02, 1992

Annaly Bay area needs protection



Olasee Davis

Our environment

The Virgin Islands has a long tradition of using forests, rangelands and other green or open spaces for recreation. These traditions include picnicking, hunting, hiking, horseback riding, camping, fishing for sport as well as subsistence and exploration of wilderness areas.

These outdoor activities, as major expressions of our love for the natural environment, have involved all segments of our society. History reveals that Virgin Islanders have enjoyed essentially free access to the land to enjoy the natural environment.

Today, the Virgin Islands' natural environment is threatened. St. Croix, the largest of the three Virgins, is more threatened since more open space is available here for development.

As a people, we have begun to understand the important role of natural resources in our society and the benefits of protecting them.

Since tourism is a major part of the Virgin Islands' economy, it is important to make provisions for the preservation of natural and historic areas and the protection of cultural resources.

However, the Virgin Islands has some serious land-use problems, including crowding, traffic congestion and user conflicts.

Other tasks facing the territory include preservation of significant ecological areas, maintenance of visual quality, projecting demand and understanding the benefits of protecting natural resources for future use.

Therefore, we can no longer ignore our limited natural resources. Opportunities and resources for expanding public recreation sites such as wilderness areas are more limited than they have ever been.

On the northwestern side of St. Croix, there are areas that do not yet have hotels, condominiums or houses.

The Annaly Bay area has one of the last remaining tropical semievergreen and deciduous forests on St. Croix.

Besides the forest, this area includes hills, open spaces, slopes, valleys, pasture lands and bays. Such bays as Sweet Bottom, Maroon Hole, Wills and Hams Bluff and inland areas such as Caledonia and Spring Garden play a significant part in the Annaly Bay ecosystem.

The surrounding area also has ruins of historical significance, such as sugar mill ruins.

The area from Caledonia to Annaly Bay is an important sanctuary for local birds and wintering land birds from North America. It has been documented that this area shelters 20 species of migrant land birds. Furthermore, several West Indian species such as quail dove, Puerto Rican screech owl and Lesser Antillean bullfinch breed there.

Many people in the Virgin Islands do not understand that such birds as the red-tailed hawk, the Puerto Rican screech owl and the bridled quail dove require deep forest habitats.

Some species of birds need mature trees for nesting in order to reproduce. It is important to protect Annaly Bay and areas such as Spring Garden and Caledonia since some wildlife species require large areas to survive.

I think that in the near future increased demand for outdoor recreation will become more important not only for the tourist industry but also for residents of these islands. We must have a quality environment in order to sustain the Virgin Islands economy.

We must plan, and plan correctly. It is essential to control growth to prevent adverse effects on the environment. We can start by preserving areas like Annaly Bay.

Plans for the use of the Annaly Bay area could include foot trails and picnic sites as well as areas reserved for scientific study or preservation of wilderness or wildlife observation.

The bays surrounding the northwestern section of St. Croix also should be protected. The marine environment has an effect on the land ecosystem just as the land ecosystem has on the marine environment.

Let us fight to protect Annaly Bay and the surrounding environment. After all, it is part of our natural heritage.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist activist and writer.

Birds are important part of the ecosystem in islands

Olasee Davis

Our environment

While growing up in Savan on St. Thomas as a little boy, I used to visit DeJongh gut forest area often. This forest area back of Savan town thrives with an abundance of wildlife. Such animals as iguanas, fresh water fish, mongoose, frogs, butterflies, deer, tadpoles and other micro-organisms make up the DeJongh gut forest ecosystem.

It was here I developed the love for birdwatching.

Today, the Virgin Islands has about five distinct bird communities that live in wetland areas, dry forests, moist forests, open ocean, bay areas and developed areas. In the bay and ocean environment, boobies are common seabirds in Virgin Islands waters. If the fish they depend on for food decline or disappear, they too will disappear from around our bays and ocean environment.

Boobies are fishermen indicators. Local fishermen know whenever a large swarm of boobies fly over the water, that fish are in abundance.

The islands' mangroves, sea grass beds and coral reefs ecosystem depend upon what people do on land or in the sea. The mangrove forests are threatened not only by sewage discharge but trash, and the development of hotels or homes too close to the shore.

The loss of birds or even one species may very well threaten the whole marine ecosystem. Also, we tend to forget that birds migrate thousands of miles to the Virgin Islands every year. These birds depend upon the Virgin Islands wetlands, cays or forest areas for their very survival.

A century ago in North America, the passenger pigeon numbered in the millions, but then it became extinct. What happened to the passenger pigeon? First it suffered from the destruction of the forest.

Besides, pigeons were shot for sport and at that time there were no law to protect endangered species like today.

The islands' moist forests occur in guts or canyons bottom such places as the Canque Dam area on St. Croix or on high mountains slopes where lush jungle-like vines and trees sometimes reaching 50 to 100 feet high. Such birds as the thrushes, chicken hawk, mountain doves, pigeons, quail dove, hummingbirds and banàquit are some of the birds that are found in moist forest ecosystem in the Virgin Islands.

Today, only small patches of moist forest are left in the Virgin Islands; once they covered thousand of acres. These areas must be protected in order for visitors and residents alike to enjoy the last moist forest of these Virgin Islands.

Wetland is another habitat for birdlife. These areas include mangrove swamp, lagoons, saltwater and freshwater ponds and are important to local birds and migratory birds. The wetlands serve as natural filters for sediment and pollutants that run into our bays.

Birds commonly found in wetland areas are ducks, grebes, moorhens, egrets, herons, and numerous shorebirds such as yellowlegs, dowitchers and a large variety of migrant winter birds.

Developed areas in the Virgin Islands occur in town settings as well as open fields or rangelands. Although these areas have been changed from the natural habitats to man-made dwellings, some species of birds adopted well in these areas.

Such common birds are cattle egret, mockingbirds, swallows, or bananaquit birds are found in developed areas.

The dry forest ecosystem is another important habitat for birds in these islands. Dry forest include such areas as cactus, bush or shrub habitats like those on the east end and southern part of St. Croix. These areas produce an abundance of food and shelter certain times of the year. Cuckoos, vireo, doves, warblers and pigeons are some of the birds that are found in dry forest.

If we do not do something now to protect bird habitats in these islands, as with the passenger pigeon a century ago, some local birds might not be around much longer.

For further information on birdlife in the Virgin Islands contact the Department of Planning and Natural Resources Division of Fish and Wildlife on St. Croix at 772-1956 on St. Thomas at 775-6762.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Cooperative Extension Service helps all Virgin Islanders

Olasee Davis

Our environment

In the United States, the Cooperative Extension Service has become the single-largest informal education system.

The purpose of this institution is to help people improve their quality of life, develop problem-solving skills, become competent consumers, wisely develop their natural resources and build better communities. Thus, one can say the mission of the service is helping people to help themselves.

The growth of the service is a result of cooperative efforts by local people and governments, states and territories, land-grant universities and the U.S. Agriculture Department.

The organization influences the lives of both adults and youths in these islands, reaching out to people on farms and in urban areas.

Early in this century, the Virgin Islands was an agricultural society. Our agricultural potential lay in the hills, fertile valleys and plains of St. Croix, where people established farms, ranches and plantations. In those days, agriculture was given top priority.

The first agriculture society was founded in 1785 near Philadelphia. This society offered both social and technical benefits to farm families. The movement spread rapidly through the 1800s.

By 1819 New York had established the first state board of agriculture. In the early 1800s agricultural societies and state boards served as focal points of agitation for a federal agriculture department. At the same time, they lobbied for the establishment of state universities to teach agriculture.

As a result, the U.S. Congress passed three acts. In 1862 the Morrill Act created land-grant colleges. In 1887 the Hatch Act established an agricultural experiment station at each state land-grant college. And in 1914 the Smith-Lever Act provided for the Cooperative Extension Service to carry research information to the public.

In 1972 the College of the Virgin Islands became a part of the land-grant system, in which the service plays a role in college education.

The University of the Virgin Islands' Cooperative Extension Service runs many programs for our community, including the 4-H program and those on natural resources, home economics, agriculture and rural and community development.

In these Virgin Islands, the strength of the Cooperative Extension Service is maintained through involvement of clients in helping to determine, plan and implement informal educational programs.

One can say the extension philosophy is based on the belief that people must be reached where they are and at their level of interest and understanding. Such informal education best serves Virgin Islanders when they are involved in identifying their needs.

Education, in itself, is a professional field. Agricultural education has been a distinct function of the University of the Virgin Islands since the mid-1970s. Any resident can enroll in the associate of arts program in agriculture at the university.

With so many changes occurring in our community today, the Cooperative Extension Service is ready to assist the public. The natural resources department of the service is training other local agencies and non-profit organizations to find ways to manage our natural resources. It is clear the service goes beyond agricultural advice.

Community problems are a result of population changes, changes in living patterns, technological development, changes in governmental and social structures, environmental concerns and the cost of providing facilities and services.

To me, the purpose of the Cooperative Extension Service in these islands is to assist Virgin Islanders and other Caribbean peoples meet changes in the global environment.

For more information about Cooperative Extension Service programs call 778-0246 on St. Croix, 774-0210 on St. Thomas or 776-6492 on St. John.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Dry days in V.I. could be sign of arid future

Olasee Davis

Guest Editorial

Will drought become the norm for the Virgin Islands? That is the key question underlying immediate concerns about the drought that is parching the Virgin Islands landscapes. 1991 was very dry except for a few drops of rain late down in the year. This year seems to be no different. We are in March already and the heat is on.

But the problem may be greater than a cyclical drought in the Virgin Islands. Testifying before the United States Energy and Natural Resources Committee about two years ago, Dr. James E. Hansen, a climatologist with NASA, said, "it is about 99 percent certain that the global warming trend can be attributed to the greenhouse effect of pollutants in the atmosphere." Other scientists also believe that the greenhouse effect of pollutants has become a reality. This is the warming effect due to the proliferation of industrial gases that trap heat which otherwise would escape into space in the atmosphere.

In 1989, Hurricane Hugo devastated the Virgin Islands. This was due mainly because of climactic changes in the atmosphere. Some of these changes are caused by industrial pollution or the destruction of tropical forests.

Tropical forests produce oxygen, and the loss of these forests will be devastating to the world's mounting human population with its increased oxygen needs. Currently, forests the size of a football field is destroyed every second. Worldwide, however, forests are shrinking. Thus, halting forest destruction is vital if we are to slow down the greenhouse effect.

What with global warming, a hole in the ozone layer, and mounting population pressures, the environment should be the Virgin Islands' number one concern. The earth has been warmer in the first three months of this year than in any other comparable period since measurements began 130 years ago.

Over the last century, the world has warmed half a degree centigrade. If that trend continues as many experts say, the world climate will change drastically.

Drought is nothing news to V.I. farmers. The problem is that drought may become a regular pattern. Not only farmers are effected by drought, but also the entire population. While this year drought cannot be definitively linked to the greenhouse effect, Virgin Islands residents would do well to contemplate the worst. By the time the greenhouse effect can be scientifically verified, it may be too late to reverse the damage.

Four of the last eight years — 1980, 1981, 1983 and 1987 have set global surface temperature records. This year could be another. But these records are not conclusive since periods of cool weather have been interspersed with the heat. Still, it is time to take precautions.

To reduce the greenhouse effect action is needed on two fronts — lower the emission of carbon dioxide and protect the forests that absorb carbon dioxide.

The lowering of carbon dioxide emissions can be achieved by reducing our dependence on fossil fuels for energy. Such simple steps as planting trees on these islands will help reduce the greenhouse effect. Freon and automobile emissions must be curtailed. If the Virgin Islands doesn't take some tough steps, drought may become a way of life.

The long-term ramifications of drought are myriad. While the average Virgin Islander tends to concentrate on the effect on high food prices, a severe drought impacts on such countries as the United States can cause ecological catastrophe for all of us. As a people, we do not realize that when Virgin Islands farmers suffer, we all suffer. If these islands are to sustain life ecologically, then we must start showing more concern about our environment.

For example on the eastern side of St. Croix, farmers are hit hard by the drought. In some areas, there is no grass for animals to feed on. Upon that, the underground water table is very low. Also in some cases, wells run dry because some wells were sunk dry.

The island of St. Croix has several places of high natural ground water recharge areas. These areas are mainly along the valleys and guts which run through such places as San Anton and Sion soils. If existing areas or guts are to fulfill their potential as future water suppliers, they must be protected now. We must consider the long-term effects of drought in these islands. If we do not plan where to build and protect natural resource areas, then our dog is dead, as they say.

Global warming caused by the greenhouse effect threatened to take hold of Earth maybe in our life time. If that happens, savage heat waves, water shortages, and parched farmlands will be commonplace in these islands.

Year after year after year, we in the Virgin Islands must take the steps necessary to head off the greenhouse effect or else live with drought.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist and activist.

For 1992, try 'living on the edge'

Olasee Davis

Our environment

Thousands of sport fans here and on the mainland watched the Atlanta Falcons play against the Washington Redskins football team Jan. 4.

One thing was certain, the team from Georgia was entertaining because they follow head coach Jerry Glanville's philosophy of "living on the edge." His philosophy calls for a reckless, kamikaze approach to football. The Atlanta Falcons often execute crazy, logic-defying plays, baffling teams whose approach to football reflects the conventional and conservative approach.

It occurs to me that we all "live on the edge" in our surrounding environment. We may never catch a razzle-dazzle pass while running full tilt down a football field in front of thousands of screaming football fans. Or we may never be on the bomb-defusing squad or pull night duty at the hospital emergency room on Friday the 13th, but we all live on the edge to some extent. Even plants or animals live on the edge because of changes to the earth's environment that are caused by nature or by man's actions.

As people, we can cause the extinction of plants or animals because we have changed the habitats upon which these species depend. A habitat includes not only the other plants and animals in a given environment, but all of the things needed for a species' survival from sunlight and wind to food and shelter.

Have you ever found yourself in the following situation? The needle on your gas gauge drops slightly below empty and you try to squeeze a few more miles out of your car before stopping at a gas station. Or you and your spouse for example are on the verge of a full-scale argument when one of you throws caution to the wind by blurting out an ill-considered remark guaranteed to escalate the situation.

What about your bank balance slips dangerously close to zero and you bravely write several more checks. Believe it or not, most of us live closer to the edge than we want. It is always tempting to pull back and choose a settled, sedate life. Thus, it is precisely how we respond to the temptation to pull back that proves our mettle.

Well, it is clear to me that God is always beckoning to people to live on the edge. Just when we think we have feathered our nest, charted our course and secured a predictably comfortable life, God challenges us to voluntarily "live on the edge." For instance, the Bible tells us that God called an 80-year-old man named Moses to quit tending his sheep in the wilderness — talk about security — and to go to Egypt to lead the children of Israel out of bondage.

The Bible tells about Jesus who travelled through Galilee calling on people to drop their nets, leave their tax offices, give away their possessions and follow him. Also, the Bible tells of God asking a man named Abram to pull up his tent stakes, leave behind kin and comfort and head to some unknown and uncharted land far, far away, where he would receive a blessing.

It is not just football players or endangered species threatened by extinction that live on the edge. Any person who conscientiously follows God may be called to trust another person whom he has grown to mistrust; to share limited financial resources with another person; to love somebody who seems unlovable; to donate valuable time to a worthy cause; to give money to a church or synagogue when personal finances are weak and prospects are bleak.

We are always faced with the temptation to pull back and play it safe. Very few people naturally seek a steady diet of adventure and challenge. It looks like God's challenges lead us into organized mayhem, while others live lives of serenity and calm. But the contrast is false. In actuality, all of us as a people in these Virgin Islands live "on the edge." The only real option is which edge we shall choose.

May we as a people make wise choices in 1992 to protect our natural resources to help one another in need and so on. In closing of this article, I would like to say "Happy New Year" to the Virgin Islands Daily News and staff who gave me the opportunity to write a weekly column and also to the thousands of Virgin Islands readers who read my articles religiously and by showing their support of hundreds of telephone calls, letters, and encouragement. Remember, living on the edge is a matter of choice.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist and activist.

St. Croix Wednesday

Guavaberry disappears as forests destroyed

Olasee Davis

Our environment

The Virgin Islands at one time was truly a virgin. The story goes that one time these islands were covered with forest. During the colonial period, much of the forest was burned off for agriculture.

Nonetheless, there are some forests in the northwestern part of St. Croix, on the mountain slopes of St. Thomas, and in large areas in the national park on St. John. Such places as Caledonia and Creque dam are examples of how St. Croix used to look during the island ecological development.

In a forest ecosystem, there are a large number of species of shrubs or smaller trees that grow under large trees. One tree that used to grow in an abundance under forest floor in these islands was the guavaberry tree. Guavaberry belongs to the Myrtaceae family that grows wild mostly on hillsides.

Today, these trees are hard to find because of the deforestation of the islands' hills.

As a little boy, I used to go hiking up in the hills in Magens Bay beach area on St. Thomas with a friend. We used to eat our belly full of guavaberries. Traditionally in the Virgin Islands, guavaberries are harvested by putting an old bed sheet under the tree to collect the berries as someone shakes the berries off the branches.

Of course, guavaberry is used to make the traditional Christmas liqueur in the Virgin Islands. The tasty fruit contains vitamin C.

The flowers of these trees appear sometime around May or June. The berries are small reddish-black or orange-yellow in color and ripe in the fall. As with everything in nature, the environment influences the development of the flowers and the fruit. Local farmers have observed that when we get lots of rain during the fall, berries are in abundance. But too much rain can cause berries to fall off the trees.

However, little research has been done on guavaberry. Thus, leaving guavaberry a mysterious plant for those who want to grow it locally. Many people have tried to propagate guavaberry by seeds or transplanting young seedlings with little success. A few years ago, a scientist name Francesca Griffo was studying the reproduction of guavaberry.

She found out that the success of guavaberry may depend on using moist or fresh seed and soil from under the mother plant. She further noted that the protective seed coat is fragile and does not withstand stress or drying out. This will prohibit the seed from germination.

The soil under the guavaberry tree contains fungi that interact with the tree roots by enabling the roots to absorb nutrients. Thus, success may depend on taking young plants with soil from under the mother plant. Oscar Henry, a V.I. farmer, has had success by planting seeds or plants together as "company"

In these islands, guavaberry trees grow better on slopes and in rocky soil areas. Ample moisture is important for tree growth; that's why trees grow best under forest floor where shelter is provided from the sun. Ventilation is also important for success. These trees, however, grow very slowly, taking five to 10 years to bear fruit. Occasionally, trees are infested with fruit flies, leaving the berries wormy. Remove debris and rotting vegetation from around the trees.

Traditionally, early Christmas morning people go door to door singing, "Good morning, good morning I come for my guavaberry."

Rum, wine, tarts, jams, and other preserves are made from guavaberry. For local people, guavaberry is what brings in the Christmas sprit. This Christmas spirit, however, goes back further when slaves used to make guavaberry rum, and shipped barrels of rum to Denmark. Now, on the island of St. Martin there is a distilling plant producing guavaberry wine commercially.

Merry Christmas and a Happy New Year to all the residents of these islands. Below are two recipes from my co-workers at the University of the Virgin Islands Cooperative Extension Service. Blanche Mills is an extension assistant on St. Thomas campus.

Blanche's Guavaberry Preserves.

Wash berries well. Burst seeds. Add berries and sugar to taste with enough water in the pot to cover. Bring to a boil, then simmer on medium heat. Add cinnamon, cloves, vanilla extract. Add more water if liquid thickens too much. Or add more sugar to thicken to make preserves for taste.

Blanche Mills Traditional Guavaberry.

Use a five-gallon "Jimmy John" bottle if possible, or divide the batch into smaller bottles. Put cinnamon stick, prunes, raisins, vanilla beans or extract, sugar to taste, and about five pounds of washed berries uncooked into bottles. Add assorted varieties of Manichewitz wines to bottles. Determine the amount of wine to be used according to the volume of berries. Cook bottles and put in a dark place for a couple of years before using. Stain liquid while pouring. For further information on how to make guavaberry preserves contact the extension service by 774-0210 or 778-0246.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Let Nature control her own pests

Olasee Davis

Our environment

A few weeks ago, I wrote an article entitled "Organic gardening helps environment." Many people since then have been asking me what natural pesticides one could use to control bugs on plants.

Old home remedies for keeping insects out of the garden are being rediscovered now that modern pesticides are becoming suspect as being environmentally dangerous and in some instances are no longer effective.

Even today, modern agricultural scientists have found scientific basis for many of the old customs farmers used years ago to control pests.

For example, garlic as a pesticide is good. It has been in use since early Egyptian days. Down through the years, the folk traditions have kept alive the belief that garlic does many good things for you. Recently scientists have pinpointed garlic's active principle in theallyl sulfides found in bulbs of the onion plants. They have found that garlic controls mosquito larvae, aphids, tomato hornworms, grasshoppers and potato beetles.

Garlic sprays are easy to make. Here are two recipes for garlic pesticide. Put three cloves of garlic, one medium chopped onion and two cups of water in a blender, and blend for one minute. Add two teaspoons of hot red pepper. Steep for 24 hours and strain through a nylon stocking. Dilute with five cups of water before using.

For the other recipe put in a blender two cloves of garlic, three hot peppers cut up, three tablespoons chopped chives or leeks and one and one-half cups water. Blend one to two minutes and let steep for 24 hours. Strain and add one tablespoon of soap powder — not detergent. Then dilute with seven cups of water before using.

Pepper is another kitchen remedy gardeners use to control such pests as black cucumber beetles and corn borers. Use three tablespoons of ground pepper in three cups of boiling water and apply it as soon as it is cool. Then add two tablespoons of soap powder — not detergent —to help the spray adhere to the plants.

The old time farmers in the Virgin Islands knew spraying water forcefully onto plants that have red spider mites and aphids will control the insects somewhat. If these pests persist, add two tablespoons of soft soap to one gallon of water and spray again.

Mites also can be treated with a three percent oil spray of water and mineral oil, a 30 percent sulfur dust or a slurry made from one pound of flour, one-half cup of buttermilk and five gallons of water. Pests on cabbage plant leaves can be sprayed with one ounce of salt dissolved in one gallon of water, but you should avoid spraying on the soil. Bacillus thringiensis, a bacterial disease, will control worms on plants such as cabbage looper, tomato hornworm, and fall webworms.

To make another spray to control pests, put a handful of tomato leaves through a juicer to make one cup. You then add eight cups of water and one tablespoon of cornstarch. Strain and use to control black spot on rose plants.

You can also boil two cups of the stems and cut-up leaves of tomatoes in two cups of water. Cool, strain and dilute with four cups of water. Solanine is an effective principle in tomato leaves.

Another product nature provide is tansy. Tansy is a strong plant with tannin and tanacetic acid in the leaves. As a natural pesticide, it controls ants, cabbage worms and aphide. Nicotine sprays also are useful to combat thrips, aphids, and scale found on indoor rubber plants. Use cigarette butts, ashes, cigar and, pipe ashes to make tea. Or shake tobacco dust through cheesecloth onto infected plants. Please do not inhale it.

The conventional botanical pesticides available commercially are also very useful. The most common are pyrethrum, rotenone derived from derris, and ryania derived from a South American plant.

A mixture of these three called Tri-excel is available from many garden centers on the mainland. This pesticide is useful for many pests even on garden vegetables. However, allow several days to elapse before harvest and wash the leaves if any bitter residue is left.

In modern agriculture, a system called integrated pest management is an ecological approach to pest control. Although kitchen remedies are not used on a large scale for agriculture production, this system's basic framework builds on natural controls.

These might include crop rotation, climate, weather, natural parasites and predators to control pest or plants. Pesticides may be used sparingly at times.

However, to help protect the Virgin Islands environment, try ecologically sound home remedies in your garden.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist and activist.

Nature turns up the heat, encourages conservation

Olasee Davis

Our environment

For years, people have debated the seriousness of global warming of the earth. The stakes in this debate are extremely high. To some scientists, the future of planet earth does not look promising. Our past transgressions have altered the environment to the point where we are seeing drastic changes in weather patterns. Furthermore, human expansion on earth has rapidly changed the environment so that many species of animals and plants — which we all depend on for food, shelter and clothing — are becoming extinct.

Today, the debate continues among scientists whether the greenhouse gases really have an adverse effect on global climates. The notion by climatologists that certain gases could warm the earth's surface is nothing new. In 1896, a Swedish chemist, Svante Arrhenius, talked about the greenhouse effect.

He discovered that "burning of coal, oil and natural gases could eventually release enough carbon dioxide to warm the earth." This debate on the greenhouse gases also has implications politically and socially. Some often asked questions are: Should we renew efforts to control population growth and How much should we rely on fossil fuels.

The United Nations Inter-governmental Panel on Climate Change and the National Academy of Sciences have estimated that the average temperatures could rise between three and eight degrees Fahrenheit by the middle of the next century, making the earth warmer than at any time in the past 10,000 years.

If this is true, climate changes could have global implications with parts of the world enjoying a new boon in agriculture, while other parts of the world reap disaster.

Michael Oppenheimer, a scientist with the Environmental Defense Fund, says, "we know that certain gases trap heat, and that human activities are adding more of them to the atmosphere."

Let us not forget that the natural greenhouse effect has been beneficial to life on earth. You know, when God created this earth He knew exactly what He was doing. In nature, everything has its purpose. However, man has changed that as he has intensified his activities on earth.

Burning forests, fossil fuels, nitrous oxide from fertilizers and methane from rice paddies all contributed to the greenhouse effect.

Automobiles and industrial processes that burn oil, coal, and gasoline produce the greatest quantities of greenhouse gases into the atmosphere. Human activity releases about 26 billion tons of carbon dioxide into the atmosphere yearly and only half that much can be absorbed by the oceans and forests.

Right here in the Virgin Islands one can see the changes in the environment, from the rainfall pattern to the disappearance of trees and marine animals surrounding these islands. It is no exaggeration to state that life on this earth depends on the existence of a thin shield called the ozone layer.

As a people, we must understand that the slightest depletion of the ozone layer would increase the level of radiation to reach planet earth. For millions, that could result in blindness, skin cancer, the breaking down of the human immune system and, possibly, death.

This change in climate will also bring catastrophes much more often than in the past. Some of us when we hear such things as a greenhouse effect we laugh. It is not so funny when the rate of skin cancer and other diseases are high. On the other hand, we continue to fool ourselves that we can do as we please with the environment.

In the 1970's, some scientists warned that the ozone layer could be in jeopardy. They mentioned that certain man-made chemicals called chlorofluorocarbons had the capability of releasing gases in the atmosphere which could unleash a complicated reaction of gases resulting in the destruction of the ozone layer.

Three years ago, Hurricane Hugo devastated the Virgin Islands. Tell me, have we forgotten? What caused such a destructive hurricane? As a matter of fact, scientists predicted that there will be more hurricanes in the 1990s and beyond the year 2,000. The Bible even mentioned that in the last days there will be more sigas in nature than since the beginning of time.

Today, we are witnessing more signs in nature from earthquakes, pestilences, and famines in various parts of the world. This year alone, we witnessed so many catastrophes. Hurricane Andrew devastated south Florida, Louisiana and the Bahamas, causing death and billions of dollars in damage. The island of Guam was hit with a typhoon while Nicaragua was shaken by an earthquake, setting off tidal waves that flooded dozens of towns along the coastal areas.

At the same time, China was hit with a killer storm that took more than 52 lives and in the country of Somalia thousands of people are starving to death. Kauai, Hawaii, was devastated by a storm.

So far, we here in the Virgin Islands have been spared. You know, most people in the Virgin Islands do not care about the environment. Many times, we take things for granted until it is not there any more.

One time, I came across a Chinese proverb that said, "if you are thinking a year ago, sow seed. If you are thinking ten years ago, plant a tree. If you are thinking 100 years ago, make people aware. By planting a tree, you will harvest 10 fold. By opening the minds of people, you will harvest 100 fold."

Too often we talk too much about doing something for these islands. Let scientists debate over the greenhouse effect. Meanwhile, we should plant trees in these islands to reduce global warming.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Recycle mums to help environment

By OLASEE DAVIS

I lived in Dallas, Texas, for a number of years. One of the popular plants in Dallas is chrysanthemums, sometimes referred to as mums.

I noticed that some of our grocery stores and nurseries here in the Virgin Islands do sell mums.

However, these days, almost everyone is concerned about the environment. At the same time, many of us do not realize that we are a part of nature, and whatever we do to alter our environment affects us directly or indirectly.

To save planet Earth, we as a people in these Virgin Islands can do something as simple as recycling mums.

Whether you are planting mums or purchasing them from a local nursery, recycling those that wintered indoors or salvaging ones that survived outdoors, cutting back mums is the common sense thing to do.

Instead of throwing away those cuttings, why not use them for more "free plants."

To root mum cuttings, follow these steps.

1. Before taking cuttings, fill plant flats, shallow pots or other convenient containers with a mixture of equal parts of peat moss and perlite or sand. If peat moss is not available, use good soil mix. Also, poke holes in the rooting mix using a pencil or a round stick.

2. Remove the upper 3-1/2 to 4 inches of the new growth by breaking or snapping it off. After removing the tips, cut them to a standard 3-inch length. Strip the leaves from the lower half of the cuttings.

3. Dip the cut ends of each cutting into a rooting hormone-fungicide powder to improve rooting and to reduce the chance of rotting or disease infection. Tap off excess powder.

4. Insert cuttings up to leaf base into the rooting mixture holes. Take care not to cover leaf base. Space cuttings one to two inches apart. Pack the mix around the cuttings, then water.

5. Using a pane of glass or a polyethylene bag, cover the cuttings and container. You can use an old wire coat hanger to support the plastic so the cover doesn't touch the cuttings.

6. Place the container so it is away from direct sun but has excellent filtered light.

7. Keep rooting mixture moist but not soggy. When cuttings show signs of new growth, remove the covering. Several days later gradually move to a sunny location. Using a diluted solution of soluble fertilizer, for example, house-plant fertilizer diluted to half its usual strength, water the cutting when needed. Use the fertilizer solution about every third time you water.

8. About five to six weeks after sticking the cuttings, they should be well-rooted and about four to five inches tall, ready to be set out.

9. Transfer the rooted cuttings to a flower bed that is in a sunny location with well-drained soil. They also can be transferred to containers or planter boxes in your garden.

10. To develop strong, bushy but compact plants that will support the flowers without staking, pinch out the tip of the newly transplanted cutting. When side shoots develop three to four sets of new leaves, pinch out the terminal tip on each. Continue pinching each new set of side shoots until mid-July.

11. Chrysanthemums should never be allowed to suffer from lack of water or the stems will become hard and woody, and the plants will be of poor quality.

So whenever you purchase mums from nurseries or grocery stores, remember that you can help the environment by recycling them. It is the right step in saving planet Earth.

Olasee Davis is an environmentalist. His opinion does not necessarily reflect that of his employer, the University of the Virgin Islands Cooperative Extension Service.

Reef damage weakens tourism

Olasee Davis

Our environment

According to a recent report from the Caribbean cruise ship industry, from 1981 to 1987 the number of people who traveled to the Caribbean on cruise ships increased to 5.6 million a year ago from 3.4 million. This number of cruise ship travelers could increase to 160 by 1995.

Although the Virgin Islands economy benefit tremendously from the tourist industry, there is something happening under the ocean that can destroy the industry — especially since water sports and pristine ocean views are a big attraction.

The coral reefs in the Caribbean are in trouble. Since the 1970s, reef destruction caused by anchors from ships and dive boats has been documented by scientists. Many of these ships can enter shallow, environmentally sensitive areas and damage or destroy coral reefs.

What people do not realize is that when anchors damage reefs, the reefs may never recover. And if they do, it will be a slow process — in most cases more than 50 years. What coral reefs are to the marine world is what tropical forests are to life on land. They support the most diverse ecosystem in the ocean world.

Animals from prowling sharks and glittering Caribbean angelfish to tube-shaped sea cucumbers and starfish surround the Virgin Islands reefs' living rocklike core, made up the skeletons of millions of dime-sized marine organisms. These same tiny marine animals are important to our economy.

In 1989, Hurricane Hugo damaged and destroyed many corals in Virgin Islands waters. Reefs also are damaged by disease and other natural phenomena. Nature has a way of healing itself, but there is another problem. Scientists now believe that the bleaching form of death on coral reefs may be related to the rising water temperatures by the global warming.

Development has dumped pesticides, sewage soil runoff and oil spills into the sea. However, the most severe destruction to coral reef in the Virgin Islands are anchors of cruise ships, divers and smaller boats.

You know, some of us in these Virgin Islands will never appreciate what these islands' marine environment has to offer. We better start caring for our environment or else it will not be around to enjoy much longer. To me, the best solution to the anchor problem in the Virgin Islands is to provide alternatives to anchoring. This might mean establishing permanent moorings and requiring all ships and boats to use them so that they do not have to drop anchor.

To save the Virgin Islands coral reef, the public must become part of the solution by being more responsible for their surrounding environment.

For more information, call the Department of Planning and Natural Resources on St. Croix at 772-1955, on St. Thomas at 775-6762.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist and activist.

The Daily News, 1992

Rivers, fresh water fish were abundant in past

Olasee Davis

Our environment

Being the pesticide coordinator of the Virgin Islands, I travel a lot between the islands conducting workshops on the safe use of pesticides. Flying over the islands gives me the opportunity to see the natural environment from above including the many ponds that dot the island of St. Croix.

Ever so often, my mind goes back how these islands used to be with forests, streams, and brooks flowing year long.

How many Virgin Islanders know that St. Croix used to have above ground rivers? In the 15th century St. Croix had three rivers. History has it that Christopher Columbus sent his men ashore to Salt River to find fresh water.

One of the main pursuit of the early colonists of St. Croix was the cultivation and processing of indigo. This industry required substantial quantities of fresh water. So what this tells us is that St. Croix is a land where streams used to run.

As the settlers pursued their dreams for agriculture, the Indians disappeared along with forestland which was burned to the ground.

The ecology of the islands have changed mostly by the hands of men. However, as early as the 1918, there were still a number of permanent running streams on St. Croix. Such places as Lower Love and Bethlehem guts were consider rivers which run all year round.

George A. Seaman, a naturalist and native of St. Croix, said as a boy he used to cross five running guts before he arrived to Frederiksted town. He mentioned that the Garden Gut just outside of town (West End) was a gurgling and vivacious body of clear, clean water in which the town's laundry was washed.

He further stated "in all my youth I never saw this stream dry, and the idea that in a few years it would perish forever to a bone dry waterway would have been a completely untenable thought." Many old-timers of St. Croix will tell you they used to fish in guts. To us today fishing in guts seems impossible. George A. Seaman mentioned in his book "Ay Ay Island Almanac" that the biggest eels were caught in Upper Love gut while the largest mullets (freshwater fish) came from the Castle Burke gut .

Forests play a vital role in regulating water flow; yet the little forest remaining on the island is threatened by unplanned development. In other parts of the world, millions of acres of forests are being destroyed. As tropical forest shrink, their capacity to absorb carbon dioxide, hold water in their roots and leaves, and draw moisture from the air are declining faster than we think.

Generally speaking, tropical forests have infertile soil because most of the nutrients are in the vegetation, not the soil. Thus, when forests are cleared they tend to regenerate very slowly if at all. I believe that St. Croix is the last frontier of the Virgin Islands and if we do not plan right we will lose a land that was once fruitful.

Today, the Caledonia gut is the last area where one can still find waterfalls and fresh water fish especially after a few days of rain. The reason for fresh water fish in this area is the forest.

Although one can find fresh water fish throughout St. Croix every now and again, the Caledonia gut has a particular species of fish called Sicydium plumieri that can be found no where else on the island. Today, we know the abundance of goby fishes that inhabited the Caledonia gut years ago was there because of the constant pouring of water over the rocks generated oxygen for the fish to survive.

These fish has an interesting life cycle. The female places her eggs under the rocks. In heavy rain, these larva like fish are swept out to the sea. Thirty days later, the gobies have developed into small, transparent fishes and head up the Caledonia stream again. The forest feeds these fish with algae and insects.

In the rain forest of South America, some species of fresh water fish eat fruits when they into the water. The fish pass the fruit through their stomachs and replant the forest.

As a consequence of deforestation years ago in these islands forest, the biodiversity of the fresh water fish we once had is gone.

In 1973, the Virgin Islands Agricultural Experimental Station started a fresh water fish program. Today, the experiment station conducts research in ponds and fiberglass tanks by using fresh water, salt water, and wastewater. Local scientists also took another task in which the hydroponic system was integrated into the fish program. Such crops as tomatoes, Chinese cabbage, pac choi and lettuce were grown from the waste of the fish.

For fresh water fish to continue in the wild, why not protect the Caledonia forest for generations now and to come.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Teach children early to keep our islands clean

Olasee Davis

Our environment

On July 16, 1992, I picked up the St. Croix Avis and read its headline, "Garbage crisis in the Virgin Islands."

When Moses came down from Mount Sinai 3,300 years ago, he could count the basic rules of ethical behavior on his fingers. Today, with the world economy several hundred times larger and the earth's biosphere tormented beyond anything Moses would recognize, ethical propriety is a more complicated matter today than in his days.

As a child, I was taught never to throw papers in the streets — or anywhere else for that matter.

In grade school, I was taught a song that goes something like this: Never be a litter bug, always be a tidy bug. Every morning when we attended school, we sang that song.

You know, that song stayed with me all these years. I am so conscientious about not throwing trash in the street, and if I do, my mind will not rest until I pick up the paper off the street.

I am a strong believer in education. When you teach a child good values in life, nine times out of 10 that child will grow up being a caring person in his community and for the environment as well.

Although Moses could count the basic rules of ethical behavior, there is one ethical thing that we as people in the Virgin Islands need to teach our children and ourselves.

"Train up a child in the way he should go and, when he is old, he will not depart from it," says Proverbs 22:8. If we heed these simple but profound words, we will be more environmentally conscious about keeping these islands clean because we'll train ourselves and our children to do likewise.

The challenge of spreading a practical environmental ethic is not only to list "do's and don'ts," but to convey some sense of their relative importance, for not even the most dedicated among us has the time or energy to do everything we should. It is not my job, man, to clean up the environment, but everybody's job, one commercial on TV says.

There is an environmental program across America called "Take Pride in America." This month the St. Croix Chamber of Commerce chose Lt. Gov. Derek M. Hodge to coordinate the local "Take Pride in America" program.

The goals of this local program are to make all residents aware of the importance of protecting our natural resources and to encourage every resident to display stewardship and responsibility toward protecting these islands' resources.

This all-out effort to keep these islands clean and green is the responsibility of all of us. However, some people in these islands fail to understand that the Virgin Islands economy depends on clean islands. They continue to trash the place. Our government, which is really the people of these islands, has to spend million of dollars every year to keep these islands clean.

People do not realize how serious garbage disposal is in these islands. We throw out our garbage every day and do not care where it ends up. Our landfills are getting to the point where they cannot handle any more garbage. Recently, the Environmental Protection Agency told this government if they do not get their act together to improve the landfill or find ways to dispose of garbage environmentally, they will impose penalties and fines against this government.

These are the kinds of things this government is faced with every day. Again the government is the people. St. Croix is getting ready for an all-island cleanup, which begins Friday for youths and Saturday for adults. This all-out effort to clean up St. Croix will include a program called Adopt-a-Mile, Adopt-a-Spot and recycling centers.

The St. Croix Environmental Association already has put together a list of areas where people can drop off their aluminum cans to be picked up for recycling.

These drop-off points are Domino Club, La Reine Esso, Little Princesse Texaco, Roach's Texaco, Solitude Store, Rooftops, Boys and Girls Clubs and the St. Croix Environmental Association. A map of the locations can be picked up at the SEA office, or call 773-1989 for more information.

From an environmental and consumer standpoint, there remains much more to be done in keeping these islands clean.

Some of us fail to realize as a people that it is not so much the big things in life that count, but the little things. Keeping our streets clean might seem to some people as nothing, but this effort helps our local economy grow. Is it too much to ask the people of the Virgin Islands to take pride in these islands? It is not only a matter of pride, but the right thing for all Virgin Islanders and visitors, too.

The challenge of spreading a practical environmental ethic is not only to list do's and don'ts, but to convey some sense of their relative importance, for not even the most dedicated among us has the time or energy to do everything we should.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Virgin Islanders need to get serious about farming

Olasee Davis

Our environment

Last week, I attended the Agriculture and Food Fair on St. Thomas where the University of the Virgin Islands Cooperative Extension Service and the community at large celebrated 20 years of learning and growing, serving the U.S. Virgin Islands community.

Historically speaking, in St. John — and in St. Thomas to a certain extent — agriculture was a major part of the economy. Hundreds of acres of hillside land and flat areas on these islands were under cultivation. Today, the economy of St. John and St. Thomas have changed to a more tourist-based industry. No longer is there large scale agriculture production on these two small islands of the Virgin Islands.

However, the high cost of food in the Virgin Islands is one of the results of the lack of agricultural development. About everyone in these islands agrees that food should be a major part of our local economy. On the other hand, growth worldwide in food production output is being slowed by environmental degradation. Nearly all forms of global environmental degradation are adversely affecting food production.

Worldwide soil erosion is slowly destroying farmland, deforestation is leading to increased rainfall runoff, and damage to food crops from air pollution and acid rain can be seen in every industrial and developing country. Each year, an estimated 24 billion tons of topsoil is washed away.

In 1989, Australian prime minister Robert Hawke said that "none of Australian environmental problems is more serious than the soil degradation." Besides that, land is being degraded by changing soil chemistry because of the rising concentrations of salt in irrigated agricultural soils.

Deforestation directly alters the local hydrological cycles by rainfall inland. There is evidence that deforestation of the Himalayan watersheds is raising rainfall runoff, thus leading to increasingly severe flooding. In 1988, this process occurred when two-thirds of Bangladesh was under water for several days. This flood damaged the country's rice crop so that the people had to import grain to feed themselves.

On the local scene, more areas in the Virgin Islands are being flooded out. Every time the rain falls, our streets are like rivers, leaving some homes, business, and farms under water. This rarely used to happen. It is happening now because of poor planning of these islands' economical development.

With so many worldwide problems relative to food production, many people in the Virgin Islands believe that our supermarkets will always be supplied. How can we be so stupid? As a people, we fail to realize that interconnection of the global food market. Thus, agriculture is effected globally by deforestation, climate changes, pesticide damages to crop land, and all the other factors that influence agriculture production.

How can we in good conscience celebrate agriculture in these Virgin Islands when we do very little to show for it? Why fool the people? And why should people believe in politicians who talk about using agriculture as one of the alternatives for economic development. It makes sense to me that before we can talk about any economical development in these islands, food must come first.

We are continuing to fool ourselves that food will always be available at our stores. Believe me, one day we will really know how to be hungry.

People and government also must want agriculture to be a major part of our local economy.

The extension service is there to assist the community at large. As a people, why not join us in the extension service family of learning and growing in these Virgin Islands?

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist and activist.

Wetlands: one of islands' most valuable assets

Olasee Davis

Our environment

Before the first man inhabited these Virgin Islands, they were covered with forests, an abundance of wildlife, running streams and wetlands. In 1493, Columbus called the island of St. Croix, Santa Cruz which mean Holy Cross.

One of the reasons I believe he chose the name is because Salt River was a major river then that divided the island into two sections. In order to travel from east to west on St. Croix in those days, you had to cross the river which ran through the center of the island at that time forming what to Columbus may have looked like a cross.

What is more important than Columbus, is protecting wetlands in these Virgin Islands.

To some people, swamplands, marshlands, wetlands or salt ponds are physically unattractive and an obstacle to progress. To others, — those who are willing to risk wet feet to walk through a springy soft moss and vegetation of many varieties, and see wildlife not normally seen on higher ground — wetlands are God's creation.

There are roughly 32 saltwater wetlands on St. Thomas. They include Perseverance Bay Pond, Bolongo Bay Pond, Smith Bay Pond and Vessup Bay. St. John, the smallest of the Virgins, has roughly 24 saltwater wetlands including such areas as Maho Bay Pond, St. Francis Bay Pond, and Southside Pond. St. Croix, the largest of the three Virgin Islands, also has many wetlands, including Southgate Pond, Great Pond, and Sandy Point Pond. ADditionally, many cays surrounding the three main Virgins are dominated by saltwater and wetlands.

In 1989, a workshop was held in the Virgin Islands entitled "Coastal Protected Areas In the Lesser Antilles." In this workshop, ecologist Fred W. Sladen said that we need to improve the islands' economy by broadening the commercial and industrial base and increasing income from tourism and we must insist on the implementation of such long range planning as is found in the V.I. Coastal Zone Management Act.

The Virgin Islands Coastal Zone Management Act is there to ensure the protection of such natural resources as wetlands, mangroves and salt ponds. Yet, today, many of our wetlands are being destroyed just to build a hotel near the ocean; Salt River is a good example. If the Virgin Islands Coastal Zone Management Act is to protect wetlands in these islands, then tell us what is happening to wetlands that are being destroyed in the name of progress?

The Southgate Pond on St. Croix is a mixture of woodland and littoral forest, mostly thorn shrub with white, black and red mangroves. It is about 900 meters long. Here leatherback sea turtles and Hawksbill Green turtles make their nests. This wetland alone supports 96 species of birds, 26 of which are considered threatened or endangered in the Virgin Islands.

Between 1981 to 1985, more than 15,000 individual birds visited Southgate Pond. In this great number of visiting birds, there were 12 species of ducks which nest there during the winter months.

Great Pond is another example of a wetland on St. Croix, a flood plain that drains 340 hectares. The area includes large, shallow salt water, tidal lagoon, and mangrove plants, which support about 83 species of birds and thousands of marine animals.

In St. Croix, about 64 percent of the original wetlands have been destroyed by development. In the Great Pond wetland area, a hotel is on the drawing board.

The importance of wetlands in the Virgin Islands to wildlife cannot be overemphasized. Different species of animals such as migrating birds from the United States depend on our island wetlands for food, shelter and a nesting habitat. Our tourist industry also depends on wetlands to a large extent. Few people in these islands realize the interaction between wetlands and tourism.

Here are some of the benefit that wetlands provided for the Virgin Islands economy:

- Ground Water Recharge — wetlands serve as a source of ground water recharge by collecting and retaining surface water that would otherwise end up in the sea, thus helping ensure long-term supplies of quality ground water.
- Coastal Erosion Control — wetland vegetation reduce erosion along our coastal areas and act as a natural protective buffer for the sea. Wetlands collect fresh water runoff, allowing the soil and silt to settle out rather than enter the sea.
- Wildlife habitat — provides food, cover, nesting areas.
- Fisheries habitat — many species of fish in the Virgin Islands utilize wetland mangrove habitats for egg laying, food or protection. Mangrove wetlands is very important for the fishing industry in these islands.
- Education — wetlands provide an outdoor classroom for learning about marine animals and plant life.
- Aesthetics and recreation — wetlands are often beautiful areas to observe unique plant and animal species.
- Nutrient assimilation — wetland plants such as mangroves absorb nutrients during their growth and development. This removal means cleaner water leaving the wetland.
- Floodwater storage and retention — wetlands reduce flooding by slowing down the force of floodwaters and by providing temporary storage of large amounts of storm water or rain water.

What I mention above is just a small faction of how wetlands can enhance the Virgin Islands economy. However, the Virgin Islands wetlands are supposed to be protected under what is known as the Territorial Indigenous and Endangered Species Act, section 404, but some are still being destroyed.

For more information on wetlands in the Virgin Islands you can contact the Division of Fish and Wildlife Department of Planning and Natural Resources on St. Croix at 772-1955 or St. Thomas at 775-6762.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist and activist.

Better environmental planning will help us all

Olasee Davis

Our environment

In the 1990s, we have been hearing the word environment more often than during any other time in earth history. We read the word environment in the newspapers, hear it on television, see it on bumper stickers on vehicles, print it on T-shirts, and many other items.

You know when God created man, He gave him the power to reason and make intelligent decisions. Yet environmental decisions have been based on narrow perspectives.

As a people, our very survival is threatened by the shortsightedness of poor environmental planning in the Virgin Islands. Thus, it is imperative in these islands that environmental decision-making be based on sound planning to the highest degree possible. On this earth, all living things are dependent on the environment because life had its origin there. The variety of life forms in existence today are despondent on those particular sets of environmental conditions that molded them for erection.

Therefore, man depends on his natural environment for food, heat, water, material for clothing, shelter, and medicine. This dependence results in the modification of the environment. The degree to which the natural environment is changed determines the extent to which it will be able to continue to support life. Although we have to eat to live, the agriculture industry has had a great impact on the environment because of the way we farm.

In 1990, the United States congress past a farm bill that set the course of American agricultural policy. This farm bill ranges from agricultural trade, price of wool, food stamps, food research, and subsidy programs for farmers. These programs, however, will cost taxpayers tens of billions of dollars by the mid-1990s. However, the farm bill of 1990 goes much deeper.

The farm will influence farming practices with profound impacts on soil, wildlife, water, and other natural resources. Also, the bill affects the food we eat — its safety, its quality, its supply, its price, and the availability of food to the consumers. This farm bill is a landmark for environmentalists, consumers including the people of territories under the United States.

There are five major elements in this bill:

1. Sustainable farming and consumer food choices.

2. Pesticide and fertilizer reduction.

3. Strengthened and improved enforcement, linking farm program benefits to conservation.

4. Environmental stewardship incentives, and;

5. Research and education for environmentally sound agriculture.

The American agriculture has prospered for years without little regard to the environment. Today, agriculture contributes a major problem to the environment. Such problems as pollution of surface waters, ground water contamination, excessive use of pesticides, loss of wetlands, and other natural resources that are threatened by industry if things continue the way they are. The theme of this year's agriculture and food fair on St. Croix is: "Agriculture and environmental conservation make sense."

The local agriculture industry's impact on the environment is not as extensive as that on the mainland. This is due to the fact that there is little cultivation of food crops on a large scale production. Some local farmers use pesticides of food crops on a large scale production, but not on a large scale as other Caribbean islands such as the Dominican Republic, Dominica, or Trinidad and Tobago. However, the livestock industry in the islands contribute to environmental degradation.

Too often some livestock farmers crowd too many animals into small plots of land. This overcrowding of the land by animals causes soil erosion which eventually affects the costal marine environment. Pasture land that once bloomed with healthy grass is destroyed because of poor management practice by farmers. To reduce such problems, farmers should cut down on the number of animals on a given pasture. Also, animals should be rotated every so often from pasture to pasture.

Since this year, the agriculture and food fair is stressing agriculture and the environment. I hope this fair will create interest in farming and the environment.

✔ MORE INFORMATION

Call 778-0991 or 778-0997.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Expo bridges cultural gaps

Olasee Davis

Our environment

We Caribbean people have our differences mainly because of ignorance of who we really are culturally.

Growing up on St. Thomas, was taught to appreciate American history. But very little Caribbean history was taught in schools during the 1960s and '70s. Many Virgin Islanders never learned the history of other Caribbean islands, much less to appreciate the diversity of Caribbean cultures.

As a result, over the years many of us have had myths about other Caribbean people as being backward or stupid, not realizing that we are one. Often we don't stop to think and realize that our brothers and sisters from other Caribbean islands are not much different from us.

How many of us realize that the Caribbean is blessed with one of the richest interplays of culture, ecology and languages in the world? Too often, many of us are part of the problem instead of the solution in cultural diversity.

Well, this year the Seventh-day Adventist School Parent-Teacher Association will sponsor the second Caribbean Cultural Expo. People from many Caribbean islands within the church will participate in this cultural event, exhibiting native arts, crafts and cuisine. Musical and other cultural presentations and a parade also are planned.

Which are these islands?

Antigua and Barbuda was "discovered" by Columbus in 1493 and settled by the English in 1632. After a brief period under the French, the islands were again controlled by Britain starting in 1667. Africans were brought to the islands as slaves and worked the land until emancipation.

In 1981, Antigua and Barbuda achieved independence from Britain. Today, tourism is the largest contributor to the economy, but agriculture also plays an important role in the islands' economy along with other industries.

Anguilla was colonized by the British in 1650. In 1816, Anguilla, St. Kitts, Nevis and the Virgin Islands were made one colony. During the 1950s, St. Kitts and Nevis formed a unit in the West Indies Federation, which Anguilla opposed. Today, Anguilla is separate and gets aid from the British.

The island's economy is based on production of lobsters, mostly exported to the Virgin Islands. Salt was once produced. The tourist industry is becoming a major part of the economy.

Another island is Aruba. It was once part of the Kingdom of the Netherlands. Aruba's economy is in decline because of the drop in petroleum prices and the shutdown of the Lago oil refinery. Aruba has been forced to seek economic alternatives. Tourism is growing along with other industries.

St. Martin is east of the Virgin Islands. In 1648, France and the Netherlands agreed to joint control of St. Martin. Early on, the Dutch began producing salt. Today, the island is duty-free, and it profits from tourism.

St. Kitts and Nevis, where Columbus landed in 1493, were the first Caribbean islands to be settled by Europeans. From 1623 to 1626 the British shared these islands with the French. In the mid-17th century, sugar became a major part of the islands' economy. Today, sugar is still important, but tourism and other industries are growing. Nevis produces many agricultural products.

Barbados was settled by the English in 1627. Sugar cane grew in abundance after Dutch planters arrived from Brazil in the mid-17th century. Sugar became king of the island's economy. In 1834, slavery was abolished. In 1966, the island won independence. Today, the economy is varied, with agriculture, tourism and other industries.

St. Lucia saw unsuccessful colonization efforts by the British from 1605 to 1638. It was not until the Treaty of Paris in 1814 that Britain became the owner of the island. By that time the native Caribs had died out. During the late 1800s, St. Lucia was a major coal producer in the West Indies. This island was also a U.S. base in World War II.

St. Lucia is the most developed of the Windward Islands. Its economy depends on agriculture, tourism and other industries. In 1979, the island achieved independence.

St. Vincent was the site of a landing by Columbus in 1498. During the 1600s, the French and the British fought over the island. When the British became the rulers of the island in 1763, they met with resistance from black Caribs, descendants of escaped slaves and Carib Indians.

Today, the island's economy is based on agriculture, tourism and other industries. In 1979, the island achieved full political independence.

Dominica, whose shores Columbus visited in 1493, was home to many Carib Indians. The fierce Carib Indians and the French kept the British from colonizing this island of forests and many rivers for some time. In the mid- 18th century, the British became the landlords of the island.

The economy is based on agriculture, but tourism and other industries are slowly being developed. In 1978, Dominica declared independence from Britain.

Jamaica was populated by Arawak Indians before Columbus first visited it in 1494. The island was colonized first by the Spanish, then by the British. 1834 brought emancipation of slaves. In 1962, the island achieved independence from Britain. Today, Jamaica's economy is made up of agriculture, tourism and other industries.

Trinidad and Tobago, where Columbus landed in 1498, was settled by Spaniards in 1532. The Dutch, the French and the British fought over the islands. The British occupation began in 1797. In 1834, slaves were emancipated. Sugar planters imported Hindu and Muslim laborers from India. Today, petroleum refining, agriculture and tourism are major sectors of the economy of Trinidad and Tobago, an independent country.

Other islands that will be represented at the expo are the Virgin Islands, Grenada and Afro-Hispanic Caribbean islands.

The book of Acts 17:26 makes it perfectly clear we're "made of one blood all nations of men." We need to understand each other so we can appreciate each other's culture. It is my hope that this event will help bridge cultural differences among Caribbean people.

The expo also helps the church raise money for scholarships.

For more information, call St. Croix Seventh-day Adventist School at 773-6350.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

It's time for all of us to stop polluting our islands' oceans

Olasee Davis

Our environment

For years, many of us have taken for granted the vast open sea that surrounds these islands. Coastal waters and oceans contribute significantly to the economy of the Virgin Islands and the quality of life here.

The open ocean is relatively healthy primarily because of the enormous volume and capacity for dilution. In the past few years, however, our coastal shores and oceans are becoming more polluted because of human impacts.

These impacts include the disposal of waste, consumption of resources and the alteration of our shores for social economic benefits. As a result, our coastal habitats such as bays, estuaries, beaches, mangrove forests and coral reefs are threatened by pollution.

Floating plastic debris that often includes pieces of broken gill nets kill fish and marine mammals. Although oil in the ocean occurs naturally, the constant discharge of garbage and oil spills from ships contaminate the microlayer, or surface of the ocean, which is an organic film which hosts floating larvae.

Sewage and other forms of waste water also carry pathogens, toxins and other contaminants into our coastal environment. These toxins are absorbed on sludge particles and sludge is increasing along our coastlines fish and marine mammals, birds and other marine organisms that inhabit the shores.

Yet, some people in these islands are willfully throwing trash into the ocean believing that it is the right thing to do. They will tell you that the ocean can handle tons of trash because it cleans itself. Others will argue that "what goes around comes around."

Believe me, marine debris has no geographic boundaries. For example, litter dumped overboard near South America can find its

See DAVIS, facing page

DAVIS: Litter from South America washes up on territory's shores

(Continued from facing page)

way to the Virgin Islands.

Thus, the problem of marine debris must not only be addressed locally, but internationally. Today, all over the world people are becoming more aware of environmental issues and realize that participating in beach cleanups can improve the health of our environment.

Since 1986, Coastweeks, a national campaign coordinated by the Center for Marine Conservation in Washington, D.C. has been promoting beach cleanups, citizen pollution patrols and other efforts to reduce or eliminate marine debris that injures wildlife.

Coastweeks now is an annual event observed from Sept. 18 through Oct. 11 and is becoming more popular every year. In 1992, some 145,000 people from 34 states and territories including 12 foreign countries participated in beach cleanups.

In 1991, the Marine Environment Protection Committee of the International Maritime Organization agreed to designate the Caribbean and the Gulf of Mexico as special areas where no dumping of any trash will be allowed.

It is encouraging to know that so much progress has been made worldwide in keeping beaches and coastal waters clean. However, as long as we have nasty people around, there always will be a need for beach cleanups.

Activities planned for V.I. 1993, Coastweeks include:

St. Thomas and St. John: Sept. 19 Coastweeks of the V.I. cleanup, Sept. 21 VIERS - Guy Benjamin School, kindergarten class beach cleanup, St. John. To volunteer call Donna Roberts, VIERS 776-6721. Sept. 22 and 29, VIMAS and Maho Bay Coastweeks presentation series at Maho Bay campgrounds, 7 p.m. Volunteers should contact VIMAS at 774-3004.

Sept. 24, "Evening by the Sea," Brewers Beach 7-10 p.m. Contact VIMAS at 774-3004.

Sept. 26, Caribbean Explorers Dive Club Annual Picnic for awards and reef cleanup, Hull Bay Beach. Call Denise Michelini at 775-2984 for details.

Oct. 2 John Brewer's Beach, "Treasure Hunt," contact VIMAS at 774-3004. Oct. 6 VIMAS and Maho Bay campground Coastweeks presentation series, 7 p.m. Maho Bay. Contact VIMAS at 774-3004.

Housing, Parks and Recreation, Oct. 6 Lindbergh Beach, Oct. 13 Hull Bay, Oct. 20 Vessup Bay. Contact Joseph Sprauve.

Oct. 7, Project Reefkeeper Coral Reef Conservation Workshop at the University of the Virgin Islands McLean Marine Science Center, 6-10 p.m. Contact Norm Quinn at 779-6103.

St. Croix: Oct. 2, 9-16, contact Donald Bailey at 773-2794. Rotary West Club Oct. 9; Sandy Point Wildlife Refuge 8 a.m. V.I. Peace Corp. 7 p.m., contact Wallace Williams at 773-7171. VIMAS Oct. 1, contact Marcia Taylor at 778-1112. Housing Parks and Recreation Oct. 6 Stoney Ground, Oct. 27, Salt River.

PNR Fish and Wildlife office has pamphlets with information on how to organize and conduct a beach cleanup. Free plastic bags, data collection sheets and pencils are available. Contact the office on St. Thomas at 775-6762; and St. Croix at 772-1955.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Participation is key to protecting islands

Olassee Davis

Guest Editorial

Before President Bush left office, he addressed the House of Representatives and the Senate on environmental quality.

"During the past four years," he said, "the world has witnessed major changes in the political profile of nations. The Earth Summit, sponsored by the United Nations in Brazil in June 1992, signaled the next era in world history — one characterized by the recognition that environmental protection, economic development and public participation in decision-making are interrelated and crucial to our future quality of life."

Yet in every part of the world what nature has built for millions of years is being destroyed by man. Every day about 140,000 acres of tropical forest are destroyed or altered for cultivation, timber production, cattle grazing, highway construction or development. We are losing more species of plants and animals rapidly because their habitats are being destroyed. Some of those species have not even been discovered or named by scientists.

Some people may ask what is so important about the extinction of some animals or plants. As an ecologist, I know that more than half of today's medicines come from wild organisms, many from the tropics. A child who suffers from leukemia has a 75 percent chance of being cured because of a drug derived from a tropical plant called rosy periwinkle. Who knows, the cure for cancer or even AIDS could be on the endangered species list.

We also know that the agricultural industry depends on genes from wild species for its survival.

To me, the environment is like a religion. It is the source of life from God.

While I was in graduate school, I was a member of the Nature Conservancy, the largest non-profit environmental organization in the world, with a membership of nearly 600,000. Its mission "is to preserve Earth's diversity of life by protecting rare plants and animals and the land and water they — and we — need to survive."

This organization and its members are responsible for the protection of more than 5.5 million acres in the 50 United States, territories and Canada. The conservancy has also helped other environmental organizations to preserve more than 35 million acres in Latin America and the Caribbean.

Although the conservancy acquires large tracts for preservation, many acres are transferred for management to other conservation groups, both private and public. The conservancy owns and manages more than 1,300 preserves — the largest private nature sanctuaries in the world.

In the Galapagos Islands, the conservancy helped create a $1.5 million endowment as a source of revenue for activities to protect the marine, plant and animal life.

In Peru, the conservancy with the help of the U.S. Agency for International Development undertook projects to help local people to practice sustainable forestry.

Since 1951, the conservancy has worked to build strong, independent conservation movements in many countries around the world. It shares its technical and fund-raising expertise with many environmental groups.

The organization used the latest technology to create a network of conservation data centers throughout the world. These computerized inventories of fauna and flora help each country to identify where its riches and most threatened natural resources lie.

In 1992, the conservancy established a conservation program for the Virgin Islands and the Eastern Caribbean. It will work with both private and public organizations to protect significant natural areas in the islands. The conservancy also owns and manages three natural sanctuaries in the Virgin Islands and assists the National Park Service in the protection of two parks.

The Virgin Islands Nature Conservancy aims to:

- Protect high-quality lands and waters in the territory through acquisition and assist in the protection of biodiversity with non-governmental conservation programs within the Caribbean basin.
- Establish a cooperative conservation program with federal and territorial governments.
- Establish a cooperative stewardship and science program with national and territorial governments.

To decrease degradation of the local environment, we as a people must participate in the protection of significant natural areas. Join the Nature Conservancy or some other environmental organization.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

FOR MORE INFORMATION on the Nature Conservancy call 774-7633.

Plants take care of us; we should return the favor

Olasee Davis

Our environment

I grew up in a family in which medicinal plants were commonly used. Every morning and every night before I went to bed, my mother would give me bush tea and dumb bread.

Also, as a boy, I experienced the therapeutic and healing powers of medicinal plants when I got the flu. My mother prepared a extremely bitter herb tea made from a small plant called cane piece seana, which grows wild throughout the island.

To my surprise, within an hour or so I began to feel relieved. The herb tea broke the fever and I broke out into a cold sweat. Within about three days, I regained my appetite. Besides that, I was given a bush bath. My experience may sound unusual to many young people today, but those who grew up in these islands in those days know that nature is a healer.

The curative properties of drugs extracted from wild plants have been known to man from the earliest times. In those days, man treated his sicknesses by gathering wild plants from the forest to alleviate his suffering. However, with the advance of scientific knowledge of different wild plants today, modern medicine developed a scientific branch from folk medicine.

Some 400 species of medicinal plants have been documented thus far in the Virgin Islands. In 1651, the French reported that St. Croix had 16 brooks, three rivers, many local flora and medicinal plants growing wild. However, with the ecological changes of the islands' environment over the centuries, many medicinal plants are disappearing or becoming rare.

Such local people as Olivia M. Henry, Arona Petersen and Sally and Kai Lawaetz know that folk medicine was a major part of the Virgin Islands culture of long ago. As a young Virgin Islander, I decided to help keep this part of our culture alive by giving lectures and hikes in the rain forests of St. Croix about the different plants and trees that grow there.

I have discussed the important uses of trees and plants that play an important role in our culture and islands' ecology with school children, teachers, church groups, the public at large and environmental journalists.

As naturalist, I believe every plant placed on this earth was placed with some specific purpose in mind.

Here are some plants still used somewhat for medicinal purposes.

Black Wattle: (Piper aduncum). Tea made from leaves is used for fevers and colds. This plant only grows in moist forest areas.

Trumpet bush: (Cecropia peltata). Leaves of plants made into a tea to extract fluids and for indigestion. Trumpet bush grows in moist areas, especially long guts in the rain forest areas on St. Croix.

Pissy Bed Bush: (Pisidia erythrina). Is used to help cure bedwetting, washing sores, and bush baths. Plant grows mostly in forest areas.

Bay leaf: (Pimenta racemosa). Leaves are used in stews and cereals. Leaves also used for colds and making soaps and lotion. Leaves also soaked in alcohol and used as a rubbing liniment. This plant grows mostly in forest areas.

West-Indian cotton, (Cossypium hirsutum). The leaves are used for cooling and the root bark is used for constriction of the ovaries. This plant used for menstrual pains, cleansing drink for nursing mothers.

Pain killer: (Morinda Citrifolia). Leaves slightly bruised and heated with coconut oil can be used externally for neuralgia and arthritis. Plant grows mostly in moist forest areas.

African tulip: (Spathodea campanulata). Flower of this tree is crushed with the bark of the same tree and used for treating ulcers. Leaf decoction is excellent for gonorrhea, and bark also used for kidney problems. This tree can be found in peoples' backyards.

Pap vine or Pap bush: (Passiflora maliformis). This vine used for the brain and nervous system. It also relaxes muscles, eases pain and promotes a calmness throughout the body. This vine also is used for neuralgia, high blood pressure, hysteria, headaches and as an eye tonic. The vine can be found mostly in moist forest areas.

Jumbee bead vine: (Alrus precatorious). Leaves are used in a cough syrup. Red and black seeds are poisonous if chewed or swallowed. Plant grows in thick, moist and scattered forest areas.

Ginger Thomas or Yellow Cedar: (Tecoma stans). Is used for diabetes, fevers, headaches and for colds with a pinch of salt in it. Plant grows throughout the islands but mostly in dry areas.

Wild coffee: (Hidjonda Cassia occidentalis). Tea used as a mild laxative and weak bladder. Also, tea is made from bark of the plant root along with sweet-scent (Pluchea Odorata) leaves for colds, cramps and for gas pains.

Seeds are toxic. When seeds are roasted, however, toxic substances are destroyed and used as a substitute for coffee and also used for stomach disorders. Plant can be found throughout the islands, but mostly in wetter areas.

One way to protect medicinal plants and trees in these islands is to learn more about them and protect their habitats.

MORE INFORMATION
Call 778-9491 on St. Croix or 774-0210 on St. Thomas.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Please, save Jack and Issac Bay

Olasee Davis is an environmentalist on St. Croix.

Olasee Davis

Our environment

In 1990, I wrote a guest editorial titled, "Let's Do Something: Save Jack and Issac Bay Area." Three years later developers are still trying to develop a subdivision at Jack Bay.

Back then, many groups opposed the development of Jack Bay ecosystem.

The Planning and Natural Resources Department, U.S. Department of Agriculture Soil Conservation, University of the Virgin Islands' Cooperative Extension Service, U.S. Fish and Wildlife and others presented scientific documents describing why this area is not suitable for development.

In the late 1980s, there was a Coastal Zone Management Commission public hearing on Jack Bay where close to 100 people attended. A few weeks later, the CZM ruled against the development because of certain inconsistencies in the proposed developmental plan.

Also, the Jack Bay area was designated by PNR as an area of particular concern, with plans to create a territorial park.

For the past year, the St. Croix Environmental Association has been conducting hikes in this unique environment of St. Croix's East End. I myself have taken groups of people to Jack and Issac Bay area. Believe me, the expression on people's faces is indescribable.

It is this unspoiled area of St. Croix that is repeatedly praised in tourist magazines. As a matter of fact, many visitors know about Jack and Issac Bay before landing on St. Croix. However, most of this wilderness area belongs to the V.I. government and much of the land was donated as a territorial park by Fairleigh Dickinson Jr.

The southern half of the property included much of Issac Bay went to Dickinson with a note in the deed saying that "nothing in this deed shall be in derogation of the V.I. Open Shorelines Act or the rights of the public."

Thus, the controversy between developers, environmentalists, individualists, and even certain government agencies is over the pristine wilderness areas of Jack Bay. Jack Bay is a very fragile environment. This area's ecosystem is mostly covered with thorn, scrub, cactus, grass and dry forest in valley areas.

The Virgin Islands classifies this area as extremely limited, even for recreational uses such as picnic, campsite or trail paths. Due to the exposed, near-surface bedrock of Jack and Issac Bay, the area is also classified for poor roads and septic tanks. It is stated that "this land type is restricted to wildlife habitat or aesthetic purposes."

Yet these developers will have us to believe that the land is suitable for seclusive development. In 1978, the National Oceanic and Atmospheric Administration mentioned that "Issac and Jack Bay beaches and coral reef system are considered as one of the best snorkeling spots in the Caribbean."

In 1975, the West Indies Laboratory prepared a report for the National Park Services, concerning recommended national natural landmarks, and ranks Isaac and Jack Bay in the two most environmentally sensitive and fragile areas on St. Croix.

The problem is, if development occur in the Jack Bay area, the consequence is massive environmental degradation. This area has potential scientific research application to the Virgin Islands economy — one of the fastest global science in tropical ecological research

And as a U.S. territory, the Virgin Islands is being considered as a major training and research area by national and international funding institutions. Jack and Issac Bay, if preserved, has particular value because of its remoteness from upwind sources of biological or physical influence, its relative pristineness, its previous research history and its diverse environment.

Scientific research has both a direct economic input as well as an international marketing value for these islands economy.

For the tourist industry on St. Croix, Jack and Issac Bay offers what is called ecotourism. How many hotels on St. Croix offer nature hikes. Often times, visitors shop downtown Christiansted or visit Buck Island, but never explore St. Croix's rich agricultural history, cultural or natural environment.

The East End of St. Croix is also a breeding ground for commercially, aesthetically or ecologically important species such as lobster, seabirds, endemic and rare plants, and endangered species as sea turtles.

How can we allow a few rich people to enjoy Jack and Issac Bay by themselves? We often forget that these islands are for the people.

Protect Sandy Point's unique ecosystem

Olasee Davis

Our environment

In the early 19th Century, St. Croix's population was centered in Christiansted and Frederiksted. Most people made their living from farming and the island's development patterns reflected the people's way of life.

For example, a number of buildings in both towns had mixed uses where owners lived upstairs and ran stores downstairs.

Back then, the neighborhood functioned as a community with strong social ties. Businesses such as restaurants, grocery stores, shoe repair shops, rum shops and churches played an important part in the development of the community.

However, as time went by, the growth and development of these islands paid little attention to sensitive environmental issues.

On St. Croix, there is talk about developing the Sandy Point salt pond area. A 320-room hotel is planned for the area.

In 1992, a letter was written to DPNR officials by the developers. The letter contained a disturbing statement by the developers, which read: "I am particularly interested in observations you have regarding the probability of resistance that may occur from any of the key approval agencies this project will touch."

The letter said "as stated in our meeting I am concerned that we do not attempt to introduce elements that will become "deal killers" somewhere down the road." This is the kind of deals that take place especially when it comes to "big time" development in these islands. We know that certain government officials get payed off by those who believe they can buy some people off.

The developers also plan to have an amphitheater that will accommodate up to 200 people and a marina for ecosystems threatened by the development project. In the early 1970s, Sandy Point also was considered for industrial development.

Otto Tranberg, a Cruzan then began to educate the public about the importance of the environment of Sandy Point, especially on sea turtles.

During this time, sea turtles were being slaughtered in large numbers. By the mid 1970s, Tranberg and a small group of concerned citizens began to call for the protection of the sea turtles. With their effort, the environmental concerns for Sandy Point began to increase.

In 1978, the U.S. Fish and Wildlife Service declared Sandy Point a critical habitat. A year later, the National Marine Fisheries Services designated the surrounding waters of Sandy Point a critical habitat for three endangered turtle species.

In 1980, Sandy Point was declared a National Natural Landmark. Four years later, the U.S. Government purchased 398 acres of Sandy Point and established a national wildlife refuge. Today, Sandy Point is one of 13 known beaches worldwide where leatherback turtles nest regularly.

The ecosystem of Sandy Point is unique in that it includes an environment with a sea front, an inland wetland and woodlands that is home to some 225 species of plants. The area also is home to 99 species of migratory and local birds. Twenty-two of these birds are on the endangered species list.

Also within the Sandy Point area is a prehistoric site called Aklis.

Today, Sandy Point is a popular tourist attraction where visitors and residents alike can see the turtles at night during the nesting season.

If a hotel is build at Sandy Point, the environment will be altered forever. The APC for the Sandy Point area was written by Island Resources Foundation. Here are a few statements about the effects of developing the area:

- "Dredging a salt pond or filling it with additional water to depths beyond 35 cm will immediately endanger the habitat . . ."
- "Dredging stirs up the fine and sometime toxic sediments... which reduce the available oxygen quickly killing off aquatic organisms."
- "Dredging will have longer-term effects.. . on the ecosystems."
- "Opening a salt pond by creating an artificial channel to the sea can permanently alter . . . all species of organisms thus affecting water quality, salinity and water temperatures."
- "Construction of a channel will likely alter longshore sediment transport patterns, possible accelerating shoreline erosion."
- "Flooding a salt pond with additional fresh water will similarly alter species composition and may kill off halophilic algae, insects, etc., resulting in the release of bad odors."
- "The increased weight of the water column, as a result of flooding, may result in the extrusion of toxic sediments at certain points with potential impacts on adjacent habitat."

As a people, it is wrong for us to allow others to plan the development of these islands. Do we Crucians want St. Croix to look like St. Thomas — a hotel on every beach front? Sandy Point provides us with recreational activities, cultural opportunities, educational opportunities and scientific findings.

Those days are gone when mommy and daddy lived above the store. Sandy Point can go too if we do not protect it now.

Olasee Davis is an environmentalist. His opinion does not necessarily reflect that of his employer, the University of the Virgin Islands Cooperative Extension Service.

Rain forest threatened

Olasee Davis

Our environment

Several environmental editorial programs are planned for the summer and my office phone has been ringing off the hook to schedule rain forest hikes for kids.

To many island children, the rain forest is like a jungle with tall trees reaching for the sky, many birds and wild animals.

On forest hikes, children learn about forest conservation and the importance of forests to man and wildlife. However, one of the most distinctive features of the rain forest on St. Croix are the vines that hang from trees.

Vines play a vital role in our rain forest's ecosystem. They serve as food, transportation for wildlife and medicine for humans. Trees grow for support, vines grow for mobility, foraging for light while using trees for a support system. Some vines like Philodendron change forms as they mature. Scientists believe that vines respond to change in light, temperature, humidity and perhaps gravity as the plant climbs onto trees.

The St. Croix rain forest used to be decorated with vines hanging from the top of trees to the forest floor. This was visible to residents driving through the strip of forest from Springfield Road to Mahogany Road and into the Frederiksted area. Today, there are hardly any hanging vines left in this part of the forest but hikers can still see the vines in the deep Caledonia Valley forest northeast of Frederiksted town.

In 1989, Hurricane Hugo devas-

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TREES: When we hurt rain forest, we hurt the economy

(Continued from page 15)

tated the rain forest. Many large trees were killed, changing the whole ecology of the forest. Tree barks and leaves were stripped off.

Like everything in life, nature heals itself. However, the major threat to the St. Croix rain forest is man.

In the mid 1980s, telephone poles were planted in the Mahogany Road forest area where trees were cut to run electrical wires.

Later, a subdivision in the Estate Orange Grove forest area was carved out for development.

Today, we have bush cutting machines in the Mahogany Road forest areas cutting back bushes.

The problem with this type of operation is that large trees are being damaged. If this process continues, the large trees will die from disease.

Trees were also cut in the Creque Dam rain forest area to widen parts of the road. Many medicinal plants and seedlings were destroyed.

It really hurts to see this. As a people, we do not realize that we cause more problems in the forest by changing the very environment that sustained trees for years.

Trees or vines in the Creque Dam forest area should never be cut back to the point where such action could change the ecology of the forest.

Also, the road should never be paved in this area because that would only cause more environmental problems in the long run.

Costa Rica is protecting its rain forest which is a major tourist attraction.

Visitors help support the local economy by staying in hotels, eating at restaurants, hiring local guides for rain forests hikes and buying local goods.

How many of us today know that when trees hurt, our whole economy hurts too.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Tourism threatens public access to our beaches

Olasee Davis

Our environment

Last year, I wrote a guest editorial against the proposed hotel at Lindqvist beach. The other day I was on St. Thomas and to my surprise, I saw two men fencing the beach property. I spoke with them for a while inquiring what was the purpose of fencing the area.

Traditionally in the Caribbean, it is accepted policy that a beach is public property whether or not there is public access to it. Lindqvist beach is no exception. It is the last open public beach on the eastern side of St. Thomas.

The tourist boom has created a big demand for tourist related developments along our coastal areas. In the past, most hotels and other tourist related activities were centered near towns.

Today, hotels and condominiums are a common site along our shorelines, creating conflicts between developers and the public. Yet the government continues to tell us that more hotels will boost our economy.

As a result, access to many beaches have disappeared, on St. Thomas.

The shores of these islands have always been a place for recreational use, meditation, or for just enjoying the natural environment.

To our fishermen, the sea is a way of life. The sea also has been a constant source of food for the people of these islands. But today even the fishermen are threatened.

Yet the Virgin Islands Open Shorelines Act clearly states that the public has the right to use and enjoy beaches or shorelines "from the seaward line of low tide, running inland to a distance of 50 feet; or to the extreme seaward boundary of natural vegetation which spreads continuously inland; or to a natural barrier; whichever is the shortest distance."

There have been many public protests about beach access in the past. Shoy Beach on St. Croix, Hawks Nest beach on St. John and Bolongo Bay on St. Thomas have seen their share of public protests. It is clear to me that some of these developers totally disregarded the law of the land.

We have many problems in our society, from burglaries to murders. Both the police and the public are frustrated with rising crime that is destroying this community's sense of security. However, many of us do not realize that the question of beach access also can become a serious problem.

Take Cabrita Point on St. Thomas, for instance. A developer had put up a gatehouse which was not authorized by the permit granted to him. At first the developer tried to deceived the public by putting up a sign on the building saying it was an "Information Office." This sign was later taken down and area residents knew it would always be a gatehouse.

This is the kind of nonsense that takes place in these islands.

I also have attended many public hearings where developers will promise to leave public access to the beach, only to go back on their words when the development takes shape.

Some people end up going through hotel lobbies or parking areas to get to the beach. Eventually, many of them feel unwanted and the once popular beach is not used by local residents any more.

The Coastal Zone Management Commission of these islands is responsible for protecting the development of coastal areas. Yet, the CZM has often been criticized by the public for the way the permits are processed.

Sources say the CZM often is flooded with applications from developers and employees are unable to devote enough time to study each application properly.

This has created serious problems. Critics say the CZM is not applying the law fairly.

There are no easy solutions to these problems. The rights of property owners must be respected. But public access to the beach also must be protected. Purchase agreements and government regulations must be carefully studied.

The public has the right to be heard. I believe Lindqvist beach should never become another resort. It should remain as it is — a place where everyone can enjoy the tranquillity of nature.

Olasee Davis, who holds a master of scieznce degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Trees, forests can help our environment, economy

Olasee Davis

Our Environment

A few months ago, Gov. Alexander A. Farrelly asked me to serve on the new Virgin Islands Urban and Community Forest Council. During the next three years, the council will play a key role in implementing the America the Beautiful program.

The program encourages tree-planting and forest conservation.

The Virgin Islands were heavily forested until the early colonists set fires to clear the land for agriculture. During the 17th and 18th centuries, large quantities of shipbuilding timbers and furniture woods such as lignum vitae, mahogany and cedar were shipped to Europe from these islands.

The forests were replaced with sugar cane and cotton plantations. Charcoal production also played a big role in decreasing forestland by leading to indiscriminate cutting of trees.

In the early days, forestry received little attention in these islands. It was not recognized that forests have a beneficial influence on water conservation and prevent soil erosion.

The scarcity of timber in these islands has made them almost totally dependent on imports for building and general utility.

It is a great economic burden on the islands that they must depend on outside sources for practically all forest products. The lack of forests has also prevented the establishment of industries that use their raw materials.

In 1908, the Danish government established a Honduras mahogany trees plantation at Davis Bay. It is the oldest tree plantation in the Virgin Islands.

Eric "Larry" Bough, assistant commissioner of Economic Development and Agriculture and native forester of St. Croix, is one of the most knowledgeable persons on the history and development of the forestry program in the Virgin Islands.

There are natural stands of mahogany trees throughout the islands, particularly on St. Croix. From historical records, we know that mahogany trees were brought to St. Croix in the 1770s. However, other historians claim that West Indies mahogany trees are native to the Virgin Islands.

Besides the Davis Bay plantation, tree plantations on St. Croix include Annaly Bay, Sion Ridge, Betsy's Jewel, Jealousy, Bodkin, Ham Bluff, Estate Cane Bay and Estate Thomas. Estate Thomas is the largest tree plantation in the Virgin Islands, with mahogany trees covering about 300 acres.

Over the years, research has been conducted on these estates to determine, among other things, the adaptability of a particular species of mahogany trees to an area, insect and disease resistance and growth rates and patterns.

These studies will provide the foundation for a forestry industry in the Virgin Islands.

There are more than 500 native tree species in these islands along with several hundred brought from other places.

Bough says, "West Indies mahogany, teak and licorice are among the finest woods in the world, highly prized for their beauty, workability and durability."

If a forestry industry is established in the Virgin Islands, it would be beneficial economically and environmentally in the long run. Because of poor planning, such industries as forestry have been neglected.

Frank H. Wadsworth, who worked with the forestry program in the Virgin Islands many years ago and was director of the U.S. Forest Service's Institute of Tropical Forestry in Puerto Rico, said: "It is proper that planners designate areas for development. It is equally incumbent on them to protect us all from an unbalanced, unnatural future environment by assuring areas for greenery."

One would think that forest- or tree-planting would be a natural thing since the natural beauty of these islands attracts tourists.

I strongly believe that resorts, commercial centers and residential subdivisions can be developed in ways that do not take away from the natural beauty of the islands.

Tell me what is wrong in planting trees along our roads and highways? I have been to many Caribbean Islands where trees are a prominent part of the landscape and play a big role in the economy.

Only in the Virgin Islands does it seem that trees are not important. How many of us cry out when trees, especially large ones, are destroyed unnecessarily?

You see, it is ignorance that will kill us as a people. One has only to visit St. Croix Life and Environmental Arts Project Inc. in the rain forest to see the potential forestry has for the economy of these islands.

LEAP provides employment and the opportunity for young people to learn a trade they can be proud of.

The foundation for the Urban and Community Forest Council has already been established by those who came before us.

It is only a matter of the will to make the Virgin Islands forestry program work indefinitely.

The next time you complain about how hot the sun is, remember trees help cool these islands. Trees help the islands' environment. What about you?

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

V.I. hosts conference on serious pollution problem

Olasee Davis

Our environment

The ocean is one of the Virgin Islands' greatest natural resources. It provides recreation, supports tourism and our fishing industry, and is a source of water for our desalination plants. Given the abundance of our surrounding sea water, it is easy to assume that our supply of clean sea water is unlimited. Recent evidence suggests that it is not the case, however.

Fish populations have declined because of untreated sewage discharged in water, pollution of mangrove-forest nurseries, industrial waste, sediment runoff and the over-harvesting of fish. Groundwater supplies in the Virgin Islands also have been degraded by pollutants that are carried to the water in runoff or by infiltration from land areas. These forms of pollution are called nonpoint source pollution.

Nonpoint source pollution has become a serious problem in the Virgin Islands. It comes from almost everywhere. It even occurs naturally, to a certain extent.

The pollution from any one spot or area usually is so small that it would be insignificant if it were the only source of pollution. But when all of these small amounts of pollution are combined, they can create a big problem.

The most significant source of nonpoint source pollution in the Virgin Islands comes from rain water moving over the land, picking up pollutants and carrying them to our surface water or to our groundwater supplies.

Nonpoint source pollution in the Virgin Islands also is associated with construction development, urban runoff, land clearing, failing septic systems, agriculture, marina operations and hydrologic modification. In undisturbed areas of the islands, forests or decaying vegetation, natural soil erosion processes and animal waste all contribute to runoff pollution.

However, the natural system's levels of pollution are so low that they can be absorbed, diluted or changed so they usually do not affect the quality of water.

On the other hand, when humans change land uses to suit their needs, this natural balance of nature is changed. Not only has the natural process changed, but the processes that remove these pollutants naturally can be short-circuited.

For example, in urban areas, the natural cover is removed when it is paved over, and the natural channel is modified to remove runoff faster.

Pollutants carried by runoff include oil drippings, fallout from auto emissions, sediment from construction sites, industrial sites, pesticides and fertilizer from lawns and material from parking lots.

Since Kmart was constructed on St. Croix, the surface water runoff has increased, thus carrying a variety of pollutants every time it rains. All the trees and vegetation were removed from the site without consideration for runoff. If the parking lot had been landscaped with trees, grasses or flowers, the surface runoff would have decreased tremendously.

On Oct. 4 and 5, the First Annual Virgin Islands Conference on Nonpoint Source Pollution will be held at Bolongo Limetree Beach Resort on St. Thomas. The theme for this conference will be "Finding Solutions to Environmental Pollution."

In conjunction with the conference, local school children will participate in a poster and essay contest to express their views on nonpoint source pollution in the islands.

The students with the best posters and essays will be presented

See OLASEE, page 18

OLASEE: Meeting will address federal regulations

(Continued from page 17)

with $100 by Joan Harrigan Farrelly during the conference's awards ceremony. Gov. Alexander A. Farrelly will welcome participants in the opening ceremony. Planning and Natural Resources Commissioner Roy E. Adams will give the introduction.

Topics to be discussed include:

- Federal rules and regulations governing nonpoint source pollution, by Malcolm Henning of the Environmental Protection Agency.
- Territorial rules and regulations governing nonpoint source pollution by Benjamin Nazario of Planning and Natural Resources.
- Historical perspectives on the Virgin Islands environment by Edward Towle, Island Resources Foundation.
- Safeguarding our resources for the future, LaVerne Ragster, Eastern Caribbean Center, University of the Virgin Islands.
- Guest speaker, Stanley Selengut of Maho Bay Camps Inc.
- How erosion from construction projects harms the environment, Rafe Boulon, Fish and Wildlife.
- What to do to minimize or prevent erosion, Victor Giraud, PNR.
- The benefits of planning development to fit into the landscape, Keith Richards, PNR.
- Vegetative erosion and sedimentation control practices, Dale Morton, UVI.
- Structural erosion and sedimentation control practices, Werner Wernicke.
- How to prepare an effective erosion and sedimentation control plan, William F. McComb, McComb Engineering.

Others who will present papers are Marcia Taylor, Timothy Cunningham, Julie Wright, Mario Morales, Warner Irizarry, Shadrach Gill, Tom Linnio, Barry W. Kimball, Douglas White, Lynne MacDonald, Nathalie Peter, Kim Lindlau, Dennis Hubbard, Barbara Kojis, Olasee Davis, Jeff Schmidt, Akil Petersen, Algen Petersen, Carlos Padin and Clement Lewsey.

FOR INFORMATION
Contact Janice Hodge at PNR at 774-3320.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Whoops

Due to editing and typing errors, a word was omitted from one paragraph and an entire sentence from the following paragraph in Olasee Davis' column in last Friday's newspaper. They should have read:

"Sewage and other forms of wastewater also carry pathogens, toxins and other contaminants into our coastal environment.

"These toxins are absorbed on sludge particles and sludge is increasing along our coastlines, killing fish and marine mammals, birds and other marine organisms that inhabit the shores.

"Yet some people in these islands are willfully throwing trash into the ocean, believing that it is the right thing to do.

"They will tell you that the ocean can handle tons of trash because it cleans itself. They will argue with you, saying that you will never see the trash again.

"I guess these people never heard the saying: "what goes around comes around."

Warming of earth from pollution could lead to more hurricanes

Olasee Davis

Our environment

The first hurricane to hit the Virgin Islands mentioned in written history was on Oct. 14, 1526. The storm affected the Spanish who had attacked and suppressed the Indians.

Hurricanes are no strangers to these islands. Throughout time, they have hit the islands. The last hurricane that devastated the Virgin Islands, particularly St. Croix, before Hugo struck was in 1928.

To many people, 1989's Hugo was a vicious storm. On Sept. 17 and 18, many in the Virgin Islands will remember the misery and the important lessons of inconvenience the storm left, especially on St. Croix. Hugo shredded many lives in the Virgin Islands, destroying or damaging thousands of homes as well as businesses and farms.

A hurricane is a well-organized system that pumps large amounts of warm, moist air to high levels in the atmosphere at a rapid rate. The warm, moist air over tropical oceans possesses enormous heat energy which creates hurricanes. Before Hurricane Hugo hit these islands it was very hot, I was told. Old folks always said: "When the weather is hot, something is about to happen."

Scientific forecasts about global warming are based on sophisticated computer models used for predicting the weather. The computer used to forecast the weather is a powerful tool but not enough to consider in detail the physical, chemical and biological processes that affect climate. Furthermore, the roles of oceans and clouds in particular complicate hurricane prediction.

It is well-known that the oceans cover most of the earth's surface and absorb not only heat but a portion of the carbon dioxide in the atmosphere. But how much heat and carbon dioxide the oceans absorb to offset the warming of the atmosphere is unknown.

Today scientists are telling us that the earth will get warmer as we head toward 2000. The earth's atmosphere is a delicate balance of gases that interact with animals and plants in the biosphere to maintain temperature and moisture conditions best suited for life on earth.

As carbon dioxide and other greenhouse gases increase in the atmosphere, less heat is allowed to naturally dissipate into space. Thus, such natural events as hurricanes will become more frequent. The burning of fossil fuels like gasoline, wood and coal increases carbon dioxide in the atmosphere.

The other day someone asked me what forests have to do with the greenhouse effect. Well, when large tracts of forest are burned, carbon dioxide that has been stored in the trees is released into the atmosphere. The burning also releases methane and nitrous oxide. These gases trap heat, warming the earth.

Thus forests play an important role in regulating climate. They are not there to be assaulted or destroyed by man.

Besides the burning of forests, many factors affect the climate.

In these islands, we are also responsible for air pollution that contributes to climate changes. Emissions from such industries as refineries and dry cleaning establishments, freon coolant used in air conditioners and refrigerators, carbon monoxide from vehicles, especially on St. Thomas, and many more pollutants are degrading the environment and harming human health.

Locally and globally, air pollution also threatens to destroy the earth's protective shield against harsh ultraviolet rays from the sun. Any significant degradation of the protective ozone layer would sharply increase the incidence of skin cancer among many people exposed to the sun.

In 1985, a hole was discovered in the ozone layer over Antarctica. That caused the leaders of many industrial countries to reach an agreement known as the Montreal Protocol to phase out chlorofluorocarbons, chemicals that increase global warming.

Some scientists, however, believe the earth is already experiencing the effects of a rise in greenhouse gases. For more than a century, temperature records have been kept. The hottest year was 1990, followed by 1988, 1987, 1989 and 1981. 1991 was almost as hot as 1990.

As a global family, we are faced with an unprecedented situation. We must act now to protect our descendants. Trying to reduce the buildup of greenhouse gases won't be easy. But unless we make the effort now, our children and grandchildren may well live in a dramatically warmer and more rapidly changing world. And as the earth became warmer, they would see more hurricanes.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

We are destroying sand dunes and coastal vegetation

Olasee Davis

Our environment

One of the most attractive features of Jack Bay and Issac Bay on the eastern side of St. Croix are the sand dunes that stretch for miles.

These are created over a long period of time by sand that blows onto vegetated areas along the shore. The dunes acts like dikes to prevent flooding and as a reservoir of sand to replenish the beach.

Recently I went hiking in the area of the sand dunes with students from the University of the Virgin Islands and was shocked to see a vehicle being driven over the sand.

Carlton and Whim, once popular beaches on St. Croix because of the sand dunes, are not so popular now. The dunes have been largely destroyed and are not able to protect the vegetation further inland from salt water.

The problem started when the south shore of St. Croix was heavily grazed by cattle. As rain fell, there was very little grass to protect the land, and with no sand dunes near the cost, the sea began to reclaim more ground further inland.

Gullies were created by falling rain and erosion became a serious problem. Today, some of the pastures that once supported cattle grazing are becoming salt ponds.

In some areas, fences that kept in animals are half a mile out at sea.

In 1989, Hurricane Hugo made the situation even worse when some of the trees along the coast were destroyed by the angry sea and strong winds.

Vehicles on beaches, buildings too close to the shore and excessive foot activity by humans destroy the natural vegetation that holds sand dunes together.

When dunes are destroyed, the entire beach environment is disrupted, along with plants that can tolerate salt spray, high temperatures, low soil fertility, extreme wet and dry conditions, and wind abrasion.

Vegetation that protects the beach environment also includes coastline grass, plants, shrubs and trees.

Coastal grass is low growing and is found on sand dunes on many beaches in the Virgin Islands. Low creeping grass protects low dunes in wetter areas such as Salt River Bay.

Herbaceous plants are creeping vines found along beaches. These have thick, fleshy stems that extend several feet into the sand, holding the dunes together.

The Beach Morning Glory also has thick, fleshy stems that may extend 75 feet under the sand surface. The Sea Purslane is a common creeping plant found on dunes and can be eaten. It has a high Vitamin C content.

Among coastal shrubs found in the Virgin Islands, the Sea Lavender is one of the most attractive. It also is on the list of endangered species.

Forests close to beaches include trees, vines, shrubs, and a variety of plants. The fruit of the Cocoplum is edible and can be found growing along Sandy Point Beach.

The Seagrape is another kind of tree that grows along the shore. The fruit of this tree is very popular among Virgin Islanders.

Coconut trees are also commonly found along our coastal areas.

So when you visit the beach again, take time to appreciate the natural vegetation and sand dunes that protect our shores.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

We should learn more about Hess Oil refinery

Olasee Davis

Our environment

Mangrove forests, long considered by many people in these islands as wastelands, are now recognized as among the most valuable ecosystems in the territory.

The Hess Oil refinery sits on land that was once the biggest mangrove forest in the Virgin Islands, stretching from Cassava Garden Bay to the Anguilla area. This area was once dominated by wildlife.

At the time Columbus landed at Salt River in 1493, St. Croix was forested and in the South Shore area where the Hess refinery is today, the river entered the mangrove swamp.

As colonial agriculture began to develop in the 16th century, places that surround the refinery today such as Estates Blessing, Hope and Jerusalem and Figtree Hill were dominated by sugar cane fields as well as grazing land for animals.

Today, this area has Hess Oil's housing development. The landscape is somewhat altered, but one can still see the shape of the river mouth.

In the 1960s, the Hess Oil refinery was established to help diversify the Virgin Islands' economy. The refinery, which occupies about 2,000 acres of land, is one of the biggest in the world. Many residents are unaware of how the refinery enriches the Virgin Islands' economy and how it uses the latest technology to protect the environment.

Although the mangrove forest was destroyed during construction of the refinery, emphasis was placed on the protection of the island's air and water resources. The factory has state-of-the-art technology to control pollution that could be harmful to the people and the environment.

Waste water from the refinery is treated to remove oil and solids before it enters the sea. Furthermore, treated waste water is monitored by instruments where water quality is high to support marine life. The refinery also monitors air. The system includes two remote sulfur-dioxide monitoring stations. These stations transmit information to the refinery by microwave telemetry.

The refinery produces its own desalinated water and its own electricity. In the interest of environmental protection, and in compliance with regulations established by the Clean Air Act Amendment of 1990, environmental studies are being conducted at the site to make sure that wildlife habitat, water resources or other natural resources are not contaminated.

The refinery has an oil spill prevention and cleanup plan. Cleanup equipment is available 24 hours a day, and several boats are in place at the harbor. The refinery also has vacuum trucks to suck up spilled oil anywhere along the South Shore.

The refinery helps the Virgin Islands' economy in many ways by producing kerosene, diesel, jet fuel, gasoline, aromatics and propane, most of which are shipped to the U.S. mainland for sale. The factory also employs about 900 people, the majority of whom are supposed to be residents of these islands.

Jobs range from environmental engineer to chemical engineer, terminal operator, process operator, quality control lab operator, warehouse attendant, tugboat seaman and captain, powerhouse operator and maintenance mechanic. The refinery also provides employment to an additional 1,000 people through independent contractors.

Many local businesses such as gas stations and Antilles Gas Corp. are a "spinoff" from the refinery. They increase employment in these islands.

The company's goal is to maintain high quality standards while enabling employees to become the best they can be.

This is being done by conducting in-house training workshops for supervisors and technicians. Training also is provided in use of new equipment and monitoring of environmental conditions.

We as a people must remember that residents of these islands make the Hess refinery what it is today.

Working at Hess, however, has its drawbacks. The refinery is a dangerous place to work. The smell of chemicals is always present despite use of the best available technology to control air pollution. An environmental disaster can occur at any time because of the nature of the operation.

Environmental issues are becoming central to many people in the Virgin Islands. People are concerned about clean air, clean water, trash and so on. We know now that industrial chemicals that bring us convenience also degrade the ozone layer. So it is only natural for the people of St. Croix to be concerned about what Hess puts in the air, soil and sea.

To know more about Hess, call 778-Hess.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

You can hear many kinds of frogs in the night

Olasee Davis

Our environment

The other night I was walking home observing the moonlit landscape. All of a sudden a frog jumped out from the bush onto the road. The big frog caught my eye as its brownish skin shone in the bright moonlight.

The forests and jungles of South America are world renowned for their amazing diversity of plant and animal species. Early explorers must have been fascinated by the many new and strange creatures they encountered along the way.

South America's rain forests have some of the prettiest frogs in the world. The frogs come in an array of colors and patterns.

Seldom if ever are South American frogs molested, for their attractive skins produce a variety of venoms, some of which are among the most toxic substances known to man. Whenever the poison from one of these frogs is induced into an animal's bloodstream, it will paralyze or almost kill the victim instantly.

Frogs are amphibians, cold-blooded animals that can live on land or in water.

At present the Virgin Islands has six kinds of frogs. However, we do not have poisonous frogs. The Antillean frog, a native, is found on all three islands. This frog can be recognized by its bumpy underside, dark brown marbling along the inner surface of the thighs and black lines extending from the snout to the ears. This frog can also be identified by its "churree-churree" sound.

During the day it can be found in areas that receive sunlight. At night it can be found in shrubs and grass.

The eggs of these frogs are laid out of the water and they develop directly into small frogs. These frogs grow up to 1¼ inches long.

The whistling frog is another common type on St. Croix. It makes a whistling sound, usually followed by one to four clicks, early in the evening. This frog can be identified by the absence of a ridge between its eye and nostril.

The basic color of this frog is gray, with a dark line down the middle of the snout. The eyes are dark in color. Eggs, like those of the Antillean frog, are hatched out of the water as miniature adults. These frogs are less than one inch long.

Mute frogs are found on all three islands. They are also called silent frogs and are found under stone, wood and leaves and in damp, rotten areas, especially in forest areas. This frog is tan in color, with heavy splotches of dark brown and two parallel lines along the back. The chin and the underside of thighs are gray-pink. This frog can grow up to 1½ inches in length.

The common coqui frog is not native to the Virgin Islands. This species came from Puerto Rico, probably with shipments of plants. This frog has a distinctive two-note call, "co-qui," with a pause between notes. It is heard at dawn or dusk.

This frog is usually brown or grayish brown, with the inside of its hind legs a solid red or brown. The common coqui lays its eggs out of the water. Adult frogs are more than one inch long.

The white-lipped frog has white or yellow stripes on its upper lip. The upper parts of the frog are dark olive or brownish with blotches. The call of this frog is "quick-quick-quick," often prolonged. This frog can be heard in the evening and after rain during the day. The white-lipped frog is semi-aquatic and spends most of its time in ponds or slow-running streams.

The Cuban tree frog first appeared at the West Indies Laboratory on St. Croix in 1972. This frog, I am told, escaped from biologists and since then this variety has populated St. Croix. Late in 1975, a Cuban tree frog was found in the Crown Mountain area on St. Thomas. It probably went over with a shipment of plants.

The call of this frog is "croak." Many residents get distressed with the loud sound. The frog's skin is toxic to humans and may cause health problems.

This frog, which breeds in water, is a pest for many people because it is found in louvers, wells, cisterns, roofs and swimming pools.

The Cuban tree frog is usually cream in color; sometimes it appears greenish or even yellow. This frog grows up to three inches in length.

The bufo marinus toad is a native of South America. This giant toad was brought to the islands during the sugar cane days to control grubs. The toad is commonly found in open fields or cultivated areas.

The toad is voracious. Large insects, locusts and beetles are among its prey. As a pet, it will eat meat, fish or pet food. At times dogs eat this toad and they end up sick or dead.

This toad is covered with wart-like tubercles tan, dark brown, black or rust yellow in color. It grows up to 10 inches in length and hangs around standing water.

I guess the frog that jumped out at me that night was a toad.

The night sounds of these islands are made not by birds but by frogs. Each frog has a different sound. Frogs are here to stay. After all, they are part of nature.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is an ecologist, activist and writer.

Young people know of need to guide development

Olasee Davis

Our Environment

The other night, I was sitting in front of my television set, watching a local public program called "Graffiti Street." Some young people were on this show debating about whether they should return to the Virgin Islands after they finish college. Some students said they felt obligated to return home to help the Virgin Islands community.

Others felt that the Virgin Islands does not have anything to offer them. One particular young lady said, "St. Thomas is overdeveloped."

That statement said something to me: If these young people could see the problem we face as a people today on St. Thomas in terms of overdevelopment, why are some of our political leaders so ignorant when it comes to controlling development in these islands? St. Thomas is congested with vehicles, houses built upon one another and overcrowded marinas.

St. Thomas' roads cannot handle the demand any longer. Buildings are being destroyed to make way for highways. The infrastructure of the Virgin Islands is falling apart, primarily because of population impact on the environment. Crime also is at an all time high, and our police force can hardly control it. The list of problems these islands face economically, environmentally and socially is long.

However, the rapid development of these islands demands our attention. Many of us do not realize the impact unplanned development has on our infrastructure. Of course, the problem is that for years our government did not have a master plan to guide these islands' economic growth. Although our zoning laws have some control on development, the zoning laws have too many loopholes.

Planning and Natural Resources in 1989 was given the task of coming up with a master plan for the Virgin Islands. For two or more years, the department's staff has been working diligently on a master plan that will benefit these islands economically and environmentally. Many public hearings were held on all three islands in which people

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OLASEE: Final hearings set

(Continued from facing page)

had the opportunity to voice their opinions and concerns about the plan.

I have been to many public hearings and am a member of the comprehensive land- and water-use plan advisory committee. As a committee member, my job is to make sure that the plan reflects the wishes of the people of these islands. I love these islands and their people, but especially the environment that gives these islands their nickname: the American Paradise.

The goals of the land- and water-use plan are:

- "Achieve a quality living environment through a well-planned mix of compatible land and water uses, while preserving the integrity of the natural environment."
- Establish a system for the effective management and use of land resources.
- Preserve and conserve land resources for economic, social and community uses.
- Achieve a pattern and intensity of development that best uses land resources.
- Enhance — through preservation, conservation and redevelopment practices — the positive qualities and character of established communities in the Virgin Islands.

The Planning Board came up with what they called districts. The term zoning laws will not be used once this system has been adopted to guide these islands into the year 2000.

Also, four districts were developed for water uses.

This month, the final public hearings will be held on the land- and water-use plan. I encourage everyone to attend. Without a plan for these islands' development, we may run out of room before the year 2000.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and

50-lot development in flood plain is bad idea

Olasee Davis

Our environment

Last month, I attended the second annual Virgin Islands Nonpoint Source Pollution Conference. I presented a paper "Integrated planning and Control of Soil Erosion in Watershed Area of the U.S. Virgin Islands."

Watershed started in mountains areas where rainfall drains into several streams, allowing water to run downhill to streams, guts, ponds, wetlands or estuaries.

Recently I read that a subdivision, Mango Gardens, is under way in a major watershed area, behind Coble Village and below Jealousy Estate, in St. Croix.

I also read that plot plans call for 50 lots, approximately one-quarter acre each, situated in what has been and is now a flood-prone area suitable for cattle, agriculture, and watershed use.

But the permit process did not allow local residents to speak up on the project, which will have major impact on their area. This demonstrates that a developer can basically do as he pleases under the present law.

The Virgin Islands have a two-tiered system to govern development. The first tier is basically to manage coastal development. An applicant must have an earth change permit and an environmental assessment report describing the social, economical and physical impact on the area.

To get building permits, developments in the first tier system must be submitted to a public hearing and voted on by the Coastal Zone Management Committee.

On the other hand, inland developments are subject only to the earth change permit, and the applicant may submit an application for a building permit.

The two-tier system gives no consideration for social, economic and environmental impacts that such projects may have in the area.

Therefore, having a two-tiered system in the Virgin Islands to regulate development is ineffective to protect our resources.

A section of the CZM Act said "...all land and water areas of the Territorial sea..." To me, this means that the Virgin Islands tier system is inconsistent with the Coastal Zone Management Act. If development occurs within the present tier two, it should have the same requirements as tier one has. Because most of these islands land are hilly and mountainous, improper development in tier two can cause irreparable damage to such coastal resources as coral reefs and seagrass beds.

The new Virgin Islands comprehensive Land and Water Use Plan , which is in front of the Legislature, proposes a one-tier system approach to development. The proposed V.I. Development Law, which is part of the land and water use plan, gives standards of development throughout the territory.

Section 222, Legislative Findings, Goals, Objective and Intent in the Development Laws 7 says: "Improper development of the second tier of the coastal zone and its resources has resulted in land use conflicts, erosion, sediment deposition, increased flooding, gut and drainage fillings, decline in productivity of the marine environment, pollution and other adverse environmental effects in and has adversely affected the beneficial uses of the shorelines and trustlands by the people of the Virgin Islands."

This is the kind of nonsense that goes on in these islands: People say they have these islands in the best

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OLASEE: It is time to protest

Continued from facing page

interest of their heart while they degrade the environment and people's lives.

I myself investigated the area to see what kind of impact this Mango Gardens subdivision would have. To my surprise, they bulldozed the gut, which in some areas was about 150 feet across, by filling the gut with soil.

Yet the law says "... a permit must be obtained from DPNR to cut any tress over three inches in diameter. No vegetation may be disturbed within 25 feet of the edge of a gut or 30 feet from the center of a gut."

I urge the residents in Coble Village and the surrounding areas to protest against this subdivision. A subdivision can occur in this area, but not the way it is proposed now.

Residents of Coble Village, do the right thing.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Anne Golden walks her talk

Olasee Davis

Our environment

"See them fighting for power, but they know not the hour ... through political strategy, they keep us hungry," Bob Marley once said. Over the years, people in these islands have become restless from political promises.

Generally speaking, politics should be concerned with the distribution of advantages and disadvantages among the people. Politicians should also be concerned with the behavior of individuals or groups of people, as they show distribution of these aspects of life. Government should respond to people in need and resolve societal conflict.

Government cannot remain aloof from controversial cases, yet it cannot judge with bias. Thomas Jefferson had the foresight to see that government might become a dictatorship, and made provisions in the U.S. Constitution to balance the system.

In the 1700s, Jefferson drafted the Declaration of Independence, which attacked slavery and other issues that faced the newly independent country.

Congress cut passages out of the original document, such as "He has waged cruel war against human nature himself, violating its most sacred rights of life and liberty in the persons of a distant people who never offended him, captivating and carrying them into slavery in another hemisphere."

For days, Congress debated Jefferson's draft, making changes and deletions. But God works in mysterious ways. This part remains: "We hold these Truths to be self-evident, that all Men are created equal, that they are endowed by their Creator with certain unalienable rights, that among these are life, liberty, and the pursuit of happiness — that to secure these rights, governments are instituted among Men, deriving their just powers from the Consent of the Governed, that whenever any form of Government becomes destructive of these ends, it is the right of the people to alter or to abolish it, and to institute new Government."

This year, the people of these islands have another opportunity to vote their conscience. In these troubled days, we face many serious problems, from crime and the environment to a sluggish economy.

Political campaigns here always started off with some kind of fish fry, beach party, or other entertainment. The St. Croix Environmental Association recently had an environmental forum, where senatorial candidates addressed environmental issues of the islands.

That evening, I sat there and listened. Some candidates, you know, like to sweet-talk their audiences to get votes.

For the first time in the political history of the Virgin Islands, someone did something different. Anne Golden, a candidate for office on St. Croix, decided to start her campaign off with environmental hikes. Her roommate cooked up the idea. Botanist Rudy O'Reilly Jr., and I were the guides for these historical, cultural and environmental hikes.

Believe me, we had people from 8 to 65 years old with us to learn about the environment. Jack and Isaac Bays were sites that many people saw for the first time. Their dry ecosystems are unique to St. Croix and are important habitats for living resources. We discussed the fragile ecosystems and the importance of their environments to the St. Croix economy.

The areas include mountains, forest, beaches, ocean cliffs, coral reefs, and many areas which are of natural, geological, cultural, recreational and scenic importance.

Caledonia's deep rain forest was another site that Anne Golden and others visited. The area includes some of the most spectacular natural scenery on St. Croix and provides the best remaining habitat for the more threatened or endangered West Indian endemic bird species. Caledonia also includes the most extensive stands of old growth forest on St. Croix.

The area also has waterfalls, running streams, fresh-water fish and other organisms that make up the forest ecosystem. It supports many local and wintering migratory birds, and is surrounded by ruins of historical significance.

Annaly and Wills Bays were the last hike. We started from the mountain and walked down to this spectacular natural scenery. From historical ruins, close, scatter, and open forest land, to coral reefs coming out of the ocean floor, Annaly and Wills Bays are truly a paradise.

Anne Golden's spirit shows she cares not only for the people of these islands, but even baby birds that might fall from their nests.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Black History Month a time to remember Cyril E. King

Olasee Davis

Our environment

My people were great kings, investors, builders, thinkers, educators, and the likes — before February became a month to celebrate the black contribution to the world.

As a matter of fact, Africa gave birth to modern civilization. In these islands, I consider the late Gov. Cyril E. King one of the greatest political black leaders of our time in the Virgin Islands.

In 1977, King said, "We will need the help and support and the understanding of the people of the Virgin Islands. Our ability, our capacity to cope with the challenges before us and fuel the forward momentum we have achieved rests on it. We must expand our awareness of the limits of what government can accomplish."

He further stated, "we must expect less from government and demand more from ourselves. We must be forever mindful that in the final analysis, good government is the sum total of all citizens doing their part." King had a profound influence on my life intellectually.

What I am today is because of close friends, my parents and the late governor's interest in me as a young Virgin Islander. Dr. Akil Petersen, Karver Richardson, Frank Francois, myself and other formed the first agricultural club at Charlotte Amalie High School.

On one occasion, Gov. King invited us young farmers to Government House for a meeting to discuss our progress on the school farm. During the meeting, the late governor said, "we have a problem where one of our large tamarind trees at the market square is dying because of neglect for years."

I recalled when the governor said, "If one of us was an expert in trees probably that large tree could have been saved."

Believe me, those simple words spoken by the late Gov. King inspired me to pursue a career in agriculture and the environment.

Today, I am involved in many organizations. However, one of my stands in these islands' political arena is the environment. As early as the 1980s, Liz Wilson, Dr. Fletcher Robinson, myself and others were involved in strategic planning of environmental protection.

One of our first environmental challenges was the Fountain Valley issue, 4,000 acres or 17 estates on the northwestern side of St. Croix when an outside developer wanted to buy. Eventually, the Juan Luis administration blessed the deal and the 4,000 acres was sold.

The St. Croix Environmental Association was born in 1986 with a handful of former Virgin Islands Conservation Society activists.

SEA is the St. Croix chapter of the Virgin Islands Conservation Society, which is affiliated with the National Wildlife Federation.

Before Hurricane Hugo hit St. Croix in 1989, SEA had a membership over 1,000 people. Most people know SEA best for its role in fighting for Salt River to become a park. In this effort, SEA established an extensive networking with many local and national organizations, an educational program, lobbying, and testifying in Washington.

In 1992, President Bush signed into law an act making Salt River a national Park.

Thus from the birth of SEA, sound environmental planning for the islands guided by a workable comprehensive water and land use plan was the core of the organization's beliefs. Education, conservation, cultural resources, strengthened legislation to protect the environment, and to increase our awareness that these islands' economical base relies on how we manage our natural resources is what make SEA an important organization.

For a long time, we have been told to think about certain issues, rather than how to think about them. As a people, we have leave all the thinking to politicians believing they have the Virgin Islands at heart. We forget Gov. King telling us to expect "less from government and demand more from ourselves."

The environment is one area where the public is often told what to think. SEA took a stand to educate the public about environmental issues that affect our quality of life in these islands. Over the years, the SEA has worked with government agencies and other non-profit groups educating people in the Virgin Islands that we have a part to play in shaping the islands' future.

Gov. King's spirit is alive today. Such organizations as St. Croix Environmental Association, which I am involved in, are making a difference. King was a man with a vision.

During Black History Month, let us remember King and join him when he said, "I am asking you today to join with me in lighting the candle. I am asking you to join with me in counting our blessings. And I am asking you to join with me in dreaming more of what we can indeed be."

FOR INFORMATION
To find out more about SEA call 773-1989.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Carambola trees are considered good Christmas gifts worldwide

Olasee Davis

Our environment

Millions around the world celebrate the birth of Jesus Christ.

Historically speaking, we should know that Christ was not born on Christmas Day. Furthermore, the shepherds did not watch over their flock on a cold winter night as one Christmas song puts it.

In reality, a group of shepherds saw a bright star in the heaven when they said, "where is he that is born King of the Jews? We have seen his star in the east and come to worship him."

Thus, it was the star that guided the wise men to the birth of Christ. An old African Dinka song also mentions a star linked to the birth of man.

The song entitled "The tree where man was born," says Dendid created all things. He created the sun, and the sun is born, and dies, and comes again. He created the moon, and the moon is born, and dies, and comes again. He created the stars, and the stars are born, and dies, and come again. He created man, and man is born, and dies, and does not come again."

However, there is another star that is borne on a tree. It is the carambola fruit. This fruit is known to many people in the Caribbean as the star fruit or golden star.

The fruit is believed to be a native of Ceylon, now known as Sri Lanka. It also is found in Southeast Asia.

The fruit is known by many other names around the world. In Vietnam, the fruit is called Kehe Khe ta, or Chinese yang-tao. In Guyana it is called five fingers. In Costa Rica it's known as the tiriguro. In El Salvador the fruit is known as pepino de la India. Haitians call it zibline. Thais call it ma fueang, and Virgin Islanders refer to it as the star apple or carambola.

The carambola tree has adapted well to the environment of the Virgin Islands. The trees is relatively pest-free. If insects or disease become a major problem, one should contact the University of the Virgin Islands Cooperative Extension Service for information on ways to control the pests.

There are two types of carambola fruit — the smaller very sour fruit and the larger sweet one.

It is easy to plant the fruit in a backyard garden. However, the seeds must be fully developed before planting.

Plants can be propagated by air-layering, bark grafting or budding. Grafted trees begin to bear fruit within months.

Like everything in nature, the environment influences the growth pattern and behavior of the carambola tree.

Research shows it is best to place the trees 20 or 30 feet apart, depending on the type of soil.

During the rainy season, flowers can be damaged, hindering pollination and fruit production. So it is best to plant different varieties to provide cross-pollination.

Some carambola plants bear fruit all year round. Other plants bear fruit only at certain times of the year. Again, environmental conditions account for much of this.

When fruits ripen, they fall to the ground. For marketing purposes, the fruit should be picked while green, with just a touch of yellow.

The carambola fruit can be eaten right away, sliced and served in salads, or used to garnish the avocado. The carambola fruits can also be cooked to make a pudding, stew, and tarts. In China, the fruit is cooked with fish.

Fruits are also salted, pickled and made into jam in many countries. In Hawaii, the juice of sour fruits is mixed with gelatin, lemon juice, sugar and boiling water to make sherbert.

Some people use unripe fruits to make relish combined with celery, vinegar, horseradish, seasoning and spices.

Fruits that are highly acidic can also be used to polish metal. Wood from the carambola tree is used to make furniture.

The carambola fruit also is known to fight hemorrhages and cures bleeding hemorrhoids.

The carambola also is recommended to treat kidney and bladder infection. Crushed leaves and shoots are used to fight chickenpox and ringworm. The combination of leaves and fruits also control vomiting. Leaves placed on the temples soothe headaches.

For Christmas, or for any other special event, the carambola tree is a perfect gift. After all, the carambola fruit is a star among tropical fruits.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Caribbean keeps tradition of herbal remedies

Olasee Davis

Our environment

I have noticed for some time now that many people, especially down islanders, are very interested in the medicinal uses of plants.

The history of herbal medicine is as old as human history. The knowledge of plants and its uses in the Caribbean originated with slaves brought from Africa and with the Indians who inhabited the Caribbean islands.

African slaves and Indians alike treated wounds, colds, fever chills, stomach troubles, pregnancy problems, and other illness from bark, leaves, and roots of plants.

According to Edward O. Wilson, "In a more biblical sense humanity was born in the Garden of Eden and Africa was the cradle."

Genesis: 2:10: "And a river went out of Eden to water the garden; from thence it was parted, and became four heads."

One of these four rivers passed through the land of Africa. Verse 13 of Genesis chapter 2 further said "And the name of the second river is Gihon, the same is that compasseth the whole land of Cush." Cush is the land of Ethiopia.

So it was no surprise when Africans were brought to the Caribbean as slaves that this knowledge of herbs was handed down from generation to generation and changed as new uses of plants were discovered.

Old manuscripts show how plants were used as drugs in ancient Egypt and up through the years. In 1783, a physician tried several herbs by mixing them together. From that, a heart drug was discovered. Around 1803, morphine was discovered. This drug was obtained from dried juice of the poppy plants.

Years ago in the Virgin Islands, herbal medicine was a major part of our upbringing. For example after childbirth, a woman took a bush bath to produce whiter milk and ease lactation.

People also took the bush baths to cure colds, fever, prickly heat, wounds and sores. Some cultures used bush bath to protect themselves against evil spirit, some take bush baths for good luck.

Bush baths today in the Virgin Islands are almost non-existent. People nowadays use fancy bath oils — most of which have some kind of plant ingredients in them.

Bush tea, however, is popular in the Virgin Islands. Jacquel D. Dawson, an agronomist, has her own business called "Agricultural Services Unlimited, which features bush tea. One of the first times I tasted iced bush tea was when I met her at the agriculture and food fair on St. Thomas.

I also had the opportunity to taste her hot bush tea, when I attended the Caribbean Food Crops Society meetings this year at Marriott's Frenchman's Reef Hotel.

If we are talking about promoting eco-culture in these islands, bush tea should be offered by our hotels and restaurants. Further, bush tea can help these islands' by growing it on a commercial scale.

We often look outside for industry to boost these islands' economy but fail to use local resources like bush tea products.

Here are a few popular bush teas and their uses in the Virgin Islands:

Lemon Grass (Cymbopogon Citratus) tea is good for fevers and colds. To sweat out the flu, combine lemon grass, ginger, orange peel, canepiece senna combine together and drink hot with lemon is good. Then wrap up to increase perspiring.

Japana (Japonica Camellia Japonica) tea is tasty and produces a good cough syrup.

Hibiscus (Hibiscus Rosa Sinensis) dried flowers make a good tea to treat colds and coughing.

Soursop (Annona Muricata) tea is for colds, fevers, and coughs. In Africa, the bark has been used for dysentery and worms. This plant also keeps the nerves calm and promotes restful sleep. The fruit of the soursop tree is eaten, makes tasty drinks and ice cream. The heart of the fruit is given to children to eat to prevent bed wetting.

Dill (Anethum Graveolens) tea to relieve gas pains, stimulate the brain and help digestion.

Rosemary (Rosmarinus Officinalis) makes tea to treat for headaches and nervous tensions.

▼ FOR INFORMATION
Call Jacquel D. Dawson at 777-7133.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Conch ban makes sense

Olasee Davis

Our environment

This summer, Department of Planning and Natural Resources informed Virgin Islands fishermen they could not take conch in territorial waters between July 1 and Sept. 30. During the closed season, only canned or frozen conch can be sold.

The ban is to protect the species before it becomes extinct. PNR officials have noticed a decline in the conch population here during those months, the conch mating season.

Sad to say, conch pirates harvest conch out of season and send them elsewhere to be frozen, canned, packed and shipped back to the Virgin Islands.

The Fisheries Advisory Committee decided the only way to deal with this problem is to have a ban on imported conch.

Well, all hell broke loose. Restaurants and other businesses related to the conch industry said they will lose money.

But what about the habitats these marine animals live in? What about the coral reefs, seagrass beds, mangrove forests, and other areas where these animals need in order to survive? No one is talking about that.

The politicians who jumped so quickly to criticize PNR officials and the Fisheries Advisory Committee should recognize that habitats of conch need to be protected.

Before the first European settled in the Caribbean, conch was a source of food for Indians and was a sacred object. In the Virgin Islands and other Caribbean islands, the blowing of conch shell the used to tell us that fishermen were selling conch and fish down by the sea shore.

Nowadays, there are too many empty conch shells along our shores. The problem is that conch are being overfished. The eating of conch has increased in recent years because of the booming tourist industry. Local consumption has also increased considerably.

Thus, fishermen are forced to provide more conch to meet the market demand.

Some fishermen don't realize, or perhaps just ignore, the threat of local conch extinction. If we want to eat conch in the future, we must regulate, prohibit, or restrict certain areas of conch fishing.

Adult Queen Conch is the largest of the herbivorous eating gastropod mollusks. These marine animals are often associated with seagrass beds in water 100 or 200 feet deep. With the high price for conch these days, many juvenile conchs are being fished because of the low level of adult conch. Conch need to be mature enough, before they are harvested, to have reproduced.

Queen Conch reach maturity when a flat broad surface appears on the shell. Sexual maturity of Queen Conch is at 3 to 3½ years. Adult conch live about six or seven years. During their breeding season, which is the warm months of the year, female conch lay about 400,000 eggs.

Eggs hatch in five days and drift with the current to feed on planktonic algae before they become small juvenile conch.

PNR closed the conch-fishing season at the height of conch breeding months, to ensure that mature conch will reproduce undisturbed.

We are all responsible for protecting conch habitats. When PNR enforcement officers check restaurants, fish markets, or fishing boats, it is only to ensure that the law is upheld.

Fishermen must understand that the regulations are not intended to rob them of their livelihood but rather to ensure that their livelihood continues.

Let us not get too greedy and reduce the conch to just an empty shell. Believe me, unless we protect the conch, there will be no fresh tasty dish to enjoy.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Ecosystem of St. Croix's East End must be protected

This article focuses on the second part of the East End ecosystem on St. Croix.

As we approach the 21st century, the use of natural resources and the preservation of environmental quality are the focus of increased public attention worldwide.

Whether you believe it or not, environmental issues play an important role in the economic development of these islands.

In our schools today, children learn more about recycling, tropical forests and endangered species such as turtles and whales and the need to protect them from environmental threats posed by human beings.

Consumers are becoming more and more aware of food safety, as well as of waste disposal. Economic interests nowadays are frequently offset by environmental considerations related to land use.

The increase in public concern about environmental degradation reflects a widespread belief that we are on the verge of an environmental crisis.

Many people who advocate environmental protection, however, seem not to understand the vital relationships between human beings and the productivity of natural resources.

Also, many people have yet to learn the need to manage natural resources in a sustainable manner.

The mandate to set aside land in the Virgin Islands as Areas of Particular Concern and create management policies originated in the National Coastal Zone Act of 1972.

This act provides guidelines whereby "specific areas may be designated for the purpose of preserving or restoring them for their conservation or recreational, ecological, or aesthetic values."

In 1979 the planning office designated 18 APCs in the Virgin Islands after public hearings. The East End ecosystem was one of the areas to be protected.

The APC proposal will go to the full Senate this month and hopefully become law.

From Point Udall, the easternmost point in the United States, the Goat Hills form a central ridge between Knight Bay and Grapetree

Olasee Davis

Our environment

Bay. On the north side of the East End is Cottongarden Bay's long, sandy beach, protected by the barrier reef system, which includes the Cramer's Park area.

East of Cottongarden Point, Boiler Bay includes a complex reef system of algals, coral reefs, rocks, sea grass beds and sand.

Around Point Udall, the white sand beach of East End Bay opens to the southeast, followed by the hills, cliffs and reefs of Point Cudejarre, Isaac Bay, Isaac Point and the Jack Bay beach area.

Hughes Point, 200 feet high, cuts this wilderness area off from the hotel and houses to the west. As I mentioned last week, the East End ecosystem is the last dry forest system of its kind left in the Virgin Islands.

In the early 1740s, the East End was settled, and cotton became the principal crop.

Sugar cane was heavily cultivated on St. Croix during this period, but the East End was too dry for sugar cane production.

Today, one can still find wild cotton plants growing mostly on the eastern and southern parts of the island.

Since the 1950s, the population of the Virgin Islands has increased tremendously, putting pressure on land and other limited resources. St. Thomas is a perfect example of a place where space is a factor in development.

All of us depend upon plants and animals. By studying them, we can learn new ways of growing food, building houses and making clothing.

The problem is, the same things we depend on are threatened by the way we plan.

I believe St. Croix is the last frontier of the Virgin Islands. With that in mind, we must remember to plan properly.

Such areas as the East End ecosystem must be preserved [illegible] initely. This unspoiled area is rich in coastal resources such as fish.

How many people know that the 4,000-year-old, 23-mile barrier reef of the East End is one of the best developed reef ecosystems in the Caribbean?

In 1982 the waters of the East End were proposed as a candidate for a national marine sanctuary.

The integrity of the East End ecosystem rests in the hands of those of us who are willing to fight and protect an environment that is not negotiable.

If you do not believe me, ask the thousands who are camping out this Easter week at Cramer's Park, which is part of the East End ecosystem.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Forestry council takes up challenge of planting our urban environment

Olasee Davis

Our Environment

The last meeting I attended before heading for a Christmas holiday in Tennessee was the one to form the Urban and Community Forestry Council.

The council will be the key player in putting the America the Beautiful Program into effect in the Virgin Islands.

At the council's first meeting, Eric E. Dawson, Economic Development and Agriculture commissioner, made a few remarks, members of the council introduced themselves, by-laws were discussed, election of officers took place and a general discussion followed.

Under the council, government agencies and non-profit organizations are joining together to develop an urban and community forestry policy. Among the participants are the V.I. Water and Power Authority, Housing, Parks and Recreation and Public Works departments, University of the Virgin Islands Cooperative Extension Service, U.S. Agriculture Department's Soil Conservation Service, Real Estate and Land Developers Association, Gardens and Landscape Association and environmental associations of St. Croix, St. Thomas and St. John.

During discussion about the urban forestry program, the planting of native trees came up.

Ask any ecologist whether it is better to plant native or exotic trees and the answer generally will be: "Either." They probably will tell you it depends on factors that influence plant growth — site, development and climate.

To an untrained ecologist, the lesson might be taken from nature — that native trees are the best choice. However, when man inhabits a place, he changes it. Today's urban environment has very little in common with native plants which took million of years to develop. People make towns and cities, and native plant species may not be suited to an urban landscape.

Personally, I believe there is room in urban forestry for both native and exotic plants — based on which tree is right for which site.

Disasters heighten awareness that native trees have special adaptations to an environment that can be cruel at times.

During Hurricane Hugo in 1989 damage was extensive, especially on St. Croix. Thousands of trees were uprooted or damaged by the storm. The huge, exotic rubber tree near the Frederiksted fish market, for example, was not able to withstand the strong winds.

But, natural disasters such as hurricanes can blow in seed of plants from faraway lands and plant them in these islands. Are these new species of plants exotic or native?

Native trees offer special benefits, but the ability to survive natural disaster is only a small part of the complex urban tree selection process. When selecting trees, many issues should be considered: climate, need for diversity and the hostility of the urban environment.

For example, many years ago Queen Mary Highway on St. Croix was planted with coconut trees. Over the years, strong winds destroyed many of these coconut trees that were planted by slaves. Thus, mahogany trees were planted. Today, mahogany trees withstand the test of abuse, and remain as an example of an exotic plant that adapted well to our islands' growing conditions.

A person who is deciding which tree to plant must understand each tree's and the soil's characteristics, considering drainage, disease and pest resistance and if the tree will have a tendency to invade other species in an already existing plant community.

Care of trees in urban environments is important to the tree's longevity and how it reacts to strong winds.

Thus, the selection of trees for urban environment should not be base solely on being native or exotic.

Today's urban environment is anything but natural. Often it is hostile to plant life. Trees need to be found that can withstand air pollution, compacted soil, abuse from motor vehicles and vandalism from people.

In the final analysis, no tree is perfect in an urban environment, but the urban forester must strive to place the right tree in the right place. After all, urban forests need tough trees for tough times.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

From our bountiful islands come breadfruit, eggfruit

"And as they were eating, Jesus took bread, and blessed it, and broke it, and gave it to the disciples, and said, Take, eat, this is my body."

— Matthew 26:26.

Olasee Davis

Our environment

Last weekend was Holy Week and thousands of people in these islands attended Church to break bread and drink wine as part of the Easter tradition.

However, there is a natural bread that grows on a tree: breadfruit

It is believed to be native of New Guinea and Indo-Malayan. In 12 A.D., the breadfruit spread to such Pacific islands as Hawaii, Samoa and Polynesia. It is said that breadfruit was first seen by European explorers in Marquesas in 1595, then in Tahiti in 1606.

Between 1780 and 1786, Jamaica experienced several periods of famine and plantation owners then petitioned King George III to import seedless breadfruit trees to provide food for slaves.

In 1793, breadfruit plants were sent from Martinique to St. Vincent Botanical Garden.

Before Capt. William Bligh's second voyage to St. Vincent, he loss 1,015 breadfruit plants on a bad sea trip during 1787. In 1791, he set out again with 2,126 breadfruit plants to Jamaica.

Thereafter, breadfruit flourished throughout the Caribbean and South America.

In the Virgin Islands, we know breadfruit as breadfruit. In Venezuela, it may be called pan de ano; in Peru, marure; in Puerto Rico, panapan or pana de pepitas; in Malaya, suku or sukun; in Honduras, mazapan; and in Portuguese, fruta pao.

Throughout the Virgin Islands, one can see breadfruit trees growing mostly in backyards. However, I was told that breadfruit trees used to grow wild in Estate Prosperity and farther up in the mountains in the north side of St. Croix.

These trees are not drought-tolerant;they will grow best with 40 to 60 inches of rain per year.

The environment — elevation, humidity, and soil types — influences the tree growth.

Dr. Christopher Ramcharan, a horticulturist at the University of the Virgin Islands Agricultural Experiment Station, recommends periodic application of a complete NPK fertilizer such as 10-10-10.

Breadfruits can be picked when mature, as indicated by the appearance of small drops of latex on the fruit. You can propagate breadfruit is by transplanting, suckers which spring up naturally from under the tree.

Such pests as soft-scales and mealybugs are sometime found on the stems, fruits, or leaves of the plants. Fungus and other diseases at times infest the tree. If you have a pest problem, the extension service entomologist is willing to assist you.

Breadfruit can be eaten ripe as a fruit or under-ripe as a vegetable. It can be roasted, boiled, baked, stuffed or fried.

Breadfruit can be used for medicinal purposes. In the Virgin Islands, dried leaves are made into a tea without sugar for high blood pressure and heart trouble. Crushed leaves are applied on the tongue as a treatment for thrush. Leaf juice is also used as ear drops. Some cultures toasted the flowers to rubon the gums around an aching tooth.

The Easter egg is also part of the Easter tradition. I have no idea what eggs and rabbits have to do with the crucifixion and resurrection of Christ. Certainly, rabbits do not like eggs. Do they?

However, there is a tree called eggfruit. The Canistel or eggfruit is native to northern south America, but also grows in South Mexico, Belize and El Salvador.

The first time I encountered this tree was in 1984 at the University of the Virgin Islands Agricultural Experiment Station. Dr. Christopher Ramcharan devoted part of his studies of tropical fruit trees to finding out if the tree will do well under the islands' environmental growing conditions.

The fruit is round, with or without a pointed apex or curved beak. When green, the fruit is hard and gummy internally. On the ripe side, the fruit turns lemon-yellow, pale orange-yellow, or golden yellow. Beneath the skin, the yellow flesh is relatively firm and mealy.

This fruit often has been likened in texture to the yolk of a hard-boiled egg. It is sweet, more or less, and tastes somewhat like a baked sweet potato. The eggfruit can tolerant a wide range of soils.

Seeds should be planted within a few days after they are removed from the fruit. The plant has few pests and diseases.

For breadfruit recipes, contact Ramonita Caines at the extension service, 778-0246.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is St. Croix ecologist, activist and writer.

How we treat animals affects 'living guide within us'

Olasee Davis

Our environment

In last week's article, I focused on the importance of learning from older people because they point us to history that we know little of.

Charles Darwin — 1809-1882 — is one of the great figures in the history of science. Even today, more than a century after his death, Darwin's legacy remains controversial.

Part of this controversy stems from ignorance of his work in science and part from misunderstanding of how his work was later distorted to serve a variety of contradictory social and political agendas. However, many historians over the years have clarified many of the misconceptions of Darwin's perspective on the changing environment.

As a boy, George A. Seaman saw the changes in these islands by observing the natural evolution process whereby changes in the environment occur naturally or the impact of human beings on the ecosystem.

It was ignorance, superstition and arrogance that shackled human understanding of life on this earth.

Now, scientists are beginning to appreciate the dynamic relationship of organisms — including human beings — have with one another and with the ever-changing environment.

Seaman, a local wildlife biologist, has laid the foundation scientifically in the early part of this century by studying wildlife behavior and habitat of these islands.

This week, I will focus on some of the contributions Seaman made to the Virgin Islands' natural history.

Early this century, the Virgin Islands had a game commission to regulate bird hunting. Upland game birds hunting in the Virgin Islands was not a yearly crop, but it attracted outside hunters during the season.

Quails was one of the birds that hunters liked to hunt. In 1840, James Smith visited St. Croix and said:

"I occasionally started up a flock of quails. They live in the canes and are about as common in this island as they are in Westchester County."

Around 1852, John P. Knox wrote in his natural history of St. Thomas that, "Quails were very rare."

It was also mentioned in Newtowns, Alfred and Edward reported on birds of St. Croix from 1857-1858 that quails were introduced to St. Croix.

These birds were abundant; mostly in the graceland areas of the southwest section of St. Croix. St. John and St. Thomas also housed quail birds too.

Ducks were another bird studied by Seaman.

These were shot during the winter months mostly northern migratory ducks to the islands. On Nov. 12, 1954, four Baldpates and 88 blue-winged teal were observed at Two Williams pond on St. Croix. This was the largest flock of ducks observed thus far. Today, few ducks visit the island's ponds.

Native of West Africa, Guinea fowl was believed to be introduced to the Caribbean in 1508. Years ago, Douglas Blackwood introduced 10 wild Guinea birds to St. Croix.

Those wild birds established themselves but were later affected by environmental factors and man. Today, some people have Guinea fowls as pets.

The introduction of deer to the Virgin Islands is almost obscure. H. A. Beatty, a one-time wildlife supervisor of the Virgin Islands, mentioned that deer was introduced prior to 1790. Deer was introduced to these islands for big game. These animals weathered hard times and good times.

> "We would have lost something, I feel, a little more than just the extinction of an animal long among us. We would have irreparably lost a part of our conscience, a part of the living guide within us. To me, it would be just a bit more difficult to live happily in truth again before God."

They have survived fire, ticks, hurricanes, tidal waves, revolutions — and kings come and go.

In 1952, Section 9, Municipal Council Bill No. 30 also threatened the deer population which states that:

"The Game Commission shall authorize any farmer whose crops are being damaged or destroyed by deer to capture or kill such deer as may be found in the immediate vicinity of the farmer's crop, notwithstanding the provisions of Section 3 of this ordinance; provided that the Game Commission or Police Department is notified within 24 hours after such taking."

What this means is that any farmer can bait deer by planting sweet potatoes, okra, or some other crop to kill deer. Seaman mentioned in his studies:

"We would have lost something, I feel, a little more than just the extinction of an animal long among us.

"We would have irreparably lost a part of our conscience, a part of the living guide within us. To me, it would be just a bit more difficult to live happily in truth again before God."

Today, the deer are still surviving despite man's effort.

The mangroves forests — which Hess Oil Refinery and Martin Marietta built on St. Croix's South Shore — once supported the largest breeding colony of white-crown pigeons. This area supported 500 to 600 breeding colonies.

Seaman's wildlife reports extended from 1949 to 1968. This article only scratches the surface on Seaman's contributions to these islands' natural history. He was a man of great integrity.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Introduction of the mongoose an example of man's mistakes

Olasee Davis

Our environment

The book of Genesis tells us that God created in abundance moving creatures — from the fowl that fly above the earth to sea creatures of every kind. This environment was perfect in that every creature, both predator and prey, do what comes naturally.

On one Sabbath afternoon, I took the Central Seventh-day Adventist Church AY group on a hike up in the hills overlooking the northern part of St. Croix. While there, we discussed Bible verses in relationship to the environment.

During our discussion, a particular individual said, "the only misfit in creation is man."

Ever so often I reflect on what the person said about man's participation in creation. Like men, every plant, animal or other organisms play a major role in the environment according to the laws of nature.

However, sometimes man messes up by introducing different species of animals, plants or organism in an environment that might not be compatible.

In 1870, the mongoose was first introduced into the Caribbean for the main purpose of controlling rats in the sugar cane plantation.

Predators were one of the first biological means of controlling rats in the Caribbean. Before the introduction of the mongoose in the Caribbean, there were other attempts to control rats.

The first attempt to control rats other than the use of dog was the Ferret from Europe. This animal was not successfully established in the Caribbean to control rats. In 1844, the giant toad was imported into Martinique and Barbados to control rats. The giant toads ate young rats, but not enough to reduce the rat population.

Around 1762, an ant locally called in Cuba "Tom Raffle ant" was introduced to control rats.

On many other islands, like Jamaica, Suriname, Puerto Rico, Grenada, and Trinidad, rats were serious problems. In 1789, it was estimated that the rats destroyed a quarter of the sugar cane crop in Jamaica.

The plantation owners of the Caribbean at that time believed importing mongooses would be the best solution for rat control. In 1884, mongooses were introduced into St. Croix from Jamaica. These terrestrial carnivores did an admirable job by controlling the rats in the sugar cane fields.

The species of rat that caused considerable damage to the sugar cane crops on St. Croix was practically eliminated from the fields. Unfortunately, the mongoose could not eliminate the rats from the forest areas because of their ability to climb trees. A second rat was also introduced into the Virgin Islands by the arrival of ships.

This rat is known as *Rattus norvegious* and is found commonly around town or in dumpsters. These animals are strictly terrestrial and live in holes in the ground. As time went on, however; the mongoose became a pest for many of the Caribbean islands.

On St. Croix, the mongoose began to prey on other species of animals because the mongoose ran out of rats to eat in the sugar cane fields. The ground lizard, ground nesting birds, and beneficial reptiles were among the first animals to be affected by the presence of the mongoose. The poultry farms of the Virgin Islands were also affected by the mongoose presence.

Many island farmers lost their eggs or chicks to mongooses. The 1940s, the mongoose was so destructive to farmers that the Virgin Islands Government introduced a bill to control the animals. The bill offered a bounty of "10 cents for males and 15 cents for female mongoose."

Between the 1940s and 1950, about 7,000 mongooses were caught. To this day, the bill is still on the books. The quail *(Colinus virginanus)* was once a common bird on these islands. The birds disappeared mysteriously from the Virgin Islands many years ago. And in 1941, quail were introduced again, but the mongoose ate the eggs and young ones.

Thus, the introduction of the mongoose in the Caribbean is a classical example of how man harmed an ecosystem by bringing in an animal that can become a threat to other species.

The following are examples of some food mongoose like to eat:

Vertebrates: rats, miscellaneous birds, lizards, snakes, frogs, toads, fowl eggs, and domestic fowl.

Insects: Cockroaches, moths, caterpillars, crickets and ants.

Other arthropods: Scorpions, centipedes, millipedes, spiders, ticks, and crabs.

Vegetable matter: Yam, Coconut and fruits.

Dr. G Roy Horst is conducting research on mongoose at Sandy Point. Today, St. Croix has so many mongooses that often it's referred to as "the mongoose state."

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Listen to the older folks and learn to love nature

Olasee Davis

Our environment

It was an accident that I was born on St. Thomas, the land of such great people as Edward W. Blyden, Rothschild Francis, J. Raymond Jones and Valdemar Hill Sr.

However, I was fortunate to be born while my grandfather was alive. Jimmy Industrious, my grandfather, was a farmer, fisherman and naturalist in Tortola.

As the summer approaches, most children are getting ready to enter summer camps. In the late 1950s and '60s, I used to visit my grandparents in Cane Garden Bay, Tortola, every summer.

It was there that my grandfather instilled in me the pride of being an African, the fear of God and the love of nature.

Today, many grand- and great-grandparents are put up in governmental houses and often forgotten except on special occasions such as Christmas, birthdays or Thanksgiving.

Some people believe, however, that our grandparents are only put in these homes to die quickly.

The senior citizens of these islands are the backbone of our culture and the historians of how these islands once were.

Many children today know little or nothing at all about these islands' natural history. Traditional education was a natural phenomenon in the Virgin Islands culture where grandparents passed down knowledge to children. Today, there is a generation gap where the traditional education is not frequently passed down to our children.

Our children know more about George Washington and Abraham Lincoln than those who struggled in these islands for our freedom in a society where injustiee was the law of the land.

However, the old people of yesterday knew how to survive. They knew if it rained on New Year's day that they would have a dry year.

They also knew when the sea turtles would come to shore by looking at them in the clouds at night.

The streams, cultivated crops, wild edible plants, the sea, trust in God and hard work were the foundation where our grandparents built these islands' economy.

Nowadays, we hear a lot about the environment and the impact man has on the ecosystem.

The environmental movement did not start today, but rather yesterday.

In the early 1900s, a child was born in Frederiksted, St. Croix, then known as the Danish West Indies.

Little did George A. Seaman know that he would set the stage for environmental awareness in these islands.

A naturalist by birth, he set out to know the Virgin Islands' environment, especially St. Croix's. George A. Seaman can tell us about catching fish at Concordia at night.

He can tell us about when he used to swim below the bridge at Castle Burke, a small river then catching mudfish. He can also tell us about eels in Upper Love stream.

The Harden gut just out of Frederiksted town — George A. Seaman can tell us how the town people there used to wash their clothes. Caledonia valley, the deep rain forest — a spectacular site — is one of the three waterfall area on St. Croix.

This area was also explored by George A. Seaman when he was a little boy.

He said, "At the time, there was no road leading into Caledonia and we used to park our dilapidated runabout under an aged mango tree not too far off the old dirt road leading to the lighthouse.

From here we would follow a little path that skirted the stream and in one place crossed.

On this particular day, as we paused by the crossing, the sun lit up some exquisitely blue objects lying on the stones in the fast gurgling water."

Hundreds of years ago, Caledonia stream used to meet the ocean where fish used to swim up stream and lay their eggs.

This was fantastic to little George A. Seaman when he and his friends found small gobies, a fish restricted to fast-moving rivers and stream water.

In this area also, Caledonia forest is the home of the bare-legged owls that few people ever see.

The Caledonia rain forest is also home to many species of birds, trees such as vanilla, cocoa, silk cotton, crabs and other animals that are not too common.

In 1949, George A. Seaman was appointed wildlife supervisor of the Virgin Islands. The child who grew up loving nature had a chance to study wildlife scientifically.

He carried out surveys of existing bird species and their life histories in order to provide a working management plan for island game birds. Back then, there were many game birds that were hunted.

Mountain dove, red neck pigeon, white-crowned pigeon, quail dove, known locally as "partridge," and small ground dove were all studied by Seaman.

There were hundreds of other bird species that once dominated these islands environment.

George A. Seaman also studied other wildlife and published several books.

Some of the books are "Stick from the Hawks Nest," "Virgin Islands Dictionary," "Not So Cat Walk," and "Ay-Ay, an Island Almanac."

His works and books about the natural history of these islands should be part of our school curriculum for all children to read.

This is one way of closing the generation gap between grandparents and grandchildren.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Man crowding out white-tailed deer

Olasee Davis

Our environment

In America, the white-tailed deer is one of the most popular game animals.

Before the first white men settled in America, there were millions of deer roaming the open country of the "New World." These animals lived in a perfect environment with the Indians, who only took from nature when it was necessary.

For example, deer played an important role in the Indian's culture for thousands of years. To the Indians, deer were a source of food and clothing.

The antlers were used as chipping tools, ornaments, headdresses, bow strings and for making fishing lines. Deer were also an important part of the folklore and religion of Native Americans.

However, this changed when the early colonists and explorers utilized deer as a source of food and served as a medium of exchange between traders, trappers and Indians.

Thus, the history of white-tailed deer in America is one of both triumph and tragedy.

During this period of forest exploitation and land clearing by the settlers, foraging supplies became plentiful and deer increased in numbers.

However, the downfall of the settlers' success was the repeated burning of cutover forests, hunting pressure, agricultural development, indiscriminate slaughter for commercial deer meat and a lack of game laws to protect the deer population.

By the end of the 1900s, the deer population was less than 500,000, compared to the 24 million to 34 million estimated to have lived on the continent in 1500 A.D.

The white-tailed deer somehow survived the late 1800s and early 1900s in remote mountain ranges, swamps and on the large land holdings of conservationists.

In the 1930s and '40s white-tailed deer made a remarkable comeback. This was due to reforestation, better law enforcement, the successful stocking of habitat areas and public awareness and support.

Today, white-tailed deer are not just hunted for recreation. Agriculture has made deer into a product that brings in billions of dollars to the national economy.

In Texas, there are hundreds of deer farms that contribute to the state economy. Deer are also aesthetically appealing in that many people regard them as a symbol of the natural environment.

White-tailed deer have been released to many other countries and island nations around the world, including the Virgin Islands.

In 1790 the deer were introduced here as game. They adapted well, and old-timers tell stories about the deer swimming between islands.

Dr. David Nellis, a wildlife biologist for the U.S. Fish and Wildlife Service on St. Thomas, supports the stories that deer still swim today between islands like Great St. James, Little St. James and St. John.

On St. Croix, my good friends Ann V. Parris and Kai Lawaetz mentioned to me about how deer were abundant when they were growing up.

Parris said that "you used to see about 15 deer in a week's time in the Carlton or Whim areas looking for water in the cow pastures during the dry season."

From 1930 to 1960 deer were plentiful in these islands. Back then, there were more habitats to roam and a variety of food.

Deer eat mostly by browsing on leaves, twigs, young shoots of plants, vines and other broad-leafed flowering plants. They eat some grasses, but only when green and succulent. Fruit trees like soursop, genip, guava, mango, white mangrove and white manjack are eaten by deer. They also eat the green pods and shoots of tan-tan, casha, hibiscus, saman and thibet plants.

The mating season of white-tailed deer is usually in the fall, but they also produce young throughout the year depending on environmental conditions.

Fall was once the hunting season for deer in both the U.S. mainland and the Virgin Islands. However, in 1974 deer hunting was banned here.

As in the early settlement of the United States, the deer's tragedy was the destruction or altering of its natural habitats.

According to Nellis, there are approximately 200 deer on St. Thomas and 1,000 deer on St. Croix today. Poachings are still a problem when the deer come out to feed after dark or early in the morning.

The varieties of food are also decreasing as man changes the vegetation and environment.

Today deer are found in remote areas like the north side of St. Croix, Jack and Isaac bays.

There has been no real scientific research on deer to determine their food habits, reproduction stages or travel patterns in the islands.

Who knows? Deer could be of great benefit to the islands' economy. It was the public's concern for the survival of deer in the United States.

Like everything else in these islands — politics instead of common sense. Although deer are not native to these islands, they have a right to be a part of the environment.

FOR MORE INFORMATION
Call Fish and Wildlife on St. Thomas at 775-0762 or on St. Croix at 772-1955.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Never underestimate the importance of groundwater

Olasee Davis

Our environment

This past week, I took my natural science class to the Caledonia rain forest for a lab. Before we went out, we discussed different types of forests, algae and moss and how freshwater ponds function within a forest environment.

Caledonia rain forest is a classic example of running streams, diverse species of trees and small and large organisms coexisting within the forest biosphere system.

What students learned from this rain forest laboratory hike is that the forest also has an impact on our underground aquifers water supply.

Although humans have inhabited the earth for millions of years, it is only now that we are beginning to understand the interrelationship between ourselves and the environment.

Few of us in these islands have knowledge of how the forest functions in our environment, much less how important it is to protect our aquifers.

Over the years, the demand for groundwater in the Virgin Islands, especially for domestic use, has increased tremendously.

In spite of the steadily increasing demand for groundwater, the hydrology of the Virgin Islands remains generally unstudied. According to a 1982 report from the Water Resources Research Center of the then College of the Virgin Islands, groundwater withdrawal for public and domestic use in the Virgin Islands was about 1.1 million gallons per day.

This figure probably has increased since the 1982 report. Other reports estimate that the islands' aquifers supply about 17 percent of groundwater, and rooftop rainwater catchments and desalination of seawater supply the remaining 83 percent.

In the Virgin Islands, we know of three major aquifers — volcanic rock aquifer, the coastal embayment aquifer and the Kingshill aquifer.

On St. Croix, the Kingshill aquifer provides about 67 percent of groundwater withdrawals in the Virgin Islands. This aquifer covers approximately 25 square miles of the central flatlands of St. Croix. Not surprisingly, this central area of St. Croix also has some of the best productive soil for farming. The Kingshill aquifer is fed from the mountains, valleys, and rolling hills along the central part of the island.

Such areas as Little Fountain and Fountain Valley drain into the Kingshill aquifer. In those areas, forests, scatter forest and farmland are the principal uses of the land, beside a few homes here and there. The volcanic rock and coastal embayment aquifers occur on all three islands and provide 25 percent and 8 percent, respectively, of groundwater withdrawals.

In the Virgin Islands, groundwater generally does not meet the drinking water standards established by the U.S. Environmental Protection Agency. Precipitation contains large amounts of salt from ocean salt spray and the salt concentration in groundwater is further increased by the rapid rate of evapotranspiration.

Thus, most wells near coastal areas have saltwater in them.

But the greatest threats to aquifers in these islands are excessive water withdrawals, septic tanks and infiltration of stream courses by sewage treatment plant discharges or septic tank overflows.

One study, "Continued Use of Drinking Water Wells Contaminated with Hazardous Chemical Substances in Virgin Islands and Minnesota, 1981-1983," points out the hazards we face.

In 1987, the Planning and Natural Resources Department and EPA, after testing several wells, found that 22 commercial, residential and public wells in the Tutu Well Field were contaminated with petrochemicals, volatile organic compounds, such as benzene, trans 1,2-dichloroethylene; trichloroethylene; and tetrachloroethylene.

This large aquifer provided drinking water throughout the St. Thomas directly or by trucking water to different parts of the island. The report said "11,000 persons may have been exposed for approximately 20 years."

It further stated that these volatile organic compounds could increase the risk of cancer for those who drank the

When this was reported, the well fields in Tutu were disconnected for drinking. However, in 1992 Planning and Natural Resources and the Agency for Toxic Substances and Disease Registry learned that the contaminated wells had been reactivated because of water shortages.

In 1993, the wells were connected to a treatment system to remove contaminants, but Planning and Natural Resources and the EPA are still investigating how to clean up the wells.

What I share with you is nothing yet.

We all are responsible for our environment. We have some serious aquifer contamination in these islands from sewage and oil.

Believe me, we are sitting on a time bomb ready to explode. One of these days our wells will probably run dry. If we do not protect our wells now, the birds that fly in the sky will be better off than we humans.

Olasee Davis, who holds a master of science degree in range management and forestry ecology

No land? No space? No soil? Box gardens leave no excuse

"And every plant of the field before it was in the earth, and every herb of the field before it grew; for the Lord God had not caused it to rain upon the earth, and there was not a man to till the ground."
— Genesis 2:5.

Olasee Davis

Our environment

The Bible makes it clear that man's first job was to till the soil.

God himself was the first farmer. Consider this: "And the Lord God planted a garden eastward in Eden; and there he put the man whom he had formed." Genesis 2:8.

So we can see that agriculture was the first occupation God gave man.

For a moment, imagine a time-lapse film of the Virgin Islands taken from space. Play it back so that a millennium passes every hour.

For more than 10 minutes, the screen displays fields of crops growing from the mountainsides to the coastal sea. Aside from agriculture, fish and other wildlife were in an abundance.

It's hard for many young people today to imagine that these islands once fed themselves and other parts of the world, but Marcus Garvey once said, "a people without knowledge of their past history is like a tree without its roots."

Be not fooled, these islands' history began with agriculture. The Indians gathered fruits and tilled the soil, then came the white settlers and African slaves who tilled the islands soil from sun up to sun down.

In the old days, every public and private school in the Virgin Islands taught agriculture. If you had known your history, then you would know that rivers and streams were once part of the Virgin Islands' ecosystem especially on St. Croix.

There are old Virgin Islanders today who can remember catching fresh water lobsters, eels, goobies and other fish in streams.

George A. Seaman, a native naturalist, remembered that as late as 1918, he crossed crossed five running guts to go to school. He pointed out that Lower Love and Bethlehem guts were really small rivers.

The other day, I met another old Crucian, James Weekes. He had been trying to get Errol Chichester, Rudy O'Reilly Jr., Ferdi Abraham and me to sit down for lunch and discuss the history of agriculture on St. Croix.

He wanted to if we think agriculture has any chance of being a major part of St. Croix economy.

Weekes has a wealth of knowledge about agriculture and the environment as it was when he was a young boy on St. Croix.

From what he told us young men at lunch, it's clear that in moving away from agriculture, the Virgin Islands has also moved away from what once was the islands' economic lifeblood.

Every person back then had a garden or a farm. Some people also operated the small grocery stores, hardware stores, and other businesses that made up St. Croix economy.

This year, I wrote an article for the Virgin Islands Agriculture and Food Fair booklet, and I started by saying, "My first garden was one of the greatest experiences of my life. It reinforced an idea that I had long believed in: that one should do for oneself everything that one can."

Growing your own food has tremendous implications spiritually, physically, psychologically, and even politically.

Over the years, the University of the Virgin Islands Cooperative Extension Service has been conducting workshops and seminars for the general public about growing your own vegetables in box gardens.

This idea about box garden is good especially for people who live in public housing, apartments, or other areas where soil is limited or not suitable for growing many vegetables.

On St. Croix, for example, some places have calicle, or white marl soil, that limits people from growing certain crops.

The box garden not only allows you to grow all the varieties of vegetables you would want, it lets you easily control weeds, water, and to, some extent, pests.

Charles Smith and other extension service personnel are trying to teach the public about box gardens.

They have gone to schools and senior citizen centers to demonstrate how to build the boxes.

This farming method has many advantages. Box gardens, for example, can use up to 40 percent less water than other methods. Also, you can care for your plants without walking inside your box.

That's important because shoes carry weed seeds and disease pests.

On Saturday, Smith will conduct a workshop on how to construct a box garden, what mixture of soil to mix, best location of garden, and other important tips.

Since it was man's first occupation, tilling the soil makes sense.

FOR INFORMATION
Call Charles Smith at 778-0246.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Planting trees to suit the environment

BY OLASEE DAVIS
SPECIAL TO THE AVIS

It was cold in Tennessee where snow was falling on Christmas Day. As I listen to Bob Marley here at my friends home Cynthia Wilkerson on this cold winter morning, my mind reflected on the people of the Virgin Islands. The last meeting I attended before headed to Tennessee was on the urban and Community Forestry Council.

Commissioner Eric E. Dawson made a few remarks, members of the council introduced themselves, by-laws were discussed, election of offices took place, and a general discussion followed. The Urban and Community Forestry Council will be the key player in the implementation of the America The Beautiful Program in the Virgin Islands.

Government agencies and non-profit organizations will interact leading to the development of the Urban and Community Forestry policy. As part of the council, we have a task to educate the general public about urban forestry.

The council is diverse in that, it represents such government agencies and non-profit organizations as V.I. Water and Power Authority, Housing Parks and Recreation, U.V.I. Cooperative Extension Service, USDA Soil Conservation Service, Real Estate and Land Developers Association, Gardens and Landscape Association, Public Works, and St. Croix, St. Thomas, and St. John Environmental Association just to name a few.

During our discussion, about the urban forestry program, planting native trees came up. Believe me, ask any ecologist whether it is best or better to plant native or exotic trees and see what the answer will be. They will probably tell you it depends on many factors that influence plant growth, site, development, climate, and the selection of native or exotic species.

To an untrained ecologist, the best lesson might be taken from nature that native trees are the best choice. No one will argue with Mother Nature because she knows what's best. However, when man inhabits a place, they change it and urban environment has very little in common with native plants which took millions of years to develop.

Nature is the mother of creation, but people make towns, cities and that means native plant species may not always be suited to urban landscape. Personally, I believe that there is room in urban forestry for both natives and exotic plants. This is based on the merit which tree is right and for which site.

People are changing the environment every day, and we must make sure those changes are positive ones for these islands, development. Such natural disasters like Hurricane Hugo in 1989 did extensive damage in many Caribbean islands especially on St. Croix and Monserrat. Strong winds uprooted thousands of trees while others had their limbs broken off.

The huge exotic rubber tree near Frederiksted fish market was not able to withstand Hugo's strong winds. Disasters like this have heightened awareness that native trees have special adaptations to survive in an environment that can be cruel at times.

Nevertheless the ongoing argument about exotic versus native tees put ecologists in a no-win-lose situation.

Natural disasters as hurricanes can blow in seeds of plants from far way lands and plant them in these islands. Are these new species of plants exotic or native? I do not mean to be technical. I can mention a number of cases where this happened naturally.

Native trees offer special benefits, but the ability to survive natural disasters such as storm or fire is only a small part of the complex urban tree selection process. When selecting trees for urban environment, many issues should be considered. The

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climate condition, need fo
versity within the urban f
environment, and the hos
of the urban environment.

For example, many years
Queen Mary Highway on
Croix was planted with coc
trees. Over the years, n
hurricanes hit St. Croix des
ing many of the palm trees
were planted by the slaves. t
mahogany trees were pla
along the once popular h
and buggy highway. To
mahogany trees withstand
test of abuse, and one e
plant that adapted well to n
of our islands environme
growing condition.

Yes, a person who is deci
which trees to plant must
derstand the tree charact
tics based on soil types, dr
age, disease, pest resistanc
if the tree will have a tenden
invade other species in ar
ready existing plant commu
Caring for trees in urban e
ronment also is important t
tree longevity, and how it re
to strong winds.

Thus, the selection of tree
urban environment should
be based solely on being n
or exotic, but try to meet al
requirements, as possibl
survive in an urban set
Today, urban environmen
anything else but natural.
ten, it is hostile to plant
Trees need to be found ir
environment that can withst
air polluted compact soil,
abuse from car bashing,
vandalism from people.

In the final analysis, no tr
perfect in an urban environm
but urban forestry must s
to place the right tree in the r
place. After all, urban fo
needs tough trees for to
times.

Olasee Davis is an envi
mentalist. His opinion does
necessarily reflect that of
employer, the University of
Virgin Islands Cooperative
tension Service.

Puerto Rico has much for ecotourists to see

Olasee Davis

Our environment

Early this month, I was in Puerto Rico for the TriAgency IR-4 pesticide conference, and I was able to talk to many people about Puerto Rico's history, culture, politics, environment and economy.

When Columbus first encountered the Taino-Arawak Indians in 1493 in Puerto Rico, he was amazed.

In his note, Columbus wrote: "They go quite naked as their mothers bore them. . . .

"They are so ingenious and free with all they have, that no one would believe it who has not seen it. Of anything they possess, if it be asked of them, they never say no."

Around 1508, the Spanish settled in Puerto Rico, searching for gold. They brought Africans slaves to work in the gold mines, so Africans played an essential role in the development of the Spanish colony in Puerto Rico.

By 1540, though, the production of gold had declined.

In 1553, there were 1,500 slaves. By 1834, there were 30,000 slaves. After the decline of gold, agriculture became the major force of the economy. By that time, the Indian population in Puerto Rico was nearly extinct, killed off by European diseases and other mistreatments.

By 1797 the major part of the population indigenous to Puerto Rico was exterminated by the conquistadores.

But some historians believe that the mountain interior of Puerto Rico was unexplored by the white settlers before Indians were totally exterminated.

Puerto Rico today are a mixture of Africans, Spanish and Indian origin. The term Hispanic does not refer to a people or race but to a large group of people who speak Spanish.

This word Hispanic dates to the second century before Christ. When a great African King named Hannibal tried to conquer Rome, a Roman identified his forces as Hispanics. During the following centuries, the term Hispanic grew to what it is today.

Hispanics tend not to have the same attitude toward race as Black and White have, but that does not preclude racial prejudices among Hispanics. For example, Black Hispanics are not perceived as a distinguishable ethnic group, but rather as Hispanics of a different hue.

One thing for sure that keep Hispanic people together is their culture and common religious faith: Catholicism.

In the early history of Puerto Rico, Christianization went in hand with the enforcement of slavery on the Indians and African people.

In 1873, slavery was abolished in Puerto Rico. Like other Caribbean islands, Puerto Rico always had a group of people that fought against the colonial system. The revolts lead to the Spanish-American War of 1898. From then on, Puerto Rico became part of the United States and eventually a U.S. Commonwealth.

Puerto Rico is an island of contrast — tropical rain forests, high mountains exceeding 3,000 feet, rivers, flat lands, and coastal areas. The traditional agricultural economy has largely given way to pharmaceuticals, electronics and other industries.

Since the 19th century, Puerto Rico has had an urban society. Many Puerto Ricans make their living as professional business people or factory workers or in and other urban occupations. In spite of Puerto Rico's modern commercialism and international links, the people retain many festivities based on Indian, Spanish and African customs. The population is about 3 million and still growing.

As in the Virgin Islands, Puerto Rico's major industry is tourism, but especially ecotourism. Plants and animals are abundant on the island. Such places as the El Yungue 28,000-acre rain forest preserve rare species of orchids and an unusual species of small green parrots. It is the United States' only Caribbean National Tropical Forest.

For ecotourists, Puerto Rico offers rain forest hikes, many waterfalls, horseback riding through the Rio Grande and along Luquillo Beach, historical sites, scenic sites, and snorkeling.

Puerto Rico has a rich cultural tradition and many natural habitats. I for one enjoy the island. And so would you.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Rain forest is like a cultural history book

Olasee Davis

Our environment

Whenever I conduct environmental hikes, I include a cultural history of the area.

The rain forest on St. Croix is becoming one of the popular hiking recreation places, where locals and visitors alike can learn about the diversity of plants, animals and habitats.

Hikers learn how the forest keeps soil from eroding, absorbing rainwater and releasing it slowly to streams, protecting fisheries in estuary sand coastal waters, stabilizing climates, and serving as a boost for the local economy and recreation.

Many people do not know that Spring Gardens, where the deep Caledonia rain forest begin, once had extensive plantations of coffee, cocoa, mangoes, oranges, vanilla, and other tropical fruits growing along the stream areas. Some of these fruit trees can still be found growing in valleys and on mountainsides.

In 1895, Little La Grange on St. Croix had an extensive banana field and more than 10,000 pineapples were grown.

People are fascinated when they hear how people of yesteryear lived and used plants for many different purposes. In the Virgin Islands, women who gathered medicinal plants to sell in the market were called weedwomen. Their knowledge of medicinal plants was communicated from one generation to the next.

Not every plant in the forest has medicinal uses, but all plants do have a purposes and function in the Earth's ecosystem. Some plants can be poisonous to animals and human while other plants can be used for food and medicine. And in some plants, one part is poisonous and the other is not.

On rain forest hikes, I always tell people to observe their surroundings, dress in long pants if possible, bring water, fruits or a sandwich, and do not touch plants unless I tell you to.

The other day, while I was leading a group through the forest, someone spotted a plant that looked like a spaghetti hanging from a tree. Many Virgin Islanders know this plant as love vine. It is a striking yellowish orange and is dodder (c. americana).

It has other names: Love weed, devil's guts, hellbind, witch's shoelaces, angel's hair, gold thread. There are about 170 species of dodder. The local plant is often found in drier areas, but can grow in wetter areas too. This plant is a parasite which almost strangles the host plant to death.

Once dodder attaches itself to a host plant, it breaks all contact from the soil and grows entirely on the host.

According to Dr. Walter I. Knausenberger, dodder attaches to these plants in the Virgin Islands: bougainvillea, manjack, casha, ornamental hibiscus, poor man's orchid, seagrape, flamboyant, citrus, juju, Ixora, and turpentine tree.

In Africa, the plant has been used as a laxative, diuretic and a purgative. On St. Croix, a tea is made from all parts of the plant to treat colds and jaundice.

In the rain forest, I also point out cowitch (Stizolobium pruriens). It is a plant to respect. Anyone who comes in contact with cowitch will experience a powerful skin itching that can last for days. It can develop into a burning sensation, reddening of the skin, blistering and inflammation of the mucous membranes.

During the sugar cane era of St. Croix, many farm workers were afraid to cut cane because cowitch was in some of the fields. Some cane fields were so infected that the whole field was burned.

As a boy, George A. Seaman and his friend Buster encountered cowitch when they hid in the middle of a cane field one day, eating cane.

"Soon Buster said: 'George, what the hell, man! Something is eating me up! Don't you feel it?'

By this time, George said, he too was beginning to feel very uncomfortable and wondered aloud if it might not be ants.

George looked up and saw cowitch vines hanging over their heads. And they were sitting in cowitch!

The two boys ran down to the old La Grange sugar factory and bathed themselves in molasses and honey.

In Venezuela, applying oil or grease on the affected parts is recommended. Serious cases should be treated by a physician.

In her book "Herbs and Proverbs of the Virgin Islands" Arona Petersen lists cowitch as "being used for expelling worms."

Seaman says the hairs of cowitch can be mixed into honey, molasses or other sweeteners and taken by mouth.

So hiking in the rain forest is not just a hike, it is also a cultural experience.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Reducing the conch to an empty shell

COMMENTARY

By Olasee Davis

The other day, I read with amazement about the conch issue in our local newspapers. All of a sudden, everybody becomes a conch expert. These people, most of them know very little or nothing at all about conch ecology. This summer, DPNR officials informed Virgin Islands fishermen of not taking conch between July 1 to Sept. 30 in territorial waters.

During this closed season, only canned or frozen conch can be sold. This ban on local conch is to protect the species before it becomes extinct. DPNR officials have also noticed a decline on conch population in Virgin Islands waters during those months, their mating season. Sad to say, some people harvest conch when they are not supposed to.

So these conch pirates are now harvesting conch out of season and sending them elsewhere to be frozen, canned, packed, and shipped back to the Virgin Islands. The Fisheries Advisory Committee decided the only way to deal with this problem it to have a ban on imported conch. Well, all hell break lose. Restaurants and other businesses related to the conch industry said they will lose money.

Some business said that they were not notified early enough about banning imported conch. Others said, they specialize in conch dishes and they might have to lay off people. I am sure the Fisheries Advisory Committee thought it through carefully before they made that decision.

Of course, people will be affected. In the case of banning conch it goes further then just banning conch. What about the habitats these marine animals live in? What about the coral reefs, seagrass beds, mangrove forests, and other areas these animals need in order to survive? No one is talking about that.

The politicians who jumped so quickly to criticize DPNR officials and the Fisheries Advisory Committee should recognized that habitats of conch need to be protected. Do not let me list some of the destruction we are doing to our marine environment. And for conch lovers, eating conch is not enough, but protecting conch habitats too.

Before the first European settled in the Caribbean, conch has been a source of food for Indians and were used also as a sacremental object. This tradition of conch eating was also practiced by Caribbean people for hundreds of years. In the Virgin Islands and other Caribbean islands, the blowing of conch shell used to tell to us that fishermen are selling conch and fish down by the sea shore.

Nowadays, there are too many empty conch shells along our shores. The problem is that conch is being overfished. The eating of conch has increased in recent years because of the booming tourist industry. Local consumption has also increased considerably. Thus, fishermen are forced to provide more conch to meet the market demand.

Some fishermen don't realize or perhaps just ignore the potential threat of local conch extinction. If we want to eat conch in the future, we must regulate, prohibit, or restrict certain areas of conch fishing. Believe me, the ecology of conch habitats are important to the Virgin Islands conch industry.

The adult queen conch is the largest of the herbivorous eating gastropod mollusks. These marine animals are often associated with seagrass beds in water of 3, 100 or 200 feet deep. With the high price for conch these days, many juvenile conchs are being fished because of the low level of adult conch. Conch need to be mature before they can be harvested, and so that they can reproduce and ensure the existence of the species.

The queen conch reaches maturity when a flat broad surface appears on the shell. Sexual maturity of queen conch is about 3 to 3 1/2 years. Adult conch live about six or seven years before they die. During their breeding season, which is the warm months of the year, female conch lay about 400,000 eggs.

Eggs hatch in five days and drift with the current to feed on planktonic algae before they become small juvenile conch. Why DPNR officials have a close conch season? Close conch season is done at the high peak of conch breeding months which is during the warmest summer months of the year.

The close season also ensure that mature conch will reproduce undisturbed. And when fishing season resumes, there will be a balance in the amount of conch in our coastal waters to fish from. We must

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CONCH, from Page 6

understand sufficient number of adult conch are important i we want a large and high level c larval and small juvenile conc to sustain the conch population

As people, we all are respon sible for ensuring the protection of conch habitats. When DPNR enforcement officers check restaurants, fish markets, or fishing boats, it is only to ensure that the law is upheld. Furthermore, fishermen must understand that any regulations are not intended to rob them of their livelihood, but rather to ensure that their livelihood continues. Let us not get too greedy and reduce the conch to just an empty shell.

Believe me, unless we protect conch habitats, there will be no fresh tasty dish to enjoy. For information on conch, contact DPNR Division of Fish and Wildlife on St. Thomas at 775-6762 and St. Croix at 772-1955.

Olasee Davis, is an environmentalist. His opinion does not necessarily reflect that of his employer, the University of the Virgin Islands Cooperative Extension Service.

St. Croix's East End deserves our vigilance

Olasee Davis

Our environment

I traveled into a strange land, America, where people were different in races, cultures, lifestyles, and dialects. Before I came to America, I dreamed that I was a prophet and was not conscious of being an individual.

Then I found myself awake, once more in my body. Was I a person dreaming about being a prophet, or was I prophet dreaming about being a person?

This dream happened before I attended college in the United States in 1977.

As a Seventh Day Adventist, I believe the greatest commission from God is for man to go out and preach the gospel to every nation, kindred, tongue and people.

In my dream of being a prophet, I believe one of my commissions on earth today is to provoke the consciousness of the people in these islands spiritually and provoke them to do something about managing and protecting our environment.

This zeal within me is an outcry for the people of these islands to protect and manage our limited natural resources properly.

Whenever I get the opportunity, I voice my concerns about environmental degradation and the importance of one contribution to this community.

Over the last three years, I have been writing articles every week for the Virgin Islands Daily News and occasionally for the St. Croix Avis on environmental issues that affect us socially, economically, agriculturally, and globally.

Such an issue confronting us now is the East End ecosystem.

Since 1990, I have taken more than 2,000 people from church groups, schools and from around the world to see this pristine area on the eastern side of St. Croix.

It is this unspoiled area of St. Croix that is repeatedly praised in tourist magazines world wide.

In the Caribbean, there are only five dry forest ecosystems left intact and covered with thorns, scrubs and cactus; they contain diverse plants and animal species, according to a world famous botanist Lic Alberto from Cuba, who visited St. Croix a few weeks ago.

He mentioned that Jamaica, Dominican Republic, Southern Cuba, Puerto Rico, and the eastern area of St. Croix are the last dry forests of this kind in this region.

Today, this same East End ecosystem is threatened by development. On March 8, I attended a Coastal Zone Management public hearing on a proposed subdivision development of 108 lots by Frank Knobel, managing partner Carib Bank Financial Group.

Do you know, the sad thing about the public hearing was the lack of local people interested enough to attend and voice their concerns about such important areas as the East End ecosystem.

How often do we hear developers promise us that they will create jobs for the local market?

And how long will we believe such trash?

As a people, we fail. Most of us are not interested in environmental issues that affect these islands' economical growth.

If there were a free fish fry and johnny cake at a beach picnic in support of a particular person to run for public office, there would be a large turn out.

The problem is, most of us believe that the government will take care of us, including protecting areas such as the East End ecosystem.

Believe me, the government of the Virgin Islands has failed us as well as we ourselves have.

As early as the 1960s, the East End of St. Croix was identified as a special area of preserve.

The government even went further by identifying the area as a potential spot for a Virgin Islands Territorial Park.

Throughout the years, nothing has been done.

You know, we should not blame developers when they want to develop areas that we had an opportunity to protect and manage many years ago.

In the 1970s, Fairleigh Dickinson Jr. deeded about 126 acres of the East End area to the Government of the Virgin Islands.

Sen. Edgar D. Ross was then the Attorney General of the Virgin Islands and participated in the transfer along with the late Gov. Cyril E King and others who signed the deed.

Today, the Virgin Islands Government has approximately 340 acres of the East End area.

Believe me, my dream of preaching the environmental message to the people of these islands is one of struggle.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Support protection of APCs to safeguard natural areas

Olasee Davis

Our environment

In these islands, there are many people who will stand up for what they believe in. Often time they are afraid about what other people will say about them. I am a different breed of Virgin Islander. I believe change does not come to you, unless you make change: Too long, we have ignored degradation of limited island resources.

How many of us participated by attending the last public hearing on the APCs before they went to the full Senate? In 1979, 18 Areas of particular concern (APCs) were designated throughout the islands by the Planning Office after public inputs and comments were made.

St. John APCs are Coral Harbor, Chocolate Hole, Great Cruz Bay, and Enighed Cruz Bay; St. Thomas areas are Vessup Bay, Mandahl Bay, Magens Bay, Botany Bay, Mangrove Lagoon, and Harbor/ Waterfront.

On St. Croix, areas included East End, Sandy Point, Southgate/ Chenay Bay, Great Salt Pond Bay, Salt River Bay, Frederiksted Waterfront, Christiansted Waterfront, Southshore Industrial areas, and St. Croix Coral Reef System.

The 18 APCs were approved by the CZM Commissions, and sent by Gov. Alexander A. Farrelly to the Senate with his recommendation for approval. It took 15 years for the APCs to come before the Planning and Environmental Protection Committee. However, within those 15 years of political bureaucracy, the Virgin Islands population has grown to the point where resources have become a limited factor.

The Comprehensive Analytic Study of the APCs was created in mind to serve as an overall management plan to protect and manage resources that are important to present- and future-generation Virgin Islanders. If these areas are not protected now and become law, we will lose our most valuable natural resources.

At the hearing, I talked specifically about the Great Salt Pond Bay area on St. Croix. The Great Salt Pond is one of the 18 APCs and the second largest salt pond in the Virgin Islands. This pond is an important ecosystem for many residents and migratory birds, nursery for juvenile fishes, and serves as a settling basin for runoff from the surrounding upland areas.

In addition to sediment trap, the pond also is an important wildlife sanctuary that include both Federal and local endangered species plants, animals, and marine organisms. The area is home to the red, black, and white mangrove forest, not to mention manchineel trees.

In 1990, the Federal Coastal Barrier Improvement Act was established to protect coastal barriers remaining within the United States and its territories. The Great Salt Pond become part of that system. The purposes of this system:

- "Halt development in low-lying areas subject to natural disaster like flooding and hurricanes.
- "To stop wasteful federal expenditures in these areas.
- "To protect valuable natural resources from being destroyed by unwise economic development."

In 1989, the Great Pond Bay Realty Trust Co. proposed to build a 500-room hotel, 1,100 condominium units, an 18-hole golf course, a conference center, and a marina center in the great Salt Pond area. The Boy Scouts Council of St. Croix was the major challenger to the proposed development. With the political turmoil that proposal brought, the Boy Scouts Council eventually withdrew their objections to the proposed project.

The sad deal of this whole political battle is that the majority of the senators approved the development around the Great Salt Pond area. These are the kind of misleaders that represent these islands and do not have the will power to stand up for the best interest of the people of these islands.

We must stand to protect traditional use areas for present and future generations. Believe me by supporting the APCs, you will preserve part of our natural heritage.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

The extraordinary cassava is an ecology lesson

Little fish have bigger fish.
that feed on them and bite' em.
And big fish have still bigger fish.
And so, ad infinitum.

This Jonathan Swift poem is about ecological principles people too often ignore in their everyday lives.

Even in the 1770s, Holback stated, "The unhappiness of man is due to his ignorance of nature."

Over the years, many successful farmers have learned to use nature's laws. Good farming, like good ecosystem management, requires knowledge and experience of one's environment. Virgin Islands farmers should not be surprised by our current dry period. Drought has been a part of these islands' natural environment for years.

However, nature has designed plant to adapt to a given environment. Quality, yield and appearance are all products of the genetic code of each individual plant within a set environment. The environment not only controls plant development, it also influence soil moisture, light, temperature and other factors that are essential for plant growth and development.

Old-time farmers of these islands did not know the scientific terminology to describe plant physiology. But they knew by experience what crops did well despite dry conditions. For many Virgin Islands farmers of long ago, cassava was a major crop that did well when most others failed.

The cassava plant adapts to diverse environments and farming systems and it requires few farming skills. Cassava also can stay in the ground for up to 24 months and survive four to six months of dry weather.

Olasee Davis

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Cassava is known as tapioca, manioc, mandioca, yucca, balinghoi, macacheria or kamunteng kahoi. This extraordinary drought-tolerant root crop plant is the seventh-most important food crop in the world. Cassava is generally considered "poor man's food" in alleviating famine conditions in some tropical countries by providing a sustained food supply when other crops fail.

Cassava is believed to be native to South America. Archeologists have found cassava in South America dating to 1000 B.C. In post-Columbian time, the cassava plant was spread to other tropical countries. Cassava bread was used as a shipboard food by voyagers traveling between the New and Old Worlds.

This plant is also known as the "supermarket" because every part of the plant is useful. The tubers are food for man and also an important source of animal feed. The stem is good for fencing material and firewood. Leaves are used as vegetables in soup. The cassava can be made into flour, which is good for biscuits and bread. Starch is also made from cassava.

Cassava is easy to grow by planting cuttings directly in the ground. Cassava is also easy to harvest by simply digging up the tubers. The crop has no critical planting or harvesting times. It can be planted whenever there is sufficient soil moisture and harvested in any dry period. It has a long shelf life after harvest, so there is no serious deterioration or spoilage of the tubers.

Cassava is generally classified as sweet or bitter depending on the amounts of prussiac acid in the tuber, a substance that can be poisonous to humans.

In 1981, Dr. Adriano Navarro said in his paper, "A look at the Remarkable Cassava," for the 11th annual Agriculture and Food Fair booklet: "In the sweet varieties, the prussic acid is low and confined mostly to the peel.

"In the bitter varieties, the prussic acid is of higher concentration and is distributed throughout the tubers."

The sweet type can be safely eaten. It requires no pre-cooking or processing and can be boiled, fried or baked. In the Virgin Islands, cassava bread is popular.

The bitter type can not be eaten until it goes through a process to reduce the prussic acid content.

The bitter type has one major advantage: higher resistance to some of the major insect and diseases that affect the sweet types.

According to Dr. Adriano Navarro, "In Africa, processed bitter varieties are popularly known as Gari and a large bulk of cassava is consumed in this form."

In the Virgin Islands, cassava has the potential to become an important economical crop. Our environment and soil is suitable for large-scale production. Whenever we have a long, dry period, the V.I. Department of Economic Development and Agriculture imports animal feed, which can be costly. Cassava can reduce that cost.

Too often, we ignore the potential of agriculture in these islands. Cassava is an adaptable drought-tolerant root crop that should be promoted in the Virgin Islands. Believe me, if you plant cassava, you are sure to harvest a crop.

The Daily News, Friday, May 13, 1994

The leatherback turtles are coming home again

"The turtle and the crane and the swallow observe the time of their coming." **Jeremiah 8:7.**

They are coming, coming home to give birth to young Crucians. These Crucians are the leatherback sea turtles.

Some scientists say these turtles have been around more than 150 million years.

Turtles have played an important role in the mythologies of many cultures worldwide. Some American Indians believed that the earth rested on the back of giant turtles.

The Chinese believed that turtles were sacred and a symbol of longevity. The Burmese believed that turtles were divine.

The Romans valued the turtle shell for its beauty but joined the early Greeks and Christians in their ambivalence toward the animal itself.

The leatherbacks are the largest of seven species of sea turtles. They can weigh up to 1,500 pounds. Over the years, however, the populations of leatherback, Hawksbill, and Green sea turtle have declined drastically to where they are now endangered species.

Of the three virgins, St. Croix supports the largest, best-studied leatherback population in the United States and the northern Caribbean.

Otto Tranberg, a Crucian, tagged

Olasee Davis

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the first Leatherback sea turtle G-603 in 1979 on St. Croix. This animal has been back to St. Croix in 1981, '83, '87, '90 and '92. She is the longest-studied leatherback in the world.

Sandy Point is a National Wildlife Refuge and one of the 13 significant nesting sites in the world. For more than 11 years, leatherback research has been run by the V. I. Division of Fish and Wildlife, Department of Planning and Natural Resources. The division receives assistance from Earth Watch volunteers, who collect data and help protect the beach from poachers. Scientists measure and tag the Leatherbacks, and take blood samples for genetic and endocrinological studies.

The leatherbacks' nesting season begin in March and continues to July. Every year thousands of people visit the Sandy Point Refuge at night to learn about these animals and the importance of protecting the species and its habitat.

Under the Endangered Species Act of 1973, it is illegal to:

- Eat turtle eggs and meat.
- Buy or sell any parts of the turtle.
- Receive any turtle, eggs, or any other parts.
- Transport or harm sea turtle eggs in any way.

A person can be fined up to $20,000 or one year in jail.

West Rotary Club and RC&D are taking people out to Sandy Point to learn more about the true native Crucians.

FOR INFORMATION
Call 778-8699.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Vialco's gone but its red mud isn't

Olasee Davis

Our environment

The Dec. 2. 1994, front page of The Daily News had a picture of the red mud at the Virgin Islands Alumina Corp. — a major bauxite processing plant on the South Shore of St. Croix. The paper further mentioned that Vialco is closing and laying off 400 workers. Before I go into the meat of this article, I will give a brief history of this area.

At one time, the Krause Lagoon on St. Croix's South Shore was the territory's largest mangrove lagoon and an important nursery habitat for a diversity of aquatic and wildlife species. Before Europeans arrived on St. Croix, this area was covered with native vegetation and a thick mangrove forest that served to filter and cleanse runoff water before it entered the sea.

Indians also used the area as a hunting and fishing ground and as a waterway to sail up river and to Salt River Bay. During the plantation era, the forest in this area was converted to agricultural plots for sugarcane production. The destruction of the lagoon by building the Hess Oil Virgin Islands Corp. refinery and then Harvey Alumina Corp.'s plant brought irreversible environmental change to the area's whole ecosystem.

An historic colonial cemetery is located at the alumina plant now owned by Vialco.

To the north of the property, a prehistoric site was destroyed during construction of the plant and its

▼ See OLASEE, facing page

OLASEE: No research done on effects of red dust

Continued from page 1

road. Also on the property and visible from Melvin H. Evans Highway are remains of three plantation homesteads.

Before dredging and filling, Krause Lagoon was nominated in the early 1960s to become the "Krause Lagoon Wildlife Refuge." This game reserve at that time was administered by the Virgin Islands Department of Public Safety and consisted of more than 200 acres of marsh land.

Before commercial sugarcane was phased out on St. Croix in 1966, talk was heard and research was done about growing 2,500 acres of orange trees to produce fruit to be processed and shipped for export. The idea of establishing an industrial area on the South Shore emerged at this time. Politics was at work in this whole move from an agricultural-based sugarcane economy to an industrial one.

Political leaders then decided to establish an industrial complex on the South Shore.

Today, the plant occupies 1,400 acres. Vialco is the successor to Martin Marietta, which purchased the plant from Harvey Alumina Corp. in the late 1960s. Martin Marietta closed the plant in 1985. It was sold in 1989 for $45 million.

At full capacity, it produces 700,000 tons of alumina per year.

Alumina is an intermediate product used in making aluminum. One million metric tons of bauxite ore are shipped every year from South America to Vialco, where the ore is dissolved with concentrated caustic soda to extract alumina. Approximately 250,000 metric tons of red mud are left as a byproduct.

Other ancillary processes involved in alumina production are bauxite crushing and grinding, red mud sedimentation, washing, clear liquor filtration, seeded crystallization, vacuum flash heat interchange, calcination, electrical power, air generation, steam and distribution of the product.

The Virgin Islands public is in the dark when it comes to the operations of Vialco and HOVIC. Air pollution is a serious problem on St. Croix's South Shore. Residents across the industrial areas suffer from skin diseases, itchy and burning eyes, upset stomachs and irritated respiratory tracts. People often complain of odors of rotten eggs or onions that linger in the area for 30 minutes or more.

From the Harvey public housing community, Strawberry and downwind to Estate Whim, air-borne dust settles on rooftops and washes into household cisterns. This situation of Vialco red mud dust in the air is serious. Yet, to my knowledge, no scientific studies have been done on this widespread problem of dust on residents' roof tops.

Runoff from the red mud tailings at the Vialco plant is another source of pollution. While surface water runs into cooling ponds, excessive nutrients have resulted in algal blooms in these cooling ponds. Suspended solid waste composed of blue-green algae and trace metals, including chromium, copper, arsenic, zinc and lead, are being discharged into the Alucroix Channel.

In turn, marine life such as fish and other organisms are being contaminated, and fishermen use fish traps and dive for conch and lobster in the area. The outcome of people eating this fish is unknown.

Groundwater contamination also has been reported. Believe me, if the red mud burst into the ocean, it could affect the Caribbean's entire fishing industry. It would be an economic disaster.

Thousands of people would have all kinds of diseases from eating marine life. The question is: How long will Vialco be allowed to stockpile these wastes and what will become of them?

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Addressing a thorny subject: the pesky casha weed

Olasee Davis
Our environment

Last year, the 30th annual meeting of the Caribbean Food Crops Society was held on St. Thomas and attracted more than 170 delegates from 23 Caribbean countries and the mainland.

This society was established in the early 1960s on St. Croix to bring Caribbean scientists together to address issues in agriculture and the natural resources of this region.

I believe that, as we head toward the year 2000, food will become a more critical issue to feed the world's people. The Virgin Islands, particularly St. Croix, still has the opportunity to play a major role in food production. Biotechnology and other technological advances in agricultural methods and food production are the keys to feeding a growing Caribbean population.

This year, the Caribbean Food Crops Society meetings will be held in Barbados. The theme is "Global Trade Liberalization and Caribbean Agriculture."

Here at home, the dairy and beef industries, particularly on St. Croix, are the two major businesses that foster agriculture. But it takes a lot of land to support these industries.

According to the 1950 Agricultural Census, "Of the total land in farms on St. Croix, 60 percent were classified as pasture land, which supported about 8,300 head of cattle..."

Today, the forage resource is threatened by development and overgrazing, which lead to such environmental problems as soil erosion and the invasion of the pastures by weed pests such as casha.

This weed pest competes with desirable pasture forage for nutrients, water, sunlight and space and is barely edible by animals because of its large, sharp spines that injure both man and beast.

Casha (acacia spp.) a woody shrub, is a major pasture problem in the islands. Its widespread distribution causes more economic loss than any other weed.

In biblical times, the tree was used to build Noah's Ark and the Ark of the Covenant.

"And they shall make an ark of acacia wood: two cubits and a half shall be the length thereof, and a cubit and a half the breadth thereof, and a cubit and a half the height thereof." Exodus 25:10, 11.

I and Dr. Martian Adjei, agronomist from the University of the Virgin Islands Agricultural Experiment Station, have conducted demonstration research on several St. Croix farms to find ways to control acacia, or casha, in pastures. At the Barbados meetings, I will present these findings in a paper.

Several species of acacia occur in the Virgin Islands.

Catcchu-tree (acacia polyacantha wild) is a species with many short spines and small flowers that are white to pale yellow and have flat, gray pods. The wood of this plant is hard, heavy and durable.

This plant has been used medicinally as an astringent and to treat chronic diarrhea and dysentery and also in tanning and dyeing. This species usually is found along our coastal shores.

Acacia muricata is another species common throughout the islands. It is distinguished by the absence of paired spines at the base of the leaves. The flowers are light yellow, with one or two flat pods along the axis. The plant flowers intermittently and has fruits that persist throughout the year. Acacia riparia, commonly called "catch and keep," is another plant that has curved spines and white flowers.

Two species in particular, Acacia tortuoso and Acacia marcracantha, are the No. 1 pasture weed pests in the Virgin Islands. The densely spiny shrub Acacia tortuosa forms impenetrable thickets in the driest areas of the islands, particularly the Southshore and East End of St. Croix. Locally, this plant, with its zig-zagged branches, is called "twisted" or just "casha." Its fragrant yellow flowers once were collected and sewn into sachets.

Acacia macrocantha is the largest spined acacia. It is commonly called "stink casha" because its wood has a strong odor when cut. The wood is used for fence posts, construction and charcoal and it is pruned into hedges. The flowers are yellow and its fruits persist through most of the year.

When fuel was cheap, bulldozers and backhoes were used to uproot and control casha. Plants then were stacked in a pile to burn or left on the pasture to rot. Today, this operation is costly to farmers. A major problem with this method was the removal of topsoil and vegetation, which promotes soil erosion.

Additionally, fire and heavy equipment enhanced casha seed dispersal and germination. Diesel oil once was used to control casha, but the possibility of underground water contamination is a factor.

Ways to control casha in pastures are animal rotation, mechanically shredding young plants before they get seeds and using a foliar application of selective herbicides. Always consider the environment when applying pesticides.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Auntie Michael's Black History Roots

Commentary by Olasee Davis

This past week, I was deeply sadden by my aunt's death Mrs. Elizabeth Davis Michael who was killed by a car as she was crossing the street to church. As a child, I always knew my aunt attended mass early in the morning. In the 1970s, when I attended Charlotte Amalie High School, Mrs. Michael used to say, "Olasee or Kenneth you better go to school so auntie could be proud of you."

For years, I visited my aunt now and again to see how she was doing. My aunt was the kind of person who will give her life to save another person. This was a real African Christian woman with a mission to spread love to everyone whom she met. At times, we will sit down for hours and discuss politics, religion, our ancestors, the islands' history, our culture, the environment and a whole lot of other things.

I can say, my aunt was an inspiration to my life. She believed in me. She believed a person should know who he is and where he is going. Every year, African Americans celebrate the month of February as Black History. But my aunt Mrs. Michael is black history. She taught thousands of Virgin Islanders in our school system.

Like her, many other African Caribbean people did the same for hundreds of years. We here in the Caribbean history of African people should not be the shortest month of the year to celebrate. But one where history of black people is celebrated every day.

Someone might say why study black history? The answer is simple. Because no matter what your race, your great, great, great ancestors came from Africa. Did you think the world began with the Flintstone? Scientists tell us life began in no other place than Africa.

However, there is another reason to study black history. Many African people made contributions to the world from inventors to environmentalists. People like Plato, Aristotle, Socrates learned from the great school of Egypt. Today, most of our textbooks in our school systems will tell you the Greeks developed chemistry, physics, math and other areas in sciences.

This is the kind of nonsense some people would have us believe. But our history taught us that science was developed by Africans. To some people, the truth is an offense. Remember, this is Black History month. Well then, the history of African people did not begin from slavery as some would have us to believe.

As Africans, history began when God breathed the breath of life into man and man became a living soul. Africa was the perfect environment where God saw it fit to plant man. According to the Bible, "And the Lord God planted a garden eastward in Eden, and there he put the man whom he had formed." Genesis 2:8.

It was no accident that archaeologists of today said that the earliest humans to dwell on earth inhabited the area of East Africa. Also, prehistoric man dating back more than two million years have been found in Northern Kenya. Carl Johanson of the U.S. Maurice Taieb of France and Alemayehu Asfaw of Ethiopia found bones of man who lived 3-4 million years in the Awash Valley of Eastern Ethiopia.

Ancient Egypt was the home of a glorious civilization that lasted for over 3,000 years. When Egypt was flourishing ancient Rome was still just a village. Egypt existed hundreds of years before the rise of modern Europe. A thousand years after Ancient Egypt reached its height natives known as Goths, Vandals, Franks began forming loose alliances in what is now known as Europe.

It was not until the 11th century A.D. that the warlike Franks banded together to form the beginnings of what is now France. The location of ancient Egypt is what made it a great civilization. Ancient Egypt was situated near the fertile Nile River Valley. Every year after the rain, the Nile will overflow its banks sending a healthy fresh layer of black topsoil that covered the flood plains for miles.

Thus, people of the Nile region began to build and grow their own food.

8The people were no longer nomadic groups in search of food. By being able to stay in one place, communities grew, experiments were development, and naturally the first for human beings. Thus, Africa is the "cradle of civilizations".

The Bible also talked about this great river of Africa when it said, "And a river went out of Eden to water the garden, and from thence it was parted, and became four heads. And the name of the second river is Gihon; the same is it that compasseth the whole land of Ethiopia "Genesis 2:10,13.

Down to our times, we have such great African people like Sen. Adelbert M. Bryan, Oscar E. Henry, Edward W. Blyden, Mario Moorehead, late Gov. Cyril E. King, David H. Jackson, Richard Schrader, Queen Mary, and many other black people who contributed to the development of the Caribbean and the world.

So when we talk about Black History, we are also talking about Mrs. Michael a woman that fought the good fight of faith and who lives in us all. Auntie, I miss you.

Olasee Davis is an environmentalist and freelance writer.

Barbados: Jewel of the Caribbean

Olasee Davis
Our environment

Last week I talked about the Barbados agriculture industry. This week I will discuss the history, culture and environment of Barbados.

Barbados is 166 square miles and the easternmost island of the Caribbean, whereas St. Croix is the easternmost part of America.

The island is shaped somewhat like a pear, measuring 14 miles at its widest point and 21 miles at its longest point.

Like certain areas of St. Croix, Barbados is composed of limestone and coral and is generally flat, with the highest point reaching 1,100 feet.

Barbados' first inhabitants were Indians. In 1537 when Portuguese sailors stumbled upon the island, Indians still occupied the island. The Portuguese sailors, particularly navigator Pedro a Campos, called the island Los Barbados after the ficus trees that they saw growing in abundance whose aerial roots look like beards.

By 1625, English merchants landed on Barbados seeking fresh water. English Capt. John Powell claimed the island, saying it was uninhabited, and proclaimed the land for King James I. Capt. Powell returned to England with a description of the island's natural environment.

Later 80 English settlers set sail for Barbados to colonize the island and landed on the west coast in a spot named Jamestown, but later renamed Holetown.

The English colonists of Barbados included 10 Africans captured from a Portuguese trading ship who found wild hogs on Barbados that were said to be left behind by the Portuguese sailors.

The history of Barbados did not go smoothly. There was political unrest in England due to the struggle between King Charles I and Oliver Cromwell. In 1629 King Charles I awarded the deed of the island to William Courteen and Associates who sought to protect their agricultural profits. But Courteen was up against Carlisle, a Scot who prevailed in the struggle to secure rights of the new colony.

The Carlisle faction eventually established its own settlement in the western corner of the island and grew into what is today Bridgetown, the capital of Barbados.

For the first part of Barbados'

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The Daily News, Friday, July 28, 1995

BARBADOS CONTINUED FROM PAGE 17

British traditions holding strong

colonial history, it was largely white indentured and slave labor that cultivated the fields. But in 1637, sugar cane was introduced and a larger workforce was needed. Thus, Africans were imported as slaves to the island. In 1643 there were 6,000 blacks and 37,000 whites. By 1684, there were 60,000 blacks, greatly outnumbering the white population.

Sugar cane brought prosperity to Barbados but great oppression of slaves, who were prevented from expressing their culture in ways such as blowing horns and beating their drums.

English law and traditions became such a part of the island that Barbados was called "Little England." The first Parliament was held in 1639, making Barbados' the third oldest in the Commonwealth after the British House of Commons and the Bermuda House.

In 1834 slavery was abolished. Since then, the island has moved forward with changes.

Barbados is unique among many Caribbean islands because of its unbroken British rule.

Today Barbados has one of the highest human development standards in the world for such a small country. Barbados has produced a population that is more than 90 percent literate. Also, health care delivery and life expectancy are among the best in the Caribbean or the developing world.

The island has 11 parishes; about half of the population of about 260,000 live in St. Michael, Christ Church and St. Philip.

The Bajans are proud of their cricket, their Anglican Church and their educational system. In the Bajan culture, there is a great African presence in their fine arts, painting, dance and music.

July begins Barbados festival, marking the annual end of the sugar harvest. Like the Virgin Islands Carnival, Barbados festival is full of calypso music competitions, parades and folk concerts.

The environment also plays a major role in the island's economy. One way to see the island environment is by riding bikes or motorbikes throughout the island. Hiking is also a major part of Barbados outdoor activities.

The island also has a wildlife reserve with the Barbados green monkey, originally from Africa, and many other wildlife to visit.

Also, you can visit the flower forest, rainforest and Harrison Cave, go horseback riding, ride in a tractor to experience the countryside or just take advantage of the water sports.

Believe me, vacation this summer can start in Barbados. I was there; what about you?

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Biology teaches us about life

Olasee Davis

Our environment

Last week at the request of Elizabeth Burnett, a St. Croix Central High School science teacher and the coordinator for the Second Annual Biology Bee Competition, I was a guest speaker along with Sen. Alicia Hansen; Isabel Zapletal, physiotherapist technician; and Joseph Mark, assistant director for the Juan Luis Hospital laboratory on St. Croix.

Judges were David Isaac, Vilayeth Ahmed and Anna Kowalska.

I had the privilege of talking with some of the brightest students on St. Croix.

In this Biology Bee, private and public schools participated. On April 18, the BioWizards from Central High School competed with the Dissectors from Good Hope School. The scores were 182 points for the Dissectors and the BioWizards scores were 109 points.

The Biological Warriors from Central High School competed with the Tigers from Country Day School. The scores were 349 for the Biological Warriors and the Tigers were 30 points.

The final competition was on April 19, and the Biological Warriors and the Dissectors competed.

In this last round, the Central High School Biological Warriors won the competition. The scores were 289 points for the Biological Warriors and 90 points for the Dissectors.

Believe me, it was a thrill to see these students answers technical questions about DNA, meiosis, mitosis, metaphase, muscular tissue and other biological terms.

However, some students might ask: "Why biology? Or people, for that matter?"

The answer is that in our natural world, we observe a variety of life often behaving in ways strange to us. The black widow spider spins a perfect web. Birds make perfect nests for their young.

You see, biological science gives us insight into Nature itself and helps us understand how various plants and animals in an given ecosystem live, how populations of species interact with the physical environment, how organs work together in a system, and so on.

Biology also focuses on the way AIDS, cancer, heart attacks and genetic conditions affect humans.

Congratulation to Shamane Browne, Kenneth Richmond, Kaslm Williams, Dyanne Baptiste and Lynel Lynch: Biological warriors and winners of the Biology Bee competition.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Birds more important than you know

Olasee Davis

Our environment

About three weeks ago, the Nature Conservancy office on St. Thomas called me to see if I could schedule a hike in the Caledonia rain forest area on St. Croix for David Ewert, director of science and stewardship and a member of the Michigan chapter of the Nature Conservancy.

David Ewert is a well known bird expert who has published many scientific papers.

His scientific papers include "Impact of Hurricane Hugo on Bird populations on St. John, U.S. Virgin Islands," "Flocking Behavior of Migratory Warblers in Winter in the Virgin Islands" and "Abundance of Wintering Migrants in Fragmented and Continuous Forests in the U.S. Virgin Islands."

So one early Friday morning last month, Mr. Ewert picked me up to go birdwatching in the Caledonia rain forest. During the birdwatching hike with Mr. Ewert, I learned so much about how you can identify birds by their sounds without evening seeing them. Believe me, this man is good.

Mr. Ewert wrote in a letter to me that "It was a privilege to be in the field with you; your knowledge and commitment to protection of natural areas of St. Croix are impressive. It was great fun to walk up the Caledonia Valley with you and be able to have such an excellent tour."

Then, the other day I was lecturing to my natural science class at the University of the Virgin Islands about genetics in evolution.

We discussed animal migration and how important it is to protect habitats if animals will continue to survive as a species on this earth. Later on, we discussed how birds migrate from North America and stop in the Caribbean before some of them continue their journey to South America.

Then I asked my class, "Who ever went birdwatching?"

Someone asked, "What good are birds, anyway?"

Believe me, even in this day of environmental awareness, there are those who ask such questions. Of course, they are biologically illiterate. In exasperation, I can only reply that birds are more important to man than he ever will realize.

Do you know birds planted forests by dropping seeds, by pollinating trees and by keeping insect populations down. Birds also have saved people's lives, fed prophets — the list goes on.

In Europe, pigeons were used as messengers in the war. It was the dove that let Noah know of dry land after the flood. "And the dove came in to him in the evening; and, lo, in her mouth was an olive leaf plucked off: so Noah knew that the waters were abated from off the earth." Genesis. 8:11.

In the book of 1 Kings 17:4, 6, the Lord said to Elijah the prophet ". . . . I have commanded the ravens to feed thee there. And the ravens brought him bread and flesh in the morning, and bread and flesh in the evening . . . . "

Today, the study of birds is especially relevant to environmental concerns. Birds serve as an excellent indicator of the quality of our environment.

In these islands, boobies are our fishermen indicators. When large swarms of boobies fly over the water, fishermen know that fish are abundant.

As a people, we must understand that whatever God created, it was for our own good. Yes, even creatures such as birds influenced cultures before us. Ancient Egyptians' paintings show some species of birds no longer found in Egypt.

In ancient China, birds decorated objects and played roles in legends. The Mayan and Aztec civilizations of South and Central America worshiped certain species of birds. Around the 13th century, the natural world was revived by many people studying birds and their relationship to agriculture, cooking, hunting, traveling, literature and especially poetry.

How many of our children know that the yellow breast or the sugar bird is on the Virgin Islands flag?

You see, when we think about it, birds are a big part of the human culture.

In many parts of the world, birds contribute to the economy as a tourist attraction. These places include the Florida Everglades, Kenya (flamingos) and Quebec (herons and egrets). Even as a source of meat, birds are important to us.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

The Daily News, May 19, 1995

Bougainvillea a hardy, beautiful gift good to mark Mother's Day

Olasee Davis

Our environment

Last Sabbath, I sat in church and listened to a guest pastor as he spoke about Mother's Day. The scripture for the sermon was taken from Genesis 17-18. "And it came to pass, when she was in hard labor, that the midwife said unto her, Fear not; thou shalt have this son also. And it came to pass as her soul was departing (for she died), that she called his name Ben-oni: but his father called him Benjamin."

This past week, we were blessed with rain. As a woman gives birth to a child, so is life springing from Mother Earth. The dry, dusty earth burst with green grasses and trees blossomed as the rain fell from heaven. Animals, plants, human beings and other organisms expend a considerable amount of energy to reproduce. After all, reproduction ensures the next generation of a species.

Thus, the life cycle of any particular species comes to an end, but its genes can be perpetuated as long as reproduction has taken place. In evolutionary terms, the most fit species are the ones that adapt well to any given environment.

The bougainvillea plant is a species that adapts well to dry environmental conditions.

Between 1766 and 1769, Commerson, a traveler, collected the first bougainvillea plants from Brazil and named the plant in honor of the French navigator, L.A. De Bougainville, with whom he traveled.

These plants are hardy, bushy and woody climbing vines.

The environment seems to have a great deal more to do with the proclivities of a vine than we can imagine. It includes not only the rainfall or drought conditions, but a great many other factors not ordinarily taken into consideration.

When a climbing vine gets to the top of a tree, it can go no higher. Thus, the vine begins to spread itself over the tree crown and produce many flowers, leaves and fruits.

Just as the human family is distinguished by race — Negroid, Mongolian, and Caucasian — so are plants.

Bougainvilleas belong to the Four O'clock family, Nyctaginaceae. The species bougainvillea spectabills is a plant that has larger bracts and are a deep rose color, predominantly in dry conditions. Another species, Boungainville glabra, is a widely used species that grows more than 10 feet with bright rosy-red bracts that are distinctly veined. (Bracts are leaf-like plant parts that are beneath flowers or on the stalk beneath flower clusters.)

The species Boungainville glabra also is grown commercially in pots as a dwarfed plant. Several varieties have been developed from the bougainvillea glabra species, including Afterglow, with yellow to orange bracts, Variegata, with variegated leaves and Purity Moonlight and Madonna, with white bracts. The common colors of bougainvillea found in Virgin Islands gardens vary from red through purple to deep magenta.

True flowers of bougainvillea are small structures surrounded by enlarged and colorful bracts. The leaves are somewhat triangular and the margin has a wavy appearance. The stems are armed with thorns, which help the plant to attach as it climbs on trees, fences or walls.

Bougainvilleas are self-sterile and rarely produce seeds to continue the species.

Thus, propagation is done by air layering or cuttings. In some varieties, flowers might blossom in 11-15 weeks by pruning them back or using growth-retarding compounds.

Bougainvilleas are drought-tolerant plants and will grow well on poor soils. But they suffer when exposed to heavy sea blast if planted along the coast. The plants do well in full sunlight, even though they can tolerate some shade.

For fast growth and flowering, a complete fertilizer of 10:10:10, about ½ pound for a fully developed plant, should be applied four times per year.

You know, we often give flowers to our friends or loved ones when they are sick. But most of us never think of the positive effect fresh flowers have on one's mental and spiritual state. Bougainvillea flowers are an excellent way to say "I love you, mother."

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Casino alternatives better for locals

Olasee Davis
Our environment

Last month, I attended the casino gambling public hearing at Arthur A. Richards Junior High School. Even though I was teaching a class that night at the University of the Virgin Islands, I made it my business to attend the hearing.

I believe the issue of gambling in the Virgin Islands — particularly on St. Croix — is an important one that affects everyone, whether you are for or against it. To my surprise, when I got to the hearing, there were very few local people attending the public hearing. The majority of the people there were white continentals. Most people in this crowd were rude to the senators as they tried to conduct the hearing.

At the hearing, many people testified for and against gambling casinos to stimulate the St. Croix economy. I testified around 2 in the morning. Personally, I am against casino gambling. But if the bill is passed, it must protect the interests of the people in these islands.

Too often, the masses of the people lose out whenever some big development takes place that is billed as a boost to the economy. Believe me, the masses of the people in these islands do not control the economy.

So then, the question should be asked, Gambling casinos for whom?

At this hearing, I presented three alternatives which I think can help stimulate the St. Croix economy: the development of a viable agriculture industry, a sea farm park and a sport complex.

Historically, the Virgin Islands' economy has always fluctuated. During most of the 1800s, the trend in economic activities in the Virgin Islands was upward. This growth, however, was based partly on temporary factors. Of significance were the exhaustive uses of both human and natural resources.

Changes in external factors also affected the Virgin Islands economy. The rapid commercial development of other Western countries reduced emphasis on some types of trade which were important to these islands' economy. The Virgin Islands declined as a transshipping and ship-receiving port.

The market for sugar cane also declined and because of these and other changes the local economy began to decline during the last half of the 19th century. In the 1960s, then-Gov. Ralph Paiewonsky was confronted with the problem of how to stimulate the St. Croix economy. There was talk about phasing out the sugar cane industry and moving toward light industries.

By 1966, the sugar cane industry was phased out. In its place, the Hess Oil refinery and Harvey Aluminum Corp. had arrived to change St. Croix forever from an agricultural society to an industrial one. Back then, many people, especially politicians, thought that this was the right decision.

Today, we all know the history of these two factories on the southshore of St. Croix. Nonetheless, it is hard to believe that agriculture, once the most important sector of the Virgin Islands economy, should now be the most neglected. The development of a viable agricultural industry would have a major impact on employment on St. Croix. I am talking about everything from planting and manufacturing to distribution.

There are many reasons why we should revitalize the agriculture industry with some sense of urgency. Certainly among them is the dependence of imported food. The high cost of freight is one reason for our high food prices. The importation of food drains on our economy of needed capital but also holds the potential of a serious crisis if communications with the mainland were ever disrupted.

As a people, we can no longer remain complacent. The development of agriculture is vital for economical development even though some people would have you believe differently.

Another alternative is creating a sea farm park on St. Croix which has tremendous potential to enhance the economy by increasing the tourist potential, by enhancing the University of the Virgin Islands' stature, and by expanding the fisheries industry.

Dr. James E. Rakocy, a research aquaculturist at the University of the Virgin Islands Agricultural Experiment Station, said marine parks have been established in the British Virgin Islands, Saba and St. Lucia. A sea farm park on St. Croix would be a research facility and a tourist attraction which also would foster the awareness and appreciation for the marine environment among visitors and local people, especially our youth.

It could produce fish which are rare in our coastal waters, in return helping our fisheries industry. The disappearance of highly important fish species such as grouper, snapper and parrot fish can be stopped by hatching more of these fish in this system and releasing them back in our marine environment.

The sport complex is another economic alternative for St. Croix. We have the climate to attract athletes from all over the world and also to develop our own athletes here at home. This complex could be used as a convention center, hosting the Olympic games, etc.

So when we talk about development, we should talk about economic development for everyone.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Dead branches are far from useless; they support life

Olasee Davis

Our environment

As the islands green up, you can see dead branches hanging from the trees. Although Hurricane Marilyn damaged or destroyed many trees, it is a natural cycle of life.

All living things are organized in the environment: cells form tissues, tissues form organs, organs form systems in individual organisms, individual organisms are members of the earth's populations and populations make up communities in the earth's ecosystems.

Although tree branches are nonliving things once they are disconnected from trees, they still play an important role in the ecosystem. Dead branches are habitats for many living organisms and serve as a food source also. But most important, dead wood serves as nutrients to improve the soil fertility.

Nitrogen is an important element in the soil; it also is important for the health and well-being of people. Proteins, nucleic acids, hormones, enzymes and vitamins that contain nitrogen are required for many essential bodily functions.

Although nitrogen makes up about 79 percent of the atmosphere that bathes the earth environment, our food supply depends more on the availability of this element in a usable form.

The nitrogen cycle is complex. It includes the activities of many groups of microbes. To be used by green plants, gaseous nitrogen must be converted or "fixed" into usable compounds by electrification, by industrial processes or by nitrogen-fixing bacteria and algae.

Nitrogen-fixing organisms in soil, water and especially in nodules on legume plants' roots convert gaseous nitrogen into highly soluble salts of nitrates and ammonium.

Living plants absorb these compounds and convert them into nucleic acids and amino acids and eventually into proteins.

Animals obtain nitrogen by eating plant-produced amino acids. Animals use these acids to build protein and other molecules. The nitrogen cycle continues as protein from dead animals and plants is converted by decomposer organisms back into ammonium salts and ammonia gas.

You see, dead wood is a major part of our complex environmental system even though we consider dead trees branches useless. They are part of the nitrogen cycle. The process of living things dying and decomposing naturally occurs constantly in nature. Even the Bible mentions that dust we come from and to dust shall we return.

"In the sweat of thy face shalt thou eat bread, till thou return unto the ground; for out of it was thou taken; for dust thou art, and unto dust shalt thou return." (Genesis 3:18.)

So when dead wood is broken down by micro-organisms, a new life is formed. In fact, we all are one with nature physically because we contain the same elements of the earth.

I am glad the government in its wisdom decided to separate dead trees and branches from other hurricane debris. The dead wood can be used as compost to make mulch.

Composting has been going on since long before the first man walked the Earth. Living plants, insects and animals die, passing on their vitality to following generations.

If you walk through the forest when the leaves are falling, you are witnessing the process of natural composting. The leaves beneath your feet symbolize the coming of life.

In broadest terms, composting is the biochemical degradation of organic materials into a humuslike material that is useful as a soil conditioner or as a feedstock for making fertilizer and other higher value products such as mulch.

Compost can correct a soil that has either too much clay or too much sandy, thus helping to build good soil structure and a better environment for plant development. Such organic materials as leaves, dead wood, grass clippings, weeds and twigs can be added back to your garden as mulch or fertilizer.

However, be careful not to spread weed seeds in your garden. Many gardeners and farmers in other parts of the world still use dead branches, twigs and other organic materials from nature to mulch or improve the soil structure, just as they did hundreds of years ago. Gardeners and farmers also used animals manure and kitchen waste in compost piles.

These piles — like dead branches — decay into humus, which is used to improve soil aeration and other structure of the soil. Organic matter is valuable only when it decays into the soil.

However, green fresh manure makes an even greater compost because a greater part of its decay will take place within the soil where it will do the most good.

During the sugar cane era on St. Croix, planters planted pigeon pea plants after they harvested the sugar cane crop. They grew them as a green crop to plow into the soil. In return, this legume plant enriched the soil because of its ability to fix nitrogen into the soil.

If you want to learn how to make a backyard compost pile with your dead branches, the University of the Virgin Islands Cooperative Extension Service will tell you how. On St. Thomas, call 693-1080, on St. Croix 692-4080.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Despite cutting, mahogany not protected

Olasee Davis

Our environment

Many of the trees that have been cut down lately to widen intersections in areas on Queen Mary Highway were mahogany trees.

A couple of people have approached me, wanting to know if mahogany trees are endangered or threatened if so many are being destroyed. Mahogany trees are not on the endangered species list.

The U.S. Endangered Species Act defines "endangered species" to mean a species or subspecies that is in imminent danger of extinction throughout all or a significant portion of its range. Threatened species are those likely to become endangered in the foreseeable future unless current trends are reversed. Such species as mahogany trees, if endangered or threatened, would be protected by federal or local laws.

This would mean that neither parts of the plant or any product from the plant could be taken, sold or possessed. In 1990, the Virgin Islands Legislature passed endangered species legislation known as Indigenous and Endangered Species Act. This act authorizes the commissioner of Planning and Natural Resources to list endangered and threatened species in the Virgin Islands and to enforce this law.

Mahogany is one of the world's most prized woods because of its color, strength, durability and working qualities. The mahogany genus includes three species (Swietenia Macrophylla, S. Mahagoni, and S. Humilis). The West Indies mahogany, or what is known as small-leaf mahogany, once was commonly planted in the Virgin Islands as a shade tree along roads and driveways and it is still used for furniture making.

Davis Bay on St. Croix had the oldest mahogany plantation in the Virgin Islands, established in 1908 by the Danes. This plantation was destroyed when the Carambola Hotel was built in the late 1980s.

Today, this plant has become naturalized and grows throughout most of St. Croix. This species of mahogany was introduced to the territory more than 200 years ago.

The alternate leaves have four to 10 pairs of shiny, green unevensided, ovate- to lance-shaped leaflets 1 to 2½ inches long and ½-⅞ inches broad. The trunk usually is short and straight, with a large, dense crown and relatively slow growth, making this species a good ornamental shade tree of 40 to 60 feet high. The fruit is a woody, egg- or pear-shaped, erect, dark-brown capsule 2½ to 4 inches long, containing numerous flat, long-winged brown seeds. This tree flowers from March to July, producing seeds from January to March.

The wood is moderately hard, heavy and strong. This tree also is resistant to decay and attack from dry-wood termites. This species is considered to be superior in quality and durability to Honduras mahogany wood.

The big-leaf or Honduras mahogany was introduced much later on St. Croix as an experiment throughout the island. The tree reaches heights of 60 to 75 feet. This tree prefers moist, well-drained soil for best growth. But it grows fairly rapidly and withstands drought. The alternate leaves have 6 to 12 pairs of uneven-sided, shiny, green, oval-elliptical leaflets 2½ to 6 inches long.

Its straight, tall trunk and large crown make the big-leaf mahogany a good ornamental shade tree. The flowers are small, fragrant, greenish-yellow and grow in 4- to 6-inch-long clusters at the base of new leaves. The woody fruit is a pear-shaped, erect, brown capsule 4½ to 7 inches long, containing numerou flat, long-winged, brown seeds. Th tree flowers in May and June, pr ducing seeds December to March.

The wood is moderately ligh weight, strong and of medium t fine, uniform texture. Big-lea mahogany is resistant to decay an is generally resistant to dry-woo termite attacks.

On St. Croix, a natural hybri between the West Indies mahogan and Honduras mahogany has bee found. It is known as medium-leaf mahogany because its leaves an fruit are intermediate in size between the two parent species. This hybrid has combined the fas growth of Honduras mahogany wit the drought resistance and superio quality of the West Indies tree.

Research is being conducted on mahoganies at the University of the Virgin Islands' Agricultural Experiment Station on St. Croix to ensure that these prized trees will grow for many years to come in these islands. Believe me, mahogany means money.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Drugs create bad environment

I grew up in an environment where drugs were not a major problem yet among young people. Marijuana, however, was used every now and again recreationally by some youngsters.

Such drugs as LSD, crack cocaine, or heroin were unheard of in our community in the 1960s and 1970s. Children had a sense of belonging to their culture and environment.

Everybody's child or children belong to and was cared for by the whole community. Spirituality played an important role in the Virgin Islands community — not necessarily belonging to a religious faith, but being a person whose life is characterized by meaning.

A spiritual person possesses positive values, is motivated to achieve goals and has relationships guided by a sense of ethics. Parents of yesterday saw fit that positive values were instilled in their children. Parents of today do not do the same.

Back then, there was nowhere in the Virgin Islands, or in the Caribbean, for that matter that manners were not important for a child's upbringing.

My grandmother always used to say, "Although you might not have a good education, but with manners it will carry you through life."

If a mother sent her daughter or son to the store, it was natural to say good morning or good afternoon. And if you did not say good morning, your parents would eventually hear about it. In some cases, the store owner would not sell you anything unless you showed some respect by saying good morning. This was the kind of environment I grew up in in these islands.

Today, we live in a different environment, where drugs are commonly used, especially among our young people.

As a community, if we are interested in prevention, we need to know how and why kids become involved in drug use and crime.

In 1983, the Los Angeles Police Department and the schools got together to teach kids how to resist drugs. From this cooperative effort, a project was developed called "Drug Abuse Resistance Education" to give young people the facts about alcohol and drugs and teach them ways to resist negative peer pressure.

D.A.R.E. mainly focuses on kids in grades five and six, who are not yet likely to be led by their peers to experiment with illegal drugs.

The D.A.R.E. program has taken root in the Virgin Islands schools. Since our police officers are the teachers to implement the D.A.R.E. curriculum, they received specialized training.

Olasee Davis

Our environment

The D.A.R.E. curriculum offers school children skills to resist peer pressure and to say no to drugs. Instructors do not use the traditional approaches of scare tactics that focus on the dangers of drugs use.

Rather, they teach self-esteem and how children can make their own decisions and how they can identify positive alternatives to substance abuse.

D.A.R.E. also addresses learning objectives consistent with the department of education and health standards. Police officers conduct classes and positive attitudes about police officers are promoted and greater respect for the law is developed.

D.A.R.E. officers eat lunch with children and participate in playing games that allow all the children to socialize with the officers.

Without the support of a cooperative effort by teachers, school principals, police officers, and parents, the full results of D.A.R.E. could not be achieved.

For our drug growing problems in the Virgin Islands, D.A.R.E. offers a long-term solution.

This coming summer, D.A.R.E. officers are planning a "natural high summer blast," a two-day trip to St. Thomas and St. John. Kids on St. Croix will be learning about the environment on St. Thomas and St. John. They will visit Coral World and other sites and interact with other D.A.R.E. kids on the sister islands.

The struggle to protect our environment is one thing, but nothing is more important than letting our children know it is all right to say no to drugs.

To support this worthy school program, buy D.A.R.E. T-shirts and mugs at the St. Croix agriculture fair.

▼ FOR INFORMATION

To learn more about D.A.R.E., call the Crime Prevention Office at 773-8090.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Daily News, 11/03/95

Expansion of Hamilton airport sound for economy, environment

Olasee Davis

Our environment

Many of us probably have thrown up our hands in frustration after Hurricane Marilyn devastated the Virgin Islands more than a month ago. The V.I. economy — particularly St. Croix's — was struggling before the storm hit the islands. For many, the storm made it worse.

It seems that after Hurricane Hugo hit the Virgin Islands in 1989, the economy of St. Croix never really recovered from the destruction it caused mentally and to some extent physically. We pick up the local newspapers and read "this or that" business is going out of business. Too often, many of us look on the negative side of life and never give the positive side a chance.

As a people, most of us tend to fuss instead of doing something positively for the environment and the economy. Hurricane Marilyn devastated the Virgin Islands but that doesn't mean we should roll over and die. Disasters do bring opportunities. For example, more cruise ships are coming to St. Croix shores. But we should never lose sight that our economy must be diversified.

This week, the Federal Emergency Management Agency mentioned that more than 15,000 people in the Virgin Islands have lost their jobs because of the storm. A lot of these jobs probably were tourism related.

Recently, St. Thomas had mocko jumbies dancing in the streets and the steel orchestra playing to welcome cruise-ship passengers to the island.

In my opinion, the future of these islands' economy does not look too bright if we continue to depend upon tourists as our major source of income. While St. Croix is enjoying a booming cruise-ship traffic, the question is, "How long will this boom continue?"

On the positive side, the expansion of Alexander Hamilton Airport is coming. This project will pave the way, along with the new Frederiksted pier, for increased travel and tourism. However, the airport expansion could be the center of transportation which would lead to a new industry and contribute significantly to the Virgin Islands' economy.

The Southshore industrial area is one of the 18 Areas of Particular Concern voted into law in 1994. This area extends from Cane Garden Bay to Betty's Hope at the west end of Manning Bay southwest of Alexander Hamilton Airport. The shoreline and inland areas are the most heavily industrialized and developed in the territory. They include Hess Oil Virgin Islands Corp.'s refinery, the V.I. Alumina Corp.'s bauxite processing plant, other smaller industries and the Anguilla dump.

The Alexander Hamilton Airport project also will move Route 64 more close to the shore.

But this shore once had an extensive mangrove forest lagoon, which was filled in the 1960s to create land for many industries

▼ See **OLASEE**, page 19

Fighting Diseases With Nature's Remedies

COMMENTARY By Olasee Davis

Over a month ago, I was invited as a guest speaker to the Bethel Seventh-Day Adventist Church for a seminar entitled "Healthy Lifestyles." At this seminar, hundreds of people turned out to learn how they can live healthy. Such topics as "Meat Fables" by Pastor Analdo Gonzalez, "For Junk-Food Lovers Only" by David Sweeney and "Milk: Does It Really Do The Body Good?" by Bernice Hogan were discussed.

Other topics were "What You Don't Know About Salt And Sugar" by Dr. Lloyd Henry, "A Free Over-The-Counter Prescription" by Erica Charles, "Vegan Style Gourmet" by Barbara Francis and "Nature's Remedies" by Olasee Davis. This article will focus on the history of how certain diseases became prevalent among black people in the Western Hemisphere and the contribution of medicinal plants to mankind.

When slaves were imported from Africa to the Caribbean and the Americas, they were imported in horrible conditions. The slaves were packed like sardines on the ships where they did everything from defecate to urinate on themselves.

Many slaves were thrown overboard because of poor health. Slaves needed nutritious food if they were to be physically strong and capable of performing the labor their masters required of them.

They needed carbohydrates and fats which are the body's main sources of energy, proteins for repairing the cells that are constantly broken down and repaired, and calcium, iron, vitamins, and other essential elements to live. Slaves also suffered from inadequate footwear and clothing. They were also unable to change from wet to dry clothing and were thus prone to contract fevers and colds.

Apart from privileged slaves, blacks were seldom issued shoes and stockings. As a result, cuts and bruises on their bare feet and legs were common as they engaged in hazardous work. Under this condition, ugly sores and ulcers developed which culminated and led to gangrene and death. Many black women were raped by white men which caused many women to commit suicide.

Thus, slaves rebelled against this evil system. For this, many slaves were nailed down to the ground, and then fire was applied in degrees from the feet, hands, burning them gradually up to the head. Diseases and death were related to environmental conditions, hygiene, diet, punishment, occupation and conditions of labor. Children of slaves were also highly susceptible to many diseases.

They suffered from bowel disorders, whooping cough, colic and worms, among other diseases. Adult slaves were susceptible to pneumonia, influenza and respiratory disease of the pleura.

They also contracted intestinal disorders like diarrhea and dysentery, and were plagued by a variety of worms that had their bodies disfigured and made miserable by sores, elephantiasis and leprosy. Many women had gynecological disorders that included menstrual difficulties and complications of pregnancy and childbirth.

Today, many blacks suffer from high blood pressure and diabetes which directly relate to diet. During slavery, blacks ate lots of salt-pork which contributes to diabetes and high blood pressure. Such parts as pig feet, head, mouth and guts were thrown away by whites but used by blacks for food. To this day, pork is a major part of blacks' diet.

Studies were done to find out why diabetes and high blood pressure were so prevalent among blacks.

Food scientists found out that diabetes and high blood pressure were non-existent among African people many years ago. They said as slaves' diet changed in the West from what they were used to eating in Africa, the immune system broke down, resulting in such diseases as diabetes. This disease and others can now be inherited or passed on from generation to generation in blacks if diets are not controlled.

In spite of the horrible conditions blacks faced in slavery, medicinal plants and the will of slaves kept many alive.

As in Africa, medicine which combined mystical beliefs and rituals with herbal remedies and poisonous substances played an important role in black culture in the Caribbean. The use of medicinal plants by slaves became so powerful that many whites were afraid.

In 1835, R.R. Madden, M.D., said, "... they could not ignore African 'black magic,' any longer, which included the use of poisons and other means to throw off the shackles of bondage. The upshot was a preoccupation with the malevolent side of African medicine and ignorance and neglect of the day-to-day practice of herb medicine."

On St. Croix, many of these medicinal plants grow in the rain forest, especially in Caledonia and the Creque Dam areas. It was these plants that kept our great great grandparents alive.

So why not have a cup of bush tea with me. You know, it is good medicine. It will protect us from diseases.

Olasee Davis is a St. Croix ecologist.

Forests Denuded By Marilyn Slowly Starts To Green Again

By Olasee Davis
Natural Resources Specialist
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Extension Service

The impact of Hurricane Marilyn was disastrous on vegetation in urban, industrial, and commercial areas of the Virgin Islands. Accordingly, the hurricane uprooted and blew over many large trees along the highways, roads, private and public properties. The major damage of the storm took place in the forest areas and to some extent along the coastal regions.

Caledonia rain forest on the northwestern side of St. Croix is an ecosystem of biodiversity. The rain forest gut in this area contains exposed rock faces and boulders with a water fall about 200 feet above sea level. The forest is very diverse with animals and plant species. In this area, some tree species reach 60 feet with flowering epiphytes on their branches. Ferns are also common with lichens, liverworts, and mosses growing on rocks along running streams. This area is also known for endangered species such as the Puerto Rican Owl, and many winter migratory birds. The once enclosed system of trees is now open to the sky with a few fallen trees in the stream beds. The storm runoff also cleared most of the vegetation from along the stream bed. The narrow paths where hikers once hiked are now open to large exposed rocks and gravel that were once covered by soil and thick vegetation.

The storm created a new environment, one that is now dominated by algae growing in running water. Like Caledonia rain forest, the Creque Dam rain forest was heavily damaged. Many large trees were blown down in the gut that opened the forest canopy. This destruction changed the diversity of trees that grew in this forest environment. Some species of plants need shade from taller trees to continue the process of reproduction.

Certain species of medicinal plants like black wattle bush tea, that grew under tall shade trees, were uprooted and washed away. The storm also filled the Creque Dam with water; however, the water is contaminated due to upland animal waste that washed down into the dam.

Another forest area damaged by the storm is the Mahogany Road forest. As you drive through the Mahogany Road rain forest, you see many large trees that were either destroyed or damaged. Vines that once hung from tree branches are no longer there. On the Mahogany Road headed west about a half mile from the Spring Field quarry in the Grove Place area, there is a waterfall below the side of the road. This is one of four waterfalls on St. Croix.

The storm damaged the entire north, northwest and southwestern sections of St. Croix forests from Mahogany Road to Blue Mountain. The forest in these areas gives the appearance of winter on the mainland. However, the south and eastern part of St. Croix were not heavily damaged. This grassland and shrub area supports few trees.

Surprisingly, there are many birds on St. Croix after the storm. Ducks like the, white-cheeked, pintail, blue-winged teal, and northern pintail can be found in some freshwater and salt water ponds. Last week, as Rudy O'Reilly Jr. and I were doing an environmental assessment damage report at Point Udall, we witnessed a peregrine falcon trying to capture its prey. There is no faster and more powerful bird in all the Caribbean than this large falcon. It has been clocked at over 175 miles per hour in a dive, and uses its amazing speed and agility to capture its prey. In the Virgin Islands, peregrine falcons are only migrants or winter birds that go north in the spring to nest on cliffs from the Southern Appalachian to the Arctic.

With so many insects and birds on the islands after the

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storm, it is a good sign that our environment is recovering. Birds serve as an excellent indicator of the quality of our surroundings. Although the damage sustained by Hurricane Marilyn was drastic, it was not quite as bad as that from Hugo six years ago. The 8-12 inches of rainfall that accompanied Marilyn will ensure a speedy recovery of the vegetation. There are already signs of recovery in the green leaves on trees. Nonetheless, we must help nature by planting back trees that Hurricane Marilyn took from us.

For more information, please call 692-4080 or 778-9491.

From burning beans to ancient game: At reader's urging, Wahree is explained

Olasee Davis

Our environment

About two weeks ago, I wrote an article "Seeds Part of Oldest Game." The article talked about how I was an environmental tour guide for a sixth-grade class at Ricardo Richards Elementary School on St. Croix. As the kids hiked with me along the Jack and Isaac Bay coastal areas, they came across a plant whose seeds were familiar to them. The kids knew these seeds as "burning beans."

In the article, I explained how a game using these seeds was developed in Africa more than 6,000 years ago and called Wahree. I said that the Wahree game was brought to the Virgin Islands more than 200 years ago by African slaves. In the Virgin Islands, the game was played by making holes in the ground and the seeds of the caesalpinia bonduc plant were used as well as nickels, stones and shells. Today, the game is played on a Wahree board.

This week, I attended an environmental issue committee to address how we can keep abreast of important issues, especially environmental crimes, in these islands. After the meeting, I walked toward Company Street in Christiansted and was approached by friends who said they enjoyed the article "Seeds Part of Oldest Game."

But then, they asked if I did not explain how to play the Wahree game in my article. As you know, when writing a column for a newspaper you have limited space to work with. But a lot of people read and use this column.

Practically every day somebody stops me in the streets, church or wherever to say how they enjoyed reading my environmental column for The Daily News.

The other day, one reader said to me, "Olasee, your environmental articles in The Daily News have become a cry in the wilderness and a political force in this community to awaken the people's consciousness of how important it is to protect these islands' environment."

Students from the University of the Virgin Islands, private and public schools and people in general in this community have used the articles to do research papers.

In this week's article, I use the column to answer the questions of the reader who asked me to write how to play the Wahree game.

This information on the rules and how to play the Wahree game come from the Oz instructional pamphlet of Oware.

• "Wahree is played by two players, using a board containing 12 pits (six to a player), and 2 storage areas. 48 beans are distributed, 4 to each pit. The object of the game is to capture 25 or more of beans.

• Each player owns a row of 6 playing pits. One player starts by choosing one of his pits, taking all the beans out of that pit and distributing them counter-clockwise, one to each playing pit, beginning with the playing pit to the right of the one he selected. If at any time in the game there are 12 or more beans in the pit from which he starts, he must skip this starting pit as he completes a lap around the board.

• A capture is made when the last bean distributed in a move ends up in one of the opponent's pits so that there are 2 or 3 beans in that pit. This is called "plundering" an opponent's pit. The beans in the plundered pit are then placed in the moving player's storage area.

• A capture is also made if there are 1, 2 or 3 beans in any pits adjacent to the plundered pit (but only on the opponent's side).

• The beans in a series of the opponent's pits can be captured if there is an unbroken sequence of pits having 1, 2 or 3 beans in them, adjacent to the plundered pit.

• In the event a player wipes out his opponent, the opponent is left with no beans on his side after the moving player's turn, the game is over, and the moving player is entitled to add all the uncaptured beans on his side to his storage area. The ultimate strategy of the game is to set up such a "wipe out."

• If however, a player as a result of his own move ends up with no beans on his side, the opposing player must if possible make a move which deposits at least one bean on the opponent's side. If this is not possible, the game is also considered over, and the player with beans left in his pits adds them to his storage area.

• While the player with the largest number of beans in his storage area after the game is over is usually considered the winner, a total count of 250 beans accumulated over several games can also be used to determine the winner.

• Once a player has picked up the beans from one of his pits, he must complete his turn using these beans."

▼ FOR INFORMATION

Contact Zoraida E. Jacobs or Kafi Boateng at 692-4066 or 692-4088.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Daily News, 09/29/95

Give damaged trees a chance

Olasee Davis
Our environment

Marilyn, the hurricane everyone said was small, did major destruction to the Virgin Islands, particularly St. Thomas. For me, this was my first experience being struck by a storm. Believe me, it was not something enjoyable.

My roof partly came off while water destroyed or damaged personal belongings. I ended up staying in my closet for safety. I could not hold back my tears any longer. I cried not for myself but for the people of these islands, especially the children.

I must confess, I did some soul-searching. Although many of us lost personal things, life is more important.

Do you recall the story in the Bible about Job? Job was a man of great wealth. Like us, he was struck by a disaster and lost everything. His wife said, "Job, why not curse God and die?" However, Job looked away from his personal disaster. He believed in spite of every disappointment, crushed hopes, loss of family, goods, wealth and home that God would restore his life again.

Job became wealthier than before. You see, God blessed Job because of his trust in Him. As a people, our economy will grow and prosper once we put God first and believe in ourselves that we will recover from the storm. Both the local and federal government are doing everything in their power to help us get back on our feet.

While everybody is getting help, what about the trees? They took a beating from the storm. In 1989, Hurricane Hugo brought much wind and little rain. Trees were uprooted and blown down. Some species of trees took a long time to recover while others recovered quickly. With Hurricane Marilyn, we got lots of rain and wind.

More trees were destroyed and blown down by Marilyn than by Hugo. First, the physical condition of the soil was saturated because we had lots of rain before and during the storm. This caused many trees to blow over. Second, many trees were weakened by Hurricane Hugo and some never fully recovered.

Furthermore, pests became a serious problem because of many dead branches hanging from the trees after Hurricane Hugo.

If these trees were pruned, many would have survived Hurricane Marilyn. Also, trees along the highway's soil were removed from around them to widen roads, build sidewalks, etc.

Loss of these trees diminishes

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the enjoyment of the natural environment. With the recovery taking place now, many trees along the roads are further damaged by equipment from clearing debris.

Operators of equipment should be careful not to further damage trees.

Many trees are showing signs of recovery by putting out new green leaves. This speedy recovery of trees is mainly due to the rain we have been getting lately. You see, nature takes care of itself.

Healthy trees add beauty to our home and highways. They help cool and clean the air, deaden sound, provide shade and do many other things that benefit the ecosystem. Here is what you can do to help keep trees healthy.

- Use fencing or other protection around trees near construction sites to prevent wounds.
- Avoid changing the normal drainage pattern.
- Keep pedestrian and other traffic patterns away from trees to prevent soil compaction.
- Help control air pollution by keeping your car tuned.
- Be careful not to run into trees with lawn and garden equipment.
- Keep grass away from trunks.
- Be careful in your choice of lawn and garden chemicals. Use them only as recommended on the label.
- Treat wounds properly and immediately.
- Remove injured or diseased branches before they die. Prune branches close to the trunk or connecting branch.
- Use proper planting techniques for new trees. For specific planting guides, contact the University of the V.I. Cooperative Extension Service for advice.
- Water and fertilize properly, especially with young trees.
- Estabish a sound maintenance program.
- Practice good sanitation around tres.

The life, death, and rebirth of trees are important.

Life — trees are conceived when pollen from the male fertilizes the female.

Birth — trees are born when a seed germinates.

Growth — trees grow and bloom when given sunlight, air, and water.

Maturity — trees can live for many years when conditions are good for growth and development.

Aging — trees grow old as do all living things.

Death — trees die even though it seems they can live forever.

Recycling — trees are recycled back into the ecosystem or sometimes made into products.

Rebirth — trees are reborn and a natural resource is renewed in the environment.

Make Hurricane Marilyn destruction an opportunity by learning how we benefit from trees.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Grass is vital to V.I. ecology

Olasee Davis

Our environment

We all remember the drought we had last year. The livestock industry in the islands got hit the hardest. On St. Croix, there were reports some cattle died of starvation.

Here we are in the beginning of the new year and it seems we will be facing another possible drought. In nature, grass that turns brown for a long period of time is one sign of dry periods ahead.

Do you know that of all the plants in the plant kingdom, grass grows more abundantly on Earth than any other planet. Grass affords protection from floods, guards water supplies for towns, cities and farming, furnishes the great cereal crops and supplies forage for wildlife and domestic animals.

Of all the plant families, grass is the one most essential to our existence on earth. Rice, corn, wheat, sorghum, sugar cane, millet, oats, barley, rye and other grains are in the grass families that form the foundation of most cultures.

Bamboos, which are in the grass family, are used as timber building, furniture making, boat building, basketry, food and other domestic uses.

Grasses are also used for medicinal purposes. In the islands, guinea grass is used to expel worms from children and to make a drink called chlorophyll.

In biblical times, livestock farmers recognized the importance of grass for their heads. "Now Abram was very rich in livestock . . . now Lot . . . also had flocks and heads and tents. And the land could not sustain them while dwelling together. And there was strife between the herdsmen of Abram's livestock and the herdsmen of Lot's livestock." Genesis 13: 2-7.

The book of Psalms also recognized the value of grass when it said, "He caused the grass to grow for the cattle." In Psalms 104:14, Moses promised the children of Israel as part of their inheritance if they obeyed the commandments of God that "He will give grass in your fields for your cattle . . . "

Like I mentioned early, brown grass is a sign of a dry period.

The Bible also pointed out grass as the symbol of desolation. "The grass withered, the tender grass died out, there is no green thing . . . " Isaiah 15:6. However, before cattle were domesticated, grasslands were vital to early man.

Man's first attempts to control his fate — to provide for future needs instead of being a victim of droughts or other uncontrolled circumstances of the environment — must have been on grasslands where wild cattle and other animals he caught and tamed could find grass.

It was also grasslands after man had progressed from food gathering to food producing that caused man to develop more skills to survive in his surrounding environment. Hay making was an ancient agricultural practice. Early man converted green grass into hay, thus storing it over a long period of time for future use.

Grass fiber products include most of the world's supply of wool

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Grass forms the basis of food chain and recreation

and mohair as well as cellulose, which is one of the most abundant natural renewable resources. Presently, research is being done where forages as biomass and crop residues are used for a source of fuel to produce electricity, heat and alcohol. It is possible in our lifetime that biomass fuel from forages may become available as an alternate energy to the world's diminishing fossil fuel supply.

Grassland also provides strikingly beautiful scenery and forms the basis for a number of growing businesses in recreation. For example, how can you play on a golf course without grass? Our lawn is another example of how grass artistically beautifies our natural environment.

Many of us in these islands have taken grasses for granted for years. Believe me, the meat that you eat and milk that you drink come from grass. Thus, protecting open grassland in the Virgin Islands is important for the livestock and dairy industry.

Grass manufactures its own food from leaves and not, as many people suppose, drawn from the roots or the soil. In all truth, science with all its discoveries and innovations still remains humble and awed by the ability of plant leaves to capture radiant energy from the sun and convert it into chemical energy.

This is the beginning of the food energy chain that nourishes all life on earth. There is no other single natural chemical reaction on earth as important to our existence as photosynthesis.

Grass and other plants draw water from the soil through the roots and transport it to leaf cells. This process continues where carbon dioxide is pulled from the air through tiny pores in leaves.

In the leaves, green chlorophyll captures the sunlight. Thus, a series of chemical reactions takes place combining carbon, hydrogen and oxygen into simple sugar.

Grassland is one resource in these islands, particular on St. Croix, that we must protect in order to move our economy forward.

As brown grass represents a dry economy, so does green grass represents a strong economy.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Help UVI protect its wetland

Olasee Davis
Our environment

Throughout much of modern history in the Virgin Islands, wetlands have been altered or destroyed by man.

On St. Croix, more than 64 percent of the original wetlands habitat have been destroyed. They are drained, filled, channeled, polluted, built on, and used as dump sites.

To many people, wetlands mean nothing. But that is like telling God, "What you created wet lands for?"

In 1956, the Southgate wetland mangrove forest covered one-third of the pond that was sold to a real estate company. Bulldozers were put in and in short order the area was drained and stripped of its mangrove forst. One of the best wetlands on St. Croix was destroyed practically overnight.

What many people do not realize is that half the fish that we eat live in wetlands areas when they are young — in such places as Southgate pond. So nearly all the fish and shellfish harvested commercially in the Virgin Islands depend on wetlands for food, protection and habitat during part of their life cycle.

Like giant sponges, wetlands help purify water by processing nutrients and suspended materials that runoff from the land.

Do you know that wetlands help control flood waters by absorbing waters during heavy rainfall? Because wetlands are often located between bodies of water and high grounds, wetlands buffer shorelines against erosion. Wetlands plants bind the soil together with their roots and help absorb the impact of wave action. Many endangered species lives in wetlands, as do birds and mammals of all sizes from the great egret to the black-crowned night heron.

These are some of the lessons when I take schoolchildren on hikes to visit wetlands habitats on St. Croix. If you ask a person on the street how a wetlands ecosystem functions, that person could not give you the correct answer, but the children I taught can. No wonder we say, "Our youth are our future." This week, the University of the Virgin Islands "Wetlands Reserve Management Plan" for Cane Garden Bay area was discussed at a public meeting in the theater on the St. Croix campus. Some time ago, the University of the Virgin Islands was given a generous gift of some 300 acres of land by a company. The land is east of Hess Oil Refinery. We all know that land given to the university was sold to Hess Oil Refinery. From the 300 acres, the university retained 52 acres as wetlands. Hess promised to donate funds for five years to maintain the site as a wildlife preserve and to assist the university in using it as a teaching tool.

The Eastern Caribbean Center, which is part of the university system, has the task of develop the management for the site, locally called Billy Franch Pond. The UVI Wetlands was once a part of the Krause Lagoon, the largest mangrove forest wetland in the Virgin Islands. We all know what happened to that island treasure.

In 1960s, Hess Oil Refinery and Harvey Aluminum Corp. built on the wetland by drainage, filling and channelling the area, totally altering the once-pristine area forever. It was once home to thousands of white-crowned pigeon. Today, they are on the endangered species list.

The purpose of the UVI Wetland Management Plan is to (1) "Maintain, protect, and enhance the quality and integrity of the wetlands biological and aesthetic resource. (2) Enhance local awareness of the significance of the natural resources. (3) Increase compatible public use in a way that provides the greatest education and research benefits.(4) Encourage scientific research within the UVI wetlands."

In the 1920s, this wetland was once a wealth of birdlife particularly ducks and wading birds. During the 1960s and 1970s there wasextensive clearing of vegetation. It is interesting to note the vegetation remaining around the ponds supported a diverse species of birdlife.

Ducks, herons, pelicans, osprey or other species of birds can be found feeding, roosting, or nesting in the area. This wetland is also known for such endangered species as the hawksbill and leatherback sea turtles. The ponds also inhabited a large fish population of tilapia, tarpon and mosquito fish. Crabs, insects, mollusks, and other organisms are also in an abundance.

I support the UVI Wetland, what about you?

FOR INFORMATION
Call UVI-ECC at 778-1112.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Horticultural therapy can help heal the effects of Hurricane Marilyn

Olasee Davis
Our environment

Before Hurricane Marilyn hit the Virgin Islands, we had been dealing with ups and downs all of our lives. Since the storm, practically everybody has been stressed out.

In this disaster, people are worrying about all sorts of things. One of the longest effects on people after a natural disaster is the effect of stress.

Stress is natural. It occurs throughout nature. Plants and animals, like everybody else on earth, have to adapt to stressful environmental conditions.

In some ways, trees are superior organisms. They live longer and grow taller and larger in mass than any other living thing on earth or in the sea.

But despite their adaptation to life on earth, trees also can be stressed out by long periods of drought, diseases, insect infestation or air pollution.

On the other hand, animals that have to look for food for days, for example, also can be stressed out. This situation can make animals' resistance low, possibly leading to death.

Nonetheless, every organism including man has built-in mechanisms to deal with stressful situations. A simple remedy for dealing with stress might be tilling the soil. Older Virgin Islanders knew for years that tilling the soil also cultivated the psyche.

Gardening is one of the world's oldest forms of therapy. Its ability to help people work out their problems or enable them to be brought closer to society's mainstream has become widely used through horticultural therapy.

Horticultural therapy has become a therapeutic tool used in working with retarded, physically handicapped, incarcerated, aged and mentally ill people.

Putting a definition on this hybrid of psychology and horticulture is difficult because horticultural therapy programs vary greatly. Such therapy can focus on work skills for mentally retarded young adults, helping hospital patients overcome their fear, rehabilitating inmates in our prison or brightening the lives of nursing home residents.

Kenneth Stoutamire, a vocational training coordinator at the Sunland Center in Marianna, Fla., describes horticulture therapy: "It is like a floating dock because there is a place where anyone can fit into it. Someone has to tote and scrub the pots, and someone has to breed new species of plants.

"We have been able to find tasks people can do regardless of their skills. The key to working with handicapped people, the aged, prisoners and psychiatric patients is their loss of need and purpose. Their self-confidence has zeroed out.

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Humans need to be around plants

"Anything we can do that generates need, a purpose in life, helps. The beauty of horticultural therapy is that it is a real, honest-to-goodness tangible vehicle that people can get their hands on."

Many people look at gardening as hard work, but it is not so. If God told Adam to till the soil, it must be good for man to assume a greater role in his life. Plants are a tool to handle the stressful urban environment. For such people as the handicapped and elderly, gardening is invaluable, not only for a sense of pride and accomplishment but as a real means to become self-supporting.

Caring for plants gives a person a sense of responsibility and of being needed that too often is lacking in our society.

When Hurricane Marilyn defoliated the trees, we all felt hurt. Why is that? Because there is a basic human need to be around plants.

Like everything else, we evolved in a natural world, not in high-rise buildings or urban sprawl, and we have an instinctive need to be around green things.

In 1812, Dr. Benjamin Rush, a Philadelphia physician and signer of the Declaration of Independence, noted the benefits of laboring in the garden for mental patients in his "Medical Inquiries and Observation Upon Diseases of the Mind."

Through the influence of Dr. Rush, a hospital for the insane was opened in Philadelphia where patients were involved in planting fruit trees and vegetables.

Since then, numerous therapeutic gardening programs have been created. The major impetus for horticultural therapy development occurred in the 1940s when the federal government established a number of new veterans hospitals to care for wounded servicemen.

And in 1972, a small group of gardening professionals banded together to form the Natural Council for Therapy and Rehabilitation through Horticulture.

The organization grew from 20 members to more than 800 and is one of the fastest-growing professions in the country. Nine major colleges and universities offer bachelor's and master's degree programs in horticultural therapy.

Today, horticultural therapy is positively affecting the lives of thousands of people.

Horticulture therapy rebuilds a person's confidence and instills a sense of feeling needed, a purpose in life and a feeling that what we do is important.

I have found that hiking, walking and gardening help me deal with stressful situations. Why not start today? It is one way you can deal with the aftermath of Hurricane Marilyn.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Jack, Isaac bays a pristine resource for children

Olasee Davis
Our environment

This morning I enjoyed another sunrise from St. Croix's East End.

I watched the big ball of fire rise above the blue, open Caribbean Sea. The birds, hills, valleys and vegetation welcomed the sun.

The East End is the largest open space left on St. Croix, perhaps the only open area in the Virgin Islands except for the Virgin Islands National Park on St. John. One can drive to Point Udall lookout, get out of the car and take in a 360-degree panorama. This area offers something increasingly rare on St. Croix: views of large expanses, including sea views, with no man-made object in sight.

It is this unspoiled dry-cactus forest area of St. Croix that so many tourist magazines praised. Last week, I discussed the history of Jack and Isaac bays and also how outside developers tried to develop this fragile, pristine wilderness area.

This week I will discuss the fragility of the Jack and Isaac bays ecosystem, a political scheme and the effect the University of the Virgin Islands environmental education programs have on school children who hike around those bays.

The land of the East End is 50 percent to 70 percent volcanic outcrops. The V.I. Soil Survey restricts the East End to the uses of wildlife habitat and aesthetics. The steep, exposed rocky slopes limit development of any kind. If development occurs here, it would cause massive environmental degradation on the remote bays' ecosystems.

The East End is characterized by extremely low rainfall, dwarf or sparse vegetation and very sensitive and unstable soil formations. Believe me, residential or commercial development is incongruent with, and antagonistic toward, this type of dry environment. If developed, the area would take several decades to several centuries to recover.

Massive soil erosion would occur once development took place. But would-be developers would have us believe that they would be as careful as possible. These developers fail to realize that being careful does not guarantee anything to the people of the Virgin Islands.

The marine environment at Jack and Isaac bays also would be affected strongly. It is clear the marine environment of the East End has evolved with a minimum of runoff from the land, and that they would be jeopardized by even minute increases in nutrients or terrestrial sediments.

Jack and Isaac bays are surrounded by coral reef systems hosting a diverse marine community of organisms. These are among the most complex and biologically diverse ecosystems, and often are compared with tropical rainforests in the number of plant and animal species they support.

Jack and Isaac bays are known for dolphin and such threatened and endangered species as humpback whales, great blue herons, fisherman bats, least terns and leatherback, green and hawksbill sea turtles.

Kevin Rames, the attorney for Jack and Isaac bays' developers, made a big noise a few months back about the National Radio Astronomy Observatory dish out at Cramer Park. He claimed that the project did not go through proper procedures to obtain permits.

This is a political scheme intended mainly to remove the dish because these developers want to develop land around it.

They claimed the dish created visual pollution and was inappropriate for coastline development. The 100-foot tall dish is part of the interconnected 10-station Very Long Baseline Array chain of antennas spanning the United States from St. Croix to Hawaii to receive realtime radio signals from space.

The University of the Virgin Islands Cooperative Extension Service' environmental education program promotes the Jack and Isaac bay ecosystem as an example of a fragile, pristine environment. Thousands of school children have seen Jack and Isaac bays for the first time through the extension service's environmental program. Seeing the faces of those kids when they hike to the bays is something to behold.

Believe me, this area is a great laboratory where kids can learn about the natural world. Let's fight to protect Jack and Isaac bays.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Let's restore St. Croix arboretum

Olasee Davis

Our environment

The other night, I watched as the arboretum of St. Thomas was discussed on "Face to Face" on Channel 12. Magens Bay is known for one of the ten most beautiful beaches in the world. Many locals and visitors know of this. However, the arboretum adds another attraction to the Magens Bay beach environment.

The arboretum is in the southern corner of the beach. In the 1930, Arthur Fairchild with the help of horticulturist Alfonso Nelthropp established the arboretum. Fairchild was a world traveler and brought many plants and seeds back to St. Thomas. This was the foundation of the arboretum.

All kinds of trees were planted. Such plants as Brazilian rose, African tulip, Benjamin fig, chocolate tree, Gre Gre, trumpet tree, bulletwood, mastwood, silk cotton and ironwood, just to name a few.

The arboretum is also known for many exotic palms such as the African oil palm, Puerto Rico royal palm, queen palm, Fiji Island fan palm, Sago palm, Canary Islands date palm, plus many more species.

After World War II, Fairchild decided to donate some 50 acres plus to the people of St. Thomas and St. John along with Magens Bay beach.

Besides the impressive stand of trees in the arboretum, this area was once an Indian settlement. Streams ran from the valleys down to Magens Bay.

Part of the Magens Bay area was once swamp, with a large mangrove forest. Today, mangrove forest can still be found as you enter, south of the main gate.

At the southern end, there is still a small salt pond and a few land crabs. Fruit trees and vegetables were once grown there and sold to the market.

In the hills overlooking the arboretum, guavaberry, wild pineapple, and genip trees can still be found. However, as years went by, the arboretum was neglected and many of the trees died. The place grew into bush from the lack of care, and native vegetation took over.

Many of the trees that grew in the arboretum can not be found nowhere else on St. Thomas.

In the late 1970s, the College of the Virgin Islands cooperative extension service with the help of the Youth Conservation Corps started clearing the bush from around the arboretum.

Today, the spirit of cooperation continues with the Charlotte Amalie Rotary Club, other organizations, schools and individuals to help make the arboretum a showcase of nature.

Toni Thomas, extension agent of UVI Cooperative Extension Service, and Aubrey Nelthropp are among the many volunteers making the arboretum what it is today.

But the arboretum at Magens Bay is not the only one in the Virgin Islands. In 1923, one was established at the Virgin Islands Agricultural Experiment Station of the U.S. Department of Agriculture at Anna's Hope on St. Croix.

There were about 157 individual trees and 57 different species of trees started under the direction of W. M. Perry, a horticulturist.

As in the St. Thomas arboretum, trees were brought from many tropical areas of the world. Timber, roadside, lawn, rubber, fruit and nut trees, and other economic plants were established.

In 1924, 1925 and 1926, other trees were planted. Around 1928, Perry was transferred to St. Thomas as a agriculturist and Claud L. Horn took over the arboretum on St. Croix. At that time, trees were identified in the arboretum. The trees were classified as native, exotic, fruits, ornamentals, timber, and miscellaneous species were also identified.

On Sept. 12-13, 1928, a hurricane hit St. Croix, but the trees suffered little injury. Between 1932 and 1953, the Agricultural Experiment Station was transferred from the Department of Agriculture to the Department of Interior.

In 1959, the Virgin Islands Forestry Program and the U.S. Forest Service made an inventory of surviving trees at the arboretum.

Trees such as the banyan had grown to enormous proportions. However, reports indicate that out of the 157 trees, only 12 trees survive.

Like the St. Thomas arboretum that was neglected for many years, the St. Croix arboretum was abandoned and the Anna's Hope site had become an Insular Training School for Boys.

The arboretum once provided information for reestablishing mahogany trees on st. Croix, improving and planting roadside trees, improving and thinning natural stands, logging and milling over-mature and defective trees, and recommending wind break and ornamental trees to many landowners.

The St. Croix arboretum can become a showcase just as the St. Thomas arboretum today.

The potential is there, it is just a matter of when.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Let's unite to save trees

Olasee Davis

Our environment

For two weeks, the media has focused on plans to cut down trees along Queen Mary Highway, St. Croix. The Public Works Department probably did not realize that widening the road between the University of the Virgin Islands, William's Delight and the Hannah's Rest intersection would cause such an uproar.

In 1989, Hurricane Hugo destroyed hundreds of trees in the Virgin Islands, particularly on St. Croix. Then came the devastation of a two-year drought that caused even dams that hold water for years to go dry.

No mass planting of trees was done after Hugo. In fact, we did the opposite and cut down trees.

The roadsides of Queen Mary Highway once were planted with coconut trees. Because so many hurricanes hit St. Croix over the years, people, particularly children, planted the roadsides with mahogany and fruit trees, which withstand hurricane winds better than coconut trees do.

Historically, the trees along Queen Mary Highway served as a resting place out of the hot sun for people gathering fruits, telling stories and playing music as well as adding to the beauty of the roadway.

I have written many articles about trees and the function they play in our islands' ecosystem. But it still amazes me that some of us are so ignorant. The roots of ecology lie in natural history, which is as old as the Earth itself. Prehistoric man depended on fishing, hunting and food gathering and so needed to know where and when his quarry might be found. The establishment of agriculture increased the need to learn about the practical ecology of plants and domestic animals. This knowledge allowed man to survive.

When God created the beautiful Garden of Eden, the creation of a forest added to the gardens diversity of life. Today, just to look on the beauty of God's creation compels one to give him praise and thanksgiving.

St. Croix, once a garden, is much different today. This island once had many streams and rivers that watered the whole land. Some old-timers will tell you they learned to swim in streams, catching crayfish and eels. George A. Seaman mentioned the Fair Plane stream in his book "Ay Ay:" "It is the third bridge in the area to cross what was not so long ago a rich and most beautiful stream."

He further stated, "A grand waterway coming down through the heartland of the island, and emptying in a large estuary at Fair Plane. This was the greatest mixing of fresh and salt water in the island, and therefore a haven for all those creatures which thrive in and need an experience in brackish water to complete the fullness of their lives."

All this water on St. Croix was a result of the forest ecosystem which dominated so much of the island at one time. Forests play a significant role in climate and the distribution of rain.

The controversy of cutting down trees along Queen Mary Highway could have been avoided if the Department of Public Works did not keep such proposals secret from urban foresters and other experts.

Public Works Commissioner Ann Abramson said, in protesting the late outcry, "They have got to be in it from the beginning." But how can they when others were not invited from the beginning?

Plans also are in the works for Creque Dam Rain Forest road. This project probably will involve widening the road and removing large 100-year-old trees.

Come on, let us work together instead of against each other in protecting trees.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Most of our food plants were imported long ago

Olasee Davis
Our environment

Since the first man inhabited the Virgin Islands, plants were important to his survival. The Indians brought plants with them as they traveled from South and Central America to the Caribbean.

Some plants were brought to the Virgin Islands by Africans who hid the seeds from slave traders. Seeds for the historical baobab tree on St. Croix particularly were hid in slaves' hair because of its spiritual powers and food value.

Throughout history, plants and animals were introduced from one place to another. In fact, the majority of our food, including sweet potatoes, tomatoes, pumpkins, peanuts, corn, broccoli and many other vegetables as well as fruits and grains that we buy today originally did not come from America.

The rootstock on which many U.S. peaches are grown originally was collected in China in 1898. The navel oranges that created a California industry were from Brazil. A wild oat that has resulted in one of the most disease-resistant oat varieties ever developed was found in Israel in the 1960s.

Many of these plants were imported to the United States by explorers, plant taxonomists and others who were interested in plant breeding and the botanical values of plants. President Thomas Jefferson himself was interested in plant responses to climate and studied the phenology of garden plant.

Carl L. Willdenow (1765-1812), an early pioneer of plant geography, observed that similar climates produce similar vegetation types even in regions thousands of miles apart.

Rudy O'Reilly Jr., a botanist and the only native Virgin Islander in this field, dedicated his life to the study of plant taxonomy.

Plant ecology has been studied since the beginning of time. Man hunted, gathered and mastered the knowledge of the distribution of wild food and forage plants that sustained him.

Herbalists learned that different species of plants had healing, narcotic or hallucinogenic qualities.

Women known on St. Croix as the "weedwomen" in the old days gathered medicinal plants from the countryside to sell in the market on Fridays and Saturdays. Also, the ecology of plants has always been a major part of Virgin Islands culture. For example, the jumbie beans or bead vine leaves were and are still used today for coughs.

Yet, this plant is deeply rooted in our culture. The seeds of the plant were placed in lamp oil to keep jumbies from coming into the house. The story goes that if you did not have jumbie seeds in your lamp, you have to walk in backward into your house. If you walk in frontward without jumbie seeds in your lamp, the jumbie will come in.

However, some native plants of the Virgin Islands are threatened and probably some already are extinct because of the importation of many exotic plants. This is a serious threat to the ecology of native plants in the Virgin Islands.

Loads of exotic plants are shipped into the Virgin Islands. Some of them will compete with native species and eventually take over native habitat, threatening native plants in the wild.

Furthermore, many exotic plants are imported with pests on them which further threaten the ecological balance of the environment.

To many people, exotic plants mean good business. The problem is, many of them threaten agriculture and the nursery industry in the Virgin Islands. Also, there might not be natural predators in the wild to combat the pest problem.

This is why, whenever you travel, your baggage is checked, and certain plants are not allowed in.

Believe me, if the United States did not have strong regulations to protect the agriculture industry, we would not enjoy the variety of food we have today.

St. Croix was once a major sugar cane producer. Back then, sugar cane was not allowed to enter the islands unless for research purposes. This law is still in effect.

Tan Tan is a classic example of a plant that was imported. The plant was imported as forage feed for animals. Today, the plant is an ecological disaster and considered a serious weed pest.

I encourage nurseries to grow and propagate native species. It is better for our environment and it helps maintain our native genetic pool diversity.

Some exotic plants have their place in our environment, but first one must understand the genotype and phenotype of plants before importing them.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Northshore development to have preserve

Olasee Davis

Our environment

I have been approached by many people about the new development above Carambola Golf Course called Scenic Ridge. For sometime now, I have debated this issue within my mind. Some people who I have spoken with get emotional and say, "This area represents our history and struggle of African slaves who regained their physical freedom."

The Scenic Ridge development did not spark as much controversy as the Fountain Valley purchase by outside developers in the early 1980s. However, some Planning and Natural Resources Department officials, for different reasons, were not too pleased at having a new residential development above Carambola golf course. Nonetheless, the parties worked things out together.

The Scenic Ridge development is in Estate Hard Labor, bordering estates River, Bodkin, Fountain, Montpellier, Springfield and Two Friends, and an area between Grove Place and Hard Labor called Tortola, which probably was settled by people who descended from the island of Tortola.

In the early 1980s, the Rockefellers sold more than 4,000 acres of primary agriculture and forest land from Blue Mountain to the rain forest. You know, so many people on St. Croix then were ignorant to the fact that it was 17 estates of primary land, including historical sites, streams and shorelines — not just the Fountain Valley area — that was purchased by outside developers.

Today, Carambola Beach Resort at Davis Bay includes 4,000 acres and what once was a beach traditionally used by local people. To this day, some people believe the Juan Luis administration sold their birthright when the government allowed outside developers to purchase the land. The government had the same opportunity to purchase the land, but blew it.

Now almost the entire Northside of St. Croix belongs to outside investors who for the most part do not care for the people of St. Croix. Money talks, they say.

When I talk like this, some people get offended. Like those who went before me, however, I am willing to enlighten the people of these islands about issues so they won't be tricked by those who pretend to love these islands.

Those who know St. Croix's Northside would agree with me that this area is one of the most agricultural, cultural and historical areas. It also offers the most breathtaking and spiritually tranquil view. From there one can see Buck Island, St. Thomas, St. John, Tortola, Puerto Rico and other islands.

It was in this area also where runaway African slaves hid in the mountains, forests and valleys. Maroon Ridge on the northwestern side of the Caledonia rain forest was where some slaves stayed in a cave for 90 generations. When they were discovered, many of them jumped over the cliff and killed themselves rather than be captured.

Who is this person who wants to develop 147 acres of Hard Labor?

In 1917, Hard Labor was acquired along with Grove Place by the St. Croix Labor Union led by D. Hamilton Jackson. The land remained under union ownership until 1994, when Samuel Raphael purchased the property.

Raphael is a determined young Virgin Islands developer who the banks turned down when he asked for a loan to purchase the land. Even other developers in the area, particularly some whites, did not like to see Hard Labor developed into affordable lots for locals instead of the type of development that is fetching high prices in the surrounding areas. You see, some people believe some parts of St. Croix are reserved for certain classes of people.

Thus, I admire Raphael for his courage in developing sound environmental homesites, even though we sometimes differ on certain environmental issues.

Last week, Raphael invited Ann Williams, George F. Tyson, Rudy G. O'Reilly Jr. and myself to hike with him up Hard Labor's gut forest. Out of the 147 acres, Raphael planned to set aside more than 20 for a nature preserve and a museum.

Hiking trails will be established in this nature preserve. People will be able to discover Hard Labor's old plantation sugar factory ruins, including a great house, windmill towers dating to 1700, fruit trees, ferns and medicinal plants. They also will learn about ecological and cultural history from an Afrocentric perspective.

Around 1780, a small sugar works and animal-driven mill was erected. Its most productive period of sugar cane production was between 1815 and 1848, when the land was owned by the Plaskett family, which included 70 to 75 African slaves.

▼ FOR INFORMATION

About the Scenic Ridge nature preserve contact Samuel Raphael at 774-4424.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Plant now to save the mamey, cashew, calabash

Olasee Davis
Our environment

I grew up in the Virgin Islands eating a variety of fruits, from mangoes to kenips. Back then, everybody's yard had some kind of fruit tree planted.

During the summers, we kids roamed the countryside, picking fruits and going to the beach. We had fun throwing mangoes, or whatever fruits we had in our bags, into the sea and diving for them.

Those were the good old days. Today, the environment is different. Where fruit-tree forests once stood, roads, shopping centers and other developments are found.

Many fruit trees that once grew wild in abundance throughout the Virgin Islands are now rare.

Recently, I took some children on a hike to the Caledonia rain forest and we came across a mamey tree. None of the children recognized the mamey tree, much less knew what the fruit looked like.

The mamey tree is native to the West Indies and northern South America. Among Spanish-speaking people, the tree is known as mamey de Santo Domingo. In Portuguese it is called abricote, or abrico do Para. In English the fruit is known as mammee or mammee apple.

The mamey tree grows 60 to 70 feet high, with a trunk 3 to 4 feet in diameter. The leaves are glossy, leathery, dark green and broad.

The flowers have four to six white petals with orange stamens or pistil or both. The fruit is nearly round or somewhat irregularly shaped, with a short, thick stem. The fruit's skin is light-brown or grayish-brown with small, scattered warts on the skin. Inside, the fruit's flesh is golden yellow to orange, with two or more black seeds, depending on the size of the fruit.

The fruit is eaten ripe, stewed, in fruit salad, pies, tarts or made into frozen sherbet, ice cream, etc. The mamey also has insecticidal value to control cockroaches, ants, drywood termites, mosquitoes and other insect pests. Different parts of the plant are used for medicinal purposes, from treating parasitic skin diseases to being an anthelmintic for adults (it gets rid of intestinal worms).

The cashew is another fruit tree that once grew wild in the Virgin Islands but now is extinct except in cultivated areas around homes or on farms. The cashew tree is native to Brazil. In the 16th century, the tree was introduced by Portuguese traders to Mozambique and costal India as a soil retainer to stop erosion along the costs.

From there, the tree spread and grew wild, forming extensive forests on nearby islands. Eventually it spread to East Africa, Central America and throughout the tropics.

Historians suggest that Indians from South America may have brought cashews to the Caribbean in Pre-Columbian times. The tree grows about 20 feet in height and 6 inches in trunk diameter. The bark is light gray to a smoothish brown, becoming slightly fissured.

The leaves are oblong-oval, with yellowish-pink flowers. The nut of the cashew tree is the true fruit attached at the end of a yellow or red, spongy, fleshy fruitlike structure which is very juicy and pleasant to eat. Inside the poisonous shell is a large, curved seed which is the edible cashew nut. The tree flowers from February to May and the fruit matures from April to August.

Roast cashew nuts are popular worldwide. The fruits are eaten fresh or in preserves, which have been used to make vinegar and wine. The very acrid oil of the nut's shell has been used medicinally and to preserve book bindings, carved wood and other items. The flowers are attractive to bees, which makes the cashew a honey plant.

The calabash tree once was popular in the Virgin Islands, especially in dry areas. This tree grows about 20 to 30 feet or more in height and a foot or more in trunk diameter. The bark is smoothish or slightly scaly, becoming fissured and is light brown or gray. The leaves are mostly in clusters of three to five, with lateral branches.

Flowers and fruits are found on the trunk as well as on branches. The giant fruits, some small, have thin, hard shells with whitish pulp and dark brown seeds inside. The calabash fruit has been used to make bowls, jugs, cups, water containers and utensils, as well as ornaments and musical instruments.

The pulp of the fruit is poisonous but is used medicinally. The seeds are cooked and eaten.

To protect our fruit species, we must plant now.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Preserving culture tribute to Arona

Olasee Davis

Our environment

Before I go into this article, a moment of silent please. A great Virgin Islander, Arona Petersen, has fallen asleep.

Mrs. Petersen was a good friend of mine who encouraged me to continue to speak out and write about our history, our environment and our culture.

Those who knew Mrs. Petersen knew that the Virgin Islands culture was the lifeblood of this great woman's life.

On several occasions, Mrs. Petersen would call me from Florida, and we would talk for hours about Virgin Islands culture, politics and the environment.

I often asked Mrs. Petersen, "When are you going to come home to live with us?" She would say, "Olasee, I am not coming home." Then she would continue, "Olasee, you have to carry on the work of preserving our culture and our environment."

This past weekend, I was doing just that when I represented the Virgin Islands by attending the National Wildlife Federation's 59th annual meeting in Washington, D.C. Robin Freeman from St. Croix Environmental Association and Beth Locklear from the Environmental Association of St. Thomas-St. John also attended.

The National Wildlife Federation is 5.1 million members strong. The St. Croix Environmental Association, the Virgin Islands Conservation Society and St. Thomas-St. John Environmental Association are affiliated members of this powerful environmental organization.

The theme was "Healthy Homes/ Healthy Foods" which addressed what roles our community, businesses, industries and government would play and make a difference in keeping a healthy global environment.

The federation's mission is "to educate, inspire and assist individuals and organizations of diverse cultures to conserve wildlife and other natural resources and to protect the Earth's environment in order to achieve a peaceful, equitable and sustainable future."

In these days, we hear much talk about the "Contract With America." Speaker of the House Newt Gingrich and other Republican leaders' vow to push their agenda through in 100 days has a far-reaching effect, especially on environmental laws, which was discussed at the meetings.

Believe me, nothing in this "Contact" deals with areas as complicated as regulatory reform or generates as much apocryphal rhetoric in both parties.

Such environmental law as the Endangered Species Act is threatened. In 1973 Congress recognized the need to preserve our natural resources by passing the Endangered Species Act.

Since then, more than 1,000 species worldwide have been listed for protection under this law.

Wild plants and animal species have contributed $79 billion annually to the U.S, pharmaceutical industry and ensure that we have medicines for our health needs.

Also wild plant species genes add approximately $1 billion per year to the U.S. agricultural industry and helps protect our food supply from pests and disease.

Furthermore, the diversity of wild species needed to protect the ecosystem on which we all rely for clean air and water and multi-billion dollar industries and jobs is at stake.

This act is now up for re-authorization before Congress and is under attack by big businesses such as real estate, mining, oil and timber.

The 104th Congress will also reauthorize a number of other bills such as the Farm Bill, Takings Bill, Wetlands, Water Quality, Safe Drinking Water Act, Population, and Clean Water Act.

There were also many speakers such as EPA administrator Carol M. Browner; John M. Carter, president of Hearst Magazines Enterprises; John F. Haberern, president of Rodale Institute, and many others. At the awards banquet, Sen. George J. Mitchell received the distinguished award as Conservationist of the Year.

The following day, we went to Capitol Hill where we lobbied for different environmental issues including Salt River.

I was glad to represent these islands' environmental concerns in Washington. Believe me, such political powerhouses as the National Wildlife Federation are good friends to have to help us fight environmental issues in these islands.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Sandy Point meant to be wildlife refuge

Olasee Davis

Our environment

Ever so often, you hear Sandy Point in the media.

Sandy Point is considered by many people a remote area because of its physical features which encourage criminal activity.

Recently, a series of crimes have taken place in the area, including rape, homicide, vehicle theft and the breaking in of homes near the wildlife refuge.

Law enforcement had gone above and beyond to combat crimes in the Sandy Point area but current staffing and funding levels are not adequate to ensure people's safety when visiting the refuge.

Traditionally, Sandy Point has been regarded as a public beach for recreation activities. Although it is a wildlife refuge, public pressures are increasing to develop recreation facilities, which are not compatible with the wildlife refuge system.

In 1979, Sandy Point was designated by the Planning Office as an Area of Particular Concern, one of 18 Significant Natural Areas in the Virgin Islands.

Early in 1994, former Gov. Alexander Farrelly signed the APCs into law. The Westend Sandy Point Salt Pond of Frederiksted on St. Croix is the largest pond in the Virgin Islands, about 500 acres of wetland.

Within this ecosystem, there are 398 acres called the Sandy Point National Wildlife Refuge managed by the federal government.

In 1984, this refuge was established to protect migratory aquatic birds, such as the rare West Indian Flamingo, native and rare plants and animals such as the native gecko, white-tail deer, and other wildlife.

The primary protection is geared toward the endangered leatherback sea turtles, the largest known population within the United States' jurisdiction.

Historically, the whole southshore of St. Croix, as far as Jack and Isaac Bay, was once populated by sea turtles. Old-timers will tell you thousands of sea turtles used to come up on the southshore beaches of St. Croix to lay their eggs.

During this time, people would catch the sea turtles and eat them. Thus, a tradition was created by Crucians which was part of the Indians' culture for hundreds of years in these islands.

As time went on, the population of sea turtles on St. Croix began to decrease because of habitats destruction or alteration and the over-exploration by human beings.

Today, Sandy Point is only one of 13 significant nesting sites in the world and the leading research project of leatherback sea turtles worldwide.

This project puts St. Croix on the map as a significant scientific research area not just for leatherback sea turtles but for other unexplored areas of St. Croix marine environment.

The coral reef ecosystem surrounding Sandy Point supports a large variety of marine life. This area provides many species of saltwater fish, shrimp, shellfish and crabs. The area is also popular for both sports fishing and commercial fishing.

The Federal Coastal Barrier Improvement Act of 1990 established areas in the Virgin Islands as part of the Coastal Barrier Resources system, which includes the Sandy Point area.

The purpose of the act was to halt development in low-lying areas subject to natural disaster, to stop wasteful federal expenditures in these areas and to protect valuable natural resources from being destroyed by unwise economic development.

Besides marine life in the area, Sandy Point also has an archeological site.

A portion of the Aklis archeological site is located within the refuge boundary. This site is listed in the National Register of Historic Sites and is considered of major archeological importance. Artifacts and other materials indicate human occupation dating back as early as 400 A.D.

The current conflict between the public and refuge is the use of the beach for any type of recreation activities. The purpose of purchasing Sandy Point was to " . . . conserve fish or wildlife which are listed as endangered species or threatened species or plants . . ." 16 U.S.C. 1534 (Endangered Species Act of 1973).

The public use of the refuge could adversely impact wildlife habitats if not regulated properly.

To me, the problem of Sandy Point Wildlife Refuge is a public relationship issue. Most of the public is environmentally ignorant about what a refuge ecosystem is or how it functions.

Refuge administrators must learn a little public relations if they want to get support from the people of the Virgin Islands.

Next week, I will address how the public can participate in having a say in the Sandy Point Wildlife Refuge.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

The Daily News, March 03, 1995

Seeds part of oldest game

Olasee Davis

Our environment

Environmental education can be taught throughout the entire public and private school curriculum. Yet experience has shown vividly that many teachers are somewhat at a loss to know what and how to teach subjects concerning the islands' natural resources.

Lisa Bough, a teacher at Ricardo Richards Elementary School, is doing an excellent job of organizing environmental education hikes through the University of the Virgin Islands Cooperative Extension Service. Here on the St. Croix campus, the Cooperative Extension Service's environmental education program is one of our most popular outreach programs.

It teaches the public, but especially our children, about the islands' ecology and the relationship of micro-organisms, plants, animals and human beings and the natural environment.

About a week ago, I went hiking with one of Ricardo Richards Elementary School's sixth-grade classes to the Jack and Isaac Bay dry-forest ecosystem.

As their tour guide, I explained to them how the coral reefs, coastal plants and other shrub plants in the area function in this dry environment. As the kids listened attentively to what I had to say about the environment, one kid came across a plant that some kids knew as the "burning beans" plant.

The children explained to me how they played a game with the seed of the plant by rubbing the gray seed on a smooth, hard surface and then placing the seed on one another's hand, causing a burning sensation — hence the name "burning beans."

The caesalpinia bonduc plant is a running, climbing shrub with fleshy yellow stems that grows mostly along the coastal areas of St. Croix but which also can be found growing further inland. Every part of the plant, including the backs of the leaves, is armed with spines. The yellow flowers develop into spiny seed pods which contain one or two seeds.

As time passes, the brown pods, which hold the seeds like a nest of eggs, split open and the seeds eventually fall to the ground. Long ago, local people made necklaces, bracelets, earrings or placemats from the seeds.

The seed also is known as "nickers" or "nicker nuts" by our parents. Old timers also mention that the nut within the shell has been used for medicinal purposes in the Virgin Islands. In Africa, this plant grows abundantly. But the caesalpinia bonduc plant is more than a plant to Africans.

More than 6,000 years ago, a game was developed in Africa from the seeds. The game was called Wahree, also spelled Warri, and it's probably the oldest game in the

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Games were used to increase parent-child communication

world. This game can be traced back to prehistoric times. Stone carvings representing Wahree boards have been found in ancient Egyptian tombs. Many experts consider the Wahree game one of the finest strategy games ever developed.

There is no such thing as luck when it comes to Wahree. The outcome of the game depends solely on the skill of the players.

According to Zoraida E. Jacobs, leader of 4-H program at the Extension Service, Oware, as we called it here in the islands, is an Ashanti word meaning "long distance" and Aware means "he marries."

Jacobs said that the game was played for two reason: "to create communication between parent and child, and as a time of relaxation and sharing of wisdom and proverbs." Some of the proverbs Africans shared with their children were: "A person does not cut a walking stick and expect the stick to be taller than them." This means that one does not bear a child and expect the child to rule them.

Another is, "It does not take a person born on a hill to be very tall." This means can be born in a humble home and become an important person.

The Wahree game was brought to the Virgin Islands by African slaves more than 200 years ago. If you ask many old timers, they will tell you they used to play the game by making holes in the ground and using shells, nickels or stones. The Wahree game also is made from mahogany boards.

In many Caribbean schools today, Wahree is an aid in teaching children skills of counting and the principles of logic. Don't be fooled — the Wahree game also supplies the ultimate challenge to the most sophisticated adult game players.

Olasee Davis, who holds a MS degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

The Daily News, March 17, 1995

Speak up about Sandy Point

Olasee Davis

Our environment

In last week's article, I discussed a brief history of Sandy Point and, to some extent, the current conflicts between the public and the Sandy Point National Wildlife refuge.

Recently, I had the opportunity to make comments on the "Public Use Management Plan" for the Sandy Point National Wildlife Refuge drafted up by the U.S. Fish and Wildlife Service.

The purpose of this plan is to lay out programs to ensure that all public activities — whether research-oriented or otherwise — are compatible with the refuge goals.

On Jan. 16, 1995, a news release was sent out to the local media about the "Public Management Plan" for the Sandy Point Refuge.

Copies of this plan were also made available at the National Park Service, Sandy Point NWR office in the Federal Building in Christiansted, and the Caribbean National Forest office.

Plans were also available at the St. Croix Environmental Association, St. Croix Hotel Association, St. Croix Chamber of Commerce, Rotary Club of St. Croix West, DPNR Division of Environmental Enforcement, Coastal Zone Management, Virgin Islands Department of Tourism, University of the Virgin Islands Eastern Caribbean Center, UVI Cooperative Extension Service, and many other government and non-governmental organizations.

Thus, we as the public should have no excuse for not giving our comments about this important issue. Sandy Point is the longest stretch of sandy white beach in the Virgin Islands. Its geological formation is unique in this part of the world.

According to geologists, the Sandy Point peninsula probably grew as sand was deposited by oscillating north and south shore currents that formed spits.

The Westend Salt Point within the Sandy Point ecosystem was believed to have been created during the Pleistocene epoch about one million years ago from sand spits that gradually closed in to form the salt pond.

This formation of Sandy Point beach probably developed its deep waters, forming coral reefs on the western side of the beach.

Because most beaches on St. Croix have some kind of reef system near the shore, Sandy Point is considered the best beach on St. Croix for recreation activities.

People prefer beaches that are sandy white and without rocks or coral reefs in their way. The problem is that leatherback sea turtles like Sandy Point beach, also.

Leatherback sea turtles prefer sandy beaches with deep water with no reef. The coral reef tends to cut their backs as they approach the beach to lay their eggs.

Another reason is that leatherback sea turtles are deep divers, which make Sandy Point's deep water perfect for emerging on and off the land.

This doesn't mean that leatherback sea turtles do not lay eggs on other beaches on St. Croix. But Sandy Point is a classic leatherback nesting beach area because of its complex and dynamic ecology.

The beach on Sandy Point, however, is the most unstable on St. Croix according to Dr. D. Hubbard a geologist. He said, "that the sand

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Refuge can be enjoyed by us all

supply of Sandy Point is due to large amount of carbonate-producing algae, which exists offshore." Probably this is why the area gets its name.

Between the 1970s and 1983, the West Indies Investment Company mined sand within 100-150 feet off the shore of Sandy Point. Plans were made also to expand the operation into a large resort development.

However, it was the public participation that blocked this development at Sandy Point when activist Otto Tranberg, a native Cruzan, and others campaign heavily against the killing of nesting sea turtles.

Because of these activists, Sandy Point became a National Wildlife Refuge. Yes, it was Crucians who saved this beautiful part of St. Croix for the people of these islands. So why the conflicts between we and them? How can we and them work this out when especially on the weekends large amounts of trash are accumulated at the refuge?

How can we and them work this out when trash attracts mongoose, which threaten the nesting sea turtles and birds?

How can we work this out when volleyball and horseshoes poke into the sand are life-threatening to the emerging hatchlings.

How can we and them work this out when horses trample on emerging hatchlings?

How can we and them work this out when vehicles that drive through the refuge damage both flora and fauna and impede the movement of hatchlings to the sea?

How can we and them work this out when loud car speakers and other stereo equipment disrupts both sea turtle and bird nesting?

We have another opportunity to make things right with our shortcomings of protecting defenseless wildlife at Sandy Point refuge.

The public hearing on the "Public Use Management Plan" will be coming up soon. Believe me, we all can participate in making Sandy Point refuge enjoyable for both human and wildlife if we wanted to.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Daily News, 10/13/95

Stinging ants aren't all bad, but don't try to convince Brazil

Olasee Davis
Our environment

This will sound like a science fiction script.

A U.S. Department of Agriculture publication mentions that, "Millions of aggressive, stinging ants overran a small city in the Amazon rain forest, invading homes, schools, churches and stores. Nothing seems to stop them."

But to the people of Envira, Brazil, it's not a movie. It's real life.

The 10,000 people who live in the small riverbank town in the Amazon rain forest have been struggling against a booming population of fire ants. This outbreak of ants started several years ago, when the townspeople noticed tiny, reddish-brown ants foraging for food. After they were unable to control these ants, the Brazilian government asked USDA ant experts for help.

American scientists not only wanted to help the Brazilian government but also to determine why fire ants, which now are a pest problem in the southern United States, had taken over the small town in the Amazon rain forest.

David Williams, a research entomologist, said when he got to Envira, Brazil, "It is not an exaggeration to say that the ants were over-running the place."

"I found some colonies with more than a million ants inside," he continued. "I have been studying fire ants for 17 years, and I have never seen anything like it."

USDA scientists in Brazil found that clearing of the Amazon rain forest outside Envira created an ideal environment for fire ants, which thrive when natural habitats are disturbed.

What happens is that the forest serves as a source of food for the fire ant. As more forest is cleared near the town, the ant population increased, causing competition for food to become greater. Thus, the natural balance of the forest ecosystem became unbalanced because of the large-scale deforestation of the Amazon rain forest.

I noticed that during this year's

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Ants help enrich the soil

hurricane season, certain species of insects became more prevalent in the territory. What does this tell us? This hurricane season affects the islands' ecology so much that insects that you normally hardly see are more noticeable.

Many people with whom I've come in contact lately have said that hey frequently see ants in their houses. The black ants around your kitchen are called local sugar ants. You often find them in your sugar or eating some sweet thing. Believe me, any kind of food you leave out in the kitchen without proper protection, the sugar ants will find it. These ants, however, would not run you out of your house like the fire ants in Brazil.

We do have stinging ants in the Virgin Islands, however. These ants are very aggressive and will deliver fiery stings. For this reason, many Caribbean people called them fire ants. Other names are "biting ants," "red ants," "wild ants" and "hormigo brava." These ants are some of the most common pests you find in the Caribbean.

According to Dr. Walter I. Knausenberger, an entomologist, "stinging ants can sting repeatedly and will vigorously attack things that disturb them. Their venom is severely painful to most people and livestock." Certain people who are allergy-prone can become sensitized if they got stung repeatedly. People who are extremely sensitive may suffer chest pains, nausea or even lapse into a coma from a sting.

Stinging ants can damage young plants by gnawing the roots, stalks and fruits. But stinging ants also are beneficial to man. They help bury and transform dead, decaying animals and plant materials.

They enrich the soil by increasing the availability of certain plant nutrients. They also are known to eliminate certain insect pests in your garden. Knausenberger mentioned that, "in Puerto Rico, the brown fire ants have been shown to destroy over 90 percent of the potential house fly population by preying on the maggots and eggs."

The ant population is regulated naturally by birds, lizards, toads or

Stop depending on the world to grow the food we need here

Olasee Davis
Our environment

As we enter the mid '90s, the Virgin Islands has little to celebrate in the area of food production.

Since the late 1800s, agriculture in the Virgin Islands has declined. Prior to the emancipation of slaves, St. Croix was cultivated from the beaches to the hilltops, and in addition to sugar cane, cotton was an important crop.

In 1966, the sugar cane industry on St. Croix phased out of production. Today we import practically everything we need. In addition, land that was once used for agricultural production is now being utilized for urban development, commercial and industrial uses.

On a global scale, from the beginning of agriculture until the mid-century, growth in world agricultural production has kept up pace with population growth.

Between 1950 and 1984, world farmers raised grain harvest 2.6-fold compared to the beginning of the century. This rise in grain production came about because of modern technology.

Since then, little progress has been made even though other technologies in agriculture, such as biotechnology, have taken the lead to improve plants, animals and micro-organisms. This technology has produced virus-resistant varieties of tomatoes, cucumbers and potatoes; better vaccines and diagnostic kits used for chickens, horses and swine; and new and improved varieties of commercial flowers.

However, hunger still remains a global problem. In such places as parts of Africa, Latin America and Asia malnourishment has increased. Meanwhile, the world is losing topsoil from farmland and tropical and temperate rain forests, and tens of thousands of plant and animal species.

Throughout modern history economic trends have shaped environmental trends, thus altering the earth natural resources and ecosystems in ways not obvious to us at the time. Now as we enter the '90s, we are beginning to see that environmental trends are shaping economic trends. The cumulative effects of topsoil lost in major producing countries are being felt.

Lester R. Brown describes the world conditions this way: "A lily pond, so the French riddle goes, contains a single leaf. Each day the number of leaves doubles — two leaves the second day, four the third, eight the fourth, and so on. Question: If the pond is completely full on the 13th day, when is it half full? Answer: On the 29th day."

You see, the global lily pond in which about 4 billion of us live may already be close to half-full. Within our children's time the lily pond could fill up completely. In nature, clusters of lily leaves are already crowding against one another, signaling the day when the pond will

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Hunger remains a disturbing problem throughout the world

be completely filled.

The misconception many of us often have, especially politicians, is that we often misread the signals of the lily and fail to adjust our lifestyles to live within our means. A careful study of the global economy would indicate that pressures on Earth's biological systems and energy resources are mounting.

Believe me, if another big earthquake had hit Japan, the whole world would have been in chaos. Japan is an economic superpower and practically the entire world economic system is connected to the Japanese market.

At the same time, stress is mounting in biological systems, grasslands, forests, oceanic fisheries and croplands that humans depends on for food and industrial raw materials.

The 4 billion people on Earth with rising aspirations are putting more pressure on Earth's resources, often exceeding nature's long-term carrying capacity. As I mentioned earlier, agricultural production worldwide has dropped because of environmental factors that play into economic development. The productivity of ocean fisheries is falling as catches exceed what the ocean can produce.

While forests are shrinking, grasslands that provide meat, milk, butter and cheese for human beings are disappearing.

We here in the Virgin Islands can make a difference in spite of how things look globally. As a people, we often look for economic help outside instead of growing from the inside out economically.

This weekend is our 24th annual Virgin Islands Agriculture and Food Fair. The theme, "From Drought to Harvest," is a perfect example of how agriculture strives despite environmental hardship and the downfall of our economy.

Yet as a people, we fail to realize that agriculture can play a major role in how we can develop the Virgin Islands economy. For example, an expanded agricultural industry can complement the tourist industry by providing local food to tourists and residents alike, and also create employment opportunities for our people.

However, this year's fair would not be possible without our farmers. Come on, let us stop talking and make agriculture a big part of our economy.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Storm brings increase in insects

Olasee Davis
Our environment

Hurricane Marilyn brought destruction to the islands' man-made environment and increased the numbers of certain species of insects due to changes in the islands' ecosystems.

Such insects as mosquitoes have increased, as have flies and ants. In the tropics, insects are a major link in the food chains starting with the pollination of flowers in tropical rain forests.

Many insect species are a source of nutrients for other organisms, including parasitic and predatory arthropods. The distribution of tree species in a tropical forest is clearly a major selective force in the development and maintenance of bird species diversity in a tropical environment.

Although certain insects have increased in numbers due to the storm, predators and prey are at work creating a balance in the ecosystems. However, one particular insect most people fear is spiders.

The question is, are spiders insects? Most people I come in contact with believe so. Spiders are not insects, but major predators of insects.

Like insects, spiders have jointed legs and a hard outer skeleton. The major difference is spiders have four pair of legs, not three, with a body divided into only two regions — thorax and abdomen.

Spiders have no wings even though some manage to "fly" by "ballooning" on a strand of silk carried by wind currents. Spiders have no antennae, but have jaws, which are called fangs.

Dr. Walter I. Knausenberger, an entomologist, said, "... the most fascinating and characteristic thing about spiders is their habit of spinning and weaving silk. This habit has four functions: to snare or capture prey as food; to form tubes or tents for protection; to form egg sacs for protection of eggs and newly hatched young; and for locomotion."

According to Knausenberger there are more than 150 species of spiders in the Virgin Islands. St. John alone has about 100 species.

The ecological role of spiders is that of a predator. They kill and consume a wide variety of insects from mosquitoes and mites to other soft-bodied invertebrates. Spiders kill their prey by biting with their fangs and injecting poisonous saliva.

As predators, spiders are beneficial in keeping insect populations down. Many of their prey are insects that damage agricultural crops or are domestic pests like mosquitoes.

All spiders are poisonous, but the fear of spiders is unwarranted because only a few are dangerous to human. Of those spiders that do bite, most produce nothing more harmful than a minor itch.

Tarantulas and jumping spiders often are mistaken for poisonous species. These spiders are usually large, hairy and formidable, but their bite is less harmful than a bee sting. Some people, however, are extremely allergic to spider venom and react severely to any spider bite.

Nonetheless, one spider in the Virgin Islands is potentially dangerous, and people should at least be aware of its presence. The black widow spider (Latrodecus mactans) lives in a web spun in such dark areas as hollow trees, rock crevices, abandoned vehicles and corners of seldom-used buildings.

The male is about ¼-inch long and all black except for several red stripes on the side of its abdomen. The immature female is similarly colored.

Mature females never attack unless seriously provoked. They possess a neurotoxic bite, which

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Black widows are cannibals soon after young are born

causes severe pain in the stomach, muscles and soles of the feet as well as sweating. The bite sometimes causes death.

The ½-inch-long adult female is mostly shiny black, except for a red or rare yellow square or hourglass-shaped mark on the underside of her spherical abdomen.

The egg sacs are about a half-inch long and oval. They hold 25 to 900 or more eggs, which undergo an incubation period of about 20 days. After the spiderlings emerge, they usually stay near the egg sac for a few days.

During this time, cannibalism is prevalent. Eventually, the surviving spiderlings disperse by means of small silk threads. When they are grown, they establish themselves in some protected place and construct loosely woven webs.

Our local brown widow spider with the red hour glass pattern on the bottom of the abdomen also can give a serious bite. However, the most conspicuous spider by far in the Virgin Islands is the golden silk spider. They are active in daytime, and their webs of golden silk threads span up to 4 to 5 feet across guts in the rain forest areas and wooded paths.

With the storm, many insects became prevalent. Believe me, it is only natural. If anyone has problems with spiders, contact UVI Cooperative Extension Service on St. Croix at 692-4080 or 778-9491.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Students discover guava fruit on St. Croix hike

Olasee Davis
Our environment

This semester, the Ricardo Richards Elementary School on St. Croix implemented an environmental program called "Our Caribbean Environment." The students learned about the different ecosystems of the Caribbean islands.

Rudy O'Reilly Jr., a botanist from the University of the Virgin Islands Cooperative Extension Service, and I introduced the students to our local environment.

Part of the program is allowing students to explore St. Croix's natural environment in various parts of the island. Did you know that most of the children had never really seen St. Croix, much less the rest of the Virgin Islands?

Of course, they knew Christiansted and Frederiksted towns and the island's major shopping centers, but when we mentioned Annaly Bay, Wills Bay, Caledonia rain forest and many other remote areas of St. Croix, they wanted to know if we were talking about some other country.

Even parents and teachers who accompany the students on hikes had never really seen St. Croix. One mother said to me, "I hope the government of the Virgin Islands preserves these beautiful natural areas and doesn't allow them to be developed."

In fact, the University of the Virgin Islands Cooperative Extension Service is in the process of publishing a color booklet about some of these natural areas where school children and other groups visit.

Last Friday morning I hiked with a group of students from Ricardo Richards School to Annaly and Wills Bay on the northwest side of St. Croix. Here the children learned about the marine and terrestrial environment.

As we hiked down the mountain side of Annaly Bay, the children came across a guava plant with fruit on it.

Some children were very excited because they had never seen a guava plant before. I gave the children a brief history of the guava plant and the importance the plant played in Caribbean culture, especially during the Christmas season.

Believe me, children need to know who they are and learn about their environment and the important role they play in shaping the world.

The guava plant (Psidium guajava L.) of the myrtle family (Myrtaceae) is known by many names. Hawaiians call it Kuawa. In Spanish, the tree is guayabo or guayavo. The French call it goyave or goyavier, and in Guam it is abas. The guava plant's origins extend from Mexico through Central America.

In 1526 the plant was introduced to the West Indies. Early Portuguese and Spanish colonizers carried the plant from the New World to Guam and the East Indies.

Later, the plant was cultivated as a crop in Asia and warm parts of Africa. The plant arrived in Hawaii in the early part of the 1800s. From there it spread throughout the Pacific islands.

The guava tree is about 20 to 30 feet high with broad, spreading branches fairly close to the ground. The tree is recognized by its smooth, thin, copper-colored, hard bark that flakes off, showing a greenish-brown to light-brown color. The leaves are evergreen and oval and 3 to 7 inches long with prominent veins below.

The flowers are white and about 1 inch in diameter, borne singly or in small clusters in the leaf axils. Self-pollination is possible, but the

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flowers are cross pollinated by insects.

The fruit exudes a strong, sweet odor when ripe, may be round-ovoid to pear-shaped and 2 to 4 inches long with 4 or 5 protruding floral sepals at the apex. The skin color of the fruit ranges from white or yellow to pink or red.

Fruit ranges from thin to thick skinned with seeds embedded in a firm pulp. Seed counts have ranged from 112 to 535, but some guava species are seedless or nearly so. The fruit matures practically year round, but the bulk of production occurs during the summer. On St. Croix, the plant can be found growing wild in Annaly, Annaly Bay, Wills Bay, Mount Victory, Oxford Hill and other pastures and forests throughout the northside.

There are many varieties of guava from Supreme (white fleshed) to Ruby (red fleshed). Guava trees are relatively difficult to prepare. In the wild, the fruit drops on the ground when ripe and germinates.

The easiest way is air-layering, but it is impractical when large numbers of plants are needed. Cuttings, buddings and graftings have been used commercially.

The plant thrives in both dry and humid climates. Guavas grow in a varety of soils, but good drainage is important. Pests are a problem. Thus practicing good pest control is important for a successful harvest.

Guava is also known for its medicinal uses. The leaves and buds are used in tea for dysentery, stomach ache, worms in children and for diarrhea.

There also are innumerable recipes for using guava in cakes, puddings, pies, jelly, sauce, juice, ice cream, jam, butter, cheese and other products. Guavas are high in Vitamin C, which in some varieties can be as high as five times that of fresh orange juice. Did you take your vitamin today? If not, why not try a guava fruit.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Taxi drivers are eyes and ears of our economy

Olasee Davis

Our environment

About two weeks ago, Rudy G. O'Reilly Jr., and I coordinated a two-day eco-tourism workshop at the University of the Virgin Islands Cooperative Extension Service for taxi drivers on St. Croix. This workshop covered various aspects of St. Croix natural history.

Marsha Taylor from UVI's Eastern Caribbean Center spoke about the marine environment and how important this resource is to locals and visitors.

Bill Cissel of the National Park Service gave a brief overview history of St. Croix. Ray York of the St. George Botanical Garden spoke about the history of St. George Estate and how the Botanical Garden was established. Alexandra Martin from St. Croix Environmental Association spoke about the environmental hikes the organization provided for both visitors and locals.

Ann Doward from the tourism division spoke about attitudes and the importance of taxi drivers being ambassadors for our tourist industry. Rudy G. O'Reilly Jr. from UVI's Cooperative Extension Service spoke about the island ecology and the importance of protecting areas that will enhance the tourist industry and our local economy.

I spoke about the history of St. Croix agriculture and how our culture related to agriculture.

The major objective of this workshop was to provide taxi drivers with accurate information about St. Croix's natural history. Also as part of the workshop, taxi drivers were given the opportunity to explore St. Croix by visiting areas that will enhance both taxi drivers' and visitors' experience of St. Croix's natural environment.

I see the taxi drivers as professionals and the eyes and ears of the V.I. economy. Since our economy is basically tourism, visitors who come to these shores see these islands through the taxi drivers. Thus, it is important for taxi drivers to be knowledgeable about the islands' natural history and culture.

First of all, St. Croix is not St. Thomas. Historically, St. Thomas was always a cosmopolitan island whereby trading and exchanging goods was a major part of the economy. Even further back, pirates used St. Thomas harbor for goods and strategic locations.

This was one reason the U.S. purchased the Virgin Islands, particularly St. Thomas, because of its strategic position in the Caribbean.

As history began to unfold in the early 1900s, tourism became a major force in St. Thomas because of its historical connection to trading throughout the world. Today, St. Thomas is a well-developed tourist destination that attracts large cruise ships from all over the world.

With it, however, came overdevelopment to the point where the natural environment is in jeopardy by man thirsty for the tourist dollar.

On the other hand, St. Croix was a major agricultural island, not a trading center. St. Croix is unique in that it offers a very rich natural, agricultural and cultural history.

Some people, especially those in government, fail to realize that St. Croix's tourist industry is different from that of St. Thomas. Yet, there are those in power who continue to push tourism down the throats of the local people on St. Croix thinking that it is our only savior.

The question is, how should St. Croix be marketed as a tourist destination? What are we marketing on St. Croix to attract tourists?

A starting point for tourism marketing efforts is a formal or informal marketing plan. St. Croix definitely has the potential to attract tourists culturally and environmentally. Visitors are struck by the old-world appearance and character of St. Croix — old buildings, most of them unfortunately in ruins, century-old warehouses once holding fabulous riches in goods, picturesque sugar mill towers.

These and other cultural resources are enviable assets from a point of view of tourist attractions. Few areas under the American flag have a more colorful history than St. Croix, but no area is less known or appreciated for what it offers.

St. Croix has the potential for developing activities around the environmental setting.

For example, tourists typically prefer to experience nature by hiking, bird watching, swimming, horseback riding or other outdoor activities than crowding into stores.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

The time is right for a return to our native Christmas trees

Olasee Davis
Our environment

Every year, people bring the forest into their home. The Christmas tree is decorated with lights and gifts are placed under it.

Although Christmas is the time when millions of people celebrate the birth of Christ, the Christmas tree is celebrated by millions subconsciously.

After all, Christmas is not Christmas without a Christmas tree. If you do not believe me, drive to the major shopping centers throughout the Virgin Islands and see people buying Christmas trees. Some people even buy artificial trees.

Trees are as much a part of our lives as we are a part of trees. Trees give us oxygen. And in return, we give trees carbon dioxide.

The greatest threat to mankind is not a nuclear war but the destruction of the tropical rain forest. Without the forest, man cannot survive. For example, about one third of the total number of earth animals, plants and microorganisms occur in South America.

Terry Erwin of the National Museum of Natural History has estimated that the total number of species in South America might be much higher. His calculations indicate a regional total of perhaps 15 million species.

Believe me, whatever the final figure, the number of unknown species is staggering.

The fresh waters of South America are inhabited by about 5,000 fish species. This amounts to about one-eighth of all the world's fish species.

On the Andes mountain slopes, 80 or more species of toads and frogs exist within one square mile — almost as many as in the entire United States.

Ecuador has more than 1,300 species of birds — roughly twice as many as are in the United States and Canada.

Hundreds of new species of animals and plants, including many tree species, are being discovered in South America yearly. Nearly 800 species of reptiles and amphibians known to man occur in Ecuador have been discovered since 1970, and many more still are being found.

The northern countries of South America are home to some 750,000 species that are poorly known to man.

About 85 percent of our food directly or indirectly comes from tropical rain forest wild plants. Plants are an important source of food, not to mention oils, chemicals, medicines, and renewable fuels.

Yet, we know very little about tropical organisms and their potential value to humankind. By saving the rain forest and animals species, we are also investing wisely in the survival of our own species. But despite the richness of tropical vegetation worldwide, man continues to alter and destroy the forest unwisely.

The dire consequence is the extinction of plants and animals species that took million of years to evolve.

Here we are celebrating Christmas with a tree.

As a child, I used to look forward to hiking up into the mountains with my father on St. Thomas to harvest our native Christmas tree. That was a cultural tradition for many local families. Today, the tradition has practically died out. In its place, we have imported pine Christmas trees.

Our native Christmas tree, locally known as inkberry, is a spiny shrub or small tree that grows about 10 to 20 feet tall. The trunk is about 3 inches in diameter with an erect axis and a think crown of many nearly horizontal spiny branches. The bark is smoothish and gray or slightly fissured.

The leaves are opposite each other and clustered into four at the end of short lateral stems. The flowers of the inkberry tree are small, with a four-lobed corolla. The berry contains several rounded seeds in blue and black pulp. The tree flowers throughout most of the year.

In the old days, local fishermen made rods from the rigid stems. A blue dye is also made from the berries, giving it its name.

The berries can be eaten and used for home remedies as well. The tree grows in thick and open forest mostly in dry coastal and mountain areas of the islands.

Why not decorate a native Christmas tree in your home this Christmas season. After all, it fits the definition of being native.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Trees to be sacrificed for UVI dormitories

Olasee Davis
Our environment

The world's tropical rain forests, the oldest and most complex biological ecosystems on earth, provide numerous products such as timber, pharmaceuticals and industrial materials. But they are being destroyed at an alarming rate. It is estimated that at the current rate, more than two thirds of the remaining rain forests will have been lost by 2000.

Some people might ask, So what?

People are entitled to their opinions. But deforestation affects everyone, even those who do not care about trees. It would be good, you know, if those who do not care about the environment could live in a world by themselves. Here in the Virgin Islands, saving trees has become a big issue.

You now can purchase a T-shirt from the St. Croix Environmental Association store in the Gallows Bay shopping area saying, "Respect Your Elders; Protect our Trees," referring to some of the mahogany trees that were cut down on Queen Mary Highway about a month ago.

Since Dr. Orville Kean became the third president of the University of the Virgin Islands, we have been hearing about building dormitories on the St. Croix campus. As a matter of fact, promises of dormitories on the St. Croix campus go back years. Kean has kept his word and ground will be broken this month.

The issue of trees comes up, however, because some of the mahogany trees that surround the greathouses on the hill will be cut down to build the dormitories. Many readers probably are wondering why anyone would cut down mahogany trees on this historical hill on the St. Croix campus.

To the public, it makes more sense to build the dormitories on open flat land, of which the St. Croix campus has 130 acres. But the University of the Virgin Islands has its own political power struggle within the university system.

All department heads on the St. Croix campus were informed about the building of the dormitories. But what happened, to my understanding, is that some department heads did not play their roles effectively and thus the issue of trees became controversial. If this plan was done right, the department heads would have realized the trees were an issue.

As it is, we have an institution of higher learning that should set an example for sustainable development involved in the controversy of cutting down trees.

The St. Croix campus has people on staff who have expertise in tree conservation. But they were not used to their fullest because of ism and schism among department heads. A person hurt about the whole issue turned to me and said, "Olasee, you worked for the university. Are you afraid of being fired from your job if you speak out?"

I turned to her and said, "I refused mentally to be controlled by those who have the power simply because they were given that authority."

I am not afraid, because the struggle to protect the environment is not a physical one but a spiritual one. I believe in the God of creation whose power is omnipotent.

In this life, you know, many of us are afraid to stand up for what we believe in.

During Danish rule of the Virgin Islands, landscaping was a part of the architectural design of buildings. On small hills like the greathouse on the St. Croix campus, trees were planted to control erosion and protect buildings from hurricanes as well as add beauty to the driveway. This type of cultural landscape design can be found throughout the Virgin Islands where greathouses and other historical buildings are located.

The forts in Christiansted and Frederiksted are two examples of how trees play an important role in laying out building designs. Even our cemeteries were planted with trees. These historical structures were built by strict building codes according to their environmental setting. The greathouse on St. Croix's campus was part of a plantation, but it also was used in the late 1800s as the place where people paid their bills during the central sugarcane factory operation.

The St. Croix campus greathouse is a good example of how the campus can continue the tradition of cultural landscaping. But this site for the dormitories was chosen for many reasons, from assisting disabled students to campus security. For every tree removed, the university plans to plant two. This shows the university's effort to maintain the campus' environment.

Many of us are looking forward to seeing the dormitories and ancillary services facility built. For many, this is the right step to attract students from other Caribbean Islands. Bringing students to the St. Croix campus will make the curriculum more diverse and attractive.

In spite of our differences, let us help the St. Croix campus grow into the 21st century.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Tree of life in more ways than one

Olasee Davis
Our environment

The issue of protecting trees, particularly on St. Croix, is still fresh in many people's minds after the controversy over a plan to cut trees along Queen Mary Highway. Out of this controversy, a new grass-root group was formed to address the preservation of trees and other environmental issues that affect the Virgin Islands community.

It makes me feel good to see local people getting involved in the struggle to protect our islands' natural resources.

The forest is a peculiar organism of unlimited benevolence that makes no demands for its sustenance and extends its benefits generously; it affords protection to all human beings, offering shade even to those who destroy it.

Tropical forest resources provide employment, food, fuel, medicines and other basic human needs for millions of people worldwide. The forest reduces the greenhouse effect and erosion and protects ocean fisheries. But the most important value of forests is the regulation of water. (It is because of deforestation that these islands have no major permanent streams.)

Trees of economic value once grew in abundance in these islands but are now rare. Some species already are extinct. One particular native species in the Virgin Islands that almost became extinct except in cultivated areas was the lignum vitae tree. Today, the lignum vitae is considered threatened and is protected by law because few grow naturally in the wild.

Buck Island got its name from a Dutch word for lignum vitae, pokholt, or pokhout.

The original name, Pocken Eyland, was changed to Bocken, Bokken Island and now Buck Island. Buck Island once was heavily forested with pokholt or guayaco trees. Guayaco is a variation of guayacan, the Spanish name for common lignum vitae (guaiacum officinal.) The lignum vitae wood is a self-lubricating hardwood sold by weight for its special use in bearings, bushing blocks for steamship propeller shafts, as well as making furniture and bowling balls.

The tree once was known as bullet wood because the wood was used to make bullets for firearms. The wood is extremely hard — much harder than mahogany wood. One cubic foot of the heartwood of the lignum vitae tree weighs 76 pounds, according to one source.

The rest of the tree was useful, too.

The bark was boiled for fish poison. The leaves and flowers are used for debility as well as for restoring energy. Different concoctions are said to relieve such ailments as asthma, diabetes, skin diseases and high blood pressure. From these uses came the name lignum vitae, which means tree of life.

Centuries ago, a group of Indians migrated from northern South America to the West Indies, and some settled throughout the Virgin Islands. On the eroding northwest tip of Buck Island, a shell mound was found which indicated a considerable period of Indian habitation. Indians practiced a limited agriculture, probably slash and burn. But we do not know how much vegetation was altered before Europeans arrived.

Some old timers on St. Croix say that some people used to live on Buck Island. They grew sweet potatoes on the northwest side of the island and cut trees down for charcoal. Sheep and wild goats once roamed the island as well.

As the ecology of Buck Island was changed by humans, the exposed eastern part that once was covered by lignum vitae and other trees burned naturally, but the fire stopped at the wetter part of the island.

When the Europeans arrived in these islands, thousands of forests were destroyed, some of it burned.

Other sources believe that another reason the lignum vitae declined in the wild is because it is a slow-growing tree. In the wild, when two species of plants have to compete for sunlight and other things to survive, the slower growing plant usually does poorly.

But the decline of lignum vitae trees in the Virgin Islands was mainly due to its commercial use. Trees, including lignum vitae, were cut for wood to build houses and boats and to ship to Europe.

The lignum vitae is a handsome small evergreen that reaches 15 to 30 feet in height with a short trunk 4 to 18 inches in diameter. The bark is smooth, a mottled light brown or gray and peels off in thin flakes.

The leaves are dark, shiny green and divided into two or sometimes three pairs of leaflets. In full bloom, the flowers are light-blue or purplish. The fruits are flat yellow orange and heart-shaped. When the fruit bursts open, the dark brown or black seeds are covered with a bright red skin, or aril.

The lignum vitae tree is one example of a species that is almost extinct. When we talk about planting trees, let us talk about planting lignum vitae trees, a true native of the Virgin Islands.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

We can learn from Barbados

Olasee Davis
Our environment

For the past six days, I was awakened by doves as they sang their lovely song in front of my hotel room in Barbados, where the 31st annual Caribbean Food Crops Society meetings were held.

This agricultural society was founded in St. Croix in the early 1960s. Many Caribbean agricultural scientists and scientists from Canada, North and Central America participated in the presentation of technical papers on food crops production in the Caribbean.

From the Virgin Islands, influential people in the field of agriculture attended the meetings, including Commissioner of Agriculture Dr. Arthur Petersen Jr.; former Commissioner of Agriculture Oscar E. Henry; Assistant Commissioner of Agriculture Dr. Akil Petersen;, Vice President, research and land-grant affairs of the University of the Virgin Islands Dr. Darshan S. Padda.

I enjoyed my stay in Barbados., But you know, many people of the Virgin Islands are connected by family roots to the people of Barbados. This began during the importation of slaves from Africa to the Caribbean. But even further, people used to travel from St. Croix, St. Kitts, Antigua, Dominican Republic, Puerto Rico, Barbados, and other Caribbean islands cutting sugarcane.

As a matter of fact, a lot of people on St. Croix who are in their 40s and up are descended from many other Caribbean islands. Personally, I came in contact with many people on St. Croix that told me how it was when they first came to St. Croix to work and cut sugarcane in Bethlehem and other estates on the island.

You see when I see the people of Barbados and the surrounding environment, I see myself in the way they look and live in their natural setting. As Virgin Islanders, many of us separate ourselves from other Caribbean people simply because we are American citizens. Many of us think so highly of ourselves, we believe we are better than our Caribbean brothers and sisters.

The Virgin Islands are part of the Caribbean, but we trade and exchange ideals more with the mainland than with our Caribbean neighbors. Because of ignorance, many of us do not believe that other Caribbean islands have anything to offer to us. Believe me, we are so wrong. The late Gov. Cyril E. King had the vision to reach out to St. Kitts and other Caribbean islands to exchange ideas of trade and how the Caribbean islands' economy as a whole could grow and benefit from each other and beyond the Caribbean Sea.

Our cultures in many ways are similar in food preparation, choice of words, and other things which make us so unique as Caribbean people. Barbados has so much to offer to us. This Caribbean island became independent from Britain in 1966. In many ways, the landscape of Barbados is similar to St. Croix. I was impressed with the agriculture industry in Barbados.

This island country feeds itself by supplying its people with home grown food. Sugarcane remains a big crop on the island, but such crops as carrots, onions, beans, sweet potatoes, cabbage, tomatoes, eggplant, and other vegetables grow in an abundance.

Oh no, the agriculture industry in Barbados is not primitive, but modernized with sophisticated equipment from planting, irrigation system, fertilizer, pesticide management to harvesting.

To me, it was so cultural to see women with their head tie in African style along with children, and men in the fields harvesting crops. As the members of the Caribbean Food Corps Society toured the island visiting farms and seeing historical sites, we learned that many of the food crops are exported to the European market.

The island also produces its own milk, meat, orange juice, and other local products. Barbados has no permanent rivers or streams, but the island is able to produce food in abundance because of underground aquifiers which supply water to both residents and the agriculture industry. This is mainly due to the formation of the island millions of years ago by limestone and coral, which created rivers underground instead of above.

Besides the strong agricultural economy, oil is another natural resource Barbados has. Throughout the sugarcane fields, you can see the pumping of oil. This natural resource supplies the island with gas and other byproducts.

The tourist industry also plays a major role in the island's economy. Million of tourists, mostly from Europe, flock to Barbados to soak up the island sun and explore the environment.

My most memorable moments of Barbados are the hospitality of the people and the enchanting environment. Next week, I will discuss the history, people, culture and the environment of Barbados.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

We must carefully plan our islands' growth

Olasee Davis

Our environment

Ever since these islands were purchased by the United States in 1917, a great many plans have been developed for economic development. But no over-all plan could be followed. Hence the accomplishments have been piecemeal rather than a continuous well-though out plan for these islands economic growth.

To grow, indeed to survive, a democratic technology-oriented society must anticipate and avoid changes that will detrimentally affect its basic life-support ecosystems: water, air, flora, soil and fauna. Otherwise our society is on a course toward extinction.

Furthermore, the faster that changes occur within our man-environment system, the more critical it becomes to search the future so as to adjust present policies and programs for coping adequately with future environmental problems. Thus, by searching out the prospects of what tomorrow's environments are likely to be, we can provide direction and scope to new policies that will insure a desirable future, a future in which we can live in harmony with nature.

But the future must be specified, and obstacles along the way must be delineated so that a desirable course — no matter how diverse and challenging — can be charted. Last year, former Gov. Alexander A. Farrelly signed into law the 18 Areas of Particular Concern. To me, this was one of the best local environmental laws.

However, these laws do not have much power until a management plans are put into place with enforcement. As you know, the Virgin Islands has many good laws, but no enforcement behind them.

I believe that one of the reasons we find ourselves in such a mess at times is that government has no continuity. In other words, every new administration voted into office has its own agenda.

There seems to be no follow-up on continuation on previous administration projects. Such projects as the Land and Water Use Plan and the Areas of Particular Concern analytic study are two good plans for growth now and in the future of these islands.

The Magens Bay area is one of the 18 Areas of Particular Concern that was signed into law and is now being threatened by future development. This area plays an important part in the Virgin Islands history and ecology.

Magens Bay is known for one of the best beaches in the world and it is a major attraction for tourists and locals alike.

According to the National Register of Historic Places, nowhere else in these islands is such a long cultural sequence known to be represented within such a small area as Magens Bay.

The main pottery found at Magens Bay site is one-of-a-kind. It is one of the outstanding sites in the Virgin Islands even though the newly found Tutu site added to the cultural history of these islands.

The mangrove forest of this area and a portion of Estate Enighed are also important ecologically which are included in the Federal Coastal Barrier Resources Systems.

This act was established in 1990 to halt development in low land areas and to protect valuable natural resources from being destroyed. In 1960, the U.S. Department of Interior and the National Park Service said Magens Bay was "the most highly scenic park" and recommended a recreation plan for it and public ownership of the Peterborg peninsula.

In 1991, the Territorial Park System commissioned by DPNR found "Magens Bay to have high quality scenery and superior marine and terrestrial values." The DPNR further stated that "sedimentation of the mangrove area could destroy natural drainage systems and greatly reduce the quality of the area for human use as a natural area."

Thus, the biological community of Magens Bay ecosystem is an important one to the beach area. For such a small area, Magens Bay has a very diverse environment — from salt-tolerant plants that grow at the tip of the peninsula to the southwest shore of the bay, where the vegetation changes to a moist forest with lush gallery forest along the guts in the upland areas.

The marine environment of Magens Bay is an important ecosystem with patch coral reefs scattered along the shallow water. Within the Magens Bay ecosystem, endangered species such as green turtles, bridled quail dove and rare plants play a significant role in this environment.

If large developments occur above Magens Bay, the once-clear water will be destroyed forever.

In 1988, The Daily News ran a series of articles about red mud that entered the bay. This problem occurred because of upland development.

You see, as a people, we will suffer economically because we are not serious about implementing plans to protect these islands' future.

Magens Bay water is clean today. People, what about tomorrow?

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Africa is an untapped garden of Eden

Olasee Davis
Our environment

Scientists have proven through archaeological findings of human fossils that Africa is the birth place of mankind.

The birth of civilization in Africa is also noted in the Bible, Genesis 2:10-14:

"And a river went out of Eden to water the garden; and from thence it was parted, and became four heads. The name of the first is Pishon; that is it which compasseth the whole land of Havilah, where there is gold; And the gold of that land is good; there is bdellium and the onyx stone. And the name of the second river is Gihon; the same is it that compasseth the whole land of Ethiopia. And the name of the third river is Hiddekel; that is it which goeth toward the east of Assyria. And the fourth river is Euphrates."

Thus, part of Africa was the original garden of Eden. The second river in the garden of Eden is known today as the Nile.

Africa has 95 percent of the world's wealth in natural resources from gold to diamonds. The wildlife and plants in Africa are abundant and diverse in species. Yet, despite all the wealth Africa has, it is one of the poorest continents in the world.

In my opinion, I believe that this is mainly due to the untapped natural resources the continent possesses.

Africa often evokes images of famine, drought, starvation and malnutrition. Yet, scientists say, the sub-Saharan area of Africa alone is home to more than 2,000 grains, roots, fruits, vegetables and other foods that has the potential to feed the whole continent and even the rest of the world.

The National Research Academy of Science stated that, "Africa which seems to face a perpetual food crisis, is full of overlooked and undeveloped food plants that are not being fully exploited in the fight against hunger."

Africa has more indigenous varieties of cereals than any other continent in the world, including its own species of sorghum, millet, rice and several other crops.

"This is a good heritage that has fed people for generation after generation stretching back to the origins of mankind," one scientists said. "But, strangely, it has largely been by passed in modern times."

Guinea grass, native to West Africa, is a good example of a crop developed to its potential. The grass is considered today as the "bread-and-butter" grass of the Caribbean, especially for the Virgin Islands' livestock industry.

The grass is also use medicinally to expel worms from children. Also, a local drink called chlorophyll is made from the grass.

Caribbean scientists have improved the guinea grass and now a number of commercially varieties are available. But in Africa, many of its native plants have lost out in popularity to such imports as rice, wheat and maize.

During Africa's colonial period, European missionaries and researchers judged unfamiliar indigenous grains inferior to foreign cereals such as wheat and corn.

The imported grains made convenient and attractive by modern milling, processing and packaging, also became the favorites of Africa. Over the years, African grains took on a stigma of being second-rate food for the poor.

Studying and improving indigenous grains in Africa should become an international priority, many scientists say. This, they believe, will create a new front in battling Africa's food shortages.

African grains tend to be hardy, less dependent upon large amounts of water and more heat- and drought-tolerant than other major cereal crops, experts says. African rice, fonio, pearl millet, sorghum and tef are potential grains scientists are looking at.

Farmers have grown rice in West Africa for about 1,500 years. This rice's genetic characteristics might be transferred to other rice to benefit production worldwide, researchers believe.

Fonio is another grain that researchers should concentrate on because of its high nutritional values.

Pearl millet was grown as wild grass in the southern Sahara 4,000 years ago. This grain has potential of becoming a major food crop worldwide because of its tolerance to heat and drought.

Although sorghum has spread from Africa to become a staple food for millions of people in dozens of nations, it is relatively undeveloped.

Tef is a staple cereal of Ethiopia that is ground into flour and used to make the flat, fermented bread, called injera, that sustains millions of people. This grain is rich in protein and iron, and well-balanced in amino acids, but little or no research has been done on the crop.

As research begins to focus on Africa grain crops, the Virgin Islands and the rest of the world will benefit from the once-garden of Eden.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Broccoli is vegetable superstar

Olasee Davis

Our environment

One of the major issues in the Congressional budget hearings in Washington, D.C., is medicine. We live in a country that has one of the best Medicare systems possible in the world. Yet, so many of us are sick. This is not to say the medical system fails us, but we fail ourselves in the way we treat our bodies.

Health is considerably more than the absence of a minor or major illness. It is partly biological status, a matter of how all the body's components function. It is partly a consequence of behavior, a reflection of our ability to co-exist with our surrounding environment.

According to Genesis 1:29: "And God said, behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in which is the fruit of a tree yielding seed; to you it shall be for food."

So we see from creation, God Himself has set in place a dietary plan. The book of Leviticus, chapter 11 took it further by describing what animals and fish we should eat.

Modern doctors today tell us from beyond heredity, there are numerous factors that influence our health: proper diet, exercise, rest, fresh air, water and environment.

Lately, there has been much emphasis on fruits and vegetables. I recall the story of Daniel and his three companions who refused to eat the King's meal. Instead, they ate vegetables and drank water.

"And, at the end of ten days, their countenance appeared fairer and fatter in flesh than all the youths who did eat the portion of the King's food." (Daniel 1:15.)

In the vegetable kingdom, one vegetable stands out — broccoli.

Americans are eating six times as much of this nutrition all-star as we ate in 1970, and consumption continues to increase, according to Lisa Barmann of the United Fresh Fruit and Vegetable Association.

Food experts recommend that we eat at least three servings of broccoli a week. Broccoli heads the vegetable honor roll because it is low in calories and high in vitamins A and C and minerals (iron, calcium and potassium).

It also is a cruciferous vegetable, along with cauliflower and other high-fiber vegetables of the cabbage family, and eating cruciferous vegetables is believed to reduce the incidence of certain cancers.

The dark-green flowers are really called buds, but beware when they open somewhat and change to yellow. Yellow flowers mean the vegetable is no longer in its prime.

The ancient Romans grew broccoli, and it remained an Italian vegetable until the 1500s when the French began eating it. Broccoli traveled to England in the 1600s.

Until 1920, there wasn't much broccoli in the United States except in Italian gardens. That year Italian vegetable growers in California shipped some broccoli to Boston, and the effort was successful.

In the past decade, Caribbean people have begun to eat broccoli. Among the cole crops, broccoli is relatively tolerant to environmental stress. It can tolerate heat to a greater degree than cauliflower. In the Virgin Islands, broccoli grows best in the fall and winter. This new year, why not eat more broccoli?

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Chemicals threaten permanent marine destruction

Olasee Davis
Our environment

Few months ago, it was reported in the media that hundreds of fish were killed at Halfpenny Bay on the south shore of St. Croix. This incident also occur at Sugar And Salt River Bay areas on the northwest side of the island. According to reported from the Division of Fish and Wildlife, bleach was possibly dumped into the sea water by someone to harvest lobsters or octopus from around the bay area.

The investigation of the fish kill at Halfpenny Bay indicated that there were no signs of net marks or spear holes observed on fishes that were found dead in the area. Also, many of these species of fish are consumed locally and several species are associated with the reef environment in the surrounding bay waters of Halfpenney Bay.

This fish kill occurred during the Easter season the report stated. A fisherman at Halfpenny Bay beach confirmed to one of DPNR enforcement officer that bleach is used by some individuals to harvest lobster. For the Sugar and Salt River Bay fish kill, it is possible that unwanted catch from gill net was used in the fishing activities in this area.

The Salt River Anchor Dive Shop reported that during the Easter camping activities numerous gill nets were found in the area. Species of fish killed at Halfpenney Bay were redhand parrotfish coney, peacock flounder, porcupinefish, and wrasse fish.

At Sugar and Salt River Bay species were southern stingray, porcupinefish, and white-spotted filefish. The perpetrators of this crime of killing fish do not realize that dumping bleach will slowly kill the reef and seagrass bed environment that marine life depend on.

Hundreds of years ago, the Indians and enslaved Africans of St. Croix employed a method of fishing that used a bark from a tree called dogwood. This tree bark had a fragrance that caused the fish to act crazy once they came in contact with it in the water.

In the early 1900's and up to the late 1960's, fishermen on St. Croix fished along the south shore without using bleach to catch lobsters. The whole south coast of St. Croix was a fishing ground particular Camporico, Good Hope, Carlton, and the Krauses lagoon where Hess is located today.

Beside setting fishpots along the shore, fishermen used a tree stem shaped like a fork to catch lobsters. In the 1700's, Reimert Haagensen stated in his note book, "Lobsters are available in abundance, but they have to be caught at night. Armed with a bright torch called a "flamboy" slaves go down to the beach at night and walking along with this torch, can pick the lobsters up with their hands. This is easily done because the lobster stay among the large rocks near the beach."

The mangrove forest and fresh water stream once dominated the south shore of St. Croix ecosystem. Marine life like sea turtles, lobsters, octopus, crabs, and oysters where in abundance. Reimert Haagensen said in the 1700's slaves harvested large oysters, but they were bigger and delicate than those in Copenhagen.

As the south shore developed, many species of marine life began to disappear because of the alteration of the south shore ecosystem. In the 1960's, Hess Oil Refinery and Harvey Aluminum Corp. were built on the south shore which destroyed and alter the mangrove forest ecosystem forever.

Also, the Anguilla dump, Crucian Rum waste disposal on the south shore and other developments added to the decline of marine life and increased beach deterioration. Now, the recent assault on the south shore bays is the dumping of bleach. This will add to the slow death of the reef environment.

If bleach continues to be the mean of harvesting lobsters, most of the south shore marine community will disappear because the presence of other organisms are not there to balance the marine environment.

Also, the surrounding reef ecosystem of Halfpenny Bay would be affected as well. The reef will die and marine species that depend upon the reef will disappear. In reality, we will have a dead bay.

As a community, we can help by calling DPNR on ST. Croix 773-5774 and ST. Thomas 773-3320.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Churches can play a role in saving environment

Olasee Davis
Our environment

I recently attended a community eco-summit sponsored by the St. Croix Environmental Association. This summit was organized to address community leaders and the general public to some of the environmental issues that face these islands.

Topics and speakers included government plans for solid waste, composting, environmental justice, recycling and the role of churches in environmental protection.

I was particularly taken by the seminar on the church's role, which was run by Dr. Job Ebenezer.

It makes sense that the churches also should be responsible for teaching environmental stewardship to its congregation. If I am not mistaken, God gave man dominion over his creation. To me, this pronouncement means to be a good steward of the Earth's natural resources:

"And God said, let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth." Genesis 1:26.

If God saw his creation as good, we who are created in his image should also be good keepers of the Earth.

As God created the Earth, he said: "Let the waters under the heaven be gathered together unto one place, and let the dry land appear: and it was so. And God called the dry land Earth and the gathering together of the waters called the seas. And God saw that it was good." Genesis 1:9, 10.

If God saw his creation as good, should that mean polluting the earth is a sin? Many of us never considered dumping trash in the streets as a sin. But churches teach that breaking the commandments of God is a sin against God.

Environmental stewardship is not only being a caretaker of Earth, but being a keeper of the Earth. To me, whenever we conscientiously

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Congregations can institute environmental tithing

pollute the environment, we are transgressing the laws of God. You see, church-goers are responsible as well as non-church goers to be good stewards of these islands.

Thus, pastors of churches have the responsibility to teach their congregations that God holds everyone accountable, not only for the way we treat each other, but also for the way we treat our environment.

In 1993, the Evangelical Lutheran Church in America passed a social statement on the caring for creation. The church challenged its members to commit themselves to personal lifestyles that contribute to the health of the environment. From this commitment, they came up with environmental tithing.

The church defined environmental tithing by stating: "We challenge ourselves, particularly the economically secure, to tithe environmentally. Tithers would reduce their burden on the earth's bounty by producing ten percent less in waste, consuming ten percent less in nonrenewable resources, and contributing the savings to earth care efforts. Environmental tithing also entails giving time to learn about environmental problems and to work with others toward solutions."

When Dr. Job Ebenezer talked at the summit about the role of churches in environmental protection, he gave some examples of environmental tithing. As individuals and as a congregation we should strive to:

- Reduce electrical usage by 10 percent.
- Reduce paper consumption at the church by 10 percent by printing on both sides of the paper whenever possible.
- Use recycled paper containing at least 10 percent post consumer waste.

These are just a few things Dr. Job Ebenezer mentioned in his presentation. Come on church members, do your part by protecting the environment of these islands.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Danish settlers on St. Croix abused island's timber supply

Olasee Davis

Our environment

In 1733, the Royal Danish West India and Guinea Company purchased St. Croix from France.

What was the reason behind the purchase of St. Croix? I can assure you, there was no gold on the island to bring Denmark to the Virgin Islands.

In fact, the Indian, Spanish, Dutch English and French had already inhabited the island. In the 1600s, tobacco and sugar plantations were set up to support the colony. Slaves from Africa were also imported to work with French "bondmen" in the tobacco and sugarcane fields.

These agricultural crops were exported to France. During this time, the French plantations on St. Croix began to deteriorate and the natural succession of the forest began to reclaim the cultivated fields. The French abandoned the island in 1696.

At this time, colonists from the British Virgin Islands found the rich stands of timber on St. Croix attractive.

Like the British, the Danes were attracted to St. Croix by the forest.

There were an abundance of large trees good for construction of everything from houses, to ships and machinery for sugar production.

The open land of St. Croix was covered with forest to the south plains; the mountains to the north were covered with a dense rain forest. With this uninterrupted growth of hardwood forest, the Danish West India and Guinea Company approached the French and convinced them to sell St. Croix.

While sugarcane production became the major economy of the new Danish colony, St. Croix's forests were the initial economic drive.

In a note dated 1739, Reimert Haagensen stated, "The amount of valuable timber and rare trees that were destroyed by fire and by the ax when the Danes initially started to develop the island is unbelievable. At that time, there was a great deal of forest and little else."

This description of St. Croix forest environment enables us to understand how the ecology of the

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island has changed since the 1700s.

It was the head wood of St. Croix forest that helped build Denmark and other European countries. Because of the high value of wood from St. Croix, the forest was abused to almost extinction.

The Danish government issued an order to save the forest, but it was of little use, because people still found ways of getting around the law. Believe me, many people got rich over night by selling timber to foreign countries. Many purchasers of forest land earned up to 100 percent to 150 percent of their investments off the land.

Many of St. Croix's woods were used in the construction of houses, windmills and horse mills. Woods such as mahogany, fustick, and pockwood were used to build cabinets, writing desks, chests, drawers and mirrors.

Pockwood tree, which is also known as lignum-vite, was also used to make wheels, ship's blocks, bearings, and steamship propeller shafts.

Medicinally, the resin from the tree was used for treating venereal disease, its leaves were used in tea to treat diabetes and high blood pressure, and its bark was used for fish poison. Today, these trees are rare in the wild on St. Croix and considered an endangered species.

Another wood valued for its usefulness was the dogwood. The wood from this tree was used to catch fish along the stream beds, open ponds and sea shores.

Haagensen described the wood's fishing properties: "Slaves go into the forest to cut the bark off a certain tree, called 'dogwood' in English. They collect as much of this bark as they can carry home, where they put it in sacks. Then they go out into the sea as far as they can walk, carrying the sacks and splashing them about as they go.

From this action, a fragrance or taste spreads into the water, having a direct effect on all the fish nearby, large and small alike, causing them to act crazy.

The fish then float to the surface of the water so that the slaves can quite easily gather them by hand while they are still alive, and string them together on a line."

After the Danish colonists had raped the natural resources from the land, they found St. Croix unprofitable.

Now we must ask, what is our attraction to the Virgin Islands? Is it greed, or being a good steward of the land?

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Development In V.I. Getting Out Of Hand

Guest Editorial By Olasee Davis

The road of protecting the environment in the Virgin Islands is a lonely one. You see, life is not easy as it seems. One has to fight mentally to make it through the day. We live in a world that seem to turn its back on everything that is good from creation. Man created in God's image was placed in sovereignty over the earth environment crowned with glory and honor.

But somehow along the road of this life man has lost sight of his responsibility of being a good steward of the earth resources. It is evident in these islands that our environment is in serious trouble. Soil erosion, groundwater contamination, oceans and water ways pollution, hazardous waste disposal, and land degradation are some environmental problems that we must face head on.

However, one of the fastest problems occurring in the Virgin Islands is the impact of over development on the environment particularly on St. Thomas. The carrying capacity of population growth on St. Thomas is beginning to exceed what the land can support.

This situation creates traffic congestion, limited space for housing development, pressure on sewer system, potable water supplies, and so many other things that are essential for life. The population growth projected by the year 2000 according to the Virgin Islands Comprehensive Land and Water Use Plan for St. Thomas is 54,745 .

Population projected growth for St. John is 4,732. On St. Croix, growth is projected as 59,217. Many people particularly on St. Croix believe that we have plenty of land to develop since there are large areas of "undeveloped land." What many of us do not realize is that areas on St. Croix are already planned for development even though the land doesn't have any structure developed.

So many of us are out of touch with the system of government in these islands that people are planning our life without we knowing it. Politically, as Caribbean people, we are tearing down one another while other individuals plan the Virgin Islands with not so much of our best interest.

Natives particularly of these islands will be the minority with little economical power. David Hamilton Jackson and others before us talked about the day will come when native Virgin Islanders will be land powerless. The day is here. Other Caribbean islands governments protect its people making sure that they determine their own destiny not somebody else.

Yet, many of us sell land unwisely not thinking about our children. Believe me, as we head to the 21th century land will become more expensive in the Virgin Islands. Many of us who even have a good education would not be able to own our land. This is mainly because of the limited availability of land and the high cost of living in these islands.

Recently, the senators Ok a moratorium on major coastal development until the Comprehensive Land and Water Use Plan is approved. Smart, more I believe. Cal you believe it? This government has been allowing development without a plan for years. St. Thomas is a good example of haphazard development.

The native controversy issue is nothing. The issue is deeper than we think. Economics is what drives the economy. The Casino Control Act mentioned about the Tier III system which is primary land for development. The Act also mentioned by definitions that more that 50 percent ownership of Tier III hotel-casinos with 200 to 299 rooms be limited to those who fit the definition. In this community, there are those sitting back and watching us fighting among ourselves over who is a native.

The real issue is economical power. Some real estate groups criticized the plan by saying that it will increase the cost of development. While development continues any old how, the most significant impact of growth and development in the islands is the degradation of land and the marine environment. Dredging to create marina sites, improve navigation and other coastal construction activities have increased over the years on a large scale which have altered and destroyed many of our natural cycles of the coastal marine resources.

For example, the dredging of Vessup Bay, Sapphire Bay, Bolongo Bay, Lindbergh Bay, Krause Lagoon on St. Croix, construction activities at the mangove lagoon on St. Thomas, Christiansted and Charlotte Amalie harbor are some areas that change the marine and coastal land for life. We often forget God holds us responsible for the way we manage our natural resources.

In fact, God designed the world in such a way that man depends on His creation for his very existence. Implementing the Comprehensive Land and Water Use Plan now is the responsible thing to do. You see, fighting for the environment is being responsible. Tell me, are we not the crown of God's creation?

Olasse Davis, St. Croix ecologist.

Environmental abuse hastened Mayan downfall

Olasee Davis
Our environment

This last article on Honduras will focus on the ruins of Copan and what they communicate about the downfall of the Mayan civilization.

When I first saw the ruins of the Mayan Indians in Copan, a town in the Northwest of Honduras, my mind traveled back in time. I knew that I was walking on holy ground of a great people.

Before the first white man landed in Central America, the Mayan people governed themselves for hundreds of years. The Mayan were not only good sculptors and architects, they were also extraordinary astronomers and mathematicians, developing the concept of the zero before even the learned men of the old world. In addition, they maintained an ironclad social organization.

This system of the Mayan Indians revolved around religion and royalty. For example, Copan was a ceremonial center around which kings and priests erected their dwellings.

The history of the Mayan people remains in engraved steles, hieroglyphics, temples, tombs, and altars. From them, epigraphists have succeeded in deciphering accounts of royal births, coronations, battles and conquests.

When I saw the pyramids of the Mayan Indians in Honduras, my mind reflected on the pyramids of Egypt. In fact, there were Africans in the Caribbean region and Central and South America before white explorers rediscovered these lands.

Pyramids in Copan, Honduras and other parts of Central and South America were influenced by Africans.

Ivan V. Sertima's book, "They came before Columbus," mentioned many Indians of Central and South America today even journey every year to see the "Black gods" in the National Museum of Mexico.

The Mayan kingdom in Central America include the northwest tip of Honduras, El Salvador, all of Guatemala, Belize, and southern Mexico. Today, these countries together have about 40 million people who are direct descendants of the ancient Mayan people and speak one of the 28 Mayan languages.

What I learned while in Honduras, the word "buccaneer" is a Mayan word which means meat. Interestingly so, one of our hotels on St. Croix is named Buccaneer.

From A.D. 250 to 900 was considered the "golden age" of the Mayan culture. During this time, it was believed that the Mayans had 60 to 70 principal cities; each king governed an area. Scholars believe that these cities were united together, forming larger political entities called "regional states."

In Copan, Honduras, there were some 16 rulers before the dynasty of Copan collapsed. No expert has been able to discover why the city of Copan was abandoned almost four centuries after it was built. However, archaeological investigation in Copan indicates a demographic growth that was unprecedented in Copan Valley history.

This brought a great burden on the agricultural system, which in turn caused a spiraling rate of environmental degradation. Because of the urban spread into the fertile valley, the human population was forced to spread to areas unsuitable for settlement.

Thus, the Mayan Indians began to deforest more areas, which were already sparsely covered by trees because of the demands for wood and other products from the forest. Archaeologists' work also indicates massive soil erosion in the foothills and mountains.

It is believed that climatic changes took place with intense droughts and disastrous floods during rainy season, caused by the lack of forest vegetation on the land.

Despite the demise of their civilization, the Mayans left in their footprints and in their genes a seed that now gives of its fruits to its people. Mayan descendants continue to strengthen their past while building their present and future.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Environmental racism alive in V.I.

Olasee Davis

Our environment

Many people of the Virgin Islands have probably experienced some form of discrimination in their lives. An environmental revolution shaping our country seeks to eradicate one form of discrimination, known as "environmental racism."

This new movement links human rights and the environment.

Even though the U.S. Constitution was created to allow the pursuit of liberty and justice for all, the system doesn't work the way it should for all people. Racism is still a serious problem, and environmental racism is one form of that problem.

Millions of Native Americans, Hispanics, Asians, African Americans, and other minority groups are trapped in polluted environments because of their race and color. These communities are exposed to greater health risks than the general population of this country.

It is clear that all Americans do not have the same opportunities to drink clean water, enjoy clean recreation facilities, breathe clean air, or work in a safe and clean environment. This inequality forms the basis of environmental racism.

The term *environmental racism* was coined in 1982. In Warren County, North Carolina, 500 citizens from a poor community of mostly African Americans began a protest when country officials selected the area for a PCB landfill.

This county was not selected for any special environmental reason, but because the people seemed powerless to resist the dumping of chemicals there. In America, people of color in rural and urban areas are the most likely victims of industrial dumping, uranium mining, toxic landfills and dangerous chemicals.

The Rev. Benjamin F. Chavis Jr. defined the problem by stating, "Environmental racism is racial discrimination in environment policy making. It is racial discrimination in the enforcement of regulation and laws. It is racial discrimination in the deliberate targeting of communities of color for toxic waste disposal and the sitting of polluting industries."

Environmental racism is worldwide. In 1988, the international community was shocked by the murder of Chico Mendes in the Amazon rain forest. The New York Times reported that "Mendes, a lifelong rubber tapper and labor union activist, considered his struggle to be founded not on ecology but on social justice and human rights."

Mendes' aim was to protect his country's rights to earn a livelihood from the Amazon rain forest by extracting latex from rubber trees and gathering nuts in seasons when rubber was not flowing. Once Mendes was introduced to the environmental movement, he realized that the struggle to empower his fellow rubber tappers and to protect the Amazon rain forest was the same.

Because Mendes fought to ensure his country would be preserved instead of slashed and burned for the benefit of a few rich people, he was killed.

Similar struggles have happened the world over.

At home, the St. Croix Environmental Association considers environmental racism to be at the heart of the plight of the Mid-Island Warriers. Some members of the group's housing community, which is located across from St. Croix Alumina Plant, have suffered serious health problems for years. SEA has tried to get a grant from the Environmental Protection Agency to help the residents in this community, but it was unsuccessful.

The list of environmental injustices on these islands is long, including residential neighborhoods that have wound across from the landfill and sewage treatment sites.

For this year's Earth Day celebration, SEA will host Jerome Ringo, a noted African American legislative lobbyist, who will speak on environmental racism. The occasion is scheduled for 7 p.m. Monday at the St. Croix Educational Complex.

I met Jerome Ringer last year at the National Wildlife Federation annual meeting in Washington, D.C. He is a forceful speaker on environmental issues relative to people of color. He has served on the Governor's Environmental Education Commission in his state of Louisiana, and developed Hispanic environmental education programs.

The struggle for environmental justice was not invented in the 1990s. This movement started years ago by people of color, but was considered a social problem rather than a political problem. Today, communities are demanding environmental justice. So should we.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

▼ FOR INFORMATION

On the environmental racism lecture call SEA at 773-1989.

Environment should be hot topic for this year's local election

Olasee Davis

Our environment

Most candidates who are running for a senatorial seat in the 22nd Legislature of the Virgin Islands hardly mention anything about the environment.

On their platforms and advertisements in the media, little is said about how we will address some of the environmental issues that these islands face today.

There are very few political leaders today that understand the real issues, except for when they make promises that they cannot keep. Often times, politicians work on people's emotions rather than coming up with real solutions to solve real problems.

We have many serious environmental problems in the Virgin Islands, including solid waste, water contamination, air pollution and soil erosion, just to name a few. Just this year, the Tutu Wells water contamination of chemicals and oil were a big issue. You see, we all are the primary cause of pollution.

Our actions aimed at extracting, moving, gathering, concentrating, and dumping have repeatedly swamped the environment with too much material. We also have introduced many compounds that are totally alien to the environment. Many of these substances are not biodegradable, and they accumulate or magnify in the food chains until they become toxic.

Pollutants are materials injected into the biosphere system that adversely affect all living things. For convenience, pollutants are often classified as air, soil, or water pollutants, as biodegradable or nonbiodegradable. But pollution should also be looked at as a whole, because what begins as air pollutant often ends up in the soil or water.

Nature also can be a polluter: Earthquakes, volcanoes, and hurricanes are major sources of natural pollution. Even wildfires, whose effects may be beneficial, can contribute to air pollution or to undesirable silt. But the intermittent and dispersed nature of these natural disasters lessens their impact on the environment.

The public should take note of an upcoming environmental conference. The Third Annual Virgin Islands Nonpoint Source Pollution Conference will be held at Marriott's Frenchman's Reef Resort in St. Thomas on Oct. 29-30. The theme is "New Direction for V.I. Development."

Nonpoint pollution comes from different sources of pollution. One source arises from rain water moving on the surface and through the ground picking up and carrying natural and manmade pollutants. These pollutants can end up in our guts, beaches, coastal bays, and even in our underground water supplies.

"The cumulative effects from nonpoint sources of pollution are a threat to the Virgin Islands' economy.

Toxic chemicals, heavy metals, oil and grease that are collected on our roads or parking lots are another source of nonpoint source pollution. In urban and shopping areas, the evidence is equally dramatic. Here, water quality degradation can be caused by sources such as surface erosion, storm water runoff, and careless use and disposal of household chemicals.

Septic tank systems also pollute the surface and ground waters when they do not function properly. They also stop functioning properly if they are not maintained correctly, or if hazardous chemicals are disposed down the drains. Bacteria and nutrients from animal waste, sewage discharge and boats in our water also pose a threat to our marine environment.

Agriculture also contributes pollutants to our coastal waters by overgrazing of livestock, excess use of fertilizers or misuse of pesticides. Soil washes off road construction sites and other unprotected clear areas are also considered nonpoint source pollution. As soil washes into guts and bays it affects the reefs, seagrass beds, and other marine life.

Developers, contractors, architects, planners, law makers, farmers and other interested members of the community are invited to attend the conference. In conjunction with the conference, school children will participate in a poster contest to express their views on nonpoint sources pollution in the islands. Exhibits will also be on display.

This conference is sponsored by the UVI Cooperative Extension Service and Eastern Caribbean Center, the U.S. Environmental Protection Agency, the USDA Natural Resources Conservation Services and the V.I. Resource Conservation and Development Council, V.I. Planning and Natural Resources and the National Oceanic and Atmospheric Administration Office of Ocean and Coastal Resource Management.

The cumulative effects from nonpoint sources of pollution are a threat to the Virgin Islands' economy. Believe me, the only control of nonpoint source pollution is through ongoing efforts to change public understanding and behavior.

For information about the conference, contact Janice Hodge of DPNR at 774-3320 or Julie Wright of UVI at 693-1082.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Federal government evaluates PNR's efforts

Olasee Davis

Our environment

Last Monday, the governor of the Virgin Islands gave an upbeat State of the Territory address to the people of the Virgin Islands. The bright economical future he painted for these islands gave many residents hope after the devastating storm called Hurricane Marilyn struck the islands a few months ago. After his speech, many senators made comments on how they felt these islands are headed.

Of course, there was political mud-slinging. This is the only way some senators believe that they can get recognition for what they are doing in the community. But we all know senators who looked out for the best interest of the people. As many of us listen to the governor's assessment of the economic conditions of the territory last Monday, the V.I. government also was evaluated by the federal government.

Jeffrey R. Benoit, director of Office of Ocean and Coastal Resource Management and the National Ocean Service, evaluated the performance of the Virgin Islands Coastal Zone Management Program from July 1991 to August 1994.

A continuing review of the performance of states and territories with approved coastal zone management programs is required under section 312 of the Coastal Zone Management Act of 1972.

The V.I. Planning and Natural Resources Department gets part of its funding from the federal government to carry out its programs. In the document, the evaluation of PNR was presented into two forms:

Necessary actions, which address programatic requirements to be carried out by PNR, and program suggestions, which denote actions that OCRM/NOAA believes should take to improve PNR programs if necessary. In the evaluation of the Planning and Natural Resources Department, the federal government found PNR's performance satisfactory in the implementation of the Virgin Islands Coastal Zone Management Programs.

However, the federal government reported several programatic concerns and made recommendations to PNR to address them. On the other hand, PNR made several accomplishments during the Farrelly administration which include addressing the coastal zone management needs identified in section 303, developing new laws to protect natural resources and other areas required by coastal laws to be implemented.

The Areas of Particular Concern was one of the accomplishments that PNR made during the last administration. In 1994, former Gov. Alexander A. Farrelly signed the APCs into law. Eighteen areas in the Virgin Islands were designated sensitive to development and receive special management plans under the new legislation.

Currently there is a battle between the St. Croix Environmental Association, the Friends of Jack's and Isaac's Bays, developer Franklin Knobel and others over the pristine wilderness area of Jack's and Isaac's Bays. This area is one of the 18 APCs designated and signed into law by former Gov. Farrelly.

Kevin Rames, the attorney for the developer, is trying everything possible to develop the property. Last August, the developer was turned down by PNR to obtain a minor permit. In the past, the developers tried to obtain a major permit but failed.

"At the end of this month, PNR has to make a decision on the developer's so-called complete application. Believe me, the federal government and the people of St. Croix, especially the children, will be looking on to see what PNR's position will be.

Rames and his associates want to develop Jack's and Isaac's Bays piece by piece until the entire area is developed. It is nothing but a scheme. At the end of this month, PNR has to make a decision on the developer's so-called complete application.

Believe me, the federal government and the people of St. Croix, especially the children, will be looking on to see what PNR's position will be.

Another accomplishment was the Comprehensive Land and Water Use Plan and the Virgin Islands Developmental Law. This document was submitted to the Legislature for final approval.

This proposed land law provides for a mixed use of development. It proposes to regulate height and type of development, location, density and other regulations that are necessary to control growth.

The plan also makes provision for open space, regulations to protect steep slopes, flood plains, groundwater, existing endangered vegetation and other environmentally sensitive areas.

In addition, the proposed land and water use plan addresses several issues such as developing a single tier system, redefining major and minor permits, revising subsdivision regulations and other issues relating to development.

The board of land use appeals, monitoring and enforcement, staff training and other issues relating to running the PNR department effectively were also discussed.

Over all, the federal government was pleased with the performance of PNR. However, if our local government would allow PNR staff to do their job effectively without interference, the department would serve the community better.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Forest field trip shows kids stark environmental facts

Olasee Davis
Our environment

Learning about our surroundings can be exciting. That's what a fourth-grade class from Claude O. Markoe Elementary School found out recently during a field trip to the Caledonia Rain Forest.

Before hiking into the rain forest, we discussed the differences between freshwater and saltwater aquatic communities. The children were surprised to learn that the ocean covers about three-quarters of our planet. They also learned about the importance of water conservation and preventing pollution.

The students were most excited to apply their learning while hiking through the Caledonia Rain Forest. During the hike, the students found freshwater fish, crabs, and lobsters.

Few children in the Virgin Islands have ever experienced night fishing in streams as our grandparents did in the early 1900s. As early as in the 1960s, many of St. Croix's streams lost their fish and freshwater lobsters. The Caledonia Rain Forest on the northwest side of St. Croix is one of the few areas left where freshwater fish and lobsters still can be found.

As the children hiked to the rain forest, you could see the excitement on their little faces. They found examples of medicinal plants, mosses, lichens, and liverworts.

As we walked along, we were shocked to see a large West Indian almond tree burned to the ground.

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We thought at first that somebody was camping out in the forest, and the fire had spread from their campsite.

However, as we hiked deeper into the rain forest, we discovered more large trees destroyed by fire.

It became apparent that somebody was destroying large trees in Caledonia rain forest. Believe me, everybody was sad.

The children were very disappointed when they could not go any further because of the smoke of burning trees in the path.

We talked about trees such as the West Indian almond (Terminalia captappa), sandbox (Hura crepitans), saman (Pithecolobium saman), kapok (Ceiba pentandra), mango (Mangifera indica), and the many other species that make up this forest ecosystem. The students learned that this recent destruction of trees in the rain forest would have an lasting effect on the running streams, fishes, and other organisms that make the forest their home.

So many of us just do not understand the complex system of a living forest. The forest gives life to us and contributes to these islands' ecosystems.

Today, we live in islands that are dying from the destruction of man's hands on the forest.

As you drive across St. Croix, you can almost count the trees on your hand. Within the past 6 years, two hurricanes have decimated the trees in the Virgin Islands. To burn trees in Caledonia rain forest is an insult to local residents, tourists, and our economy. To save our forests, the people of these islands must become watch dogs and protectors.

The forest of St. Croix was once dense with hanging aerial roots and leafy vines.

Today's forests on the island have become narrow strips of trees. Believe me, burning the forest down will only burn our economy. If we want to see St. Croix's economy grow, we must grow more trees.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Get active in community, contribute to V.I.'s future

Olasee Davis

Our environment

Before the death of the late Governor Cyril E. King in 1978, I promised him that when I finished college, I would return home and help the people of these Virgin Islands.

Those of us who knew King personally knew that he was a man of action and that he loved young people.

I recall a group of us young men had a meeting in the 1970s at government house on St. Thomas with the late governor to discuss agriculture and the environment.

At that time, there were some old tamarind trees in the market square area that were dying of lack of care. The governor turned to us and said, "If one of you young men was an agriculturalist, those old tamarind trees would have been saved."

To me, King was the best elected governor we ever had. He was a spokesman and champion for the people of the islands.

One way I am fulfilling the late Governor's dream is by getting involved in a community group. Last week, I attended an annual joint meeting of the Virgin Islands Resource Conservation and Development Council and the Virgin Islands Urban and Community Forestry Council. I am a member of both organizations.

The Virgin Islands Resource Conservation and Development

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COUNCIL

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Council, Inc., is a local nonprofit organization established to carry out a USDA program established by the Food and Agriculture Act of 1962, Public Law 87-703.

Our local VIRC&D mission is "To enhance the quality of life for the people of the Virgin Islands resource conservation and development area through the conservation of natural and cultural resources, and the stimulation of growth and development."

Over the years, the VIRC&D has helped thousands of residents through financial assistance, grant-writing workshops, leadership development, and projects involving such issues as irrigation and groundwater.

Many of these projects were developed jointly with federal and local government agencies and private, non-profit organizations. Last year, the VIRC&D Council was number one in the Caribbean and number two in the nation for its accomplishments.

The V.I. Urban and Community Forestry Council is another local organization aiding the community through a federally-funded program. The Council's mission is "to enhance our urban forests through education and strategic action."

This organization has provided financial assistance to many government and non-profit organizations in the community.

At the joint meeting last week we heard from speakers, including Juan Martinez, Caribbean area director from Puerto Rico; Elesa Cottrell, state conservationist from the national RC&D; Robin Morgan from the USDA Forest Service, and many others.

The VIRC&D Council identified six community needs and concerns. They are:

- Promote sustainable agriculture as a viable industry.
- Enhance community leadership.
- Encourage the conservation of our cultural and natural resources.
- Facilitate infrastructure improvements.
- Encourage diverse economic development.
- Improve the effectiveness of the VIRC&D council.

I left these meetings with the feeling we should all try to get involved, instead of running our big mouths. Only then, will we fulfill the late Governor King's dream —a better Virgin Islands for all.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

History finds many weed women

Olasee Davis
Our environment

Last week's column discussed the West Indian weed woman and her knowledge of medicinal plants. Today we'll look at weed women in history and in other cultures.

Historians say that man has been on the earth some five million years. But records of Neolithic hunters and gathers from 10,000 B.C. are the first mention we have of medicinal plants being collected and gathered. However, it is known that the early people of the earth found the beneficial use of medicinal plants through trial and error.

How women took on the role of using plants for medicinal use is not known. However, women experts in medicinal plants are found in many cultures. For example, weed women in Mexico, who were known as curanderas, had a great knowledge of plant properties and ways to prepare plants for medicinal use.

For instance, Maria Jesus di Avala in Mexico was a curandera famous for curing tuberculosis in its early stage of development. People from all over Mexico would come to see her for treatment.

Maria would listen to the patient's chest to determine the breathing pattern. If the disease was too far gone, she would tell the patient to consult a doctor. If the disease was at an early stage, she would wrap the patient in a blanket and place him or her in a chamber covered with heated stones to make him perspire.

After 10 minutes, the blanket was changed and the patient was carried into another an adobe hut. Each hour, the patient was given bush tea to cause the patient to sweat each time the blanket was changed. After four days of treatment, many patients felt better.

West Indian weed women have been celebrated through the use of weed women songs. Here is an excerpt of a song written by Taylor's Version from Barbados:

"One day I meet a old woman selling, and I wanted something to eat. I thought I could put a little bit in she way, but I take back when I did meet. I thought she had bananas, orange or pear, nothing that I need. I asked the old woman what she was selling. She said she was selling weed.

"She had she coat tie up over she waist, and was stepping along with grace, she had a pair of old clogs on her feet, and was waddling down the street. Just then she start to name the different weed, and I was really more than glad. I can't remember all she call, but these were a few she had.

"She had the manpeabber, womanpeabber, tan-tan, fall-back and lemon-grass, minnie root, gully root, granny backbone, bitter-tally, lime-life and caroon, coolie-bitters, cariella-bush, flat-earth and de iron weed, sweet bloom, foultongue and the wild-daizzie sweet sage and even to you.

"She had de cat-mint, de peppermint, soldier-rod, pastee-lena and de cow-foot bush, milk-weed, fitweed, bird-vine, de bishopcap bush and de rock-balsam, surinam bitters, de wild-greentree, three-fingers and the moroon bush, a worm grass, z-grass, man-grass, carroncrow, snake-bitters and also taxxan. She had cassava-mama, okra-babba, jacob-ladder, mixed with finegoria, job-tea, peter-parslee, john-belly-parslee and the wite clary. bill-bush, wild-cane, duck-weed, anisseed, war-bitters and wildgrey-root, she even had down to a certain bush Barbados called puss-in-boots.

"When I hear the names she called, I went down, can't even talk. She start to call from Camp Street corner, never stop till she reach Orange walk, the woman had me surprise. I didn't know what to do till a girl came along, one cuff in me eyes, and I didn't know who was who. Sweet-broom, sweet-sage and the lemon-grass, I hear them good making tea. When I hear Dutch grass, and the wild daisy am good to cool the body. Yes the woman tongue was even listed, calling out all the time, she only had a little Congo eye, but the other one now left blind."

Olasee Davis, has a master's degree in range management and forestry ecology, and is a St. Croix ecologist, activist and writer.

Honduras an interesting site for agri-conference

Olasee Davis

Our environment

This past week a group of agricultural scientists, extension agents and specialists from the University of the Virgin Islands attended the 32 annual meetings of the Caribbean Food Crops Society in Honduras.

Also at these meetings, the Agriculture Department agriculturists and a St. Croix farmer attended.

In the early 1960s, this organization was established on St. Croix for the purpose of bringing together Caribbean agricultural scientists and others in various fields of science to address the issues of agricultural development in the Caribbean region.

The theme was "the Role of Information Systems in Agricultural Development."

In order for agriculture to move ahead, scientific information-sharing is important for scientists to meet the challenges of today and tomorrow changes in food and environmental conversation. Thus, the Internet is a new tool for agriculture development in the Caribbean if the region is to be competitive globally in food production.

The electric character of the Internet and its penetration into almost every corner of the globe have created a rich and often unpredictable environment in which sharing information is sometimes more important than the geopolitical and social boundaries that separate us.

So if an agricultural scientist from the Virgin Islands wants information on a particular crop from Honduras for example, the Internet is a tool for obtaining the latest information available on the crop.

Just as complex life forms arise from a single organism, the Internet is revolutionary.

Our social and business practices are becoming visibly affected by the super highway of information. Thus, agriculture must change in order to respond to tomorrow challenges.

This is the first in a series of articles I will write of what I learned while I was in Honduras.

I will discuss briefly the political, economic, social, cultural, and historical aspects of Honduras and its people in Central America.

Honduras occupies an area of 43,433 square miles bordering Guatemala on the west, El Salvador on the south, and Nicaragua on the east.

It has coastlines along the Caribbean Sea and the Pacific Ocean, and is the second largest country in Central America after Nicaragua.

> **"Our social and business practices are becoming visibly affected by the super highway information. Thus, agriculture must change in order to respond to tomorrow challenges.**

Geographically, Honduras is divided into the coastal lowland plains of the Caribbean which includes the alluvial plains, the Mosquito Coast, the northern coast the central mountains and the Pacific region.

The Caribbean coast extends about 399 miles from the mouth of the Motagua River to the channel of the Coco River whose waters mark the frontier with Nicaragua and coast reaching the Gulf of Fonseca in the Pacific.

Mountains cover about 80 percent of Honduras' land mass with elevation reaching 9,843 feet above sea level.

For example, at the Gulf of Fonseca the mountains reach the coastlines where they are transformed into beautiful cliffs. The uplands of the northwest region give way to a savanna that extends to the coast. Honduras has a population of about five million people.

The heart of the mountains is where 70 percent of its inhabitants live. Only about two percent of the country is made up of plains areas.

The Pacific region is made up largely of lush mangrove swamps bordering the Gulf of Fonseca with narrow fluvial plains that reach as far as the mountain slopes.

Off this coastal area lies Zacate Grande island. The Caribbean region of Honduras call "the coast" which developed about two decades ago.

In this area, agriculture flourishes because of the number of rivers across the area. Among these are the Chamelecon, Paulaya, Ulua, Sico, and Aguan. In some of these areas are the country's principal ports — Tela, La Ceiba and Puerto Cortes.

On the eastern side of the coast is isolated by its own geography.

In this area live the Gurifumas people, a culture resulting from African slaves mixing with the native population.

This area extends from Puerto Cortes to the mouth of the Paulaya River. And from the Brus Lagoon to Cape Gracias a Dios in the north lie the country's most extensive lowlands known as La Mosquitia and where scattered tribes descended from the Miskito Indians live.

Off the Caribbean coast of Honduras stretch the archipelagos of the Islas del Cisne Swan islands and of the Bay which form part of the world second largest coral reef ecosystems. Traditionally, this area is where many coastal people fish which makes up part of their daily diet.

What makes Honduras so unique to me is the diversity of the topography and its people.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Honduras a political hot potato

Olasee Davis
Our environment

This week's look at Honduras focuses on the history and political struggle of a people becoming self-ruled from colonization.

In 1502, Columbus' fourth and final voyage found him near Trujillo Bay. Having landed in the deep water off the shore of the country, Columbus named it Honduras, which in Spanish means depth.

The coastal town of Trujillo in 1515 was the first Spanish colony and capital of Honduras. However, the Spanish were not satisfied with Trujillo for long and found more interests in the interior of Honduras. Thus, the town of Comayagua in 1537 of Honduras replaced Trujillo as the island's capital.

This new town became the political and religious center of Honduras until the capital was transferred to Tegucigalpa in 1880.

Before the Spanish dominated Honduras, there were resistance from the native people. In some ways, the Indians almost succeeded in driving out the Spanish from their homeland.

In 1537, chief Lempira of the Lenca tribe led 30,000 Indians against the Spanish. They were unsuccessful in running out the Spanish. Sadly, chief Lempira was murdered by the Spanish and the resistance of the Indians was largely crushed.

Around 1570, gold and silver was discovered near the town of Tegucigalpa which became a mining center for the Spanish colonies. Gold and silver from the Spanish colony were shipped from Trujillo Bay — attracting Dutch, British and other pirates to the port. The bay of Trujillo had many fierce battles among the pirates until the town was sacked in 1643 by the Dutch pirates.

While the Spanish focused in the interior of Honduras, the British settled the bay islands off the Caribbean coast. From the 16th to the 18th centuries, the British had a strong hold on the northern coast of Honduras. The British were attracted to Honduras and the Caribbean because of mahogany and other hardwoods trees that grow on the country's Northern coast.

In fact, Honduras mahogany trees arrived to St. Croix where the Danes established the first Honduras mahogany stand of trees in Davis Bay in 1908. This stand of trees are no longer there because they were destroyed when the Carambola hotel was built in the late 1980s at Davis Bay.

Like the timber industry on St. Croix in the 1700s, the British brought black settlers from nearby Caribbean islands to work the timber industry in Honduras.

The British controlled the whole northern coast of Honduras extending into Nicaragua until 1869, when they returned the land to the Hondurans. Today the British influence is still evident, especially on the big island where English is spoken among black Hondurans.

After Honduras' independence from Spain in 1821, Honduras was briefly part of the independent Mexico and Central American Federation. This federation was short lived and Honduras declared its independence as a separate country in 1838. As a new independent country, political tumult was a factor in the country. Honduras experienced hundreds of coups and other manipulation of political power.

In 1860, William Walker, an American, almost succeeded in taking over Central America at Trujillo, where he was later executed by a firing squad. The United States nonetheless succeeded in bringing free enterprise into Honduras.

By 1918, 75 percent of all Honduras bananas lands were held by U.S. companies.

By the end of the 19th century, the U.S. traders took particular interest in bananas — and by 1918, 75 percent of all Honduras banana lands were held by U.S. companies. Today the Dole company has the biggest banana business in Central America here.

The bananas that we buy from Pueblo supermarket from Dole come from Honduras and other Central American countries, where children 10 and 12 years old in some cases work the fields cutting bananas.

The powerful banana companies have a strong influence on Honduran politics. The United States, which has had a long history in Honduras politics and taking from its soil, also has a strong military force in Honduras.

We all remember the Contra War in Nicaragua in Central America in the 1980s. The U.S. military presence was increased during President Reagan's years to fight the rebels who were trying to stop democracy, the administration said. Today, Honduras is a democratic country with the three branches of governmental powers.

The legislative branch is represented by the National Congress of 128 elected deputies; the executive is made up of the president and the 13 members of his cabinet; and the judicial consists of the Supreme Court and nine judges chosen by Congress and the President.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Honduras bountiful in natural, human resources

Olasee Davis

Our environment

Many readers have told me they enjoyed reading the series of columns I wrote on Honduras.

One friend said to me, "Olasee I thought Honduras was a backward country in terms of modern technology." But as I've tried to show in these columns, Honduras is a country rich in natural, cultural, and human resources and has one of the highest standards of education in Central America.

From the depths of the turquoise blue waters of the bay islands off the north coast, to the peaks of the pyramids of Copan, Honduras is a beautiful country. Cities like Tegucigalpa, Comayagua, and San Pedro Sula have much to offer with their churches that harbor priceless paintings and engravings, and street corners that recall romance and song.

Village life in Honduras goes by gently, as if frozen in time. In the mountains, the dawns are peaceful and cool, redolent of coffee, firewood and fruit.

Given its resounding beauty, this country is one to traverse from one end to the other: villages, small and ancient, moored to the hillside; turbulent waterfalls in the midst of the matted foliage; islands virtually virgin and beaches of white sand.

In addition to its lakes, this country borders both the Caribbean and Pacific Ocean and has one of the world's largest coral reef ecosystems, in whose depths hold hundreds of marine species.

Honduras' dazzling natural environment is matched in beauty by its admirably conserved cultural legacy, which goes back thousands of years.

The country also offers the attractions of modern life, including museums, folk markets, handicraft centers, restaurants and a network of hotels that rank among the best in the world. Some of us were surprised to find fast food places like Pizza Hut, Wendy's, and Burger King in Honduras.

The country has miles of good roads, without the potholes we often find in the Virgin Islands. Those with an interest in archaeology will find in Copan the ruins of a vanished civilization. Its Mayan Indian mysteries could take one a lifetime to understand.

Honduras possesses incomparable riches that cannot be found in any other place on earth: The Honduran people, kind and hospitable, who make you feel at home.

I was fascinated by the beautiful campus of Zamorano University, where the Caribbean Food Crops Society meetings were held.

The campus lies in a fertile valley surrounded by high mountains. This area looks something like Fountain Valley on St. Croix, but only larger in size. The campus is beautifully laid out with buildings, fruit trees, corn fields, vegetables and plants of various species.

In the morning, the birds sing to you. At night, frogs say hello to you. Water from the high mountains run through the campus ground all year round, giving the countryside the appearance of a garden of Eden. Students are pleasant and smile at newcomers.

Zamorano University is a center of higher learning commited to

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provide an integrated agricultural education.

Their system of education is grounded in learning-by-doing. Their programs are designed so that when students graduate from the university, they have practical experience in addition to a degree in their hands.

Every day, students spend a couple hours in field laboratories putting into practice what they have learned from the classroom. Students rise before dawn to harvest fruits, grains and vegetables, plow fields, repair farm machinery, manage irrigation systems, milk cows, and produce cheeses and ice cream.

They also learn computer skills, accounting, plant identification, organic farming methods, landscaping and gardening. Overall, students participate in some 48 field laboratories to reinforce what they learn in the classroom. This institution encourages students to develop self-confidence, practical skills and the respect for hard work.

Students are required to follow a strict code of ethics with the goal of promoting honesty, respect for others, independence, hard work, productivity, and organization.

Who says Honduras is backward? Believe me, foolish talk.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Honduras is rich in cultural heritage

Olasee Davis
Our environment

Continuing our focus on Honduras, this week we'll explore the economic and cultural aspects of its people.

According to some economists, Honduras is one of the poorest countries in Latin America, with an unemployment rate close to 50 percent of the work force.

The question is, what does being poor mean? Is poverty measured by lack of material things or lack of economic security? Often time, we judge a country based on ignorance instead of facts.

One thing that struck me while in Honduras is the consciousness Hondurans have of their history and culture. Their emphasis on culture is all around. You can see it on buildings, woodworking, T-shirts, and other products. They may be a poor people to the standards of the western world, but these people have a rich culture, a heritage that goes back more than a thousand years.

The Miskito people, for instance, live in the Mosquitia region in northeastern coast of Honduras. A dark-skinned people, Miskito are believed to be a mixed of Indians and black Caribs, themselves a mixture of African and Carib Indians. Another group that inhabits the region, the Paya people, live in the interior regions of Mosquitia. Other people in this region are the Pech and Tawahka.

Many in the region are forest people, whose customs, skills and knowledge are fascinating. They earn their livelihood as hunters, gatherers, fishermen, and small-scale farmers. From their environment, they get meat, medicine, and shelter.

The Mestizo, a mixture of Spanish and Indian heritage, make up about 90 percent of the population. Then, we have the native Indians, who comprise about 7 percent of the population.

The Garifuna people, who make up about 2.5 percent of the population, preserve the heritage of their African and Carib ancestors. They were imported to the island of Roatan from the Caribbean island of St. Vincent in 1797. Today, the Garifuna live on the northern coast of Honduras. They still speak their native African language as well as English and Spanish.

Great contrasts exist in Honduras between those who have much and those who have little. Yet, one must understand that Honduras is a young, growing democratic country.

For sometime now, Honduras has been laying the economic and structural foundation necessary to encourage foreign investors. One example is the industrial free zone, where raw materials and goods are allowed to be imported without limit. Another example is the industrial processing zone, which grants fiscal benefits to foreign companies as well as domestic businesses as long as certain conditions are met.

The country plans to improve its economic outlook by diversifying its industries. It is encouraging the development of light industry dedicated to the finishing of various products that are exported to the United States and other countries. It is also giving preference to work done in high value woods, agriculture and the exportation of nontraditional products.

Up till now, the traditional Honduras economy has generated revenues through the export of coffee, shrimp, bananas, lobsters and minerals such as zinc and lead. The main products are bananas, corn, dry beans, melon, sugarcane, cotton, sorghum, tobacco, cattle and coffee. Other trades include forestry, fishing, hunting, manufacturing, services, transport and communications. The country's major markets are the U.S., which buys 54 percent of its export products, then Germany, Japan, Belgium and Italy.

With a Gross National Product of $3 billion, the crop and livestock industry provide employment for 46 percent of the work force. The country's second-largest trade is public administration, which includes the armed forces. The armed forces alone employs 20 percent of the population.

The third employment sector includes the production of sugar, beer and cement. Of the country's territory, 29 percent is covered by forests, 22 percent by pastures and 16 percent is farmland.

Honduras imports chemicals, plastic products, resins, transportation machinery, equipment, mineral and fuels. The major suppliers to Honduras are the U.S., Mexico, Japan, Venezuela and other countries.

Honduras tourism industry generates more than $30 million annually. Tourism is one of the fastest growing industries outside the industrial zone and is expected to increase.

Aid from the U.S. also forms a large part of the Honduras economy. In 1993, the U.S. earmarked $43.5 million, of which over half goes to developmental projects and 5 percent goes to the military.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Humans depleting V.I. resources

Olasee Davis

Our environment

In my last column, I talked about the geological make up of the Virgin Islands and how cultural forces affect our environment. This week, I will focus on the impact humans have on our natural resources.

Like so many other Caribbean islands, the Virgin Islands has been viewed as a place to be exploited for a short-term economic gain.

Historically, this exploitation began when settlers first established themselves on the islands. Early settlers abused the natural resources without taking into account the consequences they might have on the environment.

In 1651, the French reported that St. Croix had three rivers and 16 brooks. By the beginning of this century, sugar cane cultivation covered about 35 percent of St. Croix; as late as 1914, several streams and rivers were reported to have flowed year-round. In 1966, sugar cane cultivation on St. Croix was phased out and all the streams dried out. What was left was a few trickles of water flowing at higher elevations.

The impact of man on the Virgin Islands environment was devastating from the beginning of the first European settlement.

While the Spanish were among the first to come to the Virgin Islands, they were mainly interested in gold. So the colonization of the Virgin Islands was left to other European countries, notably the French, English, Dutch, and Danish.

St. Croix was the first island to be colonized, all while the English and French fought over the island. In about 1651, the French won St. Croix from the English, but they paid a heavy price for it. Two-thirds of the French died of an illness thought to have come from the "jungle forests" of St. Croix.

The French also burned some of the forests down for plantation agriculture. In addition, the forest burned naturally in the dry season.

Deliberate burning of the land was also done during the sugar cane era, where fields were burned before the planting of cane.

During the time of the French occupation of St. Croix, the Danes occupied St. Thomas. St. Thomas then was the major slave-trade center in the Caribbean. However, because of the demand for labor and other political reasons, the city of Charlotte Amalie with its deep natural harbor became known as one of the wildest city in the Caribbean. Clientele of this major economic boost on St. Thomas included pirates such as Blackbeard, Bluebeard, and Captain Kidd.

As the government became more stable on St. Thomas, the Danes turned more to agriculture. As a result, most of the mountains and flat land were deforested. In 1717, Denmark sent a small group to colonize St. John. Like St. Thomas, St. John's forests were also destroyed to make way for sugar cane, tobacco and other agricultural crops.

For the past 25 years or more, human activity in the Virgin Islands has most seriously affected the groundwater, undeveloped land and coastal environments.

Groundwater is being depleted because of poor management.

If you notice, large amounts of water run off the land into the ocean because of the "concrete jungle," the lack of cultivation, and continued deforestation. Perhaps the most striking change in the Virgin Islands in the past 25 years has been the construction of new roads, housing developments, and industrial facilities.

The carelessness of land clearing has accelerated the erosion of soil, especially after heavy rain. This affects the reef environment, which the Virgin Islands economy depends on. As the demand for fish, conch, lobsters and other seafood steadily increases with the rising population and tourist trade, few adult fish will remain in our coastal waters.

In addition, the impact of solid waste is a major problem for the environment and the people of these islands. Until 1974, solid wastes were pushed into the sea to solve our trash problems. Industrial wastes, municipal wastes, dredging, and quarries also are destroying the environment.

Believe me, if the upward trend of population and industrial growth continues and resource-management has not been implemented, some of the finite resources of the Virgin Islands will soon be depleted.

While politicians fight and people argue over issues like who is a native, the whole territory's environment is being destroyed by our inability to manage our impact on our fragile ecosystems.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Indian culture still alive in V.I.

Olasee Davis

Our environment

During the recent public forum on indigenous peoples of the Caribbean, participants learned how ancient Indian cultures of the Caribbean influence us today.

During the colonial period in the Caribbean, Europeans adopted many foods, crops, tools, methods, ways, customs and traditions of the Indians. They could not have survived otherwise in their new hostile environment.

African slaves also adopted some ways of the Indians, even though the environment they were taken from was similar.

As Caribbean culture developed, inhabitants incorporated parts of many languages, including Spanish, English, French, Dutch and at least three Indian languages: Carib, Arawak, and Tubi. African slaves also brought their native language with them. From these different languages, a creole language developed.

It was the Indians who taught the first French and English settlers of the Caribbean how to grow such crops as sweet potato, cassava, tobacco, pineapple, papaya, hot peppers, corn, and pumpkin. When the French and English creoles came to the Virgin Islands, they brought with them this knowledge of agriculture.

Some of the Indians' staple foods in the Caribbean were roasted sweet potato, hot pepper sauce, cassava bread, fish, shell fish, turtle, land crabs, and manatee.

The Indians taught the French how to grate bitter cassava, dry it in the sun as pancakes and bake it on a griddle into Cassava bread. This bread can be kept for a year or more without spoiling or becoming stale.

This skill persisted for centuries. As late as a few years ago, cassava bread was a big part of Caribbean people's diet.

Likewise, land crabs were the favorite source of protein for the Indians. Not too long ago, many Virgin Islanders still were eating crabs. In fact, crab and rice is still served as a native dish in the Virgin Islands.

Then, we have the hot pepper sauces, which were used by the Indians at every meal. Today, hot pepper sauce is still used in an abundance.

The method of fishing used by the Indians was also adopted by Caribbean people. The Indians used to catch fish at night with a torch. This same method of fishing was used on St. Croix by fishermen into the 1950s.

The Indians also made their own beer. One kind was made from mashed cassava, called ouicou. This type is no longer consumed. Another kind of beer, called maubi, was made from sweet potatoes. Today, maubi is a popular drink, although now it is made from the maubi bark from a tree, not sweet potato.

Corn bread was another meal for Indians. They would grind the corn using a concave stone and another round stone. After they formed it into dough, they would wrap it into a corn husk or leaf and place it in the coals of a fire to be baked.

This type of corn bread must be eaten while it is hot, since when it is cold, it becomes hard and bitter and is not easy to chew.

Many Carib words have passed into our language, including kineo, canary, maubi, gineo, gohi, kallaloo, maho, and mampoo, just to mention a few. In addition, many of the names for flora and fauna used in the Virgin Islands were borrowed from the Indians.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Learn to appreciate lizards by studying their differences

Olasee Davis

Our environment

I used to pretend as a child that I was a biologist who studied lizards. I would stay for hours in the bush watching lizards eating insects for dinner.

Like any other child of today or yesterday, I would get into mischief. I used to make guinea grass stems into hooks to catch small lizards. After I hooked a small lizard, I would put the small lizard's head into the big lizard's mouth to see if it could get away.

I was a curious child. My mother used to tell me, "Olasee, curiosity will kill the cat."

Despite my mischief, today, I am an ecologist, a person who believes in protecting the environment and its wildness — including such animals as lizards.

Lizards play an important role by helping to keep the environment in balance. This role includes catching flies, mosquitoes, spiders and other small invertebrates. Most species are harmless to humans.

Certain species of lizards have even been used to treat people for asthma. This treatment requires the making of lizard soup. Old folks will tell you that the treatment will only cure the asthma if you do not tell the person that he or she is drinking lizard soup.

The common gecko that we see in our house catching insects at night is the West African species, *Hemidactylus mabouia*, which was brought on the slave ship. Today, this species of lizard is known by some as the wood slave.

The wood slave's color varies from dark grey to white chalk with blackish markings. It has no eyelids; its eyes are covered by a large scale. Its toes allow the lizard to walk upside down.

Another common lizard is known only by its scientific classification, *Thecadactylus rapicaudus*. Some varieties of the *Thecadactylus* are almost as big as the world largest gecko. Some can reach over 7 inches in length with a head 1 inch wide. Like the wood slave, the *Thecadactylus rapicaudus* hunts insects on the wall at night. On St. Croix, they can be found mostly in old buildings.

The skin of this lizard is very finely scaled and delicate. The upper surface of the body is mottled dark brown on a beige background. Its head is broad. When it loses its tail, it can regenerate it, as most lizards can, but the regenerated tail has a puffy appearance. Its toes are very broad and slightly webbed. Its belly is light beige. It has been said that this species has a bark like a dog's, which is very loud.

The *Sphaerodactylus macrolepis* is probably the most common lizard in the Virgin Islands, but it is rarely noticed. This species' color ranges from grey to brown to blackish. It usually has a black blotch on the shoulder area, sometimes with two white spots.

Other species of lizards, such as the *Anolis acutus*, *Anolis pulchellus*, *Anolis stratulus*, and the *Mabuya mabouya*, inhabit Anegada, Virgin Gorda, Tortola, St. John, Jost Van Dyke, St. Thomas,

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Vieques, Culebra, and Puerto Rico.

The St. Croix ground lizard, *Ameiva polops*, is now on the endangered species list federally and locally. Although this species was first noted in 1862, very little is known about its life history, other than that it once populated areas of Frederiksted, Christiansted and the East End of St. Croix.

Quick-moving and delicate, the St. Croix ground lizard ranges from 7 to 9 inches in length, most of which is its tail. Its back is marked with parallel stripes of brown, black and white.

Its belly is light gray with bluish markings along the sides, and the undersides of its snout, legs and tail are faintly flushed with pink. The tail itself is ringed with alternate stripes of black and blue.

This species of lizard disappeared from Christiansted in 1920, and from Frederiksted in 1968.

Wildlife biologists believe the mongoose, which was introduced to St. Croix in 1884, is responsible for wiping out this species of lizard on St. Croix.

On Protestant Cay, two hundred lizards were estimated to have survived before 1968. However, the development of the local hotel in 1969 is thought to have reduced the population.

An attempt was made to introduce this lizard to Buck Island, but the mongooses there eventually wiped them out.

Today, the largest population of this lizard probably lies on Green Cay.

Recently, the St. Croix ground lizard was introduced to Ruth Cay, a man made island off the channel near the St. Croix Alumina Corp.

We hear about the endangered whales and other endangered species of the world all the time. What a pity if the St. Croix ground lizard were to be lost to us forever before we had learned to know it personally.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Leatherback turtles' past, future intertwined with Virgin Islanders'

Olasee Davis

Our environment

Though we are all God's creation, many of us do not pay much attention to our natural environment, particularly the younger generation of today.

The Virgin Islands' natural history is a part of our culture that our ancestors helped build. Those in the older generations, with their incredible knowledge about the natural history of these islands, need to be passing on this knowledge to our children.

Only then, will we all be able to appreciate our birth place and inherit the rich and ancient culture of the Virgin Islands.

George A. Seaman, a naturalist who is a native of St. Croix, understands this view. A man that has lived his life to the fullest, he appreciates the serenity and beauty of life in these islands, particularly in "Santa Cruz," St. Croix. He is a man that knows the Virgin Islands from the inside out.

How many children know that at this time of year, sea turtles come to our shores? Seaman described their arrival at Sandy Point as a "tryst of monster and beckoning sea-beach" where a sometimes tragic play is enacted deep in the night.

He described the play this way: "For ancient and enigmatic reasons best known to herself, this special spot holds survival charm for the great, lumbering turtle mother.

"Her monstrous body tingling with the timeless urge of reproduction, she moves to the sandy egg-drop site of her choice with an assurance and navigational skill confounding the two-legged predator hiding behind the seagrapes to rob her treasures."

The predators Seaman refers to, of course, are humans.

Today, leatherback sea turtles are an endangered species probably throughout most of the world. The shores of the Virgin Islands in ancient time used to have thousands of sea turtles. Even as late as the early 1900s, sea turtles used to migrate in abundance on our shores.

Sandy Point today is known as one of the largest leatherback nesting sites under the U.S. flag. The other popular nesting site is Culebra, Puerto Rico. Research has been

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conducted in both places to find out more about leatherback turtles' behavior in the natural world.

Although leatherbacks and other sea turtles are protected under the Endangered Species Act of 1973, they are still threatened by those who believe they are above the law.

Stray poachers are only part of the problem. Developers have a special liking for beach-front land that also happens to be prime mating grounds for leatherback turtles.

Last year, however, sea turtles worldwide won a big case when a U.S. federal judge ruled that countries exporting shrimp to the United States must adopt a sea turtle conservation program by May 1, 1996 or else face an embargo of their shrimp product. The suit was brought by a coalition comprising the Humane Society, Sierra Club, American Society for the Prevention of Cruelty to Animals, Georgia Fishermen's Association, and Sea Turtle Restoration Project.

Todd Steiner, director of the Sea Turtle Restoration Project, stated, "This decision will save more than 100,000 endangered sea turtles from needlessly drowning in shrimp nets every year, ending the largest killing of endangered species occurring in the world right now." He estimated that at least 124,000 turtles may be captured and killed every year in the nets of foreign shrimp boats.

This case has set an important precedent, ensuring that sea turtles will be around for our grandchildren. Perhaps they will be able to tell their children that sea turtles are included in the natural history of these islands.

After all, that's how sea turtles have survived this long, by telling their offspring to nest in the Virgin Islands, where their history also lies.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Let roses declare your love with sweet embracing beauty

Olasee Davis
Our environment

Love is the most powerful force in the universe. From a child, we reach out for someone to love us and for someone for we to love back.

God Himself recognized the important of a human companion for man when He created him.

And the Lord God said, "It is not good that the man should be alone; I will make him an help fit for him," Genesis 2:18.

According to the Bible, God created two of every species after its kind in the new earth environment. But for man, there was no other species like himself to love. Man was physically and emotionally disconnected from the touch of another human being like himself.

Thus, God created a help mate for Adam. With joy Adam said, "Tis is now bone of my bones and flesh of my flesh, she shall be called Woman, because she was taken out of Man." Genesis 2:23.

So without love, we lose the will to live mentally, physically, and even fatal illnesses or death can be the result.

When we love and be loved by someone else, we glow naturally with the radiance that affect us mentally, emotionally, physically, socially and spiritually.

Adam first love was in the garden of Eden. And today, there is no difference for the environment provides the perfect place for romances. Sunset, seashore walks —all of this and more provides a romantic setting.

Thus, nature reminds us of our deep connection with all living things. Roses bring out the best in us especially at Valentine's. In ancient Egypt, dried roses were placed in Egyptian tombs. This was an indication that death do not separate love even in the spiritual world.

Roses are one of the most popular garden flowers. The genus Rosa includes more than 200 species, and so many hybrids that mind boggles. Roses grow best where they have full sunshine all day. They will grow, satisfactorily, however, if they have at least six hours of sun, provided they are morning hours.

If the plants are shaded in the morning, their leaves remain wet with a dew a few hours longer than if they are in morning sun. Also, moisture will build up on leaves which will cause leaf diseases.

Roses should not be planted too close to buildings, where air does not circulate freely. This will cause disease problems.

Any good garden soil will produce good roses. However, your soil should be well-drained. Roses need plenty of water especially during dry season. Watering done in the morning of a sunny day will be less likely to cause leaf disease than if the water was done in the evening. Organic materials such as lawn clippings can be added to keep moisture in the soil.

Pruning also improves the appearance of plant by removing dead wood or branches. When you cut a rose from the plant, you sever it from its life-support system. As soon as the cut is made, the rose is in trouble.

A rose's natural support system consists of nutrients, sugar, cool temperature, anti-aging compounds and, most importantly an ample supply of water to carry the soluble ingredients through the stem.

That is why it is most important that you supply the cut rose with plenty of water. Research has shown that a molecule of water can move from the base of a 24-inch cut rose to the petals in less than 30 seconds when the rose is in the light at room temperature.

The cells in the stem of a rose, which carry the water, are like a handful of soda straws. As long as the straws are in a glass of water, you can draw water through them.

A couple of problems can keep a rose from drinking. When you cut the stem, its "straws" suck in air, forming a bubble that blocks the stem's and plates — tiny screens that allow water to pass.

Sugars that normally move through the stem to the plant's roots ooze out the end and are drawn into the water-collecting cells, where they crystallize.

This happens most readily when air has moved into these cells first. With the base of the stem blocked, water cannot pass to the petals. In short, it is cut off from its life-support system.

Fortunately, blockage of the stem is restricted to the first one-half inch from the cut. To avoid letting the base of the stem get another air bubble when the new cut is made, however, hold the base of the stem under water (either in a sink or under a running stream) while you make the cut with a sharp knife or shears.

Take care that the end of the stem doesn't dry off as you move it to its vase.

Roses should be cut late in the day. Research shows that roses cut late afternoon will last longer than in the morning. This is mostly because of the extra supply of sugar that the leaves stored during the day. After a long day, the leaves are saturated with sugar, so this nourish the flowers after they are cut.

On Valentines Day, why not give a rose to your sweetheart?

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Little Princess a typical V.I. estate

Olasee Davis

Our environment

Last weekend, I attended a seminar entitled "People and the Island Land Use and Natural History of Estate Little Princess." At the seminar, Avonice Martin talked about the slaves' lives under the plantation system. Historian George Tyson talked about historic buildings at the estate.

As one of the speakers, I talked about how cultural ecology influenced the plantation system and the development of Estate Little Princess in the 1700s.

Ownership of Estate Little Princess started in 1738 with the first Danish Governor of St. Croix, Frederik Moth. From 1746 to 1755 Governor Frederik Moth's heirs owned the estate.

In 1756 to 1772, Peter Heyliger Jr., member of a prominent Dutch family from St. Eustatius, acquired Estate Little Princess through marriage to Aletta Moth, daughter of Frederik Moth. Peter Heyliger Jr. died in 1772.

From 1772 to 1804, Peter Heyliger Jr.'s heirs owned the property of Estate Little Princess. In 1804 to 1914, the Mercantile Firm of Cornelius Durant Batelle in Christiansted owned the property.

From 1814 to 1818, Cornelius Durant Batelle's heirs owned the estate. In 1834 to 1846, Robert Innes Grant owned Estate Little Princess as well as Plessen and Mt. Pleasant. From 1846 to 1847 George Phillips and Alexander Lang owned the estate.

Widow Phillips in 1846 to 1862 and Hugh Percy in 1863 to 1878 owned La Grande Princesse, Glynn Windsor, Clifton Hill and also Estate Little Princess. In 1878 to 1879, Valdemar Meyer owned the property. In 1879-1922, Emil Svitzer, a native of Denmark who came to St. Croix in 1869 and married a St. Croix native called Maria, owned Estate Little Princess 1879 to 1922. They had six children.

In 1922, the wife of Emil Svitzer got the property. Around the 1950s, Opal and Clayton Shoemaker a couple from the United States came in possession of a 24 acre parcel of Estate Little Princess, which had been about 200 acres during slave days and sugarcane in the 1700's. In 1990 upon Mrs. Shoemaker death, the property was deeded as a gift to the Nature Conservancy.

However, when Emil Svitzer owned the property in the 1880s, he converted the hospital built for the slaves into a residence. This plantation once accommodated 140 slaves working the cane fields, and up to the 1960s, families living there cultivated crops.

A manager's house was built in the 1830s was renovated as a great house.

The limestone windmill tower built between 1750 and 1765 still stands as a testimony to the once wind-powered machine that crushed the juice from the cane. Later on, the windmill tower operation was modified with a steam driven engine.

The sugar and rum factory, built from brick and limestone in the 1740s, is where the cane juice was boiled to produce raw muscovado sugar. Then, the rum and sugar were placed into large barrels called "hogsheads" and shipped to Europe and North America.

It was slaves and their labor that made Frederik Moth and the owners of other estates wealthy. As on other Caribbean islands, the slaves on St. Croix at estates were worked practically to death. In 1848, physical slavery ended but the conditions on estates throughout the Virgin Islands did not improve.

The practice of bush medicine to cure illness was also common on estates. Tea and seasons for food were also used from bush by the slaves.

White owners of estates feared slaves because of their bush medicine. In 1750, Hughes Griffith mentioned that " . . . manchineel juice had been used by slaves to poison a planter." Thus, the West Indian Weedwoman, became popular in Caribbean cultural ecology among slaves particularly women.

Today, the Nature Conservancy plans to restore Little Princess Estate historical buildings and make the area the center for environmental activities, research, and education.

At Little Princess, the Virgin Islands community will be able to come and learn about the history of the estates, plantation economy and how the environment influences our culture. These play a major role in the development of our islands economy.

For information contact Nature Conservancy at 774-7633.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Native trees must be preserved from extinction

Olasee Davis

Our environment

Before people inhabited the Virgin Islands, the islands were covered with virgin forest. Streams and rivers flowed to the ocean constantly.

Like all biogeochemical cycles, the water cycle is powered by energy from the sun. Water vapor enters the atmosphere through evaporation from bodies of water and from soil and through transpiration from the islands' forest environment.

This water vapor in the cool reaches of the atmosphere condenses to form clouds. When water droplets become heavy, they leave the atmosphere and return to the Earth as rain. And so the Virgin Islands forest environment was enriched by the natural process of life-giving force.

About 4,000 years ago, Indians migrated from South America and settled in these islands. Small areas of forest were cleared for crops.

When Columbus arrived in the 1400s, the islands still were heavily forested. This was mainly because the Indians live in relative harmony with their environment and their tools limited them in clearing large areas of forests.

For 150 years following Columbus' landing at Salt River, there was no real effort by Europeans to settle the Virgin Islands.

Thus, the forest remained. From the 1500s to 1550s, Spanish immigrants engaged in several campaigns against the native people.

By 1587, the Spanish forced the Indians from St. Croix. From 1641 to the 1700s, the English, Dutch and French destroyed some of the forest environment of the Virgin Islands.

As a matter of fact, the French were blamed for burning down some of the forest on St. Croix. In 1733, Danish West Indies and Guinea Co. purchased St. Croix from France. During the sugar cane era, large forests areas were cleared for sugar cane cultivation. This was a major insult on the forest ecosystem of the islands.

The purchase of the Virgin Islands in 1917 was the biggest insult to the forest in these islands. This is due to the rapid urbanization and other man-made environment where many native tree species were threatened or in some cases became extinct.

A native tree is a plant that evolved centuries ago in a localized community environment and is subject to environmental conditions.

Also, written history, cultural history, ethnobotanical associations of the original inhabitants and the survival of virgin forest constitutes what is a native tree.

To understand the history of native trees, one must understand the geological history of the islands to explain current tree distribution.

St. Croix is a small island, but it is full of contrasts in topography and vegetation distribution. George A. Seaman said St. Croix is divided roughly into three categories. He stated: "From west to east we have a long lee coast backed by some gently rolling country ending into rugged hills and light rain forests."

The middle of St. Croix, he said, "... comprises a gently sloping terrain ending in grassy plains dropping to the sea. A narrow spine of hills cradles much of this heartland

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Book is practical, easy to understand

to the north. The narrow East End of this celt-shaped island is comprised mostly of jumbled hills covered with thorn shrub and many species of cacti ..."

Thus, one will find native trees growing in different parts of St. Croix because of soil type, topography and the distribution of rain. However, native plants are becoming rare due to the rapid development of the islands. The question is, how can we save native trees from becoming extinct.

Recently, a book was published — "Native Trees For Community" — in the hope of making island residents aware of the importance of landscaping with native trees.

The book, written by Kenneth D. Jones, horticultural curator for the St. George Village Botanical Garden of St. Croix, is an excellent guidebook of some 50 native trees.

The book talks about site selection for trees on your property. The first step is to determine whether you are using trees for shade, windbreak, barrier, farming or just creating an entrance into your driveway.

Planting, pruning, fertilizing, watering, staking and pest control of native trees also are mentioned in the book.

The book talks about the growth habits of trees, their economic and medical uses, conservational needs and the natural distribution of native trees on St. Croix. This book is for everyone because it is a practical and easy-to-understand guide to landscaping with native trees.

When we plant native trees, we are also saving ourselves from extinction. This book is available at Trader Bob's Dockside Bookstore in Gallows Bay, St. George Village Botanical Garden and the St. Croix Environmental Association.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Native Virgin Islander debate prompts history lesson

Olasee Davis

Our environment

The definition in the casino bill of who is a "native Virgin Islander" has been debated for weeks. This issue has caused so many people who have been friends for "donkey years" to fall out with one another. One person said at a public hearing on the topic that all of a sudden everyone now wants to be a native Virgin Islander.

This month we celebrate Black History Month. The debate over the native Virgin Islander definition is healthy because it shows for the most part many people do not know the history of the Virgin Islands, much less the entire Caribbean.

It is only ignorance, believe me. You see, many people talk from both sides of their mouth without much knowledge of their history. Tell me, how can one carry water in a basket with holes?

As a people, we must know our history in order to meet the challenges of today. We must understand that ignorance of ourselves only keeps us as Caribbean African people backward and confused.

From the earliest time of European colonization of the New World, there were native people prepared to resist settlers. The Amerindians made attempts to resist colonization of their land.

Some natives like the Arawaks fell easily to the superior powers of the Spanish and their greed. Eventually, these natives were eliminated.

The Caribs made European settlement of the Caribbean very difficult, but they were defeated. Today, there is a small group of Caribs that lives in Dominica and Black Caribs who live in St. Vincent and probably in other parts of the Caribbean.

Slaves from Africa transported to the New World were tougher in character. They had been taken from their homeland but were able to continue their struggle of resistance in the Caribbean and elsewhere.

On plantations, African slaves organized revolts against overseers. In 1734, 1746 and 1749, there were revolts on St. Croix. On St. John, slave revolts took place in 1733.

However, most revolts were short-lived as the government's armed forces quickly crushed such uprisings. The ringleaders and followers were captured and executed or punished as an example to the others. Yet this did not stop slaves from escaping the evil system in the hope of freedom.

The overseers called those who escaped the plantation system runaways, but they were popularly known as "Maroons." South and Central American slaves escaped Spanish masters into the rain forest.

Slaves also escaped from the Dutch and French plantations in the Guianas and formed their own small social groups. These cimarrons, as they were called by the Spanish, are also called "Bush Negroes" today.

Slaves who escaped from island plantations lived a risky life, as opposed to Maroons of South America, who could wander hundreds of miles into the Amazon rain forest. But on St. Croix, the Maroons protected the rain forest environment against the French.

These Maroons probably were the first environmentalists of the Virgin Islands to protect the forest from being destroyed. For weeks, Maroons fought the white settlers in the rain forest of St. Croix.

Gradually, the Maroons were driven to what is known as "Maroon Ridge" on the northwest side of St. Croix. There many committed suicide by jumping over the cliffs rather than be captured.

Because of the Maroons, there is still some virgin forest left in the northwest section of St. Croix. In this untouched forest ecosystem, wild bay rum trees and other species of plants still thrive.

In the Greater Antilles, Maroon societies developed in places including Jamaica and the mountainous Windward Islands.

Even those Maroons were on the run from white troops and special forests rangers. The deep forest valleys of Jamaica, Dominica and other large Caribbean islands were excellent hiding places for Maroons.

Such Maroon leaders in Jamaica as Cudjoe and Quao, in Dominica, Balla and Jacko and in St. Vincent, Chatoyer and Duvalle, were Black Caribs. These black runaway slaves had mixed with the native Caribs.

Are we talking Black History consciousness? The native Virgin Islander definition defends the heritage of my ancestors and yours. Those who oppose such definition — are you drunk?

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist a writer.

Nature hikes offer new ways to learn

Olasee Davis

Our environment

Recently, I took a group of high school students from the St. Croix Educational Complex hiking to the Caledonia rain forest on the north-side of St. Croix. The group was a biology class that wanted to be exposed to our local fauna and flora.

Mrs. Baeckus, the teacher of this class, wanted her students to understand that the natural environment is also a school where one can learn more of the real world.

As an ecologist, I try to make hikes educational and challenging. I'd like people to be able to take back with them a recreational expefience that helps them become more knowledgeable about other forms of life on Earth.

The opportunities are endless, from learning about man's impact on the environment, to how man obtains the basics of medicine, food, clothes and shelter. One can learn how to be a responsible caretaker of the Earth.

I taught the biology students that every organism on earth is categorized scientifically. For example, human beings, plants, animals and other organisms are classified by species, genus and family names. In this way, we are able to scientifically distinguish one sort of plant or animal from others that are not alike. If a new organism is discovered, it will be given a scientific name, which will represent its genus and species classifications.

Students learned the common names of plants along with their scientific names.

For instance, one plant that grows well throughout the Virgin Islands is tan tan. The scientific name for tan tan is Leucaena leucocephala. Leucaena is the genus and leucocephala is the species. Tan tan is just one of the many common names of the plant.

Since the tan tan and the casha bush are similar, I pointed out to the students that they both have the same family name: leguminosae.

However, within a subgroup of plants, each species has a different name. For instance, there are four species of casha plants growing in the Virgin Islands. They are Acacia macrocantha, Acacia polyacantha, Acacia tortuosa, and Acacia riparia.

These individuals plants have the same genus and family names, because of certain characteristics that are similar.

Other plants in the leguminosae family are the pigeon pea and the popular flamboyant tree. The pigeon pea, the flamboyant, the tan tan and the casha are similar because they all have seed pods.

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Plants in the same scientific family exhibit similar traits

This family of plants are also well noted for their ability to thrive in soils of low fertility. The roots of this family of plants have the capability of making their own nitrogen fertilizer from the nitrogen in the soil air. Because of this trait, pigeon peas were once planted abundantly on sugar cane land on St. Croix after the cane was harvested.

Both immature and mature seeds of legume plants like pigeon peas, lima beans, soybeans, mung bean, cowpea, and other food legumes contribute an important dietary source of carbohydrates and protein. The immature seed pod contains significant amounts of vitamins A and C, whereas protein, carbohydrates and some minerals are major constituents of the dry seed.

Many Old World beans, generally the small-seeded varieties, evolved in Africa and Asia and have been reclassified to the genus Vigna. These include rice beans, black gram and mung adziki.

The New World beans, including dry beans, snap beans and lima beans, make up most of the bean acreage in the United States.

Students learned on the hike that some plants travel with man throughout the world. For example, explorers and traders stocked their ships with both common and lima beans. Both the common green bean and the lima bean are native to Central America.

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Over-development lies at root of our environmental troubles

Olasee Davis

Our environment

The road to protecting the environment in the Virgin Islands is a lonely one. You see, life is not as easy as it seems; one has to fight mentally to make it through the day. We live in a world that seems to turn its back on everything that is good. Man, created in God's image, was placed in sovereignty over the earth's environment and crowned with glory and honor.

But somehow along this road, man has lost sight of his responsibility to be a good steward of the earth's resources.

It is evident in these islands that our environment is in serious trouble. Soil erosion, groundwater contamination, pollution of the oceans and waterways, improper disposal of hazardous waste and land degradation are some environmental problems that we must face, head on.

One problem that is quickly moving to the forefront is the impact of over-development on the environment, particularly on St. Thomas.

The population growth on St. Thomas is beginning to exceed what the land can support. This situation creates traffic congestion, limited space for housing development, pressure on sewer systems and shortages of potable water.

The Virgin Islands Comprehensive Land and Water Use Plan projects a 16 percent population growth by the year 2000. St. Thomas's population is expected to grow to 54,745; St. John's population is expected to grow to 4,732; St. Croix is projected to grow to 59,217.

Many people, particularly on St. Croix, believe that we have plenty of land to develop, since there are large areas of "undeveloped land." What many of us do not realize is that development is already planned for several of those "undeveloped" areas on St. Croix.

So many of us are out of touch with the government in these islands that we are not aware of how people are planning our life. It seems that while we are busy tearing down one another, others are planning the future of the Virgin Islands without our best interest in mind.

Natives of these islands will be the minority with little economical power. David Hamilton Jackson and others before us talked about the day when native Virgin Islanders will be land powerless. The day is here. Other Caribbean islands' governments protect their people and land.

Yet, many of us sell land unwisely, without thinking about our children. Believe me, as we head to the 21st century, as the cost of living continues to rise, land will become more expensive.

Recently, the senators OK'd a moratorium on major coastal development until the Comprehensive Land and Water Use Plan is approved. Smart, I believe. This government has been allowing development without a plan for years. St. Thomas is a good example of what happens when you allow haphazard development.

While development continues any old how, the most significant

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Beware coastal construction

impact of growth and development in the islands is the degradation of land and marine environment. Coastal construction activities such as dredging to create marine sites and improve navigation have increased over the years on a large scale. These activities have altered and destroyed the natural cycles of many of our coastal marine resources.

For example, we have permanently changed the marine and coastal land through the dredging of Vessup Bay, Sapphire Bay, Bolongo Bay and Lindbergh Bay on St. Thomas and Krause Lagoon on St. Croix. Other environmentally harmful activities include construction at the mangrove lagoon and along Charlotte Amalie harbor on St. Thomas, and construction along Christiansted harbor on St. Croix.

Implementing the Comprehensive Land and Water Use Plan now is the responsible thing to do. You see, fighting for the environment is being responsible. Tell me, are we not the crown of God's creation?

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Poinsettias firmly established as holiday tradition

Olasee Davis

Our environment

I am bombarded every holiday season with questions about poinsettias.

Native to Mexico, poinsettia (Eyphorbia pulcherrima) was first cultivated by the Aztec Indians, who considered the plant a symbol of purity. The Indians made red dye from its flowers and fever medicine from its milky latex sap.

But when 17th century Franciscan priests found the red flower plants blooming during the season of Advent, they used poinsettias to decorate the nativity scene during their Christmas celebration.

The plant got its popular name from Joel Robert Poinsett, the first American ambassador to Mexico.

In 1825, Ambassador Poinsett sent some of the plants to his hometown, Greenville, South Carolina. From there, the plants were distributed throughout the world to growers.

In the early 1920s poinsettias' popularity took off when Albert Ecke and his sons began to grow poinsettias along the road with other cut flowers in Southern California.

Later, the Ecke family potted poinsettias, thus changing the history of the plant. From there, breeding of the plant took place and several varieties were tried in the fields. As a result, such varieties as Oak Leaf were established, thus opening up the poinsettia industry. Many of these early poinsettia types carried the Ecke family name, a testimonial to the importance of this horticultural family.

Poinsettias are a tropical to subtropical plant, not suitable for growing in temperate climates. In the 1950s, poinsettias were being hybridized all over the world.

Today, plant magazines and local nurseries in the Virgin Islands carry a wide diversity of poinsettias. In these islands, wild species of poinsettias still thrive in our soils.

Red blooms are common, but there are all shades of red, from brilliant bright red to deep crimson. There are several shades of pink and outstanding white types. Several types have variegated bracts, speckled red, white, and pink.

Some people may wonder why poinsettias blossom only in the fall. As the environment influences man's behavior, so it can influence plants. Many physiological changes in plants are related to a seasonal change in day length. Such changes include breaking of bud dormancy, seed germination, and the onset of aging.

Poinsettias blossom in the fall season to produce flowers because of the long nights and short days.

There are no significant insect or disease problem when poinsettias are grown as a home plant. However, when the plants grow outdoors, they are very susceptible to white flies and other sucking insects. These pest problems can be controlled by applying pesticides or moderate pruning.

Poinsettias are also toxic. The sap of poinsettias are highly irritating to the skin of susceptible persons.

Here are some tips to ensure that your poinsettias survive during the holiday season:

1. When selecting a poinsettia, look for tightly clustered, small central flowers with crisp, bright foliage. Green foliage down to the soil line indicates the plant has active, healthy roots.

2. While some poinsettias require daily watering, others need it less frequently.

3. Indoors, poinsettias need at least six hours of natural light, preferably near a window to retain their color. The poinsettia life is shortened considerably by continuous dim light or darkness when indoors.

4. A temperature rate of 60 to 85 degrees per day is ideal for prolonging its color. Poinsettias flourish in high humidity.

5. Place plants out of the reach of young children and animals.

After the Christmas season, potted poinsettias can continue to grow all year round.

To learn how to grow poinsettias outdoors after Christmas season contact the UVI Extension Service on St. Thomas at 693-1080; or on St. Croix, at 778-9491.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Rain forest supports fragile flora

Olasee Davis
Our environment

When the U.S. Navy governed the Virgin Islands, the Creque Dam was built deep in the rain forest with the capacity of holding three million gallons of water.

The dam was constructed with the intention of supplying Frederiksted people with water. Today, this historical dam is not being used.

One of the reasons I believe Creque Dam was constructed in the valley of the rain forest is because of the trees, streams and rainfall.

The northwest section of St. Croix receives more rainfall than any other part of the island.

The topography on this side of the island plays an important role in the rainfall. However, the forest plays the greatest role, because the trees create their own mist, thus forming rain clouds.

One of the attractions that makes the Creque Dam rain forest so special to locals and visitors is the gray-green Spanish moss that often drapes over the dam water from branches of large trees.

This is one of the few places in the Virgin Islands where the forest gives the appearance of a ghost forest.

Jumbee beard, "old man's beard," Spanish moss, and ball moss all refer to types of air plants.

Such air plants are known as *epiphytes*. Epiphytes are photosynthetic plants that grow upon other plants.

They usually attach themselves to the bark of trees by means of roots or rhizomes, gaining support from the tree, but not parasitizing it. The water needs of epiphytes are met by rain or by water vapor in saturated air.

Essential nutrients reach the epiphyte from water that has leached through leaves and branches above, from air contaminants, and through microbial activity in organic materials that accumulate at the site of attachment.

Epiphytes occur in various ecological niches that range in light exposure from full sunlight to deep shade.

Epiphytic species have evolved in several plant families, notably the Bromeliaceae (pineapple family) and Orchidaceae.

In the Virgin Islands, we have several species of epiphytes, including Cactaceae, Cassythaceae, Araceae, Piperaceae, and Moraceae, just to name a few.

Lichen is another organism found growing in the Creque Dam rain forest that relies on the moist surroundings.

Lichen is a perennial compound organism consisting of a fungus and a green or blue-green algae joined in symbiotic union.

In the moist forest of St. Croix, lichen colonize on various surfaces, often on rocks and the bark of trees. The algae, through photosynthesis, supplies the fungus with carbohydrates and vitamins, and the fungus obtains water and minerals essential for both symbionts from the air and from the substrate.

As beautiful as the Creque Dam rain forest is, it used to be even more lush and green.

It is apparent that road construction made changes to the forest ecosystem over time. Trees were pushed aside to widen the road. In some areas, sides of slopes were cut down, thus opening up the forest canopy. Today, the dirt road that leads through this forest is being paved. Also, there is talk about opening up the old quarry near the historical dam.

My point is that when the air plants and lichens disappear, it will mean the rain forest of St. Croix is gone forever. Let's not wait until that time to try to protect such a beautiful natural resource.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Rezonings often don't consider impact on fragile environment

Olasee Davis

Our environment

The Coastal Zone Management Commission held a public hearing last week in the Senate chambers on St. Thomas. The large crowd listened attentively to Arden Development Corp., which wants to build a subdivision of 43 lots above Magens Bay.

The problem is that so much land in the Virgin Islands is rezoned without regard to what impact any development might have on the environment.

In my opinion, the zoning laws in the Virgin Islands means nothing if people can rezone land without a valuable reason.

Zoning laws in the Virgin Islands were established to govern the use of land. The topography, soil type and other characteristics of the land determine the land's use. Thus, soil interpretations particularly are made to aid in the understanding of how soil can be expected to react under certain treatment.

Past experience and studies reveal that soil behavior differs from one soil to another. When legislators rezone land, it isn't based on land characteristics but rather who is my friend in the community.

Today we have bars next to churches, garages in neighborhoods and the list of zoning misuses goes on.

A lot of environmentally sensitive land in the Virgin Islands where developers want to develop is not just the fault of developers.

The blame falls on legislators who permit land to be rezoned without a reasonable cause. In 1984, the rezoning of the 166.6-acre Estate Zufriedenheit near Magens Bay by the 15th Legislature became headline news for weeks.

The rezoning was to provide for a 390-room hotel and condominium complex on the southwestern corner of Magens Bay beach. Believe me, the senators who voted to rezone this land paid for it at the voting polls.

You see, some of these legislators think they know it all. Yet, few can tell the difference between a slope and a hill, much less dirt from soil.

The developers who wanted to build the hotel at Estate Zufriedenheit claimed that only 50 acres of the 166.6 would be developed. The rest of the land, they said, would be for 300 private houses, which would cause even more damage to Magens Bay's marine environment.

The public was so outraged by this proposed development that the Legislature rescinded the development. However, the same developer made a second attempt a few years later. This time, they proposed a resort-style development. They attempted to develop the Sydney's Fancy Community Center on the Peterborg Hill northwest of Magens Bay beach.

This project was discussed again in 1990 when the Board of Land Use Appeals overturned a 1988 decision by the St. Thomas Coastal Zone Management Commission, which rejected the application.

Nonetheless, most of the land on both sides of Magens Bay beach already has been subdivided into lots. A number of lots have structures on them, and construction shoreline properties have increased.

Many of these shoreline properties have very steep slopes. The soil limitation for septic tank filter fields in this area is severe.

It is unknown to what degree the surfacing of septic effluent has on Magens Bay marine environment. It is sad to see such beautiful places as Magens Bay destroyed by those who say they have the best interest of the people at heart.

Like Jack's and Isaac's Bays on St. Croix, Magens Bay is one of the 18 Areas of Particular Concern that were designated and signed into law by the last administration.

During public hearings held on the 18 APC's, staff recommendations and public input for APC boundaries were approved.

Magens Bay boundaries were set as follows: "Beginning at Tropaco Point, the boundary extends southeast along the ridge line to the peak west of Reseau Bay; then continuing along the ridge line south to the peak of St. Peter Mountain; then easterly along the ridge line to Signal Hill; then continuing along the ridge line to a peak at the base of Peterborg peninsula; then north to a point on the shoreline northwest of Lovenlund Bay; then north, passing to the west of Hans Lollik Island, to the shelf edge or three mile limit (whichever is closer); then west along the shelf edge or the three mile limit to a point directly north of Tropaco Point; then south to Tropaco Point, the point of origin."

As you can see, the Magens Bay APC encompasses a large area. The Magens Bay APC is an important recreational, historical, natural and aesthetic resource for the people of these islands.

The area is prized by tourists and residents alike for its panoramic views, forested areas, sandy beach and calm, protected waters.

By no means should we compromise the integrity of this priceless resource. After all, Magens Bay is part of our heritage.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Right tree can enhance your home

Olasee Davis
Our environment

At the root of every good landscape plan is the selection and placement of trees. But picking a specimen that will work over the long haul is not as easy as it seems.

The right tree choice can be a major enhancement to both environment and lifestyle. But make the wrong selection, and you will get a sore thumb that just gets bigger as the years go by.

There are dozens of native trees that will fit your landscape perfectly. But some trees can be more trouble than they're worth. Trees like flamboyant and bearded fig have shallow root systems that can damage a nearby sidewalk or driveway or cause problems with your cistern.

So it is important to know your trees — and your landscape objectives — before you make your selection. Do you need a tree that will provide shade, one for protection from the wind or a simply colorful accent? Do you need one that will frame your home, or one that will screen it from passers-by?

You also need to understand your soil and climate conditions. Some trees will only grow well with regular maintenance. For example, some trees require regular watering, while others are more drought tolerant.

Remember when locating your trees that two or three well placed accents can do far more for a landscape than a dozen crowded and struggling trees.

Some general considerations for tree placement include:

• Locate a spreading deciduous tree on the hot side of the house, usually the southwest corner, to create shade. If space is limited, you can use more upright trees. They may not provide enough shade for a seating area, perhaps, but they will cast enough shadow to shade a window.

• Avoid placing a large-trunk tree directly in front of your home. If you place it to either side and away from the house, it will frame it without obstructing the view of its exterior.

• Avoid planting tall, upright trees at the corners of the house. This only serves to accent strong vertical lines and give the home the appearance of being narrow and tall.

• When planning a screen, first determine the amount or privacy you want. Do not plant trees that will block your view.

Once you have selected your tree, it is important to give it a proper start. To plant balled-and-burlapped or container-grown trees, dig a hole large enough in diameter so that the root system has at least six inches of clearance on all sides. Make the hole no deeper than the root ball, which should rest on solid soil. In poorly drained soils, it is better for the hole to be too shallow than too deep.

To check the drainage of your soil, try this test. Dig a hole comparable in depth to the planting area. Fill it with water. If half the water does not drain out in 24 hours, consider improving the drainage.

You can improve drainage by digging two or three holes in the bottom of the planting hole with a post hole digger. Fill the post holes with gravel. Cover the gravel loosely with a screening material to keep the soil from compacting around the gravel. It is also possible, if the terrain permits, to dig a trench or lay a PVC pipe on the downhill side of the hole to remove excess water.

If such improvements does not provide enough additional drainage to the site, or if they are impractical or impossible to accomplish, be sure to choose trees known for their tolerance of such conditions.

Before planting your tree, always remove the container from the plant by inverting the container rather than by pulling the trunk. Handle the plant by the ball, not by the trunk, because a broken ball or disturbed root system can mean a dead plant.

Carefully place the tree in the hole. Backfill the hole with the soil that came out of it. You can add organic matter to existing soil for a 50-50 mix. When the hole is half full, stop and water thoroughly, then resume backfilling. Cover the top of the root ball with soil, but do not mound soil up on the trunk. After the hole is completely full, water the tree again.

Light surface fertilization at about half the rate for established trees is desirable throughout the first growing season.

There is an ancient saying throughout West Africa, "When the last tree dies, the last man also dies."

So why not plant a tree today?

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

St. Croix firm's environmental sensitivity has given new life to Krause Lagoon

Olasee Davis

Our environment

Recently, St. Croix Environmental Association board members were invited by the St. Croix Alumina Corp. to discuss environmental issues surrounding the plant. Warren Pedersen, a native of St. Croix and the plant manager, gave us a brief history of the company, a tour of the surrounding wetlands and red mud areas.

I have returned twice to speak with Pedersen about the mangrove forest and marine environment. As an ecologist, I am impressed to see such a good stand of mangrove, particularly the red mangrove forest. In fact, the south shore has the best stand of red mangrove on St. Croix — and all right next to an industrial plant.

One would assume that everything around an industrial complex would die. But often times, we make judgments based on emotion rather than on scientific facts when it comes to protecting the environment.

The Krause Lagoon, where St. Croix Alumina and Hess Oil Refinery are located, once had the biggest mangrove forest in the Virgin Islands. This area was a biological Garden of Eden with diverse aquatic, terrestrial, and wildlife species.

George A. Seaman, a native naturalist, once called the south shore Krause Lagoon the "Virgin Islands Everglade." He described the lagoon as "a sea, sand and mangrove wilderness of such ecological value and nostalgic beauty that it could take your breath away."

"Here in the evening," Seaman wrote "when the crameaux and mullet were jumping, when the clapper rails and willets filled the rosy sky with their haunting cries, when a long line of ducks swooped in for their late drink of fresh water, when everywhere, it seemed great, gray and white and brown kallaloo crabs were appearing from their holes to feed, and an early bat was caught in midair by a lone and deadly pigeon hawk — in one of nature's most dramatic exhibition — you just knew and felt that this place was something very special, for, did not the last flamingo known in the Virgin Islands come home here? And what have we swapped it for? Must I tell you? No folks. It's too sad a story to repeat."

From this description, it is clear that we have lost a wildlife treasure due to development. However, we cannot undo what is already done. The destruction of the Krause Lagoon brought irreversible environmental change, as well as the demise of the local fisheries productivity.

Nonetheless, this offshore area continues today to provide a valuable habitat, including seagrass beds, a mangrove forest, and an offshore dredge-spoil islet, which has become a refuge for St. Croix's rare ground lizard, red cocoa plum, and a variety of wildlife.

How is it that wildlife and a healthy mangrove forest still exist off the south shore of St. Croix Alumina Company today?

During the late 1960s and 1970s, Harvey Aluminum Corp., later known as Martin Marietta Alumina, decided to plant mangrove plants in the dredge channel where the high ships load and unload materials. This planting of mangrove was done by local school children.

Also, many other areas around the industrial plant were planted with mangroves and other species of plants. Aiding the health of the red mangrove forest was a series of cooling ponds designed to prevent foreign particles from entering the mangrove forest estuary.

Once in the 1970s, red mud dust was a problem. Today, the red mud forms a hard crunch on the surface where the wind cannot blow it away. Another plus for the St. Croix Alumina Plant is its good maintenance of the plant. The company follows EPA standards strictly.

Pedersen and his staff are conscious of their fragile environment, knowing that a good public relationship is important for a stronger economy. Believe me, you can feel his spirit when he talks and shows you around the plant.

> **"(Krause Lagoon was) a sea, sand and mangrove wilderness of such ecological value and nostalgic beauty that it could take your breath away.**
>
> — George A. Seaman
> St. Croix naturalist

St. Croix Alumina has proved that an industry can coexist with wildlife, once the company does its part to maintain and protect the environment. There are so many things the St. Croix Alumina company has done for the community that may not be well known. To learn more about the company, schools and other groups are invited to St. Croix Alumina mangrove forest wetland. Contact the company at 772-7601.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

St. John research station is too valuable to lose

Olasee Davis

Our environment

Recently, I heard that the Virgin Islands Environmental Resources Station on St. John may close down because of a lack of funding. As reported in The Daily News, this possible closing comes as a result of the University of the Virgin Islands' budget crisis.

It seems a shame that the university cannot seem to manage its money well enough to keep this important institution running.

In 1966, the research station was established in Lamshur Bay by Navy Seabees. In the early years of the station, its primary focus was the marine environment and the local fisheries. However, during 1969 to 1970, it was the base for such federal projects as Tektite I and II, and "Man in the Sea" programs.

The mission of these projects was to gather information on marine biology, to test new diving equipment, and to study aspects of human behavior such as the effects of long periods of isolation in underwater habitats.

The Tektite "Man in the Sea" program also helped lead to the establishment of the National Oceanic and Atmospheric Administration's continuing underwater research. After these projects were completed, the facilities were deeded to the College of the Virgin Islands.

In 1977, the mission of VIERS, as the research station has become known, expanded to include emphasis on educational programs and the needs of the Virgin Islands community. Thousand of local children have participated in the environmental education programs at VIERS. Here the children learn about the marine and terrestrial ecosystems of the islands.

With this knowledge, children can learn to appreciate the natural world and the importance of the environment's role in man's survival on earth. VIERS also attracts scientists from around the world, including biologists, climatologists, geologists, and oceanologists.

Steve Prosterman, a diving and field supervisor for the marine science department of the University of the Virgin Islands, was instrumental in establishing at VIERS a camp for youth with diabetes. This on-going project offers sport adventure for young adults with diabetes.

The objectives of VIERS are:

- to conduct training and educational programs on the conservation of Caribbean cultural and natural resources;
- to serve as a regional center for training and education in the natural sciences;
- to increase local awareness of the uniqueness and value of the Virgin Islands National Park and Biosphere Reserve;
- to promote regional environmental research;
- to sponsor and conduct basic ecological research.

VIERS is one of the top marine environmental institutions in the world. These facilities are valuable to the future of these islands' development, because they can provide scientific findings that help us manage our natural resources. People, let us help to keep VIERS doors open. Believe me, it is the right thing to do.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

St. Kitts is beautiful; I hope it stays that way

Olasee Davis

Our environment

In 1976, I visited St. Kitts, a beautiful place where the mountains touch the clouds and streams flow to the sea. The fields of sugar cane and villages dotting the coast also add beauty to the land. While there, I stayed with friends in the country village called Lodge.

Lodge Village is a lush green area overlooked by high mountains. It shares the island's friendly people, sugar cane fields, fruit of various kinds and monkeys and other wildlife that make St. Kitts a real tropical paradise. But like other Caribbean islands, St. Kitts has a long history of struggles.

In 1622, before Capt. Thomas Warner headed back to England, he landed on the island of St. Christopher, commonly known today as St. Kitts. Right away, he fell in love with the island and found it much easier to defend than the mainland.

When Capt. Warner returned to England, he obtained financial support from merchants and other people he convinced that St. Kitts was a wonderful place to settle. Capt. Warner returned to St. Kitts in 1624 with about 15 people. This was the first permanent English settlement in the West Indies by Europeans.

For this reason, St. Kitts was called "the Mother Colony of the British West Indies." Here, Capt. Warner met the Carib Tegramond, chief of all Indians.

The early European settlers of St. Kitts lived in rough conditions. They had to clear the forests and hoe the untilled soil. In this newfound land, food was scarce and hurricanes often destroyed their palm-thatch houses.

During this period, the Indians were of great help to the new settlers because they knew the island and its natural resources. The Indians provided the white settlers with food and fish while the settlers established their farms. The French later followed the English to the island and the countries agreed to divide the island among themselves.

In 1627, the English occupied the center of the island, while the French occupied the ends.

The increasing number of white settlers on St. Kitts was making the Indians concerned about their own safety and the right to their land.

In 1626, the Indians planned to attack the English and French who had settled on their land. This plot did not work, however, because a Carib woman named Barbe betrayed her people by informing Capt. Warner about the attack. The English and French organized themselves and surprised the Indians at night and killed hundreds of them. From then on, many Indians were driven from their island homes.

What attracted me most on St. Kitts were the monkeys and the lush, green environment. The green monkeys were introduced to St. Kitts in the 17th century. These animals probably descended from West African monkeys brought to the island by slave traders. Since the introduction of these animals, the population of monkeys has grown until today they inhabit virtually all of the uncultivated habitats of St. Kitts.

I talked to many local people in

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Development invading monkey habitat

Lodge Village about the monkeys. The people were kind and explained to me the feeding habits, behavior patterns and range of these animals' habitat. Local folks say one reason the green monkeys survive on St. Kitts is the abundance and variety of food.

The dense forest in mountain areas provided a variety of fruits and shrub plants, like the strawberry, that grows along the mountainside. The monkeys also feed on farmers' crops. These animals are so smart that they will dig up the sweet potatoes from underground and cover the ground like nothing happened.

The dense vegetation of St. Kitts also decreases predators and serves as an escape route for monkeys. Monkeys also are found in open areas, local people say. Bouts of grooming by monkeys occur in grassland areas, but is relatively rare because of predators.

Monkeys rarely forage in areas that are open and border on different habitats, but when they do, it is typically for a long time.

Some of the fruit trees such as clammy cherry are found on the edge of clearings. The clammy cherry (Cordia obliqua) is one of the monkeys' favorite foods.

Thus the behavior of green monkeys in St. Kitts is closely associated with their environment.

St. Kitts today is different from when I was there 20 years ago.

Development has begun to spread to areas monkeys once inhabited. St. Kitts can learn from the Virgin Islands, particularly St. Thomas, of what happens when development is out of control.

I do hope St. Kitts' monkeys have a future in the wild things of nature.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Storytelling heritage aided by V.I. plant life

Olasee Davis
Our environment

In the old days, storytelling was a major part of Virgin Islands culture. This form of education was passed down from our ancestors, who were brought here as slaves from West Africa. Today, storytelling probably is non-existent in our culture. Instead of parents telling their children the stories they learned from their grandparents, television has taken over.

Recently, I took a group of students from the St. Croix Educational Complex hiking to Annally and Wills Bay. To their surprise, they learned how some trees play a part in storytelling. As we hiked down the mountain side, one particular tree we came across was the Tibet tree. At the beginning of March, before the Tibet trees bloom, its seed pods begin to turn brown.

From a distance, the seed pods looked golden brown, giving the landscape of St. Croix an autumnal appearance. The Tibet tree is also called "women's tongues" or "mother-in-law tongues" tree. The story behind this tree is that the mother-in-law tongue tree daughter got married to one of the young men in the village.

As time went by, the mother-in-law tongue tree daughter and her new husband got into an argument. Things got so bad that the mother-in-law tongue tree heard about the argument from the village people.

When the Tibet tree dry seed pods begin to blow in the wind, it makes a loud rattling sound. This sound is attributed to the mother-in-law tongue tree chastening both the daughter and son-in-law for misbehaving.

In George A. Seaman's book, "Ay, Ay," he wrote in verse about this tree:

"'Women's Tongues' I presume that you will wonder/ Vainly ruminate and ponder/ (If you have a chance between the clouds of dust and heat)/ How these carefree, happy people, with their toy fort and their 'steeple,'/ (Now you stop to query if there are jiggers in your feet)/ Could have named so well a tree/ With a failing wide and free: Women's tongues./ 'Women's Tongues' from the first dawn-peep/ They rattle purr of love and song of bottle/ (Oh, how like those ladies that you left behind at home)/ Multiplying note on note/ Till the whole bright world's afloat/ (White or black or yellow they will dog you where you room)/ With calumnious exhibit from the branches of the 'Thibet-woman's tongues.'"

The maran bush is another plant that has a story behind it. This plant was known by grandparents as one that could help keep their grandchildren in line. In the old days, grandparents would strip all the leaves off a branch, leaving the stem bare. They would then soak the bare branches in water for a couple of hours. If a grandchild misbehaved, he or she would get one whipping with the maran bush.

The bush was so powerful, if you got whipped on Monday, you would still feel it on Friday. So whenever a child in old days wanted to misbehave, he would think twice before doing something bad.

The maran bush was also used for washing dishes, scrubbing floors and keeping lice away from the fowl house. A broom also was made from the maran bush to sweep the old dirt floors and brick ovens. A tooth brush could also be made from the bush, and its sap was used for wasp stings.

The maran bush grows in wet and dry areas throughout the islands. It grows six to eight feet high. On older bushes, the bark is smooth and gray. On younger bushes, the branches, blades, flower stems and flowers are covered with star-like, light brown hairs. The under surface of the leaves are more densely covered with hairs than the upper surfaces.

Another plant with a long history is the jumbee bead.

Folks used to put the red and black seeds from the jumbee bead in their lamps to keep the jumbee, or bad spirit, from coming inside the house. It was believed that whenever the jumbee followed you into your house and saw the seeds inside your lamp, they would run out of your house. It was also believed that if you did not have jumbee bead seeds in your lamp, then you would have to walk in backwards into your house.

The jumbee bead plant is a slender vine that grows about 20 to 30 feet in length on shrubs or trees. The older parts of the stem are smooth, but the younger parts may be covered with a few hairs. The seeds of the jumbee bead contain a brine, a deadly poisonous substance. If thoroughly chewed before being swallowed, one seed will kill an adult. The leaves of the jumbee bead can be used for colds.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

The mongoose haven't eaten all our native snakes

Olasee Davis

Our environment

Recently, I was hiking in the Caledonia rain forest with a group of summer students. One child asked me, "Mr. Davis, are there any snakes in the rain forest?"

I turned to the child and said, "we do have snakes in the Virgin Islands — probably here in the forest with us."

The children were shocked. They said, "Snakes? What snake? Where?"

Snakes were once a major part of the Virgin Islands environment.

When the mongooses were introduced in the islands in the late 1800s to control the rats in the sugar cane fields, particularly on the island of St. Croix, the mongoose wiped out practically every snake. However, few species of snakes have survived.

There are about 2,700 different kinds of snakes in the world.

Like the lizards, snakes have undergone extensive adaptive radiation and have come to occupy most of the major habitats of the world.

Some snakes are burrowing species and are usually small and have eyes that are hidden beneath the scales of the head. Other snakes have taken to the trees and seldom come down to the ground. One species of snakes are entirely marine.

In size, snakes range from tiny forms of only about 100 millimeters in lengths to the pythons which

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reach more than 9 meters long.

However, many people have strong feelings about snakes. A few find them fascinating and interesting. Other people find snakes repulsive, and some people even develop a real fear of all snakes.

Snakes, along with turtles and lizards, belong to the group of animals known as reptiles.

Snakes are secretive and usually prefer to move away when disturbed. But like some other animals, snakes may stand their ground, coil and strike when surprised or cornered.

Snakes are not cold-blooded, murder animals like some people make them to be.

In fact, snakes do not prey on people but on other living organisms. They function as predators in the natural environment.

When active, snakes feed on a variety of animals such as toads, frogs, salamanders, insects, worms, small rodents or birds.

Snakes reproduce in two ways. Some species lay eggs. Other species give birth to living young.

Young snakes develop rapidly and shed their skins to take care of their growth. Adult snakes may shed several times a year. They too have undivided scales on the underside of the tail.

The *emphisbaena fenestrata* is a native species, burrower snake and only seen when one is digging or turning stones or litter. This species is distinguished by its beige or pink color and the rings of scales around the body.

Amphisbaenids are voracious predators. If you handled one, it will bite you. Although these snakes are less than 10 inches long and ¼ inch in diameter, the bite can be painful.

Typhlops richardii are known as worm or blind snakes. They are grey or brown above and cream below with a cylindrical body and the tail ends with a sharp point. These snakes feed on soft-bodied insects such as termites.

The blind snakes are 5 inches to 10 inches long with reduced eyes and spend their lives underground. When threatened above ground, they will coil up with their heads protected by coils and wave their tails.

The Virgin Islands ground boa, *epicrates monesis*, is an exceedingly rare snake. These snakes are found mostly on the eastern side of St. Thomas. They are 15 inches to 30 inches long. Their bodies and tails are covered with an irregular crossbars in dark brown on a light grey-brown background.

The ground boa's heads are covered with irregular small scales. Their bodies are cream with irregular darker markings. These snakes are on the endangered species list.

The *arrhyton exiguus* snake is common on St. John and St. Thomas. They can be found under rocks, base of walls, and in moist litter areas. Their belly is white or light beige with a dark spot on either side of each ventral scute.

The upper parts of the body is brown or beige with a darker strip running down the side from behind the eyes. They are over a foot long. They eat frogs, small lizards, slugs and insects.

The *alsophis portoricensis* is a rare snake and is probably extinct on the large Virgin Islands. They are common on Hassel, Water, and Greater and Lesser St. James islands. Some reach over 2 feet long.

Most of these snakes are grey, brown or olive above the body, while some have longitudinal stripes on the sides. When threatened and cornered, they will raise their heads and flatten their neck like a cobra. These snakes will bite, but it's nothing to talk about. The diet is mostly lizards.

So you see, we do have snakes in the Virgin Islands. They are as much afraid of us as we are of them. After all, the forest was their home before we destroyed it.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

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Tree protection is a must

Olasee Davis

Our environment

With the financial assistance of the Virgin Islands Urban Forestry community Council, I was able to attend the forestry conference in Puerto Rico three weeks ago. This conference was designed for landowners, forest technicians, landscape contractors, and others who are interested in the forest environment.

For years, I have tried to educate the Virgin Islands public about trees and the importance trees play in the economical development of these islands. In almost every country I travel to including my recent trip to Honduras, trees play a major role in cities and urban communities. Honduras has national parks and forest preserves which are the country's natural treasure.

In the 1700s, the Danish government recognized the importance of trees by passing a law to protect the forest of St. Croix. In fact, the Danes were the first colonial government of the Virgin Islands to establish a forest of mahogany trees in Davis Bay in the early 1900's.

However, this present government has yet to send down the comprehensive Land and Water Use Plan to the legislature for debate. The plan makes provisions for preservation and conservation. Meanwhile, developments are spreading like wildfire throughout the Virgin Islands without serious thought of the environmental impact some developments might have.

Today, St. Thomas is a concrete jungle with little room for growth. Often when one cries out sincerely to protect the environment, it falls on deaf ears especially to those in political positions. Before the 21st Legislature comes to a close, many applications for potential investors in casino hotel development on St. Croix will probably get their wish without a proper investigation of the site as suitable and what will be the social and environmental impact on the area.

It is customary in the Virgin Islands for big development legislation to pass in a election year and also at the ending of a regular year. In all of this, trees are lost to what are call "progress". You see people, green space is important in order to have a balance in economical development.

In 1994, President Bill Clinton signed into law the National and Community Service Trust Act.

This legislation is a comprehensive program that provides support for nonprofit organization and other volunteer groups that make a difference in the community.

One of the main reasons for this legislation is to help people pay for college in exchange for community service. The local urban forestry programs are already educating the Virgin Islands urban community.

At the end of this month, the St. George Village Botanical Garden of St. Croix will be giving away hundreds of native trees to residents. Croix in the past. In 1995, the botanical garden also published a book "Native Trees for Community Forests" to encourage residents to plant native trees.

The program of the botanical garden was funded by the Virgin Islands Urban Forestry Community program. This is just one of the nonprofit organizations in the Virgin Islands that applied for a grant from the urban forestry program to do what they are doing now.

Also in 1993, President Bill Clinton and Vice President Al Gore introduced their "Climate change Action Plan". The Vice President spoke first by saying global climate change was the greatest threat facing the earth. He further said he "... feared that what we humans are doing to the only atmosphere we will ever have".

Trees alter the environment in which we live by reducing soil erosion, conserving water, improving air quality, moderating climate, and harboring wildlife just to name a few benefits.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer

Tutu well contamination shows need for regulation

Olasee Davis

Our environment

A recent report from the Science Council of Canada, the nation's advisory agency on science and technology policy, stated that Canadians must adopt a goal of sustainable use for water or risk compromising the basic integrity of their environment and their economic well-being. The report, "Water 2020: Sustainable Use of Water in the 21st Century" calls for a change in water use practices and a realignment of Canadian water science to help resolve new and emerging water problems.

Two years ago, I wrote an article about the danger in drinking water from the Tutu wells. Since the 1980s, volatile organic compounds have been detected in the Turpentine Run aquifer near the Tutu well fields. In 1987, the Department of Planning and Natural Resources and U.S. Environmental Protection Agency determined that 22 commercial, residential; and public wells in Tutu Well Field were contaminated.

Tetrachloroethylene, benzene, 1, 2, dichloroethylene and trichloroethylene were found in the Tutu well water supplies. The contaminated wells of the Tutu area are a good example of unplanned development that should never have happened. This commercial and residential area was allowed to build years ago on a major underground aquifer.

Today, an estimated 11,000 persons may have been exposed for about 20 years to the volatile organic compounds which increase the risk of cancer for those persons. Remember, these wells provided water throughout St. Thomas either directly or by water trucked to different parts of the islands.

Recently, we read in The Daily News that people must guard against touching contaminated soil and showering or even coming in contact with the water when washing their cars.

There are so many environmental violations in the Virgin Islands, and our government is a major part of it.

Believe me, thank God for the Environmental Protection Agency. If we did not have EPA to watch this government, we all would have been like sitting ducks waiting to be slaughtered. Last year, EPA fined this government for million of dollars in environmental violations. We live in a highly sophisticated educated society, but know very little of how rotten this system could be at protecting the best interest of heart for the people of these islands.

Often times, we are ignorant and believe totally that this government tell us. We do have minds of our own to think for ourselves. We have been taking our environment for granted for years. Many of us have dumped oil and other waste as we please into our soil surface and ground water.

The Tutu well contamination is due to improper disposal of hazardous chemicals or underground storage gas tanks leaking into the aquifer. Septic leaking into aquifers could also be another factor. There are a number of sources besides what's mentioned above could contaminate the wells.

A safe water supply should be available to every resident.

If the Tutu well water contamination did not make us a believer of protecting our environment, nothing will. I am a believer. What about you?

V.I. community has ignored waste problems for too long

Olasee Davis
Our environment

Many of us in the Virgin Islands fool ourselves by believing that when we dump garbage in our trash cans, our solid waste problems are solved.

Our government doesn't do much better. The government for years has been avoiding the territory's landfill problem, thinking that it will go away.

It hasn't. You see, we do as we please by throwing garbage any place we like. I know of one garbage bin in the Good Hope area on St. Croix where people have dumped anything you could imagine. Public Works had to post a sign next to the bin warning people not to dump beds, tires, televisions, etc.

Workmen from Public Works are even forced to guard garbage bins by hiding behind trees to see if people are obeying the sign's instruction.

Do you think people care about how they dispose of their garbage? Of course not. Even the Public Works Department has a careless attitude about the territory's garbage problems.

On May 14, Sen. Adlah Donastorg Jr. tried to address the problems with the Bovoni landfill, which has been plagued with several above-ground fires. Donastorg held a public hearing on St. Thomas to discuss the landfill. Public works, which regulates the islands' landfills, did not even show their faces at the hearing. This kind of attitude is held by many when it comes to environmental issues.

The U.S. government has tried to step in where local governments haven't. In 1979, the federal government mandated the U.S. Environmental Protection Agency to establish national performance standards for solid waste disposal facilities, with certain limited exceptions.

In the 1984 Hazardous and Solid Waste Amendments, Congress mandated revisions to these criteria.

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Rules on waste wait to be enforced

In 1988, EPA proposed revised criteria for municipal solid waste landfills. These new national criteria for the management of solid waste apply to all states and territories.

In 1991, EPA gathered extensive public comments and developed the final rules for every aspect of landfill management. The proposed regulations also contained specific restrictions on locating landfills at, on, or near flood plains, airports, wetlands, fault areas, seismic impact zones, and unstable areas.

In 1993, these laws became effective not only for the U.S. mainland, but also for the Virgin Islands. The question is, are we abiding by these new regulations to protect the environment and to safe guard people's lives?

The Army Corps of Engineers has even called the Bovoni landfill a "toxic waste dump." The situation is so bad at the dump site that people in the area have been treated for respiratory problems and other ailments.

The cause of the fires at the Bovoni landfill is methane gas, which has been building up underground for years. Methane is a product of the anaerobic (absence of air) decomposition of organic materials.

At municipal solid waste landfills, methane can migrate through the soil and accumulate in closed areas, where it can present significant explosion danger if not properly controlled. This gas also is explosive in confined spaces, when found in concentrations between 5 to 15 percent.

Landfill gas emissions are comprised of a mixture of carbon dioxide and methane, of which methane comprises 50 to 60 percent.

A normal landfill will generate methane at these concentrations for 10 to 20 years as waste decomposition takes place, although methane generation can continue for over 100 years. In addition to methane and carbon dioxide, landfill gas usually contains small quantities of volatile organic compounds. Volatile organic compounds are often toxic and sometimes carcinogenic. They may present an environmental risk at landfills.

However, due to the inherent danger, methods of controlling landfill gas have been developed. Two of these methods are known as active and passive systems.

Active systems use blowers to extract landfill gas from the landfill. In passive systems, trenches are dug around the perimeter of the landfill and filled with gravel and perforated piping. As methane forms in the landfill, it migrates to the perimeter trenches, where it travels up the piping and is eventually vented or flared. In some instances, a membrane liner is added to the outside walls of the trenches to further inhibit gas migration beyond the site.

Our local decision makers are charged with the task of instituting an overall waste management program. It has some work to do.

However, the community is responsible as well, for how they dispose of garbage. While solutions are possible, believe me, the talk of transporting garbage from St. Thomas to St. Croix is not the answer.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

V.I., expect more quakes

Olasee Davis

Our environment

Early this month, an earthquake rocked the Virgin Islands. The recovery from Hurricane Marilyn is not yet over for many island residents, especially on St. Thomas. But here we were, the earth rumbling under our feet from an earthquake measuring 4.7 on the Richter scale.

Believe me, nobody wants another natural disaster.

Earthquakes are a natural part of man's environment, and no part of the world can claim to be completely immune from them.

Seismology is the study of earthquake causes, their occurrences, and their properties. Seismology also makes use of seismic waves to study the interior of the earth, assist in oil and mineral exploration, and to detect secret underground nuclear explosions in distant places.

The history of earthquakes also runs deep in cultures and the writings of people before us. In ancient Japanese folklore, "a great catfish lay beneath the ground and produced earthquakes by thrashing its body."

A number of ancient Greek philosophers tried to explain the natural events of earthquakes. Strabo mentioned that "earthquakes occurred more frequently along coasts than inland."

The oldest earthquakes on record, dating back 3000 years, were in China. Such historical records are crucial to our understanding of the relation of earthquakes to the geological features of our earth.

It has been claimed that the first biblical mention of earthquakes is the experience of Moses on Mount Sinai. A more definite account of a biblical earthquake is the collapse of the wall of Jericho around 1100 B.C., and perhaps the destruction of Sodom and Gomorrah.

During the crucifixion of Jesus, an earthquake took place.

"And behold the veil of the temple was torn in two from the top to the bottom; and the earth did quake, and the rocks were split. And the graves were opened; and many bodies of the saints that slept were raised." Matthew 27: 51-52.

What causes earthquakes? No so long ago many people believed that the earthquakes were related to man's sin.

Most modern scientists say earthquakes result from the constant geological reshaping of our earth.

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Deadly quakes struck V.I. in 1867, 1918

Because many earthquakes occur near plate margins, many scientists believe that global geologic forces that produce valleys, ocean ridges, and mountains are the underlying causes of earthquakes.

These global forces, although not too well understood by scientists, are consequences of temperature differences in the earth. These differences, scientists believe, are from the loss of heat by radiation into the atmosphere and again of heat from decay of radioactive material in the rocks.

Earthquakes are simply the shaking of the ground. They also produce waves.

These waves are called seismic waves, which radiate from sources somewhere in the outer part of the earth.

Earthquakes can be violent and unpredictable. They can cause massive destruction by creating landslides or causing the sea to rise in huge waves that sweep inland from the coast causing destruction to buildings and properties.

In countries where earthquakes are more frequent, they pose major economic and social problems.

The Virgin Islands are in one of the most earthquake-prone regions of the world. Strong seismic shocks were recorded for the Virgin Islands in 1777, 1843, 1867, and 1918.

The earthquakes that struck the Virgin Islands in 1867 and 1918 resulted in 116 deaths and economic losses estimated at $4 million in 1918.

The 1867 tsunami, a tidal wave, was reported to have a height of 27 feet above sea level.

The potential for human and economic losses are greater today in the Virgin Islands. Scientists predict high seismic potential for a major earthquake here and in Puerto Rico. The Virgin Islands are classified as "Zone 4" for earthquake vulnerability, the highest damage zone and the same classification given to many parts of California.

A 1984 study prepared by Geoscience Associates said, "All earthquakes of MMVIII intensity (Modified Mercalli Scale) have a recurrence period of between 110 and 200 years for St. Thomas/St. John area."

The study further stated that such an earthquake could occur in the next 20 years.

Other scientists predict the Virgin Islands will be struck by an earthquake at any time now.

St. Croix is on a different shelf platform from St. Thomas and St. John. However, the Christiansted and Charlotte Amalie waterfront areas are vulnerable to an earthquake today if one occurs, because of the filled-in land from which they were created.

You see, nature is speaking to us and nobody is paying attention. Believe me, the big one can come like a thief in the night.

Virgin Islands has long agricultural history

Olasee Davis

Our environment

This weekend, the people of the Virgin Islands and other participating Caribbean islands will celebrate 25 years of the V.I. Agriculture and Food Fair.

Historically, the agriculture fairs were held during the 1930s and 1940s at the former Agriculture Experiment Station at Estate Anna's Hope on St. Croix.

In May 1910, Mr. J. R. Bovell, superintendent of agriculture in Barbados, was invited by the government of the Danish Virgin Islands to give expert advice about forming an agriculture department and to report on the prevailing diseases of sugar cane and cotton. As a result of Bovell's visit, the Agriculture Department on St. Croix was inaugurated.

Longfield Smith, lecturer in natural and agricultural sciences with the Barbados Agriculture Department, was appointed its director in December 1910.

Thus the birth of modern agriculture research was born in the Virgin Islands. Estate Anna's Hope Agricultural Experiment Station was the perfect site for the birth of Virgin Islands agriculture fairs. In those days, the agriculture fair was called an agricultural field day and attracted thousands of people.

At that time, many small farms dotted St. Croix. Roughly speaking, more than 400 family farms produced all kind of native fruits, vegetables and ground provisions. In addition, large farms raised large and small livestock such as sheep, cattle, goats, swine and poultry.

Like today's agriculture and food fair, the farmers of those days looked forward to these field days because they were the highlights of the year and occasions when residents could get first-hand exposure to what the farmers produced. St. Croix has a rich agricultural history that people, especially our children, need to know.

Both visitors and residents often ask why St. Croix has so many sugar mills and greathouses. St. Croix was called the breadbasket of the Caribbean and the garden spot of the Caribbean. This is Caribbean agricultural black history.

Today the agriculture and food fair is one way people are exposed to what Virgin Islands farmers can produce. The sad thing is that the agriculture industry of the Virgin Islands is a low priority when it comes to the economic development of these islands. Just as we have an environmental heritage to protect, so we need to encourage agriculture.

All over St. Croix, we have ruins of plantations, but how were they structured? How did these plantations get their names? There are so many things I could tell you about the history of agriculture in the Virgin Islands, it would take me days, weeks, probably months or years. We have a rich heritage, and we do not even market St. Croix agricultural history as part of our tourist destination.

For some reason, the agriculture fairs were discontinued until 1971, when they were established at the Estate Lower Love Agriculture Station. The first elected governor of the Virgin Islands, Melvin H. Evans, made the first statement about the renewal of the agriculture and food fair.

He stated: "Although the passing years have dimmed the importance of farming here, and the fields of cultivated sugar cane have vanished from the scene, the soil of our native land is still a precious possession."

Our second elected governor, Cyril E. King, said, "Self-sufficiency in food production is vital to the future of all of the people of these islands. Our over-reliance on imported products, especially fresh produce, creates a constant drain of needed capital that could be diverted into other areas as we attempt to resolve the serious and pressing problems we now face."

Former Gov. Juan Luis said, "A new, revitalized partnership between the public and private sectors is imperative if the Virgin Islands is to realize its long-sought goal of self-sufficiency."

Former Gov. Alexander A. Farrelly said, "For agriculture to survive, it must be technologically based, with an emphasis on sound business procedures ..."

Gov. Roy L. Schneider said, "We must encourage the participation of our young people in the agricultural process, thus increasing job opportunities and growth in production."

The theme of this year's fair — "25 Years of Challenges, Changes and Opportunities" — is fitting since our administration stated so clearly, "A change is coming."

Believe me, if any industry needs a change in these islands, it's agriculture. Enjoy the fair, Virgin Islanders.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

V.I.'s geologic origins still affect our culture

Olasee Davis

Our environment

Last month, I gave a seminar for a forum on indigenous people of the Caribbean. My topic was cultural ecology.

In my talk, I compared and contrasted the ways modern Virgin Islanders relate to their environment with the ways of the past. I tried to explain the modern processes that make us fell disconnected from the environment, as well as the ties that ultimately bind us together.

To understand cultural ecology, one must know something about the islands' geology, its flora and fauna, and its human ecology.

Every school child in these islands should know the geological makeup of the Virgin Islands, because life began here long after these islands were formed.

The soil types, hills, valleys, mountains, and other characteristics of the Virgin Islands are influenced by the island's geological crust. Volcanoes, coral reefs, and mangrove forests have been the builders of the Virgin Islands ecosystems.

The Virgin Islands forms one exposed section of a great submerged mountain range that extends from Cuba, to Hispaniola, to Puerto Rico to the Lesser Antilles, ending in Trinidad and off the coast of Venezuela.

Geologists claim that St. Thomas's and St. John's origins go back several million years, to the late Cretaceous period. This means that when the Virgin Islands was forming, the major continents of the world were probably much closer together.

The long process of undersea mountain building and eventual uplifting of submerged ridges took the work of explosive volcanoes. These processes, along with changes in sea levels, centuries of coral reef deposits, and further erosion created the Virgin Islands land formation we see today.

During the Cretaceous period, a series of volcanic eruptions solidified on the ocean floor. St. Croix was never a volcanic island. But volcanic activities played an indirect role in the development of the island. The rocks underlying the mountain ranges on St. Croix are sedimentary rocks, formed from the debris of volcanic activity.

The limestone or "white marl" found at the surface of the Central Valley is considerably younger than the volcanic rocks. It is probably the remains of coral reefs that formed as the island was uplifted from the ocean floor.

Other interesting geologic formations include the Virgin Islands Basin. If you look on a map of the Caribbean area, St. Croix is separated from the northern Virgins Islands by this basin.

The basin between St. Croix and the rest of the Virgin Islands is over 13,000 feet deep. The Puerto Rican Trench that is located north of St. Thomas reaches a depth more than 27,000 feet. This is the deepest area of the Atlantic Ocean.

At the top end of the scale, Crown Mountain on St. Thomas is 1,500 feet high, followed by Bordeaux Mountain of St. John at 1,277 feet, and Mt. Eagle of St. Croix at 1,165 feet.

Although St. Croix is not a volcanic island, the island is still growing by coral reefs pushing out of the ocean floor. This can be seen at Annally Bay and Well Bay on the north side of the island.

The geological makeup of the Virgin Islands also affects the island's vegetation. In 1923, F. Borgesen described the vegetation: "In the wooded parts of St. Croix, especially to the North of Blue Mountain, the trumpet wood tree (Cecropia peltata) is one of the principal constituents of the woods, whereas it is rare in the other islands..."

He pointed out that such small species as the "Thrinax," which is found on St. Thomas and St. John, is lacking on St. Croix. This difference is true for a number of other plants species. The flora of St. Thomas and St. John is much more varied than that of St. Croix, which has a more isolated location.

This variation has to do with the higher elevations in the two small islands, Crown Mountain on St. Thomas being some four hundred feet higher than Mount Eagle, the highest point on St. Croix. The temperature in the higher elevation of St. John and St. Thomas is consequently lower than the temperature of the higher altitudes of St.Croix. Higher rainfall of the two smaller islands enables certain species of plant to thrive on St. Thomas and St. John, but not St. Croix.

These differences in the islands, caused by their geological formations, also creates differences in the needs of the people on each island. Now you know what we mean by cultural ecology.

Olasee Davis, who holds a master's degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Volcano's force not all bad

Olasee Davis
Our environment

A few weeks ago, the mountains on St. Croix were cloudy. Someone said to me "Olasee the dust from Africa is early this year."

But it was not the African dust. It was the ash fallout from the volcano erupting on Montserrat.

There is nothing in all of nature that terrifies man as a volcanic eruption can. You see, man is nothing when it comes to the force of nature.

In fact, God Himself said, "All nations before Him are as nothing; and they are counted to him less than nothing . . ." *Isaiah* 40:17.

There's no arguing that volcanoes produce a destructive force. They destroy human lives and property.But this force of nature is also beneficial, by creating good soil for agriculture and the very land itself.

A large proportion of the earth's surface, including the vast deep ocean floors, is made up of volcanic rock. Volcanoes also supply a large part of the earth's mineral wealth.

Throughout time, the gases of the atmosphere and waters of the oceans, rivers and lakes have been liberated onto the earth's surface by volcanoes. Thus, it is safe to say that the existence of life on earth also depends on past volcanic action.

The Virgin Islands evolved indirectly by volcanic action. St. Croix, for example, was formed from volcanic matter settling into sediment on the ocean floor. This activity took place during the late Cretaceous period, approximately 80 million years ago.

The two predominant mountain ranges of St. Croix, found on the Northside and East End, are separated by a central sediment-filled valley. The rocks which underlie these mountains ranges are also sedimentary.

It is believed that the two mountain ranges of St. Croix used to be distinct islands, separated by a submerged lagoon. During a later period of uplifting, according to this theory, the present valley formed and a single island of St. Croix was born.

St. John and St. Thomas had a similar formation. For example, the central part of St. Thomas is primarily composed of a cretaceous rock described as *augite andesite volcanic breccia*.

Volcanoes formed Montserrat, as well as other islands like St. Lucia, Martinique, St. Kitts and Nevis.

A volcano can be defined as a place or opening from which molten rock or gas escapes from the earth's interior. But a volcano can also be defined as a hill or mountain built up around the opening by accumulation of the rock material pouring out.

The behavior of a volcano's eruption depends on the nature of the material erupting. In 1995, the Montserrat Volcano Observatory was established after the first *phreatic*, or below ground-water, eruption of the Soufriere Hill volcano occurred on the island.

The Seismic Research Unit of the University of the West Indies in Trinidad, the U.S. Geological Survey of Puerto Rico, and other university scientists are monitoring the activities of the volcano. This team of scientists are making visual observations from the ground and from helicopter flights.

This scientific information helps the scientists to determine the impact the volcano has on the environment and people.

The Montserrat volcano's present activity has displaced thousands of residents. However, residents have so far been spared more explosive eruptions.

Many eruptions are explosive enough to cause widespread ash fall, debris avalanches, landslides, pyroclastic flows and surges, and mudflows. Explosivity is usually the result of gases expanding within a viscous lava.

Human deaths can result not only from an eruption, but from the resulting starvation or disease and malnutrition. Following a volcanic eruption in Iceland in 1787, more than 9,000 people died from starvation, disease and malnutrition. This chain reaction occurred after the volcano destroyed crops, animals, and the land itself.

Although the Virgin Islands are hundreds of miles away from Montserrat, a volcanic eruption can still have impact here. An eruption could cause tidal waves or even earthquakes.

As Virgin Islanders, we should be thankful we have been spared the difficulties Montserrat has gone through. And by all means, we should continue to assist the people of Montserrat in every way possible. After all, are we not our brothers' and sisters' keepers?

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Whither agriculture on St. Croix?

Olasee Davis

Our environment

This year, the Agriculture and Food Fair was a great success. The question is, what happens to agriculture after the fair?

Our government has a long history of broken promises when it comes to the development of agriculture in these islands.

I will not try to give you a complete history lesson on agriculture in these islands. However, I will talk about the reconstruction of agriculture from the 1960s to the present.

St. Croix was and still is the center of agriculture for the Virgin Islands. During the Paiewonsky administration the reconstruction of agriculture on St. Croix started. In 1965, Gov. Paiewonsky requested a report on the agricultural development possibilities of the island.

It was known that a phasing-out of sugar cane production would in all likelihood be necessary since the central mill on St. Croix had been sold by the Virgin Islands corporation of the federal government to a private concern which would not guarantee it would continue grinding cane for an indefinite period. The central sugar cane factory was the biggest provider of employment on St. Croix.

The purchaser of the sugar factory announced that, due to substantial losses during the 1964-65 grinding season, the factory would close in 1966.

This caused the elimination of the sugar cane industry on St. Croix — an industry involving more than 4,000 acres of cane land, 113 farms and a gross return of more than $600,000 — in less than one year.

With this dilemma, Gov. Paiewonsky asked his administration to address the issue and provide an alternative for cane farmers who, within 10 months, no longer would have a market for their cane.

This problem was aggravated by the fact that cane farmers had little experience with other crops after many generations of monocultural farming, which contributes to instability, since any one environmental factor can cause a crop to fail.

Also, the government had neither the capital for conversion to other crops nor a reliable market for such crops produced by local farmers. Furthermore, the governor was faced with the demand for building sites. Most of the primary agricultural land of St. Croix would likely be sold for urban uses if farmers were not provided with an alternative crop.

Producing oranges on 2,500 acres as an alternative crop was initiated in the early 1960s, but the project was killed by politics, according to some local farmers.

Many old farmers today are still mad with the local government about how they handled the reconstruction of agriculture on St. Croix. The government also was faced with the challenge of saving agriculture on St. Croix and, in part, preserving the rural landscape from indiscriminate urbanization.

Thus, a reconstruction study of agriculture was carried out by agricultural specialists. The demise of sugar on St. Croix would have one of two effects, specialists said.

Sugar's downfall could lead to a very rapid and irreversible change from a predominantly rural, agricultural landscape to an urbanized, or suburbanized, landscape. Or sugar could be replaced by other agricultural enterprises and the landscape would remain rural.

The specialists recommended that every possible effort be made to reconstruct the agriculture of St. Croix provided only that the reconstructed agricultural industry prove itself profitable. They concluded that the demand for building sites on St. Croix could be satisfied on undeveloped, non-agricultural land.

Urbanization of the agricultural areas would radically alter the landscape of St. Croix and destroy its natural beauty. This is not only an aesthetic issue, nor even simply a question of cultural pride for the people of St. Croix. The status of the island's landscape has important economic implications. The attractiveness of St. Croix is its most important asset for tourists and even certain light industries.

During the Juan Luis administration, the governor bought more than 2,000 acres in the central lowlands to develop for agriculture. Instead of agriculture, the land was developed into the new St. Croix Educational Complex, National Guard, Castle Burke community and other non-agricultural structures.

The central primary agricultural land of St. Croix is rapidly becoming urbanized. One day, believe me, we will pay for our sin of not taking agriculture seriously and protecting our environment.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

1996 mixed bag for environment

Olasee Davis

Our environment

In 1996, environmental activists fought to protect public health, environmental laws, and to maintain a balance between the environment and greedy developers. Attempts were made in Congress, particularly by the Republicans, to weaken the nation's environmental laws.

Republicans tried to replace strong and effective environmental laws with tactics fooling the American people that big companies need to be less regulated.

When the 104th Congress began its session, the word environment was never mentioned in the GOP's "Contact of America."

But numerous proposals were offered by Republicans to reform the Clean Water Act, Clean Air Act, Superfund, and other environmental laws which protect the citizens of the United States and its territories. Such a bill was the "Dirty Water Bill," introduced by House Transportation Infrastructure Chair Rep. Bud Shuster.

In reality, this bill was to weaken the Clean Water Act by allowing companies to dump pollutants without any strict environmental regulation. Political fights between Republicans and Democrats put the environment on center stage in 1995 and 1996.

With all the political rhetoric in Congress, President Clinton stood firm against anti-environmental extremists when he refused to sign a budget agreement that contained a number of anti-environmental bills. These anti-environmental bills included ending U.S. Environmental Protection Agency enforcement on wetlands laws and cutting funding for the endangered species programs.

Clinton refused to sign the congressional agreement that twice shut down the federal government rather to allow the Americans public health, safety, environmental laws to be jeopardized by radical ant-environmental laws.

Before 1996 election, the National Wildlife Federation conducted a nonpartisan poll to find out if Americans were satisfied with current environmental policies.

The polls revealed that voters were dissatisfied with current environmental policies. Overall, 75 percent of the American people view preserving and protecting the environment as a high priority. The American people did not allow Republicans to fool them with this "Contact of America" scheme.

On the local level, what were the environmental issues that faced the Virgin Islands in 1996? The first issue that comes to mind is the fires at Bovoni landfill on St. Thomas. Toxic fumes from the landfill not only affected residents in the surrounding area, but the entire island community and its economy.

You see, the Bovoni landfill is not a new environmental issue, but a problem our government failed to correct years ago. Another environmental issue was the Tutu wells contamination — another issue that was ignored by the government for years.

In 1996, we were blessed with lots of rain. But heavy rain creates many problems for residents, the economy and damages our environment. Many homes and properties were damage by the rain. Meanwhile, our bays and beaches water turned and stayed brown for weeks from soil washed down from hills and mountains sides of the islands.

Talking about issues, many people opposed the government's attempts to transfer federal lands to the local government. Historically, our local government have a poor record of maintaining public lands. Can you imagine what would happen to the national parks lands of these islands if the local government gotten a hold of them?

Then politics entered the picture of Jack and Isaacs Bay and a long environmental battle fought by citizens who wanted the land to be preserved indefinitely. The Creque Dam rain forest, AT&T's cable in northwest St. Croix, approval of a development above Magens Bay and a shipment of nuclear waste through the Caribbean waters were some of the other environmental issues of 1996 in the Virgin Islands.

From what we eat and drink and how we build our homes, to what we use and throw away, and how we get from here to there — all make environmental decisions a part of our daily life. Let us do a good job in protecting these islands environment in 1997 and beyond the year 2000.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Aloe vera: Mother nature's comfort grows in V.I.

Olasee Davis
Our environment

Today, pharmaceutical companies are conducting studies on many medicinal plants that our great- and great-great-grandparents used many years ago.

The traditional uses of medicinal plants were handed down orally from generation to generation. Throughout the years, many of the plants used for medicine were being lost due to the lack of interest by many young people.

This month, the University of the Virgin Islands Cooperative Extension Service published its first book on medicinal plants called, "Traditional Medicinal Plants of St. Croix, St. Thomas and St. John."

The book is one of the first to document the uses of medicinal plants in the Virgin Islands. The documentation of this rich cultural history is one way to make sure that the medicinal uses of plants will be passed on to our children.

The book also covers scientific testings, traditional uses of plants and the impact developments have on the environment. Medicinal plants that were once gathered from the woods by our grandparents are no longer abundant, such as the aloe vera plant/

Ancient Egyptians used aloe gel in cosmetics. Some historians claim Cleopatra's secret beauty came from using the aloe plant. The Egyptians also used aloe as a natural cosmetic to clear skin blemishes and to help the growth of new, healthy tissue.

Throughout the ages, man has received many benefits from the curative powers of the juice of the aloe plant.

The jelly-like substance in the fleshy leaves is helpful in the treatment of thermal and radiation burns. The juice also promotes a rapid healing without leaving scars.

There are also many testimonials on the efficacy of aloe vera jelly in relieving the pain of insect stings and burns.

When I had a cold, my mother gave me aloe with a little bit of salt on the jelly in the morning just before school. Believe me, that "sempervivy" (the local name for aloe) worked the cold out of my system.

For internal use, trim stickers from aloe leaves can and cut in half lengthwise. Cut the clear gel in pieces and briefly liquefy it in an electric blender.

Some users take as much as 10 ounces a day, but the quantity taken should be regulated according to the laxative effects on the user. Aloe is a good stomach ulcer treatment.

For external use as a scratch, cut, burn and sunburn treatment, cut a two-inch cross-section and remove the stickers. This portion then may be halved and the gel can be applied to the affected areas of the skin. Use aloe to treat ringworm, inflamed joints, scalds, boils, itchy allergic conditions and stings.

Dr. Duke, a botanist and ecologist, is one of many scientists researching the aloe plant.

For more than 5,000 years, "practitioners of folk medicine have extracted gel from the leaves of this wonder plant to treat asthma, bruises, acne, colds, sore throats and infertility," he said.

Numerous scientific studies back up anecdotal evidence of aloe vera effectiveness especially when used externally.

Ethnobotanists are often involved in the documentation of plant remedies used in traditional medicine.

Testing must be done in order to evaluate the safety and efficacy of therapeutic medicine practiced by herbalists.

A pharmaceutical company in Texas is in the final stages of testing an aloe-derived oral capsule treatment for ulcerative colitis and is beginning to experiment with an injectable form for six types of cancer.

"Aloe triggers the release of protein substances that regulate the body's immune system and help it fight off disease," said Dr. Ian Tizard, professor of immunology for Texas A&M University in College Station, Texas.

Before you use a medicinal plant, heed a few precautions. Individuals with hemorrhoids and pregnant women should not take aloe. Also, aloe may cause kidney irritation.

The U.V.I. book, which I recommend to every island resident, contains many more beneficial uses of aloe and other Virgin Islands plants.

The book will be available soon at U.V.I. book stores on both campuses, or call Clarice Clarke on St. Croix at the extensive service at 692-4060.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Archaeology a lot more than digging around in the dirt

Olasee Davis

Our environment

I was stopped on the streets and my office phone rang off the hook about the article last week entitled, "Virgin Islands archaeological history is disappearing."

Many people did not realize they say how important preservation is to the archaeological history of these islands. I do not know how sincere people are about what they say about the preservation of our cultural archaeological history.

All I know is it's important to protect the people of the Virgin Islands identity through the preservation of our culture and the environment. Since the article about the disappearance of our archaeological history in the Virgin Islands, I was told about Victor Brady, a native who for years tried to establish an African museum in Fort Frederik on St. Croix.

His interest and knowledge about local archaeology and the world is incredible. However, this second article on archaeology focuses on certain terms used in archaeology and how other discipline is important in telling the history of archaeological findings.

Some archaeologists define archaeology as the reconstruction of past life and the arrangement of extinct cultures into a historical chronological sequence. Others define archaeology as the science of past cultures. In archaeology, we hear the term artifacts. What is an artifact? Artifacts may be defined as the objects that were made, used, or modified by human activities.

However, it is difficult to find something in our surrounding environment which is one way or another not some type of artifact. For example, somebody might find a piece of bone in the woods and consider its an artifact. Nevertheless, people in ancient times made profound changes in their natural surroundings.

These changes may come about by stone tool and pottery which are artifacts.

By definition these materials are interesting to archaeologists. The deforestation of Palestine historians believe took place sometime around the third millennium B.C.

This change of forest environment may have been accomplished by the people of the early Bronze Age who cleared the land for agriculture.

Scholars believe as the landscape in Palestine changed. Erosion becomes a serious problem thus contributing to the sudden decline of urban life in the last century of the early Bronze Age people in Palestine. The early Bronze Age people have been dead for millenniums. But they left behind them a permanent visible artifacts of their cultural activities.

As an above example, it matter a great deal how one defines the term artifact because archaeologists usually collect what they considered to be artifactual materials.

Because there are all sorts of things in archaeological findings to consider, a system was developed to categorize information for the purpose of data collection, analysis and publication.

The following categories are universal even though there are variation among archaeologists. These findings are important intern of what type of materials are used to build the structures. Burial grounds or grave yards are extremely important artifacts of past cultural activities.

These artifacts can tell a lot about the people who inhabited the area.

Also, there are materials associated with burials like weapons imbedded in victims. Fauna is also considered an artifact. There might be remains of animal bones in a grave for a particular purpose such as for a ritual. Or animals found in graves could be a source of food for that particular culture.

For example, the burial ground at the Tutu Mall site on St. Thomas, turtle shells were found next to bones. Flora is another important artifact for archaeological studies. In this case, a botanist will work with archaeologists to determine what type of seeds, pollens or other plant materials might be found on site.

Flora remains also are one of the most perishable artifacts for archaeologists. Sometimes other types of artifacts contains floral evidence such as pottery where seeds may be imbedded purposely or accidentally in the pot. Soils site are also an important category of artifact. They might find chemical in soil. Past human waste for example can increase the calcium, phosphorus, and nitrogen content of the site.

By all means, the different type of artifacts I mention are not limited to those mention above. There are so many methods archaeologists take into account when they are conducting an archaeological research. Other discipline like historians, anthropologists, ecologists, and sociologists work together to help reconstruct the history of a particular culture.

You see, archaeology is not just digging in the dirt, but telling the history of a people who probably we would not know anything about.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Coastal Zone (mis)management?

Olasee Davis

Our environment

I have lost faith in the Coastal Zone Management Commission when it comes to the protection of these islands' coastal environment.

How can you look me in the face and tell me that the CZM Commission is for the people of these islands? Case in point, the Magens Bay coastal environment is threatened by development.

For the past weeks, I have written a brief history of Magens Bay's human and natural history. Magens Bay is a special place where different ethnic groups played a major role in our rich cultural history. In 1979, Magens Bay was designated by the Planning Office as one of the 18 Areas of Particular Concern in the Virgin Islands.

APC simply means areas that are set aside because of its cultural, natural, historical, recreational or environmental resources. In 1991, the CZM Commission held public hearings on the boundaries of the Magens Bay environment.

Former Gov. Alexander Farrelly signed into law the boundaries of the APCs in 1994.

The APCs were intended to serve as a guide management plan of these sensitive areas throughout the islands.

So any future development within APC areas must be consistent with the criteria and overall management plan.

The CZM Commission approved the Magens Bay APC boundaries a few years ago.

Well, in 1996, the commission gave a permit for development within the APC boundaries of Magens Bay beach. However, this proposed development is inconsistent with the APC plans.

Tell me, how in the world can the CZM Commission make such a decision? Is there money peddling under the table to Commissions by these developers? You see, they will lie to our face and tell us that it is not true. Some people in high places in this government do not care about the people of these islands much less the environment. Yet, these are the same people we trust to look out for our best interest of heart.

The Hampton V.I. Corp., known as Le Domaine subdivision, proposed to develop a 45-unit residential housing community on Estate Misgunst and Estate Lerkenlund on steep slopes overlooking Magens Bay beach.

The developers claimed the development would address the needs of the middle income families is St. Thomas. They also mentioned some off-island investors might purchase homes.

You see, it all sounds good. And as a people, we often fall into these traps without realizing what we are up against. The Virgin Islands have a history of developers especially outsiders who will rape the environment and develop so-called homes for middle income families. Too often, these homes and sites have all kinds of problems a few years down the road.

And you see, we often believe them that they have our best interest.

I must admit, it is not the developers who fool us, but those in high positions in this government who are supposed to represent and protect us from schemes. There are many examples where developers claimed bankruptcy and ran with the money. If you do not believe me, ask the residents who are suffering now and live at St. George Villa homes on St. Croix.

The proposed development over Magens Bay poses all kinds of problems before it's even started. There is "hear say" that the company has financial problems. The soils are not conducive to the type of sewage treatment systems they planned to install.

In a letter, CZM Chairman Albert Paiewonsky addressed the company by saying: "In the deliberation, the Committee placed special emphasis on four major areas of concern. They were: drainage, flooding and erosion control, impact on oceanography and marine life, sewage treatment and disposal and visual and social impacts of the development."

What is this company's track record? The environmental monitor who did the environmental assessment report for this Le Domaine subdivision track records are poor and unacceptable to the view of many in the scientific community. Furthermore, most of the soil erosion control methods the company mentioned in its report are not appropriate for this site because of its steep rocky slopes.

They even said, "A large gut cuts through the property on its southwestern corner. This gut crosses the property at a northwest angle, and then turns more towards the north, and joins another gut before running to the sea. The property is extremely rocky and has limited top soil."

You know, once rain falls Magens Bay water is brown.

Both technical and lay persons in the community have written comments of great concern to the CZM Commission about the project. The project now is before the board of Land Use Appeals. I say to them do the right thing by rejecting the application. Believe me, you will save a beach environment that means so much to the people of these islands and the world.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Conference focuses on trees

Olasee Davis
Our environment

Recently, I attended a conference in Atlanta called "Cities by Nature's Design", part of the eighth National Urban Forest Conference. There were more than 1,000 urban foresters, business people, planners, government leaders and others in attendance.

The conference was international, with participants from South Africa, Chile, Haiti, the Virgin Islands and the United States. Gary Moll said that "the conference is designed to address the challenges of sustainable cities, to explore their philosophical underpinnings, and to identify actions to achieve that goal."

There were many paper presentations at the conference from social, environmental, economical, to public policies. However, the focus of the conference as how trees enhanced and played a major role in cities across the United States and the world.

A study was cited which said a city should have at least 40 percent tree cover to ensure its environmental, economic and social health. Most cities in America fall short of the 40 percent tree cover. A Washington-based American Forests study released figures saying Atlanta only has 27 percent, Milwaukee 18 percent, Baltimore 31 percent and Austin, Texas, 34 percent tree cover.

"We are urging cities to aim for an overall tree canopy coverage of 40 percent," Deboran Gangloff, American Forests executive director said during the conference.

This message was driven home when Moll said trees helped rid of air pollution, control storm water runoff and conserve energy. Trees further beautify city landscapes and are home for wildlife.

The studies presented at the Atlanta meetings "estimates the nation's urban forests are worth at least 400 billion in terms of storm water management alone."

In Atlanta, the study mentioned tree cover value about $883 million for storm water control. Milwaukee's was estimated at $305 million, Baltimore, $340 million, and Austin, $1.4 million.

Studies have also stated that increasing tree canopy to 40 percent in those cities storm water benefits would increase by estimated of $220 million in Milwaukee, $102 million in Baltimore, $358 million in Atlanta and $197 million in Austin. In terms of air quality, the report said that the existing tree cover and vegetation of those cities worth about $11 million in Baltimore, $15 million in Atlanta, $8 million in Milwaukee and about $31 million in Austin.

What this is saying that trees in cities can save the government millions of dollars.

There were many things I got from the conference, but one thing that stuck in my mind was the importance of planning. In cities and urban areas across the nation, planners take a hard look at where to plant and where to build. We in the Virgin Islands have no plan at all.

You see, I bowed my head down with shame when planning kept coming up in the meetings at Atlanta.

Sometimes one gets frustrated with the Virgin Islands government when you try to do the right thing for the environment. Believe me, the politics and all the lies told to the people of these islands will surely destroy our economic base in the world economy.

Nonetheless, the highlight of the conference was the tours. I took the tour "Urban Places/Public Spaces." Piedmont Park within the city of Atlanta is more than 100 years old with a hundred-plus acres. The park is diverse — from botanical garden, base ball fields and hiking trials in the forest to swimming areas.

The park brings in million of dollars to Atlanta's economy. The next stop was Oakland cemetery which is used as a park. This 80 acres cemetery park is very historical and brings in million of dollars to Atlanta city. Millions of people every year attend the cemetery to see such famous people's grave as the person who wrote the book "Gone with the Wind." Grave stones that go back to the 16th, 17th, and down to the 20th centuries.

Also, slaves and great black leaders were buried in the cemetery which was kind of interesting to me because in those days graves were separated between black and white. Even though blacks were buried in this cemetery, they were still separated on one side of the cemetery. Today, some states still practice white and black graveyards.

But what I gathered from this experience how the cemetery park is used as a historic tourist attraction as well as for local people to learn about the history of Atlanta.

I think we can do the same with our cemeteries to help attract people to our shores. The last stop was the new Centennial Olympic Park within the city of Atlanta where the 1996 Olympic Games were held.

I ran out of space to talk about this new park, but I long for the day when this government will get serious by making planting trees as an important part of our economic growth.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Conference teaches about trees

Forest plays a role in Puerto Rico's economy, history

Olasee Davis

Our environment

Recently, I attended a conference in Ponce, Puerto Rico entitled "Tree Conservation During Construction."

The Virgin Islands was represented with over 21 persons attending the meetings including individuals from the University of the Virgin Islands, non-profit organizations, developers and local government agencies.

Many topics were addressed at the conference including how sustainable urban forestry can be achieved within a urban Caribbean island setting.

However, the conference opening remarks by Puerto Ricans showed how proud and close they were to their land and heritage.

Puerto Ricans also know their history and how the white man tried to destroy them, their ideology and take away their land. Land seems to be an important factor in Puerto Rican history.

With land, forest plays an important role in the island economy and history. El Yunque rain forest was looked upon by the Taino Indians as a god. They believed that this god protected them from evil.

Today, one of Puerto Rico's most popular attraction is El Yunque rain forest. This national treasure of Puerto Rico is visited by millions of people every year. The 28,000 acre forest is the only Caribbean National Tropical rain forest within the United States forest system.

El Yunque rain forest was also declared as a Man and Biosphere Reserve of the United Nations.

The lush rain forests of El Yunque is home to 240 different species of tropical trees, over 50 kinds of orchids and 150 varieties of fern compared to St. Croix's 30 species of fern mostly growing within the Caledonia Valley. The rare tiny native tree frog of Puerto Rico, the endangered species parrot and a number of rare plants and animals are found nowhere else in the world.

In the 1700s, St. Croix had thousands of green parrots, but today I doubt you will find a wild green parrot on the island.

Nonetheless, Puerto Ricans are facing some of the same environmental problems we face in the Virgin Islands. Pollution of rivers, mangrove forest degradation and deforestation for coffee plantation are just a few.

In Puerto Rico, the island is divided into municipal areas. Thus, you might find some municipal areas are doing better than others when it comes to the protection of the environment.

For example, Mayaguez has a tree ordinance to protect trees while some municipal areas on the island might not have one.

We in the Virgin Islands have no tree ordinances of how trees fit within our urban environmental setting. In fact, trees are not considered as part of our modern culture for most of us in these islands.

You see, we look at trees just for our conveniences not for our benefits. We are so destructive in thinking that when we clear land in the Virgin Islands, every tree or vegetation on the property are destroyed.

When you hear the term sustainable forestry, it simply means " . . . managing our forest to meet the needs of the present without compromising the ability of future generations to meet their own needs by practicing a land stewardship ethic which integrates the growing, nurturing and harvesting of trees for useful products with the conservation of soil, air and water quality, and wildlife and fish habitat."

In many developments in the Virgin Islands, trees are on the bottom when the plans are drawn up. Trees are to be the first within the plan before the bulldozer moves the first soil. Developers, architects, planners and every person involved in the project should work together from the project conception.

At the conference, we went on a field trip to the University of Ponce where we rated trees on campus. This practical experience enforced what we learned in the meetings.

Ponce is the largest city in Puerto Rico. The architecture of Ponce is unique with a mixture of "Ponce creole" and art styles dated from 1890 to the 1930s, when Ponce was a hub for sugarcane, rum and shipping industries.

This part of Puerto Rico has a lot of black or dark skin Puerto Ricans dating back from slavery Puerto Ricans are a mixture of different ethic groups.

Of course, there are color discrimination whether you have light, lighter, brown, or dark skin. I found this out by talking to several Puerto Ricans. This depends on where you live on the island. But Puerto Ricans, on a whole, embrace their African, Indian and Spanish cultures.

Ponce 300 or more year history has a lot to offer in art, culture and folkloric festival where foods, music and dance attract thousands of people. However, trees are part of Ponce culture, a Puerto Rican said to me.

From this conference I believe, everyone came away with a feeling to do more for trees within their islands communities.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Davis defends belief; disagrees about destroying V.I. history

Olasee Davis
Our environment

On July 3, 1848, Gov. Peter Von Scholten proclaimed "All unfree in the Danish West Indian Islands are from this day free. All blacks on the estates shall continue to make use of their houses and gardens for three months from this date, as they have previously enjoyed. All future work is to be paid as mutually agreed on but allowances of provisions, etc. shall cease. Old and weak, who cannot work, shall, until further decisions are made, be supported by the owner."

General Buddhoe mentioned these words on the day of emancipation. If the people were "not liberated by 4 o'clock," they would leave no stick nor stone of property and would not answer for the lives of the white people."

I support Gov. Roy L. Schneider for this upcoming celebration of the 150 year anniversary of physical emancipation in these Virgin Islands.

But it was brought to my attention that Richmond Plantation, a rare three story greathouse on the island of St. Croix, was bulldozed to the ground about two weeks ago.

Tell me, how in the world can we have a governor talking from both sides of his mouth telling us about celebrating 150 years of emancipation in these islands and on the other hand, allowing historical buildings to be demolished?

Some people might say, "Olasee, you should not talk to the governor that way, it is disrespectful."

Did you think General Buddhoe was disrespectful to Gov. Peter Von Scholten when he and his people demanded their freedom?

In fact, historians say people shouted in the streets of Frederiksted as Von Scholten's carriage rode into town. They said, "We must be free this very moment. We have been waiting long enough for freedom."

Like Buddhoe, it takes courage today for one to stand up for what he believes in. Personally, I believe in the protection of these islands environment and to defend our rich cultural heritage our ancestors left for us. This should also include our historical buildings or archaeological sites that tell us about our past history.

So then, how can I be "out of place" to address the governor of the Virgin Islands that preservation is more important than degradation of our historical buildings.

D. Hamilton Jackson was put in jail becuase he wrote the truth in the Herald newspaper about the sugarcane workers condition on St. Croix. Because of his stand, we enjoy the freedom of the press today.

> **"... I believe in the protection of these islands' environment and to defend our rich cultural heritage our ancestors left for us.**

Therefore, I will not be denied of my democratic privileges to write and speak out on issues I feel that this government is in the wrong.

The Richmond Plantation has a long human and environmental history from the 1600s to the present. The land was cleared of its forest probably by the French to make way for the establishment of a plantation.

However, some historians believed the Richmond Plantation was built on French old ruins like other places on the island, but can't determine the parcel exact boundaries.

In 1778, Oxholm map showed partly cleared agricultural land and partly shoreline mangrove forest which was eventually destroyed as the settlement of Richmond and surrounding areas developed.

Today, there is no mangrove forest on the shore in front of the power plant. Nonetheless, slaves worked on the plantation from sun up to sun down. They born and buried there and God only knows probably some got hang on the estate.

Gallows Bay is not too far from Richmond Plantation which was famous for hanging slaves. During the Danish rule, the Richmond estate was claimed in 1737 by Gregers Nissen and Adrian Van Beverhoudt.

A year later, the property was owned by Richard Roach with his wife and 15 slaves. The estate grew cotton and changed ownership several times during the 1740s.

Francis Brooks who had the property with 62 slaves sold it to Nicholas Tuite a rich Irishman from Montserrat who combined the property with other acres thus forming 253 acre sugar plantation in the 1750s that came to be known as "Richmond."

By the early 1750's, Richmond was one of the few windmills on St. Croix with a wooden windmills that remained in operation through the 19th century.

From the 1750s to 1772, Nicholas Tuite owned 587 slaves on the plantation. Then in 1780 to 1792, Robert Tuite owned 322 slaves on the property. Around 1797 to 1805, Robert Fausett owned 367 slaves on the estate.

In 1815, Isaac DuBois owned estate Richmond with 160 slaves. Eighteen years before the emancipation, Robert Beatty owned the property with 36 slaves.

The Richmond drama will continue next week.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Fire bugs doing a great deal of damage to islands

Olasee Davis
Our environment

Since April, we have witnessed outrageous fires destroying the vegetation on St. Croix. Globally, fire has long been recognized as a natural phenomenon on the earth environment. The use of fire as a tool for man probably dates back to the time when man first learned to control fire.

Man in the New World has used fire for many reasons such as land-clearing, hunting, and probably to discourage woody species of the native flora and encourage grassland for livestock agriculture. Fire can start naturally by spontaneous ignition, volcanic action, friction and lightning, which appears to be a major cause in many ecosystems across the earth.

Natural fire destroys, but also transforms and is the source of life to many species of plants and other organisms that depend on fire to reproduce. Both fire and man separately and together have had a tremendous impact on the environment in shaping or altering our world vegetations.

Personally, I believe that every thing in nature including fire is good. I might not understand how everything in nature works, but nature has a way of working everything to the benefit of the earth environment.

The first inhabitants of these islands probably used fire to cook food. Prescribed burning by natives on these islands were probably used to clear land for small cultivation of crops or used as a tool to maintain a sense of control over the environment.

Historically, St. Croix was never a dry island. The island once had miles of forests with three major rivers and streams flowing to the sea 365 days a year. It was the dense forest on St. Croix that prompted the Danes in the to purchase St. Croix from the French Government. Carl Adolph von Plessen and Frederik Holmsted were two of the individuals instrumental in the negotiation of the purchasing of St. Croix.

In 1732, Holmsted and Count Plelo, a French representative, negotiated a treaty for the purchase of St. Croix on September 15, 1733 where Denmark was to pay France 750,000 livres tournois for the island. Reimert Haagensen, a Danish man who lived on St. Croix as a planter from 1739 to 1751. He painted a picture in words of how St. Croix looked before it became a major sugar cane island in the Caribbean.

"Large trees useful in the construction of everything from ships and canoes to charcoal, dwellings and the machinery for sugar works grew abundantly on all sides, covering the plains on the island's south side and the mountains to the north in a dense greenery." He further stated, "thick forests had to be cleared, large trees felled and hauled to the seashores for sale . . ."

The east end of St. Croix was probably the only area that natural fires occurred because of its unique dry environment. However, the plantation system of agriculture on St. Croix changed the ecological balance of the island ecosystem. Fires became a common practice by planters in the harvest of sugar cane and other agricultural activities.

Altbough controlled fire might have its place in agriculture, the question is how often should fire be used. Apart from thousand of acres of brush fires that burned on St. Croix, particularly farmland, how many of us really think much about the impacts such burning may have on our island environment?

The fact is the damage beyond burned guinea and tan tan would seem minor: fence posts and even some power line and telephone poles get burned. Serious property damage is fortunately rare, but the risk is great. The impacts and risks of brush fires that go less noticed are more far-reaching.

The biological effects of fires may be positive or negative, but given the frequency with which they are occurring lately, it appears that the impact is largely negative. One major impact of fires is on the soil. The fire-exposed soil can be severely eroded especially on hillsides by intense rain. As rain falls, the soil is washed away because of no vegetation.

This soil impacts the marine environment. More important is the fact that valuable top soil that takes centuries to build up biologically is literally consumed by fire vapor. Another impact of fires is on the water table. Exposed land does not retain water because the soil becomes hard and dry as the sun bakes down on it.

In addition, the wind also impacts to expose soil by blowing it away. For this reason, less water is likely to have recharged the underground aquifers than otherwise might have. Many firefighters believe that some fires on St. Croix have been deliberately set. There are cases where fire started in moist areas. Cigarette butts tossed from vehicle windows can also cause brush fires. Also, bottles laying in dry brush or grass areas can start fires.

Believe me, damaging the environment willfully by setting fires will only hurt the islands economy. For God sake, stop.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Genipa trees reach out with branch of childhood

Olasee Davis

Our environment

Since Hurricane Marilyn many plants, particularly fruit trees have set fruit out of season. What we called September plum locally began to blossom early this year. September plum usually begin to set flowers and fruits by July and fruit ripen by September.

However, genipa is one fruit on time for this summer season. The word Genipa (Genipsa americana) is an Indian word. In Puerto Rico, genipa is known as jagoa or carato; Brazil, chipara, Surinam Tapoeripa; Costa Rica Guaitil or Tapaculo, in most Caribbean islands as genipa except in few islands like Barbados and St. Lucia as Akee.

The origin of genipa is debatable. Some literature says native to most areas areas of Cuba, Puerto Rico, Virgin Islands, Hispaniola, Guadeloupe, Trinidad and from southern Mexico down to Argentina. Other literature suggests it's native to northern South America and naturalized in tropical Africa, Asia and perhaps introduced in the Caribbean by South American Indians.

The usefulness of genipa as a beverage played a significant role in South American Indians culture all the way up to Indians in the Caribbean. Besides eating the fruit, the Indians obtained a clear liquid from the freshly soft fruit which at times they bathed their legs, or whole bodies with the juice of the fruit.

As kids, we know the fruit stained once your clothes came into contact with it. The liquid of the fruit has a stringent effect and gradually turns to a dark black color on any part of your skin or nails that touch it. The stain will not appear from your nails for about 15 days. Your clothes stain forever unless you have some kind of detergent removal.

The Indian men in the Virgin Islands, Caribbean and throughout Central and South America used to play tricks on their women by surreptitiously sprinkling them with the liquid of the fruit mixed with fragrant water. Then, spots appear on the women skin. The woman who was ignorant of this cause of spots looked everywhere for cures.

As time progressed, the woman would realize that the spots disappear as time goes by. Before the Indians go to battle, they paint themselves with genipa juice and annatto which is a sort of red ochre, only the annatto is much redder. Also, the fruit has been used as a dye by the Indians tattooing themselves as well as using the fruit juice as protection against insect bites.

The Guatamalan Indians believe by carrying the fruit in your hands will provide protection from disease and other miss fortunes. As part of the Virgin Islands culture, we have a saying if a girl goes up in a genipa tree the fruits will turn sour. And believe me, some girls believe it was true. As boys, we simply did not want the girls up in the trees.

For boys, it was a type of authority not to allow girls to climb genipa trees. If they do, they were called "Tom boy." You see, we are not much different from the Indian men who played tricks on their women about the genipa fruit stain. A genipa tree grows about 60 feet in height and 1 1/2 feet in diameter or sometimes larger with a spreading crown of dense foliage.

The bark is mostly a smooth gray. The leaves are abundant with short petioled, opposite but mostly clustered at the branch tips. The fruits like the size of a small lime. Fruits are soft and fleshy when mature with a bitter sweet flavor. At the center of each fruit is one sometimes two large seeds.

In the Virgin Islands and throughout the Caribbean, genipa was one of the favorite tropical fruits for islanders. Like everything else, genipa are disappearing and mostly found in forest areas of the Virgin Islands. One time in the Virgin Islands culture, almost everyone had a genipa tree in their back yard.

As we change our islands environment, So many of our fruit trees disappear because of little interest in planting trees. People used to harvest genipa by climbing the trees and taking the clusters of fruits while leaving the tree intact. Today, many people rip off large branches off the tree. Still others chop the limbs off with machetes.

A pruned branch will no longer produce fruit nor will a felled tree. As long as these harvesting methods continue, the islands will continue to have fewer bearing trees. Genipa also known for its medicinal properties. Fruits are made into drinks, jelly, sherbet, and ice cream. Ripe fruits used as fish bait.

The tree wood is suitable for decorative veneer, cabinet work, ship building, turnery, flooring and interior trim. Like man, if we do not plant genipa trees now, there will be no season for fruit the next time around.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Great naturalist dies; efforts will be remembered

Olasee Davis
Our environment

During the Danish rule of the Virgin Islands, a great naturalist was born in the town of Frederiksted with deep roots to islands natural history, particularly the island of St. Croix. The year was 1904 when George A. Seaman came in contact with the physical natural world.

On Sept. 17, 1997, George A. Seaman fell asleep in death.

For me personally, it was like somebody took the life out of me when I heard about his passing. Really, I do not know where to begin for Seaman offered so much to the people of the Virgin Islands to some extent to the rest of the world. This great man spent 50 years of his life defending the Virgin Islands environment.

But he never got any place with the Virgin Islands government when it came to the protection of the islands' environment. His relationship with the government, he said, "during the 20-odd years that I had with the local government, in the field in which I worked, I didn't get a first base. It was very unsatisfactory from the standpoint of having built a conception, a feeling among the people of the islands relative to conservation. Deer were being slaughtered right and left by poachers, and the meat sold openly in the streets. And I did everything that was humanly possible to put a stop to it. And I never got to first base. They were not interested."

Seaman lived on St. Croix when the island streams and rivers were flowing. It was an island with an abundance of wildlife. He lived in a time sugarcane still dominated the St. Croix economy. And as a boy he hunted and explored the island beauty and wildlife like any Crucian boy in those years gone by.

It was Seaman's stepfather John C. DuBois who introduced him to reading the night time stars, birds and everything about nature. Seaman's boyhood on St. Croix was filled with outdoor adventures with fishing, hunting and spending many nights looking at the heavens. When you read Seaman's book, it tells about a boy who loved Santa Cruz.

Seaman received his primary education in St. Croix, but later attended high school in New York at night and also at Mt. Hermaon School in Massachusetts. At age 16 with only $25 in his pocket, Seaman went to New York to look for work. Seaman got a job at the American Museum of Natural History because of his knowledge of bird taxidermy, which he had taught himself.

At the museum, Seaman worked under Dr. Frank M. Chapman relabeling its collection of birds of the world. Seaman also assisted the African explorer, Carl Ackley, in taxidermy. Dr. Ludlow Griscom, an ornithologist, was preparing an expedition to Panama. Young Seaman found himself in the group. What got Seaman in the group was his knowledge of Spanish.

The expedition in Panama was some experience for a young Crucian. While in Panama, Seaman collected birds with the expedition group. Being in a new environment far away from St. Croix, Seaman came down with a serious case of poisoning from the forest. As he was recovering from his sickness, Seaman heard about a British team headed to St. George South Sea. You guessed it, Seaman was on the expedition.

This trip only lasted for about a year, but Seaman and the group collected scientific specimens from Marquesas, Societies, Galapagos, Tahiti, Tuamotus, Rapa, Easter Island and Pitcairn. When Seaman returned to Panama, he got a message that his mother was dead. Seaman returned to St. Croix soon after his mother died. During the 1920s on St. Croix, jobs were scarce.

So Seaman got a job in the Dominican Republic which lasted about three years. He returned again to St. Croix to work, but later on he was not satisfied with his job. Seaman wanted to explore "the other side of the hill" as he put it. In 1936, Seaman joined the Weber expedition to Venezuela. He fell in love with Venezuela. When the Venezuelan expedition ended, Seaman got a job with the Standard Oil Co.

He spent six years with the company. During his spare time in Venezuela, Seaman collected bird specimens for William H. Phelps Sr. In 1942, Seaman visited St. Croix briefly. Again Seaman was back in Venezuela where he joined several Venezuelan comrades and worked for the Rubber Development Corp. in Manaos, Brazil.

While there, Seaman traveled the Amazon Basin rain forest supplying food by air to 13 stations. This was during World War II. After the war ended, Seaman was offered a job with the Wrigley Chewing Gum Co.

The company was impressed when they found out that Seaman spoke Portuguese and was already living in the country. Seaman spent four years there.

In 1949, Seaman returned to St. Croix where the Virgin Islands government offered him a job as the wildlife supervisor for the Department of Fish and Wildlife.

The tribute to George A. Seaman will continue next week.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

The Daily News, 1997

History of deer in St. Croix goes back many years

Olasee Davis

Our environment

One day, I was hiking along the ridge of Wills Bay observing nature at its best. The birds singing high in the trees; ants going about their daily work; termites busy building their homes; frogs echoing in the forest; butterflies of different colors flying in the wind; insects of various kinds do what come natural; and lizards seem happy as they can be.

From the baths of Wills Bay, I decided to hike over to Annally Bay. Along the coast of this beautiful part of St. Croix, I found a deer carcass laying on the rocks. The cause of death could be wild dogs, from a disease of some sort which I tend not to believe, or from someone who took the liberty of killing an innocent animal.

The late George A. Seaman, a Crucian naturalist, was a strong advocate of deer protection on St. Croix. It was Seaman's research on deer in the Virgin Islands, particularly on St. Croix, that we have some history today about deer ecology in the Virgin Islands. Seaman even wrote a book entitled, "A short history of the Deer of St. Croix."

It was 1957 when Seaman wrote to Walter A. Gordon, then governor of the Virgin Islands, about the St. Croix deer. Seaman stated, "In this report, I have attempted to write a short history of the deer of St. Croix. It should be of some value since hitherto nothing has been written on the subject.

These fine animals are the greatest wildlife resource of the island. Knowing their history may help to bring about an understanding of their requirements for increase and survival."

The St. Croix deer is not native. From its general physical characteristics, it appears the deer came from the southern part of the United States. A specimen of the deer was sent to the Smithsonian Institution to be identified. The deer was identified as Odocoileus virgimianus, better known as white-tailed or Virginia deer.

When was the deer introduced to St. Croix?

Harry A. Beatty, former Wildlife Supervisor for the Virgin Islands, stated, "it appears that very scant records were kept and certainly nothing definite in any of these that would indicate the origin of the deer previous to its introduction to St. Croix."

Mr. Beatty continues by saying he found what he considered inconclusive reference to the introduction of the deer to St. Croix among some old Colonial records of the Danish government. The reference places the introduction prior to the 1790s.

Other remarks in the reference mentioned that five deers were brought to St. Croix by a captain of a schooner, which were trading between the West Indies and the Americas.

From Mr. Beatty's literature on the research on the introduction of the deer to St. Croix, it seems to indicate that the deer is more closely related to the southern United States region.

If we assume that the documents found among the old Colonial records of the Danish government is true, then the deer has inhabited the island for 167 years. We definitely know from James Smith writing that the deer lived in St. Croix's forest for about 116 years. In the 1840s, James Smith, stated, "The wild deer inhabits the mountainous parts of the island."

Reimert Haagensen, a Danish planter who lived on St. Croix from 1739 to 1751, mentioned wildlife on St. Croix in his book. But he never mentioned the deer. Probably because he did not see any deers during his stay on the island. Or because the deer was introduced after 1751 when Reimert Haagensen left the island for Denmark.

Regardless of the introduction or origin of the St. Croix deer, the fact is from the very beginning the white-tailed deer adapted the St. Croix environment well. The mild climate, rich soil, open plains, rolling hills and amply covered lush vegetation of St. Croix made it an ideal place for deer country.

The Virgin Islands is one of the few Caribbean islands with deers.

The Odocoileus deer is medium to small depending on the species. They are the most graceful and elegant of the deer family. A of the characteristics is antlers on males only, which shed annually. In fact, I found two antlers on Maroon ridge a couple of years ago.

The St. Croix deer also has a large distinctive tail with white underneath; no gall bladder; and four active mamme. The young are spotted.

A typical white-tailed male deer is 72 inches in length; the tail is six inches; the hind foot is 19 1/4 inches; and the ear is five and one-half inches. The height at the shoulders is about three feet.

The female deer measures about a quarter less than the male. An average St. Croix buck weighs from 90 to 110 pounds depending on availability of food throughout the year.

Mature does weigh between 70 to 90 pounds. Of course, there are exceptions to the weight. This natural history of the St. Croix deer will continue.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

In response to the captain's letter

Olasee Davis

Our environment

This is in response to Capt. Jim McManus on the, "Magens Bay has a story to tell," letter to the editor which appeared in The Daily News on Aug. 1.

In good faith to readers, I think it is my responsibility to respond to the comments McManus made. First of all, my articles are based on scientific research, interviews with people, journals, books and my knowledge of the subject matter.

McManus said, "I would like to correct a serious piece of misinformation.

My source of information about the "Hull Bay Skeletons" came from professor Ivan Sertima's book entitled, "The African Presence in Ancient America: They came before Columbus." Sertima is a scholar and a pioneer in linguistics and anthropology at Rutgers University.

According to the Associated Press report on the discovery, the skeletons of two Negroid males in their 30s had been found buried in soil layers dated 1250 A.D. Clamped around the wrist of one of the skeletons was a ceramic vessel of pre-Columbian Indian design. Examination of the teeth of the skeletons indicated "dental mutilation characteristic of early African cultures."

Sertima stated that "by March 1976, however, when I visited the site, a blanket of secrecy had descended. The grave had degenerated into a garbage dump. I learned from information filtering out of the Smithsonian that interest had evaporated because the skeletons found in the grave could not be properly dated. Salt water had seeped into the bones disturbing the carbon content, leading to wildly fluctuating reading of skeletal age.

Also, and this is most revealing, a nail had been found near one of the skeletons, indicating (said the informant) that the find was most certainly post-Columbian."

Sertima further mentioned, "The disturbance of the bones by sea water makes one aspect of the evidence inconclusive, but the other features — the pre-Columbian ceramic vessel, the age of the soil layers, the evidence of an unusual dental ritual not associated with Africans of slavery times —strongly suggest a pre-Columbian context.

In other words, nothing in the evidence associated with the skeletons suggest a post-Columbian dating. So the Hull Bay question remains open. Further diggings in that area may establish the pre-Columbian presence of Africans in the Virgin Islands. But the matter is being prematurely closed by a conspiracy of silence, a spate of insidious rumors and by apparent ignorance of African metallurgical history. For to assume that a nail found beside an African skeleton is proof of a post-Columbian dating is absurd.

Why should a nail pose insuperable problems to Africans whose smelting of iron dates back to 650 B.C. at Merco in Nubia and to 200 B.C. at Nok in Nigeria? Are we to believe that the medieval West African who could devise metal implements refined enough to perform eye-cataract surgery in the 13th century was incapable of making a nail?

The find at Hull Bay, however, is only the most recent in a series of discoveries of Negroid skeletal remains in pre-Columbian starts in the New World.

Sertima's visit to the Virgin Islands was sponsored jointly by the Environmental Studies Program on St. John and then the College of the Virgin Islands.

Yes, McManus, I have set the record straight. As you said, "we don't want our cultural heritage lost."

The information of the Hull Bay skeletons can be found on pages 262 and 263 in Sertima's book. Any question you may have you can contact me at 778-9491 or 692-4080.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Islands' future may be right below the surface

Olasee Davis

Our environment

This is the International Year of the Coral Reef and countries around the world, including the Caribbean, are taking steps to protect coral reefs as an important environmental and economic resource.

The coral reef within the ocean ecosystem works like a rain forest. It is vital to marine plants and animal life, but also to life on land. You see, when God created the world, he joined land and sea in an environmental marriage. Neither can exist without the other, but man in his ignorance still thinks otherwise.

Alexander Stone, president or Reef Keeper International in Miami, wrote a letter to Gov. Roy L. Schneider requesting help to start a U.S. Virgin Islands Coral Reef Initiative program. The Virgin Islands economy will benefit from such a program because international coral reef scientists would begin monitoring our reefs.

The letter got right to the point.

"Dear friends of the U.S. Virgin Islands coral reefs: I am writing to you because we need the people of the U.S. Virgin Islands to help us start a U.S. Virgin Islands Coral Reef Initiative. We have written many letters to the governor's office in the past several months requesting a U.S. Virgin Islands Coral Reef Initiative. The governor's office has ignored every single one of our attempts and does not seem to have any future plans to help protect the coral reefs of the U.S. Virgin Islands.

The letter further stated, "On April 5, well over six months ago, we respectfully asked Gov. Roy Lester Schneider to develop and adopt an official policy document for a U.S. Virgin Islands Coral Reef Initiative, as has already been done for American Samoa, Hawaii and many other U.S. coral reef areas by their state-level governments.

"If you are not aware, the U.S. Virgin Islands Coral Reef Initiative will help further protect coral reefs found within the waters of the US. Virgin Islands by implementing a three-pronged program of resource management capacity-building and public awareness, research and monitoring of reef conditions, and coastal zone management responsive to coral reef environmental needs."

I believe this is an opportunity where international scientists are willing to give their expertise to our government in the area of reef ecology and how vital the coral reef ecosystem is to a stable economy. We must remember that our economy base on tourism.

Sometimes I wonder if this government has its head in the sand when it comes to protecting our environment and developing a sound economy.

Believe me, the Virgin Islands dirty politics hinder us. As a people, we can move these islands forward in a productive way instead of fussing and fighting among ourselves.

When we talk about economical development, we should look at it from a holistic approach.

That means every integral part of the environment is important to a balanced economy. So resources as coral reef should not be taken lightly.

The Virgin Islands, especially St. Croix, are surrounded by coral reefs.

Our coral reefs attract millions of tourists every year.

But coral reefs also are important producers of sand for natural and man-made beach cover and for construction.

As such, coral reefs represent one of the islands' few naturally replaceable resources available for extraction.

Coral reefs also provide protection for our shorelines, harbors and shore structures.

Furthermore, the reefs provide perhaps the largest portion of our seafood presently harvested in the Virgin Islands.

Many people in these islands do not realize that most species of fish consumed locally either live on reef or depend on them in some measure for their food.

Such popular seafood as lobsters are taken primarily from reef areas. Living coral reefs in the Virgin Islands deserve our concerned interests.

In the Virgin Islands, we now have several miles of dead reefs and bays with impoverished flora and fauna as a result of poorly planned and managed dredging operations.

As a people, we can force Schneider hands to adopt a Virgin Islands Coral Reef Initiative program by writing thousands of letters to him.

After all, we the people put him there.

Also, you can contact Reef Keeper International at (305) 356-4600, Fax (305) 358-3030, or e-mail at reefintl @ aol. com as a supporter for Virgin Islands Coral Reef Initiative.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Lost skills of herbalist hurt cooking and cures

Olasee Davis
Our environment

Last week, I talked about the new medicinal book breaking ground for the University of the Virgin Islands Cooperative Extension Service on documenting the historical and cultural uses of medicinal plants in the Virgin Islands. Our great, great grandparents knew the traditional uses of medicinal plants to cure illness which were handed down from their great-grandparents.

Cooking was also a trademark for slaves in the Virgin Islands and through the Caribbean region. Many medicinal herbs that were used for healing the sick were also used for cooking.

The herbs and spices were mainly used to add flavor to foods. Back then, slaves had no choice but to use herbs that grew naturally in their new Caribbean environment.

Certain slaves were respected for their knowledge of magic, use of herbs to cure illness or to destroy their enemies.

It was believed that these obeah women or obeah men as they were called could communicate with the spirits of the dead and living to solve problems for slaves who visited them. Medicinal plants were often used in cooking or drinking and also used in some of the ceremonies practiced.

> **"Certain slaves were respected for their knowledge, use of herbs to cure illness or to destroy their enemies.**
>
> — Olasee Davis

The herb sweet basil is used in tossed salads, meats, soups, stews, fish sauce, lamb, lobster, spaghetti sauce, and other dishes. Yet, this herb is also used for colds, stomach aches, fever and bush baths.

Sweet marjoram was another herb used in baked fish, stuffing, fish soups, vegetable soups, meat stews, beef, pork, lamb, gravies, bean soups, cheese dishes and cream sauces. This plant was also used medicinally to relieve congestion in the chest, head colds, and relieve liver obstruction.

Mint or peppermint can be used in ice tea, chocolate desserts, chocolate frosting, ice cream, candies, cakes, pies, potatoes, peas, fruit juices, and mint sauce for roast lamb.

A Greek tale had it that when Pluto was in love with the beautiful nymph Minthe, Prephone found out and was jealous.

Then, she changed Minthe into a lowly plant. The name Minthe changed to Metha to become the genus name of the herb mint. Mint was used for different illness. It is used for headaches, indigestion, gas, heartburn, and to help people to sleep better. Mint is also used in bath water as fragrance.

Hot mint tea with warm milk heated with fresh or dried peppermint leaves is said to calm an upset stomach or relieve muscle spasms such as menstrual cramps.

Bay leaf or bay rum, as its called locally, is used in vegetable soups, meat, fish soup, tomato sauce and juice, beef and chicken stews, lamb, pot roast, ice cream, baked goods, candies and cereals.

Oil made from the leaves was the main ingredients for bay rum skin lotion, perfume, and soap. From the late 1800's to the early 1900's, bay rum was a major industry on St. John. The trees are native to the Virgin Islands particularly on the island of St. John where it grows abundantly wild in the mountain forest. Medicinally, bay rum leaf is used for upset stomach, colds, fever, refreshing and as a relaxing bath.

Rosemary, another herb, was used in dishes. Its uses in meat dishes, fish, pork, chicken, stews, soups, poultry stuffing, creamed sauces, roast lamb, veal, duck, biscuits, potatoes, green peas, cauliflowers, and the local maubi drink. This herb is also used for nervous tensions and headaches.

Prickly pear is used as food. It can be eaten with rice or fried. Other Caribbean islands used prickly pear as a substitute for okra in fungi. The young tender small prickly pears are used by cutting them up in small pieces then mixing them with cornmeal into fungi. Of course, the prickles are taken out before the fungi is made.

Prickly pear is also used to wash your hair, for inflamed eyes, and drunk as a cooking for high blood pressure.

Sea purslane, an annual creeping plant that grows along our coastal shores, is also eaten. This herb can be eaten in salad or steamed with vegetables. In the Virgin Islands, the herb has been eaten raw or cooked as a pot herb and used in kallaloo.

Medicinally the plant has been used to treat rashes or prickly heat on skin. Also, the plant was used as a blood cleanser, back pain, and liver congestion.

Papalolo a busy shrub is used in the popular kallaloo local soup with fish, vegetables, or meat and spices. This medicinal plant is used to treat asthma, colds, bladder troubles, and venereal disease. Maubi bark is well known for its drink.

With my parents, maubi was drunk every Sunday as we ate together. The maubi plant is used to treat stomachache, diabetes, fish poisoning, fever and gum ulcers. The future of some medicinal herbs in these islands is uncertain due to the rapid development on the environment. So many of us take things in life for granted, medicinal herbs are just one of them.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Magens Bay has a story to tell

Olasee Davis

Our environment

Last week, I spoke to a large group of summer students at Magens Bay Arboretum. Sen. Adlah "Foncie" Donastorg and his staff should be highly commended for their efforts in trying to restore Magens Bay Arboretum and the general area of the beach environment.

The people of the Virgin Islands have a lot to gain from the restoration project of Magens Bay natural environment. Magens Bay beach is known worldwide as one of the 10 best beaches — anywhere.

But there is more to Magens Bay than just swimming, walking on the sand or watching a beautiful sunset. Magens Bay is a special place because of its human and natural history. This history began from the time of the Indians, who inhabited the area sometime around 700 to 1200.

In 1976, two African males in their late 30s were found buried in the soil near Hull Bay beach. The remains dated to 1250. Around one of the Africans' wrist was a ceramic vessel of pre-Columbian Indian design. These first inhabitants of Magens Bay were very skilled people in the way they survived in the environment and how they lived off the land and sea.

The Indians in St. Thomas probably also survived by trading with other people traveling the Caribbean seas like Africans, who knew the Caribbean region before the first European ever set sail in this part of the world. The two Africans found at Hull Bay are among many examples of the early African presence in the Caribbean.

Indians made different types of pottery using whatever was available. They were creative in painting different designs on the pottery or decorating their work with faces of animals and plant designs. The type of pottery found at Magens Bay site belong to the Elenoid series.

The pottery left by the Indians also provide records of certain foods, flora, fauna and mineral resources available in the Magens Bay environment at that time. We all know historically what happened to the Indians of these islands. They were exploited and replaced by European powers.

The impact by these newcomers was tremendous on the land environment. They were not a people that lived or worked within the environment; economics was the driving force behind developing the area.

Archeological records also provide information on the impact of these newcomers' activities on the land.

The Magens Bay Arboretum was once a small mangrove lagoon that provided a natural habitat for Chlone cancellata, a species of shell. These species date back to 425 BC and 1150 BC. Today, the arboretum no longer supports the shell species.

The arboretum now is a seasonal wetland with rich topsoil that washes down from the surrounding slopes. During the rainy season on St. Thomas, water rushes down from mountain guts inland and floods the flat area where the arboretum is located. Because there is no outlet within the arboretum, the area stays wet with standing water for several weeks or months depending on rainfall.

The area is now home to large landcrabs. Archaeological records show that soil erosion and ecological changes occurred from the prehistoric period to now. Stone axes, shell adzes and other artifacts recovered from the area attest to the fact that land-clearing took place for village settlement and probably the harvesting of large trees for the construction of homes and canoes.

The land was cleared especially for cassava which was part of the Indians stable diet. Cassava was brought with the Indians when they emigrated through the Lesser Antilles from South America. Cotton was also cultivated by the Indians and used as a product to make different items like clothes.

However by the 17th and 18th centuries, soil erosion accelerated at Magens Bay, especially the fertile upper slopes for sugar production and other agricultural crops.

Thus, the erosion patterns and the removing of large trees have changed the watershed in Magens Bay and in turn altered habitats.

By the 19th century, erosion intensified by the shifting of agricultural crops to largely grazing of animals and culminated in the 20th century by house development of the upper slopes of the area. Today, what you see of Magens Bay upland is a secondary forest establish through natural succession.

Next week's article will be a continuation of the cultural and natural history of Magens Bay environment.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

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Naturalist's love of plants rooted in older generation

By OLASEE DAVIS
Special to The Daily News

This Black History Month we are honoring our elders who laid the foundation of the Virgin Islands' cultural history. The first inhabitants of these Virgin Islands were the Indians. We were taught in Virgin Islands history that in 1493 Christopher Columbus's fleet landed at Salt River Bay on St. Croix in search of fresh water. As his men were about to return to the ship, they came upon a canoe of Indians led by a woman.

The Spaniards tried to cut the natives off from the Salt River shore and were met with deadly arrows poisoned with manchineel sap. Though wounded, Columbus's men managed to overpower the Indians who all were killed or captured. Because of this incident, Columbus never landed.

Before the Europeans colonized the Caribbean, Africans traveled throughout the region, including the Virgin Islands, exchanging goods such as plants, spices and gold. Both Indians and Africans built a relationship on trade that lasted for centuries.

Once the Indians were eradicated from the Virgin Islands, the area was left mostly uninhabited for years except a brief period when the pirates, privateers and buccaneers occupied the islands.

Slaves who were brought to the Caribbean arrived empty handed. But they held on to the memory of their former way of life in Africa. The plantation system in the Caribbean did not allow the slaves to live as they were accustomed to in Africa. But the slaves recalled the African songs, dances, folktale, respect for ancestors and nature.

The slaves knew how to use tropical herbs as medicine. They also practiced what they could remember of the religion of their African ancestors. Thus, what our elders learned about the uses of medicinal plants in the Virgin Islands originated with slaves brought from Africa and Indians who inhabited the islands hundreds of years ago.

The knowledge and uses of medicinal plants were handed down from generation to generation changing as new uses were discovered. Words of Indian origin in the Virgin Islands as cassava, calabash, ginep, guava, maubi, mampoo tree and others were used by slaves and handed down to their children. But the uses of medicinal plants were a major part of the slave society throughout the Caribbean.

From bush bath, remedies for different illnesses, to religious belief, plants and animals influence the culture of the Virgin Islands. Slaves also retold some of the old African tales. Here and there, some African words or names of people remained. For example, the spider hero of the Akan people, Anansi, lives on in our Anansi stories. The story of why a crab does not walk straight is another tale.

My grandmother says a crab does not walk straight because he cannot decide who he is going to marry. And so as the old folks have it, people change their minds all the time just as a crab who does not walk straight.

Another African tale was the jumbie bead plant. Traditionally in the Virgin Islands the black and red seeds of the jumbie bead plant were placed in lamps to keep jumbies from entering the house at night.

If you do not have jumbie bead seeds in your lamp, you have to walk backward into your house. Medicinally, the leaves of the plant's vine were used for coughs and colds.

Stories like these were taught to children by their grandparents. Sadly to say, television has taken over storytelling that once was so much a part of the Virgin Islands's culture.

Today, many of the medicinal plants in the Virgin Islands are disappearing due to the rapid development on the natural environment. The ways in which plants were used are dying out as customs change in the Virgin Islands. We are losing not only plants that have beneficial uses to modern and folk medicine, but a way of life and a culture where elders handed them down from generation to generation.

Such parts of the Virgin Islands culture as the West Indian weed woman, the giving of bush tea with dumb bread in the morning and at night, the cleaning out of children with bush once a month, bush baths and so many other cultural practices that passed down from our African ancestors are being lost.

My grandfather, Jimmy Industrious, a farmer and fisherman from Tortola, passed the knowledge of plants to me as a little boy.

My grandfather used to tell me, "The knowledge was handed down to me from my father and grandfather, who was a slave in Tortola during the early 1800s." From childhood, I learned to appreciate nature and the values of my African ancestors. On my father's side of the family, my grandmother, a native of St. John, also taught me the importance of nature.

My ancestors were not only Africans, but Carib Indians and European. All three cultures practiced the art of medicinal healing with herbs. Other people who influenced my life to study plants were the late Gov. Cyril E. King, Arona Petersen, Kai Lawaetz, James Weekes, Oscar E. Henry and other elders too numerous to mention.

As we come close to the year 2000, the Virgin Islands has a culture generation gap.

The knowledge that was once handed down proudly by our elders in the community is no longer valued by those who are the future of these islands. As a people, we must understand that the future is tied to the past of the Virgin Islands cultural history. Are we doing our part as a community to help bridge the gap to our young people for the 21st century?

Through the University of the Virgin Islands' Cooperative Extension Service, environmental educational program, I am passing on knowledge of managing and protecting the environment, in particular medicinal plants, to thousands of young people.

In this program, young people are learning about themselves and how they fit into the cultural ecology of the Virgin Islands. Surely, the elders of this community need to be honored this Black History Month and until the end of time for their effort in making a contribution to our islands and cultural history.

Olasee Davis, who has a master's of science degree in range management and forestry ecology, is a St. Croix ecologist and writer.

Old man offers interesting stories

Olasee Davis

Our environment

The other day I was talking to an elderly person about Sandy Point and how rich the vegetation must have been 100 years ago.

From our conversation, I learned many things about Sandy Point environment. The old man pointed out to me that Sandy Point pond had two outlets; One from the south side of the pond and the other one from where Frederiksted Pool is located today. So one time in history the salt pond of Sandy Point was open, and water flowed back and forth to the sea.

The old man said that as a boy, he used to walk on a dirt road to Sandy Point where he and friends fished, gathered sea turtle eggs at night, and rode on turtle backs.

On the west side of the pond, he said, he and friends used to dig in the sand for fresh water. I said, what, "fresh water?" The old man said he remembered that because because they never carried drinking water with them when they fished at Sandy Point.

Then I recalled that Sandy Point on the south side of the pond once had an Indian village that goes back hundreds of years ago.

Today, you can still find artifacts below and above the surface of the sand. It is possible Indians settled at Sandy Point not only for its abundance of marine animals, wildlife on land and available fruits, also for the fresh water below the surface of the sand. Sandy Point means "deep sand," the old man explained.

Back then, he said, people took sand to build houses and roads. Before Hess Oil Refinery was built in the early 1960s, one could stand at Sandy Point's south shore tip and see white sand beaches for miles, all the way to the Krauses Lagoon, where Hess and St. Croix Aluminum is located today.

This all changed, my old friend said, because of the dredging of the Krauses Lagoon in the 60s. White sandy beaches began to disappear and the south shore of St. Croix ecosystem changed forever. The final blow to Sandy Point came when people began dumping trash there and the sand was dredged for local construction and export.

Many people back then and some today believe that salt ponds are just smelly places. Little do they know that salt ponds are an important breeding ground for marine animals, birds and other wildlife. Most important, the fishing industry in the Virgin Islands depends upon salt ponds ecosystems.

Today, Sandy Point is protected as a National Wildlife Refuge particularly for the endangered species leatherback sea turtle, but also for rare plants and other wildlife that inhabit the sanctuary. Since we are in the summer season, the old man and I also talked about fruits. He was quick to point out that Sandy Point once had big sweet seagrapes and cocoplums in an abundant.

I asked the old man if there were mespel trees growing in back yards. In the 1920s, the north side of St. Croix was considered the garden of the fruit forest because of the rich deep fertile soil where some trees grew more than 60 feet.

In 1734, when the Danish settled on St. Croix, they also discovered how rich the soil was on the north of the island. "It is the indication of good, rich land where topsoil is blackest and deepest, whether those soils are located on mountains or in valleys. In those places, the forests are thicker and the trees larger than in other areas. The soil and its products give curious proof of this, sometimes from a detrimental perspective. Many planters have complained of the fertility of the rich soil, noting that whatever we planted there grew so abundantly that it could not all be put to use," Reimert Haagensen said in the middle 1700s.

Historically, the north side of St. Croix was once a lush tropical rain forest. In places like Creque Dam in the rain forest, the old man said, water used to run like a river yearround to the sea. He never thought in his lifetime the Creque Dam stream would go dry. In fact, he mentioned the Navy built the dam in the 1920s within the stream bed for the simple reason of the constant flow of water downstream. Here, he said, there were mespel trees growing along the stream banks.

The mespel trees have economic and medicinal potential. The tree is used for treating diarrhea, furniture making, and the sticky white latex and unripe fruit is used as a source for chewing gum. Fruits like mespel, cocoplum and seagrapes were part of the residents' diet, my old friend said.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Orchids combine beauty, variety

Olasee Davis
Our environment

In the plant kingdom, Orchidaceae is one of the largest plant families. There are some 30,000 to 35,000 species of orchids throughout the world and a number of man-made hybrids.

The orchid is the most advanced among the monocotyledon plant family, which includes those plants that develop out of one first leaf. Characteristics of the orchid family include having many roots of equal thickness and length, a large number of parallel veins of equal size in their leaves, and floral parts in threes or multitudes of three.

Orchids grow in a variety of shapes, sizes and colors in the wild. Flowers of some species can be large as one foot long or as small as a pin head. They can grow on rocks, trees, bushes and in the soil. Some species even bloom from underground.

The blooms of orchids depend on the species and season of the year. Some blooms can last as little as five minutes or as long as 9 months.

In the tropical world, most orchids prefer to live atop other plants, while in temperate regions they are mostly terrestrial. A few varieties will live off of dead or decaying matter below ground.

The term orchid was derived from the Greek word orchis. The name orchis was first mentioned in 370 to 285 BC by Theophrastus in his book, "Enquiry into Plants."

John Lindley is the father of orchidology. His work in the 1800s formed the basis on which all modern systems of orchid classification are founded.

On St. Croix, you can find orchids blooming from the virgin northwest forest to the south shores, to the central mountains and the eastern hills. There are about five varieties of orchids growing wild on St. Croix.

While there are more varieties of orchids native to St. Thomas, it is rare to find any growing wild, due to man's impact on the environment during the early settlement of the island. The reproduction system of orchids in the wild depends on pollination by insects, including flies, butterflies, wasps, bees and hummingbirds.

Some pollinators are attracted by the shape and color of the plant's flower. Ordinarily, the pollinator is species specific. Bees are attracted to violet, white, blue, purple, and yellow flowers, while they are color blind to red. Birds and butterflies are attracted to red. Moths are attracted to cream, white, and greenish flowers.

One of the most remarkable characteristics of the orchid family is its adaptation to cross pollination, a byproduct of insect activity. Insects are attracted by a flower and stimulated to satisfy one of the ever-present dynamic urges of nature: hunger and sex.

Most flowers of orchid species provide either edible tissue or nectar as an attractant for visiting insects. Upon leaving, the insect must come in contact with a flower's anther, thus becoming burdened with another load of pollen, which it carries to the stigmas of the next flower visited.

After fertilization, seeds are produced. Orchid seeds are the smallest of all the flowering plants. Seeds are carried by the wind and rely on a symbiotic relationship with a fungus in the soil to germinate.

This seemingly haphazard process has carried on for centuries. If you are interested in growing orchids, join the Orchid Society of the Virgin Islands. For more information contact the extension service on St. Thomas, at 693-1080; or on St. Croix, at 778-9491.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Promise yourself to grow an African violet

Olasee Davis
Our environment

Every year, many of us make resolutions. It might be to lose weight or stop smoking.

Whatever the resolutions this year, I challenge every resident of these islands to grow and keep a healthy African violent plant alive in your homes in 1997.

There is no other house plant more popular than African violet.

It has become the most widely grown flowering house plant in the United States.

The African Violet Society of America now has a membership over 15,000 and is probably the largest single plant society in the United States. It is native to East Africa. In 1892, a German botanist discovered the plant and was given the scientific name — Saintpulia — in honor of him.

The plant began gaining popularity in the 1930s. Many people admired the African violet for its beautiful symmetry and abundant colorful blooms.

Grooming and cutting African violet has developed into a fine art by growers who take pride in the beauty of prized specimens.

When I mentioned African violet to some of my friends, one person turned to me and said, "Olasee, African violet is a difficult plant to grow."

Actually, African violets are relatively easy to grow under varying growing conditions, and an ideal plant for people who don't have spare time for plant care.

The plant cannot take direct sun for long periods. In its natural environment, the plant grows under humid shaded condition in the forest.

Its brightly colored flowers which come in shades of red, white, purple, and a nice mix will brighten any room in the house. There are also several kinds of leaves in various species. For proper growth, the plant should have a porous fertile well-drained soil.

If you plan to get cuttings from a friend, select a leaf toward the center of the plant, and separate it gently from the mother plant. Either water or soil can be used as a growing medium. A good soil mixture can be prepared by using two parts peat moss, one part sand, and one part soil. In the Virgin Islands, add more sand and peat moss.

Before you pot your cuttings, check the moisture content of the soil mixture. When you squeezed the mixture in our hand, it should pack slightly. Then, poke the leaf stem into the pot about an inch deep and keep the soil moist. If you place the leaf way below the soil line, the plant will rot off rapidly.

When the leaf begins to grow and it is about two or three inches tall, it should be taken out of the propagating pot and placed in its own pot.

Pots four inches in diameter and three inches high are ideal for growing this plant. To grow African violets successfully, water is important to the plant's survival. Some experts say pots of three inches or smaller should be watered from the bottom. Pour enough water into a saucer and allow the plant to drink. Larger potted plants should be watered from the top, but be careful the leaves do not touch the soil. If

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they do, fungus will develop on the leaves once the leaves come in contact with the wet soil.

Water only when the soil surface is dry to the touch. African violets do best when the humidity is 50 to 60 percent. However, the average homes in the Virgin Islands do not have enough moisture in the air for best growth of plant.

One way to add moisture to the air in the area immediately around the plants is to place the pots on shallow trays or large saucers which have an inch of fine gravel on the bottom. Keep the water in these trays level just below the surface of the gravel. This water will evaporate into the surrounding air, and give the plants a better atmosphere.

African violets grow best when nighttime temperatures at night are 60 to 75 degrees.

Proper amount of light is important to grow African violets. Too much light may cause burning on leaves, while too little light affect flowering. There are several fertilizers on the market. The labels on these products explain how the fertilizers should be applied.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Rain forest more than just a real soggy place with trees

Olasee Davis
Our environment

The word rain forest is a popular term use by many people in the Virgin Islands.

In 1898, a German botanist coined the word rain forest. Probably, he used the term to describe a constantly wet forest environment. Bush also is another term Virgin Islanders used to describe forest.

These terms were probably used because of cultural expression, or cultural ties to the environment. Jungle was once a popular term to describe forest. Etymologists said the word jungle was traced back to the ancient Sanskirt word "jungala" which was used to describe thick vegetation.

Today, many people use "jungle" to describe tropical rain forest, but this definition misrepresents what a rain forest is actually like. Tropical rain forests are not impenetrable vegetation. In fact, the floor of a mature rain forest is relatively open and uncluttered.

The history of land use in the Virgin Islands by man has dramatically altered the islands' forest ecosystems. In 1651, the French reported three rivers and 16 brooks on the island of St. Croix. Although St. Thomas and St. John historically did not have rivers like St. Croix, they had small springs and steams that flowed year-round.

The middle 1700's early 1800's sugar cane cultivation covered most of St. Croix. But in the early 1900's, sugar cane cultivation only covered about 35 percent of St. Croix and as late as 1914, several streams and rivers were reported to have flowed year-round.

In 1493, Columbus landed at Salt River Bay. The land then was dominated by forests. A year after Transfer Day, X.L. Britton described the island's forests by saying, "there is but little natural forest remaining on any of the islands, and what there is, confined to the hilltops in a few places. Reforestation is the crying need of the new possession, and it will be highly discreditable to the United States if this subject is not immediately taken in hand."

He further stated that, "most of the higher parts of all three islands are not available for any but forests products and the supply of wood for fuel needs to be increased and the rainfall conserved by a forest cover, for most of the rain now runs off immediately. This destruction of the forest has doubtless eliminated a good many species from the original flora of the islands."

Thus, the forest of these islands once played a major role in keeping the islands streams and rivers flowing. Today, we called the northwest part of St. Croix the "rain forest."

Technically, we do not have a rain forest in the U.S. or the British Virgin Islands. The islands are basically divided into two zones — moist and dry forests.

The term "rain forests" on St. Croix probably came about because of the wet environment on the northwest side of the island and the tall trees that give the appearance of a rain forest. About 80 inches or more rain begin a true rain forest.

The rain forest on the northwest side of St. Croix receives between 50 to 55 inches of rain a year. El Yunque forest in Puerto Rico is the nearest true rain forest to the Virgin Islands. In 1991, the U.S.Forest Service commemorated the 100th anniversary of the birth of the nation forest system.

In 1891, President Benjamin Harrison created the Yellowstone Timber Land Reserve. Today, there are about 156 national forest over 43 states and Puerto Rico. But out of all the different types of forest in North America, the Caribbean National Forest in the eastern part of Puerto Rico contains a tropical rain forest.

Although El Yunque became a U.S. National Forest in 1903, the Caribbean National Forest in Puerto Rico was actually set aside as a preserve by the Spanish Crown well before 1860.

El Yunque rain forest occupies about 47 square miles in the rugged Luquillo Mountains of Puerto Rico noted for its lush plant life and fast flowing streams.

Rain falls nearly every day in El Yunque rain forest preserve particularly on the highest mountain. Within this rain forest ecosystems, there are many types of rain forests. At the lowest elevation in El Yunque rain forest is the lower mountains rain forest, a dense growth of tabanucos and other 100-foot trees.

Above this is the upper mountain rain forest dominated by huge trees. On the steepest slopes of El Yunque rain forest is the palm forest.

Finally, on the highest mountains of the rain forest is the cluds elfin forest where stunted trees grow in dense nearly impenetrable stands.

What we call rain forest in St. Croix today are threatened by development. Probably before the Year 2000, the Creque Dam and other areas of the northwest side of St. Croix will be nothing but another housing community.

Believe me, few years from now, the word rain forest would not be a popular term in these islands.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

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Reefs must be protected for V.I. future

Olasee Davis

Our environment

This third article on the coral reef series will focus on the impact man has on the reef environment.

Before humans inhabited the Virgin Islands, the reefs were affected only by nature. Whenever it rained, some loose soil washed to the shores. But nature in its wisdom provides inland vegetation, coastal forests, and other means of filtering sediment before it reach the shores.

The mangrove forest in the Virgin Islands play an important role in the protection of the marine environment. The red, black, white and buttonwood are the four types of mangrove trees that grow along the Virgin Islands coast.

The red mangroves are the most distinctive, having long prop roots that reach down into the water. These prop roots provide hiding places for a wide variety of marine animals.

They are also land builders and provide a natural buffer against waves. Black mangrove grows behind the red mangrove. They are recognize by the cluster of soda straw breathing shoots coming through the mud at its base. The white mangrove grows behind the black mangrove. It can be identified by its small white flower.

Buttonwood mangrove grows further inland. It is the only variety with alternate leaves. This species produces a small berry-like button seed most of the year around. Mangrove prop roots trap dead mangrove leaves, sediment and fresh water that washes down from the land with storm runoff. This helps protect water quality offshore, especially for the coral reef environment.

Little do people know, mangroves are also important to the Virgin Islands economy, not just to the reef environment, but the fishing industry. One of the most important functions of the mangrove ecosystem is supporting the juvenile fish habitat for fish like snapper, grunt, grouper, parrotfish, barracuda nurse shark, mullet and many other marine animals.

These fish grow up and breed around the mangrove. Other marine animals like crabs, whelks, oysters, sea snails and many birds species depend upon the mangrove forest. Studies have showed that the decline of mangrove forest in the Virgin Islands affect the fish and coral reef population.

To me, one of the greatest threats to the reef environment is ill-planned coastal and hillside development. Since coral reef are localized center of high biological productivity and their colorful fishes are a major source of food in tropical water areas, many marine biologists view with alarm the spread of tourists resorts along coral coast in many parts of the world.

Such developments are almost always accompanied by increased dumping of sewage; by overfishing; by physical damage to the reef environment resulting from construction; dumping and landfills; dredging; and destruction of the reef on a large scale to provide tourists with souvenirs and coffee table curios.

In the Virgin Islands, development and sewage outfalls have led to extensive autrophication.

How can I, as a native Virgin Islander, stand by and allow the reef environment to be destroyed by people who don't have the best interest of the people of the Virgin Islands in their hearts?

In my opinion, this government needs to be more environmentally friendly. These islands are promoted as a tourist destiny. Yet this government is the culprit in many cases to the destruction of these islands environment.

On the other hand, the federal government does a much better job managing parks in the Virgin Islands. The National Park on St. John in one of the most visited places in the Virgin Islands. But the federal government has its hands full in trying to control boats, particularly as they enter the park waters.

An estimated 30,000 boats per year anchor in park waters. However, this has cause some serious problems to the reef environment on the island of St. John. In 1988, the Wind Spirit, a 440-foot cruise ship dropped its anchor into Francis Bay coral reef.

The anchor of the cruise ship destroyed 300 square yards of coral at Francis Bay.

If we are to save the tourist industry, we must save and minimize the impact we have on our coral reef environment.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Religion and science interwoven

Olasee Davis

Our environment

My educational training is in science. I am not a theologian even though I was raised up in a Christian home with the teachings of the Bible.

You see, we live in a system where facts determine the principle guide for man decision of how long he exists on the earth environment. In fact, the Bible is science that deals with man relationship with God, other human beings, and the environment.

The question is, how old is the earth? This question has been a mystery for man from the beginning of time. Many Christians believe, including some Seventh-day Adventists, that the earth environment is about 6,000 years old. Yet scientists tell us they have found fossils of human millions of years old.

Last year, the Journal of Human Evolution stated that 2.3 million-year-old human fossils were found in Ethiopia — a discovery that would extend the age of the human family line to 4 million years. We were told by archaeologists that man first emerged from Africa and spread to other parts of the world. The Bible mentioned that part of the Garden of Eden was in Africa. Four rivers passed through the Garden of Eden.

" . . . And the name of the second river is Gihon; the same is it that compasseth the whole land of Ethiopia..." Genesis 2:13. The earth being 6,000 years old is far from when man first walked on the earth millions of years ago according to Paleontologists. We should ask ourselves where the number 6,000 years come from? How is it that most of Christendom believe the earth is 6,000 years old and not millions of years?

Dr. Clarence Pamphile, a Seventh-day Adventist, explained in his book "6,000 Years and the Advent Hope" that, "there were six days of creation and then came the seventh day when God rested. From this, man was allotted a week of six days of toil and labor and the seventh day, the Sabbath, on which to rest. This provision "made for man" has its counterpart for the physical world. The earth is to endure 6,000 years of sin, suffering and troubles, then would come the millennium, the 1,000 years period during which the earth would rest. After this would come the eternity of bliss and joy; the earth would be made new."

My understanding of how the number 6,000 years comes into existence is from the six days of creation and the seventh day which means, in Biblical terms, perfect. Thus, a day equals 1,000 years Biblically. From this, many Christians believes 6,000 years is divine and mathematically and logically sound. However, putting a number of how old the earth environment is, has a history in human history.

Ancient Babylonians believe in the ideal of the end of the age. This concept was tied to certain science fields such as geography, astrology, and astronomy. Babylonians taught that the heavens ruled the earth. From this, life was thought to be under the zodiacal signs. With this ideology, the concept of the end of the age was placed within a religious content.

There is more history behind the Babylonians belief system of the end of time and how it fit into the setting a number of how old the earth is. Nonetheless, the Zoroastrians came into contact with the Babylonians who developed the ideal of the 6,000 years belief system. Later on, this was modified to 7,000 years by Western Magi priests — those Zoroastrians who settled in Syria and other parts of the Middle East.

The Grecian six millenniums, Etruscan millenarianism, the reformation of the "Dark Ages" of Christendom, and others hold on to this concept of the 6,000-year-old earth event even down to our time in earth history. According to Dr. Clarence Pamphile, there is no accurate Biblical statement of how old the earth is.

Many Christians, he said, ruled out the scientific facts of the possible age of the earth. He said, ". . . it is clear that human beings have been around for much longer periods than we have thought. Just how long ago was man created we probably will never know. What is known today, however, indicates man is much older than 6,000 years."

You see, Christianity isn't based on scientific data, but on faith believing in God who He said He is. The Bible says, "Now faith is the substance of things hoped for, the evidence of things not seen." Hebrews 11:1. I believe a person must be able to defend his faith and know the history of his faith and why he believes and what he believes in.

As a Seventh Day Adventists, my faith in God determines my destiny in life.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Richmond Plantation continues

Olasee Davis

Our environment

This second article on the Richmond Plantation will be focused from 1834 to the present. Last week, we learned how the Richmond Plantation was demolished by the government. Also, we discussed how many slaves each plantation owners own on Richmond estate and to some extent the disappearing of the mangrove forest along the coast.

In 1834, the Danish government purchased 80 acres of land which included the Richmond Plantation for the purpose of building a jail. The Richmond jail was completed in 1836. A wharf was also constructed at the shore probably to service the new jail. However, the Oxholn map of 1779 does not show a wharf connected by a road to the main settlement of Richmond. But the Parsons map of 1857 depicts a well and wharf near the mangrove forest shoreline in the uppermost northern part of the Richmond Plantation.

The Parsons map also show a shoreline road running through the Richmond Plantation. Some historians believed the road between Little Plantation and Christainsted seems to have been constructed in the first half of the 19th century because it does not appear on any of the 18th century map.

Nonetheless, the Danish government is good in keeping records of where they put structures. In 1876, the Danish government built the first sugar factory in the Richmond area. The Richmond sugar factory consisted of several buildings including storehouses and worker houses. An 800 railroad track was also constructed from the wharf west point to the Richmond factory. This railroad track was used to transport canes and other agricultural products. In fact, the Danish government had once proposed to construct a railroad track from Christiansted to Frederiksted.

The main purpose was to help the farmers get their produce to town. In this century, the Central Bethlehem sugar factory had a modern steam locomotive that carry sugarcane. At the Richmond factory, there was also a water mill which help process the sugar.

The Richmond factory operated until 1928 when the collapse of the Cruzan sugar industry shut down. In the 1930's, the Richmond factory was taken over by the Virgin Islands Corporation. Eventually, the Virgin Islands government saw it fit to convert the site into a power distribution plant. Today, the people of St.Croix get their electrical and portable water what is known as the Virgin Islands Water and Power Authority.

Aerial photographs in 1972, shows that the original central factory of Richmond site has been drastically modified since the 1950's. While few 19th century structures remain, many of the plantation structures have been removed, destroyed, or damaged by the construction that they associated with the power plane operations. In the 1960's, spoil dredged from the harbor was used to landfill along the shoreline. And in one case, at least one nineteenth century historical building has almost been buried under the landfill. The once productive marine environment along the coast is altered or changed forever. This marine rain forest used to be a major fishing ground back in the 1700's and even further back to prehistoric time.

The Christiansted Harbor historically was called Bassin. Prehistoric seafarers established several settlements along the coast including Richmond shores, on Protestant Cay, and Altona an occupation lasting from about 2500 to 1550 A.D. Some historical records pointed out that some time in the history of Christiansted shoreline was a major fishing ground for indigenous people.

Since the 17th century, seaport activities have been concentrated along the harbor where Christiansted town located today. I can only assume the Danes saw the Christiansted harbor as a good area to layout a town because of its port potential for commences. The harbor became a major shipping port but lasted until the 1820's.

During the peak, around the 1800's, many vessels as 1500 of all sizes and nationalities dock into the port of Christansted. After the 1820, the flow of ships in the harbor began to decline due to the declining sugar economy. While sugar was not King any more, the Richmond greathouse remained a monument to the slaves who helped build it.

The greathouse serves as a High School. Also, it was one of the first massive estate greathouse building on the island. In 1952, Erik Lawaetz brought the greathouse with all the land around it. It was also made into a subdivision. In the 1970's a fire destroyed furnishings inside and a few weeks ago our government demolished the building secretly.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Salt River Beach needs V.I. community's help

Olasee Davis

Our environment

A few weeks ago, an editorial appeared in the Virgin Islands Daily News entitled, "Salt River Fate." It stated that, "Sen. Almando (Rocky) Liburd's pitch to turn St. Croix's Salt River Beach into a 'recreational park' meaning restrooms, sheds, parking lot, volleyball courts, barbecue pits — is a loser all the way."

This beach of Salt River National Historical Park and Ecological Preserve Liburd mentioned to the media is on the west side of the park. The area is known as Columbus landing. The senator basically stated that there is a need for some type of bath facilities at the beach. The west Salt River beach is popular among residents of St. Croix.

Both west and east side of Salt River Bay, I have given hikes to hundreds of school children. However, the west side is kept nasty by some people who used the beach. Trash is thrown all over the place. Some beach goers change their clothes in the bushes. The mangrove forests are being destroyed by some people who cut, burn or use trees as sheds.

To put it simply, some people just keep the place filthy. Summer after summer, our young people clean up the island's beaches including west Salt River beach.

But people still trash the west Salt River beach area. Garbage bins are placed in the area and to some people it doesn't make any difference. Believe me, this is an abomination to what Salt River Park represents to the people of these islands and the world.

You see people, Liburd has his heart in the right place to do something about the west Salt River trashed beach. In 1992, Congress past a bill making Salt River a 912-acre National Historical Park and Ecological Preserve.

As a people, many of us often say the people of the Virgin Islands should control their own land not the federal government. With the newly establish Salt River Park, the local government of the Virgin Islands has the opportunity to make a difference in the way it manages land.

It was former President Bush who signed a law that provides for a joint management team between local and federal government with a 10-member commission of planning Salt River Park. This commission has a four-year term. But since the Schneider Administration took office, it wasn't until April that the governor nominated individuals to the commission.

The $3 million passed by Congress in 1992 to help the local government acquire lands around Salt River Bay is probably lost due to this government negligence. With the exception of Liburd, government officials haven't even mentioned doing anything to develop Salt River Park.

But the senator's good intention of having bathhouse facilities at the beach is not quite appropriate for this historical site. This site is the only known ceremonial ball court in the Lesser Antilles. There are so many artifacts that can still be found above and below the surface of the ground. Some artifacts like the carved stones have been moved from the area and now in Denmark museum.

I was told the ceremonial ball court artifacts would be returned to the people of these islands. However, a draft land protection plan for Salt River Park was drawn up by the commission. In the plan, it has how the park will be developed, including where bathhouses, camping, picnic areas, trails, visitor museum center, historical sites and other sensitive natural areas of the park will be layed out.

I personally believe since the Salt River Park is a "joint management" project between the local and federal government, the park should be developed according to the wishes of the Salt River Park Commission. You see, some people do not believe me when I say Salt River Park can bring in millions of dollars to the Virgin Islands. Well developed managed parks all over the world bring in millions of dollars.

Michele de Cuneo, a personal friend of Columbus who led 25 men to Salt River shore said, " . . . we came to another island of Caribe very beautiful and fertile, and we arrived at a very beautiful harbor. As soon as the Caribe saw us they ran away to the mountains. . ."

". . . having the flagships boat ashore, when we saw the canoes coming, quickly jumped into the boat and gave chase to that canoe. While we were approaching her the Caribs began shooting at us with their bows in such manner that, had it not been for the shields, half of us would have been wounded."

Just knowing where Columbus landed, not to mention other archeological sites at the park, Sen. Liburd, is enough to bring in millions of dollars.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Sampling a taste of the past — kallaloo and fungi

Olasee Davis

Our environment

Besides attending church on Good Friday, the Easter holidays are also a time when hundreds of families in the Virgin Islands get together to celebrate the outdoors by camping and hiking. However, the traditional Easter holidays celebration in these islands has changed like everything else since we have become Americanized.

The closing of stores in the Virgin Islands from noon on Holy Thursday to Saturday, traditional Easter games, story-telling, preparation of special foods like fish and other activities are unfamiliarto today's generation. Today, Easter is commercialized.

Before the 1960s, we never hear about a Easter bunny. They even have us believe that rabbits lay eggs. And you know, many of us believe such nonsense. As a people, we have come to accept everybody else culture except our own. What changes so much is the way we camp out during the Easter holidays.

Camping nowadays is with television, gas stove, microwave oven and the likes of modern conveniences. Cooking on a coal pot, using maran bush to clean pots and dishes, gathering of woods to make a fire, fishing, hunting sleeping under the sky at night, counting the stars in the heavens and so many other fun things were part of the cultural camping activities in these islands.

In the old days, grandparents used to gather everyone around the camp fire at night and sing and tell stories.

Crucian kallaloo

"Yo' talk about yo'peas and rice, Yo' like yo' fish an stew, but dere's no dish so sweet an nice like a Crucian Kallaloo When ah we goin do, wid out a bowl ah kallaloo, Don tell us eat no rice, kallaloo an rice aint nice. Some like a dish ah good maufay, wid plenty ah salt meat, too. Wen we hungry, we put it away, but we wan kallaloo Oh, tis good, we all like it, de babies like it too, we eat ev'ry bit, it keep us fat Crucian kallaloo."

Mauffay

"If you want to learn to cook, get a pencil and a book. If you want to cook mauffay, listen good to what I say. Mauffay that's the stuff, an' we never can get enough, I don't care what the strangers say, Crucians like a good mauffay. If you want to cook it right, soak the salt thing over night, put it on until he boils, season, stir he for awhile, no forget the tomato them, make the mauffay taste like a ham', stir, the flour pon the spot, Mauffay done, take off the pot."

Okra fungi and Fish

"Have you heard the news, Santa Crucians got the blues, the story goes like this, we like okra fungi and fish. Cook it any style, stirred, fried, or biled, turn the fungi soft, an' one will clean the plate them off. OPA came to town, cornmeal was rationed down, when you talk bout calamity, that was flour scarcity. Okra fungi and fish, what a dish, do you wish, okra fungi and fish, ain't got no better dish than this."

West Indian weed woman

One day I met an old woman selling, and I wanted something to eat. I thought I was going to put a bit in her way. But I talk back when I meet. I thought she had bananas, oranges or pears, but twis nothing that I need. For when I asked the old woman what she was selling, she said she was selling weeds.

She had her dress tied up over her waist, and was wriggling down the street. She had on a pair of old slops on her feet and was wriggling down the street, Just then she started to name the different weeds, And I really was more than gold, Although I can't remember all that she called, These are a few she had!

Man Tiabba, woman tiabba, Tanta fill back and lemon grass, ninny root, gully root, granny backbone, bitter payee, lime leaf and toyo, coolie bitters, corilah bush. that an the old time iron weed, sweet broom, sprout and wild daises. Sweet fate and even toyo. She had bitter gomma, portogee bomba, conga larau and 12 o'clock broom. Saparilla, wild tomato, sour sop leaf, and papa hitch week, Wild bush, wild cane, wild leaf, monkey liver, That's bitterer than wild bay root, action stands and even monkey liver, and all the rest you may need.

When I hear how much bush she had. I was dumb I couldn't even talk. She started to call from Capry Corner, and never stop till she reached Orange Walk. The woman had me so surprised that I didn't know what to do. That my girl came and give me A cuff in my eye and I didn't even know who was who.

Sweet broom, sweet fate, and lemon grass. I hear them good for making tea, and then I hear bed grass and wild daisy, is good to cool the body. The woman's tongue was even lisping. But she was calling out all the time. She even had a little camana eye. And the other that left was blind.

She had pap bus, elder bush, black pepper bush, then soldier, corporal and carpadulla, fabien leaf, money bush, soldier posely, pumpkin blossoms and even devil deer, demon congo, grass in galore, physic nut, and lily root. In fact the only bush she didn't have was the bush for the everyday soup.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer

Seaman's voice of conservation ignored by government

Olasee Davis

Our environment

Last week's tribute to the late George A. Seaman focused on his childhood in St. Croix, his education and expeditions in South and Central America, and the Pacific islands.

I mentioned his return to St. Croix in 1949 with the intention to stay for a short period of time.

Seaman was working then with the Wrigley Chewing Gum Co. in South America when the Virgin Islands government enticed him to accept a position as wildlife supervisor for the Department of Fish and Wildlife.

On May 16, 1949, at age 45, George A. Seaman started his new career with the Virgin Islands government.

Seaman remained with Fish and Wildlife until 1969, when he retired from the department.

For 20 years, Seaman was the only government official who spoke out for the wildlife of the Virgin Islands.

This great native naturalist, who was born in "Freedom City" Frederiksted, was the John the Baptist voice in the wilderness.

He studied, documented, researched and made recommendations to the government about the valuable resources these islands possessed.

Seaman wrote hundreds of reports on wildlife of the Virgin Islands. Such reports as the history of the White-crowned pigeons, deer, bridle quail-doves, and the food habitat of these animals were all well documented.

On Raphune Hill, St. Thomas in 1950, Seaman counted 8,763 migrating Zenaida Doves at an average of six hours a day.

Many birds migrated to the Virgin Islands each year before heading to South America and back to North America and other parts of the world.

In the 1950s and before the 60s, the Virgin Islands were a haven for birds, particularly the cays and St. Croix.

Seaman lived in the islands when the birds population was in the thousands.

This was mainly because of the islands' undisturbed habitats, especially wetlands.

From April 15 to May 15, 1950, Seaman stated that, "2,000 doves a day moved across the islands we arrive at the considerable figure of 60,000 birds."

In the 1950s and 60s, the Krause Lagoon on St. Croix thousands of birds fed, nested, and so on at this beauty wetland, which was destroyed when Hess Oil and Harvey Aluminum Corp. were built in the 60s.

The Krause Lagoon was the largest wetlands are in of the Virgin Islands.

The destruction of Krause Lagoon greatly saddened Seaman's heart.

He had spent many years there observing, recording, and documenting the behavior of birds and other wildlife.

This wetland drew hundred of hunters from the United States and other parts of the world during the hunting season in the Virgin Islands.

The Krause Lagoon on the south shore of St. Croix was like the Florida Everglades with an abundant of wildlife.

Old-timers can tell you the Krause Lagoon, south shore areas and part of Frederiksted areas the sky were dark with birds as they flew over the island to nest in the tall grass and swamplands.

In 1958, Seaman published the first "check list" of birds of the Virgin Islands.

This document proved valuable in determining the birdlife changes in the Virgin Islands from the early 1950s until now, Seaman also wrote numerous reports on the mongoose, including the life history and threats to native animal life.

He wrote extensive reports of the White-tailed deer entitled, "Short History of Deer of St. Croix," and numerous reports on other wildlife of the Virgin Islands. In 1966, Seaman published a special report titled "Conservation Master Plan for US Virgin Islands."

This was one of the first several land-use plans written for the government that was never adopted. In 1997, we still have not a land use plan. Seaman continues to cry in the wilderness for the protection of land, sea and wildlife.

He stated that "we must lay aside suitable areas now for the protection of land, sea and wildlife . . . our countryside can be urbanized out of all beauty and recreational value in an astoundingly short time. One look around and it is alarmingly evident that the scenic beauty of all the islands is at stake."

Has this government listened? Look at St. Thomas today, this island has been urbanized out of its countryside.

I thank God every day that part of St. John became the National Park of the Virgin Islands.

Sad to say, the birth place of Seaman's home, St. Croix, is up for grabs by greedy developers.

In Seaman's honor, it would be wonderful to see Anally Bay, Willis Bay, Sweet Bottom Bay, Ham Bluff and the whole northwest ridge mountain watershed areas to become the first Wilderness National Park of the Virgin Islands.

To me, this will be the greatest honor to protect the northwest of St Croix in the honor of a great Crucian naturalist.

Seaman always said, "he never got to first base" with the Virgin Islands government when it came to wildlife protection.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Some plants can keep you healthy

Olasee Davis
Our environment

Few weeks ago, the University of the Virgin Islands Cooperative Extension Service has started warning the public not to use medicinal plants. But medicinal plants are part of the Virgin Islands culture from the first inhabitants of these islands.

When these islands were under the administration of the Navy, nurses from the mainland discouraged natives from using medicinal plants for healing illness. Instead, they encouraged the use of prescription drugs for illness. Yet, it was the herbs that kept the African communities in these islands during and after slavery strong anddisease-free.

In the 1970s, Arona Petersen's book, "Herbs and Proverbs of the Virgin Islands," increased public interest in the uses of medicinal plants. Today, alternative medicine is big business. Last year, Americans brought $1.5 billion worth of herbal products.

Medicinal remedies are included in some of the world's oldest books and scrawled on ancient buildings. Civilization of many races including Africans, Indians, Japanese, and Chinese discovered — through trial and error — the medicinal uses of plants growing in their environment. Many of these plants have stood the test of time while others have failed.

Although plants have been used in medicines for thousands of years, many are poisonous. But today, many scientific studies of herbs have resulted from the increased use and beneficial effects herbs have on health.

About two-thirds of the world's medicine come from plants in the forests of tropical countries. Periwinkle (vinca roseal) is native to Madagascar and a very delightful medicinal plant to grow in your garden. It requires very little care except an occasional watering, yet this plant is very important in the treatment of Hodgkin's disease and childhood leukemia.

From the pretty periwinkle vinblastine is obtained for treating Hodgkin's disease, which attacks the spleen, liver and lymph glands and vincrestine for leukemia, a disease of the blood.

The problem locally about medicinal plants are the name of plants. For example, a plant that grows here can be known by one common name and the same plant grown on another island is called something else.

Common names of plants are traditional plant names used by people wherever they live in the world. Common names usually describes something about the plant and reflect the cultural ecology history of a people.

St. John wort (Hypericum perforatum) that grows in temperature climates might be different to local growing St. John wort even though they might have the same common name. Many people believes when they buy St. John from a local health food store that it is the same plant that grows in their back yard.

Plants should not be identified by their common names only, but by the scientific or botanical names which is governed by international code for botanical nomenclature and accepted by the world scientific community. Many people are seeking natural ways to treat themselves. But a person must know the plant uses and species names before using the plant for medicinal purposes.

Natural may not always be better unless scientific data proving of the plant use. Traditional use of medicinal plants are important to modern medicine. But it must be used correctly with knowledge to avoid problems. Pennyroal is a herb many health food stores in the country carry. But doctors and herbalists are concerned about the increased interest in the potentially toxic Pennyroal.

Pennyroal oil has a long folk history as an abortacient," said Dr. Lise Alschuler at Bastyr University. In most cases, it fails to induce abortion. Alschuler said, "what women are doing in these cases is creating high toxicity that their own body is unable to sustain the pregnancy. If Pennyroal oil is to work on an abortifacient, it is going to work because it poisons the mother."

Also, when using herbs, never use herbs when you are on medication. Don't take herbs if you are pregnant, trying to become pregnant, or nursing.

To be on the safe side, ask some one who has professional of identifying plants and the uses of plants. For plant identification contact UVI Cooperative Extension service on St. Thomas at 693-1080 and St. Croix 778-9491.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

St. Croix a perfect landscape for wilderness areas

Olasee Davis
Our environment

I support the concept of the Comprehensive Land and Water Use Plan for these islands but there is no mention of a Territorial Parks System within the proposed plan. In the 1970s, a bill was passed to establish a Territorial Park Systems to protect special areas of environmental significance to the people of the Virgin Islands.

In the Virgin Islands Development Law of the Land Use Plan, Section 232 Intensity District 1: Conservation, stated, "This district is located in undeveloped and sparsely developed areas that are environmentally constrained, lack adequate infrastructure and are not subdivided for residential or commercial development."

Lands are not just valuable for housing and other manmade development. But "undeveloped lands" such as wilderness areas are valuable in ways not easily measured by our economic system. These areas are critical habitats for wildlife; as cleansing agents and storage basins for our water supply; as irreplaceable reservoirs of biodiversity; and as places to renew the human spirit through contact with nature.

The Virgin Islands have no land set aside as wilderness parks. We have National Parks, National Wildlife Refugee, National Marine Sanctuaries and other systems of protecting valuable land and coastal environment. In 1956, the Virgin Islands National Park was established on St. John.

The park has an area of 14,418 acres, not to mention the surrounding waters which, taken together amount to about 14,688 acreage. The park has mountains 1,277 feet high and large areas of most tree species native to the island. Close by, the British Virgin Islands have two national parks administered by the National Park Trust. On Tortola, Sage Mountain National Park is about 50 acres in size.

Sage Mountain has the highest peak in the Virgin Islands — 1,780 feet above sea level — and supports a unique mountain forest ecosystem. Gorda Peak National Park on Virgin Gorda contains undisturbed forest with a peak of 1,374 feet above sea level. However, there are no wilderness parks in the British or the U.S. Virgin Islands.

When the first white settlers arrived in the United States, forest covered nearly half the continent. Today, the 48 states have less than 5 percent of their virgin forests. The industrial revolution, which occurred between 1860s ad 1900s, brought the greatest cutting of virgin forests. For more than 100 years in the United States, legislation and major administrative actions have shaped federal and state outdoor recreation policy.

The first acts to protect forests came in 1866. Many other acts by Congress followed, including the "Wilderness Act." As with the destruction of virgin forest in the United States, the Virgin Islands experienced the same tragedy. In 1852, Rev. John P. Knox related circumstances connected with forest by the establishment of the French colony on St. Croix.

He stated the dense and aged forest that covered the island of St. Croix was set on fire by French colonists. Today, there are small patches of virgin forest left on the northwest side of the island. To me, St. Croix is the last frontier of the Virgin Islands and good planning will preserve the island natural environment.

There are large acres of undeveloped land, especially on the northside of the island. I accept St. Thomas as the cosmopolitan capital of the Virgin Islands. Historically, St. Thomas was always a trading center of the Caribbean. Two-thirds of St. John is a national park administered by the National Park Service. Why not create a wilderness park on St. Croix under the Territorial Park System?

St. Croix has the land and the natural beauty that none of the other Virgin Islands can compare with. Sweet Bottom Bay, Annelly Bay, Maroon Ridge, Maroon Hole and Hams Bluff are perfect places to create the first Territorial Park wilderness park in the Virgin Islands. These areas are significant culturally, historically and environmentally to the people of these islands.

Maroon Ridge is known for a group of slaves who jumped off the cliff and killed themselves. In addition to that, it is known for a group of slaves who hid themselves inside

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a cave in the mountainside for many years before they were caught by their slave owners. Hams Bluff is the only place in the Virgin Islands with a lighthouse.

Annally and Wills Bay each have a natural park setting. From the mountains and hills forest of different trees, shrubs and vines species to open pasture and coral reef make this environment a perfect setting for recreation adventures. Then, we have Sweet Bottom Bay and Maroon Hole, which are so scenic.

Believe me, St. Croix can become a ecotourism destination if we only plan correctly. We can start this by creating a Territorial Park System to protect wilderness areas which enhance our economy.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

St. Croix lighthouse illuminates the island's history

Olasee Davis

Our environment

On Memorial Day weekend, some friends and I camped out at Annally Bay and between Annally and Will Bay where there are bays for almost every gut that run down from the mountains side to the sea. These areas are one of the few areas on St. Croix that have never been touched with man development except for the 1700's sugar mill and great house at Will Bay plantation which today are covered by secondary growth forest.

Standing on massive coral reef formation at Annally Bay, one can see at night a light in the distance coming from the lighthouse on Hams Bluff cliff. To my knowledge, there is only one lighthouse in the Virgin Islands. Puerto Rico, on the other hand, has 15 lighthouses. Between 1851 and 1859, many Spanish ships sank at the port of Arecibo in Puerto Rico when they came to pick up sugar and tobacco from the island.

The Spanish government was under pressure from the local planters and slaves that they decided in 1861 to create a Central Lighthouse Commission to begin a comprehensive land survey of Puerto Rico and a plan to assist commercial navigation. Thus, a master plan was created for lighthouses. The intention of the Spanish was to create a light belt around the entire island of Puerto Rico.

Ships sailing toward the island, around it, or arriving at any trading post anywhere in Puerto Rico shore, would always have light guiding them to the island. John Reyes, a civilian Marine Information Specialist with the U.S. Coast Guard said the first proposed construction of a rotating lantern was San Felipe del Marro Castle at the entrance of San Juan harbor in the 1840s.

This rotating lantern, he said, was "base on the rapid increase of trade taking place in and out of San Juan." San Juan was a major port of entry for European ships trading with the rest of the Caribbean islands. Nonetheless, the Spanish envisioned 16 lighthouses. Only 15 were built. Of those, 13 are still in operation today serving the U.S. Coast Guard Aids to Navigation.

In 1845, the Puerto San Juan light in El Morro became the first lighthouse on Puerto Rico. However, it was rebuilt in 1908. Thus, the oldest surviving lighthouse structures is Punta Mules light in Vieques, built in 1885. In addition to El Morro lighthouse, there are: Cabo Rojo lighthouse, 1882; Cabo San Juan lighthouse in Fajardo, 1880; Cayo Carona lighthouse in Ponce, 1889; and Guanica lighthouse, 1889.

Other lighthouses were constructed in places like Isla Culebrita in 1886; Isa Caja de Muertos in Vieques in 1889; Punta Higuero in Rincon in 1892; Punta Tuna in Maunabo in 1892; and Isla Mona in 1900.

"The lighthouse plan was so remarkably well executed," Reyes said, "that it was later absorbed without modification into the U.S. Lighthouse Service after the 1889 Spanish American War. And, though transformed by today's needs, the basic system is still in operation and most of the structures still stand."

Like Puerto Rico, the lighthouse setting on Hans Bluff cliff on the northwest side of St. Croix is a symbol of the past history of these islands. Late 1800s to early 1900s, the Hans Bluff lighthouse was built on the cliff which represented how important Frederiksted port was to the island economy. Many people do not know how important a role the lighthouse played in the commercial navigation on St. Croix.

I have taken school children hiking to Hams Bluff cliff where they learned the history and function of the lighthouse. Here on the cliff, one can see Puerto Rico, St. Thomas, St. John, and the British Virgin Islands in the background on a clear sunny day. On your left, one has a great view of Annally Bay.

In the old days, the Hams Bluff lighthouse operated by a person turning on light in the evening and off in the morning. Today, the lighthouse is operated by solar power. Hams Bluff area is diverse, from manmade habitats ranging from the old sugar mill and modern Navy facilities in the valley to tidal pools and interesting rock formations.

Hams Bluff rises 700 to 800 feet high to Maroon Ridge. Intermittent streams flow from Maroon Ridge to the sea, creating life for a wide number of organisms. Both seasonal and evergreen forests are represented here. But most important, small patches of the once dominant rain forests of St. Croix still exist in the low valleys of Hams Bluff.

Hams Bluff natural environment provides an outdoor recreation experience both for local and visitors, an open space for wildlife protection, and a scenic view that will take one's breath away. This place is special not because of its history, but because it was once the only place that shed some light on the sea.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Students learn about history; taman tree still trademark in V.I.

Olasee Davis
Our environment

May of this year, my niece Shenelle Donovan invited me to be the guest speaker at her sixth grade graduation at Leonard Dober Elementary School on St. Thomas. This was like a home coming for me since I started school there in the first grade in the 1960s. The school's physical structure has changed with a second floor. The school yard also changed.

The once beautiful hibiscus plants that grew along the school fence are no longer there. So is the big flamboyant tree that once stood near the lunch room. What remains is the old Danish well in the school yard. You see, life goes on. And so are the changes in our school environment and the community at large.

Interestingly, my speech to the sixth grade class was how organism such as plants and animals function within a changing environment; how our islands towns landscapes changed,; and how man impacted changes in the wider environment of the Virgin Islands. We also addressed as a class how we would solve some of the environmental problems we face in the Virgin Islands.

The sixth grade class also had the opportunity to visit the island of St. Croix. Mrs. Janis Jeppesen, teacher of the class wrote me a letter and said, "We would like to take this time to give you a great big thanks from the students, administration, parents and myself for the wonderful time we had in St. Croix on June 5, 1997. This trip was not only educational and exciting, but it was a trip for many students in the class first."

On St. Croix, the students visited and learned the history of historical sites and got a chance to drive through part of the rain forest and visited the forest wood factory. Here they saw first hand how different products are made from local wood. But when the students saw the taman tree branches hanging with cluster of taman as we drove along the roads, they "went off," by saying, "stop we want tamans."

I said to them, "do you all have taman trees on St. Thomas growing all over the island?" They said, Mr. Olasee Davis, "no." Growing up as a child on St. Thomas, I remember taman trees growing all over the place. In class, we have discussed how man impacted the environment. The declining of taman trees on St. Thomas are a good example of the changes human beings have on the island environment.

Tamarind or taman trees, locally called, are native to tropical Africa. The trees spread to India and other Asian countries. From there, the tree was introduced and adopted to the Arabs who called it "tamar hindi." The fruit was also well known to the ancient Egyptians and the Greeks in the Fourth Century B.C.

Throughout the tropical world, the tamarind trees spread to islands and continents. During or before slavery in the Virgin Islands, the trees were introduced to the islands. The Museum at Estate Whim on St. Croix has a big tamarind tree standing next to the great house is over 300 years old. St. Croix particularly, tamarind trees were planted in estates. One reason for this is because of its abundance of fruits.

Another tree was used as a gathering or meeting place, storytelling, used as a shade from the sun, and a playing area for children. Thus, the tamarind trees became part of the Virgin Islands history because it shaped our culture. Today, tamarind trees are naturalized throughout the West Indies, southern Florida to south and central America.

Besides the handsome tree, the taman tree has many food uses. In India, the immature sour pods are cooked as seasoning with fish, rice, and meats. The tamarind pulp is also an ingredient in sauces like barbecue, chutneys and curries.

In Zimbabwe, the leaves are added in soup and the flowers are used as ingredients in salads. Tamarind sherbert and ice cream are also popular in some countries. Tamarind is also recommended as a stabilizer in ice cream, mayonnaise, and cheese as an ingredient in a number of pharmaceutical products. Preserves and candy as well as the beverage are prepared from the fruit pods.

On St. Croix, one can still get the taman "balls" in the Sunny Isle Shopping Center. In the old days of the Virgin Islands, fruit pulp of the taman was used as a home medicine, especially as a laxative. Taman contains sugar as well as tartaric, acetic, and citric acids and is a anti-scorbutic. The young leaves and bark of the tree have been used also medicinally.

For the honey industry in the Virgin Islands, flowers attract bees an important source of honey. Believe me, it is a shame we have so much taman trees on St. Croix and so much fruits go to waste. No wonder the students from St. Thomas said, "stop the bus, taman."

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Take a hike for the health of it

Olasee Davis
Our environment

During Anne Golden's first political try for the Senate, she organized hikes as part of her campaign instead of the regular fried fish and johnny care parties at the beach. At one of her hikes, a person said to me, "Olasee, it would be great to form a "hiking club." To me, hiking is a natural way to see the Virgin Islands environment. Hiking also makes a lot of sense in today world because we live in a stressful society.

Stress seems to have become the buzzword of the 90's and will continue to be a major factor in the way we handle our problems. For the past few years, many companies in the United States and elsewhere in the developing world have started recreational programs for employees to combat stress. In fact, some companies' recreation activities are mandatory.

As with the home, the work place is also stressful. You know, the pressure of getting something done before the deadlines, personality conflict between some individuals on the job, and the list goes on. Psychologists have found out that turnover has slowed in businesses that have implemented recreational activities for workers.

Research also shows that productivity has increased and employees feel better about themselves. On the local level, Ms. Shirlese Taylor, senior accounting/human resources liaison at the Virgin Islands Industrial Park on St. Croix contacted me a few weeks ago about conducting hikes for employees.

Ms. Taylor implemented a program at the Industrial Park whereby employees are encouraged to walk daily around the park complex and hike at least once a month. She is also thinking seriously about forming a hiking club at the Industrial Park which would be the first of its kind for a company in the Virgin Islands. Employees at the Industrial Park know that hiking is a great way to exercise. You even do not have to spend money at a local gym to keep in shape.

Hiking is not only a good physical therapy, but also spiritual by putting you in touch with nature. Can you imagine as dawn approaches, a white-tailed tropical bird signals his companion with a pre-flight posture. Then, with a few quick steps and powerful downstrokes of his long wings, he leaps into the air, trailed by four others of his kind.

This is the kind of adventure hikers see in nature that can never be seen from your car window. On hikes especially in the mountains of St. Croix, you can feel and breathe the fresh air and see nature at its best. Annally and Will Bays are two special places where you hike from 700 feet above sea level down to the coast. You see, when you hike, you will discover the joy of walking for hours not to mention the incredible sense of accomplishment.

However, the most important thing to consider when planning a hike is footwear. Feet are your transportation, therefore walking shoes or hiking boots are important. Open-toe shoes would not do, but your running shoes or high-top type athletic shoes will do fine. Short hikes and smooth terrain, or walking shoes in good condition are fine. For long hikes, drinking water, sandwiches, or high energy snacks are important.

Clothing should be loose and comfortable. A hat, sunglasses if needed, first aid supplies, camera, binoculars, and other items that you think are important should be in your backpack. For hiking through forest trail areas like on St. John or on the northwest side of St. Croix a knowledge of plant identification is important. Some plants are poisonous on contact by absorption, ingestion, or inhalation.

The cowitch vinelike plant that has oval leaflets in groups of three and hairy spikes with dull purplish flowers are poisonous. The seeds are brown with hairy pods. Contact with this pod and flowers causes irritation and blindness if it gets in the eyes. Yet, this plant can be used medicinally if you know what part to use.

Fruits of some plant species are also poisonous like the manchineel trees that grow along our coast. The same for insects and other animals that you are not familiar with.

If one is interested in forming a hike club, you can contact American Hiking Society at (301) 565-6704. Leave No Trace Inc. (800) 332-4100, The Sierra Club, (415) 977-5630, Buteau of Land Management (202)452-7794, Outdoor Recreation Coalition of America (303) 444-3353 or the web site "Outdoorlink" at http://.www.oca.com is a place to start on the internet for hiking information.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, actvist and writer.

Take politics out of Agrifest

Olasee Davis

Our environment

The environment is full with the spirit of the Virgin Islands Agriculture and Food Fair for 1997 Agrifest.

The annual event on St. Croix attracts thousands of residents who look forward to tasting local food and seeing the many displays of animals and plants. Visitors from the mainland as well as down-island also attend the agriculture festival activities.

Here, the University of the Virgin Islands Cooperative Extension Service, Agricultural Experiment Station and the local Department of Agriculture showcase the latest scientific breakthroughs in agricultural technology in plants, animals and foods. At such events, politicians give lovely speeches of what they will do for the Virgin Islands agriculture industry.

But the reality is that most of them talk from both sides of their mouths, saying nothing. It is a "bunch of hogwash," as one local farmer put it. The Virgin Islands Agriculture and Food Fair has become an event not to showcase the technology of food production, but a forum for politicians — who often get in the way of making agriculture one of our major industry in these islands.

Although the industrial and tourist industry have improved the economics of the Virgin Islands, the improvement of agriculture remains a low priority for many leaders.

The Virgin Islands have a rich agriculture history, especially on St. Croix, which once was called the "gardening spot" of the Caribbean.

Today, almost all our food is imported, while thousands of acres of land stay idle.

The theme for this year's agriculture and food fair is "Agro-Industry: An Opportunity for Economic Diversity."

If we are talking about agricultural diversity, we must also talk about processing agricultural goods. To me, one of the greatest opportunities in the Virgin Islands lies in the processing of fruits for local consumption and export. Fruit processing would include jellies, jams, extracts, fruit juices, chutneys and other agricultural products.

Before the phasing out of sugar cane in 1966 on St. Croix, a plan was proposed to establish a commercial processing plant for fruit on St. Croix.

In 1962, 2,500 acres of suitable agricultural land was set aside to grow oranges. These 2,500 acres are located on east Castle Burk, Jealousy, Lower Love, Coble, Bethlehem Old Works, Golden Grove, Body Slob, Fredensborg, Adventure, Upper Bethlehem, and Bonne Esperance.

One of the purposes behind establishing a orange industry in the Virgin Islands was to extract orange juice and make orange concentrate for sale in the world market including the United States. The St. Croix orange plant was to consists of a floating factory on which the processing and concentrating machinery would be located, plus shoreside installations for fruit handling, canning, freezing, and storing.

Also, the orange plant was to manufacture citrus pulp into cattle feed. The establishment of the orange factory on St. Croix never really get off the ground because of dirty politics, one local farmer stated. Today, most of the central primary agricultural land on St. Croix is used to build schools, National Guard headquarters, housing, and other non-farm uses.

Globally speaking, agricultural lands are threatened. Each year, some of the world best fertile agricultural land goes out of production. It is paved over as the world claims uncounted millions of acres each year. This threat to farmland is not happening to so-called undeveloping countries, but developed countries as well.

Canada, the second largest exporter of cereals after the United States, is losing large chunks of its best farmland to urban developments and other non-agricultural uses. The United States shares the same problem of losing productive farmland.

These trends do not suggest that Canada and the United States will themselves experience food shortages, but it does suggest that the world's ever-growing dependence on the United States is risky. If the Virgin Islands does not start growing some of its own food, we could find ourselves in some serious trouble.

Like other countries, these islands are losing good agricultural land.

If this government believes in economic diversity, then strong action must be taken in the development of the islands' agriculture industry. The agriculture industry not only produces food, but preserves open land.

The food fair is just one example of how agriculture can play a major role in the diversification of our islands economy.

After all, we all have to eat and live in an environment that is conducive to a healthy economy.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Territory's environment, natural resources face crisis

Olasee Davis

Our environment

What is the state of the Territory's environment, somebody asked me?

In the natural resources program of the extension service, we stated, "The Virgin Islands are facing a crisis situation regarding the state of its natural resources and environment. The marine and terrestrial ecosystems are closely inter-related and are heavily impacted by a population. There are approximately 110,000 residing on a total of only 130 square miles."

However, population density, particularly in St. Thomas and St. John, is higher than is indicated by this number due to concentration of population in urban centers and less steep outlying areas. Urban, suburban, commercial and tourism-related development are distinctly altering the islands fragile ecosystems at a rapid rate.

The islands are currently in a state of over-development as evidenced by the rapid pace of housing, tourism, shopping malls and road construction. Proposed major development, along with the additional population they will bring, will further strain the already inadequate and over burdened island infrastructure.

Ecosystem degradation has resulted from development activities, primarily through poor land clearing and landscaping practices that negatively impact flora, wildlife, soil and water resources.

Large scale removal of vegetation reduces wildlife habitat, promotes soil erosion and sedimentation, and threatens biological diversity. Sediment and wastewater are by far the primary pollutants impairing Virgin Islands waters. Approximately 800 to 1000 natives or naturalized species grow in the Virgin Islands, some unique to this area.

At least 50 plant and 27 animal species have so far been listed as locally endangered and 2 plant and 8 animal species are included on the Federal Endangered species list. Of particular concern is the rapid loss of moist forest and dry forest ecosystems. Construction along the ridge lines and in guts are rapidly depleting moist forest habitat, opening areas to exotic species invasion, and resulting in microclimate changes in the islands.

Several waste disposal problems exist on all three islands. Virgin Islanders generate 1 1/2 tons of garbage per person per year. The majority of which is paper — 28 percent and food waste — 16 percent. This waste is disposed of in landfills which are rapidly approaching capacity. Neither of the landfills currently in operation in the territory are EPA-Approved sanitary landfills with lines and leachate collection system.

The Bovoni landfill on St. Thomas is suffering from extensive underground fires and there is widespread concern regarding the effects of these fires on the health of residents in the area.

The Anguilla landfill on St. Croix is posing a flight hazard to the adjacent airport and the Virgin Islands government is under order by FAA to close and/or move the landfill in order to receive federal funding for airport expansion and renovation.

In addition, due to the small area of the islands and relatively large population, there are few, if any, suitable sites available to build new landfills. Improper disposal of toxic, hazardous, and infectious materials into these unsanitary landfills allows leachates to contaminate ground water supplies and coastal waters and fisheries. Litter is a territory-wide problem that local clean-up programs barely dent.

Millions of gallons of inadequately treated sewage is pumped into the ocean and coastal waters daily by way of outfall pipes and failing septic systems, posing human and environmental health threats.

There has been a marked decline in the local fishery, due both to pollution and over-fishing. The destructive practices are not only damaging the environment but threaten to undermine the islands number one industry, tourism.

Ironically, the tourism industry on which 90 percent of the local economy is based, is geared towards the attraction of the natural environment to visitors. People come here to enjoy clear waters and pristine beaches in a lush tropical environment.

Education is needed at all level of the community to halt the destruction of the marine and terrestrial environment so that an economy based on ecotourism can flourish and the quality of life of the residents can be maintained or improved. There is growing demand from educators for training and materials that reflect the natural resources and environment issues of concern in the islands.

In addition, the adult population, including local policy-makers and regulators lack access to complex and unbiased information on which to base their decisions and, often have an incomplete understanding of complex environmental issues. Local agencies charged with environmental regulation and stewardship lack the resources personal and expertise to deal with the myriad of problems they are faced with on a daily basis."

You see, the state of the territory environment is not bright. Are you doing your part to make it better.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

The late Cyril King a model for us all

Olasee Davis
Our environment

This past week, the people of the Virgin Islands celebrated the life and accomplishments of the late Gov. Cyril E. King. It was the 16th Legislature of the Virgin Islands that passed Act No. 5147 in 1986 designating King's the birthday as a day of special recognition.

Section 1, a new section 187 of the Virgin Islands Code stated that "April 7 of each year the birthday of Cyril Emmanuel King, shall be observed as "Cyril Emmanuel King Day" in the Virgin Islands. Appropriate ceremonies shall be held in all public schools in the Virgin Islands, such ceremonies may include programs, assemblies and/or guest speakers. The commissioner of Education shall be responsible for the reproduction and dissemination of photographs and biographical data about Cyril Emmanuel King to all private, public and parochial schools."

King, a native of St. Croix grew up in a time when agriculture was the major industry on the island and the environment in its most pristine state. As a boy, he probably walked the dusty roads to school.

Like so many other children in the 1920s, King probably swam in streams, caught fishes, crabs, climbed fruit trees and helped his parents around the house. The late governor probably sat down like other young boys his age to eat sugar cane with his friends on a bright moon night.

As kids, they probably talked about what they would be when they grew up or what they would do the next day after school or on the weekend. At times, King might have gotten wet like other kids when it rained as he walked home from school or listened to the raindrops on the roof of his parents' house.

I am sure King saw the fishing boats on the bays as crews shouted fresh yellow tail, old wife, king fish, hardnose, bonito, conch, lobster, grouper, snapper and ballahoo for sale. Passing by also near a sugar mill must have been a treat for young King, smelling the molasses as they boiled the cane juice into sugar.

Proverbs 22, 6 stated, "Train up a child in the way he should go and, when he is old, he will not depart from it," But what prepared King for life was faith in God, the things he learned from his parents, elder people in his community, school and the lessons he learned from the environment. King received his education from St. Ann's Catholic School and later graduated from St. Mary's Catholic School in Christiansted, St. Croix.

He served in the U.S. Army and graduated from American University in Washington, D.C., where he earned a degree in public administration. Later on, he further his studies in government, public administration, and political sciences. King was the first black man to serve on the staff of a U.S. Senator.

In 1961, he was appointed by then President John F. Kennedy as government secretary in the administration of Gov. Ralph M. Paiewonsky until Paiewonsky resigned in 1969. In 1969, King acted as governor of the Virgin Islands for 4 1/2 months.

King, former Sen. Virdin Brown, my brother, Education Commissioner Liston Davis and others founded the Independent Citizens Movement party. King became the second elected governor of the Virgin Islands. The rest is history. It was during King administration I became good friends with him.

The governor loved people especially young people to attend college. For me, while I was in college King helped me financially. Before I left for college in 1977, I promised the governor that I would return home to help the people of these islands in whatever training I received in my education. Today, there are several of us native Virgin Islanders fulfilled King's dreams by serving our community.

In 1977, King stated, ". . . and above all, we will need to help and the support and the understanding of the people of the Virgin Islands. Our ability, our capacity to cope with the challenges before us and fuel the forward momentum we

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have achieved rests on it, we must expand our awareness of the limits of what government can accomplished.

We must expect less from government and demand more from ourselves.

We must be forever mindful that in the final analysis, good government is the sum total of all citizens doing their part. . ."

King was a boy that walked the dusty roads of St. Croix to become Governor of these islands. Believe me, he was special to these islands. What I am today is because of Gov. King interest in young people and all people.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Tribute to Seaman continues

Olasee Davis

Our environment

This last series tribute to George A. Seaman will focus on a native son who never lost sight of the Virgin Islands environment. In his life time, he received many distinguished awards for his work in the field of ornithology. In 1988, the Caribbean Ornithology Society honored Seaman, which was held on St. Croix, for his years of defending St. Croix wildlife and its natural environment.

Seaman was also recognized by the Virgin Islands Legislature for his writing and recently before he passed away a medal of dedication, honor and accomplishment was given to him by Gov. Roy L. Schneider. Seaman also taught a class of natural history of St. Croix at then College of the Virgin Islands. Throughout his life, Seaman always said, "he never got to the first base" with the Virgin Islands government when it came to the protection of the islands environment.

Seaman might not have got to first base with the government, but many of the recommendations in his wildlife reports to the government have come to pass. On St. Croix, Sandy Point has become a National Wildlife Refuge to protect the endangered species sea turtles, rare plants and birds.

Green Cay, off the coast of St. Croix, was also set aside as a national wildlife Refuge to protect the St. Croix endangered species ground lizard. This animal has become extinct on st. Croix. On St. Thomas, many cays around the island have given special protection because of its habitat to nesting seabirds.

In 1973, the Virgin Islands Legislature passed the Territorial Parks Act to protect special areas of the islands because of their biological significance. To this day, no land has been set aside to establish a Territorial Park system within these islands. The Virgin Islands hunting laws are much stronger today than during Seaman's tenure with the Virgin Islands government.

During Seaman's life time, he had seen the destruction of habitats such as the Krause Lagoon, South Gate pond, and so many other areas in the Virgin Islands where wildlife once thrive in an abundance. You see, very few people understand as well as Seaman did what unplanned development means to our islands resources.

Is it because we live in islands and we are blind consciously to our natural surrounding? Is it because we do not care about the very thing that support our islands economy the environment? Or is it because we are born with the instinct to destroy rather than to give life of hope?

Before Seaman died, he said, "slowly over the years — and many have passed the horrendous raping of our most beautiful Virgin by the smirking bearers of the Great Wooden Horse called by them Progress has left me no other choice. I drive over our once "Garden of the West Indies" and observe neither garden nor hallowed island under the sun.

Instead, I pitifully see belching factories where there were living marshes; cramped low-cost housing where once great Red-necked pigeons boomed their matutinal oratorios; the tracks and grinding roar of that most destructive and insidious of all modern inventions; the bulldozers gouging away the sanctity of a once-hidden sandy coves for the construction of a gigantic condo; dried up guts that once were graced with eels, fish and Royal Palms, but now whose springs have been sapped by deep wells and over pumping of our fragile aquifer; our old and historic estate and place names gone with the wind of new owners not satisfied with the ancient beauty; narrow rutty roads; race tracks for over population and the inebriate; a new and over-burdened infrastructure that cannot handle the load placed upon it; noise, crime, drugs. Must I continue this dire litany? No. What is the use.

As Seaman got older, he became bitter, sad with the destruction of our islands environment. Seaman began to spend most of his old age on the Dutch island of Saba where life was a much slower pace. It was here he died and buried last month. Seaman left behind a rich natural history in his books for all Virgin Islanders.

Such books as "The Virgin Islands Dictionary," a collection of Cruzan definitions; "Sticks from the Hawk's Nest," a series of nature essays; "Not so Cat Walk," a book of Crucian folk proverbs; "Sadly Cries the Plover," a series of poems; "Ay-Ay," an island almanac of St. Croix; and the last book was "Every Shadow is a Man."

Education Commissioner Liston Davis, it would be great and should be mandatory for every child in school to read Seaman's books about the natural history of these islands. It is important, you see, for our children to know, appreciate and understand our rich environmental history. They read about everybody else's why not about ourselves.

Believe me, in doing this, Seaman's spirit will live on in many generations to come.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

V.I. archaeological history is disappearing

Olasee Davis
Our environment

These islands are fast developing into a concrete jungle, and with it, the archaeological history that gives these islands a place in world history. Before the Tutu Mall was built, an Indian's burial ground was found. For months, archaeologists dug and found all sorts of things from human bones to turtle shells.

The developers claimed they will create a museum. Where is the Tutu Mall museum? On St. Croix, the Sunshine Mall where K-Mart stands today, artifacts were also discovered, but the developers kept it quiet according to several employees who worked on the construction site. In fact, throughout the Virgin Islands there are artifacts to be found.

For example, all the estates of the Virgin Islands have burial grounds beside the major cemeteries. Many sites of historic significance have been destroyed because these properties are not registered with the National Register of Historic Sites. Case in point — Tutu Mall, Sunshine Mall and other areas of importance to Virgin Islands culture — are not protected because they are privately owned.

Even sites that register with the National Register of Historic Sites like the Aklis archaeological site that dates as early as 400 A.D. located with a portion of Sandy Point National Wildlife Refuge boundary, is not fully protected in terms of people stealing the artifacts.

One way to preserve the culture resources of the Virgin Islands is for private property owners to register their land with the National Register of Historic Sites or call the local Archaeology and Historic Preservation Division of Planning and Natural Resources if they have cultural resources on their properties. Clearing of lands have become so common in the Virgin Islands that often times everything is bulldozering down.

For example, the rich farmland on Queen Mary Highway across from the Viteleo building where soils are mined and sold, has a burial ground. In this site, slaves and some of St. Croix's great labor leaders were buried there. Today, this grave site has been destroyed with plans for a shopping center. And you see, as a people, we have stood by and allowed such degradation of archaeological sites to take place.

No wonder many of us are so

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People should take more interest in islands' archaeological studies

ignorant because we have never been taught about our cultural archaeological heritage from grade schools. It could be that the Virgin Islands education system has failed us when it comes to the archaeological history of these islands.

Sen. Adlah "Poncie" Donastorg Jr. proposed a bill called "Antiquities and Cultural Properties Act." Bill 22-0112 stated, "Whereas, the United States Virgin Islands possesses a wealth of historical, cultural and archaeological properties, the preservation, study and protection of which are vital to the heritage and cultural identity of the people of the Virgin Islands, and to the interests of national and international science in better understanding the history and culture of the people of the Virgin Islands; and Whereas, the people of the Virgin Islands will benefit from the scientific study, preservation and protection of the Territory's terrestrial and marine historical, cultural and archaeological properties..."

This bill is now before the Senate. I urge every senator to support the bill. Nonetheless, how many people in these islands know the importance of archaeological studies? Do you know that society historical facts are based on archaeological findings, written historical records and oral history? The next question is how many native or local archaeologists do we have in these islands?

The reason I asked these questions is because to often archaeological findings are distorted to suit those who wanted us to believe a lie especially those that do not have a deep background and understanding of African history and civilization. Africa gives birth to modern western civilization. Even the beginning of the species of modern man (Homo sapiens) came from Africa.

Of course, archaeology has a set of ethics to follow and to tell the truth as they find it. You see, we live in an environment of enlightenment but also distortion of the true. Because of this, people are kept in darkness of ignorance. For some people you see, the true is an offense. But you see, I make make no apology for the true. These islands physical environment are changing rapidly. And so is the archaeological history of a people whose history can influence them in the way they behave to the natural environment.

Therefore, I encourage students to study archaeology. It might just change the way you look at life.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

The Daily News, May 30, 1997

Virgin Islanders must protect islands from over-development

Olasee Davis

Our environment

I read with interest Mr. Julien A. Farley Sr.'s guest editorial May 22, ntitled, "St. John Needs Local Government and Park Service Planing Jointly." He stated, "This need or a master plan for the Cruz Bay rea and all government-owned roperty must be addressed yesterday, as our needs are so critical."

He further mentioned the Enighed Pond Project would relieve some of the problems — parking, traffic and air pollution — in the Cruz Bay area. Today not many people on St. John are against the Enighed Pond Project even though serious damage can occur to the coral reef environment.

This same Enighed Pond was one of many salt ponds in the Virgin Islands in the 1970s to be protected when the Virgin Islands Planning Office drew up plans for critical coastal areas.

On St. Thomas, we all know the traffic problems drivers encounter daily. They talk for donkey years of building a highway from Charlotte Amalie to the country to eliminate some of the traffic downtown.

They even talked about filling in some of the harbor to create the highway.

Talks have gone on for years on St. Croix about building a Christiansted bypass linking it with Melvin H. Evans Highway. An old Cruzan told me that in the 1950s, the federal government proposed to build a highway from La Grande Princesse area to Frederiksted town, but the plan never came true because of local politics.

As early as the 1930s, many local land plans were developed for the Virgin Islands but never happened. When Denmark purchased St. Croix in 1733 from the French, Danish officials planned the island. Reimert Haagebsen stated, "the Danish West India and Guinea Company approved a plan that would regulate the possession, settlement and development of the island, beginning with a land survey and followed by the distribution and sale of plantation lots."

If the Danish government saw fit to plan the Virgin Islands in the 1700s, then it is important for us to implement a plan in the 1990s. The latest plan is the Virgin Islands Comprehensive Land and Water Use Plan. This plan has been on the governor desk for almost three years. However, I am very concerned for the future of these islands.

None of our politicians seems to take the "bull by the horn" to make the comprehensive land and water use plan a realty so that we can have some type of control over how we use our limited land resources. I love these islands, particularly the island of St. Croix. St. Croix has many things to offer in terms of economical development if planned correctly.

The many historical sites, rich agricultural history, wilderness areas and forest areas, diverse marine environment, and many other attributes of St. Croix makes it an island unique to the Caribbean region. But St. Croix is fast developing without a master land use plan. The beautiful open rich flat farmland and especially in the center of the island are fast developing into a concrete jungle.

There are more stop lights on Queen Mary Highway than seven years ago. These stop lights pop up because of development along the highway. Meanwhile, hundreds of acres of good farmland have been sacrificed for shopping centers, houses, schools and other businesses. The latest proposal is a shopping center on good farmland right next to Grove gas station on Queen Mary Highway.

The rich agricultural soil that once grew sugar cane for more than 300 years is being mined today. This was the same land where D. Hamilton Jackson fought for sugar cane planters to get better wages. The land is historical in terms of grave sites, sugar mills and other cultural resources important to the people of these islands.

Why do we allow people to degrade our culture, history and our environment by putting up shopping centers? In fact, St. Croix does not need another shopping center. The Sunshine Mall, La Reine Shopping Center, Sunny Isle Shopping Center, Golden Rock Shopping, and Plaza Extra, United Shopping Center all have empty spaces to be filled.

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Islands must be protected

Then how in the world can we give an earth change permit to allow a bulldozer to knock down trees, rape grave sites and mine soil? Some people might say I am getting too emotional. But the fact of the matter is that the day will come when Queen Mary Highway from Frederiksted to Christiansted will be nothing but houses and commercial developments.

If we really love St. Croix and the rest of these islands, we will fight to protect our culture and environmental heritage. One way is to inform our senators how important a master land use plan is for our islands. Let us not put off what we can do for today. Believe me, tomorrow is promised to no one.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Virgin Islands cactus numerous and beautiful

Olasee Davis
Our environment

I was inspired by Lt. Col. **Caroline Adams** of the National Guard, a former student of mine from the University of the Virgin Islands, to write this article on cactus.

Beside her demanding job as a pilot, she is a nature lover, especially cacti and succulent plants. Cactus are among the most unique and fascinating plants on earth.

Through millions of years of evolution, cactus were able to develop in some of the most inhospitable environment on earth.

These plants were able to adapt to hot dry environments because of their ability to store water. All cacti have extensive root systems that can absorb great quantities of water during long periods of drought.

Their spines provide a means of defense against desert herbivores. The swollen bodies of cactus and general lack of normal thin leaves cause the plant to have less surface exposed to the air from which moisture can evaporate.

Generally speaking, most people think of cacti and succulent plants grow in dry areas only. Such cactus as the Christmas cactus are native to moist tropical forest.

Still other succulent plants are found in high elevations where temperature drop low, and others still are found along the coast where they are exposed to full sun and sea spray. True cacti are one type of succulent plant. They are members of the Cactaceae family.

A true cactus is distinguished by the presence of areoles, small nubbin-like structures which occur over the body of the plant.

Cactus spines, roots and flowers always grow from these areoles, whereas spines on succulent plants other than cacti grow directly out of the body of the plant.

The Virgin Islands have many types of vegetation habitat.

From moist and dry forest, to thorn, cactus and scrub forest where succulent plants play a major role in the driest parts of our islands.

There are about nine species of cactus in the Virgin Islands.

On the east end of St. Croix, you will find the (Melocactus intortus) or Turk Cap Cactus.

This rare species in the wild grows on exposed rocky cliffs and rocky slope areas along the east coast of St. Croix.

The pinkish tubular flowers give way to fleshy bright pink fruits which are edible. Within the pinkish fruit, the seeds are dull black.

The column cactus (Cephalocereus rogenii) grows from Machenil Bay to Tague Bay of St. Croix.

This tree-like cactus, with its column branches covered with spines, stands out among the many types of vegetation that grow in the desert-like environment of the three islands.

The flowers are pale whitish or yellowish. Pollinated by bats, it blooms at night.

Tuna Cactus, Sucker cactus, crassa, and other species of cacti that live in the Virgin Islands' dry environment are important to our islands economy.

Some species have medicinal values as well as landscape potential. One would think living on an island where water is a limited factor that people would have cactus gardens. Many people in the Virgin Islands grow plants that require lots of water to maintain. Why not grow a cactus garden? In this way, you will help preserve our native species of cacti and succulent plants.

Many of our native cacti and succulent plants are disappearing due to uncontrolled development in the Virgin Islands.

Believe me, a cactus garden can add the natural beauty to a landscape in ways other gardens can.

The combination of rocks with diminutive, delicate-looking plants brings to mind rugged natural scenes as cliffs, sea shore, or rough mountain terrain.

In fact, you can start a rock garden by gathering coral and stones from along our beaches if they are in an abundance. Rocks that have weathered to a neutral gray or tan color are ideal for constructing a rock gardens.

For rock gardens, the best choice is stone native to your area. Site location is also important.

Rock plants growing in the wild usually found soil that contain rock debris. Such soil provides excellent drainage but retains moisture long after surplus of water has drained off. Above all, rock garden plants should be low growing and compact.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

The Daily News, June 27, 1997

Virgin Islands environment not a laughing matter

Olasee Davis

Our environment

Some people might laugh at me when I speak out about protecting the islands' environment.

Is it funny? Did you ever wonder why the tourist industry on St. Croix never really takes off? You see, we often forget these islands economical history. Historically, St. Thomas was always a island of trade because of its natural harbor. This was established from Colonial times.

"Clearly, St. Thomas remained a valuable piece of property. Its location relative to the major axes of West Indian trade and navigation along with its excellent, well-protected harbor made it an island of considerable potential" said Reimert Haagensen, a Danish planter on St. Croix in the 1700's.

The same sentiment was echoed when Hohan Carstens a Thomian planter, "because of the convenience in getting there and the ease of navigation that the island enjoyed that people from the neighboring areas in the West Indies sought to trade and dispose of their goods there."

St. Thomas Harbor was well known for hundreds of ships beside local vessels sailing in and out of the harbor carrying goods. "The harbor was alive with a display of ships flying their flags and booming their cannons all day long. It was the commercial, not the agricultural, aspect of the sugar enterprise that was to mold the destiny of St. Thomas," Haagensen said.

Thus, St. Thomas was built on tourism in the early history before tourism became a major industry in the 20th century in the Virgin Islands.

And as a people, we failed to learn our past history. Denmark recognized the potential each island had to offer to the economy. Why, as a people, can't we recognize that the St. Thomas economical make up is different from St. Croix?

From the early settlement of St. Croix, the Danish government recognized agriculture as the basic economy because of its flat fertile land and northwest hills.

Did you think the many sugar mills and great houses dotting the landscape of St. Croix came by accident? Of course not. These structures were built on the foundation of a strong agricultural economy. In fact, by the end of the 18th century, St. Croix had come to be recognized as one of the major Caribbean superpowers.

So interesting are these old buildings that the Danish Government many years ago was interested in dismantling a typical plantation mansion to be rebuilt in Denmark. Today, Whim museum great house is one of the golden age 17th century architectural gems that display antique furniture and illustrate life for slaves and whites on the island when sugar cane was king.

You see, tourism has long been considered as an attractive means of economic development. It is a labor-intensive industry which, in addition to stimulating direct employment, also spreads benefits throughout the entire economy by fueling the service and construction sectors while stimulating the demand for local product.

However, the gestation period for most tourism investment is relatively short, and economic benefits accrue much faster from tourism developments than from many other capital-intensive industries. To be successful, the tourism industry must start with an in-depth market analysis.

To me, for St. Croix to boost tourism, it must focus on historical structures, agricultural architectures and cultural and environmental resources of the island. Do we want St. Croix to look like St. Thomas, where almost every inch of the island is developed into a concrete jungle?

When tourists visit St. Croix, they ask about the rain forest bus tours, hikes, historical sites and local products. Believe me, tourists do not want to visit K-Mart or McDonald's.

They want to taste fungi and fish, kalaloo, johnny cakes, maubi, bush tea, coconut water, "Miss Blyden" drink and other local dishes. Local dance is also important to our visitors. St. Croix has so much to offer. If we will only develop and take advantage of our rich cultural and environmental heritage.

I am not a prophet. I am just a Thomian who cares for these islands environment and economical development.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

A brief look at Trinidad and Tobago

Olasee Davis

Our environment

I recently attended a conference on the "First International Workshop on Herbal Medicine in the Caribbean" held in Trinidad and Tobago.

At first I hesitated to attend the conference because of my business schedule at work. However, I must admit that I was glad to attend the meetings in Trinidad and Tobago. It gave me the opportunity to meet other people in my field and allowed me to see the island.

Trinidad and Tobago are the most southernly of the Lesser Antilles chain of islands in the Caribbean. The two islands are about seven miles from the Venezuelan coast. Geologically, the islands are an extension of South America. Before Columbus came to Trinidad and Tobago, the inhabitants were Amerindians of Arawak and Carib origin who had come up from South America river hundreds of years ago.

Their major food were cassava, peppers, beans, crabs, fish, guavas and pineapples. In 1498, Christopher Columbus rediscovered Trinidad and claimed it in the name of the king of Spain. However, it was not until the later part of the 16th century that permanent settlements were established by Europeans.

During this period, the Spanish introduced sweet potato, corn, yam, and pimento from other parts of the new world together with fruit trees such as plantain, lemon, lime, orange, coconut and banana. In 1783, the French planters came in large numbers to Trinidad and settled as agriculturalists along with their African slaves. The African slaves came from a number of different tribes including the Ashanti, Hausa, Ibo, Mandingo and Arada peoples.

Around 1797, Trinidad was captured by the British force under Sir Ralph Abercrombly. The island was ceded to the British Crown five years later under the Treaty of Amiens. In 1814, Tobago which had changed several times including a term under Dutch rule, was ceded to the British. Because of the decline in the sugar industry on Trinidad in 1888, Tobago was linked with Trinidad in a single administrative unit.

In 1834 and 1839, African slaves were physically emancipated. In 1845, East Indians immigrated to Trinidad and Tobago as indentured servants. The United States constructed a military base in Trinidad in 1941. In 1958, Trinidad and Tobago joined the Federation of the West Indies. It was not until 1962 that Trinidad and Tobago received their full independence from the British.

In 1976, Trinidad and Tobago became a republic with the Commonwealth. In 1980, Tobago House of Assembly was established with extensive measures of internal self-government for the island. Trinidad is half forested with low mountain ranges along the north coast with the highest point of 3,085 feet above sea level. The island central plain is flat with rolling hills in the south.

Trinidad is 1,864 square miles. The capital is Port-of-Spain and other major urban areas are San Fernando in the South, Chaguanas central and Arima in the east. Tobago is some 19 miles northeast of Trinidad with an area of 116 square miles. The northeast center of Tobago is mountainous with ridges reaching a height of 1,800 feet above sea level. The south and west of the island is flat or gently hilly.

The population of Trinidad and Tobago is 1.3 million. About 41 percent of the population is of African decent and another 41 percent is of East Indian descent and the remainder is mixed Mediterranean, Chinese, Europeans or Middle ancestry. What was sad to hear from a tour guide was racial prejudice between the East Indian and African Caribbean people.

According to the tour guide, some East Indians believe they are white. And what is so funny is that some East Indians I met in Trinidad are darker than me. However, religion plays a major role in Trinidadian and Tobagonian life. About 33 percent are Roman Catholic, 25 percent Hindu, 15 percent Anglican, 5.6 percent Muslim, 3.6 percent Presbyterian, 6 percent traditional African faith and 16.6 percent are other religious denominations.

Despite different religious beliefs, Trinidad and Tobago have a rich cultural history. Besides the natural environment of Trinidad, I enjoyed the cultural show at the Queen Hall. If you want to hear steelband play, Trinidad and Tobago is the land of the 20th century pan music. The pan is the national instrument of Trinidad and Tobago.

At the cultural show, the history of Trinidad and Tobago was told in cultural dance and music from the Amerindians, Spanish, French, British, Africans and East Indians. The limbo dance was also part of the cultural show which is the national dance. Calypso was also played.

Next week's column will be on Trinidad, an industrial giant in the Caribbean.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master's of science degree in range management and forestry ecology.

Ackee's poisonous element is no different than the Irish potato's

Olasee Davis, an ecologist, lives on St. Croix.

At the 35th annual Caribbean Food Crops Society meeting recently in Castries, St. Lucia, Dr. John Rashford — a native Jamaican and an anthropology professor at the College of Charleston, in South Carolina — presented a paper on ackee. Ackee is a native tree of West Africa that has become Jamaica's most celebrated food plant.

The national dish of Jamaica is ackee and cod fish. The fruit is often cooked with cod fish, tomatoes and onions. After parboiling, it is added in a stew of beef, salt-pork, thyme, scallions, and other seasonings. Sometimes the ackee is curried and eaten with rice.

In 1793, ackee was brought to Jamaica by Captain Bligh to feed the slaves. The tree was also planted in other Caribbean islands including Haiti, Trinidad and the Virgin Islands. Depending on where the tree was planted, it was called by a different name. In the Ivory Coast, in West Africa, the fruit is called kak or finzan. In Sudan, it's called finza. Elsewhere in Africa, it is generally known as akyen, akye, or ishin.

However, one becomes confused with the common name of ackee. For example, in Barbados, genip is called ackee. While in the Virgin Islands, the fruit genip is called genip not ackee. Therefore, it is important when you identify a plant that the scientific name is given beside the common name of the plant. Blighia sapida is the scientific name for ackee.

Olasee Davis

The toxic property of the fruit is largely dispelled by the sunlight as the fruit opens. When the fruit is fully ripe, the arils still possess 11/2 of the amount in the unripe fruit. Jamaicans know when the fruit is close, the fruit is poisonous. And when the fruit is open, the fruit is edible.

Ackee is available year-round in Jamaica with annual peaks in the winter and summer dry seasons. However, the main ackee harvest is not in the winter months, but in the summer months. If this fact is true for seasonality of ackee, why then would ackee poisoning, with a major annual outbreak of vomiting sickness, occur from the end of autumn through the winter, and not at the any other time of the year?

Dr. Rashford stated, "According to tradition, the fruit must open on the tree naturally — it must 'smile' or 'laugh' before harvesting. The association between open ackees, smiling and well being is the most important ackee in Jamaican culture, and its expression in general knowledge and in the traditional arts reveal in an essential way what Jamaicans must know to eat ackees safely."

The importation of ackee was banned commercially into the United States and elsewhere because ackee is more widely known in scientific literature for its association with poisoning than for its edible fruit. Even in some Caribbean islands, ackee fruit is considered poisonous due to the misunderstanding of the physiology and seasonal availability of ackee fruit poisoning.

Dr. Rashford has pointed out that even scientific literature can be misleading if all findings are not accurately researched. For there are many foods that we eat every day that are poisoning. For example, Irish potatoes can become toxic if exposed to sufficient light to cause greening of the skin. But it all depends on the stage and development when crops are harvested. Ackee is no different.

All you've wanted to know about pink mealybugs

Olasee Davis
Our Environment

The pink mealybug has damaged or destroyed many plants in the Virgin Islands. Many people tried everything possible to kill the insects that were on their plants. We live in a complex environment where organisms thrive to survive. As human beings, we too like insects thrive on earth to survive.

First, to understand how the pink mealybug lives and thrives in the environment, we must understand the life cycle of the insect. Also, we need to find out if there are any natural enemies of the mealybug.

I believe the school of nature is the greatest teacher to mankind. In nature, one can find out through observation and research how organisms behave and function in the environment.

In some cases, man might not understand every single detail of how a particular organism functions in its environment. But God gives man the ability to reason and make intelligent decisions to the best possible solutions to a problem.

"If any of you lack wisdom, let him ask of God, who giveth to all men liberally, and upbraideth not, and it shall be given him." James 1:15.

According to scientists, pesticides, burning or cutting down of plants are not the best solution to control the mealybugs. Scientists turned to nature where they found out that wasps — parasitic or predators — are the best method to control the mealybug population. However, some people wanted to know if the wasps would attack them when they are released in the environment.

Humanly speaking, I guess this is a natural response for any person who does not understand how wasps function in the environment. The wasps or parasites that control the mealybug biologically are very small, and they would not harm humans. These wasps are not like our local jack spaniards, which if you trouble them, they will sting you.

A USDA fact sheet stated that "...parasites lay an egg inside the mealybug adult. The egg hatches into a maggotlike larva that feeds internally on and kill the mealybug host. After pupating inside the mealybug's mummified body, the adult parasite chews an exit hole in one end of the mummy and emerges."

Wasps were imported to the Virgin Islands and other Caribbean islands that were infected with the mealybug because it appeared to be no indigenous natural enemy of the insects in the Caribbean. The pink mealybug either enters our ports by someone bringing in an infected plant; it probably blew in from hurricane winds; or by some other means.

A person might ask what happens if the parasites kill all the pink mealybugs in the Virgin Islands? I doubt it, but if they do, the parasites will do what comes naturally — die. This happens because there is no host for the wasps to feed on. So you see, there is no need to worry about wasps or parasites attacking people.

When I attended graduate school in Texas, one of my instructors told the class a true story about the Irish people's dilemma with Irish potatoes. The Irish potato is native to the Andes mountain in Central America. The potato has served as an important crop to the Inca Indians for hundreds of years. The Incas used the fresh potatoes and developed a dried product called "chuno," which could be stored for long periods. They also fermented the tubers to produce an alcoholic beverage.

During the 1500s, European explorers found the Irish potatoes growing from Chile to Columbia. The potatoes were introduced to Spain. The Spaniards called the potatoes "truffles" believing it to be a type of underground fungus. Eventually, the potatoes spread throughout Europe. The potatoes were so productive in northern Europe that the government and church leaders promoted the potatoes as a staple food.

Of all the European countries growing potatoes, Ireland provided an ideal environment, and an abundant production for two centuries supported substantial population gains in the country. During this time, most Irish people were poor tenant farmers obliged to sell most of their crops to pay the high rents charged by English landlords. Only the cheapest crop potato remained for Irish diets.

Thus, potatoes were consumed at every meal. In 1845, a disease attacked the Irish potato. This was a disaster for the Irish people because they depended upon the potatoes. They suffered from hunger, disease and severe winter months. Because of their dependency on the potatoes as a staple crop, 1.5 million people died during the period of 1846 and 1851, and 1 million immigrated, mostly to northern United States.

If the Irish people had cut out the infected parts of the potato, many probably would have survived. What I am trying to say is a single insect or disease on plants can cause great economic hardship for any country. The pink mealybug caused over $3.5 million damage in Grenada and $125 million a year damage in Trinidad and Tobago.

If you have a pink mealybug problem, contact the extension service or the agriculture department for assistant.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

A look at designs of houses and ecology in Savan

Olasee Davis
Our Environment

This final column will focus on the architectural design of houses and the potential for cultural and eco-tourism in historic Savan. During the walk of historic Savan, Rachelle Shells, the coordinator for the program "A Walk through the Heritage of Savan" and I pointed out to the students the architectural designs of houses in Savan.

The architectural designs of houses in Savan was one of the information the students had to write on their Data collection sheet neighborhood-residential survey. Edith de Jongh Woods, a preservationist, spoke about several types of houses and their characteristics of Savan. She mentioned the one story frame house some of lapboard and some of shingled. The houses were two and three family small structures.

Woods stated in reference to the houses, "they were set either on a rubble masonry foundation or piers of rubble masonry which replaced the original hardwood posts that had rotted. Cooking was done on coal pots outside, but each house also had an outdoor oven with a chimney for baking." Another type of house Woods mentioned was the "longrow." These houses were in long rows some 100-feet long. Inside the house, each family lived in one room or unit.

The oven and bathroom of these houses were located outside in the yard where each family shared the facilities. The cistern or well in the yard was also shared by families. Woods stated that "the longrows varied in length from a three family unit to a 10 or 11 family commune. Several longrows were usually placed around a large yard called the "big yard" which served as a center for social activities."

The Rastafari Dynasty store on 38 Prindsesse Gade across from of Sts. Peter and Paul High School, is a good example of a longrow structure. Today, this longrow is converted into small stores. According to Woods, this plot of land was brought by James Wright in 1809 who more than likely built the structure.

In 1864, this property was purchased by Carl Frederick Dohne. Then, the property changed hands again in the 1900s. It was brought by Daniel Leydas. Today, the property remains in the hands of the Leydas family.

The third type of historical structure house in Savan was the vernacular architecture small two story houses.

Woods explained, "some of these were constructed entirely of wood but quite a few had a first floor of rubble masonry, plastered with the second floor made of wood. Characteristics of a large number was the overhang of the second floor providing a covered walkway on the side of the building. A few of these houses had galleries made of wood with a fretwork design."

A good example of this type of house is at Borge Gade no. 6 near the south western section of the Jewish Cemetery in Savan. This house was built in 1828. Father Louis de Buggenoms, a Roman Catholic priest, purchased the property and gave it as a gift to the church in 1873.

The building served as a Catholic Hospital until it closed in the 1890s. Marie Cid bought the building in 1924 and sold it in 1936 to Joseph Sephir. Today, this historical building, like so many other buildings in Savan, is in terrible condition. Savan is a place of history and architectural wonder.

Woods said it well when she stated, "Here is an area that that was occupied almost exclusively by black people with homes built by those black people displaying the examples of excellent craftsmanship, and yet the advocates of preserving our culture have completely overlooked it."

The history of people of African descent in Savan is steep in the architectural design of its buildings. St. Thomas talks about its tourist destiny in the Caribbean and yet willfully left out such historic places as Savan. Even the Jewish Cemetery in Savan will bring in thousands of tourists in the area. You see, if we are serious about Savan, then we will preserve and restore its architectural glory.

The ecology of Savan is also important to the culture of the area. The deJongh gut in back of Savan town has the potential as an eco-tourist destiny. Trails can be developed in the gut environment whereby visitors and locals especially school children can learn about the different types of trees and their usage of long ago.

Trees like maubi bark and other trees once used for traditional medicine by savaneros as well as for building houses in Savan still exists today.

This area can be created as a nature preserve where It can help the Savan economy. There are so many things one can see and learn in the deJongh gut environment if developed properly.

The Caledonia rain forest on St. Croix is used by school groups and tourists alike. Why not deJongh gut? You St. Thomians are lucky I live on St. Croix and not on St. Thomas because I would surely use the deJongh gut for educational purposes.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.a

The Daily News, 07/24/98 p.19

A look at Jamaica's early history

Our environment
Olasee Davis

I recently returned from the 34th annual "Caribbean Food Corps Society" meetings held in Jamaica. This scientific society on agriculture and natural resources was established on St. Croix in the early 1960s to address agricultural issues in the Caribbean. Today, the organization addresses a wide range of topics including, but not limited to the environment, animal science and foods processing.

In the next few weeks, I will take you on a journey to Jamaica and its people, history, culture, economy and the environment.

I stayed at Holiday Inn Sunspree Resort in Montego Bay, a rich culture and tourist area. You know me, as a ecologist writer, I wanted to know about the peoples way of life, especially about the connection between people and their environment.

While I was there, many locals came up to me and asked which country I came from. Of course, I said the United States Virgin Islands residing on the island of St. Croix. But to my surprise, many people who I talked to on the streets and to some extent in the hotel where I stayed, have never heard about St. Croix or in some cases the U.S. Virgin Islands.

However, you must understand that Jamaica is an island with a population of over two million people. For this reason probably, many people never heard about a lot of things despite the technological age of information. With this in mind, I will try to brief you on the history of Jamaica from talking to people of all walks of life and from written information.

Jamaica is the third largest Caribbean island with an area of 4,243.6 square miles and a population of 2.5 million. Before Christopher Columbus rediscovered Jamaica, the island's inhabitants were the Indians who sailed up from the South American rivers hundreds of years ago before the first white man ever sat his foot on dry land in the New World.

The Arawak Indians called Jamaica "Xayamaca" translated as "Land of Wood and Water" because of the island's abundance of rivers, streams, waterfalls, forests and woodland wilderness. When Columbus arrived in Jamaica on May 3, 1494, he and his men met the Indians claiming the island for Spain.

In 1509, the Spanish occupied Jamaica for 146 years. However, the island was not heavily populated by the Spanish because they never found gold there. Instead, plantations were established by the Spanish to supply the ships with goods between Europe and the Americas. Eventually, exploitation and disease led by the Spanish, exterminated the Indians by the middle of the 1700s.

The extermination of the Indians led to the importation of enslaved Africans to the island plantations. The British Buccaneers soon began to take note of the wealth of the island and got them the capital, St. Jago de La Vega now Spanish Town at least twice in Jamaican history. In 1655, Admirals Penn and Venables captured Jamaica and the British occupied the island.

It was during this time when the Spanish and British were at war that enslaved Africans formerly owned by the Spanish escaped into the mountains. Many of these escaped enslaved Africans developed their own separate culture based on their African roots in the mountains of Jamaica. These runaway slaves were known as the Maroons.

The first Maroons in Jamaica were those who escaped with the Spanish governor Ysassi during the British attack on the island. The imported enslaved Africans from West Africa were the strongest and the most courageous were the Commantee including the Ashanti, Akan and Fanti peoples from the Gold Coast.

These tribes of enslaved Africans were blamed for the organizing of many revolts on plantations. In 1690 in Jamaica, a serious slave revolt took place near Chapleton in Clarendon Parish. The British government tried brutally to put down the revolt, but many slaves escaped into the Clarendon hills in Jamaica. Among them was a young slave named Cudjoe. The story of the Clarendon Maroons in Jamaica is the history of our people fighting for their freedom.

Many slaves that were on plantations escaped to the hills and became part of the Maroon society in the mountains of Jamaica. From the 1690s to the 1720s, the Maroons gave the British government hell in war. The Maroons were very skillful with weapons and fought guerrilla war. The planters of Jamaica trembled in their boots with fear of the Maroons. To make a long story short, the British could not conquer the Maroons.

The British government decided to grant the Maroons autonomy in 1739 or a "blood treaty" by cutting their hands with one of the Maroon leader where the blood met together which symbolized peace. Their descendants and culture still exists today in Jamaica, a testament to their skill and tenacity.

Next week's column focuses on the history of Jamaica from 1692.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

A look at Savan's economy from past to present

Olasee Davis
Our Environment

This second column will focus on the economy of Savan as a town. In the 1960s, Ruth M. Moolenaar was my principal and teacher at Jane E. Tuitt Elementary School in Savan. She is now retired. A few years back, Moolenaar wrote a paper entitled "Savanne." In one section of the paper "Economy of the Area," Moolenaar mentioned, "the people of Savanne were obligated to leave their neighborhood to seek employment."

Many women from Savan made their living by carrying baskets of coal on their heads to ships at Charlotte Amalie port. The coal was used by the ships as fuel. Few men also engaged in this coal occupation. Trees were cut down from the forest especially casha, tan tan and manjack to make coal. In those days, a coal pit was digged out of the ground about six feet long, four feet wide and two or three feet deep. The woods were packed upon one another in the hole with dry grass and dirt.

Then, the coal pit was lighted. The woods would burn for a few days before the coal was harvested. Believe me, this was hard work. As a child, I helped my grandfather make coal. Coal was also used by the Savan community and other residents of the island for cooking food and washing clothes. Today, a bag of coal costs a lot. During the development of Savan in the 1700s, coal was only about 2 or 3 cents per basket.

The women of Savan also made their living by washing uniforms worn by gendarmes. There was no modern washing machine. They scrubbed the clothes on their hands. From there, they slapped the clothes on rocks, boiled them in big pans on the fire and bleached them in the sun to dry. Ironing the clothes with a charcoal fired "goose" was also a tedious job.

Other savanero women made their living by selling produces at Rothschild Francis Market Square. Moolenaar said it well when she stated, "Some women earned a living as vendors in the Bungalow at Market Square, now called the Rothschild Francis Square, or as peddlers throughout the town. The Bungalow vendors were a distinctive group. Colorful in dress and spirited in temperament, they added a special flavor to the area. Each woman had her individual spot or table, which she guarded jealously. As a group they regulated prices and conformed to unwritten norms as they bargained their wares of fresh fruits, vegetables, herbs, spices, food and drinks."

Savanero men made their living as farmers, fishermen, laborers and janitors. Some men were also engage in shoe shining, cooking, dressmaking, cabinet making, furniture repair, laying brick or stones, barbering and needlemaking. Small stores were also popular among men in Savan. Stores like Maduro's Shop and Lettsome Shop were some of the main stores people shopped in in the Savan area besides buying fresh produce from Market Square.

Savan was once a close knit community. Many of the homes in the area were built by neighbors helping neighbors. It was also traditional for savanero women to cook food while the men casted cement for the foundation of homes. There were no such thing as contractors to build homes in those days like today. Furthermore, there was no government hand outs or health and human service programs. Organizations like the United Brethren of the St. Joseph and Beloved Sisters of Mary and Joseph helped play a major role in assisting people financially especially the needy.

Out of the Savan community, many well known St. Thomians contributed to the island economy. They were Alton Adams, Felis Padilla, Valdemar Hill, Rothschild Francis, Herbert Brown, J. Antonio Jarvis, Dr. Roy L. Schneider, Dr. Orville Kean, Eulalie S. Petersen, Maduro, Schulterbrandt, Ottley, Milalie W. Anduze, and many others.

Entertainment also made up a big part of savaneros culture. Savan was known for its big yard events where the community came together to have family events, storytelling, danced, recited poems, jokers, etc. The entertainment was a form of traditional education and supporting the community economically. Politics also played a major role in Savan community and throughout the island. The Old Banaba Well in Savan, a landmark now, was where many politicians gave their fiery speeches.

Nevertheless, by the 1950s, the close knit community in Savan changed when many savaneros families bought homes in Tutu and other parts of the island. However, many of them today still consider themselves savaneros. Moolenaar mentioned, "Today, people with roots in Savanne can be counted among the society's legislators, doctors, lawyers, civic and religious leaders and other professionals."

Today, Savan is home to many eastern Caribbean island people. The once close knit society of Savan like in the days of the 1700s to 1960s has changed. The economy in Savan where people once did for themselves is no longer strong.

Next week's column will focus on Savan's architectural heritage and ecology.

This article reflects the views of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

MathCOUNTS

Problem of the week for Oct. 2

There are many Problems of the Week. Check every Friday for a new problem and the solution to last week's question.

Out With the Old, In With The New (Maybe)

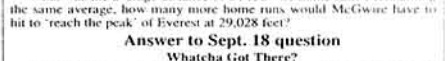
At the end of last Friday, both Sammy Sosa and Mark McGwire had hit 65 home runs during the 1998 season. But although they've hit the same number, McGwire's generally have gone farther — much farther. In fact, one website at Fox Sports is comparing the total distance of McGwire's home runs this year to the height of Mt. Everest. His first 65 home runs traveled a combined distance of 27,638 feet.

What was the average distance of a McGwire home run? Maintaining the same average, how many more home runs would McGwire have to hit to "reach the peak" of Everest at 29,028 feet?

Answer to Sept. 18 question

Whatcha Got There?

In total, the report is 25 + 280 + 140 = 445 pages in length. The narrative represents 280/445 = 63 percent of the entire report.



Big-business interests killed homesteading

Olasee Davis

Our environment

Who is to blame for the failure of the homestead program on St. Croix?

This fourth column focuses on the legacies of homesteaders, the powerful island sugar corporation and those in Washington who looked out for their political careers instead of the people on St. Croix.

In the 1930s, Herbert D. Brown's visionary plan to rehabilitate the St. Croix economy was

Commentary

hailed widely by black Virgin Islanders as the beginning of their social and economic redemption.

But the Pearson administration that governed the islands during this period was far less enthusiastic about the Brown homestead plan. Gov. Pearson was influenced by two big sugar corporations on the island to maintain the economic system the people of the Virgin Islands — particularly on St. Croix — found themselves living under.

I strongly believe a "people without knowledge of their past history and original culture are like a tree without roots."

I am sure the people of St. Croix, who suffered economic deprivations in the 1930s and 1950s, learned from their great-grandparents about the hardships of slavery. Nonetheless, the Virgin Islands Company replaced the homesteading as the cornerstone to rehabilitate the St. Croix economy.

Like Brown's in the 1930s and the 1940s, Gov. Lawrence Cramer urged the federal government to shift its focus from VICO back to homesteading, which he believed promised a better future for the people of St. Croix. The sugar company on St. Croix was costing the federal government millions of dollars. The company did little to promote economic or social rehabilitation for the people.

Cramer's pleas to shift the emphasis from VICO to homesteading fell on deaf ears in Washington. VICO's supporters, led by Harold Ickes, were too powerful. They supported the concepts of making St. Croix a welfare island. They labeled Cramer as a troublemaker and successfully got him out of office.

Washington went along with this scheme. In 1941, President Roosevelt authorized the transfer of the homestead program to the Department of Agriculture, which came under the Farm Security Administration.

Confronted with the failure of the homestead scheme established by President Hoover and abandoned by the Roosevelt New Dealers, the Farm Security Administration promoted the homestead program of self-sustaining family farms.

Instead of self-reliance in agriculture, we are controlled today by a few people who control the island's economy.

Under FSA's direction, the homesteaders got back on their feet. In many ways, the program was a success. Between 1930 and 1950, the number of non-white farm owners increased from 56 to 318, and their share of farm land and farm values doubled.

But while the program benefited some black and Hispanic families, the homestead program ultimately failed.

It did not achieve the wide socio-economic transformation intended by Brown and Cramer's homestead plan. The sugar industry, controlled by a single corporation, VICO, still dominated the economy. Less than one percent of all non-white families owned land. Nor had St. Croix became more self-sufficient in food production.

Since the 1930s, food imports have increased, as well as federal subsidies. In my opinion, we have become nothing but a welfare island that get crumbs from Washington's table.

However, it was not totally our fault the New Deal liberals in Washington never took the homestead program seriously. They preferred the concept of welfare state capitalism embodied by the Virgin Islands Company to the Jeffersonian ideal of a self-reliant community of independent farmers.

In 1945, Congress liquidated the program on St. Croix. The program was passed to the municipal government in 1946. The Farm Security Administration continued their assistance to the farmers until 1947. That same year, the Farmers Home Administration took over the program.

For better or for worse, we have strayed far from the homestead ideal on St. Croix.

Instead of self-reliance in agriculture, we are controlled today by a few people who control the island's economy.

We had been let down by Washington, local politicians and ourselves.

Failure of an economic system was nothing new to the people of St. Croix, especially natives.

It was just 82 years after the emancipation of slavery in the Virgin Islands when the homestead program started.

Believe me, the more things change, the more things remain the same.

Were Queen Mary and others in the 1878 Fireburn wrong to burn down the town?

In the 1930s and 1950s, we did nothing — except for a few of those who were considered troublemakers.

Next week will be the final column on the homestead on St. Croix.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Congress supported homestead program; started 1932

Olasee Davis

Our environment

This second column about the homestead program on St. Croix will focus on how the U.S. Congress addressed unemployment on the island.

With the collapse of the sugar industry on St. Croix in the 1930s, there was mass unemployment. Those who had money went to the United States. Everyone else looked for work. Believe me, St. Croix and the Virgin Islands as a whole were economically devastated in the 1930s.

This simply came about because of an economic monoculture system. Of course, natural disasters such as droughts played a role in the decline of the sugar industry on St. Croix. But the economic system then was built mainly on one thing — sugar.

Today we are not much different — only, tourism has replaced sugar as our No. 1 industry. Hurricanes, crime, environmental degradation and a global economy will definitely impact the fragile tourist-driven economy now and beyond the year 2000 in the Virgin Islands.

It was Herbert D. Brown, chief of the Bureau of Efficiency, whom the U.S. Congress asked to prepare a plan to rehabilitate the islands' economy. Brown spent weeks in the islands talking to the rich and poor alike.

Labor leaders D. Hamilton Jackson and Ralph de Chabert, with whom Brown spoke, were strong advocates of breaking up the large estates on St. Croix to create homesteads. After returning from the islands, Brown argued to Congress that the because the lands on St. Croix were in the hands of only a few individuals and corporations, economic stagnation and social atrophy plagued the island.

Thus he persuaded Congress to support and implement the homestead program on St. Croix as a basis to revitalize the island economy. The naval administration that governed the islands tried to stop the homestead programs from becoming a reality. Obviously, that administration didn't have the best interest at heart for these islands.

However, God was on Brown's side, and the naval administration was soon replaced by a civil government in the Virgin Islands, headed by Paul M. Pearson. Brown's homestead program plan called for the federal government to purchase thousands of acres from the fertile Bethlehem Estates and resell it to the people as medium-sized farms.

Brown strongly believed the homestead program would facilitate islanders' transition from dependent laborers to independent farmers who were fully self-supporting, producing their own sugar cane and other crops and raising their own livestock. Brown also proposed to establish an agricultural school and a technical assistance program for the farmers.

In fact, at the old agricultural experiment station at Estate Anna's Hope, there was an agriculture school that included a veterinary school and other areas relative to agriculture. Brown believed that the homestead federal initiative programs would jump-start the shift away from an unjust economic system.

He hoped the program would replace the plantation system with a broader, diversified agricultural economy. He also believed the program would make St. Croix widely self-sufficient in food production, which "provides the essential economic underpinning of a truly democratic society."

While many black Virgin Islanders hailed Brown's homestead plan, Gov. Pearson was than less enthusiastic about the plan because of associates who had little faith in the working class and wanted to maintain the status quo.

There was much debate about the homestead program. Gov.Pearson rejected " ... the idea of medium-sized farms in favor of a program based on undersized, overpriced plots that would force the homesteaders to grow cane and work part-time off their landholdings," stated local historian George F. Tyson.

The Pearson administration implemented a homestead program designed to keep the status quo rather than supplant the old slave plantation system.

In 1932 the homestead program got underway with the purchase of 1,145 acres on Whim Estates and 712 acres on La Grande Princesse Estate. The two estates were divided into 267 plots ranging from 3 to 10 acres each through a lease-purchase contract system. A few years later the federal government purchased additional land at Estate Colquhoun, Mt. Pleasant and Estate St. John.

The municipal government of St. Croix acquired land for homesteaders on Northside Estates and Estate Rattan. Overall, 3,000 acres were sold in plots at an average of 7 acres each to 425 municipal and federal homesteaders. This was not a giveaway program. Rather, receiving title of the land, homesteaders signed a lease-purchase contract with principal interest paid out over a 20-year period.

They had to sweat and toil before the land became theirs. Those who failed to make annual payments were evicted.

Next week's column will focus on homesteaders at work on St. Croix.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Davis: Build an agricultural museum at the old experiment station on St. Croix

Olasee Davis

Our environment

At this year's St. Croix agriculture fair, thousands of people turned out to taste food, purchase plants, browse by educational displays, etc.

But for me, the highlight of the agriculture fair was the homestead program exhibit focusing on St. Croix of the 1930s to the 1950s. A small homestead house was mounted with old photos of people and places on St. Croix, and interpretation accompanied each photo.

For some time now, I've said that the people of St. Croix should establish an agricultural museum at Estate Anna's Hope, where the first agricultural experiment station was founded in 1910.

Mr. J.R. Bovell, the superintendent of Agriculture in Barbados, had visited St. Croix to give expert advice with regard to the formation of a Department of Agriculture on the island.

Following Bovell's visit, Dr. Longfield Smith, a lecturer in natural and agricultural sciences of the Barbados Department of Agriculture, was appointed the first director of Estate Anna's Hope agricultural experiment station. The experiment station sat on 400 acres.

Today the area is overrun with brush and dotted with sugar mills, slavery-era structures and other historical buildings constructed at the same time as the agriculture station.

For this reason, I believe that as a people, we should establish an agriculture museum at Estate Anna's Hope. And when I saw the homestead exhibit at the agriculture fair, I said to myself, "It would be wonderful to have a homestead exhibit within the agriculture museum on St. Croix."

When I attended college in Tifton, Ga., in the late 1970s, I visited an agriculture museum not too far from the college. This museum brought in millions to the state economy.

St. Croix has a rich agricultural history. Why not an agriculture museum on St. Croix?

What I really want to talk about, though, is the history behind the homestead program on St. Croix.

George F. Tyson, a local historian and head of the St. Croix Landmarks Society, the V.I. Department of Agriculture, Americorps Volunteers and other individuals were responsible for putting on the excellent exhibit of the homestead program on St. Croix.

Since I have strong feelings about the protection of the Virgin Islands environment, agriculture and our cultural heritage, I will try my best to write three or four articles on the history of the homestead program on St. Croix especially for residents of St. Thomas, St. John or even St. Croix who didn't get a chance to attend the fair.

Before I begin, I would like to give credit to Tyson for the information I am about to share with you.

By the end of the Civil War, our nation had acquired the entire territory that now constitutes the 48 states. The Homestead Act of 1862 had been passed to accelerate settlement on the new frontier of America. The homestead program came to St. Croix in the 1930s.

The economy of St. Croix in the 1930s was dominated by the sugar industry. About 90 percent of the land on St. Croix belonged to 25 non-black owners.

In the countryside of St. Croix, 65 percent of the cane fields belonged to two large corporations — the La Grange Sugar Factory and the West India Sugar Co.

Some 5,000 blacks and a few Hispanics lived in deplorable plantation villages that had existed on the island since slavery days. They worked for wages ranging from 40 to 55 cents a day.

Some of these workers were part-time because the economy, like today, was not great. In those days blacks and Hispanics had virtually no chance of becoming landowners on St. Croix.

Thus, local people found themselves working the soil in an economicly unjust system. Some 600 villagers known as "squatters" leased over 1,000 acres to grow cane and provisions for themselves.

Though they likely sold some of their produce to the markets, rents were very high and tenure on the land was insecure for squatters.

Nonetheless, they were somewhat economically independent, and their standard of living was better than those who worked in the cane fields.

In the wake of natural disasters, falling sugar prices, loss of the rum market due to prohibition and diminishing crop yields, the sugar industry on St. Croix suffered a series of failures during the 1920s. Many local people were either underemployed or unemployed.

With this economic disaster, less cane was produced. Yet, non-black landowners refused to sell unused land to small holders.

The West India Sugar Co. went bankrupt, and the central factory at Bethlehem closed its doors and discontinued cane cultivation. This left another 1,000 people out of work. It was these events that gave rise to the homestead program on St. Croix.

Next week's column will be about what the U.S. Congress did to address unemployment on St. Croix.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Davis continues on Jamaica's history

Olasee Davis
Our Environment

This second column on Jamaica's history focuses from the year 1692 to the present.

For the next 300 years, the British retained control of Jamaica calling it "the Pearl of the Caribbean." Buccaneers like Henry Morgan, who later became lieutenant governor of Jamaica, used the island to his advantage and Port Royal became the focal point of pirate activities.

In 1692, Port Royal, known today as Kingston, was almost destroyed by a devastating earthquake and it was further damaged by a series of hurricanes over 30 years or more. By then, the Buccaneers had disappeared from the island and Jamaica became more involved in the exportation and trade of agricultural products such as sugar and cocoa.

With the town's rapidly expanding economy, the sleepy fishing community of Kingston became the capital of Jamaica in 1872. The abolition of the slave trade in the late 1700s did very little to affect the prosperity of Kingston port of the British planters. However, the slave revolt that took place several years later and the emancipation of slaves in 1838 sounded death blows to the island's economy.

When enslaved Africans were emancipated in 1838, many of them took to the hills and mountains of Jamaica and cultivated their own land. The free slaves found a society in the hilly Cockpit country of western Jamaica and at Moore Town in the hills of Portland to the east of the island as well as other parts of the country.

Nonetheless, the golden years of the planters were all over. Even with the importation of indentured servants from Asia in 1846 and Chinese laborers for plantations, work did not help the economy of Jamaica. Thus, many of the plantations were abandoned and many fell into bankruptcy.

In 1848, the same year of emancipation for enslaved Africans in the Virgin Islands, the British government of Jamaica established a free trade policy to help the economy.

Their effort failed because the sugar protection was lifted and Jamaican sugar was in competition with cheaper sugar elsewhere. To complicate the economical problems, in 1865, a rebellion broke out in Morant Bay after prolonged disputes between planters and settlers. In 1866, the Crown Colony of Jamaican government replaced the old system of government to get the economy of the island back on track.

In the 1870s, the exportation of bananas that replaced the predominance of sugar restored the island's economy. The balance of power in Jamaica took another 100 years of struggle. If you know the history of Jamaican people, you know Jamaicans come from a breed of people who are courageous and determined to succeed.

Yet, time again, the people of Jamaica proved themselves to the task. For example, in 1739 when the Maroons brought the British down to their knees when they signed the treaty of autonomy between them and the Maroons. Following World War II in 1945, Jamaica succeeded both in the introduction of Universal Adult Suffrage and also acquiring a large measure of internal self-government.

In 1953, a full ministerial system was established in Jamaica. By 1958, Jamaica joined the Federation of the West Indies, which already had the association of 10 British island colonies in which Jamaica and Trinidad were the largest. In 1959, Jamaica was granted full internal self-government. In 1961, Jamaicans voted in an island-wide referendum to secede from the Federation of the West Indies and achieve independence.

On Aug. 6, 1962, the Federation was dissolved and Jamaica was declared an independent member of the British Commonwealth. In 1976, sad to say, a one year state of emergency was declared in Jamaica to deal with the outbreak of crime and violence arising from severe economic problems in the country. This was also the same year when someone made an attempt to kill the late Bob Marley.

In 1980, Jamaican Labour Party formed a government after eight years in opposition. Three years later, the Jamaican Labor Party was returned to power unopposed by the People's National Party, thus creating a parliament without an opposition for the first time in the history of Jamaica. The country's economy was improving when Hurricane Gilbert struck the island causing extensive damage.

About 45 people died and $400 billion (Jamaican currency) in damage was sustained. In 1989, the People's National Party formed a government after winning the general election. Despite social and economical problems in Jamaica, over the centuries many people from other countries made Jamaica their home. Jamaica has developed a rich culture and a spirit that makes it one of the most interesting places on earth.

Believe me, they have remained true to their motto: "Out of Many, One People."

Next week's column focuses on the economical development of Jamaica.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Davis takes a look at plants and photosynthesis

Olasee Davis
Our Environment

Often times on hikes that I conducted for school children on St. Croix, I explained how plants manufacture food. It is good to know that plants are used as medicine, food and other benefits from plants that sustain mankind on earth. Those who went on hikes with me over the years have gained traditional and scientific knowledge about themselves, their culture and other things we discussed pertaining to our relationship with the environment.

Plants play a key role in the environment by using the sunlight to manufacture food for all living and non-living things on earth. Green plants, being autotrophic organisms, can manufacture energy-rich organic substances by converting the radiant energy they receive from sunlight into chemical energy present in the bonds, which link the atoms of organic molecules. This process is called photosynthesis.

On hikes, I often asked students why when it rains everything turns green. What gives plants a green color? How this or that plant produces food or looks or grows that way. I believe that every child on a hike with must learn something about his/her environment. In this way, a child can walk away knowing something about the environment and the role he or she plays in the earth's ecosystems.

Our earth receives from the sun a constant stream of radiation in the form of visible light whether it is heat rays, radio waves, ultraviolet light or x-rays. Of these lights from the sun, visible light and heat rays profoundly affect the rates at which plants can photosynthesize and grow to produce food. Radiation travels through space with a certain wave motion. Although all the solar radiation travels at the speed of light at 186,000 miles per second, there is considerable variation in the length of the waves, that is, the number of wave motions per unit distance.

You see, these light waves form the visible spectrum, and it is light in these wavelengths that plants use in photosynthesis. However, the visible spectrum is only a small fraction of the range of wavelengths emitted by the sun. For example, both shorter-wavelengths and longer wavelengths reach the earth, although we cannot see them directly. The amount of solar radiation which reaches a plant on the earth's surface will vary according to the transparency of the atmosphere, the cloud cover, the position of the plant on the earth, and the time of year.

Such native plant as the guavaberry tree produces fruit late in the year because the plant needs long nights and short days. These are the kinds of things students learned on my hikes scientifically and how the role guavaberry plays traditionally during our Christmas season. Many physiological changes in plants are related to the season of the year. This includes seed germination, bud dormancy, flower and others. Short-day plants flower when the day length is shorter. Long-day plants flower when the day is longer. Whereas, day-neutral plants do not depend on day length.

In 1771, Joseph Priestley performed an experiment, which led to the term photosynthesis. He placed a mouse in a sealed jar, and observed that it died after a while. Then he put the mouse in a jar, which a candle had burnt, and the mouse died immediately. Priestly found out that the candle had exhausted the air. In his third experiment, he put a twig of a plant in with the exhausted air, after a while, he added the mouse, and it did not die immediately. "Vegetation," he wrote, "restored the air. From these discoveries we are assured that no vegetable grows in vain but cleanses and purifies our atmosphere."

Today, chemists can now explain Priestley's experiment in terms of the change of gas between organisms and the atmosphere. The burning candle had exhausted the air of oxygen, and without a supply of this gas for respiration, the mouse died. The plant twig used the carbon dioxide remaining in the air to restore oxygen to the air by the process of photosynthesis. The chemical equation of photosynthesis is Sunlight + $6C0_2 + 6H_20\text{-}C_6H_{12}+60_2$. The equation represents sunlight, carbon dioxide, water, sugar and oxygen.

Photosynthesis occurs primarily in the leaves of green plants. A cross section of typical leaf will reveal that it is eminently suited to be a photosynthetic factory. The leaf is thin and flat to maximize the surface area of the leaf that receives sunlight. It contains veins of conductive tissue, so that water can be brought in and the sugar formed can be transported to other parts of the plant. The many air spaces or holes showed students on leaf surfaces are cells that facilitate gas exchange.

In addition, the leaf surface, especially the lower one, are dotted with thousands of tiny pores called stomates. These pores regulate gas exchange between the leaf and the atmosphere by their number and size. The plant can regulate the size of the stomates. For example, during the day, when sunlight is available, the stomates open and carbon dioxide enter the leaves. At night, when there is no sunlight and photosynthesis does not occur, the stomates are closed. The cells nearest the upper surface of the leaf also contain many chloroplasts — the cellular structures which are the site for photosynthesis.

In next week's column, I will continue talking about photosynthesis.

This article reflects the view of Olasee Davis, a St. Croix ecologist activist and writer who has a master of science degree in range management and forestry ecology.

Homestead chapter closes

Program netted over 2,500 people

Olasee Davis

Our environment

This final column on the homestead program on St. Croix focuses on homestead communities and some of the people in the program.

It was said that 2,500 men, women and children participated in the homestead program. Most homesteads were family enterprises.

The communities they lived in include Estate Rattan, Estate Colquhoun, Mount Pleasant, the Northside (comprised of Rust Up Twist, Belvedere, La Vallee, Cane Bay and Prosperity plantations), Estate St. John, Estate La Grande Princesse, Whim Estates comprised of Whim, Carlton, Two Williams, Campo Rico, Good Hope, Ruan's Bay and the Hope Plantations.

Today, you will find most black Virgin Islanders on St. Croix live in these communities, even though other communities were developed after the homestead program. Places like William's Delight, Bethlehem Estates, Golden Grove, Castle Burke, Upper Love and other estates still grew cane in the 1930s and '50s. Strawberry and Barren Spot had cane up to the late 1960s.

People who came to St. Croix from other Caribbean islands or countries would be surprised that the island's economy was based on sugar not too long ago.

When I talk about the natural or agricultural history of St. Croix to young people, they don't believe you could once drive from town to town seeing cane without a single housing development on Queen Mary Highway.

The communities during the homestead era lived and worked together. They helped one another on farms, discussed their needs, their crops and their problems. If one family didn't have flour, another family gave. Doors of homes were left unlocked. Some families even helped others financially.

In those days, cooperation rather than competition governed the lives of homesteaders.

In this period of St. Croix agricultural history, streams still flowed year 'round. Homesteaders who are alive today can tell you they used to cart water from streams and wells.

Nonetheless, given the challenges of farming with limited resources and little support from government, most homesteaders had to relinquish their land after a few years. In the end, fewer than 130 homestead families survived.

To me this was sad. Gone are the days when women, men and children sang in the cane fields. And never to return are the still nights when you could hear the stream water flow.

The wild animals that once grazed in the cane fields, farm ponds and wetlands are no longer abundant. A life where people live and respect one another is no longer to be found.

In this letter written by homesteader John F. Davis in July 22, 1930, to Herbert D. Brown, one can feel the pain and suffering of our people in the 1930s and 1950s.

"Dear Sir: I approach you with sympathy towards my condition. I have erected a house of four rooms on a piece of land to which I have no title claim and have invested over $600 labor in that land. I did not do it for boast, but I did as an example for other men to follow.

"But now, you have started the project I am asking you kindly to use every energy as an able hearted American in helping me to purchase that land. You know Sir, that if you approach Mr. Skeoch for a sale question as a representer of mine, ten word from you to Mr. Skeoch will worth more than ten thousand of mine. I am asking you kindly Sir to part with nature feeling for me, with a family of ten children, five boys and five girls, and if I should die, no heritage in my labor for them.

"If you should succeed in so doing Sir, I will stand out as a lasting monument to your clemency, and I will be a good and noble example for other men to emulate. And your humble petitioner as in duty bound shall ever pray. I am yours most humble obedient servant Mr. John F. Davis."

How can I not tell the people of these islands that the environment, agriculture and culture are our birth rights to fight for politically and spiritually? Rise up, you mighty people, and take your stand for these islands.

This column presents the views of Olasee Davis, who has a master of science degree in range management and forestry ecology and is a St. Croix ecologist, activist and writer.

Homesteaders were hardworking people

The entire family helped in order for them to succeed

Olasee Davis
Our environment

When the homestead program started on St. Croix in 1932, it was not easy.

This third column focuses on homesteaders at work and the hardship they encountered.

Homesteaders worked hard, with commitment from the entire family if they were to succeed in making a life for themselves on the land.

Although agriculture had been modernized, homesteaders relied on traditional hand tools including cane knives, hand plows and hoes.

This tradition was passed down from slaves who worked the land more than 300 years. Everybody worked from dawn to dusk.

Homesteaders worried constantly about the weather, getting the cane to the market, the price of cane and annual payments for their land.

But the homestead program tried to improve the living conditions of local people through the construction of new homes.

In the 1930s, St. Croix's rural blacks and Hispanics lived in unsanitary housing in old slave plantation villages and in overcrowded houses, for which they paid 30 to 50 cents per week to owners.

The typical set of rooms was occupied by five or six persons. Disease was rampant. Many people lived in poorly built two- or three-room apartments in long barrack-type buildings. Many families did not have their own homes.

Homesteading brought the first radical change from these slave housing patterns that dated back from the 1800s.

Starting in 1934, the federal government constructed houses for homesteaders. This was the first public housing in the Virgin Islands. The new houses cost between $500 and $800. They consisted of two to four rooms with kitchens, cisterns and porches.

In 1938, 52 new houses had been built on homestead plots, but the federal funds dried up with only a few additional houses constructed by the local government.

Some homesteaders erected their own houses. Overall about 20 percent of the homesteaders lived on their own land.

> **"Homesteading reinforced family values at home and at work. Strong family ties were key to successful homesteading.**

Homesteading reinforced family values at home and at work. Strong family ties were key to successful homesteading.

But homesteaders had to use their land mainly to grow sugar cane for the big sugar corporations on the island. At first, homesteaders enjoyed success. From 1933 to 1937 homesteaders saw steady advances in both output and income on their farms.

During this period, 96 percent of all bills were paid on time, and more than 300 homesteaders averaged an income of $100 per year from cane sales, which they supplemented with other food crops grown.

By comparison, the typical field workers for the sugar corporation earned about $75 per year in wages.

But the homesteaders failed to sustain their success. In 1938 a severe drought hit the island.

With this natural disaster, sugar prices fell, and rising wage rates forced many homesteaders to relinquish their plots in favor of government employment.

By the end of 1941, only 202 active homesteaders remained with 533 acres of caneland in production.

The program also suffered as the federal government grew disinterested. In 1934 the federal funds for the program were reduced tremendously.

The cuts scrapped officials' plans to purchase additional lands, build more houses and provide more cooperative services for the farmers. In fact, by 1935 there were no federal funds.

Instead, the federal government gave millions to the Virgin Islands Co., which was established in 1934 to rehabilitate the sugar industry.

By the 1940s the sugar company receive a total of $3.4 million as compared to $400,000 for the homestead program.

Next week: Who is to blame for the failure of the homestead program?

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Individuals testify on successful treatments of noni plant

Olasee Davis
Our Environment

This final column on the painkiller plant will focus on testimonies by individuals who were treated with the juice from the painkiller fruit.

I believe God intended that every organisms on earth have a particular function in the environment. The painkiller plant or what is now being called the noni plant is such a plant that benefits the human family.

Medical doctors like Dr. Mona Harrison, Dr. Bryant Bloss and others have treated their patients with the noni for different illnesses and have witnessed the power of the noni juice.

Vicki Morgan is one of many individuals that testified to how the noni juice helped her.

Morgan stated, "I began menstruating when I was nine and a half and have always had severe cramping before and during my periods. I have followed a good nutritional program for the last six years, but haven't been trying to find particular things to help ease my condition."

"When I started to take noni, I was unexpectedly blessed. I usually begin to cramp five days before my period and endure severe cramps during the first few days of menstruation. With noni, I had no cramping before and minor cramping during the first few days. Having a more normal period has also helped my chronic fatigue."

Karen Johnson is another individual that testified about the noni juice. Johnson had a hard time to bend his knees because of severe pain in his knees.

He stated, "a week after I started taking noni, I began to feel a sensation like a wet spot on the outside of my knee. Sometimes it felt like a cool breeze. That feeling stayed for a few days, and the water on my knee dissipated. I hadn't taken medication or changed what I was doing with my knee except for taking noni juice."

Darla Shipley had severe back pain for 10 years because of a disk ruptured in his back. He had two surgeries, but the pain remained. Then, he took the noni juice, and it made a big difference.

He said, "I am now out of the brace I was wearing. . . Noni juice has improved my condition enough that I can tolerate my chronic back pain. Even without drinking it every day, I can move around without limping and without stiffness."

John Bowers had been diagnosed with three forms of arthritis. Bowers had all kinds of treatments for his arthritis including cancer medication, 11 different drug treatments, several physical therapies, traction, steroids, and ultrasonic massage. Eventually, the doctors gave up on him because there was nothing else they could do to help him.

He was only 35 years old and in a wheelchair facing debilitation and pain for the rest of his life. One day, a friend called him and told him why not try the noni juice. At first, he was skeptical, but he had nothing to lose since the doctors gave up on him.

Bowers stated, "After the first day of taking noni, I was able to sleep all night in my bed for the first time in over four years."

There were many things Bowers couldn't do because of his arthritis. He stated, "Since taking noni, I have been able to go shopping on my own. Before, I couldn't walk to the end of the block without severe pain." Today, Bowers is up and about doing things for himself.

Traditional herbalist in Tahiti recommend that you pick the noni or painkiller fruit before it is fully ripe. Then, the fruit should be placed in a jar in direct sunlight. When the fruit is fully ripe, it is then mashed into a puree and the juice is extracted through a cloth. I know of one individual that used his blender to make the noni juice.

Tahiti herbalists recommend for most people to take two tablespoons per day. The juice should be taken in the morning before meals. Dr. Heinicke stated, "For a seriously sick person, taking the juice on an empty stomach rarely poses a problem because the patient is too sick to want to eat anything. However, for the average person who wants to drink noni juice as a health tonic, timing is critical."

Like what was mentioned before, the juice should be taken before breakfast. Noni juice should not be taken with tobacco, coffee or alcohol. These combinations can cause side effects. Dr. Heinicke recommends only the green mature fruit should be used because it has more valuable components and less undesirable flavor. Noni juice can be mixed with other fruit juices if one desires.

The shelf life of noni juice is 18-24 months or probably longer when packed in a recyclable glass container. When open for use, the juice must be placed in the refrigerator to maintain its flavor. The painkiller or the noni plant grows abundantly on the northwest side of St. Croix.

For product information on noni juice, you can contact Carolyn Hawkins at 772-1943. Also, you can email to info@triple-r.com, World Wide Web: http://www.triple-r.com or call (800) 748-2996. On the internet, you can look up (Morinda citrifolia) or just morinda which is the scientific name of the painkiller plant.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Jamaica has a lot to offer with historical sites, eco-tourism

Olasee Davis
Our Environment

This fourth column on Jamaica focuses on the continuation of the economical development of the island specifically with historical sites and eco-tourism. Besides scientific papers presented on agriculture and the environment at the 34th annual Caribbean Food Crops Society meetings that I attended a few weeks ago in Jamaica, we also got a chance to see some of the island's farms, historical sites and eco-tourism industry.

One of our scenic tours in Jamaica was the south coast of the island, which took over four hours including stops along the way. According to one local person that I talked to on the tour, the south coast is the last frontier of planned tourism development. This area is the center of a new experiment to a tourists-host relationship called "Community tourism." It appeals to eco-travelers.

The area includes the Black River, Mandeville, Treasure Beach and Christiana to Milk River in the east region, which is 40-square miles. It offers some of Jamaica's best eco-logical contrasts and environmental alertness.

In this area, we visited a historical site called "Lover's Leap." Legend has it that two slaves fell in love. The slave woman was a mulatto who loved another slave on the plantation.

The brother of the mulatto slave woman "ratted" on his sister to the slave master about the love affair between his sister and the other slave. The slave master also loved the slave woman and wanted her for himself. Both slaves were warned not to see each other or they will be dealt with. The two slaves continued to see each other despite warnings from their slave master.

To make a long story short, the two slaves saw their slave master coming towards them from afar on a white horse. Without thinking probably, the two slaves jumped off the cliff and killed themselves. This happened in the 1700s. Thus, the name "Lovers Leap" became a popular tourist historical site attraction in Jamaica.

This is just one of many historical sites locals and visitors alike can see on the island. What I am trying to say is the economy of Jamaica center's around the history and the natural environment of the island. Believe me, when you see a Jamaican, you see yourself because we all are one Caribbean people.

Jamaica's culture, history and natural beauty are extremely rich, and they sell their island as a tourist destination to the world. Such eco-tourist attraction is the road that climbs up in the clouds of Blue Mountain which is 7,402 feet above sea level. Other high peaks in Jamaica are John Crow, 5,750 feet, St. John Peak 6,334 feet and Mossman's Peak 6,703 feet above sea level.

As you drive or hike through the mountains, you will see large bamboo forest sharing the rain forest environment with tropical vines, banana plants, ferns and coconut trees. About 3,000 feet elevation in the mountains, you will enter Blue Mountain coffee region. Here, you can stop and stretch your legs and enjoy a cup of Blue Mountain coffee as you continue driving or hiking the mountains.

There is about 250 species of birds living in these mountains. The mountains are also home to the six-inch swallowtail butterfly the largest butterfly in the Western Hemisphere. Horseback riding is also a popular tourist attraction. There are trails that lead for miles from the coast, forest to historical sites throughout the island. Such trails on feet are the Clydesdale Forest Reserve and the Chinchona Botanical Gardens.

You can visit the Maroons in the island's center, but rugged regions. Like St. Croix's geological make up of limestones or coral reefs, two-thirds of Jamaica is limestones or what we call on St. Croix — white marls. This area of Jamaica's Maroon country gives you a sense of almost pre-historic time. You can feel the spirit of the once enslaved Africans.

Tourists also feel the history of Jamaica and appreciate it whenever they visit this part of the island. The heartbeat of the late Bob Marley's spirit can also be felt in this region. In fact, Jamaica is nothing, but a Bob Marley tourist industry in itself.

Jamaica has many rivers and waterfalls. Some of the most developed tourist attraction are waterfalls — in the parish of Portland and the Y.S. Falls that I visited in St. Elizabeth. Black River is also a tourist attraction. It is almost 43 miles long. Here you can see several species of birds and Jamaican crocodile as you sail up the river.

Then, there is river rafting at Ocho Rios and many caves around the island to visit. From marine life to historical sites, bird watching, cacti to orchids, adventures, the natural environment of the island is a glorious sight to those that visit its shores. From what I saw in Jamaica, eco-tourist is the heart beat of the country economy.

Next week's column will focus on Bob Marley as a major tourist industry in Jamaica and worldwide.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Jamaica's economical development began with first inhabitants

Olasee Davis
Our Environment

This third column on Jamaica focuses on the economical development of the island. Jamaica's economy began from the first inhabitants of the island. I am sure the Indians trade with other inhabitants of the Caribbean islands before the Europeans dominated Jamaica's early economy. In fact, the Spanish ruled Jamaica for 146 years with enslaved Africans working on plantations for them to acquire wealth.

Let us never forget the privateers who got their share of Jamaican wealth. And of course, we can forget the British who occupied the island for 300 years. Today, Jamaica is the world's third largest producer of bauxite and alumina. In 1980, bauxite reserves were estimated to be 2.5 billion tons.

Bauxite is the second largest industry after tourism in Jamaica with a foreign exchange earning of a gross in 1995 of $710 million. However, this industry fluctuates depending upon the world market. Jamaica also has a well developed manufacturing industry. Production in these industries focuses on metals, textiles, food processing, tobacco, beverages, chemicals and construction materials.

A leading export industry in the island is in garment assembly which employs some 35,000 people. This industry represented about 20 percent of the island's Growth Domestic Product and employed roughly 11 percent of the labour force. Agriculture also plays a major role in Jamaica's economy. The major agricultural products are citrus, cocoa, coffee, spices, sugar, banana and root crops.

Jamaica has five sugar mills and state-owned sugarcane land. Sugar is the most important crop in Jamaica in terms of export value. In 1965, production of sugar peaked at 501,000 tons. Since then, sugar has declined steadily with an average of 200,000 tons a year in the 1980s. Like bauxite, sugar is also controlled by the world market.

Bananas are Jamaica's second largest major agricultural export crop. The Blue Mountain Jamaican Coffee is another export crop. The 1994/95 harvest produced 17,000 tons of coffee — the largest crop since Hurricane Gilbert in 1988. Other export crops in Jamaica are citrus and papaya. Also, non-traditional crops such as yams and cut flowers are becoming major exports.

The aquaculture industry in Jamaica employs some 3,000 to 4,000 people. This industry mainly produces fish for the export markets. By far, tourism is the largest industry in Jamaica. There are many historical sites, waterfalls, hiking trails, etc. to see in Jamaica beside sand and beach.

Montego Bay where I stayed is a tourist mecca with nearly 50 percent of all the hotel rooms in Jamaica. This area located on the northwestern part of the island and the second city of Jamaica and capital of the Parish of St. James. Columbus called the Indian community in this area in 1494 El Golfo de Bucno Tiempor or Fair Weather Gulf.

However, an old map of Montego Bay called the area Lard Bay, which the name Montego is believed to come from "Manicca" the Spanish word for hog land. During the Spanish rule of Jamaica, Montego Bay was an area where lard was exported from wild hogs from the forest. After the lard industry ceased, the fertile lands in Montego Bay were used for cane production and by the 16th century it was a major trading port.

What makes Montego Bay attractive to visitors are the historical sites, golfing, tennis, rafting, sailing, surfing, the bird sanctuaries, caves or travel through the lush rain forest by express train. One historical site in the area is the 1774 fort to protect the town. Another point of historical interests is Sam Shape Square.

In 1831, the British was determined to free their slaves, but the planters of Jamaica were reluctant to set their valuable assets free. Sam Sharpe a slave himself advocated passive resistance to force Jamaican planters to comply with England. Sam Sharpe was hung in then Charles Square because of his avocation to free the slaves. Today, Sam Sharpe is a national hero.

Probably the most captivating attraction in Montego Bay is the Rose Hall great house built in 1760 by J. Palmer. History has it that Palmer was murdered by his second wife Annie who also murdered all her other husbands. To make a long story short, Annie herself was killed by her slaves. It is believed today that the house is haunted by the ghost Annie.

There are numerous historical sites in Montego Bay to visit. However, the biggest tourist attraction is the annual reggae festival where thousands of people flock to Montego Bay. And a recent attraction is in the city's newest mall — a store which offers Bob Marley merchandise. It is the first of its kind in the world.

Shopping is also another attraction of the city where merchandiser ranging from textiles, native craft items to exclusive brands of perfumes.

The attraction of Jamaica's historical sites and eco-tourism continues next week.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Krause Lagoon would have served better as a fishery hatchery

Olasee Davis
Our
Environment

Isn't it ironic that the Hess Oil extension came up during the 150 years of emancipation celebration. It was in 1848 when the slaves demanded their freedom.

We all know what took place on the Senate floor last week. The majority of our senators decided to say yes to the joint venture between Hess Oil Refinery, the Venezuela state-owned oil company and the government of these islands.

You know what? Some of these Senators are decendents of slaves and some are not. If the Senators had negotiated tirelessly with Hess and the spirit of our ancestors, they would have probably received the best possible benefits for us. I testified at the public hearings on the joint venture issue of Hess. I am not against the joint venture, but I firmly believe that the Senators should have rejected the agreement and go back to the negotiating table and get a better deal for the people of these islands.

However, I do believe if the people worked together in unity as in the 1848 emancipation, we would have gotten a better deal. I personally feel the whole agreement between the Virgin Islands government and Hess Oil started on the wrong foot. The old folks have a saying "When you start off on the wrong foot, you end up on the wrong foot."

First of all, there were no inputs on the agreement by our Senators and more importantly by the people of these islands. There are many issues I can focus on, but I will focus on the history of the Krause Lagoon where Hess Oil is located and the potential environmental impact Hess Oil has on the environment.

Prior to European settlement on St. Croix, the Krause Lagoon was covered with native vegetation particularly the thick stands of mangrove forest which served to filter and cleanse runoff waters before it reached the ocean. This area was also a major waterway and hunting ground for Indians that once inhabited the island.

In fact, history has it that the Indians sailed their canoes through this waterway of the Krause Lagoon to Salt River Bay. It was the French that mentioned in 1651 that the St. Croix had three rivers. During the plantation era, lands around the lagoon and to some extent, filled in land was converted into agricultural land.

The Krause Lagoon was the largest mangrove forest habitat in the Virgin Islands covering some 600 acres. It was also the largest natural fishery habitat in the Virgin Islands. The Lagoon had an abundance of wildlife.

The late George A. Seaman, a native naturalist ,said, "Pessimism? Yes. You know I tell my friends that I am not alone being a pessimist, not that I am unhappy being a pessimist. I enjoy being a pessimist. Is anybody here optimistic about bringing back Krause Lagoon to St. Croix. Do you know what Krause Lagoon was? Let me tell you: our only Everglade. A sea, sand and mangrove wilderness of such ecologic value and nostalgic beauty that it could take your breath away. Here in the evening when the crameaux and mullet were jumping, when the clapper rails and willets filled the rosy sky with their haunting cries, when a long line of ducks swooned in for their late drink of fresh water, when everywhere, it seemed great gray and white and brown kalaloo crabs were appearing from their holes to feed, and an early bat was caught in mid-air by a lone and deadly pigeon hawk — in one of nature's most dramatic exhibition — you just knew and felt that this place was something very special, for did not the last flamingo known in the Virgin Islands come home here? And what have we swamped it for? Must I tell you? No folks. It is too sad a story to repeat."

In the early 1960s, the Krause Lagoon was nominated as a "Wildlife Refuge." But later one of our misguided political leaders decided to turn this watery Garden of Eden into an industrial complex. Today, Hess Oil Refinery and the St. Croix Alumina stand on what was one of the best intact estuary in the Virgin Islands and the Caribbean.

An estuary is generally defined "as a semi-enclosed coastal body of water that is connected to the open sea, into which freshwater flows from upland drainage." Surrounding streams once drained into the waterway of the lagoon making it rich in plants and marine life.

In my opinion, the Krause Lagoon would have served the people of the Virgin Islands particularly on St. Croix better as a fishery hatchery where marine animals such as conch, oysters, kalaloo crabs, clams, lobsters and other marine life would bring in millions of dollars to our local economy. This fish industry would have been more compatible to the environment than a pollutant industrial complex.

Next week's column will focus on the impact of Hess Oil on the Krause Lagoon environment and public health.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Lagoon destruction caused irreversible changes to ecosystem

Olasee Davis
Our Environment

This second column focuses on the impact Hess Oil had on the Krause Lagoon's environment and also public health.

The destruction of the lagoon brought irreversible environmental changes to the south shore ecosystem. In the 1960s, dredging of the Lagoon and shelf was carried out without the use of settling ponds to control the dredging spoils.

Thus, massive siltation occurred down-current west of the refinery and large areas of seagrass beds and shell-fish grounds were destroyed. The reefs in some areas were badly damaged or killed. Krause Lagoon itself was destroyed. Today, dredging continues at the industrial complex to maintain a 60-foot deep channel for large tankers. The whole south shore of St. Croix has changed and sandy beaches have disappeared.

Since the 1960s dredging, the water on the south shore turned milky white as far as Sandy Point. Although the outflow of silt and mud has been reduced substantially, the water on the south shore remained milky white or brown. The dredging also affected east of the refinery along the coast of Halfpenny Bay. Dredging is expected to continue indefinitely to maintain the deep water channels.

To this date, there has been no publicly released environmental impact study for the area, although several consulting studies have been made. In 1971, a major oil spill occurred at the refinery when a small tanker ran aground. Oil washed ashore along the south coast as far as Sandy Point. Hess personnel cleaned up the areas along the coast. No lasting damaged occurred to the marine environment according to reports.

The question is — who's report? Oil and tar still occurred on St. Croix beaches even in the most remote areas of the island. One concern I mentioned at the public hearings was that Hess monitor itself for pollution. The data collected on pollution by Hess are given to DPNR and EPA. This practice of self monitor is common on the mainland by many industrial companies.

But I personally feel that living on a 84 square mile island, an independent agency other than Hess needed to monitor Hess. For all we know, the information we received from Hess on pollution could be incorrect and serve their best interests.

In 1989, Hurricane Hugo hit the V.I. hard especially St. Croix. Oil from the refinery spilled all over homes in Barren Spot, Strawberry and other surrounding areas of the refinery. Yet, Hess will tell us that the Coker Plant will be safe.

They also planned to store oil from Venezuela at Hess facilities. Can you imagine a natural disaster? I hate to think of what will happen if we get hit by consecutive hurricanes. It could be a natural disaster for the entire Caribbean. Another natural disaster is earthquakes. Scientists tell us that we are over due for a major earthquake. During the past 450 years, damage occurred from earthquakes in the Virgin Islands. Strong seismic shocks were recorded in 1777, 1843, 1867 and 1918.

A destructive earthquake in 1867 and in 1918 killed 116 people and economic losses estimated at $4 million. What is more frightening is we are classified as "Zone 4" for earthquake vulnerability like certain parts of California. Many of us forget that Hess is built on filled in land that was once the Krause Lagoon.

Today, Hess pumps oil out of wells that leaked in the ground water. Since 1992, 415,900 barrels of oil were pumped out of wells. At least another 10 million gallons are known to remain in the ground. If Hess doesn't pump oil out on a consistent basis, other wells including government and private wells can also be contaminated.

For the Schuster's Services, it was too late. Some wells of this company have already been contaminated according to an informant. Although Hess claimed that oil contamination has not migrated beyond the refinery boundaries, the Schuster's Services is one incident where Hess misrepresented the truth.

Many residents have complained for years about air pollution. Today, many people go off island especially for the treatment of cancer. Those who die off island from cancer, their death certificate is filed there, not in the Virgin Islands. In this case, how can we verify how many persons die from cancer on St. Croix? To my knowledge, I have not heard of any surveys done on people who live around the refinery relating to health. Asthma is also extremely high.

I love all the people that work at Hess. I have family, friends and students I taught there. Hess has been good to this community despite of its labor practices. But being healthy is more important than money. And what was so sad was that this whole Hess issue has divided our community. Some people almost fought because of a difference in opinion. For this reason and others, I think the deal with Hess was not fair to us and the environment.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Late Bob Marley plays a major role in Jamaica's tourism

Olasee Davis
Our Environment

This final column will focus on the late honorable Robert Nesta Marley as a major tourist industry in Jamaica and worldwide.

In 1945, a woman gave birth to a male child, not realizing that he would become a latter-day prophet. Bob Marley was born in St. Ann parish in Jamaica. St. Ann parish is also the birthplace of the legendary 20th century prophet Marcus Mosian Garvey, who was born in 1887.

Bob grew up in the country swimming in the rivers and sea. A as inbred naturalist, he loved to listen to the insects at night. He enjoyed going out in the forest, tracking birds with his slingshot. He also enjoyed riding donkeys, taking care of farm animals like goats and milking cows. At Nine Miles, St. Ann parish is one of Jamaica's lushest forested areas.

The mist in the morning is something to behold when the sun rises over the mountains of the small remote village where Bob Marley was born. People lived close to the soil.

They are God-fearing people. It was a place fit for the reggae king of the world. Many people believed Bob Marley was a saint. Some believed he was a prophet. Others believed he was the greatest songwriter and singer who ever lived.

Yet others will tell you Bob Marley was the incarnation of biblical Moses to lead the people of the world, especially black people, out of spiritual darkness through the power of music. Believe me, whatever the world believes about Bob Marley, they knew he was a special human with a message in music for a lost world.

One reporter said, "Some people even considered Bob Marley as a god like the ancient gods in Egypt."

Bob Marley was influenced by his grandfather, Omarian Malcolm, and his mother, a churchgoing, deeply religious woman who was always singing spiritual hymns.

Little did his mother, grandfather, other relatives, friends or even Bob himself know that he would have a great impact on the minds of people worldwide. The people in Bob's village were very poor, but rich in love, culture and history. I guess as a child, the poor conditions that Bob found himself living in and surrounded by was the cry of his message to the world.

He sang from a deep personal experience and the conditions of oppressed people worldwide. Thus, the world identified with Bob Marley's cry for love, peace, unity, freedom and justice especially for the poor among us. You can see why to some people Bob Marley was a prophet who lifted the consciousness of people worldwide spiritually.

He became like John the Baptist, crying in the wilderness for redemption. When he sang, he sang with such intensity and emotion that he went into a spiritual trance.

It was said sometimes Bob Marley would fall off the stage when the spirit of music hit him. It was this music — soul revolutionary rebel music — that authority of Jamaica's government officials became afraid of.

Worldwide, people became conscious of themselves and stood up for their rights because of Bob's music. Bob sang about the system that oppressed people and made millions.

The Jamaican government banned some of his songs from the radio such as "Who the Cap Fit" and "Crazy Baldheads." Yet today, Bob Marley remains a major force in the tourist industry in Jamaica. Millions of people every year come to Jamaica and flock to Bob Marley's Museum and visit his mausoleum, spending millions.

The same country that rejected Marley when he was alive, particularly those in power, named streets, bronze statues, etc., in his name.

When Bob died in 1981, Black Collegian magazine said, "His popularity spanned continents, commanded sell-out audiences everywhere he performed and accounted for $190 million in record sales, a figure which according to The Wall Street Journal, is equal to 8 percent of Jamaica's 1980 GNP."

There are all kinds of products that depict Bob Marley's name and face from t-shirts to earrings, mugs, bumper stickers, clocks, clothes and the list continues. I even saw a woman's nightgown in a store that read "I Am Waiting in Vain."

Many books have been written about him. You can find his pictures in homes, stores, hotels, banks and even in a church, I am told worldwide. Throughout the Caribbean and the world, you can find Bob Marley products, which is a billion dollar industry.

Every year people celebrate his birthday worldwide. A movie was made in his memory called "Country Man," and several TV and radio commercials feature his songs.

"... He was, above all else, a symbol of hope and optimism for millions of fellow humans around the world, who saw in the diminutive singer from Trenchtown some aspect of their own sufferings or torments some resilience and militancy that they lacked or aspired to ..."

Bob Marley lives in all of us. Yeah.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Mango could be play a major role in V.I. tourism industry

Olasee Davis
Our Environment

It was Clinton George, the program leader for the agriculture and natural resources component of UVI's Cooperative Extension Service, who conceived the idea of creating a mango festival on St. Croix.

This past June, CES, St. George Village Botanical Garden, the V.I.Department of Agriculture and USDA sponsored the second annual mango melee festival in St. Croix.

Hundreds of people showed up at the botanical garden to sample and purchase some of the items made from mango. Those of you who did not attend the mango melee surely missed a cultural family fun day. The festival centered around mango and the many products that can be made from it. The whole idea of having a mango festival is so that mango can be enjoyed year round instead of only during mango season.

Mango is one of the most celebrate tropical fruit. In fact, it is known as the king of tropical fruits. It is also a member of the family Anacardiaceae, which is a highly poisonous plant family. Mango (Mangifera indica) is native to Burma, a region of India. It has been cultivated in India for over 4,000 years. The history of mango to me is fascinating.

It has been said that Buddhist monks took mango to eastern Asia and Malaya in fourth and fifth centuries B.C. The Persians were also believed to have carried the fruit to East Africa around the 10th century A.D. The portuguese introduced mango to West Africa and Brazil in the early 16th century. After the fruit was introduced to Brazil, mango was carried to the West Indies and planted on Barbados in about 1743.

Later, the fruit arrived in the Dominican Republic. It reached Jamaica around 1782. From there, mango spread throughout the West Indies and arrived sometime in the Virgin Islands in the 1800s. Mango was also introduced in Florida, the southern tip, in 1833 by Dr. Henry Perrine. The seedlings of those mangoes died after Perrine was killed by Indians.

However, seeds were introduced from the West Indies to Miami by Dr. Fletcher in 1862 or 1863.

St. Croix has a rich agricultural history. The evidence of agriculture on St. Croix is in the many greathouses, sugar mills and the pagers of written history.

As a people, we have no agricultural product to boast about except for the St. Croix white head sheep and the Senepol cattle, which are native bred and are not advertised or pushed by this government as an important commodity of the Virgin Islands. Mango has the potential of becoming a major industry in the Virgin Islands if we are serious about the future of agriculture in these islands.

The trees adapt well to a wide variety of our soils in the Virgin Islands and have over 200 years of acclimation in our tropical environment. On the northwest of St. Croix, there are mango trees over 200 years old, which are producing fruit. Historically, the northwest side of St. Croix was known as the heart of agriculture because of its deep rich top soil.

In the 1730s, Reimert Haagensen spoke about the rich topsoil in the northwest side of the island. "It is an indication of good, rich land where the topsoil is blackest and deepest, whether those soils are located on mountains or in valleys. In those places, the forests are thicker and the trees larger than in other areas."

The soils on the northwest side of St. Croix were so rich that planters complained about the fertility of the soil.

Haagensen mentioned, "In such rich soil the canes grow to such a height and thickness that they bend and fall over, often breaking off near the root. Those canes do not yield anything but water, probably because of their great growth, and consequently, they are useless for the production of sugar. As a result, a planter whose land is so rich does not produce much sugar during the fruit's two to four years of cultivation, because most of the cane juice is water, which in cooking reduces to nothing."

The northwest of St. Croix, which is filled with rich topsoil, are threatened now by housing development. Believe me, this system of government makes me sick to the heart because we are destroying priceless natural resources for the love of money. I don't know what's wrong with us as a people. But I will say this, the other Caribbean islands are learning from our mistakes and will dominate the tourist industry in the future because of proper planning.

Mango is a crop we can commercialize and make a major part of our culture and the tourist industry by making jams, jellies, mango chow and the list goes on. At the second annual mango festival, the extension service published a recipe book on mango called "Mango: Bits & Bites." The book is available at the St. Croix campus bookstore for $7.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Officials: Plan carefully on road paving project

Olasee Davis

Our environment

As we approach the threshold of the year 2000, we as a people have many battles before us. One is the environment degradation of our land and coastal waters.

It would be ashamed if we don't have a comprehensive land and water use plan in place before the year 2000. This plan, however, should not be in the best interest of one group, but it should represent the entire Virgin Islands community.

Last month, I read in our local newspapers about the paving of the road from Cramer's Park to Point Udall. In the past years, I have written many articles about the East End environment of St. Croix and the importance of preservation for this rare, dry shrub forest ecosystem, which is one of five of its kind in the Caribbean.

In the 1960s, Fairleigh Dickinson Jr. donated the East End of St. Croix to the Virgin Islands government for the use of Territorial Park.

From Point Udall, the easternmost land in the United States, the Goat Hills rise to Sugarloaf Hill, which is 672 feet high, and form a central ridge from the point to the lower neck between Knight Bay and Grapetree Bay.

These hills are dry, covered with scrub, thorn and cactus, except where fire has burned brush and grass has grow in its place. In guts and where the slopes are protected from the wind, dry forests can be found.

On the north side, Cottongarden Bay's long, sandy beach — protected by the end of the northern barrier reef system — has been developed by the government as Cramer Park.

East of Cottongarden Point, Boilar Bay includes a complex ecosystem of alga, coral reefs, seagrass beds, sand and rocks. A long beach with fringing reefs becomes a wall of cliffs leading up to Point Udall.

From Point Udall to Cramer Park, approximately 340 acres, almost 50 percent of the east end peninsula is owned by the people of the Virgin Islands. The East End has a long wildlife and human history.

In 1952, the Municipal Council Bill No. 30, set aside the East End area of St. Croix "as a deer preserve for the propagation and restoration of the wild deer in St. Croix."

The area was also identified in the early 1960s by the federal government as a nature preserve. A decade later, the area was singled out as an area for preservation and restoration and nominated as a significant natural area.

In 1982, the surrounding waters of the East End were proposed for candidacy as a national Marine Sanctuary. In 1991, the East End was recommended "to be preserved as a multi-purpose park within the proposed Territorial Park System." In 1979, St. Croix's East End was designated by the Planning Office as one of 18 Area of Particular Concern in the Virgin Islands.

The 18 APC's were adopted and passed into law by the legislature and approved by the governor in 1994.

APCs simply means as stated in the National Coastal Zone Act to create management policies and provide " . . . procedures whereby specific areas maybe designated for the purpose of preserving or restoring them for their conservation, recreational, ecological, or aesthetic values."

The dirt road to be paved in the East End from Cramer Park to Point Udall falls within the APC's boundaries. This action by the local government to pave the road are questioned by some concerned citizens. Since it is a remote area, some people feel trash might be generated along the road once the road is paved.

> **"... the East End was recommended to be preserved as a multi-purpose park within the proposed Territorial Park System.**

Other people feel the endangered species, green sea turtles, will be threatened more once the road is paved up to Point Udall.

East End bay or what I called "Little Isaac Bay" beach has the largest or one of the largest population of green turtle nesting sites on St. Croix.

Yet, others argue the road should not be paved because there is no management plan in place yet for this proposed territorial park. Still, some believe the pave road will take away the aesthetic beauty of the area.

On the other side of the debate, others feel the pave road is better because the area will be more accessible to the public. Many taxi drivers agreed saying the pave road is good for tourist business.

I talked to Public Works and the Department of Planning and Natural Resources officials about the paving of the road to Point Udall.

They claimed the road project will have minimum impact on the marine environment.

And if any "foul up" occurs, they said the project will stop immediately. For some people, this is hard to swallow knowing that Public Works records are not near perfect.

For example, the Creque Dam rain forest road last year was paved. In some areas the road was wider; small trees were pushed down; and some culverts were put in the wrong place.

This is the reason I argue if we fail to plan, we plan to fail. The East End is another example of putting the cart before the horse.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Painkiller plant was used to cure many illnesses

Olasee Davis
Our Environment

Before I visited Jamaica in July, I wrote an article entitled, "Slaves ate starvation apple for its medicinal uses, to restore their body." To my surprise, many residents are interested in the noni plant or what we call locally painkiller or starvation apple.

Since my first article appeared in *The Daily News* on the noni plant, my office phone has been ringing off the hook for information about the noni plant. The enslaved Africans of the Virgin Islands particularly those on St. Croix ate the painkiller fruit for strength.

This second column will address what makes this plant a major pharmacologically active ingredient for so many illnesses. Dr. Ralph Heinicke, a biochemist is the pioneer in the research of the noni plant. He did research from the 1950s to 1986 for the Dole Pineapple Company, a research institute at the University of Hawaii.

Dr. Heinicke discovered an alkaloid in healthy human cells which he called "xeronine." He found that insufficient amount of this xeronine in human cells can lead to serious health problems. He mentioned, "Only a negligible amount of free xeronine is actually in the noni fruit, but the precursor of xeronine "proxeronine," is present in the fruit in significant amounts." This xeronine becomes active when you drink the juice of the noni plant.

"Noni fruit also contains the inactive form of the enzyme needed to release xeronine from proxeronine. For noni to be effective, this "proenzyme" must be properly activated. This is why noni needs to be taken on an empty stomach. When it is, the critical proenzyme is able to escape digestion and enter the intestines, where it can be activated and used by your body," said the "Health News," which that published information on the noni plant.

For this reason and more, the xeronine can almost alleviate any symptoms of disease known to man as long as the disease is caused by the lack of the alkaloid. Maybe we need to look again of what the Bible says, " . . . the leaves of the tree were for the healing of the nations." Probably, we need to think seriously about what we eat because man's original diet was fruits, vegetables and grains according to the biblical creation of mankind.

If this is the case, then the food that God provided for mankind contains all the nutrients and healing powers whenever we get sick. Plants play a major role in the healing of man's body.

Research by A. Hirazumi and others on the noni plant indicated the juice "significantly increased the life span of mice with lung cancer. The noni juice seemed to act indirectly by enhancing the host immune system." Research stated, "Noni can also be an effective burn treatment. Xeronine activates a specific protein-digesting enzyme that quickly and safely removes dead tissue from burns."

This past school year, a friend of mine went hiking with me and a group of school students to Annaly and Wills Bay. She saw the noni plant and she explained, "Olasee I used the painkiller or noni juice and put it on my body and it helped protect my skin from sunburns." This is somebody locally who testified about the power of the noni juice. The noni juice is good for treating burns and protects skin from sunburns.

Some scientists are telling us that, "Noni makes people feel better because xeronine converts certain brain proteins into active receptor sites for endorphins, the "well-being hormones." They also said, "in addition, noni can improve digestion because it enables larger molecules of digested material to pass through cell membranes." The alkaloid also energizes and regulates the body they discovered.

This particular alkaloid has never been found in the body because the body makes use of it immediately. At no time Dr. Heinicke said, " . . . there is an appreciable, insoluble amount in the blood. But xeronine is so basic to the functioning of proteins, we would die without it. Its absence can cause many kinds of illness." This is why the juice is a powerful medicinal herb.

For this reason, the xeronine has the ability to help cure or treat many diseases such as high blood pressure, arthritis, low blood pressure, poor digestion and drug addiction. Today, scientists found out the xeronine in the noni acts as a pain reliever.

Dr. Heinicke stated, " . . . as we age, our ability to produce xeronine diminishes, and many of our environmental poisons block the synthesis of the alkaloid as well."

Next week's column will focus on the testimonies of individuals that used the noni juice.

Park fee would help fight degradation

"The park will charge a $4 daily fee for admission to both Trunk Bay and Annaberg Plantation, the park's two most popular destinations. Both attract more than 600,000 visitors each year. Visitors and families can pay a $15 yearly fee to get into facilities. Individuals can pay $10. Children under 12 and school groups enter free," the Daily News reported on March 27, 1998.

Some people might be critical of the V.I. National Park wanting to charge a fee. Some might argue that for donkey years, we entered the Virgin Islands National Park free. Others might argue that all the beaches in the Virgin Islands are free, thus we should not be charged to enter Trank Bay.

Did we forget that for years we've pay a fee to enter Magens Bay beach?

These fees are used for maintenance and other operations of the beach.

So what is the problem of paying fees at the park?

The Virgin Islands Open Shorelines act of 1971 doesn't say anything about fees to enter beaches on these islands.

The Open Shorelines Act very clearly defines a public right, established by custom, to the use and enjoyment of an area "from the seaward line of low tide, running inland a distance of fifty feet; or to the extreme seaward boundary line of low tide, running inland a distance of fifty feet; or to the extreme seaward boundary of natural vegetation which spreads continuously inland; or to a natural barrier; whichever is the shortest distance."

The proposed fee by the park is deeper than most people realize — more than just charging visitors and residents a fee to enter Trunk Bay and Annaberg Plantation.

Over the years, the park has degraded because of the impact of humans.

Road surface erosion, soil erosion, home developments near boundaries of the park, vegetation degradation, anchor damage and careless snorkelers all adversely affect the marine environment.

For some time, the park has been conducting research to find out scientifically how to address and solve some of these environmental problems. Recently, studies were completed by two scientists on paved and unpaved roads for the park service to see what

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impact roads have on the environment.

Before I give you the scientific findings, you must understand the historical land use of St. John and the impact it might have on the environment.

St. John is the third largest of the U.S. Virgin Islands.

The island's topography is rugged, with thin soils and limited water resources that have made it historically less subject to development.

Prior to European colonization of St. John in the 1700s, Indians occupied the island.

Although the natives cultivated small plots of the land for food, the small Indian population on the island suggests that the natural vegetation was not modified extensively.

In 1493, St. John was rediscovered by the Europeans.

During this period, some historians believed that trees were probably logged for purposes like shipbuilding and fuel. But Larsen, Woodbury and Weaver stated that "the level of exploitation was unlikely to have substantially altered the vegetation cover or erosion rates."

Denmark seized control of St. John in 1718. They established cotton and sugarcane plantations with help from African slave labor.

A 1780 topographic and land-use map indicates that 35 percent to 40 percent of St. John land was completely cleared of forest. Cultivation of sugarcane and colton were in the flatter areas, the central part and along the coast of the island.

Historical drawings and maps suggest that the forests on steeper slopes, though exploited to some extend for lumber, fuel and charcoal, were not systematically cleared for agriculture.

In the late 1700s, commercial agriculture began to decline due to droughts, adverse sugar prices, hurricanes, more favorable farming conditions on nearby islands, and probably the slave rebellion.

Between the 1800s and 1850s, the sugarcane crop dropped to less than half its volume. It declined by half again after the emancipation of slaves in 1848.

The last sugar operation on St John ceased in 1919.

The population of the island was about 800 from the 1900s to 1950s. The major transportation methods were donkeys and dirt trails linking estates on the island.

Historical records suggest that from 1493 to the middle of the 20th century, there was no massive soil erosion.

Historical records also never mentioned plows or roads suitable for wheeled vehicles.

This and other evidence suggests that the early development of agriculture on St. John was not as destructive as we once thought it was.

Next week: Scientists' findings on paved and unpaved roads on St. John.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Pruning urban trees is important for several reasons

Olasee Davis
Our Environment

This third column on tree restoration will focus on pruning and the cleanup effort after storms.

Pruning urban trees is important to maintaining a healthy stand of trees along our roads and help trees withstand strong winds. It basically involves removing dead, insect-infected or diseased branches. This improves the trees structure, enhances its vigor and reduces the potential for trees to become hazardous to the general public. There are many benefits to pruning urban trees along our roads and in and around town.

The Urban and Community Forestry, a guide for the Interior Western United States, lists some important reasons why trees should be pruned. They are:

1. To control the size of plants.

2. To encourage trees to develop their natural form and ornamental character.

3. To remove dead, damaged, weak, diseased or crossing limbs and roots.

4. To stimulate future flower and fruit development.

5. To minimize or avoid personal injury, property damage and ensuing liability claims by removing low-hanging, unsound and dangerous limbs, shallow roots and even whole trees when necessary.

6. To ensure the public safety by eliminating conflicts between tree limbs and sign visibility, intersection visibility and utility lines and tree roots that interfere with sidewalks and gutters as well as sewer, gas and other utility lines.

Pruning trees also helps control insect and disease problems by removing the dead branches off trees. This will prolong the urban tree life and improve its aesthetic values.

There is a wrong and right way to prune trees. First, someone with knowledge of tree biology is an ideal candidate, or a certified arborist should prune trees along our roadside. Improper pruning can cause more damage to the general public and can affect the trees for a lifetime.

Choosing when to prune trees is also important. However, this depends on tree species and the result one wants to achieve. The fresh growth, flowers, budding, shoots, season and other functions of tree physiology are important to know before a tree is pruned. The size of a tree is also important. For example, when is the best time to prune a mature tree? Or should the tree be a certain size before it can be pruned? You can also control the growth of trees by pruning them as well as training them the way you want them to grow. All this knowledge is important to maintain our trees.

How many people in the Virgin Islands think of trees as an investment? Healthy trees along our highways save energy by providing shade from tropical heat, by purifying our air, by increasing property values, by beautifying our surrounding environment and by enhancing our islands' economy. Consider the many species of trees on our islands that can live for 200 and 300 years.

The practice of tree maintenance is an investment for future generations. If you don't know, trees are like money in the bank. Preventing a problem is much less costly and time-consuming than curing one once it has developed. Maintaining our trees along the roads gives trees a better chance of withstanding hurricane winds.

Another effort to maintain our trees along the roadside is how we clean up after a storm. Trees often get damaged worse after than during a storm. The way the cleanup crew carries out the job is not always done professionally. Trees are damaged by branches being torn off and bark being torn up. Trees that could have been saved were uprooted as they bulldozed to clean debris off the roads.

If a tree restoration plan was in place, trees of special significance to the V.I. community — historic trees, especially the rubber tree we lost in Frederiksted town in the 1989 hurricane — could have been saved if special care was given immediately after the storm. Most of these problems could have been avoided if the V.I. government had a tree restoration recovery program in place to deal with falling or damaged trees. The present government does a good job preparing Virgin Islanders for hurricane season.

But some people would argue that the governor is paid to inform people about hurricanes. However, I will not get into politics. In this past storm people dumped tree debris in garbage bins. The garbage bins were running over with tree debris from branches to leaves. You see, if people were informed before the storm where to put tree debris, then the problem of tree debris in garbage bins would not have existed after the storm.

The mixture of household trash and tree debris should not be allowed to end up in our landfill, considering the problems we already face with our landfills. The Kingshill site on St. Croix should be made known to the general public as the place to deposit tree trash. Or the public should be informed to leave their tree debris along the roadside to be picked up.

The tree branches should be chipped into mulch and be given back or sold to the community for gardens. And finally, a program should be in place to replant trees along our roads and highways. Believe me, this would be pleasing to God.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Savan's history goes back to about 1764

It was a sunny Sunday afternoon in St. Thomas. Then all of a sudden, dark clouds covered the sky as lightening flickered and thunderstorms bursted into the sky beyond the horizon of Charlotte Amalie. I watched the falling rain from a distance coming closer to the harbor. As the rain came closer to land, it fell and the wind blowed and the surrounding hills and mountain sides turned milky white as if snow was falling on the land.

I observed the weather change in less than a minute from a classroom in Sts. Peter and Paul's Catholic School in downtown Charlotte Amalie. Rachelle Shells, the coordinator for the program "A walk through the heritage of Savan," invited me to St. Thomas to be the tour guide for the walk through historic Savan.

This historic walk of Savan was funded by the Virgin Islands Humanities Council.

The program started off where Shells introduced me to the students and parents that were there in the classroom. As a native St. Thomian and Savanero, I was honored to be their tour guide.

Shells prepared what she called a "Data Collection Sheet Neighborhood Walk-residential survey" for the students to use to collect information about historic Savan as they walked through the neighborhood. Each data sheet was different in gathering information about Savan town. One might ask for information about housing, another human habitation and so on.

The sheets were specific in asking questions such as if the roofs of houses were galvanize, tar paper, asphalt shingles or what condition the roofs were in. Believe me, the students were prepared and ready to go with their data sheets, video cameras, and water in their hands.

I grew up in Savan in the late 1960s and left the island in the 1970s, to attend college in the United States. So I have a good idea of how Savan looked like during my childhood living in this area. In fact, my parents still have properties there. The area is known as Agnes Fancy located in the northern hills of Savan looking over the town.

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But before there was a Savan town, the island was inhabited by Indians. The gut or stream that ran through Savan today once ran all year round. Native fresh water fish, crabs and other amphibians populated the stream. The gut upland moist forest environment and surrounding areas of Savan had large trees such as silk cotton, hog plum, West Indian almond, sandbox, royal palm, and turpentine trees that once grew in an abundance along the gut and open flat land.

The large trees further upland in the gut today are evidence of how Savan used to look before the area was inhabited by man. The word Savan, Savannah, Savanna, Savana come from a Spanish word "zavana." Also, the Taino Indians word "zabna" means flat land. Indeed, Savan is located basically in the valley or flat area northwest of Charlotte Amalie.

Edith DeJongh Woods, a retired educator, stated that "Savan was the flat area that started at Gamble Gade, the third street north of Market on Rothschild Francis Square, and extended north to Antoni Straede and Levkoi Straede. The eastern boundary was Vester Gade and the western boundary was Borge Gade. Today, however, Prindsesse Gade and Regjerings Gade are included in Savan." Woods also mentioned that the flat area east of Government Hill was once called East Savanne.

St. Thomas was not like St. Croix with many plantations. The Danes saw St. Thomas harbor as a trading port with other Caribbean islands and the world. Reimert Hassgensen confirmed this when he said in the 1700s, "At its peak of early development the auspicious harbor received over 50 sailing ships arriving daily; just as many sailed out of the harbor fully loaded."

He further said, "in all, there were times when the harbor sheltered 200 vessels at one time. On such occasions the harbor was alive with a display of ships flying their flags and booming the cannons all day long. This was what supplied the inhabitants with their trade and wealth. It was the commercial, not the agriculture, aspect of the sugar enterprise that was to mold the destiny of St. Thomas."

Thus, the early economy of St. Thomas depended on commerce not so much on agriculture even though enslaved Africans worked in the sugar cane fields on the island. Many enslaved Africans on St. Thomas worked as craftsmen or on the docks. During this period of St. Thomas history, many slaves obtained their physical freedom. As a result, Savan town was laid out between 1764 to 1765 to accommodate the growing population of the so-called free colored black people.

Next week's column will focus on the economy of Savan.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Slaves ate a variety of foods including yams, cassava

As we approach the 150 years of emancipation, some people might ask what kind of foods did enslaved Africans in the Virgin Islands eat?

On many of my environmental hikes throughout St. Croix particularly on the northwest side of the island, I tried to point out some of the foods slaves ate and survived on such as bark of trees, leaves and roots for medicinal use, drinks, fruits and root crops.

Slaves needed large supplies of nutritious foods if they were to be physically fit to perform the labor their masters required of them. They needed proteins for repairing the cells of their bodies, carbohydrates and fats which are the body's main sources of energy, calcium, vitamins and other essential elements.

Sugar planters in the Caribbean recognized two systems of feeding their slaves. One was at the expense of the master and the other by the labor of the slave.

Under the first system, slaves might have been fed by imported foodstuffs, supplied with cash to buy food, or required to grow food crops on their master's land as a regular part of the plantation work.

Or they depended on a combination of these methods to sustain their lives. In some cases, slaves were provided cooked food by their masters, especially for those who were sick, indigent or aged and for mothers with infants or older children.

Generally speaking, slaves were allowed to plant what they wanted on their masters land. However, planting their own food was on their time not their masters time.

Plots given out to slaves were known as "house plots," "yards" or "kitchen garden" near their house and on the outskirts of plantations large plots were known as "provision ground," "negro grounds" or "polink."

Slaves specialized in any type of crop, or animals they want such as swine, poultry or even producing handicrafts.

Thus, any surplus of food produced by slaves can be sold to the market and the proceeds used to buy drink, clothing, food or household furnishings.

However, malnutrition was always a problem for slaves due to a not balance diet. Nonetheless, such roots crops as cassava, yams, tannias and patatis were plentiful

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in "negro grounds" on St. Croix.

Cassava was popular with slaves because of the many products it can produce.

Reimert Haagensen, a Danish planter, was familiar with cassava growing on St. Croix in the 1730s.

He stated that "it require 12 months of growth in order to product its fruit, which cannot be seen until one pulls the plant from the ground, root and all. When the roots begin to appear, they look like big, overgrown radishes, reddish in color. These roots are all broken off and when a sufficient quantity of them has been gathered, one or two of the slaves sit down and peel off the outer skin with knives."

Haagensen continues to say, "the inside is quite white and juicy. Then they are grated on a large grater as with porridge and the water is completely pressed out. When it has dried, it has the appearance of the whitest and best flour. It is then baked in an iron skillet, producing the most delightful bread that one would ever eat."

Yams were considered vegetables according to Haagensen. He stated, ". . . there is a vegetable called "yams" that is quite good. In appearance it is like a large root, it provides a part of the slaves food."

Banana and fruits of various kinds were eaten by slaves. In 1778, ackee, a common fruit in Jamaica, was brought from Africa by enslaved Africans for food.

In 1793, breadfruit plants were shipped from Tahiti to the Caribbean for slaves to eat. Tamarind and the baobab trees were brought also by enslaved Africans from West Africa that slaves used for food.

In the 1700s, mango trees were imported from India to Barbados plantations and spread to the rest of the Caribbean islands in the 1800s. This fruit was also eaten by slaves.

Many of the variety of fruits we enjoy today come from the planted of our ancestors. Medicinal plants and roots of trees were also a major diet and healer of slaves in the Caribbean.

Like fruits, vegetables and root crops, sea foods were also a major part of slaves diet. Lobsters, oysters, sea turtles, and fish of various kinds were eaten by slaves.

Haagensen mentioned in his book about St. Croix in the 1730s, ". . . at certain times during the year there appears a tremendous number of land crabs which, at full moon, go to the beach to wash or wet themselves. Sometimes the sandy beaches look quite red instead of white, and people can scarcely walk or ride on them, though it is less hazardous to walk than to ride."

According to Haagensen, the slaves on St. Croix preferred the "she crabs" as they called them because they were filled with eggs. To some extent today, land crabs still migrate to the beaches on St. Croix especially at Wills and Annaly Bay.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Slaves on St. Croix were natural geologists

Olasee Davis
Our Environment

The other day, I was talking to one of the Schuster's on St. Croix. As we continued our conversation, it got very interesting. If you know me personally, I love history especially the natural history of the Virgin Islands. Old man Schuster said "Olasee have you ever read the book by John T. Quinn 'The Building of an Island?'" I said no. Boy, the conversation got even more interesting when Mr. Schuster said he had a copy of the book.

You said it. I asked Mr. Schuster if I could get a copy of the book. I have a natural habit of collecting or gathering old historical information about the Virgin Islands. This book the "Building of an Island of the Geological Structure of the Danish West Indian Island of St. Croix or Santa Cruz" was printed in 1907.

Hiking in the bush environment of St. Croix, I discovered that the mountain and hill ranges of the island are basically located in the northwest ranges from west to east. The book re-enforced my thinking of the mountain on St. Croix which described in details the geological make up of the island.

In the preface of the book, the author said, "There are doubtless many people who find it easy to understand that the vegetation of an island, its trees, shrubs and herbs with their flowers, may constitute a very attractive subject and that the same may be true of its insects or its shells; but it has, perhaps, never even occurred to them that the study of the solid structure of the island can possess any great attraction."

The enslaved Africans of St. Croix knew the mountain range of the island even though they were not geologists. In fact, some slaves knew St. Croix so well that they walked on the mountain and hill tops from Frederiksted northwest to the hills east Point Udall of the island without walking on flat land. The history of Frederiksted's northwest mountains is so powerful that it will make your head spin.

It was the northwest estates hill and mountain ranges of Frederiksted that slaves moved from to the Fort in Frederiksted for their emancipation in 1848. The northwest is not only rich in deep top soil and forest land, but also in the history of all Virgin Islands. it was here in the west where people like Queen Mary, Queen Mathilda, Queen Agnes, General Buddhoe and other great leaders came from.

Tell me, where did fire burn began? It started in "Freedom City" Frederiksted in 1878. Again, it was the west where some slaves jumped off Maroon Ridge cliff in the 1700s to avoid slavery. Also, the runaway slaves who fought the French, then later the Danish to protect the forests was from the west.

Getting back to geology, I believe personally that the slaves on St. Croix were natural geologists who had a deep understanding of the island's natural and physical environment. Historical records proved that the mountain ranges of St. Croix were an escaped route for many slaves to visit other slaves on plantations and to plan for their redemption.

In the 1730s, Reimert Haagensen a Danish planter stated, "A less attractive but nonetheless often used form of marronage involved escaping to the heavily-wooded mountains northwest region of the island living a free but strenuous life in that nearly inaccessible area."

Then, the question should be asked why many of us know very little about the geology of St. Croix. The enslaved Africans of St. Croix knew every hill, valley and mountain of the island.

Volcanoes, coral reefs and mangrove forests are land builders of the Caribbean islands. St. Croix was never a volcanic island, but volcanoes played an indirect role in the building of the island. Geologists believe the mountain ranges on St. Croix were formed from the debris of volcanic activity which took place over 80 million years ago.

The exposed limestone or what is now called white marl is somewhat younger development of the island. The white marl as its called is the remains of coral reef that formed in shallow water as the island was uplifted from the ocean floor. So whenever you see white marl, it was once under the ocean.

The author mentioned, "During this period of mountain building, St. Croix was emerging from the sea. As the Northwest and East End ranges rose above sea level they formed two islands joined and by a large coral reef Kingshill Marl. Further uplift joined the two islands and completed the building of St. Croix." Salt River once divided the island during this period of development.

Historically, the river was used by the Indian as a route from Salt River Bay to the Krauses Lagoon on the north shore of St. Croix. St. Croix is so fascinated geologically that if we would only pay close attention to the surface of the earth, we would learn more of the island origin.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

St. Croix slaves freed themselves

OlaseeDavis

As with the natural environment being different before and after emancipation in 1848, so were the attitudes of the enslaved Africans on St. Croix. St. Croix is probably the only Caribbean island in which enslaved Africans took their freedom. According to historians, in 1522, the first slave revolt in the Caribbean took place in Hispaniola shortly after the first slaves landed on the island.

From that time until emancipation, there were slave revolts throughout the Caribbean. But history will show that the struggle for freedom by enslaved Africans began on the shores of West Africa until they landed in the Caribbean, Central, South and North America. Enslaved Africans were fooled by their slave owners, who told them that they were going to heaven. They told them that the land they are going to flow with milk and honey.

In the 1730s, Haagensen stated that "Hunts led the Free Negro Corps were periodically organized to ensure that the numbers of maroons never became a serious threat to the islands' plantation and settlements. Nevertheless, in spite of the determined efforts directed against it, marronage continued throughout the colonial periods, down to the very eve of emancipation.

The resistance of enslaved Africans in the Virgin Islands took several forms. On many occasions, slaves on St. Croix seized Danish ships at sea and made their escape to other Caribbean islands. In fact, runaway slaves from St. Croix known as maroons who landed in Puerto Rico, were promised freedom by the government if they embraced the Catholic faith.

History has it that Gov. Peter Von Scholten ordered his army to shoot down any slave on sea escaping to other Caribbean islands. However, the most extreme revolt took place by enslaves Africans in St. John from 1733 to 1734.

The slaves seized the island for couple of months before the Danish government took over again. Lennox Honychurch mentioned that slave revolt also took place on St. Croix in 1734, 1746 and 1749. Nonetheless, many slave revolts took place throughout the Caribbean and Central America.

These are some of the slaves revolt in the Caribbean. They were Cuba in 1820, 1843, 1846; Honduras in 1773; Surinam 1730, 1750, 1757, 1772; Guyana 1763, 1823; Grenada, 1795; St. Vincent 1797; Puerto Rico, 1523, 1820; Tortola, 1790, 1920; Nevis 1761; Antigua 1701, 1736, 1820; Montserrat 1776; Guadeloupe, 1710, 1752, 1795, 1737; Dominica 1778, 1785, 1812.

By the 1830s, emancipation came from enslaved Africans in the Caribbean islands except for slaves in the Virgin Islands, who knew of their brothers and sisters freedom and wanted to know when would they receive their emancipation. However, the Danish government was not willing to give their slaves freedom.

"Freedom! But not to come all at once. Rather, all born in bondage should henceforth be free at birth, and at the end of 12 years all still slaves were to be freed" stated the Danes.

Some historians would want us to believe that Gov. Peter von Scholten was a friend of the enslaved Africans in the Virgin Islands. But this is further from the truth. Some history books will even go so far and say Von Scholten was a hero of slaves because he freed them. You see, some of us believe such nonsense. Von Scholten had no choice but to free the slaves on July 3, 1848.

Some people say von Scholten's hands were forced to free the slaves. Whether his hands were forced or not he did the right thing. Von Scholten was not a stupid man. He probably knew that if the slaves didn't get their freedom on that afternoon of July 3, 1848, it would be the last slave revolt on St. Croix and the worse ever.

St. Croix would have gone up in smoke. The estimated 8,000 slaves in Frederiksted would have burned the island down. Do you think von Scholten would rather risk the economy of St. Croix? Of course, Von Scholten has a place in history. But it was the slaves that freed themselves.

On July 3, 1998, let us give God thanks for our ancestors and continue the struggle for our mental emancipation.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

St. Croix's native passion fruit now rare in wilds

Our environment
Olasee Davis

To some extent, the flora of northwest St. Croix still holds true to how it looked at the turn of the century.

The sugarcane cultivated on slopes, valleys and hillsides is long gone. The lands now are dotted with patch of forests, once pasture-land and old ruins from slavery days. But northwest St. Croix is still a place of adventure and exploration.

One day, as a group of students hiked along the old slave paths to Sweet Bottom Bay, they smelled an unusual fragrance in the air. To my surprise, the smell came from a plant that once grew abundantly throughout St. Croix's forests but now is uncommon in the wild.

The plant, locally known as bell apple, is in the passion fruit family (Passifloraceae). It is native to the Virgin Islands, some parts of the West Indies and South America.

This woody vine climbs up trees for support. The leaves are shiny evergreen and leathery. During spring, the flower blossoms give off a perfume smell. The flowers only last for a day. The fruit is oblong and turn orange when it matures. It looks just like a yellow passion fruit.

The bell apple has external and internal medicinal uses. The leaves are used for bush baths, and are also heated and coated with grease and applied on sprains.

Roots are used medicinally for intestinal worms in children.

When the stem is dry, it has been used for making baskets.

The fruits are used in drinks. Old folks say the drink is sweeter than the non-native yellow passion fruit.

Pop vine or pop bush was another plant the students saw along the path. The pop bush also is in the passion fruit family. It is native to the Virgin Islands, West Indies, Peru, Argentina and the Old World tropics.

This vine plant climbs on trees to support itself. The passion fruit-like flowers grow at the base of the leaf stems. Fruits are small like moth balls with a hair-like coating. When fruits are ripe, they turns orange-yellow, and are enjoyed especially by children.

Some consider the pop bush's strong odor unpleasant, but the plant is still used in bush baths, to treat prickly heat and to relieve kidney and bladder inflammation.

The bell apple and pop bush once grew profusely in the Virgin Islands. Today, the Virgin Islands' most well-known passion fruit — of the 500 passion fruit species worldwide — is the yellow passion fruit.

The passion fruit is called by many names. In French, it is grenadille or couzou. The purple passion fruit may be called red, purple or black granadilla. In Jamaica, it is mountain sweet cup; in Hawaii, liliikoi. The yellow passion fruit is called golden passion fruit in Australia, and here in the Virgin Islands it's just passion fruit.

The yellow passion fruit is believed to be native to the Amazon basin in Brazil.

The purple passion fruit is native to Paraguay, northern Argentina and southern Brazil.

Scientists have bred many varieties of passion fruit to modify sweetness, skin thickness, seeds, color, flavor, disease resistance or adaptability. But wild passion fruits have an advantage over commercial varieties, for they resist many wild pests and diseases. Commercial passion fruits need to be watered, fertilized, and sprayed with pesticides for the plant to produce the best possible fruits.

The problem is, scientists still have to return and harvest wild species of passion fruit to breed with the commercial passion fruit to resist certain pests. This is why it is important to protect the forest.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

St. Croix's wetlands play important role in wildlife

Olasee Davis

Our environment

At the agriculture fair on St. Croix last weekend, my display was "Wetlands of St. Croix 150 years ago." This display commemorated the celebration of the 150 years of emancipation of slavery in the Virgin Islands.

St. Croix was an island of natural beauty where rivers flowed from the north, south and west. During slavery, sugarcane grew on the border of both towns of St. Croix. Even in the 1930s, Frederiksted still had sugarcane growing at its border. In fact, there were 23,971 acres of sugarcane just before the 1848 emancipation. When the French occupied St. Croix in the 1600s, they mentioned three major rivers and 16 brooks.

In 1776, Philip Freneau started, "The Beauties of Santa Cruz Betwixt old Cancer and the midway line. In happiest climate lies this envied isle, trees boom throughout the year, streams ever flow, and fragrant flora wears a lasting smile."

Columbus was also in search of fresh water when his men landed at Salt River Bay in 1493. No wonder historically, St. Croix was called the "Garden of the West Indies" because of its flowing streams and bountiful sugarcane crops. Wetlands also played an important role during and after slavery on St. Croix. The slaves depended on these marsh lands for many marine animals for food such as fish, kallaloo crabs, lobster, etc.

Since 150 years ago, over 64 percent of St. Croix's original wetlands have been destroyed, and 90 percent of those remaining have been stressed through water course channelization, pollution, upland vegetation removal and through construction of recreational activities. The importance of wetlands to wildlife cannot be over-emphasized.

On St. Croix, over 50 percent of the resident and regular migrant bird species found on the island are dependent on wetlands for their food, shelter and/or nesting habitat. Furthermore, 71 percent of the bird species now extinct or extirpated from St. Croix were wetland dependent, while 91 percent of the bird species considered threatened or endangered in the Virgin Islands are wetland dependent.

Looking at it from another angle, 34 percent of all wetland dependent species found on St. Croix are considered threatened or endangered in the Virgin Islands. In 1956 and the 1960s, Southgate wetland was altered tremendously destroying dense stands of mangrove forest. Today, Green Cay Marina is built on the western basin of the pond.

Nonetheless, this wetland supports one of the highest known species diversity of birds of any single habitat in the Virgin Islands. A total of 96 species has been recorded there, of which 26 are considered threatened or endangered. The Krauses Lagoon or the Anguilla wetland was the largest wetland in the Virgin Islands covering over 600 acres of marsh habitat.

This wetland was the only true Everglade in the Virgin Islands, which was an important nursery for a diversity of aquatic and wildlife species. The destruction of this wetland in the 1960s by the building of Hess Oil Refinery and the Alumina Corporation brought irreversible environmental change, as well as the demise of local fisheries productivity. However, several coastal and offshore areas continue today to provide valuable habitat, including mangroves, sea grass beds, and an offshore dredge spoil islet, which has become refuge for wildlife.

Pond Bush wetland once was home to a variety of organisms especially crabs. This marsh swamp land was also a haven to birds. Like other wetlands on the island, this swamp land was altered tremendously. Harden Gut about three miles east run into Pond Bush swamp land was a famous stream where women of Frederiksted town washed their clothes. Today, the Queen Louise Home for the children is where Harden Gut streams used to run year around.

There are so many wetlands to talk about on St. Croix, but I will say this, the old folks of today can tell you how Santa Cruz used to look years ago. What has become of this island? You see, whenever I write about these islands my heart fills with tears. Sometimes I say to myself, I'd rather be six feet in the ground than to live in a place where people don't care about their environmental heritage.

And you see, no one listens to what nature has to say. Those who have gone before us, die for these islands not only for their freedom, but the wild things of the land. We live in a world that has gone mad and unable or unwilling to rectify what we have done to mother earth. A world of hate where man lives in confusion of fear knowing nothing of what tomorrow holds.

What can I say? And if I had the power to bring back free and unfree slaves, they will probably say, "wetlands are treasures to protect for eternity."

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Today's agricultural fair is similar to the 'Field Day'

Olasee Davis

Our environment

This is Black History Month. Many Virgin Islanders made contributions to this community.

Mr. Morris R. Henderson contributed literature about the past history of agriculture fairs on St. Croix. A couple of years ago, Henderson wrote about his recollection of the past agriculture fairs on St. Croix.

He stated, "During the 1930s, agricultural fairs were held at the former Agricultural Experiment Station at Estate Anna's Hope, St. Croix. As I recall, these fairs were carried out during the time when a Mr. Glen Briggs was director of that station."

In those days, an agricultural fair was called an agricultural "Field Day" and attracted more than 5,000 persons, which was a considerably great number comparatively speaking since the population on St. Croix was hardly more than 12,000 to 14,000 people.

At that time, there were a large number of small-farm operators, roughly speaking in excess of 400 farm families who operated small acreage on which all kinds and types of native fruits and vegetables were produced. In addition, there were those producers who raised large and small livestock in comparatively large numbers including cattle, goats, sheep, swine and poultry.

The agricultural Field Day attracted almost every producer, especially those who grew food crops and literally speaking, there was always an overabundance of agricultural produce — vegetables and fruits of very good quality and of every description possible.

The farmers looked forward to these "Field Days" because it was, as today, one of the highlights of the year and the time when residents could not only get a first hand exposure to what the procedures were growing, but were also able to purchase any amount and kind of produce they were interested in.

Not only were vegetables, fruits, livestock and poultry available, but also their products and by-products, including eggs, meat and milk. Animals were also on sale in addition to being on exhibit. One could purchase a young animal such as a calf, a kid or a lamb and poultry. Also on sale were such produce as vegetable seeds, transplants (slips as they are called locally), ornamental and fruit trees in quantity.

Another attraction during the Field Day was the display and sale of local beverages of all kinds, baked goods and native foods, sometimes prepared at home, but often on the premises as is done today. Music on the premises also made the day. There were formal programs where government officials and other dignitaries made speeches and many outstanding producers were recognized. There were various types of awards and prizes for outstanding quality of produce or livestock and homemade goods, foods handicraft, etc.

The greatest tribute that could be given in those field days was the fact that they attracted hundreds of agricultural producers and that agricultural produce was in such abundance and wide variety as to impress on the casual observer the potential in which agriculture has in this island. Appreciation showed for the efforts of those who engaged in producing food for local consumption.

After about a decade or two, and possibly with the shift in the economic situation experienced locally, agricultural field days petered out. However, during the mid-50s, the former Federal Experiment Station endeavored to revive an interest in such activities. To take the place of the old-time field day, livestock shows and competition were held periodically.

These attracted the livestock producers. In addition, field demonstrations and tours of the Station were conducted periodically, but these were geared basically to encourage the local producers to visit in order to observe what was being done in agricultural research, and should not be interpreted as taking the place of an agricultural fair, per se.

This short account of former fairs and/or field days should not be construed as an implication for comparison between what is being done today and what has been done in past years as far as agricultural fairs on St. Croix are concerned.

One personal observation I would desire to point out, however, is what agricultural fairs today are certainly much more sophisticated, with a great deal more insight into the technology of agriculture as a basic industry, but the atmosphere and congeniality of producer-participant and visitor to the field days was something to experience.

It used to be as though St. Croix were just a small island of one big, happy family, where everybody pitched in and had one good hell-of-a-time."

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Trinidad and Tobago have plenty to offer

Olasee Davis
Our environment

We discovered in last week's column that Trinidad's economy is not tourist-oriented. The island's economy is based on factories, natural gas, oil and other natural resources that generate revenues for the country. But Trinidad has more to offer than its strong industrial base economy.

Hundreds of years ago, Trinidad was joined to South America and Tobago even earlier. That ancient continental link has left mainland and island life forms crowded into a small geographical area. The rich mountainous rain forest, rivers, tropical savannahs, mangrove forest swamps, coral reefs and seashore all lie close to each other.

Trinidad and Tobago rank among the top 10 countries of the world in terms of number of species per square mile for its size. The two islands offer one of the best introduction to neotropical birdwatching and are home to over 433 recorded species, in which about 200 species are known in Tobago. These species of birds include South and North America migrants. Many species are not found elsewhere in the Caribbean.

There are 620 different species of butterflies and 2,300 different flowing plants and shrubs in which 177 of them are orchids. There are 104 species of mammals including a large variety of bats, which has 58 species. The forest covers much of Trinidad and Tobago and is home to many wildlife animals including armadillo, agouti, paca, opossum, wild pigs, deer tayra (wild dog or chien bois), tiger cat and ant-eaters.

Other species found include the Amazon parrot, manatees, iguana, howler monkeys and capuchin. Frogs and toads are abundant and you will hear them especially during the rainy season. The Gold Tree Frog is the only species endemic to Trinidad. It lives and breeds in the water trapped in bromeliads high in the mountain. Caiman, a species of alligator, is also common in swampy areas.

St. Croix is known for its giant leather back sea turtles at Sandy Point Beach. But Trinidad and Tobago has these ancient animals in the hundreds on beaches during nesting season. Can you imagine seeing thousands of sea turtles on our beaches? One time in the history of Sandy Point, one could walk on top of sea turtles backs to Frederiksted Town without touching the sand because of the number of animals laying eggs at the beach.

Today, many of our habitats are destroyed or altered to the point where few sea turtles enter our beaches. Ian Lambie, chief executive officer of the Asa Wright Nature Center in Trinidad said, "Believe it or not, but some people will pay thousands of dollars to go and see a bird or sea turtle."

The Asa Wright Nature Center lies 1,200 feet up in the northern range of Trinidad, an old estate house that has become a conservation research center for naturalists and bird-watches. It is an excellent reserve with hiking trails, bedded rooms and restaurants.

However, the development of eco-tourism for Tobago dates back to 1766 when the colonial governors, a conservationists ahead of his time, declared the central mountain ridge and its surrounding lands a Crown Reserve making Tobago the oldest legally protected forest in the western hemisphere. The forest reserve is still protected today. Tobago is a paradise for nature lovers.

Let me say this, "If it is true that love makes the world go round, then Tobago is the place to get your head in a spin."

The sand, sea, moonlit nights and breezes are all intoxicating ingredients for love in Tobago. Tobago's proximity to South America has produced an overlap of continental fauna, flora and bird migrations making it one of the most interesting tropical environments in the world.

The highest mountain in Tobago is just a couple hundreds of feet higher than the highest mountain in the Virgin Islands. Yet, this island is home to many waterfalls and rivers, 210 species of birds, and tropical forests with magnificent trees and exotic plants.

Tobago is known as the nature island and Trinidad for its industrial based economy. Today, Trinidad and Tobago recognized the potential eco-tourism has for the islands' economy and is vigorously promoting it. Believe me, Trinidad and Tobago begins to take the lead in eco-tourism in the Caribbean.

Next week column, my visit to the Pointe-A-Pierre Wild Fowl Trust in Trinidad.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Trinidad is an industrial giant

Offers major ports, factories, oil, natural gas, more

Last week, I gave a brief history of Trinidad and Tobago. We learned about the different ethnic groups that make up the rich culture of the islands.

This week, we will focus on Trinidad as an industrial giant in the Caribbean.

When I visited Trinidad, I noticed the busy ports and manufacturing factories. The island's main ports are Port-of-Spain, Chaguaramas Bay, Point Lisas and Point Tembladora.

There are also six other smaller ports on the island. Port-of-Spain is one of the major ports in Trinidad, which provides space for large vessels, which load and unload cargo.

The port is also by far the most active container and general cargo port in the eastern Caribbean having handled 2.6 million tons of cargo in 1996.

The Chaguaramas Bay port is used primarily for bauxite and timber vessels. Point Lisas is a deep water harbor on the west side of the island. It was designed specifically to serve the needs of the energy based industries on the Point Lisas Industrial Estate.

Point Tembladora is another deep water port, which is used for transporting bauxite. On Tobago, Scarborough is a deep water port for cruise ships and other large vessels. These ports are just some of Trinidad's industrial strength of moving millions of dollars of products internationally.

Olasee Davis

Our environment

We all know Trinidad produces oil. Traditionally, oil dominated the Trinidad and Tobago economy.

Oil contributes one-third of Trinidad's revenue and two-thirds of the country's foreign exchange. However, after the oil industry peaked in 1978-79 at 230,000 barrels per day, production began falling steadily with no major new discoveries since the early 1970s. In 1992, oil production fell to its lowest level since 1965.

The oil industry was also hampered by the continual fall in world prices. Today, the oil sector of Trinidad accounts for only about 30 percent of the country's revenue.

There is also natural gas in Trinidad. Amoco is the largest producer of natural gas on the island. About 76 percent of its production is from the marine fields. In the natural gas industry in Trinidad, there are many contacts with foreign countries such as Britain.

In 1995, Amoco announced its discovery of natural gas, which was estimated to contain about 3.5 trillion cubic feet of recoverable gas. It is fairly certain that gas will replace oil as the mainstay of the country's economy. Asphalt is another natural resource on Trinidad. It is the world's largest pitch lake. The reserves of this asphalt are estimated at 420 years.

Sales earn from asphalt are around $4 million to $5 million per year with 90 percent of its production exported to the the United States at 12 percent; Germany 54 percent and the United Kingdom 34 percent. Other minerals are iron ore, albeit, lignite, coal, gypsum, limestone, sand, gravel and clay.

Agriculture exports in Trinidad has declined although cocoa, sugar and citrus are still major industries. The country also grows its own rice for local processing and consumption.

Vegetables, coconuts, fruits and tobacco are also produced in abundance. About 50 percent of Trinidad and Tobago is forested with an annual production from local forest at 18.5 million board feet. There are 63 sawmills, match factory and several furniture factories.

The manufacturing in Trinidad is well established. Food processing accounts for nearly half the sector including rum, soft drinks, beers, meat, poultry, fish, fruit and vegetables.

The second largest area is chemicals and nonmetallic products including petrochemicals, pharmaceuticals, cement and other construction materials.

Also, there is a large assembly sub-sector producing household appliances, motor vehicles and a growing printing and publishing industry. The garment industry in the country has also grown tremendously.

Trinidad is also the second largest exporter of ammonia in the world. However, the greatest potential to generate employment opportunities within a short period of time is tourism.

The government is vigorously promoting this sector of the country's economy. There has been substantial expansion in the hotel industry. Improvement projects have been made at the Piaroc International Airport.

Also, there is plan for a new international airport. In 1995, stayover visitors totalled 260,000 up from 4 percent in 1994. The marine industry has been growing rapidly.

Europeans now account for over half the tourists in Trinidad followed by Americans. In Tobago, about 80 percent of tourists are from Europe. Thus, Trinidad has its reputation of being the industrial giant of the Caribbean.

Next week's column will focus on Trinidad and Tobago establishing itself as a leading eco-tourism center in the Caribbean.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Unpaved roads increase sediment pollution

Olasee Davis
Our environment

This second column on St. John's threatened environment focuses on whether roads have impacted the marine environment.

We learned last week that historical records showed little evidence of impact on the marine life of St. John by the activities of Indians, Europeans and colonization and slaves.

The rejuvenation of the St. John economy began with the slow development of tourism. In the late 1950s, there was only one bulldozer, two jeeps and one truck on the island. Boats were the primary transport.

In 1956, two-thirds of St. John's land became the Virgin Islands National Park. Undoubtedly, the park helped spark the development of tourism on the island.

By the 1960s, the tourist industry on St. John picked up substantially, bringing in millions of dollars and one million visitors each year.

But the growing demand for recreational use of St. John created a need for short-term accommodations, home development, extensive roads network and the overall infrastructure to support the industry.

Thus, scientists believe the land-use changes of St. John are the primary cause for the acceleration of sedimentation.

Although goats, pigs and donkeys have impacted the natural vegetation, these impacts are difficult to calculate due to the lack of data on undisturbed and grazed sites. Please do not get me wrong, animals do impact the environment, but how much is another question.

Nonetheless, urban development and the network of roads are probably the primary source of sediment.

Scientists Donald M. Anderson and Lee H. MacDonald investigated paved and unpaved roads on St. John. By taking cross-sectional measurements of eroded road surfaces, they found that unpaved roads "are the largest sediment source on St. John," according to their report.

Anderson and MacDonald estimated road surface erosion in two St. John catchments with very different road densities but similar land cover, topography and soils.

They found that unpaved roads increased sediment production by anywhere from one-and-a-half to eight times the normal rate, depending on how densely roaded the area was.

There are many attractions at the park on St. John. But the primary attractions are the white sandy beaches, coral reefs and the clear nearshore waters surrounding the park. Coral reefs are extremely sensitive organisms to sediment.

Many residents have reported that after rain, the bays of St. John are brown as soil washed down from the hillsides of the island.

About 82 percent of St. John is covered by dry evergreen woodland, dry evergreen scrub and thicker, moist evergreen forest, secondary growth forest and other ecosystems such as mangrove, thorn and cactus. Only about 2 percent of the land is pasture. There are virtually no agriculture activities.

The largest source of land disturbance is urban development, private home construction and the network of roads.

According to studies, sediment discharge from individual homes' construction appears to be minimized due to limited land disturbance and the widespread use of soil control methods, such as vegetative filters and silt fences to reduce sedimentation.

Studies showed that accumulations of fine sediments were evident where roads drained from hillside slopes downstream into mangrove marshes and coastal areas.

"These observations, together with our estimate of sediment yields from undisturbed waters led us to posit the erosion from unpaved roads in the largest source of sediment on St. John," MacDonald wrote.

Unpaved roads are just one of the many problems park officials have to address. Education and cooperation with the public are the keys in solving many of the problems that threatened the park environment on St. John.

Fees are one way to address these problems. It takes money to run a quality park environment.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

U.S., British Virgin Islands bond goes back many years

Olasee Davis

Our environment

I ended 1997 by spending Christmas with my parents on St. Thomas. My younger brother Dale, his wife, and daughter joined the family from Cincinnati, Ohio.

Christmas is a time when families spend time together. On Christmas day, my family and I spent the afternoon at Lindquist Beach, which I think is one of the most beautiful beaches on the East End of St. Thomas. This was the first time I ever spent Christmas Day at a beach.

But the highlight of Christmas was when some of my family members and myself visited the British Virgin Islands. Our trip started from Red Hook dock on the Native Son boat to Tortola. As we approached the West End dock of Tortola, my niece and sister-in-law turned to me and said, "Olasee, the immigration of Tortola might give you problems because you wear dreadlocks."

Since the middle 1970s, I heard the immigration of Tortola turned away individuals with 'locks if they were not natives. I don't know if this is Tortola's immigration policy. Nonetheless, many people from the U.S. Virgin Islands feel the discrimination act of Tortola immigration officials are wrong.

The history of Tortola and the U.S. Virgin Islands goes back from the first inhabitant of the Caribbean. But also, the history of the British Virgin Islands goes back when these islands were colonized by the Europeans, who used slaves as animals to cultivate the islands with sugarcane.

You see, we as a people, often fall into traps fighting against one another simply because we are ignorant of our history. If there is such a law in Tortola to discriminate against individuals with 'locks, it is an abomination in my opinion to our ancestors who fought for their physical emancipation.

Reimert Hassgensen, a young Danish planter on St. Croix, said in the 1700s in reference to British planters on St. Croix, "and at the same time, the island's rich stands of timbers attracted impoverished English colonists from the British Virgin Islands, who came in search of land for their provisions crops and a viable means of livelihood, which they found there as woodcutters."

He further stated, "By early 1730s, several hundred Englishmen, along with their families and their slaves, were living on St. Croix illegally. Moreover, Great Britain herself was beginning to show an official interest in the island.

France, however, entertained no interest at all in allowing a hard-earned colonial possession to pass into the hands of the archrival English. The prospect of selling it to Denmark in the late 1720s was another story altogether."

Tortola and the U.S. Virgin Islands, particularly St. Thomas and St. John have a close bond or culture from slavery to freedom. My roots in these Virgin Islands are from St. John with the Smalls family and other families; to St. Thomas with the Davis family and others; to Tortola with the Industrious, Hodge, Henley, Williams and others.

Some today live in Cane Garden Bay, Tortola. My mother is from Tortola, an Industrious who grew up in Cane Garden Bay until I was about 4 or 5 years old.

I was born in St. Thomas' old hospital. According to my grandmother Carmelita Industrious, who is almost a hundred years old, "couple days after you was born your mother gave you to me wrapped in a white linen cloth and put on a boat for Tortola."

It was in Cane Garden Bay where I learned to crawl, walk and talk. My grandfather Jimmy Industrious who was born in 1886 was who raised me along with my grandmother in Cane Garden Bay.

It was in Tortola where the love of nature was instilled in me as a child from my grand parents. My grandmother's, grandmother was a slave who acquired land after slavery was abolished in the British Virgin Islands. This land was to remain in the family and never to be sold the deed stated. The last time I was in Cane Garden Bay was in the 1960s.

You can imagine how emotional I was when I visited Cane Garden Bay. The Cane Garden Bay environment I grew up in, in the late 1950s, of the days when I was a child roaming the mountains with my grandfather, is totally different than today. It was here I learned about the different types of plants for medicine. Believe me, it was here that I received my first lesson from nature from my grandfather.

Next week, the changes of Tortola's natural environment.

Olasee Davis, who has a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Visit the sanctuaries in Trinidad and Tobago

Last week's column focused on the many natural wonders Trinidad and Tobago have to offer in terms of eco-tourism.

This week, I will focus on my trip to Pointe-a-Pierre Wildlife Trust, a wildlife sanctuary not too far from the second largest city in Trinidad, San Fernando. But before I tell you about the Wild Fowl Trust, and I will mention other sanctuaries in the islands.

There are 13 official wildlife sanctuaries in Trinidad and Tobago, ranging from the Grafton Caledonia Wildlife Sanctuary, the Adventure Farm and Nature Reserve, the Emperor Valley Zoo in Port-of-Spain, the Arip Savannahs. The islands of Little Tobago and St. Giles are important seabird sanctuaries.

One particular sanctuary that is not too far from Port-of-Spain, where I stayed at Holiday Inn Hotel, is the Caroni Swamp Sanctuary. If you ever visit Trinidad make sure you tour the Caroni Swamp with Winston Nanan. Nanan's father took him out of school and sent him to the swamp when he was 11 years old.

Today Nanan is an ornithologist and wildlife photographer, a pioneer of eco-tourism in Trinidad and one of the world's leading authorities on wetland habitats. Before eco-tourism was a common term, Nanan's life centered around the wild.

The best time to visit the Caroni Swamp is late in the afternoon. Believe me, you will be rewarded with the magic of the natural world.

The boat leaves just before sunset turns the waterway orange. The boat goes through magical formations and reflections of the mangrove roots and shoots crowded on both sides. Large blue herons stand motionless among the mangrove foliage, probably wanting to know what we humans are doing there. Beyond the swamp banks, you will see the red mangroves, particularly the roots, hanging from branches to the water beneath the boat.

Here, you might see large and small insects of different kinds; frogs waiting for their dinner; and even a boa constrictor hanging out over the water on a slender branch.

Your boat emerges from these faintly claustrophobic channels into a large lagoon dotted with islands of mangrove. You will see different wading birds, but the highlight I think is the scarlet ibis, a red bird,

Olasee Davis

Our environment

with thousands flying against the moonlight sky.

"If you save your own little back yard, then you start to save the world.

—Winston Nanan, ornithologist, wildlife photographer

"If you save your own little back yard, then you start to save the world," Nanan said.

Now let us focus on Pointe-a-Pierre Wildfowl trust, a non-profit organization founded in 1966.

I spent over three hours at this sanctuary walking the trails and watching the hundreds of different kinds of birds in the air, trees and lakes. Of all birds, waterfowl, with their bright or bold patterns, are among the most fascinating and spectacular birds to observe.

Some species dive as deep as 103 feet, or climb to a height of 20,000 feet during migration. From an economic standpoint, these colorful birds are the most valuable of all birds in the wild. Unfortunately, they are the most exploited with some species in danger of extinction.

The Wild Fowl Trust in Trinidad provides a safe refuge for some of these birds. The refuge is on 26 hectares, with two lakes within a large petrochemical complex. This setting creates a unique situation by providing an example of industry and conservation working side by side. The Trust is actively involved in the research and breeding of endangered species of waterfowl and other native birds for release and reintroduction into the wild.

The Trust has an environmental educational audio-visual program, which is taken to schools throughout Trinidad and Tobago. The Trust itself is a wetland habitat where thousands of people visit rare and endangered species birds. Also, it is a environmental educational center for youth groups, scouts and government ministries, providing out-of-classroom training and research projects.

At the Trust, there is also an Amerindian museum and an information center on all kinds of living organisms and their habitats. The Trust also offers programs for the disabled and on hand programs for pre-schoolers. Seminars and teacher workshops are also held.

During my visit at the sanctuary, I said to myself, "it would be great if both Hess Oil Refinery and St. Croix Alumina would create a sanctuary by restoring the remaining mangrove swamp of the Krause Lagoon, which was destroyed in the 1960s."

To me, this would be good cooperative citizenship with the people of the Virgin Islands and the environment. The Wildlife Trust in Trinidad is an excellent example of where a wildlife sanctuary is located within a major refinery complex.

This article reflects the views of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Workshops focused on Caribbean vegetation mapping

Olasee Davis
Our Environment

Recently I attended an intense three-day workshop in Puerto Rico titled "Caribbean Vegetation Mapping effort." The Nature Conservancy and the Institute of Tropical Forestry of the United States Service jointly sponsored the workshops. At these workshops, ecologists, botanists social planners and scientists from other regions of the Caribbean and the United States attended the meetings.

Some people who attended were Rudy O'Reilly Jr. from St. Croix's USDA National Resources Conservation Services; Dayle Barry and Stevie Henry from UVI's Eastern Caribbean Center; Alberto Areces from New York Botanical Garden; Kevel Lindsay from Antigua's Island Resources Foundation; Carol Mayes from the Nature Conservancy of the Virgin Islands and Eastern Caribbean; and many others in their respectful fields.

However, it was an honor to meet Dr. George Proctor, a well-known botanist in the Caribbean region and throughout the world. He is known for his experience and knowledge in the field of plant taxonomic. Even though he is up in age and 'half blind' as he put it, his knowledge in plant is incredible.

Since the 1700s and probably before, many botanists have visited the West Indies. The history of flora in the Caribbean is interesting, but studies during Columbus' time, the so-called discovery of the New World, said that botanists mainly focused on individual island groups, but not on the entire Caribbean as a whole.

The New York Botanical Garden in the flora of the Greater Antilles attempted projects with a small section on vegetation. This first introduction of vegetation on the Caribbean region is far from being completed. However, scientific information on Caribbean vegetation is locked in detail for practical use of land development in the Caribbean region.

At the turn of this century, A. F. W. Schimper laid the groundwork for vegetation classification of plant types. He recognized six edaphic formations, which includes swamp forest, littoral woodland below high tide, forest of limestone's soil, forest of humus soil and forest of siliceous soil. He also recognized five climatic formation which includes lowland rain forest, mountain rain forest, monsoon forest, savanna forest and thorn woodland.

At the workshops, we reviewed draft vegetation existing maps to determine the best vegetation classification system for the Caribbean.

> "This vegetation mapping of the Virgin Islands is needed badly.

The objectives of the workshop were: "To produce a unified vegetation classification system for the Caribbean region based on intensive island-by-island vegetation data set by compiling all existing vegetation maps and data in the region."

The Nature Conservancy and its partners have been very instrumental in developing the vegetation mapping for the entire Caribbean. This organization has been in existence for almost 50 years. They strongly believe in the preservation and protection of biodiversity of plants and animals in the environment. Since the Nature Conservancy's office was established on St. Thomas in 1992, the organization has worked with many businesses, the government, the University of the Virgin Islands, organizations, individuals, and others who are interested in the preservation and protection of these islands natural resources.

Thus, the Caribbean vegetation mapping system was another effort by the Nature Conservancy and its partners working with UVI's Eastern Caribbean Conservation Data Center, Extension Service, the USDA Natural Resources Conservation Service and others to develop the vegetation maps for the Virgin Islands.

This vegetation mapping of the Virgin Islands is needed badly. Like I always said, this government lacks the wisdom to implement its own comprehensive land use plan for these islands. I personally have tried to educate the public about the importance of land use management through many forums.

My opinion for the Virgin Islands environment has often fell on deaf ears particularly our legislators. And for this reason, we will suffer economically in the long run because of poor planning. The vegetation map is a great scientific tool for these islands. In fact, the vegetation map of St. Croix's terrestrial and marine environment is almost completed.

This computerized map of St. Croix will be instrumental in development, monitoring, planning, protecting critical habitats and more. I am glad for the map of St. Croix because it is a tool I can use at my job and public hearing debates on environmental issues.

Next week's column will focus on Nature Conservancy in the Caribbean.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

A little bit of history on the Carambola property

Olasee Davis
Our Environment

For the past few months, the issue of the Carambola property has been in the news.

Many people approached me to find out my opinion about Jeffrey Prosser purchasing the Carambola property.

First of all, the name Carambola is misleading to the Virgin Islands public. Carambola is the name given to the golf course area in the early 1980's by the developers who purchased a little over 4,000 acres of St. Croix's northwest land sometime in 1983 from the Rockefeller family.

In 1990, I stated in an article in the Virgin Islands Daily News, "... an outside developer tried to purchase Fountain Valley on St. Croix, which was really 17 estates including such estates as Sweet Bottom, Annaly, Mount Stewart, Ross Hill and so on.

It was some 4,000 acres of primarily agricultural land including forestlands, steep slopes, mountains, rich fertile soils, flood plains and beachfronts. This area was also known for slave revolts, which made the area sentimental to Virgin Islanders beside the natural beauty of the land."

I further stated, "Today, this area is owned by Carambola Beach Resort Real Estate Sales. Some people then and now believe that the Virgin Islands government and some of our senators sold their birthrights when Fountain Valley was purchased by an outside developer."

For those who wanted to know why I didn't say anything about the so-called Carambola property from the beginning when Prosser made his interest known publicly about purchasing the property is because I was involved personally from 1983 to educate the public that the northwest should be owned by the people of the Virgin Islands.

My protests and others in the early 1980s fell on deaf ears. In fact, the Rockefeller family I was told offered the property to the Virgin Islands government before it went on the market for sale.

I love my government, but somehow this government has poor eye sight for the future of the people of these islands.

Today, here we are talking about the same property that was offered to the government many years ago. Nonetheless, let us get back to the name Carambola. If you ask an old Crucian where is Fountain Valley located, he or she can tell you.

On the same note, if you ask an old Crucian where Carambola is located, he or she may have no idea of what you are talking about.

Too often, we are easily being misled when we don't know our history. You see, if we know our history collectively, we would not have been misled when somebody wanted to sell us a 6 for a 9.

History is always the key I believe for opening up the doors of the future. As a people, we will continue to be misled as long as we don't question things, and as long as we take things sitting down.

The 2,800 acres is not Carambola. The Carambola property falls within the Fountain Valley Estate.

Carambola is a small section of the 2,800 acres, which includes other northwest side estates. Jake Jacobus purchased the remaining of the 4,000 acres in 1983.

That is why I mentioned earlier if we knew our history then you would understand why the northwest of St. Croix should mean a lot to the people of these islands particularly Crucians. This 2,800 acres are extremely historical, cultural, and environmentally sensitive.

To me, it is interesting that the Rockefeller's sold the 4,000 acres to Jacobus for $10 million. Whereas, they donated land in St. John to the people of the Virgin Islands, thus creating the Virgin Islands National Park System.

Laurance S. Rockefeller, for the 40th anniversary of the Virgin Islands National Park, stated, "The Park is one of the crown jewels of the National Park System, and for four decades it has provided millions of visitors an extraordinary environmental and recreational experience under the American flag in the Caribbean setting. Jackson Hole Preserve Inc. and I have been proud to have a part in the creation of this great resource."

In 1955, Laurance Rockefeller mentioned in a letter to John Schofield, "I grew up with a family tradition of conservation ... the possibility of setting a part of St. John aside for future generations first came up in 1939. With World War II the plan was shelved. Then a couple of years ago one of my island neighbors, Frank Stick, sent me a copy of the original proposal and suggested that the idea be revived."

"We had never met, but I agreed that we should get together and discuss the possibility. To my complete surprise, Stick rounded up signed options on about half the land we needed ... We've spent about $1 million on the land and expect to spend as much more to complete the Job."

This tradition of conservation with the Rockefeller family began in 1886 with John D. Rockefeller Jr. who visited Yellowstone National Park as a little boy.

To make a long story short, the Rockefeller family gave millions of dollars over the years to parks in our nation as well as the Virgin Islands National Park.

We cannot thank the Rockefeller family enough for their foresight and wisdom for establishing the park on St. John.

In the back of my mind, I've always said, "why the Rockefeller family didn't donate the 4,000 acres or some of it to become a park as it was done on St. John in 1956 for the people of the Virgin Islands?

I don't have the answer. Anyway, Jacobus was discouraged in the early 1980s about purchasing the 4,000 acres. This was due to few people who opposed the idea of an outside developer owning all that primary agricultural land on the northside of the island. Well, former Gov. Juan F. Luis called a special session and Mr. Jacobus got the 4,000 acres rezoned from agriculture to other uses.

Jacobus or the company he represented made an agreement to preserve land on the northside when they went in front of the zoning board.

"The approval conferred by section 2 of this act is expressly subject to the condition that Delray Land Inc., its successors and assigns, shall establish 'open space' in an amount not less than 50 percent of the total acres consisting of 4,140 acres, more or less particularly described in Table 7 of the 'Zoning Amendment Application' filed by Delray Land, Inc., and approved by the Virgin Islands Planning Office on October 27, 1983, in the 'Report on Proposed Amendment to Official Zoning Map no. SCZ 4&5' of which not less than 1,000 acres shall be dedicated to a perpetual scenic and preservation easement."

Mine you, this is the same land Prosser is talking about purchasing.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Davis continues on Beal Aerospace's land deal

Olasee Davis

I had no intention of writing another article about Beal Aerospace Technologies because everybody in the Virgin Islands who read the local newspapers and listen to the radio talk shows know where I stand on the issues pertaining to Beal's proposed development east of the Great Pond.

From a child, I was taught by my parents to be honest and tell the truth even though children will always be children in trying to get away with something they have done wrong.

However, what caused me to write this article is what Wate Gates, director of Cooperate Affairs of Beal Aerospace said in the April 19, 1999, Daily News, "he never seen the map, and he questioned its accuracy." This statement referred to the discussion Gates, others and I had after the hike at the Great Pond about two weeks ago when I presented maps to them of the area.

You see, I find life to be interesting. Gates never made the statement of "he questioned the maps" of the Great Pond boundaries while we were at the shoreline talking about how the project might impact the area.

Everybody who knows me personally knows that I am a straightforward person and don't hold back. Believe me, there is no misunderstanding when I talk. If I am wrong about something, I will apologize to you whether it is a private conversation or a public one. Gates called by co-worker at the Daily News office that afternoon after the hike not realizing that the person he called is my co-worker.

Furthermore, he doesn't know the ads they advertise in the Virgin Islands Daily News about the so-called facts about Beal Aerospace that the paper was founded by my uncle J. Antonio Jarvis and Ariel Melchior Sr. in the 1930s. What I am trying to say Mr. Gates, one must tell the truth for we live in a small community and news travels fast. My roots in these islands are deep without even talking about my family tree. Gates admitted he never saw the maps of the boundaries of the Great Pond area.

Yet, he made such statement, "he questioned the maps accuracy" as though he saw them. I am not stupid and what said in the darkness will come to light if not now later about the company's intention to build near the Great Pond area. A few weeks ago, an article appeared in the Daily News entitled, "Davis questions Beal Aerospaces' 'True' Intentions." Today, I still stand by my conviction that Beal Aerospace is lying to the people of the Virgin Islands.

Also, I mentioned there were rumors about the former administration in a recent article I wrote about some deal the government had with Beal Aerospace about land near the Great Pond. Well, I found out recently that it was not rumors, but our former governor did have discussions with Beal Aerospace Company. The former Governor wrote a letter dated December 30, 1998, to the Senate President Lorraine Berry, about a bill he intended to send to the Senate regarding government land in "exchange" of land Beal Aerospace claimed to have.

This government land includes the "Camp Arawak" property, which is 14.5 acres. The land is known as parcel 5 and 6 Estate Great Pond for the exchange of two parcels that Beal apparently supposed to have. One of these parcels is plot no. 12 Estate Grange Hill, which consists of 5.044 acres, located at Grange Hill Nursery across the street from Anna's Hope Adult Detention Center. The other parcel is Whim Estates on the south shore between the shore and Melvin Evans Highway west of Hovensa and east of Good Hope School. This consists somewhere in the neighborhood of 10 acres give or takes a little.

I must laugh for most people in the Virgin Islands have no idea what is going on with this supposed Beal rocket proposed plan near the Great Pond. You see, some people will fight you down when you stand up for the truth. I always say is God for us let the world be against us for their sin shall soon find them out.

For me, I am not afraid to stand up for my people. I am afraid when I don't stand up for my people and what I believe to be truth. A lot of our politicians don't have the guts to fight and look out for the best interest of the people in these islands.

Nevertheless, Beal got an appraiser, Arlen Wheeler, Caribbean Engineering Associates that the value of the two parcels of land they claimed to own was about equal to the property of Camp Arawak. You know what they said? Camp Arawak is worth $432,000. This is an insult to the people of the Virgin Islands. Camp Arawak property is worth somewhere around $1.5 to 3 million. We are talking about pristine waterfront property with a historic site.

Here it is the people of the Virgin Islands are being ripped off by those high officials in this government who are supposed to look out for our best interest. On the other hand, Beal Aerospace is spending thousands in ads saying they care for us. This is bull crap. Camp Arawak's land is part of Beal's requests for rezoning. I was told the exchange agreement of land between Beal and the government was sent to the new administration.

I hope Gov. Turnbull does the right thing by rejecting the Beal deal of public trust land. The whole issue of Beal has taken up so much of my time trying to educate the public about the issues of the Great Pond environment. Some of my friends are now concerned that I might get hurt or killed because I am going up against a large company with millions of dollars. You see people, God didn't give me a spirit of fear. For what man might do to me physically, they cannot kill my spirit, love for my people and faith in God.

If I get killed, others like me will raise up in numbers like the sand on our beaches to protect these islands and their environment. The good book said,

"Thou shalt not be afraid for the terror by night, nor for the arrow that flieth by day, Nor for the pestilence that walketh in darkness, nor for the destruction that wasteth at noonday. A thousand shall fall at thy side, and ten thousand at thy right hand, but it shall not come near thee." Psalms 91: 5-7.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Don't worry about our foliage

Olasee Davis, an ecologist, is a Daily News columnist. He lives on St. Croix.

Olasee Davis

The salt spray that blew from Hurricane Lenny's wind has defoliated much of the forest-type vegetation on St. Croix. Under normal conditions, when waves break, the wind blows droplets of water inland. As the salt spray blows inland, the water evaporates and salt crystals drift to the ground. That is why only certain species of plants — like sea grape, mangrove plants, beach bean and sea lavender and other salt-tolerant plants — can grow in a coastal environment and withstand salt spray from ocean wind.

There is a great possibility the Virgin Islands' and other Caribbean islands' landscape would become more like winter months due to the frequency of storms visiting the Caribbean. Those of us who are familiar with winter months in the United States know that trees lose their leaves during the autumn and fall. Evergreen trees on the other hand keep their leaves. The winter-months-like landscape of St. Croix is due to hurricane salt-spray wind that burn the leaves off the trees.

As you look across the landscape of St. Croix, you see large patches of brown on hillsides, along the roads, throughout the coast and other parts of the island that was affected by salt-spray wind from the storm. There is no need to be worried. The trees and other vegetation-type plants on the islands will eventually "green up."

The problem is the earth is getting hotter due to global warming. Last year was the hottest scientists have recorded. In 1997 and 1998 a series of extreme weather events around the world made scientists talk about the El Nino weather patterns. The El Nino weather that we hear so much about in the media will not be going away any time soon. Scientists are now beginning to pay more attention to climate models predicting how El Nino will behave in our global environment. The more we know about global weather, the better prepared we will be to minimize damage and maximize benefits.

However, in order for scientists to understand ancient weather patterns, they have to reconstruct weather information about El Nino from many years ago. They knew 1,500 years ago that La Nina-driven tornadoes devastated parts of North America. La Nina is the reverse of El Nino weather conditions that brings its own effects. In El Nino years, the interaction of the earth oceans environment and the atmosphere shifts. Thus, the impact on the weather in our global ecosystem varies based on the amount of atmospheric shift.

One of the elements in nature to form hurricanes is heat. The oceans are a good source for holding heat. Warm ocean waters make the air warm, and when these waters move around the earth, they affect global temperatures. Therefore, when ocean waters are warm, it is easier for evaporation to occur. As small particles of water rise off the ocean surface to form clouds and sometimes precipitation, the moisture around the earth affects the weather condition of particular areas of the earth.

Also, wind blows the water-bearing clouds and surface waters of the ocean around our earth in ways that are usually predictable. The wind blows water-bearing clouds creating regional weather patterns that we humans have come to expect. But now every three to seven years, the typical storm east to west winds in the equatorial Pacific Ocean begin to weaken. The warm waters that usually collect in the west begin to spread back across the ocean surface. This event is referred to as El Nino.

The changes in weather patterns cause the areas that were once cold to warm up, and warm regions to cool down altering the precipitation patterns around the earth. Old-timers will tell us that in years gone by more rain use to fall often in the Virgin Islands. I can remember in the 1960s and early 1970s so much rain fell during a given time of the year that sometimes schools closed for a week or two. Now, scientists are telling us that the impact of human behavior on the environment affected the weather patterns.

They say El Ninos are getting more extreme because humans are polluting the air with carbon dioxide. When carbon dioxide is in the atmosphere, it traps heat near the earth surface, thus raising the earth temperatures. The burning of car fuel, industrial processes, and the amount of carbon dioxide in the air have increased since the 1800s. According to today's scientists, the 1980s were the hottest years recorded with the trend continuing into the year 2000.

There is much debate in the scientific world whether human behavior affects weather changes or simply the weather changes are a part of earth's natural cycle. Throughout earth's history, the amount of carbon dioxide has fluctuated and appears to rise and fall along with temperature averages. Scientists knew historically that warm periods in earth's history raise the carbon dioxide level in the air, while during the ice ages there was very little carbon dioxide.

Although not everyone agrees on what should be done, if anything, to reduce the atmospheric carbon dioxide, most scientists agree that we should prepare for the future.

We in the Virgin Islands should be prepared for more winter-months-like landscape on the islands due to salt-spray wind from storms. If we don't, we will find ourselves wearing sweaters during the summer months.

EPA, other agencies conduct investigations at Bovoni lagoon

Olasee Davis
Our Environment

This final column on the Bovoni lagoon environment will focus on the recent research conducted in the area. The past two columns gave a brief history culturally, environmentally, and past research projects in the area.

As a people, we failed to have a proper plan for these Virgin Islands developments. It is sad that we continue to fight among ourselves politically when its come to land use issue. Because of no proper plan in place to guide these islands growth, we continue to impact the environment negatively, socially and affect the developmental process of our economy.

There is a comprehensive land and water use plan to guide these islands into the 21st century. But the politics of these islands so often gets in the way of the plan becoming a reality. It is not a perfect plan, but a plan that will guide these islands growth. I attended all the public hearings on St. Croix about the proposed land use plan in the early 1990s. I also gave my expertise freely to the Department of Planning and Natural Resources who were responsible for the development of the plan. Today, I still continue to educate the public on the land use plan issue every so often in my environmental column in The Daily News.

The Bovoni landfill is one of those issues we are facing today because of no planning. The lives of people on the East End of St. Thomas near the landfill and beyond are threatened health wise due to poor land use plan of the island. Ever so often the landfill burns out of control sending pollution of different kinds into the air. Because of Sen. Adlah "Foncie" Donastorg and others efforts, the Public Health Service Agency for Toxic Substances and Disease Registry conducted an investigation on the Bovoni lagoon.

Although air pollution from the Bovoni landfill poses a serious health problem, fish that are caught within the lagoon environment or adjacent waters can be a potential health problem for consumers. Thus, the recent investigation on the Bovoni lagoon conducted by toxicologists and medical officers of the federal agency was to determine whether any contaminants in the lagoon environment or adjacent waters posed any health threats to residents that consumed fish from the area.

The title of the investigation was "Investigation of Contaminant Levels in Fish from the Bovoni Mangrove Lagoon." Before the Federal investigation team conducted any research at the Bovoni lagoon, they reviewed other work that was done in the past of the area. The ATSDR mentioned, "while there were several reports on the lagoon, none contained environmental data, such as surface water sampling, for ATSDR to review and evaluate." ATSDR is referring to the Agency for Toxic Substances and Disease Registry.

In the report from ATSDR to Sen. Donastorg's office, it said in one section, "Trapping results from the inner Mangrove Lagoon areas in the 1980's indicated that while fish caught appeared healthy, occasional individual fish had surface growths or deformities. No fish sampling data was available for ATSDR to review and evaluate; therefore, it is impossible to make a public health statement concerning the ingestion of fish from the inner lagoon area."

The Bovoni Mangrove lagoon is a nursery for numerous Caribbean reef fish. Such fish as grunt and parrot fish are abundant species in the lagoon. Other species of fish are sea bream schoolmaster, barracuda and yellowtail snapper.

These fish may have been exposed to toxins from the landfill while they fed within the lagoon environment. According to ATSDR, they said they were not able to obtain information on recreational fishermen. However, registered commercial fishermen in the St. Thomas/St. John district received information provided by the Department of Planning and Natural Resources' Division of Fish and Wildlife.

In January of 1998, the EPA conducted sampling of groundwater, sediment, and leachate at the Bovoni landfill area. Samples were analyzed for non-volatile organic compounds, PCB's, metals, VOC's, and pesticides. The ATSDR report stated, "Leachate results documented exceedances of federal marine chronic (chromium, lead) and acute (arsenic, nickel, zinc) ambient water quality criteria (AWQC). Maximum contaminant levels (MCL) were also exceeded for aluminum, arsenic, and manganese. The groundwater sample exceeded acute and chronic AWQC for sliver and nickel."

This research conducted by the EPA indicated that most of the contaminants they found maybe a factor to the high level of metals in the Bovoni lagoon environment. ATSDR conducted their own research on some of the species of fish in the lagoon environment. Such fish as jack, gray snapper, mouth grunt, blue-striped grunt, Spanish grunt, and others were caught and tested. All the shellfish and fish from the Bovoni lagoon were analyzed for organochlorine, polychlorinated bipheyls, pesticides, and mercury.

According to the ATSDR results, the mercury concentrations at the Bovoni lagoon were low not exceeding FDA standards, which is one ppm. They stated, "Consumption of fish from the lagoon would not be expected to pose a health hazard for mercury toxicity, even for a sport fisherman who ate several fish meals per week." Other contaminants such as PCB, nickel and lead found in tested fish at the lagoon were not high enough to cause a concern for human consumption. For pesticides, none of the chemicals found in fish at the lagoon posed a health hazard for consumers of the fish.

In conclusion, ATSDR stated, "Metals and organochlorine chemicals were not detected in fish and shellfish from the Bovoni Mangrove Lagoon at levels of public health concern. This finding should be distinguished from the public health assessment released by ATSDR in January 1998 which found physical hazard and contaminants in smoke to be potential public health hazard. Fish and shellfish from the inner lagoon could become contaminated with infectious microbiological agents from wastewater discharges into Turpentine Run."

ATSDR recommendations were, "Fish and shellfish from the inner lagoon should not be eaten because of possible contamination with infectious microbiological agents." Yes, they found certain chemicals in fish at the lagoon. But the biggest polluter in the Virgin Islands is the government of the Virgin Islands with the discharge of human waste into the Bovoni lagoon.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Hassell Island, the island least visited

Olasee Davis, an ecologist, is a Daily News contributing columnist. He lives on St. Croix.

Olasee Davis

Very few Virgin Islanders know the cultural and natural history of Hassel Island. In fact, few of us have ever visited this island.

A trip to Hassel Island, which is about 55 hectares located south in St. Thomas harbor, can be well worth your time. It is about 1.6 kilometers long and a little over half a kilometer at the widest point.

There is good hiking, historical ruins and wildlife to discover, and small beaches for swimming and sunning.

Cowell Battery, the highest point on the island, is about 80 meters above sea level. The coastline has both rocky promontories and sheltered coves.

There is no fresh water on this island that was once connected to St. Thomas by a low spit of land called haulover.

History has it that the haulover was removed during the early 1900s to ease the pollution in St. Thomas harbor.

Whatever the reason, the island is unique in terms of its natural vegetation.

However, the vegetation has been greatly influenced by human activity. Goats and cattle once grazed on the island. This of course impacted its natural vegetation. The south end of the island, however, is probably the only area that was untouched by domestic animals.

Hassel island has a very diverse flora of 299 species in 66 families in addition to many other ornamental plants. The mangrove forest is only one type in the island vegetation ecosystems. Mangroves are very productive systems which support a high diversity of bird, fish and other wildlife. These ecosystem food web based largely on the release of nutrients from the decomposition of mangrove leaves which supports near shore fisheries.

The ponds on the island have the red, black, white and buttonwood mangroves. As a result, from the constant salt spray from the ocean, the mangroves usually grow dwarf like.

Another type of vegetation is the basin moist forest. This forest is small, mostly located in the valleys of the island. This forest type has 64 species of which 26 are trees with the dominated tallest tree, black olive. The wood of the black olive tree is very hard. It was one of the heaviest wood on the Virgin Islands.

The black olive tree was used for construction of fence posts, house posts, and charcoal. It was also used for building floors, machinery platforms and heavy exterior construction, to name a few.

Medicinally, the resinous gum from the bark was boiled and used to relieve swollen glands. Because of the wood value, many large trees were harvested.

Hassel Islands is one of the few places in the Virgin Islands where the tree grows wild.

Dry evergreen thicket or scrub forest occupies most of the island. It is characterized by evergreen small thick, hard or fleshy leaves. The class of this forest has fewer spiny species with more weedy species. It has about 124 species, 44 of which are trees. The thorn and cactus is another type of vegetation that occupies the island. The tree cacti, pilocereus royenii and opuntia rubescens dominated this particular type of spiny landscape vegetation. This group of forest has 65 species, 22 of which are trees.

The rock pavement and coastal hedge of the island is diversified with vegetation type ranging from caci, open patches, to a closed forest canopy. In this coastal environment, it contains 41 species of plants with only a few large trees. Many species such as Conocarpus erectus, erithalis, fruticosa, Coccoloba uvifera, Suriana maritime and Cassine xylocarpa occupied the island coastal environment.

The secondary vegetation occupies most of the island. This means that this vegetation type is not the virgin forest it was in 1493. It was disturbed due to human activities.

Botanists have subdivided this vegetation type into four categories. They are croton scrub, leucena scrub, acacia scrub, palm and grass. This environment contains 120 species of plants including Panicum maximum along the ridge at higher elevations on the island.

The terrestrial environment on the island also has a direct influence on the marine environment. Trees, mangrove forests, scrub, and other vegetation types hold the soil together. When rain falls, the vegetation canopies act as a natural buffer to protect the marine environment.

If you want to see the historical sites and hike on Hassel Island, once referred to as "Estate Orkanhullet" which is Danish for hurricane, contact the Virgin Islands National Park Service.

Hurricane Lenny provided me with a real surprise — a new friend

Olasee Davis, an ecologist, is a Daily News contributing columnist.

You know, life is interesting.

Following Hurricane Lenny's assault on the Virgin Islands, I gained a friend.

Through this new friendship, I've learned a lot about St. Martin from Atahlia Rogers, a Maartener and a sociology student on the University of the Virgin Islands' St. Thomas campus. This friendship came about when she called my office for information pertaining to a classroom project on Beal Aerospace Technologies Inc.

Rogers was very concerned about her parents in St. Martin, knowing that Hurricane Lenny was headed there. I, like Atahlia, was once in that situation when Hugo Hurricane hit the Virgin Islands in 1989 while I was attending graduate school in Texas. Believe me, it is not a good feeling when you are hundreds of miles away from your family.

I'll share some background on the Netherlands Antilles, where Rogers is from, consists of five islands — Curacao, Bonaire, Saba, Sint Eustatius, Sint Maarten (St. Martin).

• Curacao is 278 square miles with rich cultural history.

• Bonaire is 180 square miles with a desert-like environment and has one of the most unspoiled reef ecosystems in the world.

• Sint Eustatius, 13 square miles, is rocky with a central flat plain and an old crater called The Quill.

Olasee Davis

• Saba is an 8 square miles volcanic island. Saba is often described as a fairytale island because of its tropical paradise environment.

• St. Martin is a hilly 54-square-miles island. The island is divided into two islands. Dutch Sint Maarten, 21 square miles, is the southern part of the island which has a large enclosed lagoon in the southwest. The French side of the island is rolling farm country.

In 1954 the Netherlands Antilles, which was an integral part of the kingdom of the Netherlands, achieved governmental autonomy. The central government of these islands consist of a council of ministers responsible to parliament, which is 22-member elected assembly.

Like other Caribbean islands, the history of the Netherlands Antilles started with the Amerindian who migrated from South America hundreds of years ago. We all know from history that the Europeans invaded the islands and stripped the native people of their natural resources.

By the end of the 17th century, the islands were taken over by the Dutch. In 1648, St. Martin was divided between the Netherlands and France. The Dutch was interested mostly in Curacao, Sint Maarten and Bonaire since these islands have an abundance of salt deposits.

Curacao proved to be the most valuable, with a population now of 150,000. It not only has salt, but also a deep natural harbor which enables the island to be an important trade center. Historically, Curacao was used as a major slave-trade center; slaves were sent to many parts of the Caribbean and the United States.

Virgin Islanders should do what they can to help our neighbor-islands. After all, we are our brothers' and sisters' keepers.

Let's talk about real bats, not the 'Big Screen' type

Olasee Davis, an ecologist, is a contributing columnist to The Daily News.

Olasee Davis

Recently the St. Croix Environmental Association received a gift of 1/3 acre of land with a late 1800s water mill on the property at Estate Strawberry Hill from Nestor Correa. His father Alejandro brought estates Strawberry, Barren Spot, Cottage and other estates surrounding the area in the early 1900s.

Before Alejandro purchased Estate Strawberry, Nicholas Tutein — a transplanted planter from Montserrat and one of the principle developers of St. Croix as a sugar producer — purchased the land in 1754. This property is located in the midst of St. Croix's fertile south-central plain.

As St. Croix's economy changed from an agricultural society in the middle 1960s to light industries, estates like Strawberry and Barren Spot were phased out of sugar production. The last blow to the sugar industry on St. Croix was when the Bethlehem sugar factory closed in 1966.

Thus, land like Estate Strawberry was turned into pastureland. As time went on, Alejandro sold some of his land. Estate Cottage was sold to Hess. By the late 1970s and early 1980s, Estate Strawberry, Barren Spot and other surrounding estates were sold and developed into housing communities. In the 1990s, Estate Strawberry Hill was subdivided into plots for housing development. From a boy, Nestor Correa knew the water mill at Estate Strawberry Hill.

As agriculture phased out of Estate Strawberry Hill, bats inhabited the water mill on the estate. Correa knew of the bats and often visited them. With Bruce Wilson being a nature lover, somehow he negotiated with Correa and got the 1/3 acre of land as a gift for the environmental association. The gift of land was entrusted to SEA for the purpose of protecting and educating the surrounding neighbors and the general public at large on bats ecology.

St. Croix has four different types of bats. They are the fish, fruit, cave and roof bats. The fisherman bat lives in colonies of about 50 in large, hollow trees or sea caves. Fisherman bats fly low for long distances over open water. Their faces are like a bulldog with a stripe down their backs with long hind feet. They use their hind feet to snatch fish from ponds and the sea. These bats, however, are quite rare on the island.

The second most common bat on St. Croix is the fruit bat. They can be identified by their large size and relatively slow direct flight. If you examine one closely, you will discover a spear-shaped structure on the end of their nose and a face stripe leading from the mouth to the ears. This bat is responsible for depredations on fruit crop like mango and papaya. Certain fruit trees in tropical countries depend on bats in order to reproduce.

The third bat is the cave bat. This is the bat that lives in the water mill at Estate Strawberry Hill. At night, they fly up in a circle until they enter the top of the water mill. They are very easy to identify by their noses, similar to pigs. These bats prefer roosting in caves, old stone ruins, or entry wells. Cave bats feed on fruits supplemented by pollen and nectar from night blooming flowers like certain species of cacti. Perhaps many of your blooming flowers are pollinated by bats without you knowing it.

The fourth bat is the roof bat. As the sun sets, the first bat to emerge early in the evening is the roof bat. The roof bats can be identified by the fact that they are the smallest of the bat species on St. Croix. These bats are frequently observed as they flutter around outside lights at night, catching small flying insects which is their major diet. They can be found in old houses, making their presence known by twittering sound both by day and night.

If they live in your attic, moth balls or moth flakes can be used temporarily to drive them out of their roost. However, a permanent solution can only be accomplished by stopping all entrance and exit holes in your roof. The roof bat is very small and can easily enter through any crack more than 3/8 of an inch wide.

Overall, bats are unique. They are the only mammals that exhibit true sustained flight. They also have the ability to drop their body temperature when at rest. This conserves the metabolic energy of their bodies.

Thanks to Nestor Correa and SEA, Estate Strawberry Hill bats are protected.

Our reefs could help solve health, economic problems

Olasee Davis, an ecologist, is a contributing columnist to The Daily News.

Olasee Davis

Recently U.S. Interior Secretary Bruce Babbitt and some of his staff visited St. Croix for the third meeting on the U.S. Coral Reef Task Force. This task force was established by President Clinton in June, 1993. The Executive Order directs the Coral Reefs Task Force and the federal government to protect and improve its stewardship and conservation of coral reef ecosystems in the nation and its territories.

Coral reefs are submerged limestone ridges or clusters hosting a diverse marine community of organisms. They are among the most biologically complex and diverse ecosystems on earth and are often compared with tropical rain forests for the number of species they support.

Scientists estimate that about 10 percent of the world's reefs have already been lost, and 60 percent are threatened by human activities including: coastal development, soil erosion, overfishing, land-use practices, climate changes, pollution of all kind, habitat destruction, etc.

Whether you realize it or not, our tourist-based economy depends on healthy coral reef ecosystems. The continued deterioration of our coral reef by sewage, oil spills, soil erosion and other human activities will have a tremendous impact on the islands' economy.

Can you image swimming in sewage, eating contaminated fish, swimming in black or brown mucky, dirty sea water? In fact, I would not advise anyone to swim at any of our popular, public beaches in the Virgin Islands after a rainstorm due to all kinds of pollutants that are present after the storm.

Believe me, swimming at Virgin Islands beaches could become a major health issue for the 21st century.

The destruction of coral reefs also has a cultural, environmental and social impact on the lives of people in these islands.

Case in point, the propose rocket manufacturing plant at the Great Pond Bay site could impact the marine environment significantly. If dredging occurs in the bay, this will disrupt how the marine life functions in the reef environment at the Great Pond Bay area. Such impact, if the bay is dredged, could result from dredging spoils, dying of coral reefs, decline of marine life, poor water quality — all could have a major impact on the fishing industry on St. Croix in years to come.

> **"Do you know that many pharmaceutical products are being developed from reef organisms as possible cures for cancer, human bacterial infections, arthritis, viruses and other diseases?**

The Great Pond Bay coral reef systems is federally and locally designated as one of the best developed reef systems in the Caribbean and the most extensive coral reef system in the Virgin Islands and the Puerto Rican shelf. The coral reef system of St. Croix is also one of the 18 Areas of Particular Concern and Area of Preservation and Restoration in the Virgin Islands. This means these reefs have special management protection plans.

The St. Croix barrier reefs system has great scientific interest for the variety of reef types and forms which supports a number of studies that have been carried out to provide invaluable database information for future research.

The reef types on St. Croix are: algal ridges, shallow and deep reefs, bank-barrier reefs, narrow-fringing reefs and patch reefs of various sizes.

Coral reefs support millions of species, including 800 species of hard corals and about 4,000 species of fish. Some scientists estimated about 9 million species live on and depend on health reefs. Thus, the biodiversity of coral reefs holds great promise for natural products derived from reefs dwelling organisms.

Do you know that many pharmaceutical products are being developed from reef organisms as possible cures for cancer, human bacterial infections, arthritis, viruses and other diseases? In today's scientific world, reefs are considered to be a major source of new medicines and biochemicals for the 21st century.

Believe me, it is even more important to protect the Virgin Islands reef system. You never know if our coral reef ecosystems might just be the answer for reducing the territory's deficit.

Public trust is violated as the land-swap goes ahead

My Turn

A few weeks ago, Sen. Lorraine L. Berry requested legal answers to the swapping of Camp Arawak historic land with Beal Aerospace Technologies Inc.

Ms. Yvonne L. Tharpes, the Deputy Chief Legal Counsel of the 23rd Legislature researched the issue extensively whether the governor or the senators of the Virgin Islands have the authority to exchange public trust land to a private company. There were four questions presented to the legal counsel on the exchange agreement land issue between the Virgin Islands government and Beal Aerospace.

The first question was "Whether the conveyance of Plots 5 and 6 Estate Great Pond would constitute a breach of a conditional limitation in the deed? Or a covenant or a trust? According to the language in the deed, it perfectly stated unequivocally clearly the intent of the property to be used for park, beach or other recreational purposes in perpetuity.

If the land-swap deal with Beal ends up in court due to the approval of Bill No 23-0098 to exchange the people's trust land with a private company, the lawyers of Beal Aerospace could argue the point that the grantor of the property probably intended to convey a fee determinable to the Virgin Islands government with a possibility of reverting the land because the government did not carry out the wishes the grantor intended for the land use.

The legal counsel stated in her findings, "Courts have held that where it is clear that the performance of some act with respect to the property granted is part of the consideration of the grant, the provision is in the nature of a conditional limitation, the violation of which forfeits the grant."

However, the courts tend to stay away from fee-determinable estates. And where possible, the courts tend to stick with the conditions in the deed, such as a restrictive covenant, trust, or — in our case — with the Beal land-swap issue a public charitable trust.

So the issue that the government didn't do its part in using the land for what it's intended for by the grantor would have a difficult time standing up in court, according to Beal's lawyers. This same argument by Beal lawyers came up in the public hearing on July 23. According to the legal counsel, "From the language of the deed, if a court should find that the language created neither a fee simple determinable nor a fee simple subject to a condition subsequent, the court could possibly find that the language was sufficient to create at least a covenant or a public charitable trust."

Before I go any further, a fee simple determinable "is an interest in land created to continue until the happening of a certain event. Upon the happening of the event, the interest automatically terminates. On the other hand, a fee simple subject to a condition subsequent is an interest in land that may be terminated by the conveyor, or the conveyor's successor in interest, upon the happening of a certain event." In the legal counsel findings, she mentioned many court cases pertaining to fee use of deed land.

Bill No. 23-0098 that was sent down to the senators by the governor cannot defeat the conditions of the deed on the Camp Arawak historic property. It was stated that property was granted to the government of the Virgin Islands in trust for the people of the Virgin Islands. Thus, any person in this community who can prove our government broke the land trust with the people of the Virgin Islands has standards to sue this government.

Remember, Beal would not be in the lawsuit, but the people of the Virgin Islands will be suing the government because the land was in trust by the government for the people of these islands.

It has been long established by the United States Supreme Court that the public trust is violated when the primary purpose of the legislative grant is to benefit a private interest stated the document from the legal counsel. Also, the present exchange agreement sent down by the governor has several deficiencies before the exchange agreement can be ratified by the Legislature.

1. The agreement is not sufficiently definite with respect to the actual number of acres and parcels Beal intends to exchange for the Great Pond property.

2. Section 2.1 contains a blank space in the space that should set forth the time limitation for ratification by the Legislature.

3. The exchange is silent as to whether the parties intend to impose restrictive covenants in the respective deeds to ensure that the Great Pond property will be used for a rocket manufacturing facility and that the Grange Hill and Estate Whim properties will be used in perpetuity as a beach, park and other recreational purpose.

Yet, our governor claims that he is looking out for the best interest of the people of the Virgin Islands when we the people get the short end of the stick with the Beal deal land-exchange agreement. Our governor is not a lawyer by profession. But those around the governor, particularly his legal minds, should point out the deficiencies in the agreement with Beal Aerospace before they send down the Bill to the Legislature.

The Attorney General of the Virgin Islands has occasionally stated that the property conveyed to the government of the Virgin Islands could not be used for any purpose other than what the grantor intended the land should be used for.

Well, I am confused about this Beal deal legal issue. What about you, people?

Public trust land should be protected at all times

Olasee Davis, an ecologist, is a Daily News contributing columnist.

Olasee Davis

As the 20th century is about to close, we are faced with an issue that can become explosive. Does the Virgin Islands have the right to sell or give away public trust land?

Last week eight senators sponsored legislation authorizing Gov. Charles Turnbull to give up trust land and public beach access to the Ritz Carlton Hotel. Did they understand the social ramification of their actions?

You would think the senators would have learned from the Beal Aerospace Technologies Inc. controversy. The people of the Virgin Islands should have the right to decide on public trust land, not our elective officials.

Elective officials' responsibilities are to carry out the wishes of the people of these islands. Tell me, why is it that some senators believe they know what is best for the people of the Virgin Islands and not the people themselves?

The question: Is it legal to give away public trust land to a private corporation? There are lots of issues surrounding the Ritz Carlton land deal that needed thrashing out.

Planning and Natural Resources officials testified last week that the Ritz Carlton's Coastal Zone Management permit did not grant the resort permission to build or use the public road. CZM's legal counsel even testified that the commission had no authority to issue permits to Ritz Carlton to develop on a public road. The road was "dedicated to public use" through legislation in 1965.

Sen. Adlah Donastorg was one of the few senators to speak out on the Ritz Carlton land issue when he stated, "To transfer beach access, trust land and a public road to a private corporation without benefit of even a public hearing is a total travesty of justice."

Donastorg added, "I am not opposed to the expansion of Ritz Carlton, but it must be done in a lawful manner that does not interfere with the people's right to enjoy Vessup and Bluebeard's beaches."

The sea has dominated our lives throughout history, attracting seven colonial flags. It has been a constant sources of food for the people of these islands. The seashore has been a place of physical therapy, meditation, recreation and rest to Virgin Islanders, past and present. To our fishermen the sea and its shores are a way of life. In fact, it is a Caribbean tradition, an accepted policy, that the beaches are public property, whether there is public access to it or not.

The risk of losing shoreline in the Virgin Islands for public use will become a major issue into the 21st century. In the past, Virgin Islanders have enjoyed the recreation and economic benefits along the shoreline. However, the islands have experienced rapid economic growth, coastal development and change in demographics. This is primarily due to an explosive tourism industry.

Today about 7 percent of our economy depends on tourism.

With the influx of people into the Virgin Islands, building houses and businesses near the shoreline has caused social unrest among the local population. For example, traditional public paths now run through intimidating hotel lobbies; parking areas near those "paths" are now guarded with gates.

On St. Croix, a guard gate at Judith's Fancy; Buccaneer Hotel guard house and gate; house on the beach at Turner Bay; Carambola Hotel at Davis Bay; Shoy beach guard house; sign at old Grapetree Hotel entrance — are all cases where conflict has occurred with the general public.

On St. Thomas, Dorothea beach development; Cabrita Point; Sapphire Bay; and Bolongo Bay are some of the areas that were in conflict with public access to the shoreline. The Virgin Grand Hotel (Westin) on St. John was another area where access became a concern.

In 1971 the Open Shorelines Act was passed in the Virgin Islands. In that law the legislators recognized that the public had made frequent, uninterrupted and unobstructed use of the shorelines throughout the Danish and American rule. The law was intended to preserve and protect the traditional access and right the public has to the shorelines. In practical terms it meant the public could continue to use and enjoy the shorelines of the Virgin Islands in perpetuity.

However, I believe that this Act needs to be revisited.

If you noticed, whenever a hotel or other developments occur near the shoreline — particularly beaches that have been used by the public for years — the local population tends not to use the area because of the physical environmental changes by the development. In many cases, some local people have complained that they did not feel welcome at the beaches where hotels were located even though access was provided by the owner.

This could be a psychological factor that comes into play as to whether or not we feel free, and whether or not beach access is fully exercised in the freest sense of the word.

The people of these islands are justifiably concerned that increased development pressures will limit the historically open access to the shoreline. Let us hope that beach access and trust-land issues with Ritz Carlton and the people of these islands will be a win-win situation

Remember Magens Bay, say no to Beal land swap

The proposed land swap, which includes historic Camp Arawak deeded to the people of the Virgin Islands, for Beal Aerospace's plots at estates Whim and Grange Hill will come to a climax today. A hearing to discuss the proposed exchange is set for 5 p.m. today at the senate chamber in "Freedom City" Frederiksted. I remind you, this is the same town in which our emancipation took place 151 years ago. History will be made again in "Freedom City" when the citizens of the Virgin Islands particularly those on St. Croix tell the world and this government NO to the swapping of our land with an outside developer.

The senators of the Virgin Islands better listen attentively to the people of these islands. Believe me, this is not the first time this government tried to rezone or swap land deeded to the people.

Attorney General Iver A. Stridiron knows what happened to the Magens Bay land deed issue. Stridiron was a senator at the time of the public outcry regarding the rezoning of Magens Bay property.

On Dec. 27, 1946, Arthur S. Fairchild transferred Magens Bay to the Magens Bay Authority. I quote from a portion of the deed.

"WHEREAS on June 25, 1943, Arthur S. Fairchild offered to the Municipality of St. Thomas and St. John, a portion of his Estate adjoining the beach at Magens Bay, the so-called park area, and all the beach except for a portion at the South end, and WHEREAS it being the intention of Arthur S. Fairchild that said land shall be accepted, maintained and used by the Municipality as a Public Park for the use of the people of the Virgin Islands in perpetuity without discrimination of any kind, as to race, color, creed, or natural (sic) origin, and WHEREAS it is the desire of Arthur S. Fairchild that the preservation of the natural beauty of the area with its trees and vegetation shall be a prime consideration in maintaining such an area for the public; all buildings should further harmonize with the scene (sic) both order to enhance the natural beauty both within the area and surrounding estates."

I believe Mr. Fairchild was a naturalist and had a vision for Magens Bay. He also stated, "Another consideration that influenced me greatly was my hope that I could preserve the extraordinary combination of the beauty of the bay and its surrounding hills. To allow those slopes to be deprived of their well wooded covering: To treat them otherwise than according to a general plan: or to utilize them for any commercial purpose would have resulted, I believed, in the loss by our island of its greatest asset."

He further stated, "When normal times return (i.e. after the war) we will then discover that our climate

and scenic beauty are our best, though intangible, exports. I should be strongly inclined to do everything possible to prevent any one person, or class, or element in the community from doing so, (i.e. exploiting the area for personal benefit). The deed would state that the property is dedicated to the benefit and enjoyment of the inhabitants of the Virgin Islands of the United States in perpetuity."

In 1946, The Municipality of St. Thomas and St. John acquired Magens Bay Beach along with 50 adjoining acres as a gift from Fairchild. The 1947 annual report of the Governor of the Virgin Islands stated the following in regard to Magens Bay property. "...The beach which is more than 500 yards long, is regarded by world travelers as one of the most magnificent to be found anywhere. The grove contains many rare and beautiful trees. The entire area is to be developed by the St. Thomas Park Authority for public recreation in accordance with the wishes of the public spirited donor through whose generosity and vision the community has so largely benefited."

In 1984, there was rezoning of Magens Bay property to build a luxury resort. I am sorry I cannot go into detail due to space in this column. However, the Beal Aerospace swapping of land is similar to the rezoning of Magens Bay property. The Magens Bay issue was a political and social one. There was internal fighting politically within the Magens Bay Authority.

On Aug. 2, 1985, a conference was held regarding developing a resort at Magens Bay. Some members of Magens Bay Authority attended the conference to discuss a master plan with the developers for Magens Bay property. I quote, "The Magens Bay Authority disclosed that they had worked closely with the developer to devise a master plan for the Magens Bay area. John Maduro, one of the members of the Authority, objected to Armour's participation, and opined that Armour's assistance would appear to the general public as if the Authority favored Armour's development plans."

Mr. Guido Moron, a member of the Authority for more than 30 years, resigned from the board. Moron, a friend of the late Fairchild, stated in the Daily News on August 6, 1985, "... he does not want to sit on the Board while Magens Bay is turned into a general Coney Island."

Do we want the Great Pond area to be turned into a rocket factory for 41 jobs according to Beal IDC application? What will happen to all the tax breaks Beal will get from this government? Here it is another big corporation paid little or nothing into our treasury while we the little people pay tax on our property.

Well, the senators on the voted to rezone Magens Bay. And in the 1984 election, only five incumbent senators were re-elected, eight were voted out of office and two did not to run for re-election.

The new elected senators repealed the bill to rezone Magens Bay. The bill was forwarded to the Governor for signature, but the Governor vetoed the repeal. However, the veto was overridden and the repeal became effective.

What happened to Magens Bay land rezoning deal should be a warning to senators and our Governor today. Believe me people, the life of the Great Pond Bay is in our hands. Stand up, I say and fight for the Great Pond Bay environment. In closing, I acknowledge Dr. Eddie Donoghue for giving me this information on the Magens Bay issue.

Slave quarters were built at Estate Great Pond

Some are still visible at the Camp Arawak site

In last week's column, we learned about some of the obstacles the Great Pond Estate had in not becoming a major sugar plantation on the south shore of St. Croix. However, the area has a rich human, ecological and cultural history.

Too often, we are ignorant of our own history. On the other hand, some of us are mentally conditioned to believe that the Great Pond Estate has nothing to offer to our economy other than old historic buildings.

You see, if you know the history of the bay, the reef and the estate, you would know also that the Great Pond Estate was so important that it was placed in the National Register of Historic Places by the Department of Interior. Do you know that there are still slave quarters on the Camp Arawak site and many other historic buildings where Beal Aerospace wants to develop?

Adjacent to the Camp Arawak site, there are pre-Columbian sites dating back thousands of years. An 80-year-old man who, was born and raised in the area, told me during a public hearing for Estate Great Pond residents, which took place a few weeks ago that "there were once Danish graves at the Camp Arawak area, but now the graves have

Olasee Davis
Our Environment

washed out to the sea due to years of shoreline erosion."

If you didn't know, practically every estate on St. Croix and probably throughout the Virgin Islands has gravesites. Nonetheless, in the 1800's slave quarters were built at Estate Great Pond.

On the Camp Arawak site, there are three locations of slaves quarters. The first slave quarter is located west of the historic stables along the edge of the gut.

Slave quarters were known as row houses. This is where slaves lived. This first slave quarter is in a deteriorating state, but is still physically visible.

The National Register of Historic Places describes the area as saying, "...The two feet thick deteriorating rubble masonry walls splayed at the plate level compose a narrow six bays by one bay rectangle. The remains of wood lintels and jambs surround the openings."

They further stated, "... The raked gable ends wood roof frame indicates that a gable roof once covered the building. The floor no longer exists, showing a rubble masonry foundation.

The foundation consists of a long central rubble masonry wall running parallel to the axis of the roof below. Ledges about three feet thick stand along the interior on the east and west facades for additional support of the floor."

The second slave quarters are located further west of the first one. This one has been incorporated or constructed into a residence. The axis of this slave quarter rowhouse has a north to south orientation. The third slave quarters are located south of the other two slaves quarters. This slave quarters is also incorporated into a large residence.

There is also a late 1800 century raised well on the property. It is about 4 1/2 to 5 feet high made of rubble masonry. Its diameter is eight feet. The well is over grown by bush. The well was used by slaves and slave owners to draw water for animals and domestic use. There is also a 1800's retaining wall which stands about five feet high leading approximately 65 feet in a semi-circular east to west direction. Today, pieces of this wall are eroding off the cliff into the Bay.

The 1800's factory at Camp Arawak is over grown by bush located south of the great house. The remains consist of three deteriorating rubble masonry walls about five feet to six feet high. The south side of the factory is crumbled. On the north side, you can see an opening for a window and door. There is also an 1800's century storage building. Tradition suggests that the storage building was once used for storing and processing cotton.

The great house on the property is well preserved, except for a few alterations of the structure, but the archaeological appearance of an 1800's great house still remains. Overall, Estate Great Pond preserves a number of buildings and ruins that are important to the Virgin Islands culture. Believe me, I will fight politically and socially for the Great Pond cultural environment protection because those who have gone before us fought for our emancipation.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

St. Croix's land can be used to boost the economy

▼
Olasee Davis

"The heart of America has always been its land," said Michael D. Jawson of the U.S. Department of Agriculture. "It was the promise of land that lured many of the men and women who settled this country, starting with the 104 English who landed at Jamestown, Va., in May 1607."

Recently, a series of articles were published in The Daily News addressing agriculture on St. Croix as a possible variable industry to help boost the island's economy.

Like America, the heart of St. Croix, historically, has been its fertile agricultural land. In fact, one time in the history of St. Croix, 97 percent of the land was cultivated. No wonder St. Croix was once known in the Caribbean and Europe as "the garden spot of the West Indies," the "breadbasket of the Caribbean" and "the Garden of Eden." From the Indians who inhabited St. Croix long before the first European landed at Salt River in 1493 to the Danish who grew thousands of acres of sugar cane, they recognized the agricultural potential of the island.

Today many sugar mills and great houses dotting the landscape of St. Croix are a testimony to the island's rich agricultural history. Personally, I believe St. Croix is the last frontier of the Virgin Islands, and agriculture, ecotourism and light industries should be the focus for the 21st century. The question is, Will agriculture get its due? The majority of people in the Virgin Islands want agriculture to play a role or a major role in our economy.

Most people I spoke with about the paper's agriculture series asked, "Why not make St. Croix the agricultural hub of the Virgin Islands?" The island has proved its agricultural worth; one person said, by producing food for itself and Denmark. With the technology we have now, why not apply it and make agriculture profitable in the Virgin Islands, particularly St. Croix? To me, these are all valuable questions I think our political leaders need to address in 1999.

Too often our political leaders have given lip service to the development of agriculture in these islands, especially during a political year. According to the local Department of Agriculture's statistics, 12,600 acres of agricultural land is in private holding on St. Croix. The local government owns 2,200 acres of farmland, most of which is leased out to farmers. The total amount of land used in agriculture presently on St. Croix is greater than St. John's total acreage — 128,335.

From the 1780s to the 1820s the maximum acreage of sugar cane ever planted on St. Croix was 27,655 acres. In 1847, just before emancipation, there were 23,971 acres of land on St. Croix in sugar cane. Around 1889 the total number of acres in cane cultivation on St. Croix was 16,479, yielding a little less than 15,000 tons of sugar, 118,000 gallons of rum and 271,400 gallons of molasses, together valued at $1,069,324. By the 1890s the total number of men employed in agriculture on St. Croix was 3,635, or 23.6 to every 100 acres. The total number of women was 2,743, or 17.9 to every 100 acres.

The number of mules was 1,211, or 7.9 to every 100 acres, and the number of oxen was 1,576, or 10.3 per 100 acres. These figures don't include overseers and their families, owners, managers, squatters or children under 13 years of age. Dr. Charles E. Millspaugh stated in 1895, "Little Lagrange has an extensive banana field, and over 10,000 pineapples were grown. Spring Gardens has extensive plantations of cocoa, coffee, mangoes, oranges, vanilla, etc. There is no doubt that the future prosperity of the island depends largely on the growing of fruit."

He further stated, "Besides bananas, pineapples, oranges, lemons, limes and coconuts, a number of fruits not so commonly known are grown, making St. Croix a fine field for the horticulturist or pomologist. Many of these fruits have promising qualities that could be developed."

Although St. Croix lost its agricultural glory in the early 1800s, the island still has the potential of feeding itself in certain food crops. Surprisingly, almost everybody I spoke to about the paper's series blamed the downfall of the industry on the government, not natural phenomena.

In 1976 Dr. Frank L. Mills wrote an article for the Virgin Islands Agriculture and Food Fair entitled, "Public Evidence for a Vigorous Agricultural Program." He stated a number of advantages to be derived by the expansion of agriculture in the territory.

First, he said, plowing should resume on several hundred acres of agricultural land being held for speculation on St. Croix. Second, he stated, "Employment opportunities in sowing, reaping, marketing and processing would certainly increase, especially on St. Croix, where unemployment levels are probably highest in the territory."

Third, he said, "The need to include freight costs in the price of imported food articles is said to be largely responsible for the very high food costs in the territory, especially on St. Thomas." A strong agricultural program, he believed, would most likely lower food costs and boost food quality. Fourth, he said, "The continual flow of capital from the territory would be stemmed considerably, and that capital would be reinvested in local agricultural enterprises."

Fifth, he basically said the agricultural land that is now being used for housing development would be safe if agriculture became a major focus for the diversification of St. Croix economy. Addressing water and drought periods, I believe they can be overcome if we really want to feed ourselves. Believe me, other countries do it. Why not us?

This article reflects the views of Olasee Davis, a St. Croix ecologist, activist and writer who holds a master of science degree in range management and forestry ecology.

Students give recommendations to address environmental problems

Olasee Davis
Our Environment

This is the seventh column on the south shore research project conducted by Monica Marin and Loni Fraebel, two former students at Country Day School now attending college on the mainland.

I promised Monica that I would publish her research findings in my "Our Environment" column in the Virgin Islands Daily News on the environmental degradation of St. Croix's south shore. This is a promise I must keep.

As a people, we often talk from both sides of our mouths when it comes to our young people. People who know me personally know that I believe in doing, not just talking.

Well, in this case, I will let the young scientists talk.

"While each of us carries E. coli bacteria within us, its potential danger must not be underestimated. It is the same E. coli that led to deadly outbreaks in the past year, and forced the recall of many processed food items, most notable among them beef and chicken. Teachers in the area studied made note of reoccurring outbreaks of skin conditions and erupting sores among children who regularly swim at some of the more seriously affected beaches.

Elevated water temperatures were recorded at several locations, foremost among them Anguilla and Rum Factory Beach. While the likely cause at these two locations is different, the end result may well be the same. At Anguilla the problem is compoundedby very high bacteria levels, whicl will thrive in even greater numbrs as water temperatures rise witin limits. Above normal water temperatures can and will lead to mariz habitat loss, and a consequent lss of marine animals from our wats.

The averag pH in our oceans varies from 80-8.4 on the surface, and 7.4-7.9 at deeper depths. Healthy ocea environments have a natural buffesystem that regulates pH and keepst within the appropriate healthy rage.

Marine lifecannot live long outside of these nges. Natural pH can be affected by various factors, including outow from breweries, laundries, taning plants, untreated sewage, and aste acid from industrial sources. /e found healthy and consistent pHanges at the westernmost beachesstudied, specifically from Good hope west to Sandy Point.

However, Airport Beach, Rum Factory Beacl and Carlton Esuary all revealed levls that were far from normal. All ofhese aforementioned sites recorded H levels below 6.5, a more acidic lel in healthy ocean water, an onethat reveals definite signs of pollutn problem.

While we eard many opinions, which differedwidely as the causes of water polluon and beach degradation along or island's southwest shore, what was more surprising still were the varying degrees of expressed concern from those who acknowledged that a pollution problem existed in the area.

We heard from some lobster fishermen, who pointed out, probably correctly, that shellfish thrive in the nutrient enriched waters "fertilized" by sewage runoff. So long as their catch levels remain high, there is no problem.

The fact that lobsters absorb concentrations of bacteria through their gills, which is in turn concentrated in their digestive tracts, and may be passed on to those who consume the contaminated shellfish, was not of significant concern.

Buyer beware. There are legitimate differences of opinion, and yet where issues of human safety are involved, or issues of species survival is at stake, we would hope that all of our island people will line up on the side of health, safety, and the preservation of our indigenous species.

At a time when our tourist dependent islands are actively courting the fast growing eco-tourism market, we cannot afford to contemptuously flaunt an environmental disregard in our visitor's faces.

There is a dollar and cents rationale for the common sense suggestion that we seek to preserve what we have, and to the degree that we can, restore what we have lost. When the inhabitants of the original Paradise were given dominion over the earth and animals, who dwelled in it, it was understood to be a stewardship rather than an ownership situation.

When our own American Paradise is lost to us, destroyed by our own hand, what land of Nod awaits us, East of our Eden, waiting to take us in? It is only through increasing general public awareness of the problem and educating people to the likely causes and certain affects of pollution that we might hope to eventually find solutions.

Without personal and governmental accountability, and carefully considered solutions that bring government, industry, and private citizens together in a cooperative effort, we will not stem the tide that leads us inevitably toward the loss of our paradise. One hopes it's not too late."

This second part of this column gives the recommendations the young scientists came up with to address the serious environmental problems on the south shore of St. Croix.

"The following recommendations arise from our observations and interpretation of the initial data. We recommend that:

- Ongoing efforts to educate young people in the school setting, and adults through public service announcements, community workshops, and locally produced television documentaries, be increased and intensified to develop widespread awareness of the problem.

- Provide incentives for educational and professional development for local individuals wishing to pursue professional careers as environmental scientists and environmental science educators.

- Utilizing the services of professional scientists, gather and publish data relative to the concerns expressed here, and perform a comprehensive survey of the entire Virgin Islands and their surrounding waters, including all off-shore cays."

Next week, I will continue with the recommendations the young scientists gave on to address the problems on the south coast of St. Croix.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Students observe beaches at Sandy Point on St. Croix

Olasee Davis
Our Environment

This fourth column of Monica Marin and Loni Fraebel's research project continues with the observation of the young scientists at the south coast of St. Croix.

"Sandy Point comprised two of the beaches included in our study. By comparing the west and southern beach sections of Shady Point, we were immediately mindful of some sharp contrasts. The western beach area is postcard perfect beach of breathtaking beauty. Vast expanses of bright, fine, clean white sand give way to crystalline clear bluish-green water with a constant rolling current.

At landward extent of the wide beach is a thick carpet of vibrantly healthy vegetation, a verdant jewel in the golden crown of beach that bedecks this national treasure and wildlife sanctuary. The south side, however, reveals a very different beach situation. With a much sparser blanket of sand, sand that is neither as white nor as fine in texture, the south beach has far more rocks, shells, and seaweed deposited along the shore. The beach is not nearly so wide and a stronger current is at work along this rockier coastline. The water here was stirred up, and the beach lacks much of the beauty and appeal to be found at the adjacent west beach.

In the course of our investigation, we discovered two noteworthy runoffs, which flow through the William's Delight and Carlton areas. One of these, Cane Gut, meets the sea at the Carlton Estuary where it gives the appearance of a murky, greenish pond. Large quantities of trash and decaying vegetation, along with a disgustingly foul odor, assault all the senses at once. It is clear from residue in the surrounding sand that the containing pond at gut's end flows freely into the sea when it rains.

The Carlton Estuary Beach is absolutely lacking in appeal and seems to be practically devoid of life. Large numbers of dead mangrove are present and the water, which has a weird brown tint, seems to be unusually still, almost stagnant. The whole beach is layered in rock and is heavily eroded. This picture is similar to that of Mint Gut, whose outlet to the sea is between the airport and Carlton. The runoff situation at the Mint Gut site seemed far more ominous and disturbing, however, than that found at Cane Gut.

The fecal coliform count tested at the Mini Gut site was far higher than that of Cane Gut, and the general color of the runoff is dark brown with tinges of purple. The seawater itself where it mixes with the Mint Gut effluent appeared to be brown, yellow, and green. An odor of human waste mixed with odd chemical smells permeates the air. In the shallows along the shore, we observed various coral heads, mostly dead, while others evidenced stages of disease and advanced decay.

In the brain corals, the crenulations and lobes were eaten away and permeated with hollows. The overall visual impact of this site was the most frightful and horrifying of any we observed in our study. Off the coast here, we observed fishermen diving for conch and lobsters. This gut, like Cane, flows freely during times of rain, suggesting that this may not be a safe and suitable area for catching food. At both Cane Gut and Mint Gut, there is ample evidence of once thriving stands of mangroves, formerly effective sieves, now choked on an outflow of sewage, human waste, and trash of every type.

Both of these guts seem to evidence the worst consequences of ill managed or non-existent waste treatment, open sewer lines, and inadequately functioning and poorly conceived septic tanks and leach fields. The over burdened Anguilla dump clearly plays a role in the sad state of environmental affairs along the island's southwestern shore. On one of the days we were present monitoring and collecting data for this project, we observed a tank truck pumping raw sewage to an underground at the Anguilla dump.

It was the expressed opinion of the tank truck driver that the government does not have effective and efficient means of cleaning this liquid waste being dumped, and that much of this sewage ultimately finds its way into our oceans and groundwater. The burning of garbage at the Anguilla site, along with the periodic dump fires of mysterious origin, contribute not only to air pollution (and life threatening asthma attacks for all those so afflicted who live downwind), but also to very high water temperatures at the adjacent shoreline.

The temperatures recorded here were by far the highest of any we tested. Increased water temperatures, in addition to being disruptive to marine life, provide an ideal environment for the growth of bacteria. Thermal pollution, when the runoff is clean water is environmentally disruptive; when the outflow has percolated through the garbage, sewage, and chemical stew of the Anguilla dump, it could be disastrous. Near the Anguilla site, we discovered a large pond-like runoff adjacent to a stand of seemingly healthy mangroves.

The water tested positive high level of fecal coliform. Trash and metal scrap littered the pond edges and the nearby road. On various days, we were at this site we observed families with children come to collect cans or just to explore the beach. The sight of barefoot children running and frolicking in this most unsanitary place, oblivious to the potential dangers underfoot and around them was most disturbing indeed. It seems imperative that people (especially parents) become more aware of the dangers and possible hazards to be found at this site, and elsewhere where the hand of man has despoiled our island environment.

Airport Beach, a place often used for swimming, camping and fishing had the highest level of mercury content among any of the waters we tested. This beach, while not exhibiting significant erosion, does seem notable for the numerous deposits to tar in its off-color beach sand."

The research continues next week.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

Students' research on St. Croix's southshore continues

Olasee Davis
Our Environment

This is the second part of Monica Marin and Loni Fraebel's research project that was conducted on the south shore of St. Croix.

This second phase of Marin and Fraebel's research project that I will share with you focuses on the historical background of economical development along the floodplains and south shore of St. Croix.

Also, I will share with you, if not in this column, the one after, the data analysis and testing of the wate, and the result the young scientists found on the south coast of the island.

The research continues: "The economic progress of St. Croix, like any place else, has always had a price tag. Perhaps here more than elsewhere, that price has generally been measured in ecological terms with great sacrifices from the natural world.

It would seem that at each critical transformational juncture where a new economic phase of development was being ushered in, a series of calculated conscious decisions were made that had the power and result of utterly changing the physical landscape of the island, perhaps for all time.

perhaps nowhere is this more dramatically evident than in the torching of the islands primeval forests by the French in preparation for wholesale cane culture.

Centuries later, in the 1950s and early 1960s, another phase of economic development was plotted and into place when the island would effect a transition from its agricultural base to an industrial one, which would be augmented by tourism.

Like that earlier phase of initial economic development, this progress too would exact an environmental cost. Less significant than the wholesale despoliation of the islands' forests perhaps, but with huge consequences for the environment never the less.

The promise of an industrial base capable of ushering American Virgin Islanders into high wage employment and a middle class lifestyle came to our shores along with Hess Oil, Harvey Alumina, and to a lesser extent revamped existing factory operations like Cruzan Rum.

These projects all pre-date the scientific environmental movement by a decade or more, and our island's children and their parents (and government leaders) had not been brought up on terms like ecosystem, habitat, renewable resources and recycling.

"Green" was still a color in the rainbow, not a political affiliation or eco-sensitive outlook. Like and attitudes were different and resource preservation was not a high priority.

Krause Lagoon once the most extensive mangrove system in this part of the West Indies, filled in and effectively obliterated from the earth is re-christened Anguilla Lagoon and provides the building site for a vast industrial complex where HOVENSA and Alcoa Alumina stand today. Serving as the island's natural non-source pollution filtration system, the Krause Lagoon acted like a giant sieve and was essential to the protection of coral reefs along the southwest shore.

Additionally, it served as the primary breeding habitat and nursery for a wide variety of animals including multiple species of fish, lobster, shrimp, conch, oysters, clams and the "Crowned Pigeon." Old Timer Erik Lawaetz, in his book "St. Croix - 500 Years" sadly recounts that what little remains of this beloved recreational area of his youthful days is "Now forgotten by many and unknown to others and to future generations only a saga." (Lawaetz, pg. 74)

Another key factor contributing to the poor health of our island's shorelines is the long history of mismanagement of development along the coastline and within the coastal zone. Under earlier laws, and through abusive non-compliance with existing, more stringent regulations, developers in this sensitive zone have abused the public trust with catastrophic consequences to the environment.

So much destruction has occurred as the result of ignorance of the role of watershed in our ecosystem, compounded by an overwhelming lack of concern on the path is packed up and carried into the sea.

According to St. Croix ecologist, activist, and botanist Olasee Davis, due to he mountainous nature of the island ... "improper development in tier two can cause irreparable damage to such coastal resources as coral reefs and sea grass beds."

Furthermore, Section 222 of the Development law says, "Improper development of the second tiers of the coastal zones and its resources has resulted in land use conflicts, erosion, sediment deposition, increased flooding, gut and drainage fillings, decline in productivity of the marine environment, pollution and other adverse environmental effects, and has adversely affected the beneficial uses of the shorelines and trust lands by the people of the Virgin Islands."

In addition to the destruction of much of our natural environment to make way for residential, commercial, and industrial development, some extremely destructive elements have been the result of natural forces, hurricanes, the turbulepce of waves and natural water run-off. Some of the major ramifications have been problems with erosion, sediment deposition, increased flooding, and gut and drainage flooding, all contributing to the overall decline in the productivity of our marine environment.

A map dating back to 1772 helps to illustrate the dramatic erosion along the south coast over the years. In this case a sugar mill located at Estate Great Pond, then at a distance of some 600 feet from the shoreline, now lies far below the ocean depths.

And while the Long Point Carlton Beach ostensibly enjoys protection under Federal acts, no effort to stem the massive erosion, which is tumbling the old Carlton Beach Club into the sea has been attempted.

This erosion, which was concurrent with the development of the Hess Deep Water Dock several miles up the coastline, has been accelerated by every severe storm since."

Next week the research will continue.

This article reflects the view of Olasee Davis, a St. Croix ecologist, activist and writer who has a master of science degree in range management and forestry ecology.

That first sunrise was spiritual

Olasee Davis, an ecologist, is a Daily News contributing columnist. He lives on St. Croix.

Olasee Davis

It was 4 a.m. on Jan. 1, 2000, the St. Croix Hiking Association and friends hiked Jack Bay and Goat Hill in the dark with flashlights to see the first sunrise of the 21st century.

Goat Hill is 672 feet above sea level, a half a mile or a mile west of Point Udall. It was here on this hill looking down east on Point Udall that the big-orange-ball sun lit up the heaven on the eastern part of St. Croix. As we looked at the sun rising from the surface of the ocean, it seemed, we all filled our cups with apple cider and toasted the new century.

The millennium means many things to many people. I look at the millennium from a creation perspective. In the book of Genesis, it spoke about the creation of the world from the Judeo-Christian point of view.

As we hiked through the darkness to reach Goat Hill, I thought of how it must have been to live in a world without light. But God in his wisdom saw it fit when *He* said, "let there be light." Thus the day became light and the darkness became night. This brings us to the first day of creation. Here God divided the firmament from the firmament. The waters were divided which were under the firmament.

The firmament we know as heaven which is above the earth. The third day of creation God created land, sea, and plant life appears. According to Genesis, God gathered the water under the firmament together into one place. This was called sea. The dry land was called Earth. Then, the earth environment brings forth all kinds of vegetation after its kind yielding seed, and the herbs and fruit trees yielding fruit after its kind.

Thus the earth was propagated with a bio-diversity of various species of plants. On the fourth day of creation, sun, moon and stars became visible. God said let there be light in the firmament of the heaven which divided the day from the night. Both sun and moon were created for signs and for seasons, days and years. That's why the rain falls from heaven, the sun sets and rises, and the moon gives it light at night.

The days and years are controlled by the Earth rotating around the sun. So spring, winter, summer and fall gives us our seasons throughout the years. The stars were also created during the fourth day of creation. On the fifth day of creation, God said let the ocean bring forth the abundance of marine life. The rivers and streams were also created by God with the abundance of fresh water organisms.

During the fifth day of creation, God also created the fowl of the air after its kind. Before the fifth day of creation came to a close, God said to the marine and bird life, be fruitful and multiply the sea and earth.

On the sixth day of creation, the earth brought forth the living creature after its kind — cattle, and creeping thing like insects and lizards. If you read the first chapter of Genesis carefully, you would notice that everything that God created was good. And as God created the eco-systems with living things, he said it and it was so. Thus nothing of itself create itself, but of God. In other words, God spoke the existence of all life on earth.

Also, on the sixth day of creation, God created man giving him dominion over all the creations of the earth.

With the creation of mankind, God blessed them, and said be fruitful and populate the earth with your kind. And so the earth was populated with the human species subduing all other living creatures under his feet.

God went a step further and said, let every herb bearing seed which is upon the face of the earth and every tree bearing seed, it shall be for food. It seemed like God reinforced to man when he said, to every fowl of the air, to every beast of the earth, and to every creeping thing upon the face of the earth therein. I have given you every green herb for food. It is seen from creation, man was a vegetarian until the earth was destroyed by the Great Flood that Genesis, chapters 7 and 8, talked about.

At the close of earth creation, God saw that everything that he made was good. In fact, God said it was very good. "And on the seventh day God ended his work which he had made; and he rested on the seventh day from all his work which he had made. And God blessed the seventh day, and sanctified it, because that in it he had rested from all his work which God created and made." Genesis 2:3.

I believe God can make the whole earth creation before we can blink our eyes. God didn't need to rest from his creation. But you see, everything in life is done in such a way that we human beings will be able to understand the purpose of living.

Remember, the millennium is just an extension of God's creation to mankind.

The hurricanes will come and go

Olasee Davis

"And there arose a great storm of wind, and the waves beat into the ship, so that it was now full. And he was in the hinder part of the ship, asleep on a pillow; and they awake him, and say unto him, Master carest thou not that we perish? And he arose, and rebuked the wind, and said unto the sea: Peace be still. And the wind ceased, and there was a great calm. And he said unto them, why are ye so fearful? How is it that ye have no faith? And they feared exceedingly, and said one to another, what manner of man is this, that even the wind and the sea obey him?"

— St. Mark 4:37-41.

Olasee Davis, an ecologist, is a contributing columnist for The Daily News. He lives on St. Croix.

The scriptures above depict how fearful Jesus' disciples were when a great storm arose on the Galilee Sea. You can only image how the disciples felt as the waves beat into the boat. The disciples were so fearful for their lives that they almost forgot that Jesus was in the bottom of the boat asleep. As Jesus was awaken by his disciples, he spoke to the storm and the sea became calm. It was the lack of faith that causes the disciples to be fearful of the storm.

Like the storm that caught the disciples off-guard on the Sea of Galilee, Hurricane Lenny sneaked up from the Gulf of Mexico while many Virgin Islands residents were getting ready for the Thanksgiving holidays. In fact, the National Hurricane Center was also caught off-guard to the development of the storm.

As in the biblical story, lives were saved during the dreadful Hurricane Lenny.

While there was a small percentage of damage on St. Croix, many of us complained about the curfew the government enforced, lack of electrical power and running water to our homes, or just the inconveniences the storm has brought, we should be thankful to God that we are still alive. The questions we should ask ourselves after a storm are: who looked after the damaged trees, the lack of food for certain species of wildlife, or the marine environment that contribute to our local economy.

Too often we fail to realize that the environment sustains the life of all living organisms on earth. The food that we eat keeps us healthy. The air that we breath is what gives us oxygen. The roof over our heads is what protects us from the elements of nature. Ecosystems are interrelated. What happens in one eventually affects what happens in others. What happens in the forest affects the pond, the estuary, the ocean, and finally mankind.

After Hurricane Lenny, I conducted an environmental assessment of St. Croix. To my surprise, I found little impact on the physical environment. In the Christiansted area, the water quality was poor due to soil erosion. In some places, the sea water from La Grande Princesse, Golden Rock, all the way to Alton Lagoon shore, the water was brown a half or mile out. The barrier reef systems in these areas were heavily impacted.

From Shoya Bay to Solitude and Yellowcliff Bay, the water quality was generally good. There were spots of brown sea water in some areas especially where the mariner located near Teague Bay. At Cramer Park, the water was brown due to the clearing of the land behind the park for the millennium celebration at Point Udall. From Cotton Garden Bay to Point Udall, the water was clear and clean. This area has no man-made structures — only the paved road leading to Point Udall, the easternmost point of the United States.

East End Bay on the south shore of Point Udall, all the way to Grass Point, the water was perfectly clear except in few inland bay areas. Rod Bay all the way to the Great Pond Bay, the water was clean except the day after the storm where sediments were seen out at the bay barrier reef system. Farehman Bay all the way to Cane Garden Bay, the water was fair and good in some areas of the coastline.

From Rust Up Twist to Hams Buff, the water quality was good except for few inland bays. Driving from the scenic road east to west, the forest area had little impact from the storm. There were large patches of green space where some plants were still in blossom. Between 5 percent to 6 percent of large trees were damaged. However, the west side of St. Croix received the most coastal damage from the storm.

All the sand in the Frederiksted area disappeared due to beach erosion. The sea water was right up under on many of the businesses and homes from Fort Frederik Museum to Sprat Hole Bay area. Inland vegetation has minimum storm damage. The center of the island vegetation also had minimum damage.

Overall, the environment on St. Croix will recover with no major problem except for the coral reef marine environment, which will take a longer time due to the tremendous beating from wave action by the storm.

Oh, he of little faith, the environment will recover. It is a matter of time.

What next before the east end becomes a concrete jungle?

Olasee Davis, an ecologist, lives on St. Croix. He is a contributing columnist to The Daily News.

Olasee Davis

Thousands of people, locals and visitors alike, will flock to Point Udall to see the first sunrise of the new millennium on American soil. It is the easternmost point of the United States.

There are plans of building a Millennium Monument there, clearing 15 acres of land near Cramer's Park for vehicles, releasing doves, blowing conch shells, and the list goes on.

Since many people are gearing up for the millennium celebration, how many of us know the history of the Point Udall area and why the local government ended up with approximately 340 acres, almost 50 percent of the east end peninsula. The land was donated to the Virgin Islands government for use as a territorial park system by Fairleigh Dickinson Jr.

When a survey revealed that an estate boundary was off by almost 100 acres, the Virgin Islands government and Dickinson agreed to divide the area in question. The government got the northern half with deed restrictions to recreational and conservation uses. The southern half, which included much of Isaac Bay, went to Dickinson, with a note in the deed that "nothing in this deed shall be in derogation of the V.I. Open Shorelines Act or the right to the public.

From Point Udall, the Goat Hills rise to Sugar Hill, 672 feet high, and form a central ridge from the point to the lower neck between Knight Bay and Grapetree Bay. The hills are dry, covered with thorn scrub and cactus, except where fire has burned off the brush and grass has grown in its place. In guts and where the slopes are protected from the wind dry forest can be found.

On the north side, Cotton Garden Bay's long sandy beach, protected by the end of the northern barrier reef system, has been developed by the local government as Cramer's Park. East of Cotton Garden Point, Boiler Bay includes a complex ecosystem of algal and coral reefs, seagrass, rocks and sand. A long beach with fringing reefs becomes a wall of cliffs leading to Point Udall. Around Point Udall, the white sand of East End Bay opens to the southeast, followed by the long indentation of Isaac Bay and then, around Isaac Point, the beach of Jack Bay.

Hughes Point, 200 feet high, cut this wilderness off from the old Grapetree Bay hotel and houses to the west. Within the east end peninsula, the only man-made structures are the recently paved road to Point Udall, the new National Radio Astronomy Observatory, a few structures at Cramer's Park, and the scars of old and new roadways, some illegally cut and an old airstrip in Jack Bay.

The east end of St. Croix is unique because through time it has been relatively inaccessible and thus has been less disturbed and less explored than the rest of the island.

It is this part of the island naturalist George Seaman spoke about in his book Ay Ay of how beautiful the area is, especially during the spring rain. Endangered species sea turtles are known to nest on most of the beaches in the area. During the winter months, several endangered species whales can be seen near the coral reef of Jack and Isaac Bay, Iguana, White tail deer, agouti, possibly the St. Croix ground lizard, endemic snakes, and plants inhabit this dry shrub land of St. Croix.

There are four main biological communities of the east end area of St. Croix. They are the mature thorn woodland and scrub community, including the rock pavement dwarf cactus scrub, the upland dry forest community of the guts and leeward slopes, the beach community, including the littoral dry forest and thickets, the beach berm vegetation of the saltwater wetland, and any periodically flooded areas near beach, and the marine community.

Thus, some of the best examples of each of these communities on St. Croix are found here on the east end area due primarily to the minimal disturbance and the extreme salt, wind, and low-rainfall environment.

I would hate to see this unspoiled part of St. Croix become other than what it was intended to be — a territorial park.

Don't get me wrong, nothing is wrong in the celebration of the year 2000 at Point Udall. However, this government has a tendency to do what it pleases without doing its research, whether it is appropriate to do this or that. The east end of St. Croix, from the north side of Cramer's Park to the south side of Cramer's Park to Point Udall, is within the Areas of Particular Concern boundaries. This means the area is under special management protection plan.

The east end APC is considered to be the largest open area left on St. Croix. One can drive to the Point Udall overlook, get out of the vehicle and, except for the paved road to the east end, look around in a 360 panorama and not see a man-made structure. Because of this fact alone, preservation of the area for recreation, educational activities, and scientific study was one of the major reasons to protect the area.

Now, we decided to build a Millennium Monument at the east end of the island. What next, may I ask, before the east end becomes another concrete jungle?

Why all the hurricanes? Look to the 'Great Ocean Conveyor Belt'

Olasee Davis, an ecologist, is a contributing columnist to The Daily News.

I just happened to be at WAPA paying a bill before Hurricane Jose became a hurricane when I overheard a customer saying, "Why are we getting hurricanes in October."

For many people in the Virgin Islands, Hurricane Hugo was their first experience of nature's violence. The memories of Hurricane Hugo are still fresh.

Hurricane Hugo, which caused approximately $10 billion in damage, had been the costliest hurricane to strike the United States before Hurricane Andrew three years later in 1992. Hugo was in some ways two hurricanes in one. From Sept. 17-18, in 1989, it passed through he Virgin Islands and Puerto Rico, leaving $3 billion in damage in its wake.

Hurricanes start off the coast of West Africa, then gradually intensify as they cross the Atlantic Ocean. The two biggest contributors to a strong hurricane season are El Nino, Pacific Ocean current, and, most importantly, heavy rainfall in the Sahel region of Africa.

Before Hurricane Hugo, the Virgin Islands had a long period without major storms striking. In the minds of many Virgin Islands residents, why, all of a sudden, are hurricanes coming more frequently?

Meteorologist William Gray theorizes that oscillations in a worldwide current known as the "Great Ocean Conveyor Belt" are ultimately responsible for cycles in African rainfall, and hence hurricanes. People, we are overdue

Olasee Davis

"The first hurricane, of which we have knowledge, hit the Virgin Islands on Oct. 14, 1526.

for another heavy hurricane cycle like we had back in the 1700s. The Great Ocean Conveyor Belt circulates warm tropical water through the Pacific Rim, across the Indian Ocean, and up the West Coast of Africa reaching the Arctic, the water cools and sinks, and cold water returns South.

As the the conveyor belt moves slowly, there is little wind and moisture to cause monsoons over West Africa, which stays warm and dry. Over the years, the hot weather helps evaporate ocean water, creating salty, heavy water reaching the North Atlantic. It cools off and sinks deeply, strengthening the cold water "return" of the conveyor belt. Gradually, this speeds up the winds and moisture near Africa, spawning the Sahel rainstorms that ultimately escalate into hurricanes that head toward the Caribbean and the United States.

Pollution from factories, hair spray, deforestation, and other man-made activities on the earth environment also contribute to the weather changes in our atmosphere system.

I know you hear the term "green house effect" or "global warming." Believe me, we are living in time of earth history when nature will speak to us more by violent destruction. So as the 20th century hurricane season comes to a close, the 21st century will bring violent storms where thousands of people will lose their lives.

On the question of why hurricanes in October?:

The first hurricane, of which we have knowledge, hit the Virgin Islands on Oct. 14, 1526. On Oct. 9, 1916, a severe hurricane, still remembered by many older Virgin Islanders, blast the islands.

Conserving our natural resources

Olasee Davis, an ecologist, is a Daily News contributing columnist.

Olasee Davis

Throughout the history of the Virgin Islands, many non-profit organizations were established to assist and improve the quality of life for all residents of these islands. For example, in the early 1900s, the Queen Louise Home for Children was started on St. Croix.

At the end of the 19th century, life was difficult on St. Croix. Former slaves were adjusting to their new freedom. Also during this period, the island was hit hard by labor strikes, hurricanes, earthquakes and was impacted by a worldwide economic depression.

Sugar prices were falling as the European sugar beet provided a cheaper source of sugar on the world market. Also, the years of drought and heavy rainfall made crop production on St., Croix unpredictable.

Malnutrition was common and infant mortality was high. Nearly half of the children on the island died before they reached age 5. Even more depressing than the economic plight was children being neglected.

The Virgin Islands Conservation and Development Council Inc. — a non-profit organization administered by the U.S. Agriculture Department's Natural Resources Conservation Service — is a program to help people meet the challenges of the 21st century.

In 1962, the Resources Conservation program was established in our nation to help people care for and protect their natural resources, while improving the economy, environment and the standards of living.

On the national level, there are some 277 authorized Resource Conservation areas that serves 2,016 counties in the United States. In the United States and its territories, there are more than 20,000 people volunteering their time by contributing annually their expertise, resources to revitalize and sustain their communities.

The Virgin Islands Conservation and Development Council was authorized by Congress in 1971, incorporated in 1990, and received its nonprofit {501(c) (3) status in 1994.

There is a district of the Council on St. Croix and another on St. Thomas-St. John.

Because local people are best able to determine their needs, diverse groups of local volunteers are brought together in partnerships to find solutions to problems.

The mission statement of the local program is "to enhance the quality of life for the people of the Virgin Islands Resource Conservation and Development Area through conservation of natural and cultural resources, and the stimulation of growth and development."

Since the 1970s the Conservation program has been providing ways for local residents to work and plan together on how they can actively solve community problems. Problems such as the environment, economic and social conditions that affect the community — proper maintenance of public infrastructure, preserving our cultural heritage, assisting agriculture to become a more viable industry, empowering rural communities in the Virgin Islands and encouraging entrepeneurships.

There are many projects in the Conservation program that assists in carrying out and providing guidance, advice and staff direction. This is done by the local program coordinator, who is a USDA employee provided through Resources Conservation Service funds.

Projects such as the Magens Bay tree restoration was funded with the assistance of the Conservation Service. The Bovoni Landfill Environmental Justice project, also on St. Thomas, was funded by the service.

The St. John Sedimentation project signed an agreement between Planning and Natural Resources and the Conservation Service to study paved and unpaved roads relative to soil erosion.

ACES Child Support Seminar, funded with $2,625 from the Virgin Islands Legal Assistance Fund, conducted a one-day seminar and workshop on child support — with assistance from the Conservation Service.

The watershed mapping project was also an agreement to map out watersheds in a particular area on St. John.

The pink mealybug was another project agreement to have a University of the Virgin Islands student work in the Agriculture Department lab on St. Thomas — in growing wasps to help control the pink mealybug in the Virgin Islands.

A master composting project agreement was also conducted, through the UVI Cooperative Extension Service, to show community people how to establish a compost pile.

Each year the Conservation Service sponsors a grant-writing workshop, to help people find ways to obtain money for projects.

On St. Croix, March 13-17, there will be a five-day grant-writing workshop conducted by Dr. Don Udell; on St. Thomas it will be held March 20-24.

For more information, call 773-9146 ext. 101.

Hiking, an exciting way to learn history

Olasee Davis, an ecologist, is a Daily News contributing columnist. He lives on St. Croix.

Olasee Davis

Last weekend, I led a hike with the St. Croix Hiking Association to Estate Mount Washington, Estate Butler Bay, Estate Hams Buff, and Maroon Ridge.

At 6:61 a.m., we started off from the Underwater Tracking Station parking lot. We hiked along the northwest road until we got to the entrance of Butler Bay 225 acre Nature Preserve.

This western side of St. Croix was the Danes last frontier. Reimert Haagensen, a Danish planter in the 1730's stated, "The thick forests had to be cleared, large trees felled and hauled to the seashores for sale, roads had to be cut and maintained, and the initial dwellings and estate structures — the mills and factories — had to be constructed."

Mount Washington was a cotton plantation during the 1750's. It was not a great success until the early 1800's when the plantation population increased to about 100 enslaved Africans. At this point, the estate was more than 160 acres. It was during this time sugarcane became the major crop of the estate.

We hiked along the dirt path discussing the natural history of the area until we entered the ruins of Estate Mount Washington. Here we found the great house, an animal sugar crushing mill, the stable and other structures.

Estate Mount Washington has a long list of owners.

During 1758 to 1766, Estate Mount Washington, Butler Bay, and Prospect Hill were owned and operated by the McDonnough Dunbavin family.

Captain James Hanson and his brother John then acquired Prosper Hill and Estate Butler Bay. Hanson was a friend of President George Washington. Thus, historians believe Mount Washington was named in his honor.

Again in 1862 until 1879, Prospect Hill, Estate Butler Bay, and Mount Washington were combined as one plantation under the William Moore family. By 1838, 75 percent of the estate was devoted to cane production, while the rest was divided into pastures and gardens.

Many other individuals or families owned the estate until 1904 to 1915, when Lauritz Tran(d)berg owned the property.

Today, Tony Ayer, a local realtor owns a large portion of Estate Mount Washington.

From the hill on Estate Mount Washington, the path continues down a hill to Estate Butler Bay. According to historians, Estate Butler Bay was originally known as "Bottler's Bay" when it was given (free) to Edward Pay for the purpose of encouraging agriculture in the Northside. An inventory of 1764 states that 300 acres was in cane, 11 in pasturage, and a small portion was for slave gardens.

The ruins of the estate includes two great houses, three slaves quarters, a cookhouse, sugar factory, stables, an overseer's house and sugar mill.

At Butler Bay beach, there is a partial kiln that was used for building. Planters usually made their own lime for mortaring structures on the estate.

In those days, almost every building on each estate including the great houses, had a cistern under or adjacent to it. Cisterns were required by Danish law in the towns. People who lived in the country didn't need a law to tell them that rain water was precious.

Estate Butler Bay, which had more than 80 enslaved Africans, exemplifies the great days of sugar and rum production on the island. Agricultural development on St. Croix proved to be most beneficial to the Danes. By the 1780's, the sugar plantation on St. Croix was prospering. By 1812 through 1814 sugar production on St. Croix reached its peak. There were some 175 plantations in operation with 75 percent of the land in cane.

Next we hiked to Ham's Bluff. Everyone got a chance to go inside the lighthouse, which is 360 feet above sea level, and look out at the beautiful horizon.

Out next stop was Maroon Ridge, the climax of our hike. Maroon Ridge is very sacred to the people of the Virgin Islands, particularly St. Croix. It was here during the 1700s where some enslaved Africans avoided slavery by jumping off the cliff to their deaths.

Members of the St. Croix Hiking Association and others who attended surely enjoyed this educational, historical, cultural, and natural hike on the north and western side of St. Croix.

History and culture meet art

Olasee Davis, an ecologist, is a Daily News contributing columnist. He lives on St. Croix.

Olasee Davis

Recently I had the opportunity to attend one of our local art shows. Luca Gasperi, an artist and a St. Croix native son, grew up on a South Shore cattle ranch.

This ranch is some 2,300 acres with a mixture of shrub and grass land, extended from Spring Bay to Fareham Bay. The South Shore Senepol cattle farm is one of the most beautiful cultural landscape areas on St. Croix with rolling hills extended as far as the eye can see. Historically, the area grew cotton; later on, it was turned into a sugar plantation with cane growing close to the seashore.

The sugar mill, great house, bull pen, slave quarters, and other historical structures and ruins indicate the rich agricultural and cultural history that this area has to offer to our local tourism economy. In fact, the Castle Nugent farm, within this 2,300 acres of land, has a bed-and-breakfast business which is part of the family fare.

Luca, from 4-years-old, pulled weeds on the family farm; the farm no doubt helped shape him. The tranquility of the area — with grazing Senepol cattle on open grass land, the northern rolling hills dotted with Ginger Thomas flowers, especially during the fall season, and the coast at the south of the farm — were Luca's window to nature, to the world of art.

St. Croix is fast changing and many boys and girls will never be able to enjoy farm life. It's a shame that we don't realize the valuable lessons nature has to offer our children. If you you don't believed this, talk to Luca, and he will tell you the hard work, fun and joy of growing up on a farm.

Luca's watercolors are on display at the *Maria Henle Studio*. The art show focuses on agriculture and explores the relationship between local farmers and the environment.

The first painting I stopped to see was of Asheba Samuel. In this painting, she was wearing a knit hat planting or pulling weeds on her farm. She is also a storyteller, weed woman, and one of the cultural bears of the community.

The next painting was of Errol Chichester. Errol, a horticulturist, is stooping under a mango tree holding a grafted mango in his hand, with his dreadlocks hanging over his shoulder. This painting was one of the first to be sold.

Not so far from the painting of Errol was one of Henry Carter, an old farmer, who has a vegetable farm.

Carter said he started growing plants from age 3 when he used to help his mother with her kitchen garden until he was 17. From there he went to New York. He said "what a disaster" with no agriculture in New York City, only fog and smoke. After 16 years in New York, Carter returned to St. Croix where he started farming. He said he strongly believes in organic farming. Fresh organic vegetables and fruit is the way God intended man to eat, he said.

The painting shows Carter on his farm in rubber boots, along with a line of 5-gallon water containers, which he used for organic juice mixture of his plants.

Not too far from Carter's painting is one of Helen Gonzales. Gonzales is believed to be the first farmer on-island to import the South African Boer goats. This was done to improve the local breed.

Luca attended a public hearing on agriculture where he met Gonzales and Percival Edwards speaking out on St. Croix agriculture issues. The painting showed Helen and Edwards standing next to two large-eared goats.

Aberra Bulbulla, my co-worker at the University of the Virgin Islands, is a horticulturist. Another painting shows Bulbulla selling fruits and vegetables at La Reine farmer's market early in the morning. Bulbulla is a master at grafting and air-laying fruit trees.

Another of Luca's paintings is of Gertrude Powell. She grows medicinal herbs, culinary and ornamental plants. The products at this farmer's table make you want to become a farmer yourself.

Huge Clark is a honeybee farmer. He provides unpasteurized, all-natural honey. He is full of enthusiasm. The painting of him tells the story of how he became a farmer.

Aziyza Ehmoonah Shabazz is a natural farmer. She lives in the rain forest area of St. Croix; she has a gourmet "veggie" catering business. In this painting, Shabazz is standing tall and strong on her farm.

Muhammad Shabazz grew up on his mother's farm. In the watercolor of Muhammad, he is pitching fresh herbs from his garden.

Luca is doing a great service and showing his love for the people of the Virgin Islands by preserving the history, the environment and culture — through his art.

It's important to support artists like Luca in our community. There is a closing reception Friday from 4-8 p.m. However, his paintings will be on display until Feb. 2 at the *Maria Henle Studio* — 55 Company St., Christiansted (above Indies Restaurant).

Is Great Pond a priority?

Olasee Davis, an ecologist, is a Daily News contributing columnist. He lives on St. Croix.

Olasee Davis

On Dec. 22, 1999, Judge Alphonso G. Andrews Jr. issued an order to the V.I. government enforcing the charitable trust of Estate Great Pond — plots 5 and 6, better known as Camp Arawak. In 1974, Frank Wiesner deeded 14.5 acres of land East End Quarter A to the people of the Virgin Islands and visitors of its shores. Wiesner was very specific when he deeded the land to the people of these islands.

Following the judge's order, the government of the Virgin Islands designated Commissioner Ira M. Hobson, of the Housing, Parks and Recreation Department, the responsibility of creating a master plan for the Great Pond/Camp Arawak site.

Under the commissioner's leadership, a master plan of the Camp Arawak site was developed. The master plan was submitted to the governor, however, he asked for an extension from the court on the implementation of the plan for Camp Arawak.

The question is how long will the extension continue before the development of Camp Arawak?

Last week at the Camp Arawak site, I gave a historical, cultural and ecological talk to representatives of tourist companies and visiting tourism journalists.

Of course, I talked about how St. Croix has a heritage tourist product that needed to be promoted. The tourism journalists asked me many questions and took lots of pictures of the Great Pond Bay area. However, what disturbed all of us is the condition of the area. The whole Great Pond site possesses considerable historic archaeological potential and an ecological wonder as a tourist product for the economy of St. Croix.

"However, what disturbed all of us is the condition of the area. The whole Great Pond site possesses considerable historic archaeological potential and an ecological wonder as a tourist product for the economy of St. Croix.

We have a governor who is a historian by profession. You would think that the Great Pond Bay area would be a priority since the governor is the trustee of the property for the people of these islands. We all know the financial condition of the territory, but this administration could do something to control the soil erosion along the shore of the Camp Arawak site.

Since Commissioner Hobson was designated by the governor to come up with a master plan for the area, he at least could put a large rock at the entrance of the dirt road to stop people from driving their vehicles onto the bay. This will help keep the vehicles off the dirt road from further eroding the road. On the east side of the great house of Camp Arawak, there is an pre-Columbian Indian site, as well as a site of historical and cultural interest from the plantation era.

This area is also driven on by vehicles that take the dirt road that lead to the beach. While there is an extension not to implement the master plan for the Camp Arawak area, pre-Columbian, European and enslaved Africans artifacts are being driven on and washed away by rain. In this area alone, Beal Aerospace Technologies Inc. archaeologists found more than 200 artifacts laying on the ground surface. Meanwhile, the bay is being impacted by soil erosion as vehicles drive on the dirt road.

The bay of Great Pond has numerous patch reefs scattered throughout the shallow water with sea depths of less than 10 feet. Further out of the bay is the barrier reef system, one of the best reef systems in the Caribbean. This coral reef system was designated by the federal government as a protected area because of its marine resources. The reef ecosystem extends almost the entire length of the bay and beyond, and is teeming with hard and soft coral and a variety of fish species.

The bay sea grasses and beaches are also important for foraging and nesting habitat for sea turtles. The shallow mudflats provide a resting and foraging area for thousands of resident and migratory birds.

As Camp Arawak hangs in political uncertainty, the land and sea of the area continue to be jeopardized by people who hold the future of Great Pond Bay in their hands.

Put in place a serious water and land use plan

Olasee Davis, a ecologist, is a Daily News contributing columnist. He lives on St. Croix.

Olasee Davis

I found it interesting that Gov. Charles W. Turnbull said, during his State of the Territory Address, that a small group of people opposed the development of a rocket manufacturing company, east of the Great Pond Bay area. That's not true.

The Beal issue reminds this government and the people of the Virgin Islands that a comprehensive land- and water-use plan needs to be implemented — from yesterday.

During the late-Gov. Cyril E. King's administration during the mid-1970s, a preliminary program was established that was a precursor to a comprehensive land- and water-use plan.

On the land-use issue, King stated: "This preliminary program represents the interest and continuing efforts of this administration to plan for the protection and effective utilization of the territory's coastal land and water resources.

"Moreover, it contains specific goals and objectives, policies, recommendations, a land- and water-use plan, and proposed implementation mechanisms necessary to deal in a comprehensive manner with coastal zone resources issues and problems."

The Virgin Islands coastal land resources were relatively undeveloped until the late 1950s at which time it was "discovered" by residents of the United States. In the 1960s the construction activity in he Virgin Islands grew rapidly as a result of the large number of visitors to the islands. Within a decade, from 1960 to 1970, the population in the Virgin Islands doubled from 32,000 to 75,000. Condominiums, hotels and homes began to be built on hillsides, near beaches and other waterfront areas.

This development era also brought public housing projects, as well as industrial and commercial activities, throughout the territory. The people of the Virgin Islands benefited from the growth of development in terms of providing employment and a higher standard of living. The rapid growth brought environmental, social and economic problems. Development was done in a haphazard and unplanned manner. The implication of poor development practices brought great changes environmentally and socially.

For example, the loss of natural areas such as mangrove ecosystems, salt ponds, reefs and marine seagrass beds has resulted in the decline of marine productivity and wildlife habitats. Coastal development has threatened traditional public rights to use water and shoreline areas. Despite some legislative laws to control the growth of unplanned development, the V.I. government has been only partially able to deal with development-induced problems. With uncontrolled development, social changes also have occurred.

Until the 1940s, native Virgin Islanders made up 75 percent to 80 percent of the population. However, by the 1970s, native Virgin Islanders only made up less than half the population. This change in population is a direct result of large-scale economic growth in the territory. The large influx of Eastern Caribbean people and residents from the U.S. mainland has dramatically altered the traditional Virgin Islands culture.

Many native Virgin Islanders feel that they are "losing out" and "losing control" in their own homeland.

As this government continues to ignore the implementation of a comprehensive land- and water-use plan, social, environmental and economic issues will continue to increase in the Virgin islands.

With no plan in place, the problem of excessive sediment runoff — as urbanization continues to develop on undeveloped land — will be a major cost economically to the Virgin Islands government. Many construction sites in the Virgin Islands strip vegetation and alter natural land forms without implementing practices that will reduce the flow of sediment to the shoreline.

Our coastal water's are showing signs of deterioration of water quality. The quality of the surrounding waters is affected by dredging, filling activities, sediment, discharge of sewage effluents, and disposal of solid waste materials. Furthermore, the increased economic activities and the accompanying large-scale urban growths have created unprecedented pressure on the limited resources of the Virgin Islands.

Today, coastline areas are highly desirable for development for a number of reasons. As a result, commercial, industrial, recreational activities, residential and institutional uses compete for limited coastal land space. Because of these activities, loss of natural areas, inappropriate shoreline zoning, lack of a general land- and water-use plan, and public-beach access will continue to be a major problem in the future.

The piecemeal development of our natural resources is not acceptable. I urge this administration to implement a comprehensive land- and water-use plan. It is critical to the growth and development of these islands.

Remembering Rudy Shulterbrandt, a kind and humble man

Olasee Davis, an ecologist, is a Daily News contributing columnist.

On Jan. 18, 2000, the people of the Virgin Islands lost a gentle giant who contributed so much to these islands' history, culture and agriculture.

Rudolph Shulterbrandt, affectionately called Rudy, was among the great leaders born in Savan on St. Thomas. Others Savaneros included: Rothschild Francis, Alton Adams Sr., Edward Wilmot Blyden and J. Antonio Jarvis.

Savan — a neighborhood in the western section of Charlotte Amalie — was founded in 1764-65. Respect for elders, the law, pride in work, love of education, love of community, trust in God and cultural dignity were all part of Rudy's upbringing as a boy in Savan.

After the Army, he received a bachelor's degree in agriculture from the University of Maryland and a master's degree from Cornell University in Upstate New York. Rudy returned home in 1953 and began his career teaching agriculture at the Frederiksted Junior High School. During Gov. Melvin Evans' administration, Rudy was appointed Agriculture commissioner. He also served as Agriculture commissioner in Gov. Juan Luis' administration; and as minister of agriculture in the British Virgin Islands.

Olasee Davis

Rudy rejuvenated the Agriculture and Food Fair in 1971. Today the fair is the second largest such event in the Virgin Islands and the largest in the Caribbean.

He established the agricultural marketing program, the cost-sharing agriculture program, and the sorghum subsidy program. He also established the existing mango orchard at Estate Lower Love. After retirement Rudy supervised the farming program at the Golden Grove Correctional Facility.

He also raised horses and taught many young men about horsemanship.

In the 1960s he started the legendary musical group, the Vibratones on St. Croix. He taught hundreds of Virgin Islanders music; he played several instruments.

After completing college, I stayed with Rudy on St. Croix for more than a year without cost. Early in the morning, around 5 a.m., Rudy would be blowing his saxophone to the heavens. I would say, "Rudy, it is early." He would say, "this is the best time to play, when the birds are singing and waiting for the sunrise."

Most of all, Rudy was a faithful Catholic. He shared his musical talents at St. Patrick Church. There he played the cowbell, saxophone and drums.

Rudy was always willing to help everyone — whether in housing projects or in Government House.

He was a kind and humble person. He lived simply, yet to the fullest. His spirit will live on in the lives of the people of these islands.

Let us all pay tribute to a great patriarch.

The Daily News, Thursday, January 13, 2000

There's more to the life of trees than you may realize

Olasee Davis, an ecologist, is a Daily News contributing columnist. He lives on St. Croix.

Although the landscape of the Virgin Islands has been green since late last year's rainy season, it doesn't mean we have healthy trees. Like any other living organisms on earth, trees go through stress and headaches.

Pests are more prevalent now due to damaged trees from storms. In fact, the wet season increases disease of trees, particularly when branches were stripped during storms. I am sure you have seen dead branches on trees hanging as you drive along the roads. The question is who is responsible for maintaining the trees along our public roads? Of course, you might get an arou... about answer.

Pruning is one way to maintain trees on our public roads. It can serve the following purposes:

To control the size of trees on roads; to encourage trees to develop its natural form and ornamental character; to stimulate future flower and fruit development. To remove dead, damaged, weak, diseased or crossing branches and roots; to minimize or avoid the danger of personal injury, property damage, and ensuing liability claims by removing low-hanging, dangerous branches, shallow roots, and even whole trees when necessary. To ensure public safety by eliminating conflicts, intersection visibility, and utility lines, and tree roots that interfere with sidewalks, as well as sewers and utility lines.

Trees in forest areas by their very nature adjust naturally to any adverse weather condition. The weak trees will fall to the natural process of death. The healthy trees will withstand the test of storms.

However, trees on the roads grow without support of other trees next to them. They are tossed about much

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easier by winds especially during hurricanes than trees grown in forest areas. They are surrounded by sidewalks, which often prevent them from spreading their roots.

The roots of urban trees are compacted by construction and other activities on roads. Vehicles on roads hit into trees stripping their bark. People hammer nails into trees for signs or posters creating open wounds for disease and insects. Tree roots are dug up by construction activities weakening the base of the tree. The branches and limbs of trees are chopped up by uncertified arborist exposing them to many types of pest.

Trees around us make life more enjoyable.

It has been documented that patients recover from surgery more quickly when their hospital rooms offer a view of nature — of trees.

There are social, medicinal, cultural, and even economic connections to trees.

Because of the potential for long life, trees are frequently planted as living memorials. We often become personally attached to trees that we, or those we love, have planted.

Maubi bark is one of our local drinks. In my family, maubi was drank traditionally after church on Sundays. The bark of the tree was also used for treating different sicknesses. Bush baths was another cultural benefit — after childbirth.

The baobab tree is one of many trees on St. Croix that can be linked to Africa.

The baobab tree in Estate Grove Place was where the hanging of women took place in 1778, known as "fireburn." It was also under the baobab tree in Grove Place that the first labor union was established.

The baobab tree has a spiritual link to people of African descent, often mentioned in African folklore.

Economically, property values of landscaped homes in the Virgin Islands are 5 percent to 20 percent higher than those of non-landscaped homes.

I don't have to mention all the benefits trees have on our islands' environment — from holding together soil to improving air quality.

We need to maintain the trees along our roadsides as they contribute to our health and enjoyment.

Alexander Hamilton's link to Nevis-St. Kitts, St. Croix

Olasee Davis, an ecologist on St. Croix, is a Daily News contributing columnist.

Olasee Davis

The other day Lenford, a mechanic in Estate LaGrange, and I were talking about politics in St. Kitts and Nevis when Alexander Hamilton's name came up.

Alexander Hamilton was born on Nevis on Jan. 11, 1757, the illegitimate son of James Hamilton, a Scotsman, and Rachael Fawcett Lavien, Nevisian. While some historians have disputed the actual year of Hamilton's birth, it's been newly discovered that Danish documents put his birth as 1755.

Young Hamilton was a small, frail and intense boy with blue eyes and reddish hair. His mother Rachel was married to John Michael Lavien in Estate La Grange. Lavien owned a small plantation on St. Croix. According to historical records, Lavien was a cruel husband to Rachel; after five years of marriage she left St. Croix for Nevis with her mother. The union between Lavien and Rachel produced a son; she was 21 when she left her husband.

In the 1750s, Rachael Fawcett Lavien met James Hamilton in Nevis. It was there she fell in love with him and produced Alexander Hamilton. Although Rachel conceived young Hamilton with James Hamilton, she was still legally married to Lavien. She asked Lavien for a divorce, but he refused. Later, James and Rachel moved to St. Kitts from Nevis to live together.

Financially things were bad in certain parts of the Caribbean during this period and James Hamilton found it hard to support his family. From St. Kitts, James was sent to St. Croix on a legal mission and Rachel accompanied him, along with her two sons. After a couple of months on St. Croix, James left and Rachel stayed on St. Croix with relatives.

Rachel's relatives opened a small store on St. Croix where Alexander helped out. At 11, Alexander was a precocious young boy despite his lack of much schooling. Because of his sharp mind, Nicholas Cruger gave young Hamilton a job in his hardware store. Cruger was a successful merchant and shipper, maintaining offices and warehouses in Frederiksted and Christiansted.

"

In the 1750s, Rachel Fawcett Lavien met James Hamilton in Nevis. It was there she fell in love with him and produced Alexander Hamilton.

For many years, Cruger was a partner with a New York merchant named Beekman. Cruger had strong connections with New York through his business and his family; one of his uncles being New York's mayor during the 1770s. In many ways Cruger acted as young Hamilton's guardian and teacher. It is likely that young Hamilton managed Estate Anna's Hope with other of Cruger business interests.

Eventually, Lavien divorced Rachel, but Danish law forbade her from remarrying. When Alexander was 13 his mother died on St. Croix. Today, you can visit her gravestone at Estate LaGrange. However, her divorced husband claimed all her property. After his mother died Alexander probably stayed with relatives or friends on St. Croix.

He worked hard and read incessantly. He also taught himself French. On Aug. 31, 1772, Alexander wrote his father, who was on St. Vincent, a letter. He told his father about the hurricane on St. Croix that destroyed or damaged some 500 buildings. His letter was published in the Royal Danish-American Gazette.

The letter was so impressive that friends and others scraped what money they could find and sent Alexander to school in the British colonies of North America. Mid-summer he left for Boston on a ship en route for New York. On his way, the ship caught fire and Alexander helped to battle the fire for about 24 hours until it was brought under control.

On his arrival, he went to a boarding school for one year and then entered King's College, now Columbia University in New York.

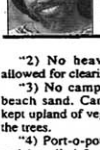
Eventually, Alexander got involved in politics. With the outbreak of the revolution, Alexander became a captain of artillery. In this capacity, he attracted the attention of George Washington whom he served as secretary and aide-de-camp.

The ambitious Hamilton played a major role in forming the original 13 colonies of the United States. He was chosen as the first secretary of the United States Treasury. He was a brilliant economist and was largely responsible for the Federalist financial policies of the new nation. In the presidential contest of 1800, his opposition to Aaron Burr contributed to the election of Burr's rival, Thomas Jefferson.

However, Alexander's renewed opposition to Burr in the 1804 campaign for the governorship of New York undoubtedly contributed to Burr's issuance of a challenge to duel. Hamilton accepted Burr's challenge and both men met at Weehawaken Heights, N.J., on a bluff overlooking the Hudson River. It was here sadly that Hamilton was fatally wounded.

The Charlestown, Nevis, family home, where he was born, was reconstructed as a museum. The original house was built in 1680, but was destroyed during an earthquake in 1840.

Beach picnic marred by finding ruined turtle nests



Olasee Davis
Our environment

On Memorial Day, some of my natural science students and I had a beach picnic at Halfpenny Bay to celebrate those who graduated from the University of the Virgin Islands this spring.

Halfpenny Bay beach is on St. Croix's Southshore between Manchenil Bay and Spring Bay. Inland, the area is characterized by pasture land, 1700s greathouses, sugar mills and mangrove forest swamps. The bay is surrounded by a barrier reef system.

My class and I decided to hike along the coast and discuss the different coastal vegetation. To our surprise, we discovered turtle nests on the western side of the beach that had been destroyed by poachers. Halfpenny Bay beach is known for nests of the three endangered turtle species: the hawksbill, leatherback and the green sea turtles.

The Planning and Natural Resources Department posted a sign on a tree at the beach, saying that the department, "in an effort to keep and maintain the aesthetic nature and beauty of the territorial beaches of the Virgin Islands, is issuing the following rules and regulations to campers, fishermen and beach users on the shorelines of St. Croix.

"They are as follows:

"1) No cutting and pruning of trees and branches are allowed.

"2) No heavy equipment is allowed for clearing of brush.

"3) No campfires allowed on beach sand. Campfires are to be kept upland of vegetation line under the trees.

"4) Port-o-pots must be rented and installed for use as rest room facilities.

"5) All litter, garbage must be removed at the end of the camp or picnic.

"6) Please keep the beaches clean."

Believe me, I applaud the Department of Planning and Natural Resources for posting the sign. But I have a problem. It is against the law to post signs on trees. Secondly, the sign should be made big enough so that everyone can see and read the sign. Thirdly, how come a sign is not placed on the beach to say turtles nests there? To me, every beach in these islands where turtles nest should have a sign installed.

With a plan proposed to build a hotel on the western side of Halfpenny Bay beach, the survival of the sea turtles that lay their eggs there is even more threatened by the presence of more people and artificial lighting.

In the struggle to protect the environment, the most difficult kind of conservation work is finding ways for people and wildlife to co-exist so neither suffer and, if possible, both benefit. Although turtle eggs are threatened by natural predators such as ghost crabs, development of beachfront property poses a potential problem because of the increase in human activities in the area and lighting from buildings.

Philibosian stated in 1976 that, "In the U.S. Virgin Islands, hawksbill hatchlings were attracted to stadium lights during a baseball game; this resulted in many of these hatchlings being crushed on nearby roads." Thus, the development of a new hotel in the Halfpenny Bay area should find ways to reduce lighting, especially during turtle-nesting season.

Many ways exist to reduce lights for development along the coast. For example, existing lighting can be shaded or screened using natural or structural barriers or by lowering the elevation of the lights.

Sandy Point National Wildlife Refuge on St. Croix is the largest and best-studied population of nesting sea turtles, particularly the leatherback sea turtles, in the United States. Last year, nesting season began in March and peaked in mid-May. Fifty-five turtles were tagged, of which 54 adults laid 355 nests.

Little is known about the ecology and behavior of leatherback sea turtles except a little data collected on nesting beaches. On St. Croix, however, this has changed because scientific research has been conducted here for 14 years to assess these animals' size, productivity and numbers of nesting females. Scientists also have studied how to protect adults, nests and hatchlings from poachers and predators and how to protect nests from sand erosion.

Turtles are tagged with a microchip, blood samples are taken to use for genetic and endocrinological studies, mitochondrial DNA is studied and other scientific research is conducted to determine the ecology, physiology and behavioral patterns of these gentle giants.

As we learn more about our coastal environment, it has become evident that only through a concerted effort can we save the resources we once took for granted.

Taking of eggs and the slaughtering of adult sea turtles show the cowardliness of those who kill defenseless animals. Sea turtles want to live a long and productive life. Let us ensure them a future in these islands.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

The Daily News, May 24, 2001

Carefully chosen plants can improve office life

Olasee Davis

Our environment

Recently, I took a group of students from the St. Croix Educational Complex on a hike to a dry forest ecosystem at Jack's and Isaac's bays. Even though this dry wilderness area usually looks like the great Arizona and New Mexico desert, during spring, the area is filled with flower blossoms from trees, shrubs, and vine plants.

I was so excited about the plants blossoming on the east end of St. Croix, I told Myrtle Pemberton, my co-worker, she had missed out on an adventure watching wild flowers blossoming across this desert land.

Pemberton, who works in the business office on the St. Croix campus of UVI, wishes sometimes that she were outside hiking, picking wild flowers.

Of course, there are days at the office when some of us wish we had never gotten out of bed. But you know, live plants can ease your frustration in the office.

There is something about greenery that calms the nerves. Ask Myrtle Pemberton, who is also known as "Plant Woman." An office without the greenness of fresh plants can be a pretty depressing place to walk into first thing in the morning.

An office's sweeping flat surface offers the perfect backdrop for

▼ See **PLANTS**, facing page

PLANTS CONTINUED FROM PAGE 22

plants, while they, in turn, help to relieve the blankness of long walls, corridors and partitions. Plants can give a warm and inviting look that you don't get with furniture alone.

Studies show that plants increase productivity as well. Yet rare is the office whose space is not at a premium. Furniture tops are needed for work-day paraphernalia while walkways must be kept clear for safe passage.

Too much of a good thing can also be harmful. When plants are too numerous and varied, they become a distraction and performance suffers.

So if you haven't much time to tend to plants, it is better to have one you can keep looking nice than a number of plants struggling to survive. Just as an office is designed to help it run smoothly, so too should the plant-scaping aim for the practical.

Choosing greenery for an office takes knowing how much light each plant needs. On the average, a brightly lit office has between 50 to 100 foot candles of light. This amount is adequate light for almost all indoor plants. You see, whatever light indoor plants require in their natural outdoor environment, that is the amount required indoors.

Light enables a plant to manufacture food in the leaves. Therefore, higher light means more food production, resulting in faster growth.

An indoor plant cannot get too much light. Sometimes a plant next to a sunny window scorches, but this is only because it is underwatered.

Indoor plants like trees and ferns generally need the highest light, while most palms and cane plants tolerate the least.

An office plant is considered happy when it grows new leaves at least as fast as it sheds its oldest leaves. If a plant loses it leaves faster than it grows new ones, it is dying. Some plants can grow with low light better than others and still suffer no loss in decorative quality.

One such example, which works particularly well for dressing up the tops of filing cabinets, is Scindapsus aureus, a new variety of the tried and true trailing pothos, with the added attraction of gold-variegated leaves.

Where there is room for only a few plants, sticking to a single variety and massing them together creates the impression you have more than is actually the case. Plants on top of the filing cabinets, lined up in a row and standing out in the open can act as a divider.

A certain amount of consistency and uniformity in plants imbues an office with a sense of order and conveys the impression that things are under control. In looking down a sea of desks in a large open room, for example, I like to see each one holding a single plant, all of which are identical in type and placed in the same corner on each desk.

Plants can visually shorten the space in a long hall; a single handsome specimen can even stand in for sculpture.

You should choose plants that have neat growth habits or that can be kept under control by pruning. Plants left to grow out of control will not make an office feel more like the outdoors.

So Myrtle, all the decoration you make in your office with plants cannot come close to Jack and Isaac Bays wild flowers. After all, that's why wild flowers are called just that — wild.

Olasee Davis, who holds a master of science degree in range management and forestry ecology, is a St. Croix ecologist, activist and writer.

Gasification is generating some heated discussions

Olasee Davis, an ecologist, is a Daily News contributing columnist. He lives on St. Croix.

A few weeks ago a group of us met at Gertrude's Restaurant on the invitation of former-Sen. Osbert Potter and a Caribe Waste Technologies Inc. representative to discuss the solid waste issues of the Virgin Islands. During the meeting, we discussed gasification and the application it may have to the Virgin Islands' solid waste crisis.

The Virgin Islands generates some 660 tons of waste per day or 220,000 tons per year for some 100,000 people. In the past years we have witnessed a rise in both the total tons of waste generated and pounds generated per person. Our dumps in the Virgin Islands have reach its capacity.

Residents, visitors and wildlife health are constantly being threatened by air pollution and toxic emission in our environment. Our underground water supplies and the marine environment are also heavily impacted by our dumps. Things are so bad that the Bovoni dump on St. Thomas is operating without an Environmental Protection Agency permit. On St. Croix, officials of the Federal Aviation Administration said the Anguilla dump will be closed by December 2002 if the Virgin Islands government doesn't get its act together — or risk the closure of the Henry E. Rohlsen Airport. This would have a major impact on the V.I. economy, especially on St. Croix.

Meanwhile, the EPA continues to fine the V.I. government whenever it fails to dispose of waste properly — whenever it doesn't comply with federal or territorial standards. However, politics has been a major obstacle in the territory achieving a better health system; a stable economy; and a cleaner environment.

Believe me, the gasification proposal by Caribe Waste Technologies and the V.I. government will generate some heated debate on whether this technology can meet the needs of these islands' solid waste crisis. What is gasification?

Olasee Davis

"Gasification is a manufacturing process that converts coal into a clean gas that can be used as a fuel to generate power or as a basic chemical building block for the production of fertilizer, chemicals and fuels." In the handouts we received during the meeting, it also gives the step-by-step process of how the system works in eliminating solid waste.

"It is up to the people of these islands to educate themselves about gasification. One thing I know for sure, time is not on our side to solve the solid waste problem.

The gasification proposal also claims that all waste delivered to the facility will be 100 percent recycled. The recycled products used to generate electricity and water, aggregate material for concrete additive, metal products, and other miscellaneous materials such as industrial grade salt, zinc hydroxide, and sulfur — sold to industrial and commercial customers.

A further claim is that gasification would eliminate St. Croix's dump, which contaminates the underground water and marine environment — and poisonous leachate produced at the St. Thomas dump. Also the company mentioned cancer-causing dioxins from the air; the need for WAPA to burn 6 million gallons of oil each year; and 1.5 million pounds of pollutant from the Virgin Islands air each year will be eliminated.

Presently the government of the Virgin Islands pays approximately $5.5 million per year to operate the Anguilla and Bovoni dumps. This project — if approved by the senators and the residents of these islands — is expected to generate some $15 million per year, an additional tax revenue to the V.I. government. However, there are many issues that need to be addressed if we are to take this route:

- Will WAPA purchase electricity and water from the gasification facility?
- What air pollutants will this facility emit?
- How many permanent jobs would this solid waste facility create? What level of jobs would be held by local people.
- Training for positions at the new waste facility are issues that must be ironed out in order for gasification to become a reality in addressing our solid waste issues?
- Other issues are the transporting of waste from St. Thomas, St. John and Water Island to St. Croix. My understanding is that the gasification facility will be built on St. Croix to create jobs. It is the most logical and cost-effective way to have the facility built on St. Croix due to the largest industrial complex in the Virgin Islands. The facility will create 250 jobs during the initial construction phase and 70 new permanent jobs.

"Approximately $45 million for labor and materials will be invested in the St. Croix economy during construction; and $11 million each year thereafter during operation," according to information from Caribe Waste Technologies.

The facility is also expected to attract thousands of visitors and trainees each year, which could further increase revenues for St. Croix.

It is up to the people of these islands to educate themselves about gasification. One thing I know for sure, time is not on our side to solve the solid waste problem.

Kinghill aquifer must be protected

Olasee Davis, an ecologist, is a Daily News contributing columnist. He lives on St. Croix.

Olasee Davis

In 1996, Congress approved amendments to the federal Safe Drinking Water Act. This act provides a mechanism for states and territories to protect ground water sources of public use from contamination that might adversely impact human health. With this new amendment came the Wellhead Protection Program. Our local Planning and Natural Resources Department is charged with the implementation and the administration of establishing a Wellhead Protection Program in the Virgin Islands.

With the assistance of the University of the Virgin Islands' Water Resources Research Institute, PNR was able to carry out a pilot project from March 1, 2000, to Feb. 28, 2001, on wells in St. Croix to determine the conditions of wells. The water belt of the Virgin Islands is located in the central plains of St. Croix producing about 67 percent of the total ground water withdrawals. This area is known as the Kingshill aquifer, the most productive and most extensively developed aquifer in the Virgin Islands that covers approximately 25 square miles of the central plains of the island.

The area is composed primarily of calcareous sediments. Whereas, along the south coast and within the drainage basins of the aquifer, it overlays with alluvium soils.

However, this large aquifer on St. Croix is threatened by development and unplanned development such as schools, gas stations, roads, houses, shopping centers and sewage systems. As the population of St. Croix continues to grow, it is wise for our elective officials to protect this underground water resources by passing a bill to protect these areas from further impact of development.

Since 1984, the U.S. Geological Survey conducted a reconnaissance of selected wells throughout the islands particularly on St. Croix to determine the physical, chemical and bacteriological characteristics. Selected wells were sampled and analyzed for pollutants. The U.S. Geological Survey indicated that many wells in the Kingshill aquifer contained an accumulation of lubricating oil from malfunction lubricating systems on well pumps.

"In fact, in several wells as much as 8 feet of oil floating on top of the water was measured. Sewage effluents were also detected in wells as well as saltwater encroachment inland due to poorly planned development along the coast.

In fact, in several wells as much as 8 feet of oil floating on top of the water was measured. Sewage effluents were also detected in wells as well as saltwater encroachment inland due to poorly planned development along the coast.

A few months ago, I smelled a strong odor as I was hiking along the Estate Adventure streambed where WAPA pumps underground water for public use. I was told that the St. Croix Educational Complex sewage pipes were constructed right across or near the Estate Adventure well field. This shouldn't have happened. This is a major well field of the Kingshill aquifer. Anyway, I reported it to PNR. It was analyzed and sewage was found.

The pilot project for wellhead protection was conducted at Estate Adventure, Barren Spot, Bethlehem, Concordia, LaGrange, Negro Bay and Estate Golden Grove well fields. Estate Adventure encompassed a total of 14 wells, nine of which were operated by WAPA. The 10-year wellhead protection area is a total of 111.59 acres, while the 20-year wellhead protection comprises a 177 acres. In this area, 35 potential sources of contamination were identified.

There were municipal trash containers, illegally dumped materials, above-ground storage of materials and underground storage. The report also mentioned other sources of contamination. Potential health risks for liver, cancer and circulatory disorders were mentioned. Barren Spot well field is located in a suburban environment. This area well field comprises about 212 acres. A total of 94 potential sources of contamination were identified.

Some of the contamination sources were stockpiles: open burning sites, pesticides, surface impoundments, material transport, animals and fertilizer storage. According to the report, these types of contaminants have been linked to kidney defects, liver cancer, methemoglobinemia (blue bady syndrome) and gastrointestinal illnesses. Bethlehem well field consists of two WAPA wells, with a 10-year wellhead protection of about 106 acres, and with a 20-year protection that is 191 acres.

Potential contamination sources include illegal open dumps, above-ground storage, inactive underground storage at a closed gas station. Other sources include municipal sewer pipelines and animal feedlots. These contaminants can lead to many illnesses. Concordia well field is located in the north central of St. Croix that comprised about 173.43 acres. WAPA has about five wells in this watershed.

Golden Grove, LaGrange and Negro Bay well field encompassing hundreds of acres with contamination ranging from sewer pipes to metals leaching into groundwater from illegal dump sites.

Politics swirl around Botany Bay

Olasee Davis, an ecologist, is a Daily News contributing columnist. He lives on St. Croix.

Olasee Davis

Recently, Ira Mills, the Office of Management and Budget director, got senators' attention when he stated, "further proof of the economic revitalization in the territory can be seen in the planned construction of the Botany Bay Resort development estimated at $200 million." Does this mean the governor of the Virgin Islands already gave his blessing to a controversial development yet to get a permit to build?

The former estate of Warren H. Corning, known locally as Botany Bay on the west end of St. Thomas, was purchased last year by a group of investors calling themselves Atlantic Land Holdings LLT. But from the very beginning, the developers misrepresented their intention to government officials, civic groups, environmental organization, and the neighbors in the the Botany Bay area.

Botany Bay is one of the 18 Areas of Particular Concern in the territory that was approved in the early 1990s by the legislators and signed into law by former Gov. Alexander A. Farrelly. The purpose of the APCs is to protect areas in the Virgin Islands for its cultural, historical, environmental, natural, recreational and marine resources.

The areas that are significant in Botany Bay include two sites listed on the National Register of Historic Places; four sites nominated as significant natural areas; the area designated as part of the Virgin Islands Territorial Park System; and the surrounding waters of the area is proposed as a territorial marine park system.

Early this year William Karr, an architect and representative of the developers, stated, "We wanted to get people out there who deal with permitting and environmental issues so we could adapt our plan." But those at the Botany Bay site by Karr's invitation found out that the developers submitted a plan larger than what they had been told. In other words, the developers wanted to get the blessing of the people. The plan submitted to the Planning and Natural Resources Department called for a 300-unit hotel, two restaurants, 25 villas, 55 condominiums, 80 time-share units, tennis courts, and 41 houses on a 365-acre property. This proposed development reminds me of the Beal Deal on St. Croix in 1999 when the developers almost fooled the entire Virgin Islands people by not telling their true intentions for the Great Pond Bay site.

"In other words, the developers wanted to get the blessing of the people. The plan submitted to the Planning and Natural Resources Department called for a 300-unit hotel, two restaurants, 25 villas, 55 condominiums, 80 time-share units, tennis courts and 41 houses on a 365-acre property.

The application submitted by the developers for Botany Bay to Planning and Natural Resources had many deficiencies. The developers were told by PNR officials to make the corrections before it could be considered again. However, instead of making the corrections, the developers decided to request a permit to rezone part of the property at which time the deficiencies would be submitted.

This is nothing but politics. As you know, a senator has to sponsor a rezoning bill for the Botany Bay property. Sen. Celestino A. White already jumped on the bandwagon that the Botany Bay project is his. He stated: "It is White, and White will do the legislation to approve the project."

Here again, the community will be dragged into another major developmental issue that can be avoided if the intent of the developers and politicians were truthful to the people of these islands.

In accordance with Title 29, Antiquities and Cultural Properties Act of 1998, Section 959 that the office of historic preservation of PNR should be notified verbally and in writing of any artifacts removed from the Botany Bay property. This was not done by the developers. Later on, the historic preservation office found out about artifacts being removed without a permit.

A letter submitted by Sen. Adlah Donastorg to Sen. Donald Cole, dated Feb. 22, 2001, mentioned a private dinner meeting with the 24th Legislature with the developers of the Botany Bay area. The letter indicated the governor and even some of PNR officials, who are actually involved with the permitting process, was among those who attended the dinner.

Sen. Donastorg briefly stated in his letter, while he was not involved in the meeting, he felt that it was inappropriate for any government official "to enjoy the hospitality of developers under such covert circumstances." Believe me, there are a lots of things happening behind close doors politically.

It proves over again that some government officials don't care about the people of Virgin Islands except for money in their pockets.

In spite of the uphill battle to protect Botany Bay ecosystems, I encourage the people of these islands to write their senators not to grant the rezoning to the Botany Bay project. Impossible battles can be possible victories.

The baobab, a community hub

Olasee Davis, an ecologist, is a contributing columnist for The Daily News. He is a specialist with the Cooperative Extensive Service at the University of the Virgin Islands, St. Croix campus.

Olasee Davis

A few weeks ago I received a phone call concerning possible root damage from a baobab tree more than 280 years old.

The baobab tree in Estate Grove Place is believed to be the oldest tree in U.S. Virgin Islands and British Virgin Islands, and one of the finest specimen in the Caribbean.

As my colleague Carlos Robles and I investigated the surrounding area where the baobab is located, we discovered there are many other trees in the area such as the white manjack, genip and flamboyant. The presence of these trees in the area present a different picture and makes it difficult to determine which tree is the culprit of causing the cistern to leak.

What compounded the situation even more is the baobab tree is located on the south side of the house; the cistern is on the north side. This mean the roots have to travel along the south side of the house to get on the north side where the cistern is located. Or else, the roots have to travel inside the bedrooms, living room and hallways to find its way into the cistern.

However, this is impossible unless the roots grow under the foundation of the house and find its way to the cistern. Thus, the roots growing into the cistern present a mystery of which one of the trees in the area is causing the damage to the cistern. Also, you might have to dig 5 feet to 6 feet deep into the soil in order to trace the roots since the roots are growing close to the bottom of the cistern.

The flamboyant tree that faces the cistern from the west could be the culprit in damaging the cistern. These tree roots have a tendency of lifting up foundations of houses if given a chance. As you can see, this is quite a dilemma trying to figure out which tree roots are causing the cistern water to be sucked up by root hairs. Contrary to popular belief, tree roots don't burst into a cisterns.

When a leak in a cistern occurs whether from improper construction, soil and earthquake movement or porous cement, the outside of the area becomes moist due to water leaking on the outside of the cistern. As a result, any tree roots near the area will eventually find its way into the cistern due to the opening or cracks in the cistern wall.

"Near the baobab tree in Estate Grove Place, some 14 women were burned to the stake while others were hanged from the tree. The baobab tree in Estates Grove Place is a monument to the people of these island.

In the natural forest environment, leaves fall and create mulch which help roots grow. Small absorbing roots proliferate near the soil surface where soils are rich. For deeper soils, the soils are more dense and less fertile, but a few roots do grow in cracks and other openings.

The baobab and other large trees' roots surrounding the area of the house are right below and above the soil surface. These roots are large, extending beyond the tree canopy. Major tree roots grow horizontally just below the soil surface. Smaller roots can even grow up toward the soil surface. Most trees don't have taproots because conditions are not good for root growth in deep soils. Roots often spread twice as far as the branches, if space is available.

In this whole dilemma, can you put a price tag on the historical baobab tree in Estate Grove Place? On Oct. 1, 1878, sugarcane workers on St. Croix struck the second blow for freedom. This was known as "fireburn." The labors attacked Fort Frederik with conch shells, cannon balls, bricks and stones. Fire was used as a weapon on estates from the north side, Frederiksted town and all the way up near Estate Anna's Hope.

A week later, more than 53 sugarcane estates and 43 sugar works were destroyed by fire. During this uproar of the sugarcane cutters, about three whites were killed. Hundreds of laborers were arrested. After 18 months of trials, 60 laborers were shot to death in sugarcane fields, while 67 were imprisoned. Meanwhile, 12 men were executed by firing squads. Some were executed in the yard at Fort Frederik; others in the fort yard in Christiansted.

Near the baobab tree in Estate Grove Place, some 14 women were burned to the stake while others were hanged from the tree. The baobab tree in Estates Grove Place is a monument to the people of these island.

It was here in the early 1900s that the labor union was started under the baobab tree, with D. Hamilton Jackson being one of the founders.

At Estate Grove Place in 1848, enslaved Africans who didn't make it to Frederiksted town for emancipation rejoiced under the baobab tree.

It was the hole within the center of the baobab tree in Estate Grove Place that people took shelter from hurricanes and storms.

According to one local historian, some women gave birth inside the tree.

The fruits, leaves and every other parts of the tree, were used for medicine and food.

The baobab tree in Estate Grove Place was always a gathering place for political, religious and plantation meetings. It is one of the reasons why we celebrate Liberty Day at Estate Grove Place.

Tell me, what would you save, the tree or the cistern. Why not both?

Christiansted's fascinating history

Olasee Davis, an ecologist, lives on St. Croix. He is a Daily News contributing columnist.

Olasee Davis

This weekend the St. Croix Hiking Association will be touring historic Christiansted town. Hiking not only includes out in the bush, but also touring our historic towns.

It was Nov. 16, 1733, when the directors of the Danish West India and Guinea Co. instructed Frederik Moth, the first governor of St. Croix to find a suitable site to establish a fort and town in the newly purchased colony. This town was to be called Christiansted.

The town was to be subdivided into regular building lots and the lots were to be sold with the stipulation that buyers were to build on their lots within five years from the purchase date. As Moth arrived on St. Croix from St. Thomas, he explored the island and chose the former French village called Bassin on the northeast coast of St. Croix as the site for Christiansted.

He described the area to the company directors as large enough to contain a town the size of Copenhagen. He also promised the directors that Christiansted would be well laid out with streets as straight as those in Christiania, now Oslo, Norway. Also he mentioned that the best buildings would be built in the vicinity of the fort, while the poorer class buildings would be located on the outskirts of the town.

During his administration as governor of St. Croix from 1734 to 1736 and then as governor of the Danish West Indies from 1736 to 1744, Moth did his best to fulfill his promises to the company directors. The first colonists arrived in Christiansted from St. Thomas on Sept. 1, 1734. They immediately started work on the construction of an earthwork, which was later converted into Fort Christianvaern.

Moth used the fort as the focal point to lay out the streets of the town. On May 2, 1735, he reported back to the company directors in Copenhagen explaining to them that he had laid out the first street in the town with a width of 40 feet. According to historians, this street must have been Strand Street since Moth mentioned granting several lots measuring 100 feet along the street and 150 feet deep to the sea.

He also mentioned other lots to be granted with only 100 feet deep. He further stated that the frontage along the street would be according to the needs and desires of individual buyers. Moth then set aside an area around the fort for the construction of the customhouse, company residences, and warehouses on the waterfront of Christiansted.

> **When Moth became governor of the Danish West Indies, he moved his headquarters to Charlotte Amalia, St. Thomas. However, this didn't stop him from directing the development of Christiansted town.**

When Moth became governor of the Danish West Indies, he moved his headquarters to Charlotte Amalia, St. Thomas. However, this didn't stop him from directing the development of Christiansted town.

In the first decade of the town's existence, it developed slowly because the first settlers were planters who were too busy clearing land for cultivation. In 1742 there were about 20 inhabitants in the town.

The slow growth of the town was also due to the high prices for building lots as compared to prices for plantations. A building code was also established for the town. The book "Three Towns" by Herbert Olsen, Hans Henrik Engqvist, Peter Bredsdorff, Eric Pettersson and Ole Svensson mentioned the codes in detail of how the town should be developed.

These codes are as follows:

Owners were to obtain deeds to their lots within 14 days or forfeit them; good houses of either masonry or wood with shingled roofs were to be built facing the street within three months; and all houses built of wood within town limits were to be built on footings or foundations, except on Strand Street where they might be built on pilings.

No house was to be built without consulting the government's surveyor in order to ensure that the houses were built in a straight line and that a passage 3 feet to 4 feet wide was kept between houses."

The code continued:

No free colored person was to live in any other part of town other than that section laid out for them by the surveyor, and no free colored person was to be granted a building lot larger than 30 feet by 30 feet. Slaves were forbidden to live among the free colored population. Thatched roofs were prohibited within the town limits, and houses already covered with this material were to be shingled within three months. The poorer class of people might continue to thatch the roofs of their houses with straw but only on the western outskirts and waterfront of the town.

The importance of the building code was to control the development of the town as it continued to grow. In 1749, the final step in developing Christiansted in an orderly fashion was to establish a public cemetery on the western outskirts of the town. Burials elsewhere within the town were prohibited except within the walls of churches in the town.

In 1755 the town witnessed a significant growth in population because the capital of the Danish West Indies was transferred again from Charlotte Amalia to Christiansted.

Frederik Moth truly deserves the title of the founder of Christiansted. Today, Christiansted's historic town is one of the best in the world for its size.

Historical snapshot of St. Thomas

Olasee Davis, an ecologist, lives on St. Croix. He is a Daily News contributing columnist.

I visited St. Thomas, my home island, last weekend and it was bustling with cruise ship business from Havensight to downtown historic Charlotte Amalia.

According to Johan Lorentz Carstens, a Danish planter of the early 1700s, St. Thomas got its name from an English captain by the name of "Thomma." St. Thomas was an outpost for pirates before the Danes took possession of the island in 1672.

St. Thomas is known today for historic sites such as Blackbeard's Castle, Bluebeard's Castle, and Drake's Seat. Pirates once rule the island.

Denmark was a latecomer of European nations for colonial power in the West Indies. Her first attempt to establish a colony on St. Thomas was in 1666, which failed. Six years later, the Danish West India Co. established a permanent colony on St. Thomas. The early settlers of St. Thomas were planters who were busy clearing land for cane, cotton, tobacco and indigo which were in much demand in Europe. The mountainous topography and relatively poor soil of St. Thomas made agriculture unprofitable for the colonists.

After 1725 the settlers on the island turned to trade as their main means of livelihood. They soon found out that the change was good due to the island's natural protected harbor.

In 1717, the Danish West India and Guinea Co. colonized St. John. The island was too small and mountainous to support large-scale plantation agriculture. Furthermore, the island never numbered more than several thousands people. In the middle 1800s, the Danes attempted to build a town on the western part of St. John known as "Christians Bye." However, this attempt to construct a town on the

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island never fully materialized. Therefore, the Danish West India Co. selected the waterfront site along the natural harbor of St. Thomas to establish a town.

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Between 1764 to 1765, the town 'Savanne' was established, located in the valley west of Denmark Hill. This area was set aside for the growing free colored population of the town.

Construction of Fort Christian started in 1672 and was completed in 1680 in honor of Danish King Christian V. In 1681, Charlotte Amalia, the capital of the Danish West Indies, was founded. Nicolas Esmit, who was governor of the Danish West Indies, gave permission to four craftsmen who recently immigrated to the island to build their homes west of the fort.

These men also were granted licenses as innkeepers to provide lodgings for traders to St. Thomas as well as for planters when they came to shore in town on business. In 1688 when the first census was taken, the town had a population of only 37 persons. This only consisted of one row houses located below the hills to the west of the fort. In that same year, new emigration of craftsmen and some traders came to the island and Gov. Christopher Hein granted lots to build on the plain northeast of the fort.

Further expansion of the town took place in 1692 when Johan Lorentz granted lots along the waterfront to the south. Here, planters built row houses. In 1698, the town consisted of 47 houses with some of the most prominent planters on the island. These planters also built warehouses and entered into the trading business. Still then, the town only consisted of one street, Kongensgade that began 50 to 60 feet west of the fort.

The street ended at Brandenburg Co. trading post on the western outskirt of the town. After the 1700s, more and more planters took up full or part-time residence in the town and engaged in trading and commerce. The War of the Spanish Succession from 1701 to 1713 also brought English, Dutch, French and Portuguese traders to the island as settlers. It was the European wars of the 1800s that played a major role in the growth and development of St. Thomas.

By 1716, the town contained 82 houses and a number of new warehouses on the waterfront to the west of the fort. Between 1764 to 1765, the town "Savanne" was established, located in the valley west of Denmark Hill. This area was set-aside for the growing free colored population of the town.

The other town was called "East Savanne," which was laid out to the east of the fort and Government Hill in the area presently known as King Quarter. The mangrove lagoon east of the fort was drained and filled from 1781 to 1782 for house lots. By 1789, Charlotte Amalia had 2,055 inhabitants, which meant that 39 percent of the island's total population of 5,266 persons lived in the town.

Today, St. Thomas is not only known for its natural harbor, but also for its historic town.

Why soldier crabs march to sea

Olasee Davis, an ecologist on St. Croix, is a Daily News contributing columnist.

Olasee Davis

We all know the story of Noah, how God asked him to build an ark because He intended to destroy the world by flood. What is so interesting about this event is how nature cooperated with the Creator. Animals of all kinds and species went into the ark without the aid of man. It was an exodus of animals.

Today, some species of animals and insects still move in large numbers as they migrate from place to place. Although the Virgin Islands don't have the large landmass like Africa where certain species of animals migrate from country to country, we do have animals that migrate by following their ancestral route.

A few years ago, the late George A. Seaman received a note from Jennie Lawaetz telling him that crabs were scaring the guests at St. Croix By the Sea Hotel.

The note states, "Dear George: Every year as you know we have a problem with crabs. Many of the guests complain and seem scared about this exodus; therefore, we have decided to make this disadvantage into an advantage by giving the history and habits of the soldier crab. I understand you have this information and would appreciate if you could make it available to us for distribution among the guests."

The hotel is located in the path where, for thousands of year, crabs have been making their migratory retreat. Each year, between August and September, hermit crabs, known locally as soldier crabs, head to the sea. The fact that a hotel is in their path doesn't stop them. They are answering the call of their ancestors — to perpetuate their own kind.

At Wills Bay and Caledonia Valley "rain forest" on the northwest side of St. Croix, soldier crabs still make their annual trip to the sea. I myself have walked their path as I hiked through those hills and mountains. It is a sight to behold hundreds of soldier crabs marching to the sea. All land crabs migrate to the sea to sperm their eggs. The soldier or hermit crabs are no different.

"Each year, between August and September, hermit crabs, known locally as soldier crabs, head to the sea. The fact that a hotel is located in their path doesn't stop them. They are answering the call of their ancestors — to perpetuate their own kind.

The ripening of the eggs in the female soldier crabs is the signal for the great exodus. Though the soldier crabs adapted to living on land, it still must reproduce in the sea. The crabs will walk in the hundreds over stones, rocks, leaves, woods and they will even climb trees to get to the sea. Upon reaching the water, the males and females mix their sperms and eggs in great yellow masses among the tide pools of the coast.

Here, the eggs hatch into minute free-floating progeny which, if they survive, will become tiny soldier crabs seeking empty shells, especially whelk shells, in which to begin their life on land. After their metamorphosis from sperm to crab, they rest to recuperate their energies prior to the great march back to their homes scattered throughout the island. This yearly performance is delightful to watch.

Soldier crabs are harmless, unless you trouble them by sticking your finger in their nippers. They have a long cultural history with the enslaved Africans of the Danish West Indies. They were the slave's principal source of meat. They were first boiled and then served with white sauce, pepper and butter.

The slaves hunted them, mostly at night, with a lighted flambeau torch. They would hit the crabs in the head to prevent them from running away.

They are called soldier crabs because they are red and carry their "guardhouses" on their backs. In Japan, they are called "rent me a house" because they move from shell to shell.

Today, soldier crabs are mostly used for fish bait and in some Caribbean hotels for crab races. But why does the crab need a shell? Crabs lack the protection of the hindmost part of its body. Its abdomen is soft and vulnerable. For this purpose, the abdomen is bent so that it can fit inside the shell.

The outer part of the abdomen bears some little appendages, which enable the crab to hold onto the inside of the shell. Their four or five pairs of legs also serve the same purpose when walking or dragging its house around. In water, the weight of the shell diminishes by the upward pressure so the crab in spite of its burden can zealously run about.

When in danger the crab withdraws into the shell. When the shell gets too small, they look for a bigger one. There are almost 5,000 species of crabs. About 4,500 are true crabs. From this group, about 500 are soldier crabs.

Next time you see an army of soldier crabs heading toward the beach, you'll know love is in the air.