



Environment TOBAGO NEWSLETTER

Environment TOBAGO (ET) is a non-government, non-profit, volunteer organisation, not subsidized by any one group, corporation or government body.

Founded in 1995, ET is a proactive advocacy group that campaigns against negative environmental activities throughout Tobago. We achieve this through a variety of community and environmental outreach programmes.

Environment TOBAGO is funded mainly through grants and membership fees. These funds go back into implementing our projects. We are grateful to all our sponsors over the years and thank them for their continued support

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Environment TOBAGO

September 2013

ET's 18th Annual General Meeting

The 18th Annual General Meeting was held on August 7th, 2013 at the PRDI Conference Room, Corner of Burnett & Main Streets, Scarborough, and served to update the members on the progress of Environment TOBAGO and to encourage them to be more actively involved in the work of the organization. The President—Patricia Turpin's report to the membership reads as follows: in two years' time when ET celebrates 20 years at the forefront of the environmental movement in Tobago. I hope by then, we can say with some certainty that we have made inroads into correcting the damage inflicted by this generation on Tobago, both in the private and government sectors.

Meanwhile, we can congratulate ourselves on the hard work and achievements of the past year. Nationally, ET was designated the focal point/Tobago for Multilateral environmental agreements—particularly "Climate change". As a result, we have been exposed to programs and opportunities, nationally and internationally. We have contributed to the Convention on Biological Diversity by imputing data to the UN Council meetings of the CBD and we have worked on UN initiatives for payments for ecosystem services.

As gas and oil exploration off our coast has increased, so has our input into EIA's and the effects of seismic blasting/surveys on marine life. As a member of the Global Environmental Facility- CSO Network, we have contributed at international meetings as to the allocation of environmental funding distributed worldwide.

Environment Tobago's visibility has increased from activities related to Tambrin Radio, Channel 5tv, Facebook (588 members), website, ET Tobago news column and our quarterly newsletter. ET's Manager has set up an interactive education forum on face book, and our Education Coordinator has developed an E-Portal for interactive teaching and discussions with students and teachers. ET facilitated invaluable community education lectures e.g. Justice Lucky's lecture on "the law of the sea", in 2 locations in Tobago. Our membership now stands at approximately 350, having increased by 10 in the last year.

The complaints log at the ET office shows that public concerns have increased in areas that are seen as threats to health and the environment:

- Marine turtle poaching
- Marinas proposed for marine protected areas
- Pollution leading to contamination of ponds at the Plantations golf course
- Bacterial infestation (cyano bacteria) on the SW coast-Store Bay & Pigeon Pt
- Illicit solid waste disposal at Kilgwyn, Gibsons Jetty and Highlands
- Construction waste at Charlotteville and Speyside
- Fires at the location of the old hospital incinerator-Ft George
- Incessant river mining at Goldsborough and Louis Dor

September 2013

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ET Representation and Partnerships

- COPE- Council of Presidents of the Environment
- GWP- Global Water partnership
- GEF Civil Society Network
- MEA Focal Point for Climate Change-Tobago
- T&T NGO Network for Small Island developing states
- IWRM- Integrated Water Resources Management Committee
- EIA Committee-EMA/DNRE
- TEMA Committee

Partnering with:

- Caribsave/Parcar for climate change assessments/mitigation research
- CEWC-Caribbean Emerging Wildlife Crises-CITES-Illegal trading in Wildlife
- Arthur Ashe Foundation- interns-Climate and health
- Garifuna Ltd- Green Fund Project –Hydroflo
- BHC/Caribsave- Green Fund Project- Sustainable Communities NE Tobago

The Education Program for 2012-2013 has been complex and full of activity with four programs running consecutively. a) Clean School Annual program-Recycling b) PCI Media- Community Education-My Island my Community c) Coral Reef and Wetland Education Project d) ET/Community Development- Pride of Tobago lectures and fieldtrips, followed closely by two weeks of eco camps. All of this interspersed with lectures by request from schools on varying topics.

Internally, this has been a challenging year for the administration of ET. The Board of Directors originally twelve in number was reduced to ten with two members outside of the country for the year. This was further reduced by the non-participation of a further four members including two executive members for a large portion of the year. This meant that we had at most times six BOD members attending meetings and making decisions. I would ask that all Directors renew their commitment to serve or make way for others who will commit. As a result, I have had to make many decisions in the best interest of ET that were not appreciated. Perhaps my management style does not suit everyone. However my commitment to ET is solid.

The day to day operations of the organisation have been successfully fulfilled with the presence of a strong and vibrant Manager-Juliana Antoine at the helm. After many hiccups with the position of Education Coordinator – ET finally has appointed as of April 2013, Barry Lovelace to that position. He is proving to be innovative and reliable. Complementing the staff is ET's intern program, presently, are two interns from the Arthur Ashe Foundation working on "health and climate" issues with us for six weeks. In mid-August, we will be joined by a volunteer for three months, she will be focusing on "climate adaptation " issues- but will facilitate in whatever way we need her services.

Financially, ET experienced a shortfall in funding for 2012, due to the fact that the funding we receive from the Rockefeller Foundation for education is received every other year- 2012 being the year without. However, other small grants and sales, coupled with BHP Billiton annual funding helped to cover administrative and project costs. Projections for the rest of 2013 are promising with both Rockefeller and BHP Billiton funds coming in, as well as several project proposals including a Green Fund

project currently submitted, in the pipeline.

At the meeting, there were presentations from ET's President Patricia Turpin, as well as the Vice President, Treasurer, Manager and Education Coordinator. A special presentation was done awarding Mrs. Turpin the 2013 Euan Mc Farlane Award for Environmental Leadership in the Insular Caribbean. Mrs. Turpin is the first female recipient of the award from Trinidad & Tobago. We all congratulate her on her achievement.

We all look forward to the continued support of our members as well-wishers, as without them, we would not be able to continue our work in environmental conservation in Tobago.



(Top row: left to right) ET President Patricia Turpin receiving her Euan Mc Farlane Award for Environmental Leadership in the Insular Caribbean, ET Education Coordinator Barry Lovelace and ET Manager Juliana Antoine presenting their reports
(Bottom) Cross section of ET executive members of the board



Internship Training Program for Caribbean Secondary School Students on the Impact of Climate Change on the environment and Public Health Environment TOBAGO

Needs Statement & Project Significance

Increased frequency of natural events such as hurricanes and earthquakes spark public awareness of the issue of climate change, and highlights relief service gaps and infrastructure issues, particularly in urban areas with high concentrations of poverty. The global toll that climate change takes on the health of all nations becomes more chronic daily. Furthermore, climate change will pose an increasing public health threat to the generation currently in secondary school. They will experience its steadily accumulating health impact more immediately and will need more skill in critical thinking, creative problem-solving, applied research and collaboration than is available in current science curricula.

Background

In the summer of 2010, the AAIUH, in partnership with the Brooklyn Health Disparities Center, developed and implemented a four-week health disparities curriculum and internship program funded by the National Institutes of Health – National Institute of Minority Health and Health Disparities (NIH-NIMHD). The two-year program offered training on social determinants of health and research methodology to high school students in Brooklyn. The students conducted research projects addressing the client needs of participating community-based organizations. Students presented results in poster sessions, and made policy recommendations to the Brooklyn Borough President for dissemination to local legislators. In 2012, the AAIUH received funding from the NIH-NIMHD to conduct this program for an additional five years. With the support of the J. William Fulbright Regional NEXUS Scholarship Program, this program was replicated in Trinidad & Tobago, in partnership with the University of the West Indies, Faculty of Medical Sciences in Trinidad and Tobago (St. Augustine). In 2012, secondary school students participated in a 5-week program on the social determinants of health (SDOH), which included conducting research projects at various non-governmental organizations (NGOs) in Trinidad and Tobago.

Accomplishments (to date)

- Twenty-five to fifty students participated annually in the internship program, hosted by 20 community-based organizations (New York).
- Development of a youth generated health disparities policy agenda (NY).
- 60 community-engaged research projects completed (NY).
- 20 students completed SDOH internship programme (Trinidad & Tobago).
- Research projects conducted at 9 NGOs (TT).
- Formalized partnerships with 12 secondary schools (TT).

The Arthur Ashe Institute for Urban Health (AAIUH)

The Arthur Ashe Institute for Urban Health (AAIUH) is a non-profit organization founded by Arthur Ashe- the late tennis champion, civil rights activist, and humanitarian in 1992.

Located in multi-ethnic Brooklyn, AAIUH collaborates with community members to design, incubate and replicate neighbourhood-based interventions that address health conditions that disproportionately affect minorities. Recognizing the complexity of the economic and social determinants of health, we partner with a wide variety of grassroots and institutional organizations to reduce health disparities and improve outcomes for underserved groups. The Community Health Empowerment (CHE) model guides and unifies all our work.

For the 5 weeks (July-Mid August 2013) students have participated in an exciting summer internship programme on climate change & public health. The students participated in lectures at the University of the West Indies and collaborated with NGOs in Trinidad and Tobago on research projects. Environment TOBAGO was the host to 2 students, Jonathan



(Top row: left to right) Juliana Antoine (ET Education Coordinator), Marilyn Fraser-White (Director), Carianne Johnson (ET intern) and Dr. Ruth Browne (Arthur Ashe CEO)
(Bottom row) Interns: Jonathan Crevelle and Akizar Bascombe

Crevelle & Akizar Bascombe and hosted them while they conducted their research. Their research was entitled “Assessing the impact of Climate Change on the environment and Public Health in South West Tobago”.

The programme was a resounding success and the findings proved to be very interesting. Not only is SW Tobago vulnerable to any adverse weather conditions but the residents were not fully aware of their vulnerabilities and risks that are present where they lived and worked. Congratulations are extended to the interns and to the AAIUH for this opportunity to be a part of this internship programme.



PARCA Environment TOBAGO

Environment TOBAGO has once again partnered with St. Mary's University (Canada) to do a Coastal Vulnerability Index Map on the beaches located in South West Tobago from Pigeon Point to Plymouth. Masters Student Ms. Samantha Page is in Tobago spearheading her research in coastal vulnerability and shoreline mapping and has partnered with Environment TOBAGO whilst conducting her research.

Shoreline Characterization

Shoreline Characterization involves the development of an integrative GIS georeferenced database of coastal zone characteristics including geomorphology, elevation, slope, vegetation, exposure, erodibility and coastal protection structures including height, width, slope, condition, angle to shore, and material type. During the characterization process, data will be collected to assess the physical adaptive capacity of the coastline to the effects of sea level rise (namely erosion and flooding) and will result in the calculation of an adaptive capacity index for the area of shoreline extending from Crown Point to Plymouth. The capacity of communities to adapt to climate change is directly related to its physical ability to allow adaptation to take place. Coastal protection structures, can provide short term solutions, but in the long run are often maladaptive and can exacerbate a community's vulnerability to climate change. The development of the geodatabase, with up-to date shore zone characterization, will serve as a tool to help local authorities choose adaptation responses that are appropriate for their local condition. Interviews of key players in the coastal planning sector, and local knowledge will supplement this process, but will not be the primary goal.



GIS mapping of shoreline

Deliverables:

- A geodatabase of shore zone characterization and inventory of coastal protection structures in the study site
- A map of the adaptive capacity index for the Tobago study site.

Green Mapping Workshop

Green Mapping involves the production of a map containing green map icons that brings together local knowledge and opinions of community members about their sustainable living and natural and cultural resources. At the heart of green mapping are the Green Icons, which are internationally known green symbols that allow for people from all around the world to interpret the same sustainable, cultural and natural aspects of every community. Currently there are over 553 green mapping projects in 54 countries around the world. The Green Map process requires a base map, a community workshop, which collects knowledge of local community members, the use of green icons and a focus on sustainable living and natural and cultural resources. Green maps are a great tool for a local community and allows the local knowledge to be expressed and exhibited in a visual manner, provides a fresh perspective on an area, showcases environmental challenges from the views of the local people and allows the area to become part of an international network of green mapping communities. Ideally, this pilot study would assist the ET in securing funding for an island wide green mapping program.

Deliverables:

-A final green map illustrating the sustainable living and natural and cultural resources of the community and environmental challenges.

Erosion Monitoring Sites/ Beach Profiling

The Caribbean is one of the most vulnerable regions in the world to the impacts of climate change, particularly coastal erosion and sea level rise. Throughout the study site, the coast is eroding at an alarming rate, but to date, no data has been collected to illustrate how much is eroding each year. The establishment of erosion monitoring sites would include the determination of a fixed point for transects and a baseline profile of each of the beaches in the study area. Ideally, to illustrate coastal change over time, profiles would be done once to twice a year. To facilitate replication of beach profiles over time, a how-to manual, and an excel spreadsheet for easy calculation, would be developed for use with community members and for educational outreach in schools. Ideally, this baseline study could be used for the ET to secure funding for an erosion-monitoring program.

Deliverables:

- A report of beach profiles in the Tobago study site
- An erosion monitoring how – to manual and excel spreadsheet for calculations



Coastal erosion (left) and breakwater (right)

Coastal Vulnerability Index Map

Tobago is in dire need of a map indicating coastal vulnerability to sea-level rise. Such a map could help inform government policy and secure funding for future climate change adaptation projects. ET will be attempting to try and collect the necessary GIS data to create a coastal vulnerability index (CVI) map. The map would be created as part of an Advanced GIS class that is offered at Saint Mary's University in Halifax, Nova Scotia.

WASA "Adopt a River" Programme Environment TOBAGO

The sustainable management of Trinidad & Tobago's natural resources, in particular its water resources, is one of the great challenges facing our beautiful country. With growing threats such as Climate Change, loss of biodiversity, environmental degradation, natural hazards, water security and rapid urbanization, there is an urgent need for policy makers to develop a programme of actions and strategies that will help to mitigate these challenges.



Gillian John—Senior Hydrologist at WASA

There has been some progress in recent years along the path of improving institutional framework through the development of Wildlife, Forestry & Climate Change policies; however, remains a need for specific focus on our watersheds and water resources. With this being said, the Adopt a River Programme was launched officially in Tobago on Friday 13th September, 2013. Stakeholders and other interest groups were invited to be a part of this and to get on board and more involved in water resource management from a community level.



Consultant to WASA

The rationale, as presented by WASA Officials, is to "build awareness of local watershed issues and to facilitate the participation of public and private sector entities in the sustainable and holistic projects aimed at improving the status of rivers and watersheds in Trinidad & Tobago". The launch in Tobago saw a wide range of stakeholders from different sectors come out in support of the initiative. Environment TOBAGO fully supports this project and we will be considering doing projects that "Adopt a River" very soon.

Trinidad & Tobago Transparency Institute consultancy Environment TOBAGO

The workshop entitled "Building Capacity among CSO's using the Civil Society Accountability Toolkit " on the 18th September and facilitated by Trinidad & Tobago Transparency Institute. It was aimed at educating Civil Society Organizations (CSO's) on best practices and how to implement them in their respective organizations. The workshop was held by Josh Drayton, Director at TTTI and was very well attended by different CSO 's and Government agencies in Tobago.



Mr Josh Drayton (facilitator) presenting at the TTTI workshop

TTTI ultimate goal, by the end of the day's proceedings was to assist CSO's to:

- Identify current good accountability practices
- Identify areas where capacity needs building and further support is required
- Identify and use practical tools, steps and templates to realize daily accountability
- Develop and enhance internal and external accountability

ICC LAUNCH TOBAGO 2013

Over the past 26 years, Ocean Conservancy's International Coastal Cleanup has become the world's largest volunteer effort for ocean health. Nearly 9.5 million volunteers from 153 countries and locations have cleaned 153 million pounds of trash from the shores of lakes, streams, rivers, and the ocean on just one day each year.

They have recorded every item found, giving us a clearer picture of the manufactured items impacting the health of humans, wildlife, and economies. The body of data from the International Coastal Cleanup has inspired action to rid the ocean, coastlines & waterways of harmful trash and debris.

On the local front here in Trinidad & Tobago, specifically to Tobago, we have seen disturbing trends with respect to the *amount of trash* and the *type of trash* that is collected at the island's coastlines & waterways.

There are 6 beaches that are targeted for clean up every year in Tobago. These are

- Carapuse Bay-Belle Garden
- Minister's Bay-Bacolet
- Little Rockley Bay-Lambeau
- Courland Bay-Plymouth/Black Rock



DNRE rep giving ICC Tobago results for 2012

- Prince Bay-Roxborough
- Tyrell's Bay-Speyside

The Division of Agriculture, Marine Affairs, Marketing and the Environment's Department of Natural Resources and the Environment will be hosting the Annual International Coastal Cleanup 2013 in collaboration with other organizations such as Environment TOBAGO & WASA just to name a few. These exercises will take place on Saturday September 21st 2013 from 7am at beaches previously mentioned above.

The Annual Coastal Cleanup exercise seeks to engage volunteers in collecting debris from rivers, streams, lakes and seas. Additionally, data collected from this exercise will be used to identify sources of marine pollution, examine trends in pollution associated with particular debris items and increase awareness about the threats of marine debris.

Everybody is invited to take part in this annual event! See you there!

JB Fernandes/Rockefeller site visit at ET about our Summer Eco Camp

In August of this year Inca Mohammed, from the Rockefeller Philanthropic advisors based in New York, did the site visit to evaluate the ET Summer Eco Camp project which they sponsored and also to interact with participants from Scarborough RC & St. Andrews Anglican



(Top row: left to right) Inca Mohammed (Rockefeller Philanthropic advisors representative) chats with a participant in summer eco camp at Scarborough RC School, some participants from RC School
(Bottom row: left to right) Group shot with participants from St. Andrew Anglican School, ET Manager Juliana Antoine, Inca Mohammed and ET Education officer Barry Lovelace

ECOLOGY NOTES

What are Autotrophs?

Jo-Anne Nina Sewlal

Dept of Life Sciences, University of the West Indies

The word autotroph comes from a combination of two Greek words; autos which translates to “self” and trophe which translates to “nourishing”. The most common or well-known autotrophs are plants which occupy the first trophic level in food webs. They are referred to as producers as they use photosynthesis to convert carbon dioxide from the air and water from the soil into energy in the form of glucose, used to make cellulose which is necessary in the growth of cell walls in plants. This energy is transferred along the food web when the plant is consumed by herbivores and when they are then consumed by carnivores which are then consumed by carnivores in higher trophic levels and so on reaching top predators including humans. Therefore you can see that in the entire food web only autotrophs are capable of manufacturing their own food.

But photosynthesis is not limited to green terrestrial plants and trees as algae which include large varieties known as seaweeds, phytoplankton and some bacteria also carry out photosynthesis. Neither is photosynthesis the only way to make food, as some autotrophs produce food by a process known as chemosynthesis. In this process, chemical energy rather than light energy is used. The chemical reactions often include combining methane or hydrogen sulphide with oxygen. But this method of manufacturing food is rare and used by autotrophs that occupy extreme environments like active volcanoes, hot springs or deep in the oceans near hydrothermal vents, which are narrow cracks in the sea floor where these toxic chemicals are available.

It just goes to show that the organisms found on this planet are very adaptable to the environment they are found in using different ways to get food, all of which is transferred along the food web to the rest of organisms. Therefore without autotrophs our food webs both terrestrial and aquatic would collapse and with it our biodiversity and life as we know it.

ARTICLES

Minister Ganga Singh's post cabinet media statement on wildlife management

Introduction

I wish to announce that Cabinet has approved a series of landmark initiatives aimed at protecting the wildlife resources of Trinidad and Tobago. We are confident that we are doing the right things in the interest of the people of Trinidad and Tobago. The decision to roll out these measures was not just based on a wealth of research which highlight the unfortunate depletion of Trinidad and Tobago's wildlife resources. Several public consultations were hosted by my Ministry with respect to drafting the National Wildlife Policy over various locations in both Trinidad and Tobago between the period January 28th 2013 and February 13th 2013. The Ministry invited written comments on the policy which were to be submitted by May 31st 2013. Additionally

the policy was made available online for review by the public. Various organizations participated in the consultations including the Confederation of Hunters Associations for Conservation on March 27th 2013. As regards the moratorium, the MEWR coordinated appropriate consultation on August 28th 2013 with the stakeholders, namely the Trinidad and Tobago Hunters Association, informing them of the situation and the proposed measures. I recall meetings with Mr. Buddie Miller and members of the executive of the

Confederation of Hunters' Association as well as Mr. Mohan Bholasingh of the South Eastern Hunters Association. So say that there not consulted on these measures is simply not true. As a result of these consultations, we gathered that the overwhelming view was that there should be an intervention and that a moratorium should be put in place.

By way of background of how we arrived at these initiatives, the current Conservation of Wildlife Act which replaced earlier legislation for the protection of "wild bird" and "ground game", enables the protection and conservation of fauna (mammals, birds and reptiles) through the regulation of hunting by a system of permits, closed seasons and game sanctuaries. The Act prescribes a closed hunting season which outlaws the taking, sale, purchase and possession of wild meat during this season.

As of the 1990 hunting season, State Game Licences (SGLs) issued under the Conservation of Wildlife Act, were amended to include a Mandatory Hunter Return Data Form which must be completed and returned in order for the licensee to be considered for the issue of an SGL in the future. It was intended that analysis of the returned data would provide an indication of the population status of the game species (Mammals, Reptiles, Waterfowl and Cage Birds) populations and the impact of hunting.

Scientific data/research

The data analysis from the Mandatory Hunting Return Data Forms conducted by the University of the West Indies (UWI) and the University of Wisconsin for the 1990 to 1993 hunting seasons revealed that the catch-hunting effort relationships of the agouti, lappe, red brocket deer, quenk and tatoo had a consistent negative relationship, suggesting that the populations of these animals were being over-exploited. Annual take per hunter fell over the four years, suggesting that the populations of these game mammals were declining at about 15% per annum. The University scientists also concluded that such sustained rates of decline would lead to local extinction of these populations within 25 years. Moreover, what is even more alarming is that this rate of overharvest does not include the unreported take by unlicensed subsistence hunters or commercial poachers.

In a subsequent review of the hunter return forms up to 2005, the University researchers in a brief report to the Conservator of Forests, advised that there continued to be a decline in hunter catch per unit effort indicators for the game species. Since this analysis of hunting data to the 2005 hunting season, the Cabinet-appointed Wild Life Conservation Committee (WLCC) commissioned a survey of the Central Range Wildlife Sanctuary in 2007, to assess the status of game species in the Sanctuary. That study was designed by the UWI, and found that the population densities of all five game mammals were between 3 to 10 times lower than other comparable habitats in Latin America. Such a finding is particularly troubling, considering that this area is a Wildlife Sanctuary where hunting is prohibited.

Since the analysis conducted by the University of the West Indies and the University of Wisconsin on 1990 to 1993 hunting data, the Forestry Division has

*"If we kill off the wild, then we are killing a part of our souls."
Dame Jane Morris
Goodall*

indicated that there has been a steady increase in annual hunting permits sales. 5 The records of the Forestry Division indicated that during the 2010/2011 period 22,465 State Game Licenses were sold, in 2011/2012 - 18,990 were sold and in 2012/2013- 21,236 were sold. These State Game Licenses permitted the hunting of Agouti, Caged Birds, Deer, Lappe, Alligator/Lizard, Wild Hog (Quenk), Armadillo (Tattoo) and Water Fowl.

Data forms review

Review of the hunting data forms submitted by hunters has shown that the number of animals being removed through hunting has increased showing that more animals are being removed from an area of a specific size. The number of agouti removed from their habitat amounted during the hunting seasons 2010/2011, 2011/2012 and 2012/2013 was 22,441, 18,772 and 23,911 respectively; the number of deer being removed from their habitat for that same periods amounted to 1,939, 2,115 and 2,331 animals respectively. The number of Caged Birds captured for 2010/2011, 2011/2012 and 2012/2013 was 358, 97, and 465 respectively; for Lappe 3,796, 2115 and 4250 animals were removed over the same periods; similarly for Wild Hog for those periods 348,162 and 387 were hunted. Hunting of Armadillo (Tattoo) for 2010/2011, 2011/2012 and 2012/2013 amounted to 4114, 3971 and 5007 respectively; for Water Fowl 2741, 1525 and 3944 were removed for the periods and for Alligator and Lizards, 5656, 10891 and 19221 were killed for the period 2010/2011, 2011/2012 and 2012/2013 respectively.

Some have argued that the large amount of animals being caught shows that there is no negative pressure from hunting. It must be carefully noted however that as the number of hunters, or hunting effort increases in a 6 common resource, the number of animals captured will increase including the immature or juvenile animals in the population. If this is allowed to continue unabated, the wildlife populations can begin to collapse. We have to protect our babies in the wildlife. If this is allowed to continue unabated, the wildlife population will be exterminated.

Government's integrated approach

In order to address this alarming situation, which the current best scientific information has indicated could lead to the total loss of our national wildlife resources; there is a critical need to curtail the hunting pressure on game species. It is against this context that the Government has developed an integrated approach to addressing the unsustainable harvesting of wildlife resources.

I am therefore pleased to announce that as part this integrated approach, Cabinet has approved several landmark initiatives aimed at protecting and conserving this nation's wildlife resources.

Moratorium

Firstly, a two year moratorium will be placed on hunting in Trinidad and Tobago with effect from the 2013-2014 hunting season which is scheduled to commence on October 1, 2013. The moratorium will be enforced by the various agencies and the Forestry Division of the Ministry of the Environmental and Water Resources with assistance from the Ministry of National Security. I recall the words of Dame Jane Morris Goodall, a British primatologist and anthropologist, and UN Messenger of Peace who said "If we kill off the wild, then we are killing a part of our souls."

Increase in fines

In addition to the two-year moratorium the Office of Attorney General is cur-

rently reviewing the penalties and fines in the Conservation of Wildlife Act with a view to amending existing legislation. It is envisioned that these amendments will discourage individuals from contravening wildlife regulations including the two-year moratorium on hunting. This increase in fines is in keeping with the pronouncements made in the 2013/2014 Budget Statement in which it was stated that the Government will be taking a more proactive approach to protect the environment and will implement a number of measures including increased penalties and fines.

The current fines and penalty regime has done little to deter the illegal activities toward our wildlife resource. Some of the fine increases include the following:

- The fine for hunting of any animal in a Game Sanctuary has increased from \$1000 or 3 months imprisonment to \$100,000 or 12 months imprisonment;
- The fine for taking a dog into a game Sanctuary for the purpose of hunting has been raised from \$1000 or 3 months imprisonment to \$100,000 or 12 months imprisonment;
- The fine for carrying into state lands any gun or weapon or device capable of being used to hunt any second schedule animal under the Conservation of Wildlife Act has been raised from \$400 or 3 months imprisonment and disqualification from holding a state game license as the magistrate sees fit to \$5000 or 6 months imprisonment and disqualification from holding a state game license to as the magistrate sees fit
- Hunting in the closed season without a special game license and not under the special conditions to exercise dogs in lands other than Forest Reserves and Game Sanctuaries has been raised from \$2000 or 6 months imprisonment to \$100,000 or 24 months imprisonment.

Baseline survey

During the moratorium a critical baseline survey will be conducted to get a scientific appreciation of our existing wildlife and natural resources. It has never been done. This survey is important and the data obtained from it will certainly aid my Ministry and all relevant stakeholders to better develop our nation's natural resources. I must also mention that the Ministry is working in a collaborative relationship with the Forestry Division, University of the West Indies and Environmental Non-Governmental Organizations to initiate these surveys/monitoring programmes on game species populations and a comprehensive analysis of the mandatory data forms would be undertaken in order to determine the carrying capacity of the nation's forest to sustain viable game species populations and determine the maximum sustainable yield for these important wildlife resources.

Review of wildlife policy

In addition to these recently approved initiatives that I have outlined, the Ministry is in the process of developing an overarching management tool a National Wildlife Policy which went through the whole process of consultations and is now engaging attention of cabinet.

Commercial wildlife farming

In addition the Ministry, will be collaborating with the Zoological Society of Trinidad and Tobago, the University of the West Indies and the Ministry of Food Production to undertake initiatives to develop model commercial wildlife farms and to provide capacity building support to encourage rural communities to establish wildlife farms in order to ensure that their livelihoods are not negatively impacted during the

proposed two-year moratorium on hunting. The possibility of the provision of financial support from the Green Fund to establish a wildlife farm is also to be explored. We are well aware that even during the hunting season, wild meat is imported albeit illegally from nearby Guyana and Venezuela. A viable commercial wildlife farming initiative will therefore assist in the provision of wild meat products to satisfy the Trinbagonian palate. I am reminded that the Red Brocket Deer is no longer part of the Tobago environment.

Socio economic impact

Our Government is well aware of the potential socio economic impact of these measures on communities depending upon the hunting season to make a living. However with these new measures, those who previously made a living from killing will now be embraced by the Ministry and will be able to make a living from conserving.

Concerns of hunters

You would recall that I indicated the extent and depth and level of consultation. Whilst I hear the current hunting lobby “No Hunting, No Vote,” I want to indicate that we hear what they are saying but we must do the right thing. We are doing the right thing through the series of measures that I have outlined. Let me assure all citizens that these decisions are in the national interest and will certainly aid in the conservation of our wildlife resources for future generations. We are protecting the wildlife for the future. We will not shirk from our responsibility; we will continue to do the right thing.

Conclusion

Members of the Media, Ladies and Gentlemen, Trinidad and Tobago has a long tradition of natural resource protection and conservation. In fact, the country established the western hemisphere’s first forest reserve for conservation, with the declaration of the Main Ridge Forest Reserve in 1765. This Government is committed to ensuring that the rich heritage of our natural environment is protected and sustainably used in a manner that will ensure that its integrity is passed on to future generations. One sure way of doing this will be through the implementation of this integrated approach to the management of our country’s most valuable natural resources. Ladies and Gentlemen of the media, the task of wildlife protection is high on the agenda of the Government and the Ministry of the Environment and Water Resources is committed to working with all stakeholders and interested parties to ensure that the measures implemented are in the best interest of the environment and our precious natural heritage...and I mean all stakeholders. In fact, I hope that the Confederation of Hunters and the South Eastern Hunters Association can embrace this new reality and be part of the preservation of the environment; we are willing to work with them. In the words of the Great Mahatma Gandhi, “What we are doing to the forests of the world is but a mirror reflection of what we are doing to ourselves and to one another.”



**Colleagues in Conservation
Ian Lambie
Environment TOBAGO**

I may be accused of being unrealistic, but while being fully aware of the alleged smuggling of live animals, live birds, blue crabs and wildmeat from nearby South American countries, I am of the opinion that the relevant authorities can significantly reduce these incidents of smuggling if they are willing so to do. Lawlessness must not be permitted to determine the future of our Wildlife (or our lives). Kindly see the restrictions on the importation of live animals, live birds, reptiles, wildmeat as stated in both the Conservation of Wildlife Act and in the Animals (Diseases and Importation) Act No.19 of 1959. The question may be asked: Why is beef not being imported from Venezuela, Guyana, Brazil and Argentina which are closer and cheaper and sources, than the present suppliers in the USA and in far-off Australia? I do agree that the present maximum penalties are so low that they cannot act as a deterrent to would be offenders. I note that the Minister has proposed substantial increases in these penalties, which in my opinion, should include the forfeiture of boats, vehicles, guns, dogs and other equipment used in the commission of the illegal act.

An Awareness Programme

The public must be aware of the requirements of the amendments. A vigorous awareness programme using the print and electronic media, and community meetings must be immediately instituted.

Increase in Wildlife wardens

For many years the wildlife conservation committee has been requesting a substantial increase in the number of wildlife wardens. It is my wish that this will now become a reality. Rangers to be properly trained and provided with the required equipment to perform their duties efficiently. It is pleasing to note that the rangers will be supplemented in their patrols by members of the security services. I take this to mean personnel from the police service and from the regiment.

Co-operation of the various Hunters' Associations

The Minister should request the co-operation of the various Hunters' Associations in observing the conservation laws and its amendments. It should be noted that there are forest officers and wildlife rangers who are hunters and they should be in the vanguard in ensuring the co-operation of other hunters.

Co-operation of the Magistracy

I am often of the opinion that the penalty imposed by a magistrate for an offence against the conservation of wildlife laws is nothing more than a "slap on the wrist" penalties imposed on persons found guilty of offences must be realistic and must act as a deterrent to would be offenders. Repeat offenders, in addition to being fined and their equipment forfeited, must be denied a hunting licence for an appropriate period of time.

Cage birds

The capturing and the keeping of birds in captivity has already destroyed the majority of our "song bird" populations and many species have become extinct or on the verge of extinction, and this with a Conservation of Wildlife Act since 1963.

"I am often of the opinion that the penalty imposed by a magistrate for an offence against the conservation of wildlife laws is nothing more than a "slap on the wrist" "

Among the international birdwatching fraternity, Trinidad and Tobago is considered to be the best "Introduction to the South American species of birds" and hundreds of birdwatchers visit annually. Eco-tourism and Bird catching are not compatible and Bird catching and the keeping of any indigenous species of bird must be BANNED. This would include, birds imported legally or illegally from South America,

Informers

In the Trinidad and Tobago of today, to be an informer is to put your life or your property at risk. However there are systems already in practice where informers remain anonymous and are not required to appear in Court. Such a system, with a HOTLINE, should be introduced for any person wishing to give information on illegal hunting, the illegal importation of animals, birds, reptiles, crabs or wildmeat, or the possession of wildmeat during the CLOSED SEASON. A reward must be given to the informer should the accused be found guilty and a fine imposed.

The census and the study of the breeding biology of game animals and birds

Should these studies be not completed by 30th September, 2015 consideration should be given to extending the Moratorium for a period as may be recommended by the university professors who will be supervising the work of the graduate students.



The hunting ban and Tobago **Patricia Turpin** **Environment TOBAGO**

At long last, the opportunity for a comprehensive survey of the wildlife of Trinidad and Tobago has arrived. The declaration of the Minister of the Environment and Water Resources on September 19th, 2013 which indicated a moratorium on hunting for 2 years has elicited many vociferous responses from the Hunting lobby. Some of them uninformed and some motivated by so-called economics. For environmentalists and forestry/game warden personnel it is a long awaited initiative for management of our beleaguered wildlife.

The statistics quoted by the Minister on the quantum of extraction and the hunting licenses issued during the last few years is amazing- surpassing hunting permits issued in Canada/USA. They point to the urgency of this measure.

The Tobago scenario is no different. There has been a lack of data supporting the conservation of wildlife for as long as we can remember. Early initiatives to document current and extirpated terrestrial species for this purpose were done by Smithsonian Institute teams over a 45 year span from 1965 onwards -this data is currently being transposed to a database that will be available for research etc. NGO's, such as, the Field Naturalist Club of T&T and Environment Tobago have added to this data with individual studies. A biological survey of Little Tobago, was completed in 1996 by Natalie Boodram - Environment TOBAGO. At that time, it was suggested that a comprehensive survey of the main island of Tobago should be a follow up- this has to our knowledge, never been attempted.

The Department of Natural Resources and the Environment-THA- the body responsible for wildlife conservation in Tobago, has run various programs in conjunc-

tion with the EMA and NGO's, highlighting the plight of wildlife –that have had wide exposure both in Trinidad & Tobago. If there is other data collection on wildlife quantities done by this Division- Environment Tobago and the general public are unaware of their existence. It would be a wise move to employ hunters who claim their livelihoods are being destroyed, in the collection of data and thus supplement the forestry division workforce.

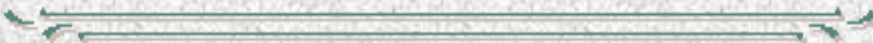
The DNRE will be responsible for the implementation of the hunting ban in Tobago with the aid of Forestry Officers and Game Wardens. As in various other circumstances, requiring implementation in Tobago under order from the central government, there is likely to be a delay and continued issuance of hunting permits, until a letter is received by the THA from the Conservator of Forests. This seems to be a matter of Tobago pride.

There have been constant consultations in the last decade with the Ministry of the Environment-THA and stakeholders including NGO's and The Hunters Association in Trinidad and Tobago. First of all for the NEP-National Environmental Policy, then the Forest Policy, Protected Areas Policy and more recently, in 2012/2013, the "Wildlife Policy". At all of the consultations mentioned- the need for a comprehensive wildlife survey to guide wildlife management, and the need for a moratorium on hunting were stated. In the marine sector, the consultations and subsequent legislation for the ban on hunting of marine turtles were well attended. There can be NO claim that the" hunting lobby were never consulted".

The success of the ban on hunting in Trinidad and Tobago hinges on enforcement and the successful and immediate implementation of wildlife surveys in both islands to aid in management. In Tobago, hunting is claimed, is a "cultural" norm and alternative livelihoods should be presented. This is absolute nonsense. It is a matter of the Tobagonian believing that they are "entitled"- it is "we own". This attitude, coupled with a lack of resources (game wardens) to enforce the law has led to constant hunting "In the closed and open seasons" and the discharging of firearms in residential areas in the pursuit of "wild meat". Now that there is a ban on hunting, officers will have to be aware that the illegal trade in wildlife, including birds will increase, and the indiscriminate use of trap guns instead of bullets will make enforcement a very dangerous job. We will absolutely need the SUPPORT of all officials in the highest levels of the THA if we are going to be successful.

Tobago is an island renowned for its eco-tourism and for the oldest protected Forest reserve in the western hemisphere. Tobago is also described as a Biodiversity Hot Spot- a diverse and comprehensive list of wildlife of all descriptions are housed here. Let us please uphold the law and as a result conserve our precious wildlife.

"Tobago is an island renowned for its eco-tourism and for the oldest protected Forest reserve in the western hemisphere."



AN EDGE IS A WORLD OF ITS OWN

Joanna Burger 1996. *A Naturalist Along the Jersey Shore*. New Brunswick, N.J.: Rutgers Univ. Press 304 pp.

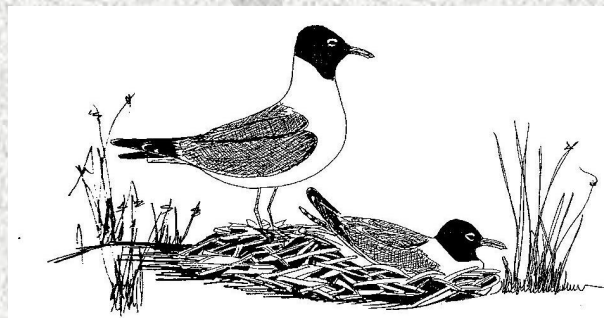
[Thirty-third in a series on "naturalist-in" books.]

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“The zones between the edge and the barrier islands are especially biodiverse.”

Rocky shores, barrier beaches, salt marshes and long, thin barrier islands are found along the Atlantic coast of the USA. The state of New Jersey, with about 230 km of shoreline, has all of these. This is a very dynamic environment, often with abrupt zone changes as one moves inland from the water's edge or out into near-shore waters. The zones between the edge and the barrier islands are especially biodiverse. These islands absorb most of the wave force -- a boat can travel most of the way from Florida to Massachusetts in their shelter -- yet wind and waves are a constant factor, giving rise to shifting dunes. Salt marshes, too, are in constant flux. This is not wilderness. A highway runs close to the eastern shore along most of the length of New Jersey.

Delaware Bay is a major migration route for shore birds and more than 200 species of songbirds. Many of the former feed heavily on masses of horseshoe-crab eggs. The Jersey Shore is also a migration corridor for monarch butterflies, which pass and roost in the millions. Many migrants are funneled toward Cape May at the southern tip of the New Jersey peninsula.



The very productive estuaries serve as nurseries for many fish species, of which a majority are warm-water migrants that spend half of the year further south. Many are present along the Jersey Shore only as immatures. A majority of the birds also go south for the winter, although there are far-northern species for which the Jersey Shore is a wintering ground.

The author, who teaches biology at Rutgers University, is fascinated by all seashore life, and the nearby Jersey Shore is her favourite place of all. She has a strong, clear style of expression.

Although it is not an adventure story, *A Naturalist Along the Jersey Shore* is based on real field work with its attendant discomforts and perils. Burger is unmistakably hardcore. She is quite prepared to spend long periods of solitude in blinds in order to work out an animal's breeding cycle and relations with competitors. And she looks forward eagerly to each new breeding season.

Despite its title, this is not exactly a naturalist-in book as defined in this series. Rather, it is a treatise on the ecology of the Jersey Shore with a large personal component. This is not a complaint, just an observation. More specifically, this is wildlife ecology. The main attention is to the birds and other land vertebrates that breed along the Jersey

Shore and what conditions are favourable to them, with an eye to conservation. There is much emphasis on niche differences among bird species nesting in the same areas.

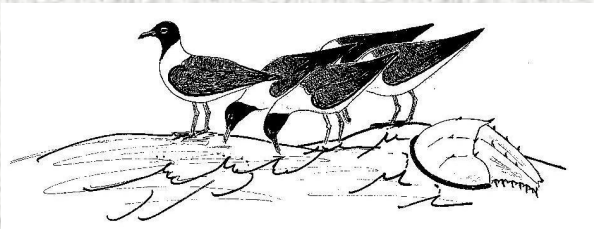
After an introduction to the coastal zone, the chapters are arranged into sections by season. Each chapter has its own theme, such as breeding aggregations of Fowler's toad, horseshoe crabs, fiddler crabs, the cattle egret, birds of prey, mosquitoes, and various shore birds. The book is illustrated by the author's drawings, including 94 field drawings, mostly of birds.

From a strictly scientific point of view, the most interesting chapter is on the common terns and skimmers. Burger and co-workers were puzzled that terns nested on only 34 of the 259 islands in Barnegat Bay, and not on all in a given year. At first it appeared that terns had many more islands available than they utilized, but an analysis of various parameters -- maximum height, distance from the mainland, vegetation cover, etc -- showed that only these 34 and three others fell within a certain range. In a striking corroboration, terns have since then nested on these three islands and no other new ones.

The chapter on the breeding of laughing gulls is especially attractive, showing a good sense of the challenges facing this bird, its tactics to overcome them, and how they sometimes fail to do so.

I find the chapter on Fowler's toad especially gripping, with its attention to breeding, metamorphosis and ways of avoiding predation.

The chapter on fiddler crabs focuses on where and how they live, and the challenges posed by the physical environment. Like other littoral organisms, they find their habitat renewed twice a day.



In the first half of the 20th century, there was much effort to drain swamps for mosquito control all along the Atlantic coast, leading to a great deal of alteration of landscape and biota. Especially during the Great Depression, large work gangs were put to cutting drainage ditches.

Since about 1970, there has been a reversal in this trend, an attempt to preserve wetlands while controlling mosquitoes by other means.

There have also been changes during Burger's own lifetime. For example, when she was growing up the mallard was mostly a prairie bird, but now it is common along the Atlantic shore.

The success of mosquito control has increased the popularity of the beaches, and there are now houses all along the shore except in state parks, as well as on many barrier islands. And with the increased human population come wildlife-prejudicial cats and dogs.

Let me also mention Burger's (2006) estimable book about the Pine Barrens, an extensive region in central and southern New Jersey. This infertile forest has escaped destruction because of its unsuitability as farmland or timber. Her special focus is a population of the pine snake, *Pituophis melanoleucus*, separated by 1000 km from other populations.

Reference

Burger, J. 2006. *Whispers in the Pines: A Naturalist in the Northeast*. New Brunswick: Rutgers Univ. Press 345 pp.

“Delaware Bay is a major migration route for shore birds and more than 200 species of songbirds.”

WHAT'S HAPPENING @ ET

ET is now on Facebook and Twitter

We invite everyone on **Facebook** to join. Here we will post upcoming events, links, photos and videos on ET matters and other environmental issues.

ET group link: <http://www.facebook.com/home.php#/group.php?gid=53362888661&ref=ts>

And keep up to date on what we are up to by following us on **Twitter**: https://twitter.com/environ_tobago

Environment TOBAGO Environmental and Services Map of Tobago

They are excellent and will be published every two years. Published in January 2008. Requests for these maps can be made to ET office.

Volunteers needed!

Persons who are interested in helping with cataloguing and filing of ET's educational, research and operational material and archiving.

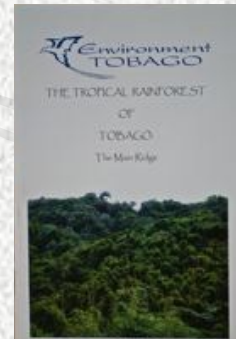
New Members

ET has a membership of 427 worldwide. There were no new members for this quarter

Literature Available

The Tropical Rainforest of Tobago — The Main Ridge
Graham Wellfare and Hema Singh
Published by Environment TOBAGO pp 37

Price: TT120.



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<http://www.Environmenttobago.net>

GUIDELINES TO CONTRIBUTORS

Articles on the natural history and environment are welcome especially those on
Trinidad and Tobago.

Articles should not exceed approximately 1200 words (2 pages) and the editors
reserve the right to edit the length. Images should be submitted as separate files.

Submit material to any of the following: 1) jo_anneawl@yahoo.com
2) envirtob@tstt.net.tt

**Deadline for submission of material for the 4th Quarter 2013 issue of
the Bulletin is December 10th, 2013.**

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