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Nariva's treasure



Without the natural buffer of the Nariva wetland, the November 2014 rainfall event would have been far more destructive.



AKILAH STEWART

INCIDENTS, such as the recent poaching of scarlet ibis (Trinidad's national bird) and illegal excavation of the Caroni River bank by

soil miners, highlight the ongoing trend of disregard for natural spaces in TT.

Based on the Ramsar Convention criteria, TT can boast of having three wetlands – the Caroni

Swamp, the Nariva Swamp and the Buccoo Reef/Bon Accord Complex on the List of Wetlands of International Importance. A total of 2,266 Ramsar Sites exist worldwide. These spaces are protected due to their ecological significance and intrinsic properties including habitats for rare and endangered species. However, critical attention needs to be paid to management of these protected areas.

While a lot of information is available on the range of biological diversity of TT's wetlands, the true value of wetlands, as well as all other natural spaces, often goes under-recognised. Much like our current approach to game hunting and the management of other natural resources, we spend our wealth before we go to the bank to confirm how much savings we have and without a proper plan on how we can conserve and increase what we have for the future.

When land is valued for sale, the valuation typically only considers a market value and does not value the complex ecological benefits from the ecosystems that the land

supports. As such, conservation scientists locally, spearheaded by Prof John Agard, have argued for the need to place a monetary value on ecosystem services, to convey their importance to policymakers for more accurate accounting and sustainable management of our resources.

Indeed, wetlands provide hundreds of functions. Many of these, which directly benefit humans, have been broadly lumped into "provisioning", "regulating", "habitat" and "cultural" services. Too often, however, we only consider the benefits we derive from provisioning services such as water, food and fibre and cultural services such as recreation, while we ignore the majority of services until nature cries out.

One example of the important role that our wetlands play was the November 2014 flooding event in Nariva, which also brought into focus the importance of the barrier beach on the Manzanilla coast. Permanent structures such as roads and buildings do not have the same natural adaptive

capacity as shifting beach sands, mangrove prop roots and high surface area vegetation, resulting in reduced protective function during high-intensity rainfall, tropical storms, hurricanes, and wave surge events. The higher than usual rainfall highlighted the importance of unpaved surfaces and forests as reservoirs for water resources and buffers to flooding.

To place a value on wetlands as protectors of coastline, research in 2008 by Constanza and other authors estimated that coastal wetlands provide US\$23.2 billion annually to the United States in protection against hurricanes. There is no doubt this value has dramatically increased in the last decade. The significant destruction to the Manzanilla road also emphasised the vulnerability of coastal environments to flooding as well as sea level rise and the threat of saltwater intrusion of a delicately balanced ecosystem. Without the Nariva wetland, this rainfall event would have been far more destructive.

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The Nariva Swamp, like many of our natural spaces, provides ecosystem services at no cost.





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FEATURES

Film explores TT's wetlands

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A global study by de Groot and other authors, conducted in 2012, compiled valuation data from over 300 publications on ecosystem valuations in all types of biomes on earth, including across Latin America and the Caribbean. Their results found that coastal wetlands had the second greatest monetary value at US\$78,446 per acre, with coral reefs ranking first at US\$142,550 per acre. These figures are quite interesting given the recent news that the almost 400 acres of No Man's Land in Tobago was valued at US\$65,000 per acre. What value could be added if all ecosystem benefits had been accounted for? Are we placing the appropriate value to our resources and therefore making the best decisions on how to use them?

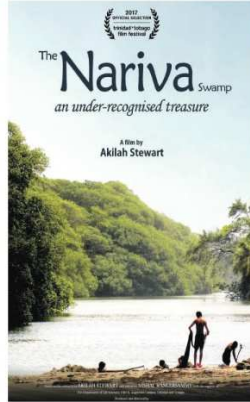
Shortly after that flooding event, in March 2015, we asked 200 people if they could name a wetland in TT, 27 per cent responded Caroni and 15 per cent responded Nariva. This is interesting given the national importance of these spaces. Other responses indicated people were not aware of what a wetland was and many could not name a wetland at all.

Our exceptionally breathtaking landscapes, stunning plants

and charismatic animals also get most of our attention. Indeed, the blooming water immortelle can appear to burst into flames of orange along the Navet River. When the first rains come the verdant green leaves of marshes shimmer like glitter in the sun across the expanse of the swamp. But what about those aspects we cannot see with the naked eye?

The Nariva Swamp can be considered to be a three-layered cake. Firstly, on top are the various fauna that live and depend on vegetation such as the famed howler monkeys and anacondas. Secondly, our rich plethora of surface resources include all things active in surface soil, water resources and vegetation itself. Thirdly, as the base layer, there are geological resources such as petroleum (and oil companies have indeed surveyed Nariva for petroleum and found it). This is one source of valuable carbon in this three-layered super cake of resources – it was formed from the decomposition of animal and vegetative matter.

The process of decomposition has been the job of ever-dependable microorganisms for millions of years. Microorganisms perform numerous roles in soils such as the provisioning of important nutri-



You can find out more about the Nariva Swamp in the documentary Nariva – An Under-recognised Treasure.

ents from nitrogen and phosphorous – the same chemicals farmers buy to apply to crops as fertilisers. Without microorganisms, we would not have things as diverse as wine and cheese or rich agricultural soils and petroleum.

Based on studies in the laboratory, one gram of soil is said to contain over one million microorganisms. One gram that weighs the same as a ten-cent piece can number as many microorganisms

as TT's population.

These fascinating microorganisms include the inconceivably small viruses and protozoans. In fact, the Bush Bush Wildlife Sanctuary in Nariva was historically an important place for mosquito-borne disease research and was the site of Trinidad Regional Virus Lab (TRVL). More commonly known microorganisms include bacteria and fungi.

Nariva would not be Nariva without this seemingly invisible ecological army; as a matter of fact, no space on earth would be the same without them. They provide crucial ecosystem services and have increasingly become important to humans as a source for antibiotics and a host of other chemicals important to pharmaceutical companies and industries as diverse as textile and environmental bio-remediation. Deforestation, slash and burn activities, and paving of land reduce these very important properties of soils.

The secrets of Nariva and other natural spaces continue to be discovered. Local projects in the Department of Life Sciences, UWI, such as the recently completed Project for Ecosystem Services (ProEcoServ) as well as the Sustainable Water Management

under Climate Change in Small Island States of the Caribbean (Water_aCCSIS), the Research and Development Impact (RDI) – Caroni Swamp Funded Project and the National Restoration, Carbon Sequestration, Wildlife and Livelihoods Project have been involved in collaborative research with various stakeholders, including residents, to better characterise and co-exist with our wetlands.

Do you think you are aware of all of Nariva's treasures? You can find out more about this important area in Nariva – An Under-recognised Treasure - a documentary short which briefly explores stakeholder perspectives on wetlands in TT. It is an official selection of the Trinidad and Tobago Film Festival (ttff) and will be shown on September 24, in MovieTowne Port of Spain, San Fernando and Tobago.

For more info: on our natural environment, you can contact the Trinidad and Tobago Field Naturalists' Club at admin@ttfnc.org or visit our website at www.ttfnc.org and our Facebook or YouTube pages. The club's next monthly meeting is today at St Mary's College, Port of Spain. Lecture: Mapping a way to Protected Areas by Justine Deonarine, UWI.



Telecommunications Authority of Trinidad and Tobago

Consumer Advocacy

An educated consumer is an empowered consumer. An empowered consumer is a protected consumer who knows how to get value for money.

Consumer Protection

Protection of consumers of telecommunications and broadcasting services is the responsibility of the Telecommunications Authority of Trinidad and Tobago (TATT). This is outlined in the Telecommunications Act.

In keeping with this mandate to protect consumers of these services, which includes mobile and fixed line, cable and subscription television and Internet, TATT has over the years implemented a number of initiatives.

One of the main initiatives is the establishment a consumer complaint facility which allows consumers who are dissatisfied with the outcome of complaints with their providers to complain to TATT.

Consumers may contact TATT via a toll free line **800-8288**, via email at info@tatt.org.tt, via our website www.tatt.org.tt Complaints may also be lodged at TATT's Barataria and Tobago offices:

Trinidad Office:
#5 Eighth Avenue Extension, off Twelfth Street, Barataria.

Tobago Office:
Shop #D48, Gulf City Lowlands Mall, Tobago.

Consumer Advocacy

Recently, TATT commenced a Consumer Advocacy Initiative aimed at educating consumers of telecommunications and broadcasting services about their rights, as well as obligations, to enable them to make informed choices. TATT encourages these consumers to know their rights and obligations including the following:

Know Your Rights:

- ▶ Know your limits - do not be forced into accepting a plan or product that does not suit you.
- ▶ Read your service contract, service agreement and/or warranty carefully before making a decision.
- ▶ Request and keep a copy of all signed documents.
- ▶ Make enquiries where there is uncertainty.

Know Your Obligations:

- ▶ Pay your bill on time!
- ▶ If your bill is in dispute, your provider is entitled to recover from you all charges that are not in dispute until your matter has been resolved.
- ▶ Do not tamper with equipment installed, such as set top boxes and assigned fixed line handsets as these are the property of your provider.

Become a Self Advocate! Together we are Stronger!

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