



# ANNUAL REPORT 2018






**SPECIAL The Growth of the EMA**


As we continue the transition to indicator-based environmental reporting, this cover was made to symbolize the work and growth of the EMA. The design represents a cut tree trunk where each tree ring is a previous Annual report represented by the year of release.

# QUICK FACTS ABOUT THE ENVIRONMENTAL MANAGEMENT AUTHORITY

## OUR VISION

*“Stewards of Trinidad and Tobago’s natural resources and environment meeting current and future human, ecological and economic needs”*

 The EMA was established by the Trinidad and Tobago Parliament in 1995 through the enactment of the Environmental Management Act, 1995. The Act was later repealed and re-enacted by Act No. 3, 2000. The Environmental Management Act was incorporated into the Revised Laws of Trinidad and Tobago as Chapter 35:05, in 2009.

 We are committed to sustainably manage the natural resources and environment by providing a transparent framework to facilitate policy and decision-making in development. This will be undertaken within an approved regulatory system, utilising intensive public education and a collaborative cross-sectoral approach.

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Major functions of the EMA include:

- Promoting a better understanding and appreciation of the environment;
- Encouraging the integration of environmental concerns into private and public decision-making;
- Coordinating efforts among the various institutions with responsibility for the environment to establish an integrated environmental management system designed to protect, enhance and conserve the environment;
- Developing and implementing laws, policies and programmes to promote sustainable development, achieve economic growth and meet international obligations;
- Enhancing the legal, regulatory and institutional framework for environmental management; and
- Producing an annual Assessment of the State of the Environment Report as mandated under Section 14 of the Environmental Management Act, Chapter 35:05.













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The EMA prepares an annual report containing an assessment of the state of the environment, which is intended to:



- Provide a foundation for improved decision-making at all levels;
- Increase awareness and understanding of environmental trends and conditions; and
- Facilitate the measurement of key indicators that monitor progress of the pace and direction towards enhancing positive, or mitigating negative, observed conditions and trends.



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# LIST OF ABBREVIATIONS

AAQM	Ambient Air Quality Monitoring
APP	Air Pollution Permit
APR	Air Pollution Rules
ASOER	Assessment of the State of the Environment Report
AWQS	Ambient Water Quality Standard
BOD <sub>5</sub>	Five-day biological oxygen demand
BC	Borough Corporation
CEC	Certificate of Environmental Clearance
COPC	Chemical of Potential Concern
CRew+	Caribbean Regional Fund for Wastewater Management
CRS	Carbon Reduction Strategy for Trinidad and Tobago
°C	Degrees Celsius
DPSIR	Driver Pressure State Impact Response
EIA	Environmental Impact Assessment
EM Act	Environmental Management Act, Chapter 35:05
EMA	Environmental Management Authority
ERA	Ecological Risk Assessment
ERI	Emergency Response and Investigations
ESA	Environmentally Sensitive Area
ESS	Environmentally Sensitive Species
FAO	Food and Agricultural Organization
FC	Faecal Coliforms
GEF	Global Environment Facility
GHG	Greenhouse Gas
GOP	Gulf of Paria
GORTT	Government of the Republic of Trinidad and Tobago
HDPE	High-density Polyethylene
iCARE	Community, Awareness, Recycle, Everyday Programme
IDB	Inter-American Development Bank
IFPAM	Improving Forest and Protected Areas Management
ILAC	Latin American and Caribbean Initiative for Sustainable Development
IWEco	Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States
IWWM	Integrated Water and Wastewater Management
kg	Kilogramme
KJ/USD	Kilojoule per United States Dollar
LECB	Low Emissions Capacity Building
LSA	Land Settlement Agency
MAC	Management Advisory Committee
µg/m <sup>3</sup>	Microgramme per cubic metre
mg/l	Milligramme per litre
MC	Municipal Corporation
MJ	Megajoule



mm	Millimetre
MOU	Memorandum of Understanding
MPL	Maximum Permissible Level
MPU	Ministry of Public Utilities
MRV	Monitoring Reporting and Verification
NAMA	Nationally Appropriate Mitigation Action
NCCP	National Climate Change Policy
NDC	Nationally Determined Contributions
NEP	National Environmental Policy
NGO	Non-governmental Organization
NPCR	Noise Pollution Control Rules
NSF WQI	National Sanitation Foundation's Water Quality Index
PCD	Pilot Collection Depot
PET	Polyethylene terephthalate
PM <sub>10</sub>	Particulate matter less than 10 microns in size
PM <sub>2.5</sub>	Particulate matter less than 2.5 microns in size
PPA	Pilot Protected Area
PPP	Polluter Pays Principle
PPPP	Public Private Partnership
PSIP	Public Sector Investment Programme
RSWCP	Recyclable Solid Waste Collection Project
SER	Source Emitter Registration
SR	Source Registration
SRP	School Recycling Programme
STAR	System for Transparent Allocation of Resources (GEF)
SWMCOL	Solid Waste Management Company Limited
TCPD	Town and Country Planning Division
TOR	Terms of Reference
TSS	Total Suspended Solids
T&T	Trinidad and Tobago
TTBS	Trinidad and Tobago Bureau of Standards
TTPS	Trinidad and Tobago Police Service
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UWI	University of the West Indies
VEC	Valued Environmental Component
VR	Noise Variation
WASA	Water and Sewerage Authority of Trinidad and Tobago
WPP	Water Pollution Permit
WPR	Water Pollution Rules
WWTP	Wastewater Treatment Plant

# MESSAGE FROM THE CHAIRMAN



On behalf of the Board of Directors, Management and Staff, I invite you to examine the Environmental Management Authority's (EMA) Annual Report 2018 which meets its submission deadline and which comprises the Assessment of the State of the Environment Report, our accomplishments and Audited Financial Statement. The EMA's reporting approach and strategic direction are aligned with the United Nations' Sustainable Development Goals (SDGs) and the Government's National Development Strategy – Vision 2030, which focus on the pillar of environmental sustainability.

As the central agency with the important responsibility of coordinating, facilitating and overseeing the execution of the National Environmental Strategy, 2018 has been a milestone year. Noteworthy accomplishments include the designation of our National

Bird, the Scarlet Ibis as an Environmentally Sensitive Species, the revision of the National Environmental Policy, completing the draft Waste Management (Registration and Permitting) Rules and Draft Revised Water Pollution Rules and bringing our Financial Audits up to date in accordance with Section 14 of the Environmental Management Act.

The EMA continues to emphasise its role in balancing environmental goals with development objectives. In so doing, it provided critical support for the investigation and provision of technical assistance to mitigate environmental disasters and chemical spills and enforcement of the Environmentally Sensitive Species Rules. It campaigned diligently through our dynamic public education programmes for the general population to become environmentally responsible. Importantly, the mainstreaming of the iCARE Recycling Project will raise environmental consciousness and become a pervasive force to guide our actions.

The Board of Directors is grateful for the astute and competent leadership of the Managing Director, the management team and our dedicated and enthusiastic employees who envision their jobs as more than an exchange of service, but a commitment to building strong communities for future generations - one environmental action at a time.

We are well into the Fourth Industrial Revolution, one that provides us with a stronger platform on which to build to facilitate our personal and collective responsibility towards the environment and sustainable development. Let us grasp the opportunities that are presented to make a difference.

A handwritten signature in black ink, appearing to read 'Nadra Nathai-Gyan'.

**Nadra Nathai-Gyan**  
Chairman of the Board of Directors



## BOARD OF DIRECTORS

- Nadra Nathai-Gyan (Chairman)
- Judy Daniel (Deputy Chairman)
- Ronald Adams
- John Julien
- Vyash Nandlal
- Garth Ottley
- Dr. Roshan Parasram
- Gordon Paul
- Althea Thompson
- Jacqueline Wilson



## BOARD OF TRUSTEES

- Vyash Nandlal (Chairman)
- Ronald Adams
- Judy Daniel
- Nadra Nathai-Gyan
- Garth Ottley

# ASSESSMENT OF THE STATE OF THE ENVIRONMENT REPORT 2018





CLIMATE CHANGE  
MITIGATION &  
ADAPTATION

COMPREHENSIVE  
ENVIRONMENTAL &  
NATURAL DISASTER  
MANAGEMENT



WATER  
MANAGEMENT

SOIL/LAND  
MANAGEMENT

FISHERIES  
MANAGEMENT

AGRICULTURE  
MANAGEMENT



BIODIVERSITY  
MANAGEMENT

INVASIVE SPECIES  
MANAGEMENT

COASTAL & MARINE  
MANAGEMENT

MINERAL &  
HYDROCARBON  
MANAGEMENT



PLANNING & HUMAN  
SETTLEMENTS

GREEN  
ARCHITECTURE &  
INFRASTRUCTURE

HERITAGE, CULTURAL  
& ARCHAEOLOGICAL  
SITES

NATIONAL FESTIVAL  
& EVENTS  
MANAGEMENT

MASS TRANSIT  
SOLUTIONS



## ANNUAL REPORT: PART A

# EXECUTIVE SUMMARY

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The 2018 Assessment of the State of the Environment Report (ASOER) demonstrates the Environmental Management Authority's (EMA) continued approach of consistently reporting on a suite of environmental indicators. The indicators are aligned with the United Nations (UN) Sustainable Development Goals and the UN Environment Programme's Latin America and Caribbean Initiative for Sustainable Development (ILAC). According to the Driving Forces, Pressure, State, Impact, Response (DPSIR) Framework, each environmental indicator reflects one of the five elements of the causal chain that links human activities to environmental impacts which produces societal responses to these impacts. Forty seven (47) indicators are discussed in this report covering the following six (6) priority areas of the National Environmental Policy (NEP): Protecting Environmental and Human Health through Pollution Control; Sustainably Managing Natural Assets; Improving the Local Environment; Evolving a Greener Economy; Fostering an Environmentally Responsible Society and Addressing Climate Change and Environmental Disasters. The following lists the Priority Areas and each environmental indicator explored in this report:

### Protecting Environmental and Human Health through Pollution Control

Water and Wastewater Management Indicators:

- *Pressure* – Proportion of population connected to a WASA-owned wastewater treatment plant (WWTP) (%)
- *Response* – Number of WWTPs that are source registered
- *Response* – Proportion of WWTPs meeting Water Pollution Rules (WPR) permissible limit (400 counts/100 ml) for faecal coliforms (FC) (%)
- *Response* – Proportion of WWTPs meeting WPR permissible limit (50 mg/L) for total suspended solids (TSS) (%)
- *Response* – Proportion of WWTPs meeting WPR permissible limit (30, 50 and 100 mg/L for inland surface, coastal nearshore and marine offshore waters respectively) for five-day biological oxygen demand (BOD<sub>5</sub>) (%)\*

Only 30% of the population is connected to a WASA-owned WWTP. WASA intends to increase this coverage to 48% with the successful completion of the Malabar and San Fernando Wastewater Projects. At the end of 2018, there was a total of 36 WASA-owned WWTPs that are source-registered, as well as, an additional 208 privately-owned WWTPs associated with either housing developments, industrial, institutional, manufacturing, commercial or offshore facilities that are registered. While 53% of these WWTPs were able to meet the permissible limit for TSS (50 mg/L), only 26% met the limit for BOD<sub>5</sub> (30, 50 and 100 mg/L for inland surface, coastal nearshore and marine offshore waters, respectively) and 4% for FC (400 counts/100 ml). In 2018, the low sewerage connection and the inability of WWTPs to meet WPR standards continued to pressure the quality of the country's water resources.

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\*Denotes an indicator introduced for the first time.

#### Air Pollution Indicators:

- *State* – Annual average PM<sub>10</sub> and PM<sub>2.5</sub> concentrations in Chaguanas (µg/m<sup>3</sup>)
- *State* – Annual average PM<sub>2.5</sub> concentration in Port of Spain (µg/m<sup>3</sup>)
- *Impact* – Number of complaints related to air pollution

In 2018, the two ambient air quality monitoring stations continued to measure particulate matter concentrations in Chaguanas and Port of Spain. At both locations, the 24-hour average values for PM<sub>2.5</sub> were within the maximum permissible levels (MPL) of the Air Pollution Rules, 2014 (APR). The 24-hour average values of PM<sub>10</sub> in Chaguanas exceeded the MPL of the APR on six (6) days. Saharan Dust was experienced on 128 days in 2018 and correlated with the peaks in PM<sub>2.5</sub> and PM<sub>10</sub> in Trinidad and Tobago (T&T).

#### Noise Pollution Indicators:

- *Pressure* – Number of Noise Variations issued\*
- *Impact* – Number of complaints related to noise

The EMA issued 520 Noise Variations in 2018. Throughout the year, the concentration of events as well as complaints was located in urban areas, in particular, Port of Spain. 290 complaints related to noise were received by the EMA, with 30% of complaints received during the Carnival period.

#### Solid Wastes Indicators:

- *Response* – Total waste to disposal sites in tonnes (Studley Park)
- *Response* - Amount of materials recycled (Glass, PET, HDPE) (tonnes)
- *Response* – Number of CEC applications issued for the establishment of recycling facilities
- *Impact* – Number of complaints related to dumping

In 2018, the total quantity of waste collected at Studley Park in Tobago was 35,000 tonnes. In Trinidad, as we continue to promote a recycling culture through the iCARE (Community, Awareness, Recycle, Everyday) Programme, 575,000 bags of beverage containers (glass, aluminium, tetrapak, plastic) were collected in 2018 where over 160 tonnes of material were processed.

### Sustainably Managing Natural Assets

#### Biodiversity Management Indicators:

- *State* – Forest reserve area as a proportion of total land area (%)
- *Response* – Proportion of terrestrial areas protected (Environmentally Sensitive Areas (ESAs), Ramsar Sites and Wildlife Sanctuaries) (%)
- *Response* – Coverage of marine protected areas through the Ramsar Convention on Wetlands (km<sup>2</sup>)
- *Response* – Number of new designations of Environmentally Sensitive Species (ESS)
- *Response* – Number of Certificate of Environmental Clearance (CEC) applications received for developments within 1 km of the boundaries of an ESA
- *Response* – Number of CEC applications received for developments within an ESA
- *Impact* – Number of animal deaths reported
- *Impact* – Number of oil spills and releases

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\*Denotes an indicator introduced for the first time.

The first three indicators are based on the main protected sites in T&T, which are reflective of their state and has remain unchanged from previous years. In 2018, the Scarlet Ibis was designated as an Environmentally Sensitive Species. With respect to environmental impacts, there were 75 oil spills and releases recorded in 2018.

### Improving the Local Environment

Planning and Human Settlements Indicators:

- *Driver* – Population size
- *Response* – Proportion of national territory with land-use plans (%)
- *State* – Reports by the EMA on the state of the environment
- *Pressure* – Number of CEC applications received for housing developments\*
- *Pressure* – Number of CEC applications received for the regularisation of squatter communities\*
- *Impact* – Number of complaints related to environmental degradation
- *Impact* – Number of complaints related to the 44 CEC designated activities

In 2018, 15% of the CEC applications received were related to housing developments. The Town and Country Planning Division's land-use plans for the country are in the process of being updated in order to promote sustainable development. Plans are ongoing to harmonise and automate the construction permitting process nationwide which would allow greater adherence to land-use planning.

### Evolving a Greener Economy

- *Pressure* – Number of CEC applications received
- *Pressure* – Number of CEC applications received for oil and gas related activities
- *Pressure* – Number of CEC applications received for mining activities
- *Response* – Cumulative number of projects funded by the Green Fund Executing Unit\*
- *Response* – Cumulative value of funds given to projects by the Green Fund Executing Unit\*

The number of CEC applications received in 2018 were 276, where 33 were related to oil and gas activities and 9 were related to mining. The most common types of applications received were related to land developments and poultry farms. Data from the Green Fund Executing Unit indicates that between 2014 and 2018, 61 projects were granted funding in the combined sum of TTD \$968,936,814.

### Fostering an Environmentally Responsible Society

- *State* – Number of external visitors and requests (via telephone or email) to/from the EMA's Information Centre\*
- *State* – Number of documents retrieved from the EMA's Information Centre\*
- *State* – Number of requests for Access to Official Documents under the Freedom of Information Act (FOIA)\*
- *Response* – Number of charges laid under the Conservation of Wildlife Act\*

The EMA's Information Centre houses a plethora of data and resource documents related to the environment, including, but not limited to, biodiversity, pollution, climate change and research papers. There were 679 visits by the public with 901 queries via phone/email in 2018 of which access to the CEC register was the most popular request. Additionally, there were 66 FOIA requests for information, such as, complaints, investigations, oil spills and environmental reports. In 2018, there were 936 charges laid under the Conservation of Wildlife Act totaling fines in excess of TTD \$62,000.

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\*Denotes an indicator introduced for the first time.



## Addressing Climate Change and Environmental and Natural Disasters

### Climate Change Mitigation and Adaptation

- *State* – Annual average maximum temperature in Trinidad (°C)
- *State* – Annual average maximum temperature in Tobago (°C)
- *State* – Total annual rainfall in Trinidad (mm)
- *State* – Total annual rainfall in Tobago (mm)

### Natural Disaster Management

- *Response* – Proportion (%) of local governments that adopt and implement local disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030

In 2018, there were several extreme rainfall events that affected T&T. Most notable was the flooding events on October 18<sup>th</sup> and 19<sup>th</sup> that inundated six (6) communities.

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The EMA continues to report on the state of the environment with the use of indicators to ensure a consistent reporting format. It is intended that future ASOERs will continue to report on the listed indicators with new additions to be identified. They may be changed or modified accordingly, to track performance and progress in order to produce an effective assessment of the environment in T&T.

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\*Denotes an indicator introduced for the first time.



# INTRODUCTION

“Measurement is the first step that leads to control and eventually to improvement. If you can’t measure something, you can’t understand it.” - H. James Harrington.

In 1995, the Environmental Management Authority (EMA) was established to, *inter alia*, develop and implement programmes for the effective and wise use of the environment. Since then, Trinidad & Tobago (T&T) has produced Assessment of the State of the Environment Reports (ASOER) annually towards the goals of: identifying environmental impacts and factors that contribute to environmental decline; providing decision-makers with information to evaluate the seriousness of threat or effectiveness of response; and increasing public awareness of environmental issues.

The format of the ASOER has constantly evolved to reflect the changes to international and national policy, global thinking on environmental reporting, institutional linkages between national stakeholders, and approaches to environmental data collection. Among the more pivotal innovations were the integration of “Driving Forces, Pressures, State, Impact and Response (DPSIR)” framework into reporting since 2005; application of GIS-based technology to reflect indicators since 2014; and the adoption of 11 multi-country indicators as part of United Nations Sustainable Development Goals (SDGs) and the UN Environment Programme’s Latin America and Caribbean Initiative for Sustainable Development (ILAC) in 2017. This year, 2018, is also a milestone year in the ASOER transformation as it has been harmonised with the 2018 National Environmental Policy (NEP) which calls for the ASOER to reflect on the progress made across the six priority areas of the NEP. Henceforth, the ASOER will dovetail the ILAC indicators as well as, national DPSIR indicators into the categories of:

- Protecting Environmental and Human Health through Pollution Control;
- Sustainably Managing Natural Assets;
- Improving the Local Environment;
- Evolving a Greener Economy;

- Fostering an Environmentally Responsible Society; and
- Addressing Climate Change and Environmental and Natural Disasters.

The 2018 NEP earns distinction from its predecessors in that it is not restricted to purely ‘environmental’ issues, but also addresses issues that arise at the interface of environment and society as well as, environment and economy. Additionally, it addresses new thematic areas never before addressed in the NEP such as light pollution, archaeological sites and national festivals. Moving forward therefore, an additional suite of indicators will need to be developed and integrated into the ASOER. Presently, this report presents 47 indicators across the NEP’s six priority areas.

The ASOER is a communication tool meant to convey a simplified environmental reality. However, as a communication tool, it has been constrained in the past due to its length and technical presentation. Towards improving the effectiveness of the ASOER as a tool for public education, this report, and its successors, will present a new streamlined look to make it attractive to the eye and easy to interpret by the public and policy-makers alike. Additionally, the tradition of ‘themed’ reports will be somewhat maintained through “highlight” sections in each chapter.

In this way, the ASOER will be able to communicate the same set of standardised indicators each year, while simultaneously highlighting case-studies from government, non-governmental entities, and private sector in that reporting year. The result will be a succinct and more visually appealing to be enjoyed and used by an environmentally responsible society.



## The Power of Citizen Science

### *How do I become a contributor to the ASOER?*

Section 14(1) of the Environmental Management Act Chap. 35:05 mandates that the Environmental Management Authority (EMA) shall submit to the Minister the ASOER as part of the EMA's Annual Report no later than four months after the end of each calendar year. Therefore, the EMA is constantly in the process of collecting data and case studies to present in the ASOER. Since this report represents the first attempt to bridge the ASOER with the 2018 NEP, there are still data gaps and indicators to be developed.

The EMA hopes to lessen the gaps by encouraging the growing trend of Citizen Science where the public participates and collaborates in scientific research to maximize the amount of data collected for the ASOER. As such, the EMA invites all persons and/or entities to share unique pictures, research or case-studies of applied projects for future ASOERs with full credits. The EMA also welcomes the support of individuals and groups to assist with the collection of environmental data to enhance the reports. To be part of the ASOER, please send an email to [ema@ema.co.tt](mailto:ema@ema.co.tt) with the subject "ASOER Support (year)" with the description of your submission/interest and contact information.

## KEY INDICATOR LIST

Each table listed in this section states a goal; relevant key indicators; values of each indicator relevant for years stated; whether it is a Regional Indicator (including its corresponding SDG and ILAC indicator number) or local indicator chosen by the EMA. All data values stated as "-" in the tables indicate that the information was not available at the time of *this* publication. However, it is possible for such missing data to be presented in future ASOERs. N/A means that data for the indicator is not recorded for that year.



LOCAL

### **Key Local Indicators**

Applicable only to T&T and based on information collected through the EMA's various regulatory processes. These were selected from similar indicators defined under the UN SDGs and ILAC and consideration was given to those for which information was available.



REGIONAL

### **Key Regional Indicators**

These indicators were developed based on discussions with multiple local and regional stakeholders, in collaboration with the UN Environment at the Environmental Information Week held in Trinidad from October 2<sup>nd</sup> to 4<sup>th</sup>, 2017. These indicators were selected based on implementation, impact, relevance and usability within the Caribbean Region.

See the next page



# Protecting Environmental and Human Health through Pollution Control

## WATER INDICATORS

### GOAL IMPROVE WASTEWATER MANAGEMENT

Proportion of population connected to a WASA-owned wastewater treatment plant (WWTP) (%)



Number of WWTPs that are source registered



Proportion of WWTPs meeting Water Pollution Rules (WPR) permissible limit (400 counts/100 ml) for faecal coliforms (%)



Proportion of WWTPs meeting WPR permissible limit (50, 150 and 200 mg/L for inland surface, coastal nearshore and marine offshore waters respectively) for total suspended solids (%)



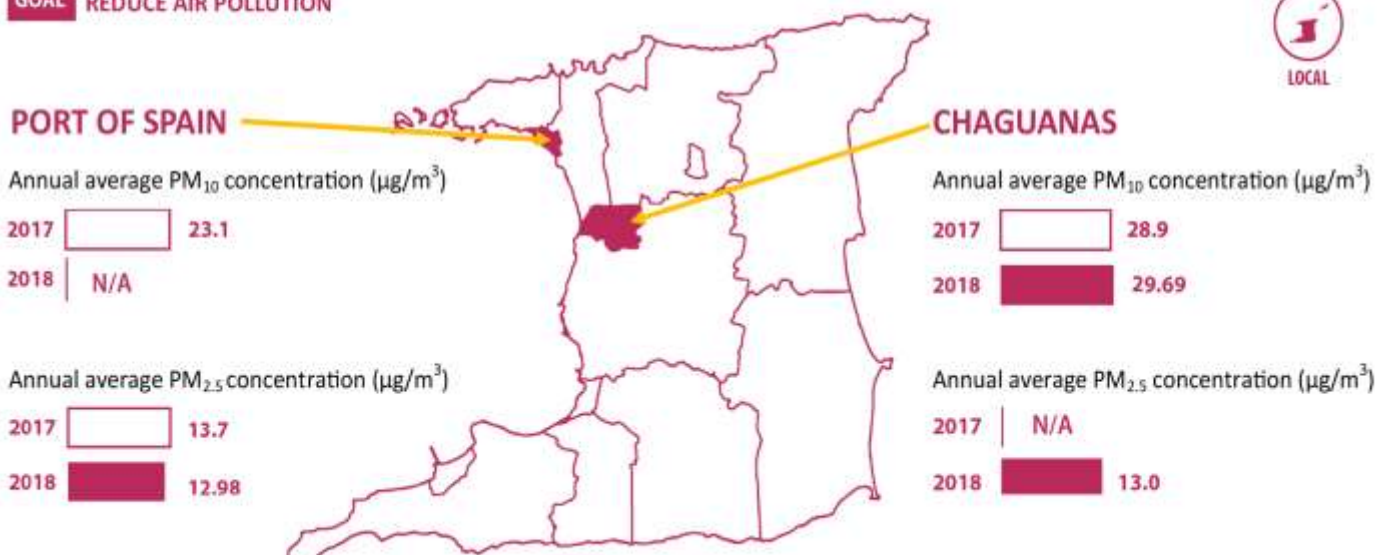
Proportion of WWTPs meeting WPR permissible limit (30, 50 and 100 mg/L for inland surface, coastal nearshore and marine offshore waters respectively) for five-day biological oxygen demand (%)



\*Calculations based only on WASA owned WWTPs that are sourced registered

## AIR INDICATORS

### GOAL REDUCE AIR POLLUTION



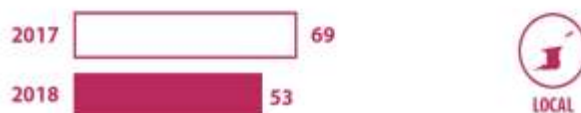
**GOAL** MANAGING AIR POLLUTION

Number of Ambient Air Quality Monitoring Stations



**GOAL** REDUCE VULNERABILITY AND IMPROVE RISK MANAGEMENT

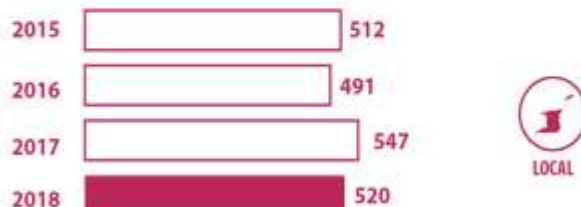
Number of complaints related to air pollution



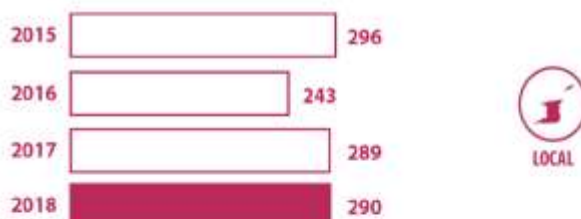
**NOISE INDICATORS**

**GOAL** REDUCE NOISE POLLUTION

Number of Noise Variations issued



Number of complaints related to noise



**WASTE INDICATORS**

**GOAL** REDUCE GENERATION OF SOLID WASTE

Total waste to disposal sites in Trinidad (Forres Park, Beetham and Guanapo) (tonnes)

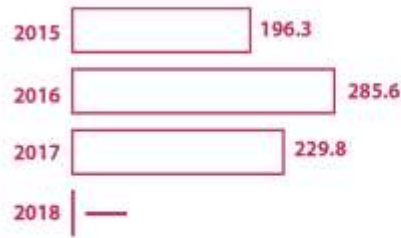


Total waste to disposal sites in Tobago (Studley Park) (tonnes)



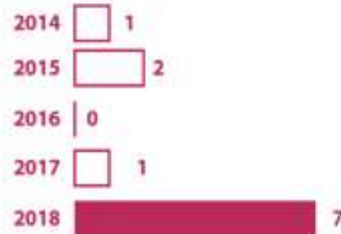
**GOAL INCREASE RECYCLING RATE**

Amount of materials recycled (Glass, PET, HDPE) (tonnes)



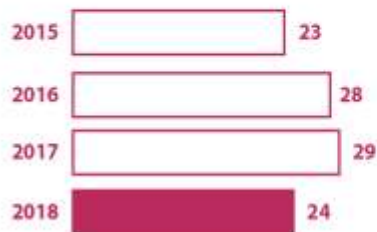
REGIONAL  
SDG 12.5.1

Number of CEC applications received for the establishment of recycling facilities



LOCAL

Number of complaints related to dumping



LOCAL



## Sustainably Managing Natural Assets

**GOAL INCREASE LAND AREA COVERED BY FOREST**

Forest reserve area as a proportion of total land area (%)



REGIONAL  
SDG15.1.1  
ILAC 1.1.1.1

**GOAL INCREASE AMOUNT OF PROTECTED AREAS**

Proportion of terrestrial areas protected (ESAs, Ramsar Sites and Wildlife Sanctuaries) (%)



REGIONAL  
ILAC 1.2.1.1

**GOAL ENSURE MARINE DIVERSITY**

Coverage of marine protected areas through the Ramsar Convention (km<sup>2</sup>)

2014  
2015  
2016  
2017  
2018

**35.6%**



**GOAL INCREASE PROTECTION OF ENVIRONMENTALLY SENSITIVE SPECIES**

Number of new designations of Environmentally Sensitive Species

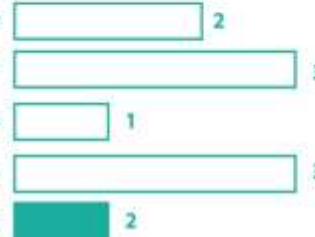
2014  
2015  
2016  
2017  
2018



**GOAL IMPROVE MANAGEMENT OF PROTECTED AREAS**

Number of CEC applications received for developments within 1 km of the boundaries of an ESA

2014  
2015  
2016  
2017  
2018



Number of CEC Applications received for activities within an ESA

2015  
2016  
2017  
2018

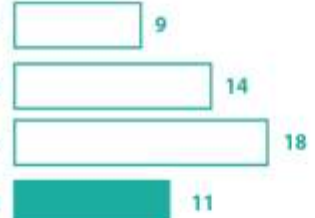
**0**



**GOAL REDUCE VULNERABILITY TO DISASTERS CAUSED BY HUMAN ACTIVITY**

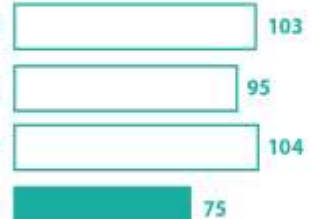
Number of animal deaths reported

2015  
2016  
2017  
2018



Number of oil spills and releases

2015  
2016  
2017  
2018





## Improving the Local Environment

### GOAL IMPROVE LAND-USE PLANNING

Proportion of national territory with land-use plans (%)

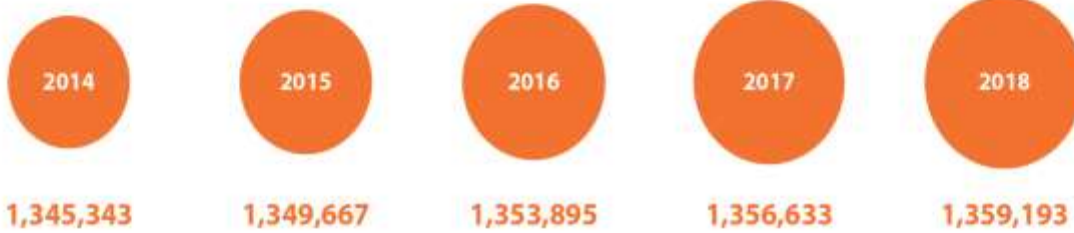


### GOAL IMPROVE SUSTAINABLE DEVELOPMENT

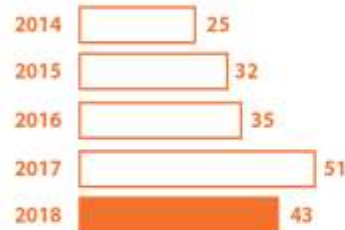
Annual Reports produced by the EMA on the State of the Environment



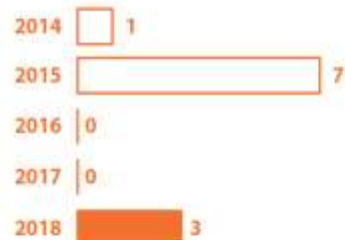
Population Size



Number of CEC applications received for housing developments



Number of CEC applications received for the regularisation of squatter communities



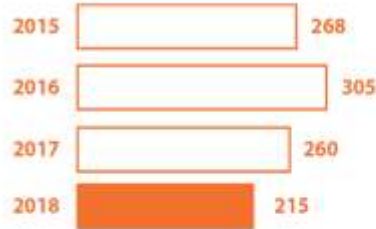
### GOAL REDUCE VULNERABILITY & IMPROVE RISK MANAGEMENT

Number of complaints related to environmental degradation





Number of complaints related to the 44 CEC designated activities



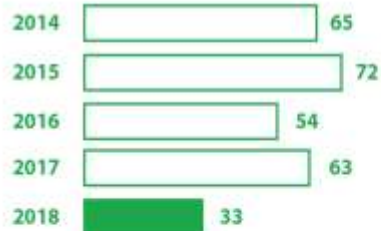
## Evolving a Greener Economy

### GOAL PROMOTE SUSTAINABLE DEVELOPMENT

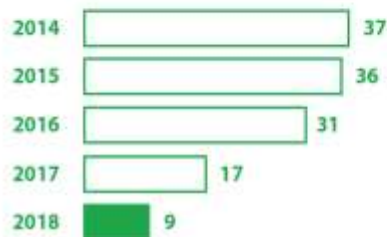
Number of CEC applications received



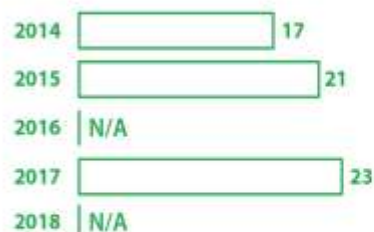
Number of CEC applications received for oil and gas related activities



Number of CEC applications received for mining activities



Cumulative number of projects funded by the Green Fund Executing Unit



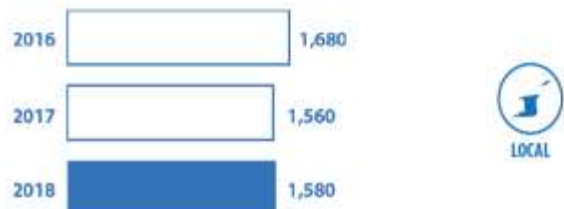
Cumulative value of funds given to projects by the Green Fund



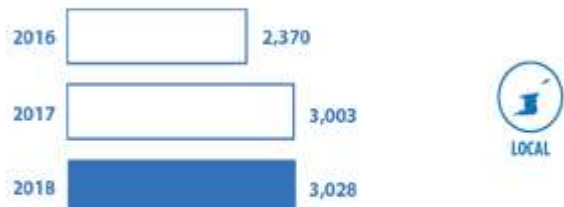
## Fostering an Environmentally Responsible Society

**GOAL** AVAILABILITY OF AND PUBLIC ACCESS TO INFORMATION

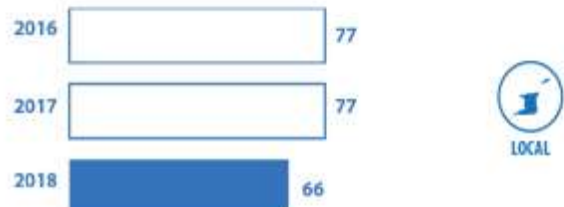
Number of external visitors to the EMA's Information Centre



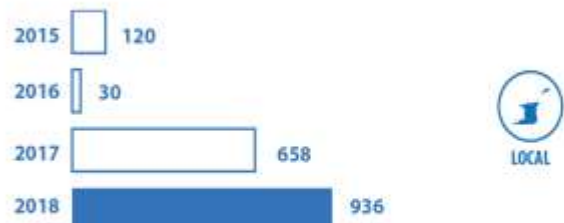
Number of documents retrieved from the EMA's Information Centre



Number of requests for access to official documents under the Freedom of Information Act (FOIA)



Number of charges laid under the Conservation of Wildlife Act





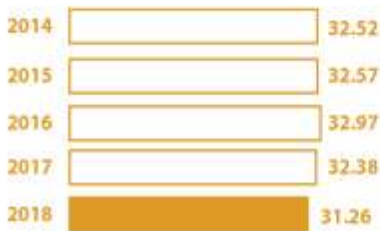
# Addressing Climate Change & Environmental and Natural Disasters

## ENERGY INDICATORS

GOAL REDUCE GREENHOUSE GAS EMISSIONS



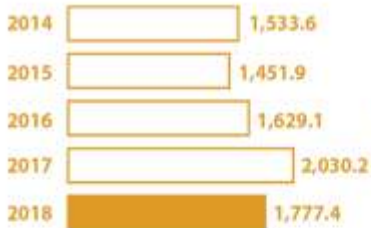
Trinidad's average annual maximum temperature (°C)



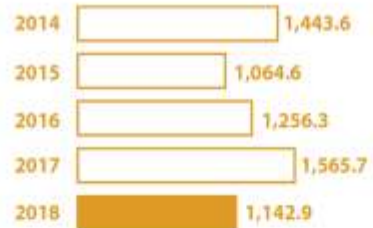
Tobago's average annual maximum temperature (°C)



Trinidad's total annual precipitation (mm)



Tobago's total annual precipitation (mm)



## DISASTER RISK INDICATORS

GOAL REDUCE VULNERABILITY AND IMPROVE RISK MANAGEMENT

Proportion of local government bodies (BC, RC, MC) that adopt and implement local disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk reduction 2015-2030 (%)





# ENVIRONMENTAL PRIORITIES



**Protecting Environmental and Human Health through Pollution Control**



**Sustainably Managing Natural Assets**



**Improving the Local Environment**



# OF TRINIDAD AND TOBAGO



**Evolving a Greener Economy**



**Fostering an Environmentally Responsible Society**



**Addressing Climate Change and Environmental and Natural Disasters**

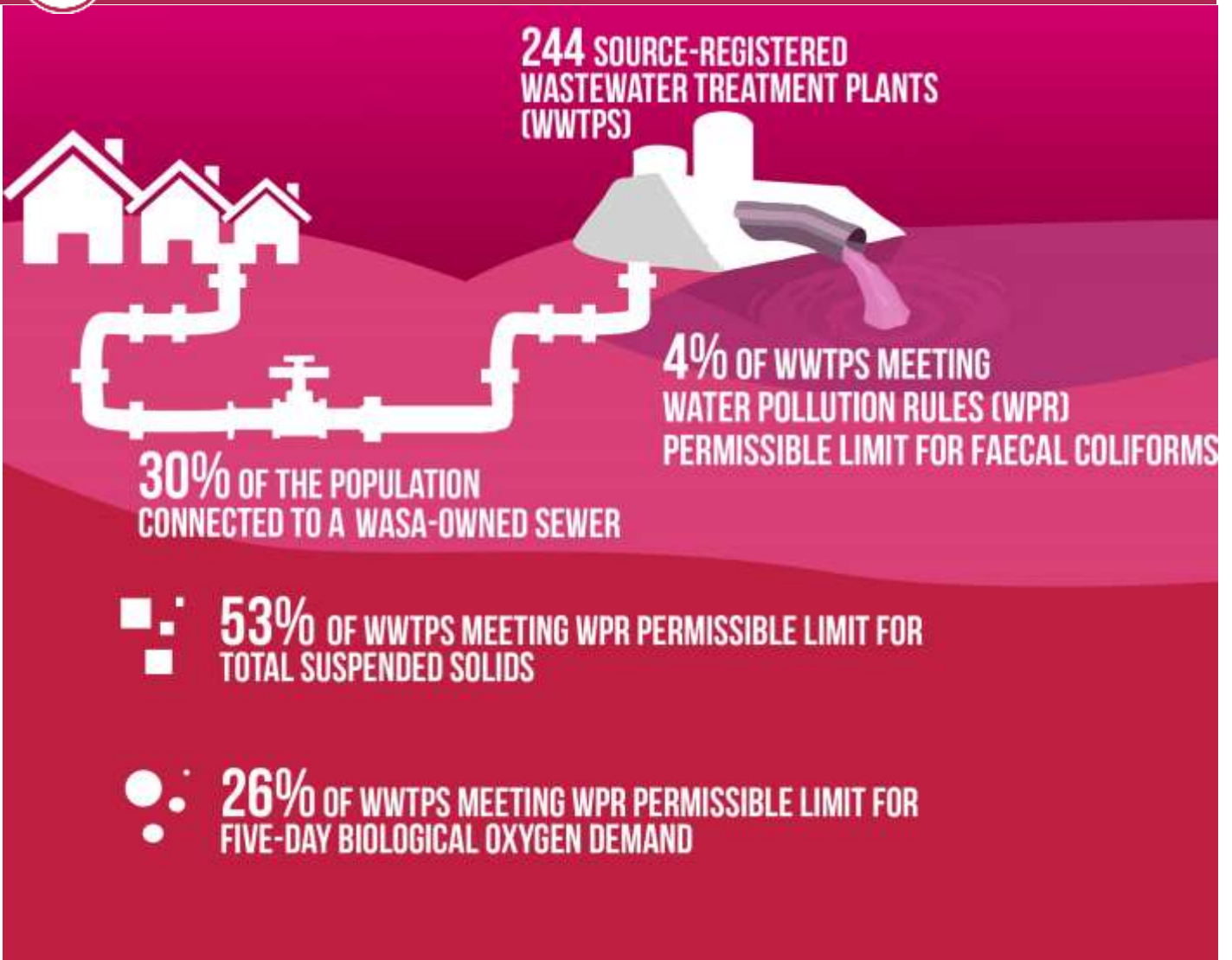


# PROTECTING ENVIRONMENTAL AND HUMAN HEALTH THROUGH POLLUTION CONTROL

Water, Air, Noise and Light Pollution, as well as, Solid Waste are highlighted for this priority. The Environmental Management Authority (EMA) implements the Water Pollution Rules, 2001 (as amended), Air Pollution Rules, 2014 and Noise Pollution Control Rules, 2001 with the Waste Management (Registration and Permitting) Rules, 2018 in draft. The indicators under this priority include wastewater management, concentrations of particulate matter, Noise Variations and complaints, and waste disposed to landfills.



## Water & Wastewater Pollution



## The Water Pollution Rules

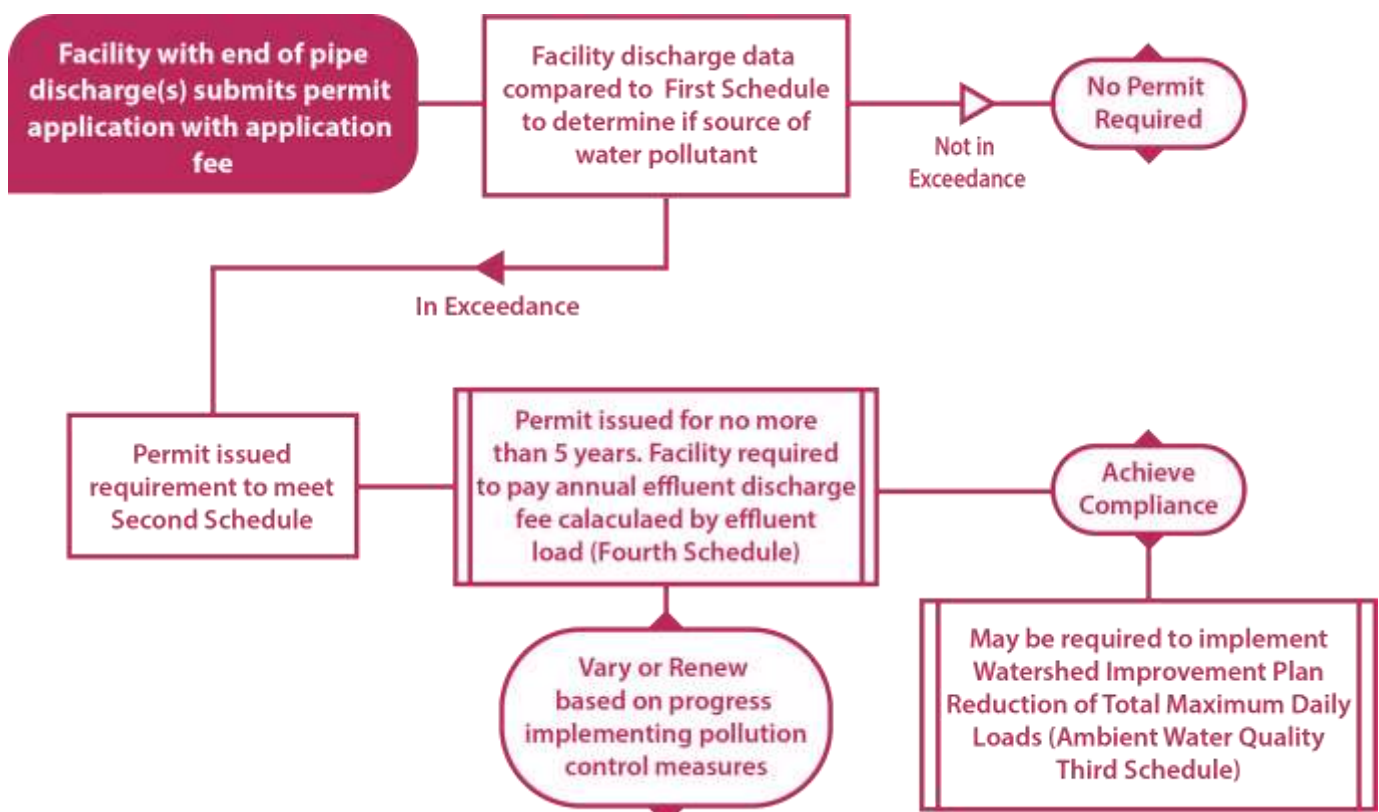
The EMA began implementing the Water Pollution Rules, 2001 (as amended) (WPR) in 2007. These Rules aim to reduce the concentrations of specific water pollutants discharged into the environment from facilities, by setting permissible limits for each pollutant. The WPR govern two (2) activities: Source Registration (SR) and Water Pollution Permits (WPP). A SR certificate is issued to facilities who intend to release water pollutants as identified in the First Schedule of the WPR. A Water Pollution Permit (WPP) is issued to facilities to control and reduce the volume and concentration of effluent to meet permissible levels, as identified in the Second Schedule of the WPR. It also specifies what pollutants a facility can discharge, where they may discharge, and sets a deadline by which the facility should achieve compliance with the permissible limits. The first WPP was issued in 2009, and by the end of 2018, a total of 69 had been issued to facilities across 18 sectors. There are currently 12 WPPs under development.

## Revision of the Water Pollution Rules

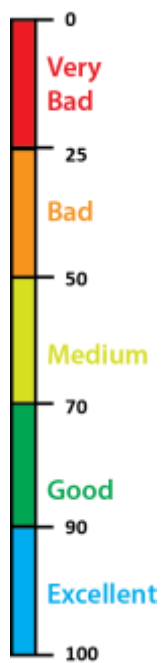
In 2008, a legal challenge to the Government of the Republic of Trinidad and Tobago's (GORTT's) interpretation of the polluter pays principle (PPP) in the implementation of the WPR was brought before the courts. It was argued that the flat fee system that was implemented for the WPP system was inconsistent with the PPP. On November 27, 2017 the Judicial Committee of the Privy Council gave directions for the revision and reconsideration of the WPP fee, emphasizing the need for the permit fees to be structured in such a way to align with the PPP, and be able to adequately fund the EMA to correct environmental damage. Therefore, in 2018, the EMA undertook to revise the WPR with the following intentions:

1. Support the revision of the WPR in fulfilment of the Privy Council Order of November 27, 2017;
2. Enhance wastewater regulation considering lessons learnt during the 11 years of implementation of the WPR; and
3. Advance contributions to the achievement of regional and international obligations, specifically improving integrated wastewater management (Figure 1).

**Figure 1** Overview of the proposed revision to improve integrated wastewater management under the WPR



The revised WPR also includes draft ambient water quality standards (AWQS) for T&T. These draft AWQS have designated water uses for each watershed in T&T, along with criteria (both numeric and descriptive) to support each use. As part of the project to develop AWQS for T&T, freshwater quality data were collected once every two (2) months from the Arima (11 stations) and Courland (8 stations) Rivers during the period November 2016 to October 2017 (Figure 2 and Figure 3, respectively).



Using the data collected, a modified version of the National Sanitation Foundation's Water Quality Index (NSF WQI) was calculated for the two (2) rivers<sup>1</sup>. This index provides a standardised way of comparing the water quality of various freshwater bodies, based on the values of nine (9) parameters (temperature change, pH, dissolved oxygen, five-day biochemical oxygen demand, total phosphate, nitrate, turbidity, total solids and faecal coliforms).

If fewer than these nine (9) parameters are available, the index may be adjusted by summing the values for the available parameters, and dividing by the number of tests performed. Based on the NSF WQI

values obtained, the water quality at a site may be categorised as seen on the left.

The NSF WQI of the Arima and Courland Rivers was determined based on seven (7) of the nine (9) parameters listed above (turbidity and total solids were not measured). The results indicate that while the water quality at the two (2) uppermost sites on the Arima River were marginally 'good', the water quality at the other nine (9) sites and at all eight (8) sites along the Courland River fell into the 'medium' category (Table 1 and Table 2). Further analysis indicates that the scores were influenced by the high levels of total phosphate and faecal coliforms at the sites, seem to suggest that nutrient enrichment and poor sewage treatment are impacting these rivers.

The EMA intends to collect further physical and chemical data, as well as, conduct a rapid biological assessment in these two (2) watersheds, in order to correlate the faunal community composition with existing water quality, and establish baseline conditions. It also intends to engage with other stakeholder agencies to develop integrated watershed management plans for these two (2) water bodies with the objective of improving the water quality overall.



Calculating flow rate at Station 5 in the Arima River (Photo by the EMA, 2017)



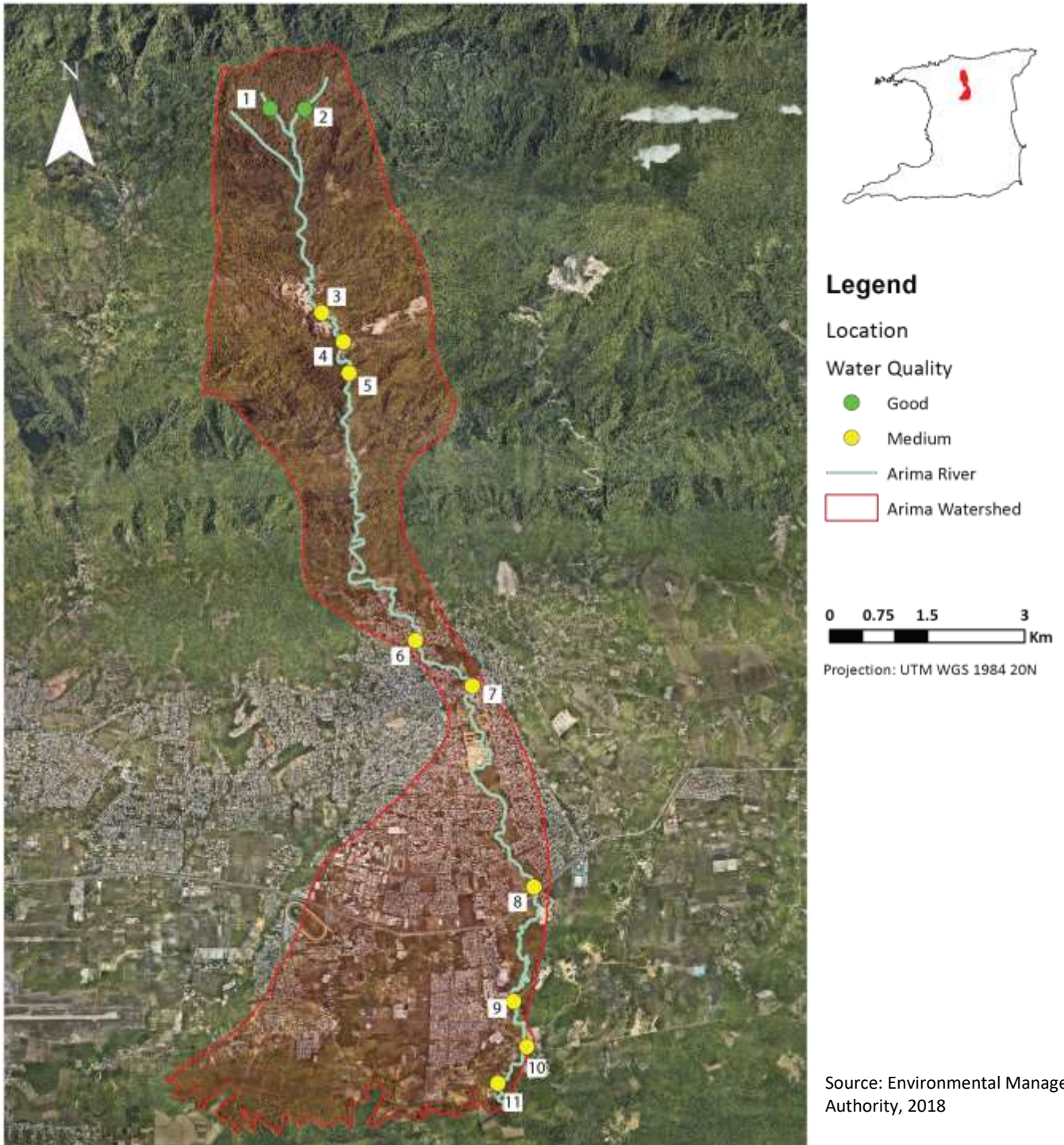
Collecting water samples at Station 2 in the Courland River (Photo by the EMA, 2017)

<sup>1</sup> Brown R.M., McClelland N.I., Deininger R.A., Tozer R.G. (1970). A water quality index - do we dare? *Water and Sewage Works* 117 (10): 339-343.



**Figure 2**

Map showing locations of the eleven sampling points in the Arima Watershed in Trinidad



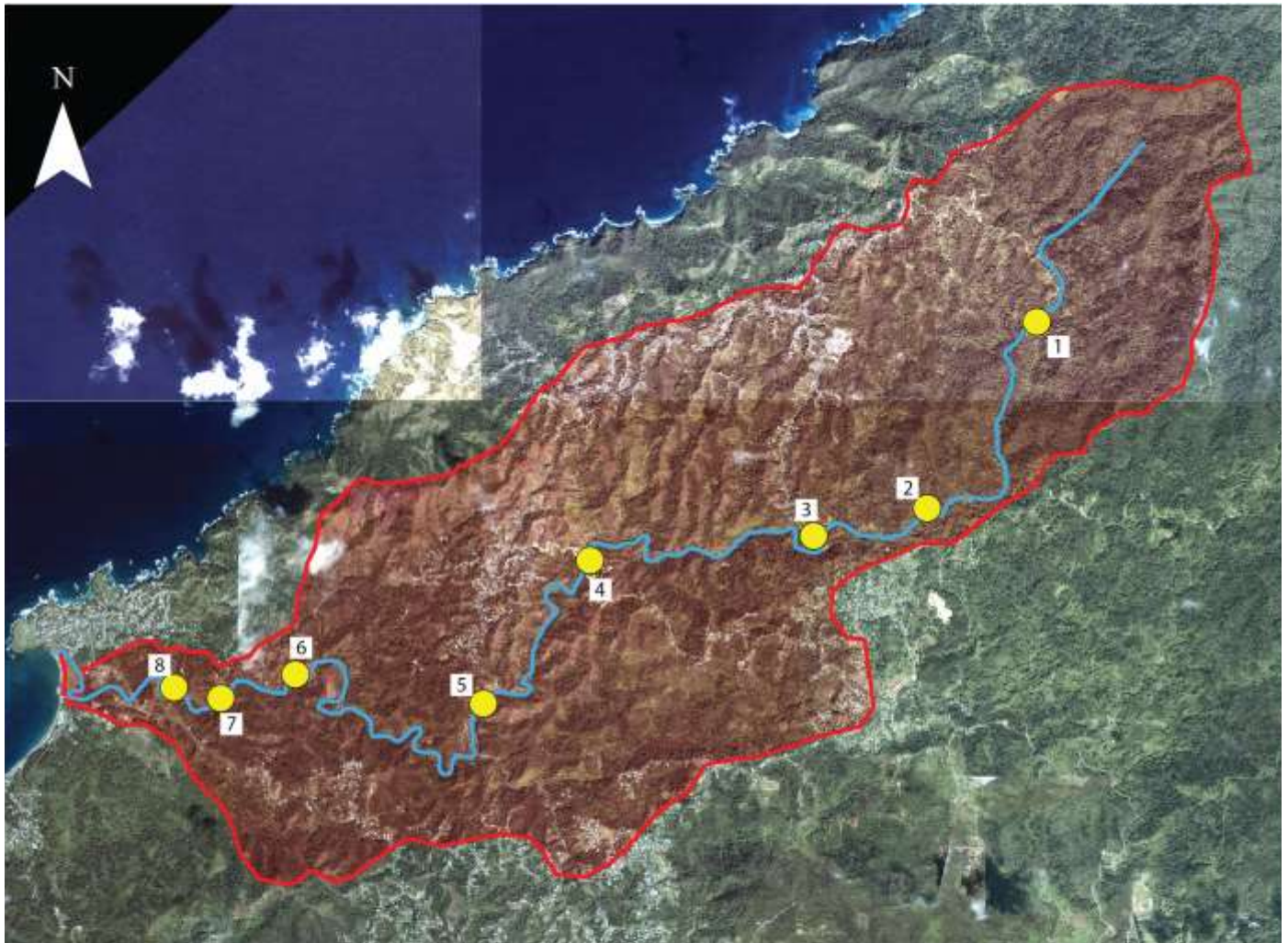
**Table 1**

National Sanitation Foundation's Water Quality Index Values for Stations along Arima River

Station Number	1	2	3	4	5	6	7	8	9	10	11
Arima Water Quality	70.0	70.0	67.2	62.8	62.2	62.4	62.9	61.7	59.9	57.6	58.1

**Figure 3**

Map showing locations of the eight sampling points in the Courland Watershed in Tobago



**Legend**

- Sampling Sites - Medium Quality
- Courland River
- Courland Watershed

0 0.5 1 2 Km



Source: Environmental Management Authority, 2018

**Table 2**

National Sanitation Foundation's Water Quality Index Values for Stations along Courland River

Station Number	1	2	3	4	5	6	7	8
Courland Water Quality	66.2	64.4	66.0	64.8	64.9	62.1	62.6	64.7

A major threat to freshwater and marine ecosystems in the Caribbean is the discharge of partially and untreated domestic wastewater which impacts their ability to provide ecosystem goods and services<sup>2</sup>. In order to improve wastewater management, T&T has partnered with the Inter-American Development Bank (IDB) and United Nations Environment on the Global Environment Facility (GEF) project- the Caribbean Regional Fund for Wastewater Management (CReW+)<sup>3</sup>. The project has been introduced as an integrated approach to water and wastewater management using innovative solutions and sustainable financing mechanisms in 18 countries in the Caribbean<sup>4</sup>.

The project aims to reduce the negative impacts of domestic wastewater on both ecosystems and people by implementing water use efficiency solutions in select watersheds. The interventions in both these water systems will promote a Source to Sea (S2S) approach and the proposed activities will increase the resilience of local communities to the impacts of droughts and, more generally, the impacts of climate change and climate variability in the water sector. There are four (4) components to the project, as follows:

**1. Component 1: Institutional, policy, legislative and regulatory reforms for Integrated Water and Wastewater Management (IWWM)** - this component aims to improve countries ability to design and implement broader and more integrated national and community-based solutions for water and wastewater management;

**2. Component 2: Sustainable and tailor-made financing options for urban, peri-urban and rural IWWM** - this component focuses on countries' readiness to establish and develop sustainable financing mechanisms for wastewater management;

**3. Component 3. Provision of innovative small-scale, local, rural, peri-urban and community-based solutions for IWWM** - this component provides for improved wastewater treatment, including reuse, using innovative solutions seek complementarity between IWWM water protection and water management practices at a watershed level; and

**4. Component 4: Knowledge management and advocacy on the importance of IWWM in order to achieve the Sustainable Development Goals** – this component will include documentation of lessons learnt, experiences and good practices that will assist in managing project outputs so that they may become publicly accessible<sup>5</sup>.

The Ministry of Planning and Development (focal point for IDB and GEF-funded operations), the Ministry of Public Utilities (MPU, portfolio Ministry for the water sector), the Water and Sewerage Authority (sole utility responsible for executing Government policy relative to water) and the EMA (technical focal point for GEF) have collaborated to identify the ongoing initiatives that would form part of the package for T&T's involvement in CReW+. MPU is pursuing the submission of T&T's package with assistance from the EMA.

<sup>2</sup> Global Environment Facility (GEF), (2017). Project Information. Retrieved from [https://www.thegef.org/sites/default/files/project\\_documents/10-06-2017\\_Revised\\_PIF.pdf](https://www.thegef.org/sites/default/files/project_documents/10-06-2017_Revised_PIF.pdf)

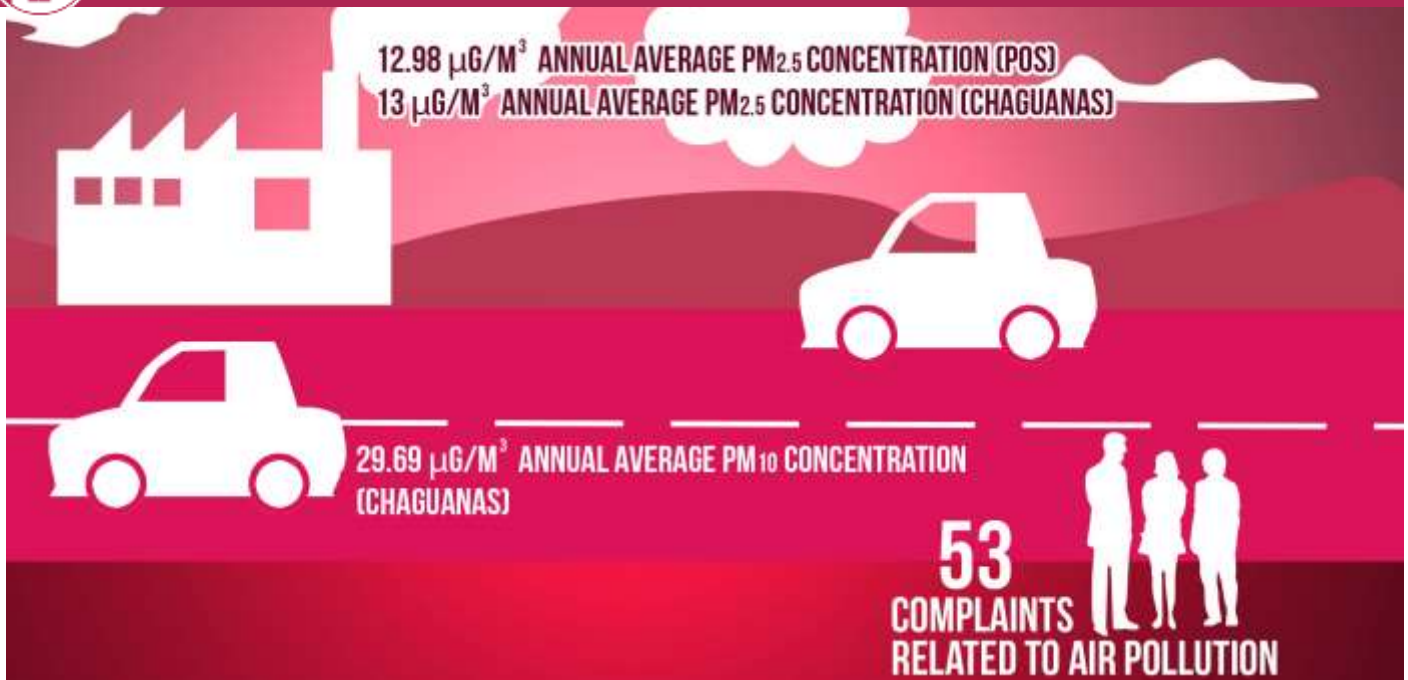
<sup>3</sup> Ibid.

<sup>4</sup> Global Environment Facility (GEF), (2018). CREW+. Retrieved from <https://www.thegef.org/project/crew-integrated-approach-water-and-wastewater-management-using-innovative-solutions-and>

<sup>5</sup> GEF, (n.d.). CREW+ Project Summary. Retrieved from <http://www.cep.unep.org/cep-documents/pre-lbsstac4-workshop-2018/02-crew-program-summary.pdf/view>



## Air Pollution



Air pollution in T&T can be attributed to both natural and anthropogenic sources. In this section, the data collected by the EMA on the quality of air in two locations, Port of Spain and Chaguánas is presented. The parameters measured include concentrations of particulate matter less than 10 microns and 2.5 microns in size ( $\text{PM}_{10}$  and  $\text{PM}_{2.5}$ , respectively).

Under Section 49 (3) of the Environmental Management Act, Chapter 35:05 (EM Act), the EMA is mandated to develop and implement a programme for the management of air pollution. As such, in 2014, the Air Pollution Rules (APR) came into effect to address the release of air pollutants. The APR is administered through two (2) main processes:

1. Source Emitter Registration (SER) - the process whereby the owner/operator of a facility emitting or intending to emit air pollutants listed in the Schedules of the APR, submits an application for the facility to be registered; and
2. Permitting - after a SER Certificate has been issued, the EMA may notify a Registrant to apply for an Air Pollution Permit (APP). The purpose of the APP is to control the types and quantity of air pollutants emitted into the atmosphere, with the purpose of protecting ambient air quality. A permit is valid for a period of up to five years and requires the holder of the permit to implement measures to reduce the impact of their emissions and monitor these emissions for compliance with Schedule 1 and/or Schedule 2 of the APR.



*Air quality monitoring stations (Photo by the EMA, 2017)*

From inception of the APR to the end of 2018, the EMA has received 246 applications for the SER process, where 148 certificates have been issued. The EMA, applying the various criteria outlined in the APR determines which facility requires an APP. Only one (1) facility has submitted an application for an APP which is currently being processed.

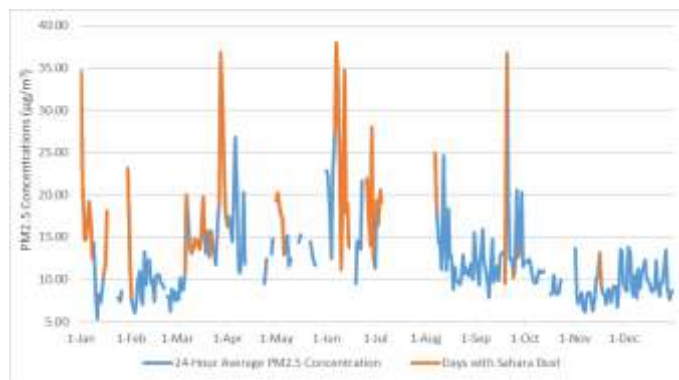
Similar to 2017, the EMA continued to collect data for PM<sub>10</sub> and PM<sub>2.5</sub> from its two (2) ambient air quality monitoring stations in 2018. The short-term and long-term maximum permissible levels (MPL) for these substances as stated in Schedule 1 of the APR 2014 are provided in Table 3.

The levels of PM<sub>2.5</sub> recorded daily for 2018 at both the Port of Spain and Chaguanas sites were within the 24-hour MPL (65 µg/m<sup>3</sup>) for the entire year (Figure 4 and Figure 5). The annual average values recorded were also within the MPL at 12.98 µg/m<sup>3</sup> and 13 µg/m<sup>3</sup> at the Port of Spain and Chaguanas sites, respectively. In 2018, Saharan dust episodes were recorded on 128 days. Therefore, the air quality data is highlighted for days when Saharan dust was present.

The levels of PM<sub>10</sub> recorded daily for 2018 at the Chaguanas site were mostly within the 24-hour MPL (75 µg/m<sup>3</sup>) (Figure 6). The annual average value recorded was also within the MPL at 29.69 µg/m<sup>3</sup>. There are exceptions where exceedance of the MPL were recorded for six (6) days. The highest 24-hour average concentration of PM<sub>10</sub> was 106.82 µg/m<sup>3</sup> which was 1.4 times above the 24-hour MPL. The annual average PM<sub>10</sub> data for the POS station is not presented since there was insufficient data collected as a result of challenges associated with equipment downtime due to power failures and equipment maintenance.

**Figure 4**

2018 24-hour Average Concentration of PM<sub>2.5</sub> (µg/m<sup>3</sup>) recorded at the Port of Spain AAQM Station with highlighted concentrations representing days with Sahara dust events\*



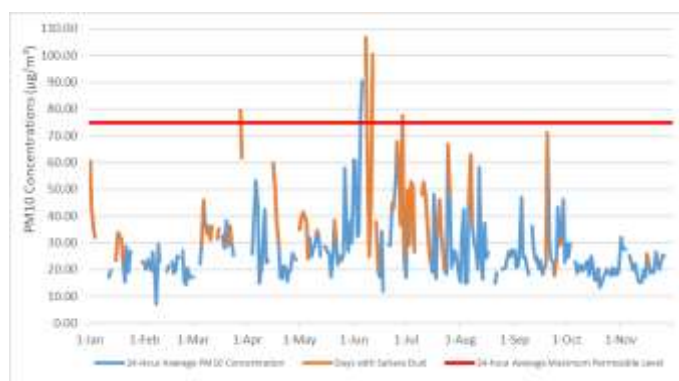
**Figure 5**

2018 24-hour Average Concentration of PM<sub>2.5</sub> (µg/m<sup>3</sup>) recorded at the Chaguanas AAQM Station with highlighted concentrations representing days with Sahara dust events\*



**Figure 6**

2018 24-hour Average Concentration of PM<sub>10</sub> (µg/m<sup>3</sup>) recorded at the Chaguanas AAQM Station with highlighted concentrations representing days with Sahara dust events\*



\* Gaps in the graph are due to power failures and operational issues with the monitoring station during those days.

**Table 3**

Maximum Permissible Levels (MPL) for Ambient Air Quality as stated in Schedule 1 of the APR

Substance	Short-Term MPL 24-hour averaging (µg/m <sup>3</sup> )	Long-Term MPL Annual Average (µg/m <sup>3</sup> )
PM <sub>10</sub>	75	50
PM <sub>2.5</sub>	65	15

## Saharan Dust Events

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Every year, 182 million tons of dust, on average, is carried to the western edge of the Saharan Desert via the Saharan Air Layer, to the Caribbean, the Americas, Europe and the Near East<sup>6</sup>. It is estimated, that about 43 million tons of dust settle out over the Caribbean Sea<sup>7</sup>. When the dust reaches the Caribbean, the average dust particle is less than 2.5 µm in diameter as smaller particle sizes can travel further distances<sup>8</sup>. In 1998, the average concentrations of PM<sub>10</sub> recorded ranged between 46 and 88 µg/m<sup>3</sup>. Twenty years later, T&T experienced PM<sub>10</sub> concentrations as high as 106.82 µg/m<sup>3</sup><sup>9</sup>. As such, the MPL exceedance of PM<sub>10</sub> concentrations can be attributed to a combination of

both Saharan dust and local combustion sources such as bush fires and vehicles.

The Saharan dust air masses intermittently blow organochlorine and organophosphate pesticides, polycyclic aromatic hydrocarbons, and polychlorinated biphenyl congeners into T&T<sup>10</sup>. Sahara dust was present in T&T on 128 days of the year in 2018, with the longest consecutive period being 20 days, from May 27<sup>th</sup> to June 15<sup>th</sup>. Based on the air quality data collected, most of the increase in concentrations of PM<sub>10</sub> and PM<sub>2.5</sub> correlated with days where Sahara dust was observed in T&T.

## Stakeholder Collaboration (Air)

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In accordance with Section 32 of the EM Act, the EMA entered into Memoranda of Understanding (MOU) on environmental management with Ministries, Agencies and Statutory Authorities, on September 16, 1996.

Further, it provides that where a more specific arrangement for coordination in respect of any matter is required, Supplemental Agreements setting out in detail those specific arrangements shall be executed. In this regard, the Air Unit will engage the following Ministries/ Authorities to develop and implement Supplementary MOUs:

- Ministry of Health (MOH): In one of its first initiatives that requires the support of the MOH, the EMA would like to investigate the relationship between human health and increased levels of Particulate Matter, especially during Saharan dust episodes. Information from the MOH including the number of incidents of respiratory illnesses reported/treated on days recorded with Saharan dust, is an example of the type of information that would be required. The success of such research is dependent on the collaboration between the EMA and the MOH.
- Trinidad and Tobago Bureau of Standards (TTBS): The Supplementary MOU will seek to enhance collaboration and to coordinate the technical assistance required to facilitate the sharing of knowledge and expertise related to air quality management, the exchange of information and experimental material, participation in proficiency testing, provision of technical support for environmental monitoring and sampling, calibration, quality assurance and research and educational programmes for T&T and any other activity that benefits the EMA and TTBS.
- Trinidad and Tobago Meteorological Services (TTMS): The Supplementary MOU will seek to coordinate the technical assistance required to facilitate the sharing of ambient air quality data, the use of sites belonging to the TTMS for the establishment of Ambient Air Quality Monitoring Stations for T&T and any other activity that benefits the EMA and TTMS.

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<sup>6</sup> National Aeronautics and Space Administration (NASA), (2017). NASA Satellite Reveals How Much Saharan Dust Feeds Amazon's Plants. Retrieved from <https://www.nasa.gov/content/goddard/nasa-satellite-reveals-how-much-saharan-dust-feeds-amazon-s-plants>

<sup>7</sup> Ibid.

<sup>8</sup> Garrison et al., (2006). Saharan dust – a carrier of persistent organic pollutants, metals and microbes to the Caribbean? *Rev. Biol. Trop.* 54 (3): 9-21.

<sup>9</sup> Rajkumar, W., & Chang A, (2000). Suspended particulate matter concentrations along the East-West Corridor, Trinidad, West Indies. *Atmospheric Environment* 34(8): 1181-1187.

<sup>10</sup> Topey, M. (2016). The Association Between Lung Cancer and Air Pollution in Trinidad: A Mixed Methods Literature Review.



## Noise Pollution



According to the Environmental Management Act, Chapter 35:05, noise pollution is any disturbance of the environment by a pollutant consisting of sound or other vibrations. Through its subsidiary legislation, the Noise Pollution Control Rules, 2001 (NPCR) prescribes standards and outlines the procedure to apply for a variation if an activity causes sound emissions to exceed the prescribed standards.

Similar to the mandate to manage air pollution, the EMA is required to develop and implement a programme for the management of noise pollution. A Noise Variation (VR) is a noise permit which allows the holder to emit sound in excess of the prescribed standards of the NPCR. In 2018, the EMA received a total of 489 applications for VRs. Of these, 479 VRs were issued, while ten (10) applications were withdrawn or cancelled. An additional 41 VRs were issued in early 2018 but were associated with applications received at the end of 2017. Figure 7 shows the concentration or hotspots for events in 2018. The majority of events throughout the year is most noticeably in the built-up areas, in particular, Port-of-Spain.

### Noise Complaints

In 2018, the EMA received 290 noise reports, the highest over the past four (4) years. There is a general increase in noise complaints from December to February which coincides with the very active Carnival season. The peak periods for noise complaints usually occur on weekends and Public Holidays.

There has been a general decrease in complaints from the beginning of the year to the end of the year, in 2016, 2017 and 2018. This may be a result of increased monitoring of areas with high complaints, increased collaboration with the Trinidad and Tobago Police Service (TTPS) and the increased awareness of the NPCR by the general public. The EPU monitors noise generating activities, including events for which VRs have been issued, and if a breach of the NPCR is recorded, the EMA's internal enforcement process is triggered.

**HAVE A NOISE COMPLAINT?**

Call our hotline today!

Monday to Friday 8:00 am – 4:30 pm

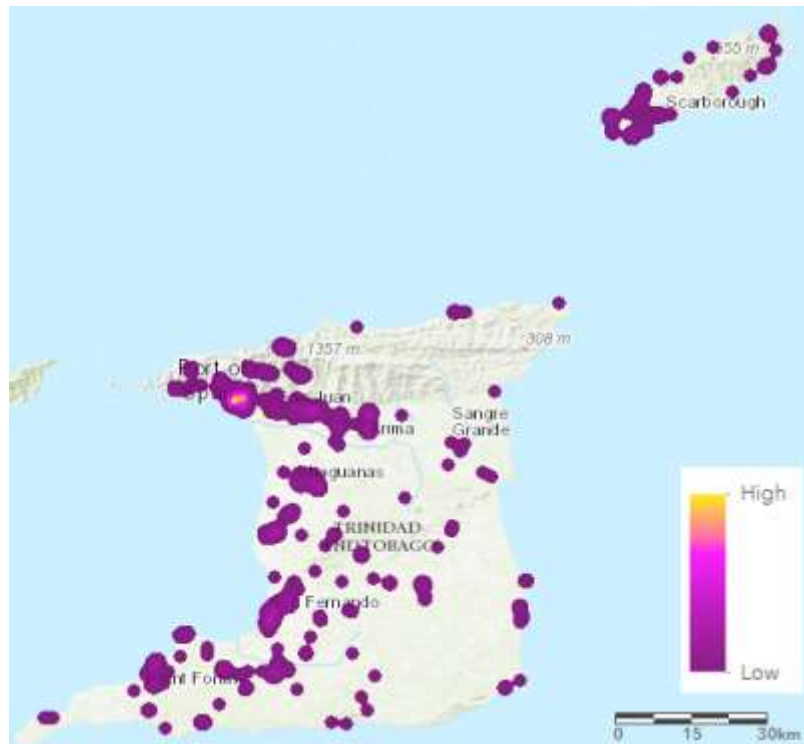


**226-4362**

SELECT OPTION 2

**Figure 7**

Map showing locations and hotspots of events with a Noise Variation in 2018



Source: Noise Unit, Environmental Management Authority, 2018

## Stakeholder Collaboration (Noise)

During the Carnival season, the EMA increased its collaboration with the TTPS to include joint patrols. This increased collaboration resulted in interventions at an event which was in breach of the Prescribed Standards of the NPCR where the promoters were ordered to reduce their music levels. The publicity from this high profile incident resulted in the initiation of stakeholder discussions on noise pollution management and responsibilities. As such, the EMA participated in preliminary stakeholder discussions with:

1. The National Carnival Commission to discuss Carnival 2019, and in particular the role of the EMA in noise management;
2. The newly formed Trinidad and Tobago Promoters Association in July to discuss the economic benefits and cultural aspects of Carnival and noise management of these activities;
3. Officials from the Ministry of Health and the Occupational Health and Safety Authority at a Hearing Conservation Workshop where the EMA conducted demonstrations on noise measurements using a sound pressure level meter; and
4. Two (2) radio stations where interviews were held at the beginning of the Carnival season to discuss the issue of noise, and in particular, the VR application process.

The next steps for addressing noise pollution in T&T include the use and management of fireworks. As such, the EMA prepared a report entitled 'Legislative Review and Environmental Assessment of Fireworks' for the Joint Select Committee on Social Services and Public Administration's Inquiry into the Adverse Health Effects of Fireworks. This report contained two (2) parts: Part A presented an analysis of the existing legislative framework in T&T, and the laws in place in other jurisdictions for the control of fireworks; and Part B presented the findings of a preliminary study on environmental impacts of fireworks discharge on Christmas and Old Year's nights in Port-of-Spain and Chaguana. The report concluded with recommendations for the control of fireworks in T&T, including, but not limited to, amending the Summary Offences Act to increase fines, and to restrict the release of fireworks except on specific occasions; as well as, banning the importation and use of scratch bombs. As of December 28, 2018, scratch bombs were officially banned from being manufactured, imported, kept, conveyed or sold under the Explosives (Prohibition of Scratch Bombs) Order, 2018.





## Solid Waste

**35,000 TONNES**  
OF WASTE DISPOSED AT  
STUDLEY PARK IN TOBAGO



**7** **CEC**

**CEC APPLICATIONS RECEIVED  
FOR THE ESTABLISHMENT OF  
RECYCLING FACILITIES**



**24**  
**COMPLAINTS  
RELATED TO  
DUMPING**

## Green Leaf Awards

On World Environment Day (June 5<sup>th</sup>, 2018), the EMA hosted the Green Leaf Awards. This year, the awards were focused on the environmental efforts of primary and secondary schools across T&T. From January 2017 to May 2018, the Enviro Clubs of 20 schools were involved in the EMA's *Journey to Green Leaf Awards 2018* where they learnt about the hazards of single-use materials, such as, plastic. They were challenged to find ways to reduce these hazards from their school compound, where, primary schools had to suggest and illustrate strategies for removing waste streams while secondary schools had to brainstorm and implement them.

The participating schools continue to take part in the iCARE project, the national recycling project, by separating and collecting plastic bottles. Some schools focused on reducing their dependency on bottled water to remain hydrated by placing water fountains in public areas of the school compound. Students sensitised the wider school population on the importance of using them, speaking at assemblies and placing posters around the school. Other schools began selling reusable water bottles, for use at the water fountain and another designed and built a water filtration station from which students and teachers could fill reusable water bottles.

Biche RC Primary won the top award in the primary schools' category and San Fernando ASJA Primary copped a Merit Award. In the secondary schools' category, Naparima Girls' High School won the Green Leaf Award and St. Joseph's Convent, St. Joseph won the Merit Award.



*A display by Barrackpore West on how plastic affects the environment, wildlife and our health (Photo by the EMA, 2018)*



*Green Leaf Award winners with Mr. Hayden Romano, Managing Director of the EMA; Ms. Nadra Nathai-Gyan, Chairman of the EMA; and Ms. Camille Robinson-Regis, Minister of the Ministry of Planning and Development (Photo by the EMA, 2018)*

In 2018, the Recyclable Solid Waste Collection Project (RSWCP), known as iCARE<sup>11</sup>, continued to develop a recycling culture in T&T. The project aims to create heightened public awareness on the benefits of recycling and the adverse effects of poor waste management<sup>12</sup>. The following highlights the activities implemented in 2018:

#### The establishment of recyclable material collection sites across Trinidad

On January 24<sup>th</sup> 2018, Phase II of the RSWCP was launched to rebrand and reenergise public interest and participation through an education and awareness campaign, with special focus on a school recycling programme. The project collaborated with schools, non-government and community based organisations, private corporate entities, and cultural, sporting and commemoration events for the establishment of collection sites for recyclable materials. As at September 30<sup>th</sup> 2018, more than 90 recyclable collections sites were established throughout Trinidad for the receipt of beverage containers (including plastic, glass, tetrapaks and aluminium cans). Approximately 575,000 bags of various sizes containing both recyclable and non-recyclable materials were collected from these 90 established collection sites.

#### The establishment and management of pilot collection depots

The Trinidad and Tobago Solid Waste Management Company Limited (SWMCOL) with the support of the iCARE project, established and manages three (3) Pilot Collection Depots (PCDs) located at NAMDEVCO in Port of Spain, Forres Park in Claxton Bay and Guanapo in Arima. The recyclable and non-recyclable materials collected from the 90 established collection sites were delivered to these PCDs. Table 4 highlights the materials received and processed at the PCDs.

#### Nationwide clean-up of recyclable solid waste

The RSWCP is committed to strengthening the institutional framework amongst government agencies, as it relates to recycling management. It has provided assistance with the clean-up activities in the Mafeking/Mayaro and La Brea areas, respectively. The project donated transparent bags, rakes, dust masks, gloves and rubber boots. Some of the other entities that were assisted with their clean-up efforts



*Establishment of iCARE's school recycling site at Barrackpore West Secondary with participating students of the EMA's Green Leaf Challenge (Photo by the EMA, 2018)*

**Table 4** Material processed by SWMCOL during the months January - September 2018

Category	Total Weight (tons)
PET Clear	81.35
PET Blue	53.31
PET Green	3.32
HDPE	19.46
PET Black	1.50
Aluminium Cans	0.96
Tetrapak	0.78
<b>TOTAL</b>	<b>160.67</b>

<sup>11</sup> iCARE is an acronym for Community, Awareness, Recycle, Everyday

<sup>12</sup> EMA, (2018). Recyclable Solid Waste Collection Project. Retrieved from <https://spark.adobe.com/page/IDqouUyagvqwa/>



*Publicly accessible recyclables collection site at C3 Centre in San Fernando (Photo by the EMA, 2018)*



*iCARE conducting corporate education and awareness presentations (Photo by the EMA, 2018)*

included:

- Union Hall Community
- Adopt a River Programme
- T&T Dragon Boat Federation
- This Community is Ours (NGO)
- Cashew Gardens Community

The project also participated in Ocean Conservancy's International Coastal Clean-up (ICC) on 15<sup>th</sup> September 2018 in partnership with the Turtle Village Trust and EMA.

### Public Education and Awareness

The launch of Phase 2 sought to re-energise the RSWCP's Public Awareness and Education campaign through extensive Public Sensitisations and the School Recycling Programme (SRP). The project rigorously maximised opportunities to inform the public about the RSWCP, the location of the public recyclable collection sites, and the importance of recycling.

## International Coastal Clean-up

International Coastal Clean-up (ICC) is an initiative to address marine pollution through a global data collection exercise which documents the quantities and types of garbage found on coastlines around the world. On September 15, 2018, the EMA collected 315 pounds of garbage in the Caroni Swamp. The most popular collected items were bottles (plastic and glass), foam cups and plates. An underwater collection exercise was also conducted where 170 items were collected weighing 34.15 pounds with the most popular item collected being glass bottles (50 items)<sup>13</sup>.



*EMA's collection of glass, plastic and aluminium cans during the International Coastal Clean-up of the Caroni Swamp (Photo by the EMA, 2018)*

<sup>13</sup> Ocean Conservancy, (2018). Trash Information and Data for Education and Solutions (TIDES). Retrieved from <https://www.coastalcleanupdata.org/reports>



## Light Pollution

Light pollution is the presence of man-made light in the night environment. Focus on this form of pollution is a new addition to the 2018 NEP and ASOE. Therefore, the national indicators and methodologies for monitoring the various aspects of light pollution are in their nascent stage. The most contemporary information comes from data gathered by the Suomi National Polar-orbiting Partnership (SNPP) satellite system as part of the “Black Marble Project”<sup>14</sup>. The data was processed by NASA in 2016 to produce maps showing the geographic distribution of light across the globe (Figure 8).

**Figure 8** Map showing geographic distribution of light in Trinidad and Tobago as seen in 2016



Source: NASA, 2017<sup>15</sup>

<sup>14</sup> National Aeronautics and Space Administration (NASA), (2016). Retrieved from Black Marble 2016. <https://svs.gsfc.nasa.gov/30876>

<sup>15</sup> NASA, (2017). Earth at Night: Flat Maps. Retrieved from <https://earthobservatory.nasa.gov/features/NightLights/page3.php>



# SUSTAINABLY MANAGING NATURAL ASSETS

With a total land mass area of 5,125.59 km<sup>2</sup>, T&T has a wide range of flora and fauna. This section highlights the importance of T&T's natural ecosystems and the projects being implemented to protect it.



**34%** OF TRINIDAD AND TOBAGO'S LAND AREA ARE DESIGNATED AS FOREST RESERVES

AN ADDITIONAL **9.4%** IS DESIGNATED AS ENVIRONMENTALLY SENSITIVE AREAS (ESAS), RAMSAR SITES AND WILDLIFE SANCTUARIES



**35.6 KM<sup>2</sup>** OF MARINE AREAS ARE PROTECTED UNDER THE RAMSAR CONVENTION



**1** NEW DESIGNATION OF AN ENVIRONMENTALLY SENSITIVE SPECIES

**2** CEC APPLICATIONS RECEIVED FOR DEVELOPMENTS WITHIN 1 KM OF THE BOUNDARIES OF AN ENVIRONMENTALLY SENSITIVE AREA



**11**  
ANIMAL DEATHS



**75**  
OIL SPILLS AND RELEASES



### PROJECT

## Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States (GEF-IWEco Project)

The Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States (GEF-IWEco Project) is a four-year multi-focal area regional project financed under the Global Environment Facility, System for Transparent Allocation of Resources (GEF STAR), under its Land Degradation and Biodiversity portfolios for national interventions. The IWEco's Trinidad Sub-Project-Rehabilitation of Quarries is executed by the United Nations Environment (formerly UNEP) and locally implemented by the EMA.

The project commenced in August 2017, with a proposed duration of 48 months. The project focuses on the reduction and reversal of land degradation associated with quarry operations, at selected quarry site(s) in North East Trinidad. This pilot project aims to restore 40 hectares with the intention of encouraging the quarrying sector to restore the further 160 hectares in the area identified.

The approach would use an integrated water, land and ecosystems management system, which aims to restore natural vegetation, reduce sedimentation and flood risk, and restore ecological functioning over the wider area.

The project is currently working with two non-governmental organisations; the Trust for Sustainable Livelihoods and IAMovement in collaboration with the United Nations Development Programme- Small Grants Programme to develop a quarry rehabilitation training programme. Potential champions from the surrounding communities are being engaged to achieve this project component. National Quarries Limited's Sand and Gravel Division in Turure, Guaico is the pilot site for training and rehabilitation.



*Photo showing new vegetation where sargassum, tree cuttings and beer hops (all waste) were used as fertilizer (Photo by Alicia Aquing, IWEco TT, 2018)*



*These watermelons came from waste cuttings and demonstrates that the site has potential for food growth (Photo by Alicia Aquing, IWEco TT, 2018)*



PROJECT

Designation of the Scarlet Ibis as an Environmentally Sensitive Species

The Scarlet Ibis is one (1) of two (2) national birds of the Republic of T&T. It appears on the country’s Coat of Arms, as well as, on the one-dollar bill. Thus, serves as a symbol of national identity. In flight, Ibis flocks are a spectacular sight to behold and this display has gained international attention. The Scarlet Ibis is of national, economic and cultural significance to T&T.

On October 11, 2018, the Scarlet Ibis (*Eudocimus ruber*) was officially designated as an Environmentally Sensitive Species (ESS), in accordance with Rule 4 of the ESS Rules, 2001. One of the main drivers for the designation of the Scarlet Ibis as an ESS was the high frequency of reported poaching events in 2017, which were met with vehement public outcry. The Scarlet Ibis is faced with several other threats locally, including habitat destruction, human disturbance and climatic changes. The designation process occurred over the period of August 2017 to October 2018 (Table 5).

The designation marks the country’s 11<sup>th</sup> species to gain ESS status, which will provide additional protection by the means of punitive penalties, in accordance with Section 70 (2) of the Environmental Management Act, Chap 35:05 (EM Act). The EM Act states that any person

who knowingly or recklessly endangers or adversely impacts the species will be liable to a fine of \$100,000.00 and imprisonment for two years.

It is envisioned that through this designation, coupled with enforcement measures, the extirpation of this valuable bird will be prevented. Furthermore, management activities for the conservation of the species will seek to ensure that sustainable eco-tourism and livelihood activities are continued.



Scarlet Ibis (Photo by the EMA, 2018)

Table 5

Overview of the process for the designation of the Scarlet Ibis as an ESS

AUGUST 2017	MARCH 2018	JUNE 2018	AUGUST 2018
<b>DEVELOPMENT OF THE DRAFT LEGAL NOTICE</b>	<b>PUBLIC COMMENT PROCESS</b>	<b>REVISION OF THE DRAFT LEGAL NOTICE</b>	<b>PUBLICATION OF THE FINAL LEGAL NOTICE IN THE GAZETTE</b>
<ul style="list-style-type: none"> <li>• Call for research</li> <li>• Literature review</li> <li>• Stakeholder interviews</li> <li>• Review and comments by Ministries and other stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Cabinet approval to proceed with public comment period</li> <li>• Development of administrative record</li> <li>• Lodging of administrative record in public locations and EMA website</li> <li>• Receipt of public comments</li> </ul>	<ul style="list-style-type: none"> <li>• Lodging of administrative record in public locations and EMA website</li> <li>• Receipt of public comments</li> </ul>	<ul style="list-style-type: none"> <li>• Submission of the draft Legal Notice to the CPC for finalisations</li> <li>• Signing of the final Legal Notice</li> <li>• Publication of the final Legal Notice in the Gazette</li> </ul>

## Management Advisory Committees—Nariva Swamp Managed Resource Protected Area and Matura National Park Environmentally Sensitive Areas

Section 13(1) and 45 of the EM Act allows for the engagement of committees and the coordination of governmental entities with responsibility for the planning and management of Environmentally Sensitive Areas (ESAs). As such, the EMA appointed members to Management Advisory Committees (MACs) for two (2) ESAs: the Matura National Park and the Nariva Swamp Managed Resource Protected Area, on November 15, 2018.

The MACs were formed by the EMA in collaboration with the Food and Agriculture Organisation's (FAO's) Improving Forest and Protected Areas Management (IFPAM) project. Under the FAO's IFPAM project, subcommittees were formed for the Matura Forest and Coastal Zone Pilot Protected Area (PPA) and the Nariva Swamp and Coastal Zone PPA. These PPAs encompass two (2) of the ESAs under the purview of the EMA: the Nariva Swamp Managed Resource Protected Area ESA and the Matura National Park ESA. The PPA subcommittees have similar objectives/purpose to MACs:

- Advising the co-ordinating body on matters pertaining to the protected area;
- General and technical matters pertaining to the protected area; and

- Planning strategic programmes and activities to inform the implementation of management objectives for the protected area.

The members of these MACs include government agencies, non-governmental organisations (NGOs) and research institutions, whose expertise will provide oversight and technical support for the management of the two (2) ESAs. The MAC for the Matura National Park ESA consists of 10 organisations and the MAC for the Nariva Swamp Managed Resource Protected Area ESA consists of 14 organisations. It is envisioned that a third MAC will be formed in 2019, for the Aripo Savannas Strict Nature Reserve ESA.



## Development of an Ocelot Management Plan

The EMA continued its efforts to develop a management plan for the Ocelot (*Leopardus pardalis*), an ESS, through funding by the Public Sector Investment Programme (PSIP).

Equipment for the conduct of data collection on the species as well as, for the development of a video documentary, was acquired. On April 10<sup>th</sup>, 2018, the EMA in collaboration with the University of the West Indies (UWI), hosted a camera trap training session at the UWI St. Augustine Campus. The training was provided to stakeholders of the Aripo Savannas Strict Nature Reserve ESA in order to increase local capacity of community personnel/community groups/non-governmental organisations in the field of wildlife research and management.

The attendees included members of the Sundew group, a community-based organisation in the Cumuto area,

Cumuto community members and staff members of the EMA. The training included a lecture component, where the participants were taught how to operate camera traps and GPS units, and a practical component, where the participants conducted an outdoor exercise to set up camera traps on trees around the campus. The collection of data on the species, using the methodology outlined in the training session, is carded for 2019.

In the latter part of 2018, a Call for Research was conducted in order to acquire information on the Ocelot, where targeted stakeholders and the general public were engaged during this four (4) week process. The EMA received eight (8) submissions comprising both scientific and anecdotal information, and conducted one (1) interview. The Call for Research allowed for a useful update on the ongoing Trinidad Ocelot Project, which is a collaborative effort,



between local and international organisations, namely the UWI, S.P.E.C.I.E.S., Asa Wright Nature Centre, Sustainable Innovation Initiatives and the Trinidad and Tobago Field Naturalists' Club. The information gathered will inform the management plan which is carded for development in 2019.



*Attendees at the camera trap training session at the UWI St. Augustine Campus (Photo by the EMA, 2018)*

## Environmental Emergencies

Each year, the Emergency Response and Investigations (ERI) Unit investigates the following types of emergencies:

- **Spills and Releases:** refers to hydrocarbons, chemicals and other fluids that may be spilled, gas emissions or leaks; and
- **Animal Deaths:** refers to dead animals, such as, fishes and birds.

In 2018, there were a total of 86 emergencies reported to the EMA where 87% of these emergencies were oil spills and chemical releases. 2018 saw a 28% decrease in the number of spills and releases reported, and a 38% decrease in the number of animal deaths reported.

The ERI Unit of the EMA plays a coordinating role with regards to environmental emergencies as stated under Section 16(1)(c) of the EM Act. When an oil spill is reported to the EMA, the Ministry of Energy and Energy Industries (MEEI) is immediately notified as spills and releases are primarily their responsibility through the National Oil Spill Contingency Plan. The EMA investigates (along with Maritime Services Division and Trinidad and Tobago Coast Guard) to identify the source of the oil spill and coordinates efforts among agencies to initiate the clean-up exercise. For example, the Institute of Marine Affairs will be contacted to conduct fingerprint analysis of the oil spill to confirm its source.

On March 5<sup>th</sup> 2018, a report of an oil spill at the Cats Hill Tank Farm in Moruga was received by the EMA. The response encompassed land surveillance along with the MEEI, and Petrotrin officials. As a result of this spill, approximately 800 barrels of oil impacted the Ortoire River.

The ERI Unit along with the MEEI oversaw the clean-up being conducted by Petrotrin, which was completed within ten (10) days. Further land surveillance was conducted to ensure that there was no residual contamination of the Ortoire River and the surrounding environment.



*Oil spill observed in the Ortoire River (Photo by the EMA, 2018)*

## NEED TO REPORT...



**AN OIL SPILL?**



**A CHEMICAL RELEASE?**



**ANIMAL KILLS?**



**CALL 680-9588**  
24 HR EMERGENCY HOTLINE



PROJECT

Baseline Ecological Risk Assessment for South West Peninsula of Trinidad

During the recent years, there has been an increase in the frequency of oil spill incidences in the Gulf of Paria (GOP) that may have originated from onshore and/or offshore oil and gas activities. There have been many concerns raised by the public on the direct effects of oil spills on the receiving physical, biological and socio-economic environment as well as, the use of dispersants to treat oil in the marine environment along the southwestern coastline of the GOP.

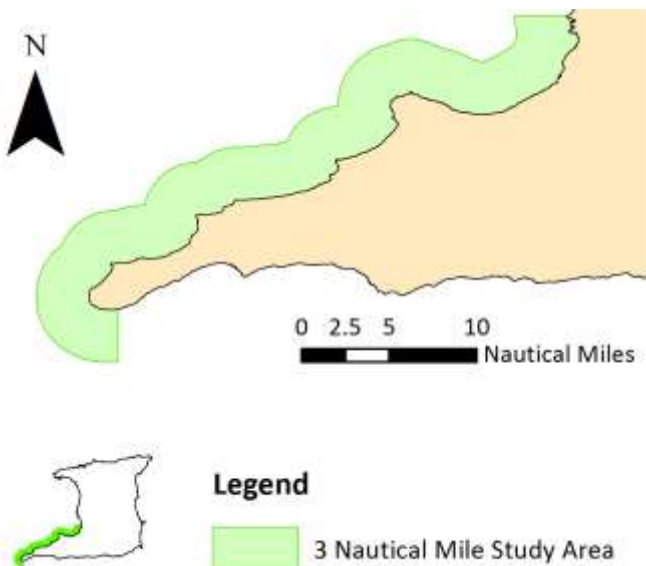
Based on public concerns about the quality and health of the GOP, the EMA decided to conduct a baseline Ecological Risk Assessment (ERA) to better understand the drivers-pressures-stressors-condition-responses operating in the GOP. In this regard the EMA engaged CSA Ocean Sciences Incorporated who are partnering with international experts

to conduct the baseline ERA. The aim of the ERA is to identify the risks posed by chemical contaminants to ecological receptors within the defined study area and to provide recommendations for the remedial action(s) for each ecological risk deemed to be significant or unacceptable.

The study area extends from the High Water Mark from Pointe-a-Pierre to Icacos along the south-western coast of Trinidad to a 5.56-km (3-nautical mile) offshore area in the Gulf of Paria (Figure 9). The project is being implemented in two (2) phases:

- Phase I which started in April 2018, involves a literature review of all available studies and reports done in the study which will assist in the design of a site specific ERA; and
- Phase II will involve field surveys, sampling and analysis to assess the current ecological state within the onshore, intertidal and marine environments. This would be followed by a Screening Level ERA to provide a conservative estimate of the likelihood of the existence of a site-specific ecological risk. This will identify the relationships between the identified Chemicals of Potential Concern (COPCs), the presence or accumulation of those COPCs in environmental media (such as water, sediment, soil, vegetation), and prey items for wildlife receptors. Valued Environmental Components (VECs) would be identified and described in terms of their behaviour, feeding habits, body weight, and food and water ingestion rates. The potential fate-and-transport pathways from each contaminant to the VECs would be identified and toxicity screening levels would be compiled for COPCs.

Figure 9 Map showing location of the 3-nautical mile study area from Pointe-A-Pierre to Icacos



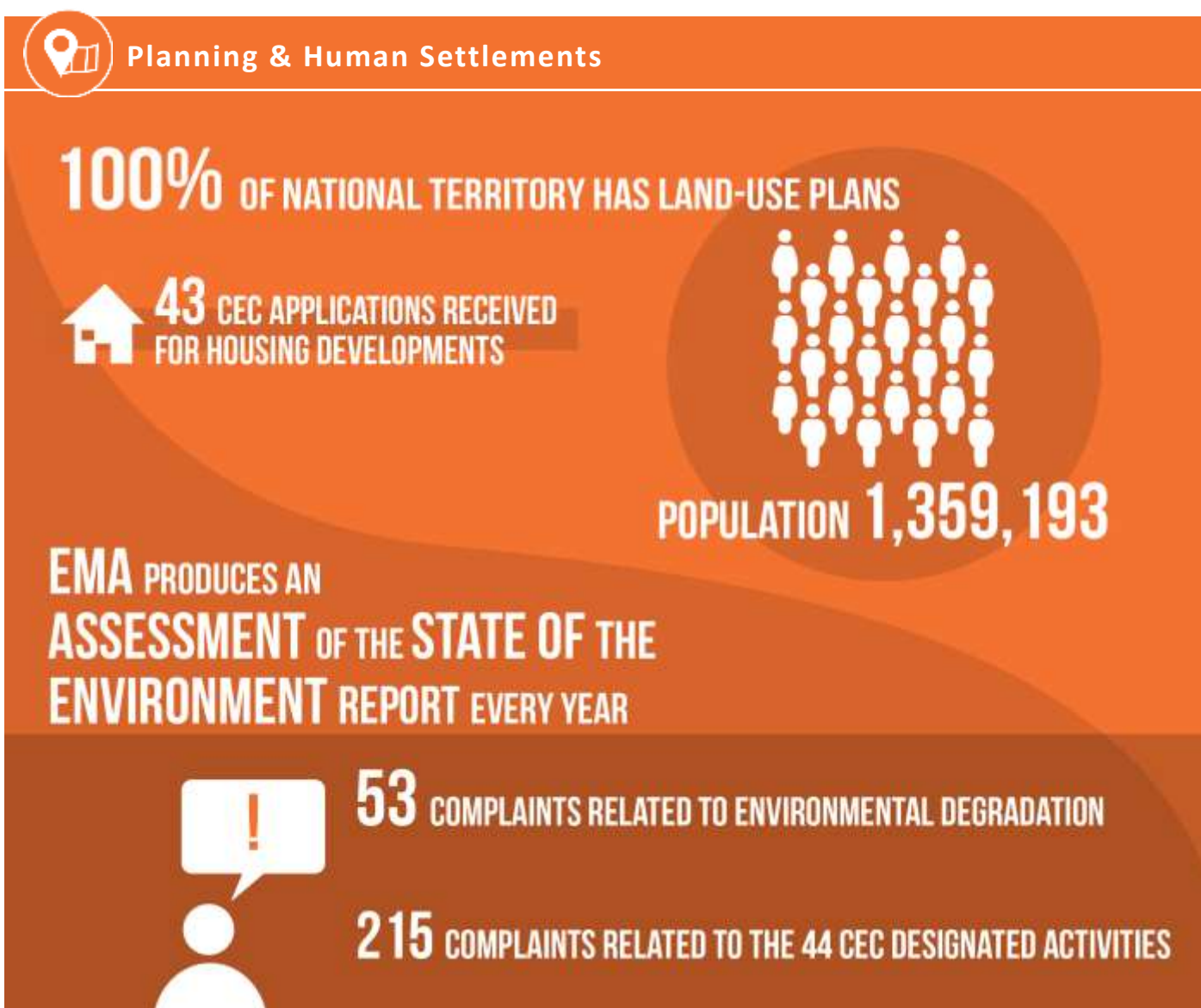
Source: Environmental Management Authority, 2018

Based on the conclusions of the ERA and COPCs identified, the EMA would develop specific management strategies to minimise the potential impacts of these COPCs and their sources leading to an overall improvement in the quality of the receiving environment.



## IMPROVING THE LOCAL ENVIRONMENT

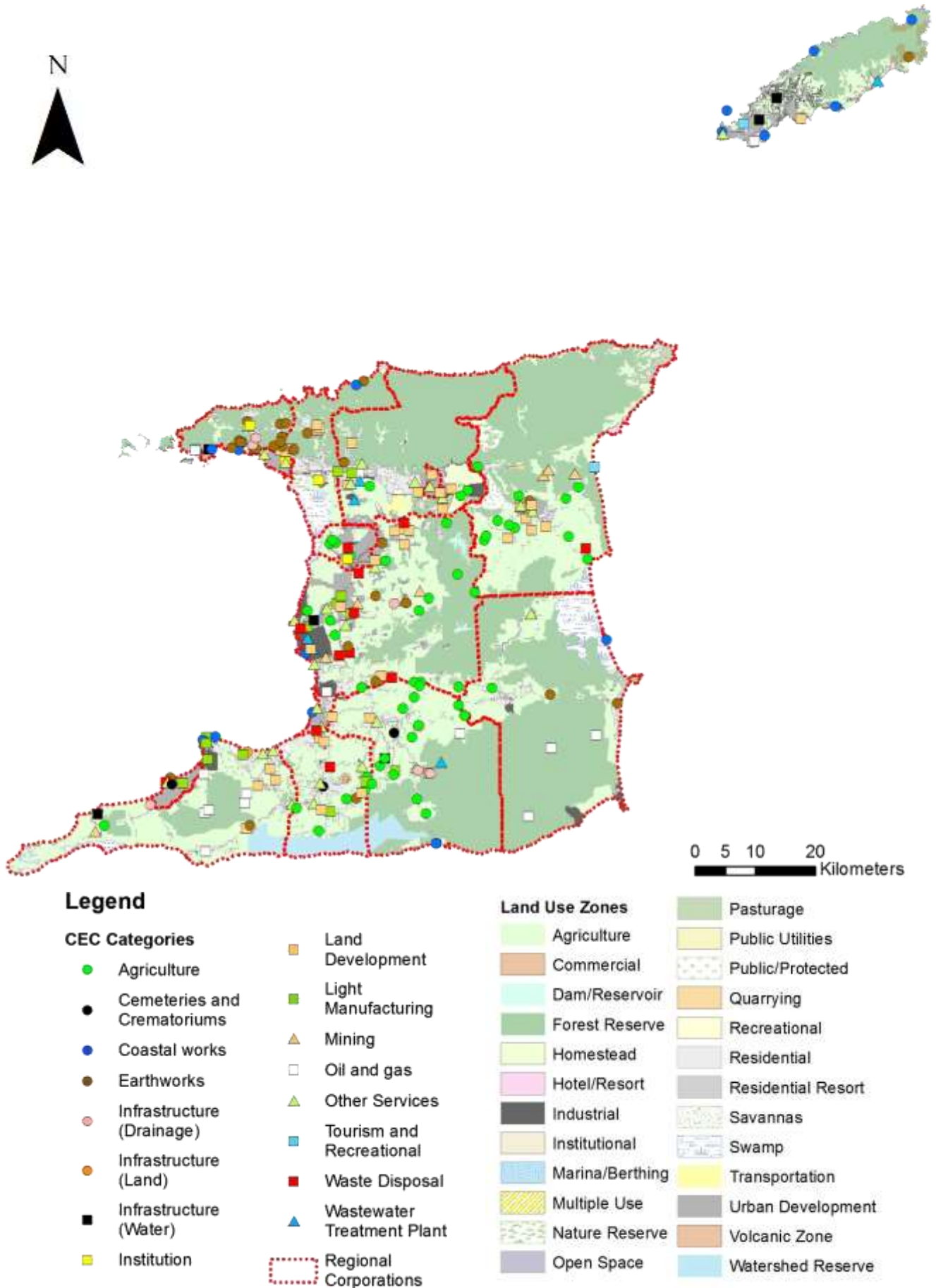
This section will examine Municipal Corporations and identify the major type of land-use and development concentrated in each, based on Certificate of Environmental Clearance applications received. This information will be beneficial in analysing the cumulative physical, biological and social impact of that activity on the surrounding environment. It will also allow for future planning and allocation of resources to ensure sustainable development.



In 2018, 276 CEC applications were received and processed by the EMA spanning all 44 activity descriptions listed in the CEC Designated Activities Order, as amended. Figure 10 shows the proposed locations for the CEC applications received in 2018 in relation to each Municipal Corporation (MC) in Trinidad overlaid on the Town and Country Planning Division's (TCPD) land-use zones.

**Figure 10**

Map showing the land-use types and the locations of CEC applications received in 2018 within Trinidad and Tobago



Source: Land Use Types: TCPD, 2009 (Personal Communication). Locations of CECs: Environmental Management Authority, 2018.

In T&T, chicken is an integral component of meals, particularly as it is an affordable meat, and is not a dietary restriction for most religions. In the poultry industry there are two main products – meat from broiler chickens and eggs from layer chickens. Based on information by the T&T Poultry Association, T&T produces 800,000 birds a week for domestic consumption and imports an estimated 200,000 birds<sup>16</sup>.

In recent years the EMA has been receiving a steady increase in poultry applications, with 40 CEC applications being received in 2018. In the last three years, rural areas such as the Couva/Tabaquite/Talparo, Sangre Grande and Princes Town Regional Corporation districts, have been experiencing the most growth in this type of activity due to the expanse of available agricultural lands. With low-interest financial assistance from the Agricultural Development Bank and an activity which is not labour intensive, farmers/potential entrepreneurs view this development as a very lucrative business opportunity.

## Land Development

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In 2002, the National Housing Authority (now Housing Development Corporation) developed a policy titled “Showing Trinidad and Tobago a new way HOME”. This policy included initiatives to develop 2,925 low-income housing units on 30 sites in 2002, an average of 10,000 housing units over the next 10 years and regularisation of 5,400 squatter families on 17 sites. However, in recent times, the economy of T&T has been experiencing challenges that required prioritisation of the Government’s strained and limited resources. Consequently, certain programmes, such as, the low-income housing initiative saw shortfalls in its projected targets. This resulted in the Government offering incentive programmes to inveigle the private sector to assist the Government in fulfilling public sector programmes which was hinted at in the 2016 National Budget of Trinidad and Tobago.

On November 3, 2016, the then Minister of Housing and Urban Development, the Honourable Randall Mitchell was accompanied by Prime Minister Dr. The Honourable Keith Rowley at the sod turning ceremony of the first

Public Private Partnership (PPPP) Housing Development in Mt. Hope.

Subsequent to the PPPP programme, a new Housing Construction Incentive Programme was announced in the National Budget of T&T. It was enacted in January 2018 and is expected to take the burden off the State in providing low cost public housing. Resulting from these initiatives, the EMA saw an increase in housing development CEC applications.

## Squatter Regularisation

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In 2015, the State Land (Regularisation of Tenure) Bill, 1998 was revisited. It was proposed that the amnesty date for squatting be revised to June 13, 2014, 17 years and 6 months after the current “appointed day” of January 1, 1998. The Land Settlement Agency (LSA) was established to regularise squatting through the issuance of Certificates of Comfort. In an extensive 2012 survey conducted, 350 areas were identified as squatting sites throughout Trinidad, with an approximate 55,000 households, as of 2015<sup>17</sup>. The LSA continues its efforts to fulfil the mandate of regularising all squatting areas in the country. To date, 24 CEC applications were submitted, with 3 being submitted in 2018 for the Tarouba, Arima and Sangre Grande areas. These applications focus on the establishment and/or upgrade of infrastructure and amenities, such as, access roads, drainage, potable water supply and electricity connection, for these communities.

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<sup>16</sup> T&T Guardian, (2018). Poultry Producers want Protection. Retrieved from <https://www4.guardian.co.tt/business/2018-06-05/poultry-producers-want-protection>

<sup>17</sup> JSC Report on an inquiry into the Operations of the Land Settlement Agency, (2016). Retrieved from <http://www.ttparliament.org/reports/p11-s2-J-20161109-LASC-R1.pdf>

## Town and Country Planning Division Land Use Plan<sup>18</sup>

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The Town and Country Planning Division (TCPD) has embarked on a transformation initiative to improve the efficiency and effectiveness of its operations to the wider public of T&T. This initiative encompasses the following three (3) projects:

- Automation of the Construction Permitting Process - involves the development and implementation of an online system, for the submission and construction permitting.
- Digitisation of Key Records - the large scale conversion of TCPD's historic paper-based map and application records, into a digital format. It will address issues of data mismanagement, loss and degradation.
- Improvement of the Service Delivery Infrastructure - the umbrella project to the Digitisation and Automation efforts. It presents a unique opportunity

for TCPD to become a more transparent, accountable, public-centric and performance driven institution that delivers effective, efficient and equitable service to both staff and applicants.

The automation project was initiated in March 2018 with other government agencies participating and the system is expected to be rolled out in the latter part of 2019.

## Planning & Facilitation of Development Act<sup>19</sup>

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The Planning and Facilitation of Development Act, No. 10 of 2014 was assented to on October 1<sup>st</sup>, 2014. It will repeal and replace the Town and Country Planning Act, Chap. 35:01 upon its full proclamation. The Planning and Facilitation of Development Act was introduced to reform the town and country planning laws of T&T, by establishing a system for the preparation and approval of national and sub-national development plans; and a system of planning and development approvals. These are designed to secure predictability, simplicity, promptness and transparency in the treatment of development applications.

In order to achieve these, the Act makes provision for the establishment of a National Physical Planning Authority or National Planning Authority, which will collaborate with the Environmental Management Authority (EMA) and other institutions, to ensure that environmental preservation is an integral part of the planning process. The Act provides for the devolution of certain decision-making powers relating to development control to local government, among other things. This is done through the creation of Municipal

Planning Authorities (MPAs) at the municipal level. The MPAs and the Tobago House of Assembly, will collectively be called Planning Authorities.

The Act was partially proclaimed in 2015 and amended in 2018. The Planning and Facilitation of Development (Amendment) Bill, 2018 sought to amend the Planning and Facilitation of Development Act, No. 10 of 2014 and to consequentially amend the Environmental Management Act, Chap. 35:05. These amendments were passed in the House of Representatives on December 7<sup>th</sup>, 2018 and will be passed in the Senate in 2019. Overall, these reforms will help modernise the planning process in the context of the development of T&T towards 2030 and beyond.

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<sup>18</sup> Dr. Ancil Kirk-Director (Ag.), Town and Country Planning Division, (personal communication, 2018).

<sup>19</sup> Ibid.



# EVOLVING A GREENER ECONOMY

Integrating environmental considerations into the way business is conducted reduces economic vulnerability and drives economic growth. A green economy is not only more efficient, but one which promotes new value-added and environmentally responsible activities. This section reflects indicators that show green investment and environmental consideration in economic activities.



The Government of the Republic of Trinidad and Tobago (GORTT) is committed to meeting the obligations required under the Paris Agreement to increase the proportion of energy generation by renewable sources by 10% of total generation by 2021<sup>20</sup>. As such, the GORTT has developed two (2) projects to allow small producers of renewable energy to feed electricity into the National Grid by amending the Trinidad and Tobago Electricity Commission (T&TEC) Act and Regulated Industries Commission (RIC) for:

- Utility Scale Renewable Energy projects: Expressions of Interests (EOI) were requested and received in 2018 from Independent Power Producers for the development of utility-scale

renewable energy power generation with installed capacity of three Megawatts (3MW) and greater.

- Waste-to-Energy Development: EOIs were requested and received in 2018 from developers to establish a waste-to-energy plant for conversion of municipal waste to power generation to be located at the Beetham Sanitary landfill<sup>21</sup>.

<sup>20</sup> Ministry of Finance, (2018). Budget Statement 2019. Retrieved from <https://www.finance.gov.tt/wp-content/uploads/2018/10/BUDGET-STATEMENT-2019-FINAL-WEB.pdf>

<sup>21</sup> Ibid.

## HIGHLIGHT The Blue Economy and the 2030 Agenda for Sustainable Development

The Blue Economy is the sustainable use of the ocean's resources to improve economic growth, livelihoods and jobs, and the health of the ocean's ecosystem<sup>22</sup>. The Blue Economy encompasses relevant activities to reduce the negative impacts on the environment, such as; fisheries, maritime transport, renewable energy, tourism, waste management, and climate change (Figure 11)<sup>23</sup>.

From November 26-28, 2018, over 18,000 participants from around the world, including, representatives from T&T attended the first Sustainable Blue Economy Conference themed "The Blue Economy and the 2030 Agenda for Sustainable Development" in Kenya. The objectives of the conference were for participants to address issues related to building a blue economy that will:

- Harness the potential of our oceans, seas, lakes and rivers to improve the lives of all, particularly people in developing states, women, youth and Indigenous peoples; and
- Leverage the latest innovations, scientific advances and best practices to build prosperity while conserving our waters for future generations<sup>25</sup>.

The discussion throughout the three-day conference were centered on the following key themes:

1. Smart shipping, ports, transportation and global connectivity;
2. Employment, job creation and poverty eradication;
3. Cities, tourism, resilient coasts and infrastructure;
4. Sustainable energy, mineral resources and innovative industries;
5. Managing and sustaining marine life, conservation and sustainable economic activities;
6. Ending hunger, securing food supplies and promoting good health and sustainable fisheries;
7. Climate action, agriculture waste management and pollution free oceans; maritime security, safety and regulatory enforcement; and
8. People, culture, communities and societies – the inclusive blue economy<sup>26</sup>.

The conference sought to capture concrete commitments and practical actions that can be taken today to help the world transition to the blue economy<sup>27</sup>. During the conference, Ms. Penelope Beckles, Permanent Representative of T&T to the UN, highlighted priorities for the country's Blue Economy strategy, including to: engage in research-driven decision making and conservation; transfer knowledge and develop capacity to manage the Blue Economy sustainably; and optimize benefits from the marine and coastal protected areas<sup>28</sup>.

Figure 11 Overview of the activities related to the Blue Economy<sup>24</sup>



<sup>22</sup> World Bank Group (2018). What is the Blue Economy? Retrieved from <http://www.worldbank.org/en/news/infographic/2017/06/06/blue-economy>

<sup>23</sup> Ibid.

<sup>24</sup> Ibid.

<sup>25</sup> International Institute for Sustainable Development (IISD), (2018). Sustainable Blue Economy Conference. Retrieved from <https://sdg.iisd.org/events/sustainable-blue-economy-conference/>

<sup>26</sup> IISD, (2018). Sustainable Blue Economy Bulletin. Retrieved from <http://enb.iisd.org/download/pdf/sd/enbplus208num31e.pdf>

<sup>27</sup> United Nations Environment Programme, (UNEP), (2018). Sustainable Blue Economy Conference. Retrieved from <http://web.unep.org/unepmap/sustainable-blue-economy-conference-focus-mediterranean>

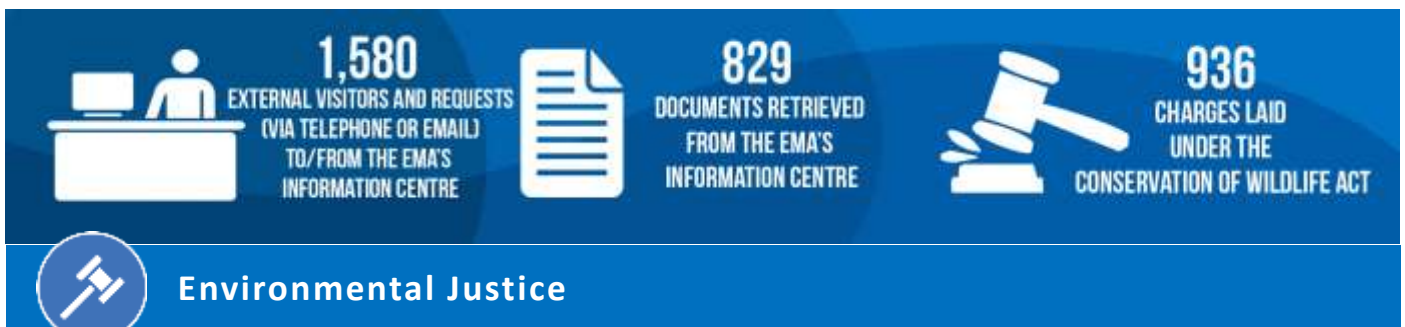
<sup>28</sup> IISD, (2018). Sustainable Blue Economy Bulletin. Retrieved from <http://enb.iisd.org/download/pdf/sd/enbplus208num31e.pdf>





# FOSTERING AN ENVIRONMENTALLY RESPONSIBLE SOCIETY

An environmentally responsible society is one in which people have an active role in protecting, maintaining and improving the environment. Fostering such a society requires development of systems that encourage access to environmental information, public education and participation, research and environmental justice. This section reflects indicators in these areas.



The Ministry of Works and Transport applied to the EMA for a Certificate of Environmental Clearance (CEC) for the construction of a five (5) kilometre highway stretch from Cumuto to Sangre Grande. This was proposed to run south of the Aripo Savannas Strict Nature Reserve Boundary, which is an Environmentally Sensitive Area. It was intended that additional stretches of the highway would be completed at a later date and once completed, the entire highway would run from Cumuto to Toco.

The EMA's decision to grant the CEC for this project was challenged, with the following major issues put forward for the Privy Council's decision:

- Whether rule 5(2) of the CEC Rules required consultation on the draft Terms of Reference (TOR) with affected members of the public or relevant non-governmental organisations: where it was ruled that the TOR seems to be no more than a preparatory step under the Rules which is designed to set the parameters of the Environmental Impact Assessment (EIA). There is, however, nothing in the Environmental Management Act, Chapter 35:05 or the Rules which state that the final decision on the CEC must be based on the TOR. The requirement to consult other agencies and members of the public "where appropriate" also demonstrates that this is not a mandatory requirement and does not grant a general

right to members of the public to be consulted at that stage. Notwithstanding this, members of the public can take part in the statutory public comment procedure under Sections 28 and 35(5) of the EM Act and have their comments taken into account in the EMA's final decision. If it is alleged that lack of consultation on the draft TOR led to some matter being inadequately considered, this can no doubt be raised by way of objection to the EIA.

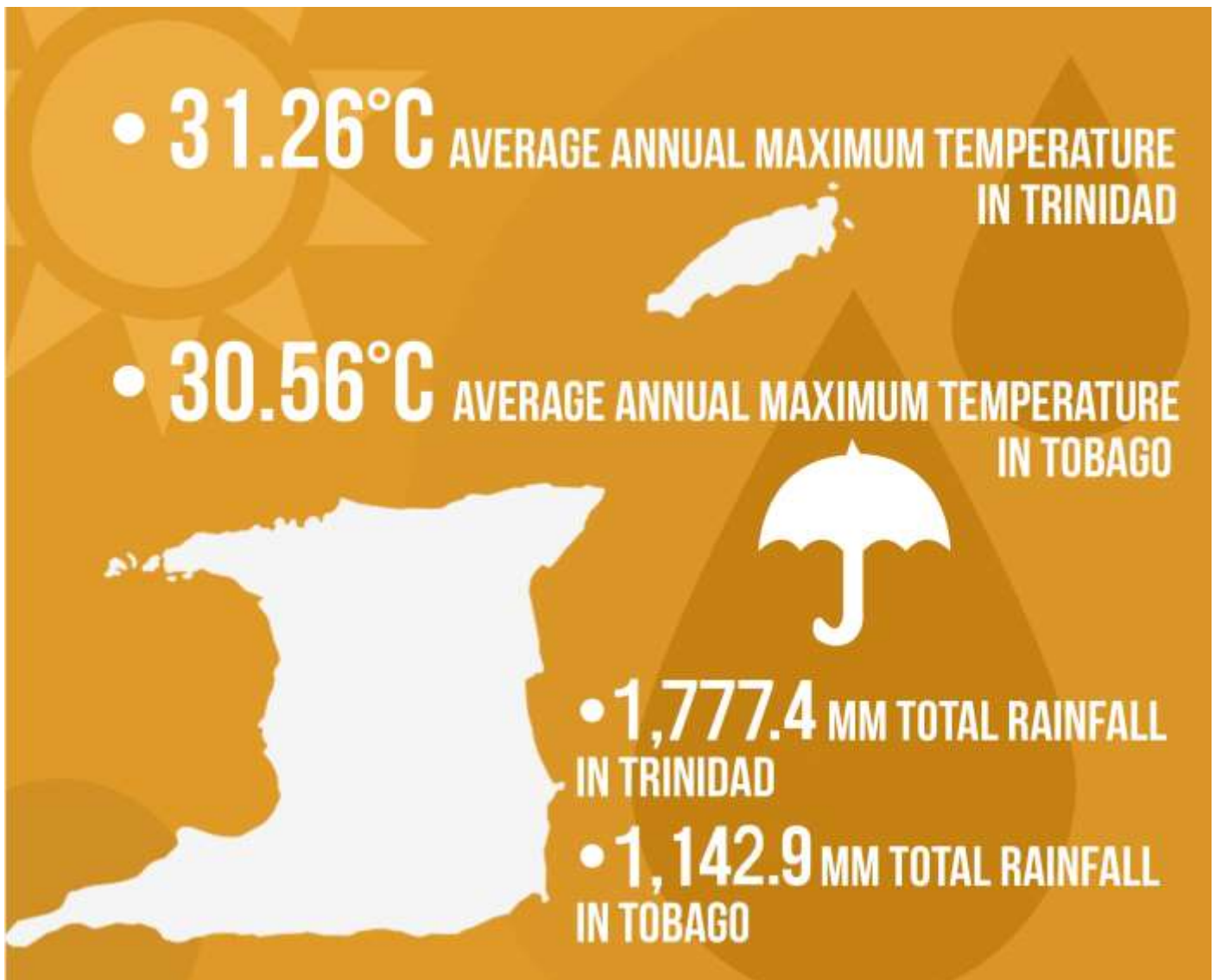
- Whether the EMA was entitled to grant the CEC in the absence of a cumulative impact assessment being conducted as it relates to the proposed continuation of the highway to Toco: although the definition of "impacts" includes cumulative impacts, the reference is to the impact of the particular "activity". The rule does not speak to the impact of future extensions. The court also accepted the EMA's submissions which stated that it accepted that the cumulative impacts of possible future additional phases of the highway could only be assessed when the details of any contemplated additional highway segments were known.

In conclusion, the court ultimately held that there was nothing inherently unlawful or irrational in the granting of the CEC by the EMA.



# ADDRESSING CLIMATE CHANGE AND ENVIRONMENTAL AND NATURAL DISASTERS

Climate change poses an urgent and possibly an irreversible threat to us all. Human-caused emissions of greenhouse gases (GHG) contribute significantly to the long-term change to the planet's climate. At the local scale, these changes are manifested in shifts in our climate variability as well as, in the frequency and strength of extreme weather events such as flooding, hurricanes and droughts. This section presents indicators on our contribution to GHGs and the effects of climate change. Also highlighted are mitigation and adaptation efforts as well as, notable natural disasters from 2018.





### HIGHLIGHT Low Emissions Capacity Building Programme (2015-2018)

In 2015 T&T became the only Small Island Developing State (SIDS) to participate in the Low Emissions Capacity Building Programme (LECB) under the United Nations Development Programme (UNDP). In the three years to follow, a highly collaborative process involving government, private sector, and non-governmental entities was used to produce a series of outputs aimed at moving the nation towards a low-emissions, sustainable development pathway. The efforts of this programme focused on the three sectors identified in the 2015 Carbon Reduction Strategy (CRS) as being our top GHG-emissions sectors, namely: the Oil and Gas Sector, Power Generation Sector, and Transportation Sector.

At the programme's end in 2018, the LECB of T&T produced:

- i. Low Carbon Development (LCD) Action Plans for the Oil and Gas Sector, Power Generation Sector, and Transportation Sector;
- ii. Sectoral Nationally Appropriate Mitigation Actions (NAMAs) for T&T's top GHG-emitting sectors;
- iii. Legal framework recommendations to support the implementation of NAMAs;
- iv. An Implementation Plan for achieving T&T's Nationally Determined Contributions (NDC) to the Paris Agreement;
- v. A framework for a Climate Mitigation Monitoring, Reporting and Verification (MRV) System;
- vi. Stakeholder training and capacity building for the implementation of NAMAs.

These outputs significantly advance the National Climate Change Policy (NCCP) and CRS; providing a solid foundation for T&T's national programme reducing our contributions to global climate change.

The next steps moving forward will be to scaling up and implementation of these outputs to ensure that T&T's NDCs are met within a transparent accountability framework. A challenging task, but likely to be achieved due to the strong sectoral buy-in generated from a highly inclusive process.



*Stakeholders from the private sector and non-governmental organisations developing NAMAs for Trinidad and Tobago under the LECB Programme (Photo by the EMA, 2018)*



### HIGHLIGHT October 2018 Flooding

Natural disasters are events resulting from the natural processes of the Earth which have negative impacts on human lives. However, the degree of impact may be exacerbated by human-moderated activity such as climate change, and land-use change and development.

In 2018, T&T was hit with several extreme rainfall events. Most notably is the rain that occurred over two days – the 18<sup>th</sup> and 19<sup>th</sup> of October where an active and consistent Inter-Tropical Convergence Zone (ITCZ) produced intermittent periods of rain/showers and thunderstorm activity which led to flash flooding and exacerbated existing riverine flooding. The riverine flooding continued until the 21<sup>st</sup> of October even after the torrential downpours subsided.

The four main areas affected by the adverse weather and riverine flooding were: the Sangre Grande RC; Tunapuna/Piarco RC, the Couva/Tabaquite/Talparo RC, and the Mayaro/Rio Claro RC. The communities that were inundated by the flooding included: Greenvale/La Horquetta (south), St. Helena, Kelly Village, Santa Monica, Madras, Vega Oropouche and North Oropouche. The Caroni River and Guayamare Rivers broke their banks and flooded the Uriah Butler Highway as well as, other North-South connector roads; severing land-based transportation across the country for almost 36 hours. Over 100,000 persons were affected, 800 persons evacuated and 300 persons were placed in shelters.



*Members of the Defense Force assist with the evacuation of residents from their homes in Greenvale, La Horquetta<sup>27</sup> (Photo by the Daily Express, 2018)*



*Southbound trucks traverse a single lane on the Northbound of the Uriah Butler Highway as the Southbound is inundated by flood waters<sup>28</sup> (Photo by the Trinidad and Tobago Guardian, 2018)*

<sup>27</sup> Daily Express, (2018). Photo retrieved from [https://www.trinidadexpress.com/news/local/greenvale-residents-flee-over-flood-fears/article\\_5bfa9c82-e90c-11e8-a0a8-a318081457e8.html](https://www.trinidadexpress.com/news/local/greenvale-residents-flee-over-flood-fears/article_5bfa9c82-e90c-11e8-a0a8-a318081457e8.html)

<sup>28</sup> Trinidad and Tobago Guardian, (2018). Photo retrieved from <https://www.guardian.co.tt/news/wrecker-owners-exploiting-trapped-ubh-drivers-6.2.696414.1fb4b8ecfc>



# THE WAY FORWARD

This is the second Assessment of the State of the Environment report (ASOER) based on key environmental indicators for Trinidad and Tobago. The 47 indicators were categorised under the six (6) priority areas of the National Environmental Policy. In 2019, partnerships will be sought locally and internationally to develop locally-appropriate indicators. As the climate mitigation Monitoring, Reporting and Verification System is established in the coming years, the ASOER will also reflect greenhouse gas emissions data from our various industries. Future reports will also present air quality data for ozone, carbon monoxide, nitrogen dioxide and sulphur dioxide for Trinidad and Tobago.

Environmental statistics related to indicators continue to be in the early stages of development in Trinidad and Tobago. It is expected that more comprehensive comparisons will be conducted in future reports and as the NEP is implemented to its full extent. The ASOER for 2019 will continue to report on those indicators listed in this report and other additional key indicators that may be identified through discussions with stakeholders.

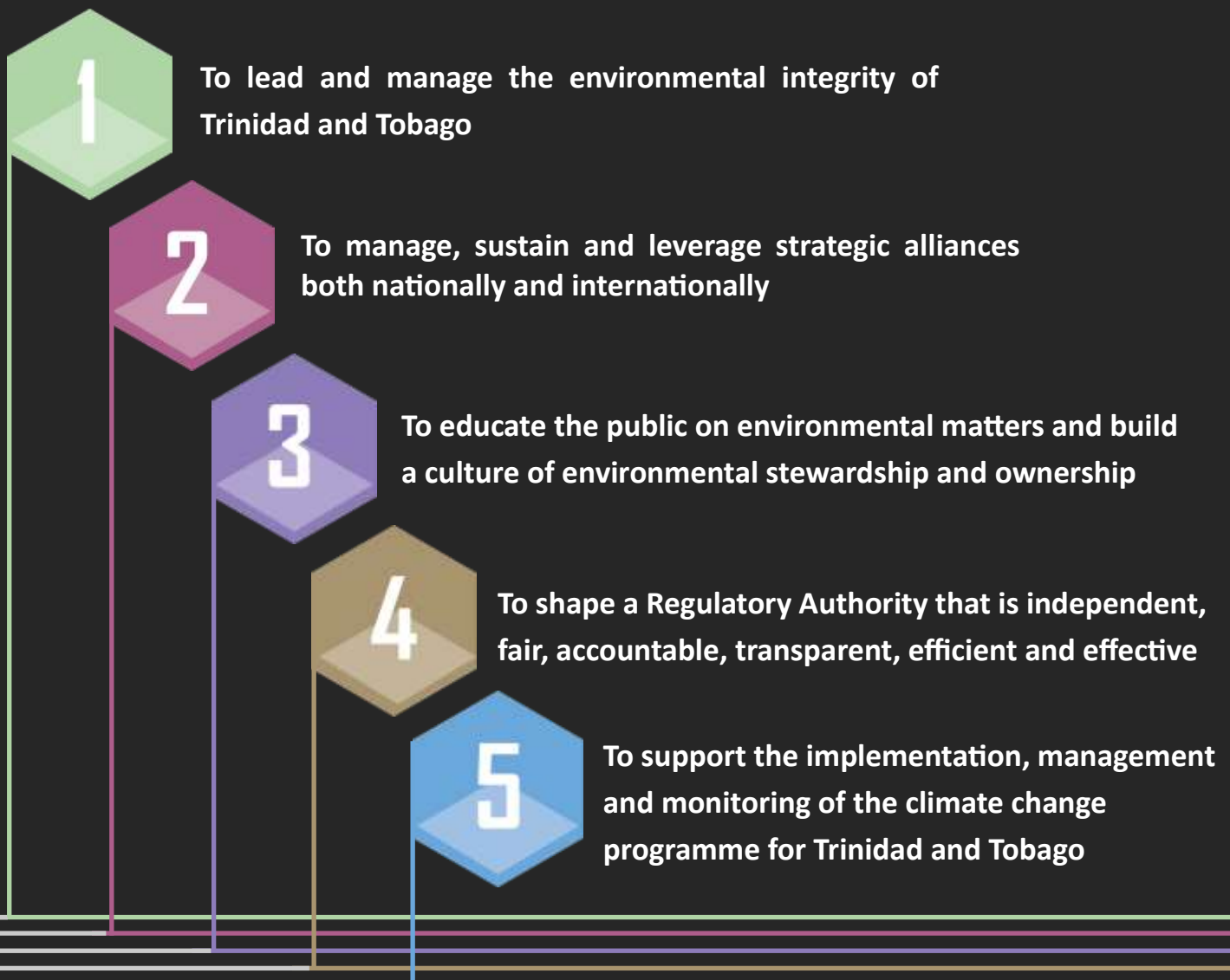


*This diagram maps the linkages between the priorities and thematic areas of the National Environmental Policy 2018. Coloured icons represent areas where indicators are reported on while grey icons are areas to be explored in future ASOERs.*

# ACHIEVEMENTS OF THE ENVIRONMENTAL MANAGEMENT AUTHORITY 2018

## ► STRATEGIC OBJECTIVES

The EMA's Strategic Plan (2017-2021) provides the overarching guiding framework for the organisation's various operational units. Within this five year period, projects and activities are being executed towards five strategic objectives:



Protecting Environmental and Human Health through Pollution Control



Sustainably Managing Natural Assets



Improving the Local Environment



Evolving a Greener Economy



Fostering an Environmentally Responsible Society



Addressing Climate Change and Environmental and Natural Disasters



## ► PRIORITY AREAS OF THE 2018 NATIONAL ENVIRONMENTAL POLICY

The National Environmental Policy (NEP) 2018 presents six thematic priority areas towards a more environmentally sustainable future. All work undertaken by the EMA strives to satisfy these priority areas.

# STRATEGY & RESEARCH



## ▶ ASSESSMENT OF THE STATE OF THE ENVIRONMENT REPORT 2017

- Submitted the 2017 ASOE Report to the Board of Directors in April 2018 for incorporation in the EMA's Annual Report.

## ▶ REVISION OF THE 2006 NATIONAL ENVIRONMENTAL POLICY (NEP)

- In November 2018, the Revised NEP was laid in Parliament making it the official NEP for Trinidad and Tobago.

## ▶ IMPLEMENTATION OF THE 2018 NEP

- Commenced the development of an Action plan for the implementation of the 2018 NEP

## ▶ BIODIVERSITY

- Designated the Scarlet Ibis as an Environmentally Sensitive Species
- Commenced a **PSIP Project - Development of a Management Plan for the Ocelot**. Conducted training sessions for community members in the use of camera traps for data collection. This is one component of the project and the results will be used to inform the development of the management plan.
- Established Management Advisory Committees (MAC) for the Nariva and Matura Environmentally Sensitive Areas

## ▶ CLIMATE CHANGE

- Commenced the development of a Climate Change Agenda for the EMA

## ▶ GEOGRAPHIC INFORMATION SYSTEMS (GIS)

- Conducted GIS Training sessions for Officers in the Technical Services and Legal, Compliance and Enforcement Departments
- A document titled "An Officer's Guidebook for using ARC GIS Version 10.X Software" was produced to complement the GIS training. Began the application process to seek Accreditation Readiness Support from the Green Climate Fund
- Updated story maps with CEC and Water Information. Also added a noise data tab



Scarlet Ibis - Our most recent ESS



▶ OTHER

- ◆ Completed an exercise that ranked Trinidad and Tobago's Environmental Challenges based on Public Perception. The following sources of public feedback were used to create the prioritized list of environmental challenges
  - The Revision of the National Environmental Policy Process
  - 2016 National Environmental Literacy Survey (NELS)
  - EMA Complaints Database
- ◆ Participated in a Technical Working Group formed under a PSIP Project to development Ambient Water Quality Standards for T&T
- ◆ Facilitated the acquisition of a drone for use by EMA officers
- ◆ Co-ordinated training sessions on the use of the drone for Officers in the Technical Services and Legal, Compliance and Enforcement Departments
- ◆ Provided guidance/assistance to the Water Unit to update the WRASTIC Index based on in-house GIS data
- ◆ Completed a GIS Guidebook on conducting calculations for the seven (7) features of the WRASTIC Index for T&T



2018 Drone Training



# CERTIFICATE OF ENVIRONMENTAL CLEARANCE

## ► CEC UNIT STATISTICS FOR 2018

<b>276</b>	<b>164</b>	<b>24</b>	<b>2</b>
Number of CEC Applications Received	Number of CECs Issued	Number of “No CEC Required” Determinations Issued	Number of EIAs Received
<b>7</b>	<b>3</b>		<b>6</b>
Number of Terms of References (TOR) Issued	Number of Notice of Refusals (NORS) Issued	Number of Environmental Impact Assessments (EIA) required for Applications Received in 2018	

## ► STUDY TO IDENTIFY RISKS TO ECOLOGICAL RESOURCES OF THE GULF OF PARIA

In April 2018, the Environmental Management Authority (EMA) commenced a project to conduct a Baseline Ecological Risk Assessment (ERA) in the Gulf of Paria (GOP). The aim of the ERA is to identify the risks posed by chemical contaminants to ecological resources within the defined study area and to provide recommendations for the remedial action (s) for each ecological risk, deemed to be significant or unacceptable. The study area extends from the High Water Mark from Pointe-a-Pierre to Iacos, along the south-western coast of Trinidad to a 5.56-km (3-nautical mile) offshore area in the GOP.

Already completed is a General Environmental Baseline Sampling Survey done in the wet season of 2018. This survey was conducted for water, sediment and faunal samples at five (5) river mouths impacted by anthropogenic activities. These were namely, Guaracara River, Cipero River, Godineau River, Guapo River and Irois River, as well as intertidal, nearshore and offshore locations within the study area. The project is expected to be completed by the end of 2019.



**Sampling exercise as part of the GOP ERA**

## ► STAKEHOLDERS ENGAGED IN 2018

Energy Chamber  
Land Settlement Agency  
Coastal Protection Unit  
Ministry of Planning and Development  
**MEEI** Ministry of Trade  
NIDCO  
E-teck TCPD FAO UWI  
UTT SportT  
National Quarries  
Airports Authority  
COSTATT Ministry of Sport  
Ministry of Health **WASA**  
Drainage Division  
DNRE

## ► ENHANCING THE EFFICIENCY AND EFFECTIVENESS OF THE CEC UNIT

- 1) Revised and improved several internal working documents
- 2) Incorporation of climate change considerations into TORs
- 3) Attended site visits to a seismic survey vessel and a mobile drillship (*the Deepwater Invictus*) to view vessels from a CEC perspective and determine the applicability of CEC conditions and/or the need for development of new conditions.
- 4) Implementation of drone usage during site visits for CEC Applications e.g. at the Moruga Port.
- 5) Built technical capacity within the Unit through:
  - ISO 9001 Internal Quality Auditor Training
  - Use of Unmanned Aerial Vehicles (UAVs)/drones
  - GIS Refresher training
  - Use of SoundPRO and Dustrak equipment
  - IDB Principles of Reviewing EIAs online course
  - IDBs Meaningful Stakeholders Engagement online course



**CEC Members aboard the *Deepwater Invictus***



# WATER & GIS



The EMA continues to implement the following processes under the Water Pollution Rules, 2001 (as amended) (WPR):

- Source Registration (SR),
- Source Registration Renewal,
- Water Pollution Permits (WPPs) and
- Water Pollution Permits Renewals as well as Variations.

Process	Applications Received	Determinations including Certificates/ Permits Issued
Source Registration	47	45
Source Registration Renewal	59	87
Water Pollution Permits	5	5
Water Pollution Permit Variations	3	3
Water Pollution Permit Renewals	9	9
<b>Total</b>	<b>123</b>	<b>149</b>

## ▶ AMENDMENT OF THE WATER POLLUTION RULES

- Environmental Economists from the University Of the West Indies conducted work in developing the proposed discharge calculation – “Technical Advisory on the Revision of the Water Pollution Rules”
- Drafted Technical Policy Guidance Brief, proposed revised WPR and the Fees Regulations
- Prepared documents for proposed revised WPR public comment process:
  - Administrative Record
  - Legal Notice
- Drafted presentation of the proposed revised WPR, letters of invitation for stakeholder engagement for the proposed revised WPR and presented to the Association of Upstream Operators, WASA, Pt. Lisas Chamber, the Energy Chamber and the Trinidad and Tobago manufacturers Association.



*Presentation to the Energy Chamber*



## ▶ PSIP DEVELOPMENT OF AMBIENT WATER QUALITY STANDARDS FOR TRINIDAD AND TOBAGO PROJECT

- Conducted AWQS project steering committee meetings,
- Drafted standards for TT for freshwaters and marine water,
- Commenced dialogue with US EPA for training,
- Developed project implementation plan for 2018-2019.



## ▶ IMPROVING THE EFFICIENCY AND EFFECTIVENESS OF THE WATER AND GIS UNIT

- Submitted recommendations for review and approval based on November 2017 internal audit. This was approved and implementation has commenced (Environmental Programme Officer responsible for technical processing of Source Registration applications).
- Revised draft Standard Operating Procedure for SR & WPP.
- Updated the WRASTIC Index.
- Continued work on creating a GIS for baseline water quality data collected through WPPs and CECs.
- Continued work on development of water quality data collection database. Received feedback on water quality parameters from CEC Unit and submitted water quality parameters to IT Manager, who will review and commence building draft.
- Continued to revise and improve working document templates: WPR Enforcement Memo, SR and WPP routing slips, SR template letters, SR Additional Notes template and WPP Forms (updated the payment information section) and for monitoring to inform determination of SR application.
- Enhanced technical capacity through:
  - i. TBOSIET Certification to conduct offshore visits
  - ii. Certified training in Quality Management System - Implementing And Documenting A Quality Management System
  - iii. Media training and Media Workshop

## ▶ EDUCATION, OUTREACH AND STAKEHOLDER ENGAGEMENT

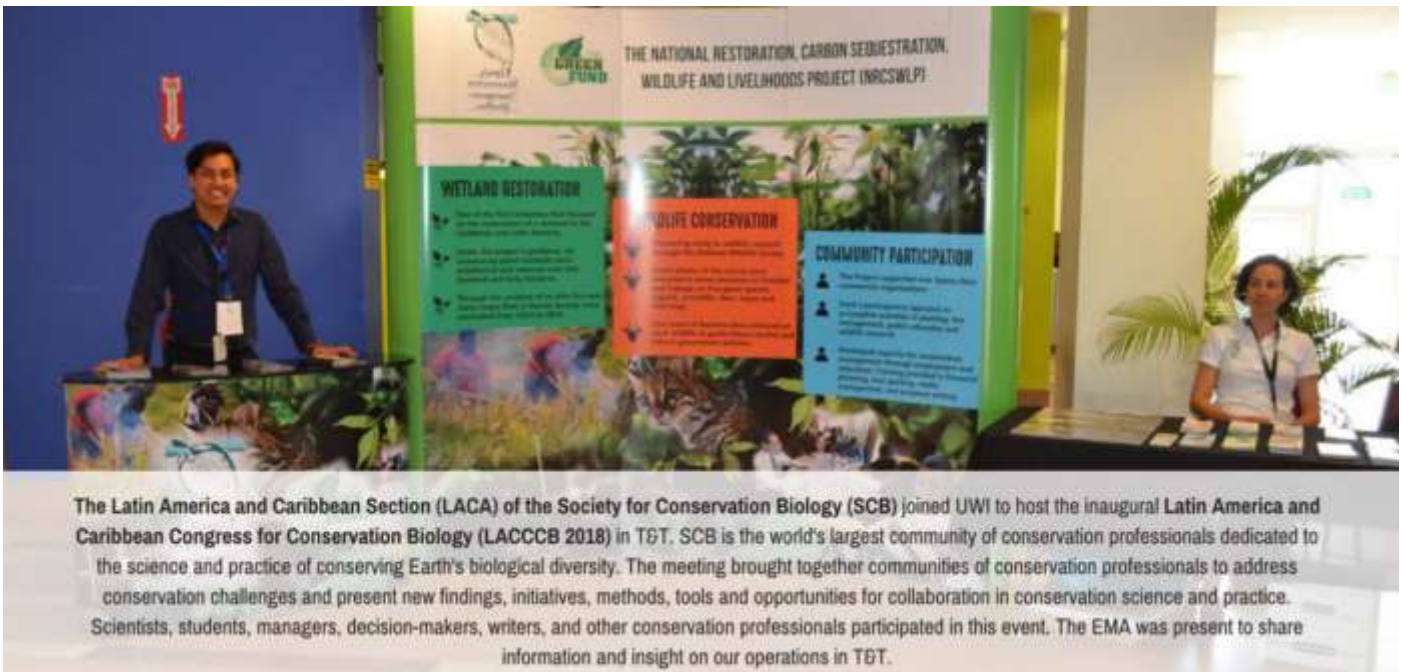
- Provided technical and administrative support for the designation of the Scarlet Ibis, and participated in sensitization efforts to promote the Public Comment Period
- Provided technical content to the Corporate Communications Unit for Water Sensitization materials.
- Represented the EMA in the Trinidad and Tobago Bureau of Standards Laboratory Accreditation Committee
- Presented at the Adopt-a-River Conference
- Participated in:
  - i. bpTT Stakeholder consultation development of a sustainable management plan for the fisheries sector in TT
  - ii. Ministry of Planning & Development Implementation Workshop Engagement on implementation of Multilateral Environmental Agreements
  - iii. National Standardization Strategy - Stakeholder Forum
  - iv. Meeting with WRA Presentation on re-structuring on the Water Resources Agency WTC 63/2016 Development of Institutional, Financial and Corporate Governance Frameworks for the Proposed Water Resources Authority
  - v. IMA Symposium Caroni to Pointe a Pierre Conserving our Environment

# PROJECTS

## Recyclable Solid Waste Collection Project (RSWCP aka “iCARE Project”)

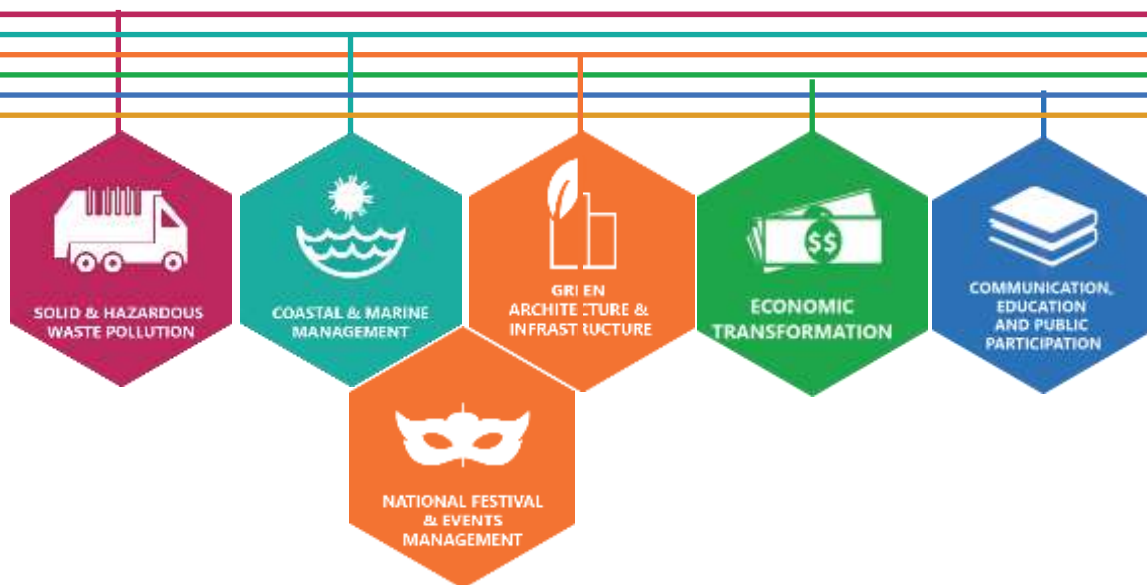
### Collection Sites –

- 90 – Public collection sites maintained in Trinidad
- 26 – Temporary collection sites established projects in Trinidad
- 4 – Temporary collection sites established in Tobago
- 39 – School recycling sites established in Trinidad
- *Waste Diverted –*
- 575,000 bags of recyclable and non-recyclable materials collected [ 265.1% increase from 2017)
- *Education and Outreach –*
- Received 10,746 likes on the iCARE Facebook page.
- 41,650 views of the Google Map of all ICARE collection sites



### ► COLLECTION DEPOTS AND SITES

- Established a contract with SWMCOL to establish and manage three (3) Pilot Collection Depots
- Initiated its school programme aimed at providing recycling bins to all government primary and secondary schools
- Through partnership with the Tobago Festival Commission, made available 30 bins for the collection of recyclable waste from events.



## ► EDUCATION AND OUTREACH

- ICARE promoted the message of recycling at several cultural, religious, trade and sporting events throughout 2018.
- Interviews and promotional messages disseminated through various print, electronic and radio media.
- Conducted a Media Tour at the NAMDEVCO Materials Recovery Facility
- ICARE educational and branded material disseminated to schools
- School sensitization sessions held at Couva East Secondary, San Fernando ASJA Primary, ASJA Boys' College, Biche RC Primary, St. Joseph Convent, St. Joseph, Fyzabad Anglican Primary and Brazil Secondary.
- Public sensitization and data collection events held at popular malls at Trincity Mall, Gulf City Mall and Long Circular Mall.

## ► STAKEHOLDER COLLABORATION

- Thirty-eight (38) NGOs and Community groups identified through a "Call for Strategic Partnership".
- ICARE provided materials and haulage for several clean-up projects by request from stakeholders. These include events facilitated by the Ministry of Agriculture Lands and Fisheries, Ministry of Planning, NGOs, CBOs, Secondary Schools, and the Ocean Conservancy's International Coastal Clean-up (ICC).
- ICARE collaborated on public education events hosted by the Ministry of Agriculture, Lands and Fisheries, as well as the Ministry of Planning and Development.
- Conducted consistent communication with stakeholders including meeting with SWMCOL, NALIS, Rotary Clubs and THA.
- Advertised an Invitation for Bid for metal bins, plastic bins and supply & installation of vinyl stickers on metal bins. Seventeen (17) responses were received for metal bins, thirteen (13) responded to the IFB for plastic bins and ten (10) responded to the IFB for supply and installation of vinyl stickers.



# PROJECTS

## National Restoration, Carbon Sequestration Wildlife and Livelihoods Project (NRCSWLP aka “Nariva Project”)



*Reforestation exercise at Nariva*



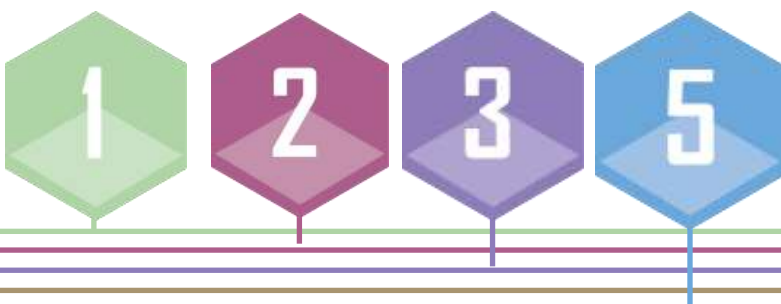
*Ocelot observed by camera trap*

### ► FIRE MANAGEMENT PROGRAMME ACTIVITIES

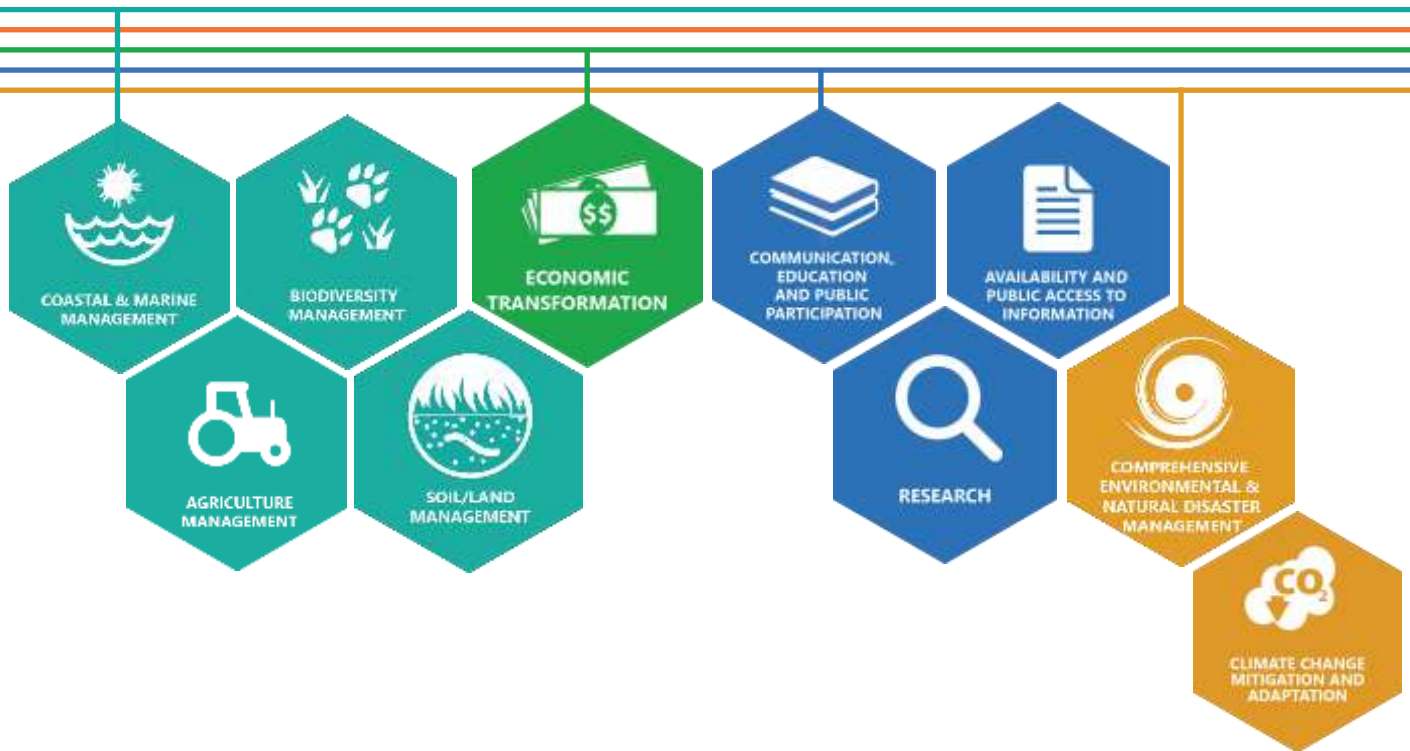
- Thirty-one (31) community members participated in refresher fire warden training with contracts valued at TT\$307,448.00 conducted by the Forestry Division and Trinidad and Tobago Fire Services.
- Fire patrols were executed for a duration of six weeks, from March 26 to May 06, 2018.
- An updated Nariva Fire Management Plan was formulated with contributions from the Forestry Division’s Fire Unit, their Nariva Unit and the Improving Forest and Protected Area Management Project.
- Fire Management program has trained and “up-skilled” 416 persons as fire wardens providing employment opportunities at a cost of TT\$1,642,560.00 from 2013 to 2018.

### ► REFORESTATION ACTIVITIES

- One hundred and thirty-six (136) community members from eleven (11) CBOs participated in the reforestation of 22 hectares by CBOS in degraded rice lands in Block B providing employment opportunities through contracts valued at TT\$860,460.00.
- This effort utilized 9600 saplings of fruit and adapted species such as Water Immortell, Sandbox, Mahoe, Palms, and Balata provided by Forestry Division.
- The NRCSWLP Reforestation program has trained and “up-skilled” 566 persons as field technicians providing employment opportunities at a cost of \$7,936,860.00 from 2010 to 2018.







► **WILDLIFE CONSERVATION ACTIVITIES**

- Camera-trap Surveys conducted in the Nariva and Matura ESAs between March and June 2018.
- Wildlife Conservation groups, Nariva Environmental Trust, St. David Empowerment & Development Organization and Grande Riviere Nature Tour Guide Association were issued contracts amounting to \$417,800.00 employing forty-five (45) community members to lay and retrieve the cameras.
- Refresher field technical training in the execution of camera trap surveys was offered by NRCSWLP’s contractor, the UWI Life Sciences in 2018.
- Over 600 community members were trained as field technicians during the period 2014 to 2018 and they have benefited from employment opportunities valued at \$5,356,840.00.

► **COMMUNICATIONS, EDUCATION, PUBLIC AWARENESS AND TRAINING ACTIVITIES:**

- The NRCSWLP improved stakeholder relations and outreach through public sensitization events for all international observances including: World Wetlands Day and International Day of Forests.
- Collaborative events were undertaken with the Improving Forest and Protected Area Management Project (IFPAMTT) Team, Ministry of Planning and Development and Ministry of Agriculture, Lands and Fisheries, and Fondes Amandes.
- The project hosted a Proposal Writing and Grant Funding Symposium focused on CBOs and Environmental groups.. The program consisted of two panel discussions centered on “Funding and Development” and “Creating Sustainable Projects”. Panelists included the Digicel Foundation, the Green Fund Executing Unit, United Nations Development Program, Sustain TT and the Fondes Amandes Reforestation Project
- NRCSWLP participated at the Latin America and Caribbean Section of the Society for Conservation Biology (LACCB) 2018 conference, themed ‘Rainforest to Reef’; presenting data from the wildlife surveys as one of the key presentations.

# PROJECTS

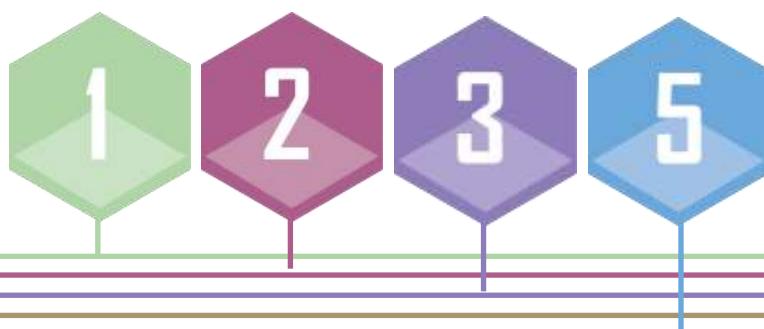
## The Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States (GEF-IWEco Project)

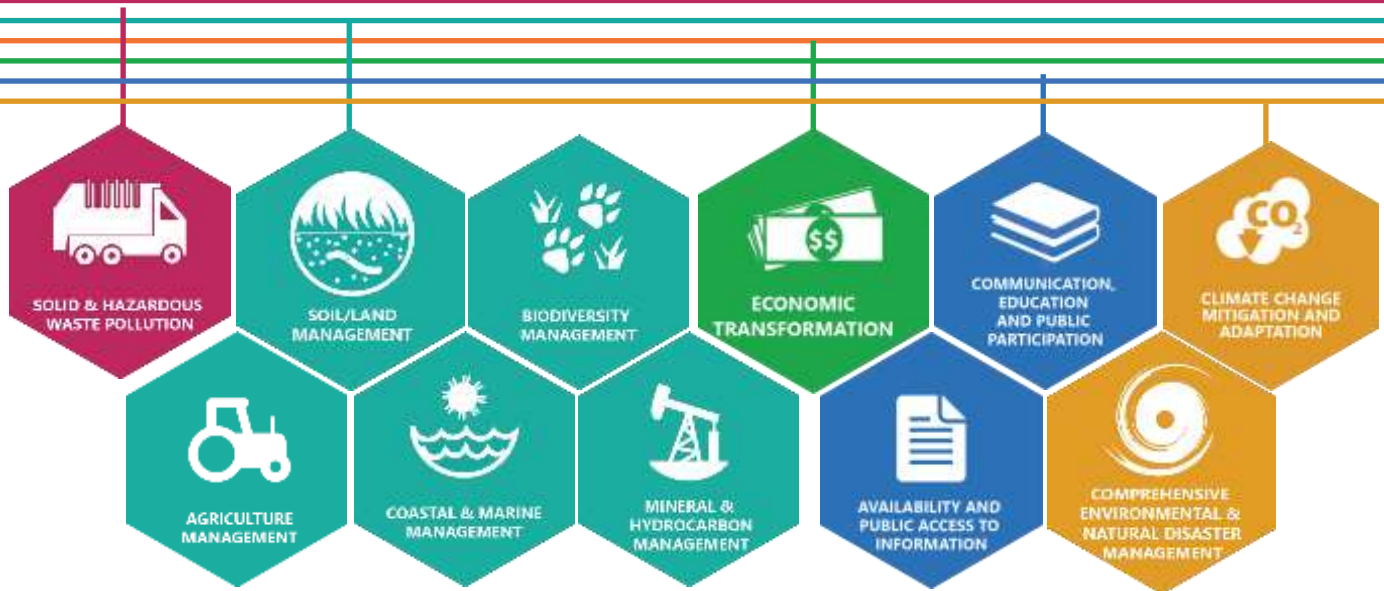


Mr. Jan Betlem, Regional Coordinator, IWEco; Ms. Judy Daniel, Deputy Chairman, EMA; Mr. Hayden Romano, Managing Director, EMA; Ms. Alicia Aquing, Project Manager, EMA and other supporting agencies at the IWEco

### ► QUARRY REHABILITATION CHAMPIONS PROGRAMME

- A MoU between the EMA/IWECO and National Quarries Company Limited (NQCL) for the use of two hectares of degraded quarry pits as pilot sites for demonstration rehabilitation efforts and as a training site for trained quarry rehabilitation champions.
- The programme was launched in September 2018 and involved the training of 27 persons from surrounding communities in quarry rehabilitation as well as in handicraft and crop production and sales.
- A total of 9,000 vetiver plants were installed for soil stabilization; and 200 mixed forest species planted.
- A project nursery was established at NQCL with 100 vetiver seedlings. The nursery is expected to yield a minimum of 4,000 mixed forest species seedlings and has a maximum capacity of 10,000 seedlings.





## ► STAKEHOLDER ENGAGEMENT AND PARTNERSHIPS

- Steering committee established with representatives from the EMA, Ministry of Energy and Energy Industries; Forestry Division (Conservator of Forests); The Commissioner of State Lands; the Ministry of Planning and Development and the Water and Sewerage Authority.
- In May 2018 the GEF-IWECO project was launched with the support of the Global Environment Fund Small Grants Programme (GEF SGP), NQCL, The Trust for Sustainable Livelihoods (SusTrust) and IAMovement. The event attracted over 300 participants who took part in various quarry rehabilitation workshops.
- Education and outreach efforts were held at Guaico, Valencia and Sangre Grande.
- Project sensitization sessions held with quarry sector stakeholders including National Quarries Company Limited; The Quarry Association of Trinidad and Tobago; the Ministry of Agriculture, Land and Fisheries Forestry Division; Land Settlement Agency; Ministry of Energy; GEF SGP Trinidad Office, and Food and Agriculture Organization (FAO); the Trinidad and Tobago Extractive and Transparency Initiative (TTEITI); Readymix Trinidad; Valencia Village Council; Sangre Grande Regional Corporation; Solid Waste Management Company of Trinidad and Tobago (SWMCOL); Caribglass Limited; Carib Brewery and CEPEP.
- Collaborated with the GEF-SGP to award \$USD 43,500 each to IAMovement and the Trust for Sustainable Livelihoods to undertake the livelihoods component of the national project.
- An agreement was negotiated for CEPEP to transport 100 tonnes of waste hops from Carib Brewery to the pilot site between December 2018 and January 2019.

## ► PREPARATION OF RESOURCE MATERIALS

- Reviewed and updated the “Guidelines for Preparation of Rehabilitation Plans” Drafts are expected to be distributed to EMA external stakeholders and project stakeholders for review and consultation before final production and launch in August 2019.
- Commenced the development of updated GIS overlay maps of site progress.

# AIR



47

No. of SER applications received

76

No. of SER Certificates Issued

1

No of Permit applications received

2

No. of Conferences/ Workshops

6

Public Awareness Sessions on APR

2

Representation on External Committees

## ► MAINTENANCE OF AMBIENT AIR QUALITY MONITORING STATIONS

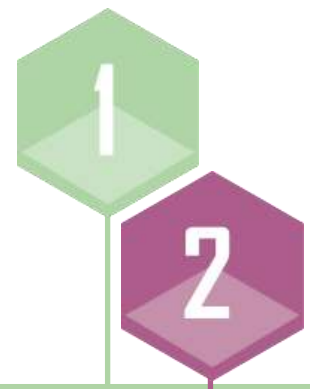
- Installed a third Ambient Air Quality Monitoring Station in Tobago at the Signal Hill Secondary School
- Began the procurement process for a fourth Ambient Air Quality Monitoring Station for installation in South Trinidad
- Acquired Air Quality Index Software for reporting and forecasting purposes and establishment of an integrated network for all stations
- Installed additional analyzers for the third Ambient Air Quality Monitoring Station (Sulfur Dioxide and Oxides of Nitrogen)

## ► EXPANSION OF TRINIDAD AND TOBAGO'S AMBIENT AIR QUALITY MONITORING NETWORK

- Installed a third Ambient Air Quality Monitoring Station in Tobago at the Signal Hill Secondary School
- Began the procurement process for a fourth Ambient Air Quality Monitoring Station for installation in South Trinidad
- Acquired Air Quality Index Software for reporting and forecasting purposes and establishment of an integrated network for all stations
- Installed additional analyzers for the third Ambient Air Quality Monitoring Station (Sulfur Dioxide and Oxides of Nitrogen)

## ► PUBLICATION OF AIR QUALITY DATA FROM AMBIENT AIR QUALITY MONITORING NETWORK

- Developed proposed format for publication of data;
- Conducted trials using EMA's intranet to ensure all issues are addressed prior to being made accessible by the public;
- Posted Air Quality Index data on EMA's website daily.



▶ **PARTICIPATION IN A PROFICIENCY TEST FOR CARBON MONOXIDE**

- In collaboration with the Trinidad and Tobago Bureau of Standards, the Air Unit participated in a project sponsored by the National Metrology Institute of Germany, entitled “Preparatory workshop for an inter comparison of atmospheric pollutants,” in Buenos Aires, Argentina on May 29 - May 31 2018.

▶ **GUIDELINES FOR DEALING WITH SEISMIC VESSELS, DRILL SHIPS, OTHER SHORT TERM ACTIVITIES THAT MAY NOT REQUIRE REGISTRATION AS SOURCE EMITTERS**

- Approved and implemented Guidelines for dealing with seismic vessels, drill ships, other short term activities that may not require Registration as source emitters

▶ **IDENTIFICATION OF FACILITIES FOR PERMITTING**

- Prepared all relevant documents and procedures for the permitting process (Air Pollution Permit Form, Sample Form, Instructional Booklet, Sample Permit and Monitoring Plan),
- Identified facilities for permitting;
- Issued one Notice to Apply for Permit.

▶ **INITIATIVES TO INCREASE SOURCE EMITTER REGISTRATION AND ADDRESSING INCOMPLETE APPLICATIONS**

- Developed strategy to target non-compliant applicants and incomplete applications;
- Conducted five (5) External Sensitization Sessions – Port of Spain, Central, San Fernando, Tobago and AMCHAM’s Committee meeting;
- Issued 35 Notification Letters to Apply for Source Emitter Registration. This resulted in 100% increase in applications from 2017. (Number of SER Applications 2017= 20; Number of SER Applications 2018 = 40)

▶ **FORMALIZE RELATIONSHIPS WITH OTHER COMPETENT TECHNICAL GOVERNMENT AGENCIES**

- Supplemental Memorandums of Understanding were drafted and submitted to the following agencies: Trinidad and Tobago Meteorological Services, Trinidad and Tobago Bureau of Standards and Ministry of Health.

▶ **NATIONAL GREENHOUSE GAS INVENTORY AND CLIMATE CHANGE KNOWLEDGE MANAGEMENT SYSTEM**

- Supported the Nationally Determined Contributions (NDC) Support Programme of the Ministry of Planning and Development by hosting stakeholder workshops on the use of the IPCC guidelines for GHG reporting in the power generation, industrial, waste management and agricultural sectors.
- All technical officers of the Air Unit received training on the use of the 2006 IPCC Guidelines for National GHG Inventories.



# WASTE

## ▶ PROVIDED TECHNICAL SUPPORT IN THE FINALIZATION OF THE DRAFT WASTE MANAGEMENT (REGISTRATION AND PERMITTING) RULES 2018 AND ASSOCIATED FEES SCHEDULES FOR MINISTERIAL APPROVAL

Rules: The Rules were submitted to the Minister in April 2018 who advised the Authority in October 2018 to proceed with the Public Comment procedure. The Administrative Record was prepared and submitted to the Chief Parliamentary Counsel (CPC) in November 2018. The Administrative Record was distributed in December 2018 prior to the start of the public comment period (January 02, 2019).

Fees: The Unit drafted a proposal for the fees schedules which was submitted to the Minister in April 2018.

## ▶ PROCESSED NOTIFICATION DOCUMENTS RECEIVED UNDER THE BASEL CONVENTION

A breakdown of the Notification Documents (NDs) processed in 2018 is as follows:

NDs	Export	Import	Transit	Total
Carried Over from 2017 into 2018	4	0	0	4
Received in 2018	6	7	5	18
Total in Progress in 2018	10	7	5	22
Determined - Consent	9	1	5	15
Determined - Objection	0	0	0	0
Cancelled by Notifier	0	5	0	5
Carried Over from 2018 to 2019	1*	1	0	2
No. of Suspected Cases of Illegal Traffic in 2018	1	0	1	2**

\* This refers to Notification TT0075/2017 received from Shell Trinidad Limited. The requests for consent were issued in August 2018 upon receipt of all requested information from Shell. The Competent Authority of the State of Import (Netherlands) requested further information which is outstanding to date.

\*\* Both cases were referred to the Emergency Response and Investigations Unit. The case of transit was addressed by the Maritime Services Division





## ▶ PROVIDED ASSISTANCE TO UNITS OF THE EMA

### **Preparation of a Bill to give effect to the Basel Convention:**

The Unit prepared and submitted the Technical Background for the Bill to the Legal Services Unit (LSU) in September 2018. The LSU shared the draft Environmental Control (Hazardous and Other Wastes) Act in November 2018 and the Unit returned comments on same. The Unit also provided technical support to the LSU during their review of comments and identification of potential stakeholders who may affect or may be affected by the legislation in December 2018.

The Unit contributed to the preparation of the 2017 Assessment of the State of the Environment (ASOE) Report and liaised with external agencies to obtain data for the report.

## ▶ EXTERNAL PROJECTS AND ASSISTANCE TO EXTERNAL AGENCIES

The Unit continued to represent the EMA on the following projects which were implemented in 2016 and continued in 2018:

BCRC-Caribbean: Development and Implementation of a Sustainable Management Mechanism for POPs in the Caribbean: The Assistant Manager-TS continued to act as the National Project Coordinator with the Technical Officer II as the alternate. The EMA contributed to the development of the draft Integrated Chemicals Management Act under the legal component of this project, as well as to the development of communication products under its communications component.

BCRC-Caribbean: Development of a Minamata Initial Assessment in the Caribbean: This project came to an end in 2018. The EMA provided assistance through the review of reports as necessary.

The EMA, through the Unit, continued support to the Ministry of Planning and Development in meeting obligations and expectations under the Basel Convention, namely:

- i) Preparation of Annual National Reports for 2017 as required under the Convention.
- ii) Represented Trinidad and Tobago on the Expert Working Group on the Technical Guidelines on Transboundary Movements of Electrical and Electronic Waste and Used Electrical and Electronic Equipment at face-to-face meetings in China and Switzerland in January and April respectively. This group was established by the Secretariat to the Basel Convention and the Ministry nominated the EMA as its representative.

# NOISE

## ▶ NOISE VARIATION APPLICATIONS

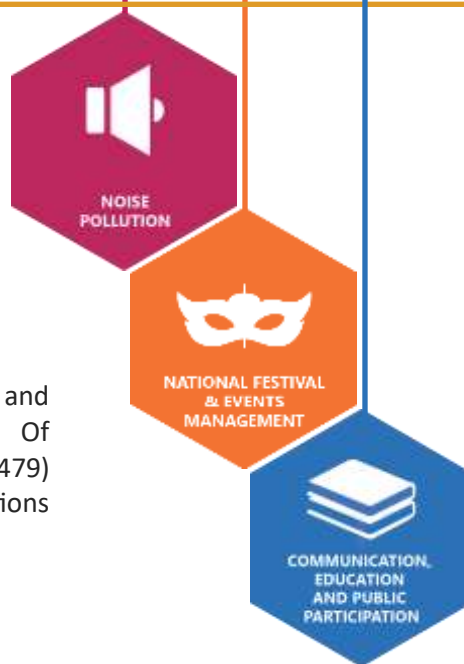
In 2018, the EMA received a total of four hundred and eighty-nine (489) applications for Noise Variations. Of these 489 received, four hundred and seventy-nine (479) Noise Variations were issued, while ten (10) applications were withdrawn or cancelled.

## ▶ STAKEHOLDER ENGAGEMENTS

Participated in preliminary stakeholder discussions with the National Carnival Commission (NCC), to discuss Carnival 2019, and in particular the role of the EMA in noise management.

The EMA met with the newly formed Trinidad and Tobago Promoters Association (TTPA) in July. The economic benefits and cultural aspects of Carnival and noise management of these activities were discussed. The meeting allowed the EMA to explain how targets are determined and the scientific basis that goes into their selection. It was indicated by the TTPA that a paper was being prepared regarding the proposed levels that can be achieved, however, this is still outstanding.

Participated in a Hearing Conservation workshop lead by the Ministry of Health for Officers of the Occupational Health and Safety Authority (OSHA). At this workshop, the EMA conducted demonstrations on noise measurements using a sound pressure level meter.



## ▶ OTHER

The EMA prepared a report entitled 'Legislative Review and Environmental Assessment of Fireworks' for the Joint Select Committee on Social Services and Public Administration's Inquiry into the Adverse Health Effects of Fireworks. This report contained two (2) parts: - Part A presented an analysis of the existing legislative framework in Trinidad and Tobago, and the laws in place in other jurisdictions for the control of fireworks; and Part B presented the findings of a preliminary study on environmental impacts of fireworks discharge on Christmas and Old Year's nights in Port-of-Spain and Chaguanas. The report concluded with recommendations for the control of fireworks in Trinidad and Tobago.

GIS training was conducted for the Unit in July 2018.





# INFORMATION CENTRE



## ▶ CLIENTS

# 1384

Internal & External Clients utilized the Information Centre in 2018

## ▶ ACCESS TO THE INFORMATION CENTRE

Clientele may access the Information Centre via visits, telephone or e-mail. There were 679 visitors, 295 telephone calls and 57 e-mail requests, for 2018. The total external requests (visits, telephone and e-mails) were 901.

Clients used 3028 documents inclusive of periodicals and permits from the National.

## ▶ FREEDOM OF INFORMATION

There were myriad requests from members of the public under the Freedom of Information Act (FOIA). Users made 66 requests for access to official documents under the FOIA.

## ▶ NATIONAL REGISTERS

National Registers allows users access to permit applications:

- Air (Source Emitters),
- Certificate of Environmental Clearance (CEC),
- Noise Variation,
- Source Registration, and
- Water Pollution Permits.

For 2018, the total requests for use of permit applications were 1722. Whilst, there were 759 requests for extracts from these permit applications.

The National Register CEC continued to record the highest rate of access, at 1563. Water Pollution Permits followed at 84; Source Registration was 29, Source Emitters 37 and Noise Variations 9.



# PUBLIC EDUCATION



## ▶ OUTREACH

- Conducted 33 lectures and facilitated 12 exhibitions to a wide variety of audiences covering a range of environmentally-themed topics. Over 2100 persons were reached via these media.
- Hosted a Town Meeting at POS City Hall to sensitise residents and other stakeholders on the role of the EMA in addressing environmental concerns, and also provided a forum for attendees to voice concerns and provide recommendations.
- Meeting held with Port of Spain City Corporation, to implement an awareness and education programme to address specific issues highlighted in National Environmental Literacy Survey conducted in 2016.
- Hosted sensitisation sessions with the Sangre Grande Regional Corporation, Point Fortin Borough Corporation and Chaguanas Borough Corporation to assist aldermen and councillors and other members of the corporations to better understand the role of the EMA and the roles of other agencies in addressing environmental issues

## ▶ HOSTED SCHOOLS' GREEN LEAF AWARDS (GLA) 2018

In 2016, 'Journey to Green Leaf Awards' was introduced to primary and secondary schools involved in the EMA's Environmental Club Programme as a two-year challenge focusing on waste management. Thirteen (13) secondary schools and 7 primary schools participated in the programme.

Biche RC Primary and Naparima Girls' High School emerged as the winners in the primary and secondary school categories respectively and were each presented with a Green Leaf Award on World Environment Day 2018.



*PEU in Action*

## ▶ PUBLIC EDUCATION MATERIAL DEVELOPED

- A table-top wheel to aid in interactive sessions
- A new brochure to guide the public in addressing 'Environmental Complaints'
- Scarlet ibis themed awareness tokens

## ▶ **COMMEMORATIVE ENVIRONMENTAL DAYS**

The EMA continued to collaborate with all stakeholders, including government Ministries, agencies and civil society groups through the observance of environmental days of international significance.

In 2018, these included:

- World Environment Day (WED);
- International Plastic Bag Free Day;
- International Coastal Clean-up;
- International Day of Peace (Tree Planting); and
- International Year of the Reef.



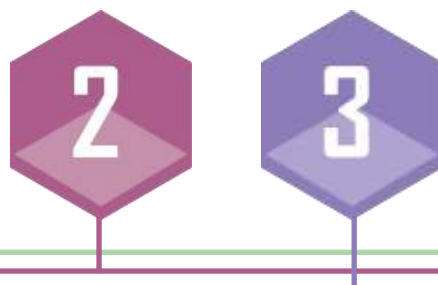
## ▶ **SUPPORT TO OTHER UNITS**

- In addition to educating the public on the CEC Rules, the unit continued to be actively involved in the process by being part of (4) EIA review teams in 2018 and providing feedback on the socio-cultural components, including Social Impact Assessments (SIA) were applicable. Also attended and observed 10 related public consultations.
- Collaborated with the CEC Unit to host sensitisation sessions for Public Health Inspectors (PHIs) in the Ministry of Health.
- Collaborated with the Air Unit to design and host sessions in an effort to increase source registration by the industrial sector.
- Collaborated with the Projects Unit to implement Communication Education Public Awareness activities related to all Green Fund projects.

## ▶ **OTHER COLLABORATIVE EDUCATION AND AWARENESS INITIATIVES**

The PEU worked on at least 4 other collaborative education and awareness initiatives as follows:

- 1) Guidebook on Sustainable Environmental Practices for Marinas and Boatyards in Trinidad and Tobago (Ministry of Trade and Industry and Institute of Marine Affairs)
- 2) Workshop on T&T's implementation of the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (FAO/UN and Fisheries Division)
- 3) Sustainable Fisheries Management Workshop (BPTT)
- 4) Secondary Schools' Climate Change Quiz (Carbon Zero Initiative of Trinidad and Tobago)



# CORPORATE COMMUNICATIONS

30

Internal Newsletters

20

Press Releases



## ► WORKSHOPS AND TRAININGS FACILITATED

### Media Training and Media Workshop for Managers

In April 2018 the EMA facilitated a training workshop for Managers of the EMA with the aim of strengthening the EMA-media relationship.

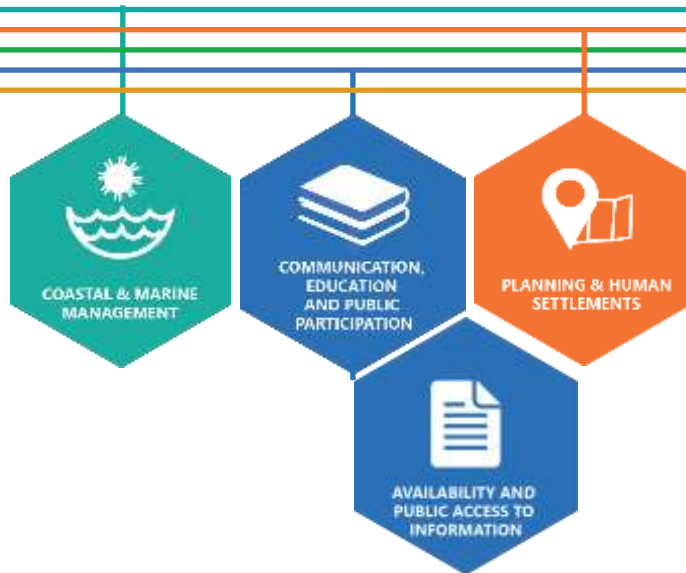
### Environmental Officers Awareness Building Workshop

The workshop was conducted on 10 January 2018 with an aim of improving coordination of activities among government entities to protect and conserve the environment. The workshop focused on strengthening intergovernmental coordination, communication and institutional linkages. Twenty-five (25) participants from fifteen (15) organisations participated.



**CNC3's Akash Samaroo works with EMA Management**





► **STAKEHOLDER COORDINATION AND COLLABORATION**

◦ Environmental Dialogue Series

The first of the EMA’s Environmental Dialogue Series was successfully held on 30 January, 2018 at the POS City Hall. Notable attendees were the Mayor of POS, two Councillors, TTPS, MEEI, IMA, Promoters Association and numerous residents. Discussions centred on noise pollution, however concerns were also raised about air and water pollution from restaurants. The Honourable Mayor indicated his interest in a follow up meeting with the EMA after the Carnival season, to further discuss issues raised.

◦ International Coastal Clean Up 2018

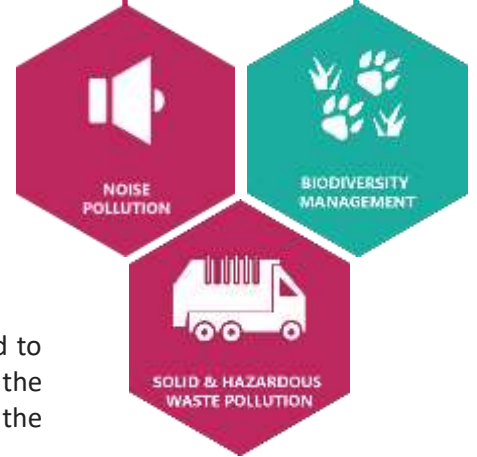
On 15 September 2018, the EMA through the CCU facilitated the clean-up of the Caroni Swamp. The effort involved volunteers from the EMA, Roteract Club of Mt. Hope, Forestry Division and the FAO.



International Coastal Cleanup  
Caroni Swamp  
15th September 2018

Rotaract Club- Mount Hope

# LEGAL SERVICES



► **Fishermen and Friends of the Sea v Environmental Management Authority, Ministry of Works and Transport and Kalco Company Limited [2018] UKPC 24**

As mentioned in Part A of this Annual Report, the matter was appealed to the Privy Council and on October 1<sup>st</sup> 2018 the Privy Council dismissed the appeal and discharged the injunction against proceeding with the construction of the highway.

► **Designation of the Scarlet Ibis as an Environmentally Sensitive Species on 26<sup>th</sup> July, 2018.**

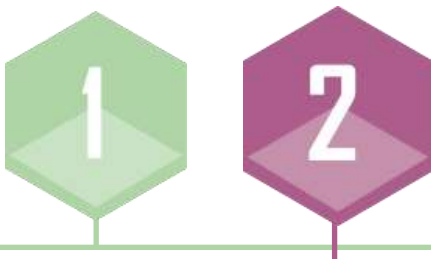
In compliance with Section 27-28 of the Act, the Scarlet Ibis Legal Notice was submitted for public and stakeholder comments. Following the public comments phase, the Legal Services Department engaged in a comprehensive review of the Legal Notice which was placed in final form and Gazetted on 11<sup>th</sup> October, 2018.

► **Draft Waste Management (Registration and Permitting) Rules, 2018**

A brief containing the following documents were submitted to the Technical Advisory Committee of the Board of Directors in April, 2018:

- 1) Final Draft Waste Management (Registration and Permitting) Rules, 2018;
- 2) List of Consequential Appeals and Amendments;
- 3) Technical Brief;
- 4) Fees Proposal; and
- 5) List of Precedents Used.

Based on feedback from stakeholders the draft rules were completed in preparation for the public comment period in early 2019.





## ▶ **LEGISLATIVE POLICY BRIEF ON THE PROPOSED AMENDMENTS TO THE NOISE POLLUTION CONTROL RULES, 2001 (NPCR)**

Recognizing the need to improve the ability of the EMA to regulate noise pollution in Trinidad and Tobago and in view of the need to modernize the enforcement response mechanism under the NPCR, the Legislative Policy Brief was prepared. It is a compendium of the Technical Research and policy recommendations coupled with the Legal Research and recommended amendments flowing from that research. The Legislative Policy Brief is intended for the Minister responsible for the Environment who is tasked with submitting same for Cabinet's consideration while advocating on behalf of the recommendations contained therein.

## ▶ **PIVOTAL AMENDMENT**

The current three (3) hour monitoring period to establish a breach of the NPCR for events for which a Variation was granted is the stymieing of the ability of the EMA to take enforcement action against holders of variations who exceed the level permitted in their variations. This is so because it is impractical for the limited EPU Officers to monitor multiple events on the same night for the required three (3) hours. Critically, the proposed amendments to the NPCR abridges this time to thirty minutes. This would allow the EMA respond to a greater number of noise complaints and so provide relief to more affected stakeholders.

## ▶ **LEGISLATION TO IMPLEMENT THE BASEL CONVENTION IN TRINIDAD AND TOBAGO**

A first draft of the legislation to implement the Basel Convention in Trinidad and Tobago was completed by the Legal Services Department. The objective of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal is to protect human health and the environment against the adverse effects of hazardous wastes through a permitting and control system.

## ▶ **DRAFT WASTE MANAGEMENT (REGISTRATION AND PERMITTING) RULES, 2018**

On June 13, 2018 representatives of Legal Services gave a presentation at a workshop at the Kapok Hotel held by the FAO in partnership with the EMA entitled *'Improving Forest and Protected Area Management in Trinidad and Tobago'*. Participants at this workshop included the Trinidad and Tobago Police Service, Forestry Division, Coast Guard, and Customs Officers. The Legal Officers presented on the Environmental Management Act, enforcement thereof and responded to questions from attendees. Moreover, on June 22, 2018 the Representatives of Legal Services also presented at the Tobago leg of the workshop. The final leg of the series of workshops was held in South Trinidad on August 9, 2018.

Arising from the EMA's presentations to three workshops on improving forests and protected areas an Enforcement Officers Guidebook was crafted. The guidebook was reviewed by the Legal Services Department and our comments recommendations and insertions were incorporated in the final document.

# PERMIT MONITORING & COMPLAINTS



The Permit Monitoring and Complaints Unit is responsible for monitoring the terms and conditions of Certificates of Environmental Clearance (CECs), Water Pollution Permits (WPPs) and Consent Agreements (CAs) based on the Environmental Management Act (EM Act), Chapter 35:05 of 2000, the Certificate of Environmental Clearance Rules, 2001 and Water Pollution Rules, 2001 (as amended) (WPR). As one of the core operational units of the EMA which directly engages external stakeholders regarding environmental management practices, the PMC Unit plays a critical function in improving the EMA’s internal processes, and informing wider national programmes.

## ▶ PERMIT MONITORING AND ENFORCEMENT ACTIVITIES

	Certificates of Environmental Clearance	Water Pollution Permits	Consent Agreements	Total
Site Assessments Conducted	285	30	15	330
Monitoring Reports Assessed	244	318	10	572
Modifications Processed	33	N/A	N/A	33

- The first request for enforcement under the Water Pollution Permit Regime was done by the PMC Unit in May 2018.
- Facilitated meetings between the now-defunct PETROTRIN and other units within the EMA to determine the best way forward regarding monitoring and compliance of permits issued.







## ► UNIT CAPACITY BUILDING

Crafted a Vision and Mission statement for the PMC Unit.

- ◆ Vision - A respected unit with diverse expertise that proactively monitors all permits issued by the EMA.
- ◆ Mission - To foster environmental compliance through auditing, advocacy and communication.

Technical capacity among officers was built through:

- ◆ A SOP for the monitoring of CECs
- ◆ A SOP for the monitoring of WPPs
- ◆ A proofreading checklist was developed for officers to utilize to improve the quality of correspondence leaving the Unit.
- ◆ An extensive and comprehensive procedure for auditing specific sectors which are monitored through CECs. The first sector which was audited was the Water, Sewage and Drainage Sector.

Technical capacity among officers was built through:

- ◆ TTBS Training in ISO/IEC 17025: General Requirements for the Competence of Testing & Calibration Laboratories
- ◆ Participating in the global webinar on “Reforming environmental permits and review systems in El Salvador”
- ◆ GIS Training
- ◆ Training in ISO 9001:2015 Quality Management Systems.
- ◆ Trinidad and Tobago Fire Service’s Fire Safety training.
- ◆ Training workshops on engaging the mass media

# EMERGENCY RESPONSE & INVESTIGATIONS

**25**

Oil Spills/ Chemical Releases

**6**

Animal Death Including fish kills etc.

2018	Total Tickets	Complaints Received	Emergencies Received	Closed Complaints	Closed Emergencies	RFEs
JAN	90	76	9	51	15	8
FEB	79	66	8	57	10	12
MAR	63	48	15	63	8	19
APR	67	60	4	64	8	40
MAY	68	58	8	43	3	2
JUN	104	96	6	42	3	6
JUL	69	55	8	30	2	3
AUG	59	48	6	59	4	5
SEPT	48	44	3	47	4	0
OCT	37	31	6	46	10	14
NOV	47	45	2	24	3	1
DEC	34	22	6	45	1	6



**Testing the SoundPro DL meter in Tobago**



**Official handing over of the SoundPro DL meter**

**Stakeholder Training and Collaboration**

- The Unit routinely met with various regional corporations to have proactive dialogues regarding environmental issues that may arise in their regions
- In September 2018, the unit equipped the Tobago Office with a SoundPro DL meter and provided training to Tobago-based EPU.































# ALIGNMENT OF ACHIEVEMENTS WITH NEP 2018

Protecting Environmental and Human Health through Pollution Control

Sustainably Managing Natural Assets

Improving the Local Environment

Strategy & Research			
Certificate of Environmental Clearance			
Water & GIS			
Projects			
Air			
Waste			
Noise			
Information Centre			
Public Education			
Corporate Communications			
Legal Services			
Permit Monitoring & Complaints			
Emergency Response & Investigations			

Evolving a Greener Economy

Fostering an Environmentally Responsible Society

Addressing Climate Change and Environmental and Natural Disasters



**ALIGNMENT OF  
ACHIEVEMENTS  
WITH EMA  
STRATEGIC PLAN**

The description of each goal is provided in ANNEX I



	i	ii	iii	iv	v	vi	vii	viii	ix	x	xi
<b>Strategy and Research</b>	●		●		●						
<b>Air</b>		●					●		●		
<b>Noise</b>	●			●			●				
<b>Waste</b>	●		●	●		●					
<b>Certificate of Environmental Clearance</b>	●		●		●		●				
<b>Water and GIS</b>	●										
<b>Information Centre</b>											
<b>Public Education</b>											
<b>Corporate Communications</b>			●			●					
<b>Projects: iCARE</b>				●							
<b>Projects: Nariva</b>						●					
<b>Projects: GEF-IWECO</b>						●					
<b>Legal Services</b>	●					●					
<b>Permit Monitoring and Complaints</b>											
<b>Emergency Response and Investigation</b>				●							



2		3			4					5							
i	ii	i	ii	iii	i	ii	iii	iv	v	i	ii	iii	iv	v	vi	vii	viii
●			●	●										●			●
●						●							●				
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# STRATEGIC OBJECTIVES



## To lead and manage environmental integrity in Trinidad and Tobago

- i** Provide clear and precise legislation with input from key stakeholders.
- ii** Protect and improve air quality to minimise any risk to human and ecosystems health.
- iii** Protect and restore the water quality of inland (surface and groundwater) and coastal waters to safeguard the health of humans and ecosystems.
- iv** Protect communities and ecosystems from the health consequences of chemical spills, the unsafe handling and disposal of hazardous and non-hazardous waste.
- v** Provide clear and precise legislation with input from key stakeholders.
- vi** Protect, conserve and/or restore selected ecosystems and species to ensure the biodiversity of Trinidad and Tobago is sustained and ecosystem resilience is built to respond to the impact of climate change

- vii** Protect human health and the natural environment through the timely enforcement of statutes, ensuring compliance with permit and license conditions and the promotion of environmental stewardship.
- viii** Undertake emergency response activities to protect human health and the environment
- ix** Protect human health and the natural environment from the effects of noise and maintenance of the fundamental rights of the individual to enjoyment of property whilst still allowing reasonable social, cultural and economic activity.
- x** Increase fee earning capacity.
- xi** Enhance the CEC process towards promoting the balance between environmental protection and economic development.



## To manage, sustain and leverage strategic alliances and image nationally and internationally.

- i** Engage local, regional and international stakeholders in developing a coordinated approach to environmental protection.
- ii** Advance scientific research, and technological innovation.





**To promote an independent, fair, transparent, efficient, effective and dynamic Authority that places value on employees, clients and citizens.**

- i** Develop more effective and targeted public education programmes.
- ii** Promote and increase opportunities for citizen engagement.
- iii** Foster collaboration between businesses and volunteer groups.



**To support the implementation, management and monitoring of the climate change strategy for Trinidad and Tobago.**

- i** Define the organisational structure.
- ii** Promote efficient time bound processes to improve response to internal and external customers.
- iii** Develop and implement an integrated ICT system
- iv** Strengthen the performance appraisal process to reflect capability and accountability.
- v** Set the Strategic Direction for the EMA.

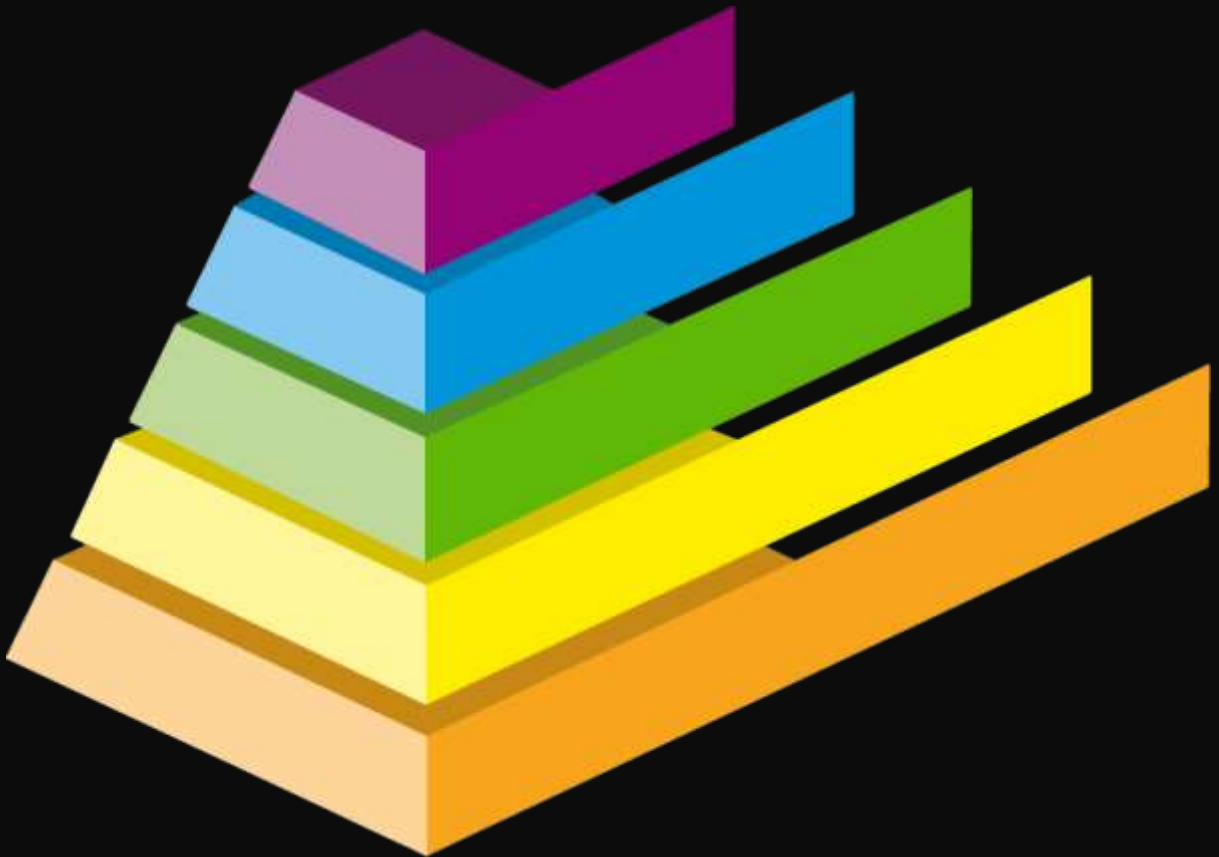


**To educate the public on environmental matters and build a culture of environmental stewardship and ownership.**

- i** Establish and operationalise a Climate Change Programme Unit (CCPU) to support the design, implementation, management and monitoring of the evolving climate change (adaptation and mitigation) programme.
- ii** The Climate Change Programme Unit) working through strategic alliances to engage local, regional and international stakeholders in developing, implementing and regularly updating a coordinated strategic approach to climate change programming
- iii** Support the establishment of the National Climate Change Trust Fund to facilitate direct access to international climate change financing in support of the strategic climate change programme in Trinidad and Tobago, while also ensuring improved access to national strategic partners that cannot access climate change financing through the Green Fund.
- iv** Establish appropriate regulatory mechanisms that are independent, fair, transparent, efficient and effective for the reporting, reduction and control of greenhouse gases.
- v** Establish appropriate mechanisms for: (a) the conservation and effective management of carbon sinks; and (b) the enhancement of ecosystem resilience against the impacts of climate change.
- vi** Facilitate initiatives led by the Ministry of Energy and Energy Industries (MEEI) as it relates to Renewable Energy and Energy Efficiency.
- vii** Develop, enact and implement an appropriate legal framework to give effect to this strategic objective and associated strategies.

# AUDITED FINANCIAL STATEMENTS

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# ENVIRONMENTAL MANAGEMENT AUTHORITY ENVIRONMENTAL TRUST FUND

## Statement of Management's Responsibilities

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Management is responsible for the following:

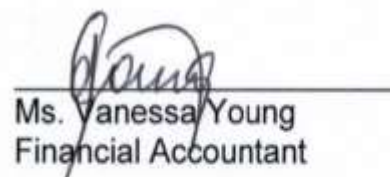
- Preparing and fairly presenting the accompanying financial statements of Environmental Management Authority Environmental Trust Fund ("the Authority"), which comprise the statement of financial position as at September 30, 2018, the statements of income, other comprehensive income, movement in funds and cash flows for the year then ended, and notes, comprising significant accounting policies and other explanatory information;
- Ensuring that the Authority keeps proper accounting records;
- Selecting appropriate accounting policies and applying them in a consistent manner;
- Implementing, monitoring and evaluating the system of internal control that assures security of the Authority's assets, detection/prevention of fraud, and the achievement of the Authority's operational efficiencies;
- Ensuring that the system of internal control operated effectively during the reporting period;
- Producing reliable financial reporting that complies with laws and regulations; and
- Using reasonable and prudent judgement in the determination of estimates.

In preparing these financial statements, management utilised International Financial Reporting Standards, as issued by the International Accounting Standards Board and adopted by the Institute of Chartered Accountants of Trinidad and Tobago. Where International Financial Reporting Standards presented alternative accounting treatments, management chose those considered most appropriate in the circumstances.

Nothing has come to the attention of management to indicate that the Authority will not remain a going concern for the next twelve months from the reporting date, or up to the date the accompanying financial statements have been authorised for issue, if later.

Management affirms that it has carried out its responsibilities as outlined above.

  
\_\_\_\_\_  
Mr. Hayden Romano  
Managing Director  
May 1, 2019

  
\_\_\_\_\_  
Ms. Vanessa Young  
Financial Accountant  
May 1, 2019



## Independent Auditor's Report

### To the Shareholders of Environmental Management Authority Environmental Trust Fund

#### Opinion

We have audited the accompanying financial statements of **Environmental Management Authority Environmental Trust Fund** ("the Authority"), which comprise the statement of financial position as at 30<sup>th</sup> September 2018, and the statement of income, statement of other comprehensive income, statement of movement in funds and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the financial statements present fairly, in all material respects, the financial position of the Authority as at 30<sup>th</sup> September 2018, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRSs).

#### Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Authority in accordance with the ethical requirements that are relevant to our audit of the financial statements in The Republic of Trinidad & Tobago, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with IFRSs, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Authority's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Authority or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Authority's financial reporting process.

#### Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.



**Independent Auditor's Report (cont'd)**

**To the Shareholders of Environmental Management Authority Environmental Trust Fund (cont'd)**

**Auditor's Responsibilities for the Audit of the Financial Statements (cont'd)**

As part of an audit in accordance with ISAs, we exercise professional judgement and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risk of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risk, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omission, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Authority's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Authority to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

**R. RAMDASS & CO.**  
CHAGUANAS  
TRINIDAD W.I.

May 2, 2019

**ENVIRONMENTAL MANAGEMENT AUTHORITY  
ENVIRONMENTAL TRUST FUND**

**Statement of Financial Position**

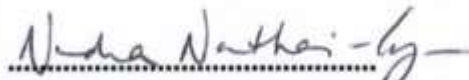
as at September 30, 2018

	<u>Notes</u>	<u>2018</u> \$	<u>2017</u> \$
<b>ASSETS</b>			
<b>Non-current assets</b>			
Property, plant and equipment	7	55,833,437	73,840,490
<b>Total Non-Current Assets</b>		<b>55,833,437</b>	<b>73,840,490</b>
<b>Current assets</b>			
Cash in hand and at bank	4	98,723,452	106,203,261
Short-term investments	5	-	3,164,135
Receivables and prepayments	6	5,239,997	2,092,219
<b>Total Current Assets</b>		<b>103,963,449</b>	<b>111,459,615</b>
<b>Total Assets</b>		<b>159,796,886</b>	<b>185,300,105</b>
<b>FUNDS AND LIABILITIES</b>			
<b>Funds</b>			
GORTT Fund		34,127,223	55,383,387
UNDP Fund		199,131	199,131
IRBD Fund		2,806,990	2,806,990
Other Fund		863,709	863,709
Revaluation reserve		19,815,644	17,982,144
<b>Total Funds</b>		<b>57,812,697</b>	<b>77,235,361</b>
<b>Current liabilities</b>			
Payables and accruals	8	101,984,189	108,064,744
<b>Total Current Liabilities</b>		<b>101,984,189</b>	<b>108,064,744</b>
<b>Total Funds and Liabilities</b>		<b>159,796,886</b>	<b>185,300,105</b>

The accompanying notes form an integral part of these financial statements

On May 1, 2019, the Board of Directors of Environmental Management Authority Environmental Trust Fund authorised these financial statements for issue and signed on its behalf by:

  
.....  
DIRECTOR

  
.....  
DIRECTOR

**ENVIRONMENTAL MANAGEMENT AUTHORITY  
ENVIRONMENTAL TRUST FUND**

**Statement of Income**  
for the year ended September 30, 2018

	Note	2018 \$	2017 \$
<b>Fund Income</b>	12	<b>58,411,257</b>	<b>58,358,481</b>
Less: Project expenses	13	(11,701,436)	(10,532,931)
<b>Income after Project Expenditure</b>		<b>46,709,821</b>	<b>47,825,550</b>
<b>Operating expenses</b>			
Advertising		311,733	335,460
Audit Fees		42,000	34,000
Conference Cost		12,068	11,520
Contract Services		308,218	235,215
Depreciation		2,564,964	2,860,295
Directors' Fees and Expenses		760,000	786,541
Interest and Bank Charges		29,535	57,517
Insurance		400,514	465,770
(Gain)/loss on Foreign Exchange		(10,838)	39,522
Loss on Disposal of Prop. Plant and Equip.		-	64,566
Motor Vehicle		345,635	372,998
Management Fees		33,000	78,000
Office and General		192,105	324,667
Permit and Compliance		372,525	474,926
Legal & Professional Fees		7,051,657	728,681
Reference and Research		263,697	185,016
Rent		3,188,082	3,710,550
Repairs and Maintenance		610,062	629,091
Salaries and Benefits		31,870,251	33,778,895
Security		441,115	482,149
Selection and Recruitment		6,110	32,353
Supplies		829,047	853,196
Training		31,340	115,924
Travel		77,896	110,453
Utilities		1,230,892	1,331,629
<b>Total Operating Expenditure</b>		<b>50,961,608</b>	<b>48,098,934</b>
<b>Operating deficit</b>		<b>(4,251,787)</b>	<b>(273,384)</b>
Loss on Revaluation of land & buildings	7(i)	(17,004,378)	-
<b>Deficit for the year</b>		<b>(21,256,165)</b>	<b>(273,384)</b>

The accompanying notes form an integral part of these financial statements



**ENVIRONMENTAL MANAGEMENT AUTHORITY  
ENVIRONMENTAL TRUST FUND**

**Statement of Other Comprehensive Income  
for the year ended September 30, 2018**

	<u>Note</u>	<u>2018</u> \$	<u>2017</u> \$
<b>Deficit for the year</b>		(21,256,165)	(273,384)
<b>Other Comprehensive Income:</b>			
<i>Items that will not be reclassified to profit or loss:</i>			
Gain on Revaluation of land & buildings	7(i)	1,833,500	-
<b>Other comprehensive income for the year</b>		<b>1,833,500</b>	<b>-</b>
<b>Total comprehensive deficit for the year</b>		<b>(19,422,665)</b>	<b>(273,384)</b>

**ENVIRONMENTAL MANAGEMENT AUTHORITY****ENVIRONMENTAL TRUST FUND****Statement of Movement in Funds**

for the year ended September 30, 2018

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	<b>GORTT Fund</b>	<b>UNDP Fund</b>	<b>IBRD Fund</b>	<b>Other Fund</b>	<b>Revaluation Reserve</b>	<b>Total Funds</b>
	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
<b>Year ended September 30, 2018</b>						
Balance at October 1, 2017	55,383,387	199,131	2,806,990	863,709	17,982,144	77,235,361
Total comprehensive deficit for the year	(21,256,165)	-	-	-	1,833,500	(19,422,665)
<b>Balance at September 30, 2018</b>	<b>34,127,223</b>	<b>199,131</b>	<b>2,806,990</b>	<b>863,709</b>	<b>19,815,644</b>	<b>57,812,697</b>
<b>Year ended September 30, 2017</b>						
Balance at October 1, 2016	55,656,771	199,131	2,806,990	863,709	17,982,144	77,508,745
Total comprehensive deficit for the year	(273,384)	-	-	-	-	(273,384)
<b>Balance at September 30, 2017</b>	<b>55,383,387</b>	<b>199,131</b>	<b>2,806,990</b>	<b>863,709</b>	<b>17,982,144</b>	<b>77,235,361</b>

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The accompanying notes form an integral part of these financial statements

**ENVIRONMENTAL MANAGEMENT AUTHORITY  
ENVIRONMENTAL TRUST FUND**

**Statement of Cash Flows**

for the year ended September 30, 2018

	<u>Notes</u>	<u>2018</u>	<u>2017</u>
		\$	\$
<b>Cash flows from operating activities</b>			
Deficit for the year		(21,256,165)	(273,384)
Adjustments to reconcile net deficit to net cash used in operating activities:			
Depreciation	7	3,125,701	3,526,714
Impairment loss		17,004,378	-
Loss on disposal of property, plant and equipment		-	64,566
(Increase)/decrease in receivables and prepayments		(3,147,778)	1,085,800
Decrease in payables and accruals		(6,080,555)	(25,615,893)
Net cash used in operating activities		<u>(10,354,419)</u>	<u>(21,212,197)</u>
<b>Cash flows from investing activities</b>			
Additions to property, plant and equipment	7	(359,838)	(1,852,772)
Proceeds from disposal of property, plant & equip.		70,313	-
Net cash used in investing activities		<u>(289,525)</u>	<u>(1,852,772)</u>
<b>Net decrease in cash and cash equivalents</b>		<b>(10,643,944)</b>	<b>(23,064,969)</b>
<b>Cash and cash equivalents at beginning of year</b>		<b>109,367,396</b>	<b>132,432,365</b>
<b>Cash and cash equivalents at end of year</b>		<b>98,723,452</b>	<b>109,367,396</b>
<b>Cash and cash equivalents</b>			
Cash in hand and at bank	4	98,723,452	106,203,261
Short-term investments		-	3,164,135
<b>Total cash and cash equivalents</b>		<b>98,723,452</b>	<b>109,367,396</b>

The accompanying notes form an integral part of these financial statements

# ENVIRONMENTAL MANAGEMENT AUTHORITY ENVIRONMENTAL TRUST FUND

## Notes to the Financial Statements

for the year ended September 30, 2018

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### 1. REGISTRATION AND ACTIVITIES

The Environmental Management Authority (the Authority) is a Statutory Authority established when Parliament assented to the Environmental Management Act, 1995 on 7 March 1995. The Authority was established to develop and implement instructional arrangements for the regulation and management of the environment in the Republic of Trinidad and Tobago. Its principal place of operation is at #8 Elizabeth Street, St. Clair.

The Environmental Management Act, 1995 was repealed on 8 March 2000 and replaced by the Environmental Management Act, 2000. The new Act changed the financial year end of the Authority to 30 September.

The Environmental Trust Fund was established by the Environmental Management Act, 1995 to fund the operations of the Authority and is administered by five members of the Board of Directors, designated by the President to act as Trustees.

During the twelve month period ended 30 September 2018, the Authority continued its work in enforcing the Noise Pollution Control Rules, 2001; the Noise Pollution Control (Fees) Regulation 2001; Certificate of Environmental Clearance Rules; the Certificate of Environmental Clearance (Designated Activities) Amendment Order, 2007 & 2008; Certificate of Environmental Clearance (Designated Activities) Order, 2001; the Certificate of Environmental Clearance (Fees and Charges) Regulations, 2001; Water Pollution (Amendment) Rules, 2006; Water Pollution Rules, 2001; Water Pollution (Amendment) Fees; Water Pollution (Fees) Regulations, 2001; the Environmentally Sensitive Areas Rules, 2001; and Environmentally Sensitive Species Rules, 2001; Air Pollution Rules, 2014 and Air Pollution (Fees) Regulations, 2014.

The draft Waste Management Rules, 2008 is still being developed. The Authority has completed its Strategic Plan for the period 2017-2021.

### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

#### a) Basis of preparation

These financial statements are prepared in accordance with International Financial Reporting Standards (IFRS), and are stated in Trinidad and Tobago dollars, rounded to the nearest dollar. The financial statements are prepared under the historical cost convention as modified by the revaluation of land and buildings.

#### b) Cash and cash equivalents

Cash and cash equivalents include cash in hand, deposits held at call with banks and other short-term highly liquid investments with original maturities of three months or less at the time of purchase, which are subject to an insignificant risk of changes in value.

# ENVIRONMENTAL MANAGEMENT AUTHORITY ENVIRONMENTAL TRUST FUND

## Notes to the Financial Statements

for the year ended September 30, 2018

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### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont'd)

#### c) Property, plant and equipment

Land and buildings comprise offices occupied by the Authority and include land purchased for construction of a new office in Trincity. A valuation was completed on these properties by independent valuator G. A. Farrell & Associates Limited. The effective date of the valuation was 30 September 2018 and the value of TT\$44.6 million was determined after consideration and use of one or more of the following approaches: the Direct Sale Comparison Approach; the Income Approach; and the Cost Approach. Land and buildings are stated at historical cost/valuation, less accumulated depreciation and/or accumulated impairment losses. All other property, plant and equipment are stated at historical cost less depreciation. Historical cost include expenditure that is directly attributable to the acquisition of the items.

Subsequent costs are included in the asset's carrying amount recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Authority and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the statement of profit or loss during the financial period in which they are incurred.

Depreciation is calculated on the reducing balance method to write off the cost/valuation of assets to their residual values over their estimated useful lives as follows:

Leasehold improvement	-	10% per annum
Buildings	-	2 - 20% per annum
Furniture and fittings	-	10% per annum
Office and computer equipment	-	20% per annum
Motor vehicles	-	25% per annum
Specialised equipment	-	20% per annum
Library/information	-	10% per annum

Land is not depreciated as it is deemed to have an indefinite life.

The assets' residual values and useful lives are reviewed and adjusted if appropriate, at each statement of financial position date.

Where the carrying amount of an asset is greater than its estimated recoverable amount, it is written down immediately to its recoverable amount.

Gains and losses on disposal of property, plant and equipment are determined by reference to their carrying amounts and are included in the statement of comprehensive income.

# ENVIRONMENTAL MANAGEMENT AUTHORITY ENVIRONMENTAL TRUST FUND

## Notes to the Financial Statements

for the year ended September 30, 2018

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### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont'd)

#### d) Government grants

##### Income and funding

Funding was provided to the Environmental Management Authority Environmental Trust Fund as follows:

- (i) Proceeds of a loan of US\$6.25 million from International Bank for Reconstruction and Development also known as the World Bank (IBRD) to the Government of the Republic of Trinidad and Tobago (GORTT). This loan facility closed on 31 December 2000.
- (ii) Ongoing funding from GORTT to cover recurrent and development programme expenditure. Government Grants are accounted for using the income approach. Under this approach, the grant is recognised in profit or loss on a systematic basis over the period in which the entity recognises as expenses, the related costs for which the grant is intended to compensate.
- (iii) Grant funds are provided by the United Nations Development Programme (UNDP) and United Nations Environment Programme (UNEP) to fund specific activities that are set out in the relevant multilateral agreements. The main projects administered by the Environmental Management Authority Environmental Trust Fund during the financial year ended 30 September 2012 are the Second National Communication to the Convention on Climate Change; Phase V of the Institutional Strengthening Programme for the Phase-out of Ozone Depleting Substances; and phase 11 of the Terminal Management Plan for the Phase-out of CFCs.
- (iv) A Memorandum of Agreement was signed on 20 April 2010 with the Minister of Planning, Housing and the Environment acting on behalf of the GORTT to receive funding from the Green Fund to continue with the Nariva Swamp Restoration, Carbon Sequestration and Livelihoods Project (NSRCSL Project). The project duration is from 20 April 2011 to 31 March 2017. Upon the signing of the agreement, the first tranche of TT\$8.471 million was received. The total amount to be disbursed over the period is TT\$68.545 million. Future disbursements will be made based on approved progress reports.

# ENVIRONMENTAL MANAGEMENT AUTHORITY

## ENVIRONMENTAL TRUST FUND

### Notes to the Financial Statements

for the year ended September 30, 2018

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#### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont'd)

##### d. Government grants (cont'd)

###### Income and funding (cont'd)

- (v) A Memorandum of Agreement (MOA) was signed on 19th June 2015 with the Minister of the Environment and Water Resources acting on behalf of the GORTT to receive funding from the Green Fund to execute the Recyclable Solid Waste Collection Project (RSWCP). The project's initial duration was nine months, with an end date of 29th March 2016. The project has since requested approval for a MOA amendment to June 2020 and is awaiting approval of the revised project plan and budget. Upon the signing of the agreement, the first tranche of TT\$80 million was received by the EMA. The total amount to be disbursed over the period is TT\$107.754 million. Future disbursement will be made based on approved progress report.
- (vi) A Memorandum of Agreement (MOA) was signed on 17<sup>th</sup> September 2013 with the Minister of the Environment and Water Resources acting on behalf of the GORTT to receive funding from the Green Fund to execute the National Beverage Containers Bill Cleanup Project (BCCP). The project duration is from 17<sup>th</sup> September 2013 to 30<sup>th</sup> May 2014. Upon the signing of the agreement, the first tranche of TT\$56.662 million was received. The total amount to be disbursed over the period is TT\$62.329 million. Future disbursements will be made based on approved progress reports.
- (vii) A Memorandum of Agreement (MOA) was signed on 7<sup>th</sup> September 2011 with the Minister of Housing and the Environment acting on behalf of the GORTT to receive funding from the Green Fund to execute the Highway Police Surveillance Bays Project (HPSB Project). The project duration is from 7<sup>th</sup> September 2011 to 30<sup>th</sup> June 2012. Upon the signing of the agreement, the first tranche of TT\$4.818 million was received. The total amount to be disbursed over the period is TT\$9.635 million. Future disbursements will be made based on approved progress reports.

##### e. Foreign currency transactions

The presentation and functional currency of the Authority's financial statements is Trinidad and Tobago Dollars (TT\$). Monetary assets and liabilities denominated in foreign currencies are expressed in Trinidad and Tobago dollars at rates of exchange ruling at the reporting date. All revenue and expenditure transactions denominated in foreign currencies are translated at the rates of exchange ruling at the date of the transaction and the resulting profits and losses on exchange from trading activities are recorded in the statement of income and other comprehensive income.

# ENVIRONMENTAL MANAGEMENT AUTHORITY

## ENVIRONMENTAL TRUST FUND

### Notes to the Financial Statements

for the year ended September 30, 2018

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#### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont'd)

##### f. Trade and other payables

Trade payables are obligations to pay for goods or services that have been acquired in the ordinary course of business from suppliers. Trade payables are classified as current liabilities if payment is due within one year or less (or in the normal operating cycle of the business if longer). If not, they are presented as non-current liabilities. Trade payables and other payables are recognised at fair value.

##### g. Taxation

The authority is exempt from taxation under the Environmental Management Act of 2000, Part V11 Section 76. According to Section 76:-

*'The Fund and the Authority shall be exempted from stamp duty, corporation tax, custom duties, value added taxes, motor vehicle taxes, fees, charges, assessments, levies and imposts on any income or profit or assets which are acquired for use by the Fund or the Authority.'*

##### h. Comparatives

Where necessary, comparative figures are adjusted to conform with changes in presentation in the current year.

##### i. Changes in accounting policies and disclosures

###### *i) New standards, amendments and interpretations adopted by the Authority*

There were no standards or amendments effective for the first time for the financial year beginning on or after 1 October 2017 which had a material impact on the Authority's financial statements.

###### *ii) New standards and interpretations not yet adopted by the Authority*

A number of new standards and amendments to standards and interpretations are effective for annual periods beginning after 1 October 2017, and have not been applied in preparing these financial statements. None of these is expected to have a significant effect on the financial statements of the Authority, except the following set out below:-



# ENVIRONMENTAL MANAGEMENT AUTHORITY

## ENVIRONMENTAL TRUST FUND

### Notes to the Financial Statements

for the year ended September 30, 2018

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#### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont'd)

##### Changes in accounting policies and disclosures (cont'd)

##### New standards and interpretations not yet adopted by the Authority (cont'd)

- IFRS 9, 'Financial instruments', addresses the classification, measurement and recognition of financial assets and financial liabilities. The complete version of IFRS 9 was issued in July 2014. It replaces the guidance in IAS 39 that relates to the classification and measurement of financial instruments. IFRS 9 retains but simplifies the mixed measurement model and establishes three primary measurement categories for financial assets: amortised cost, fair value through OCI and fair value through profit or loss. The basis of classification depends on the entity's business model and the contractual cash flow characteristics of the financial asset. Investments in equity instruments are required to be measured at fair value through profit or loss with the irrevocable option at inception to present changes in fair value in OCI not recycling. There is now a new expected credit losses model that replaces the incurred loss impairment model used in IAS 39. For financial liabilities there were no changes to classification and measurement except for the recognition of changes in own credit risk in other comprehensive income, for liabilities designated at fair value through profit or loss. The standard is effective for accounting periods beginning on or after 1 January 2018. Early adoption is permitted.
- IFRS 15, 'Revenue from contracts with customers' deals with revenue recognition and establishes principles for reporting useful information to users of financial statements about the nature, amount, timing and uncertainty of revenue and cash flows arising from an entity's contracts with customers. Revenue is recognised when a customer obtains control of a good or service and thus has the ability to direct the use and obtain the benefits from the good or service. The standard replaces IAS 18 'Revenue' and IAS 11 'Construction contracts' and related interpretations. The standard is effective for annual periods beginning on or after 1 January 2018 and earlier application is permitted.
- IFRS 16 – Leases (effective 1 January 2019) eliminates the classification of leases as either operating leases or finance leases for a lessee. Instead all leases are treated in a similar way to finance leases applying IAS 17. Leases are 'capitalised' by recognising the present value of the lease payments and showing them either as lease assets (right-of-use assets) or together with property, plant and equipment. If lease payments are made over time, the entity also recognises a financial liability representing its obligation to make future lease payments. The most significant effect of the new requirements will be an increase in lease assets and financial liabilities.

# ENVIRONMENTAL MANAGEMENT AUTHORITY ENVIRONMENTAL TRUST FUND

## Notes to the Financial Statements

for the year ended September 30, 2018

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### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont'd)

#### Changes in accounting policies and disclosures (cont'd)

##### New standards and interpretations not yet adopted by the Authority (cont'd)

Management is currently assessing the impact of these new standards on the financial reporting of the Authority.

There are no other IFRSs or IFRIC interpretations that are not yet effective that would be expected to have a material impact on the Authority's financial statements.

### 3. CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

The preparation of financial statements in accordance with International Financial Reporting Standards requires management to make judgements, estimates and assumptions in the process of applying the Authority's accounting policies.

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The Authority makes estimates and assumptions concerning the future and actual results could differ from those estimates as the resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below:

Changes in accounting estimates are recognised in the statement of profit or loss and other comprehensive income in the period in which the estimate is changed, if the change affects that period only. If the change affects a prior period, the Authority recognises this change in the Statement of Movement of Funds in the current period.

The critical judgements, apart from that involving estimations, which has the most significant effect on the amounts recognised in the financial statements, is as follows:

1. Which depreciation method for building and equipment is used and the useful life.
2. Whether fixed assets are measured at cost or revalued amount.

#### **Contingent liabilities**

Management applies its judgement to the facts and advice it receives from its attorneys, advocates and other advisors in assessing if an obligation is probable, more likely than not or remote. Such judgement is used to determine if the obligation is recognised as a liability or disclosed as a contingent liability.

The key assumption concerning the future and other key sources of estimation uncertainty at the reporting date (requiring management's most difficult, subjective or complex judgements) that has a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year is with respect to building and equipment. Management exercises judgement in determining whether future economic benefits can be derived from expenditures to be capitalised and in estimating the useful lives and residual values of these assets.

**ENVIRONMENTAL MANAGEMENT AUTHORITY  
ENVIRONMENTAL TRUST FUND**

**Notes to the Financial Statements**  
for the year ended September 30, 2018

	<u>2018</u>	<u>2017</u>
	\$	\$
<b>4. CASH IN HAND AND AT BANK</b>		
Petty cash	16,000	16,000
<b>Republic Bank Limited:</b>		
Operating account	9,935,513	2,926,081
US Dollar account	1,022,799	1,312,143
The Green Fund - National Restoration, Carbon Sequestration, Wildlife & Livelihoods Project	2,520,057	5,864,162
The Green Fund - Highway Police Surveillance Bays Project	2,928,677	2,928,977
The Green Fund - National Beverage Containers Bill Cleanup Project	7,280,208	6,650,639
The Green Fund - Recyclable Solid Waste Collection Project	59,813,574	67,283,853
EMA - ETF - Oil Spill Assessment, Remediation and Rehabilitation	12,646,349	13,257,087
VTM card	12,968	15,779
<b>First Citizens Bank Limited:</b>		
Permit account	1,738,877	5,160,865
<b>RBC Royal Bank (T&amp;T) Limited:</b>		
Other projects	243,602	244,212
Biodiversity	12,013	12,508
Biosafety	95,453	95,948
National Capacity Needs Self-Assessment	393,796	394,231
<b>Scotiabank (T&amp;T) Limited:</b>		
Scotia Fleet Card	63,566	40,776
	<b>98,723,452</b>	<b>106,203,261</b>
<b>5. SHORT-TERM INVESTMENTS</b>		
Republic Bank Limited Pooled Bond	-	2,299,053
Trinidad and Tobago Unit Trust Corporation Money Market Fund	-	865,082
	<b>-</b>	<b>3,164,135</b>
<b>6. RECEIVABLES AND PREPAYMENTS</b>		
Accounts receivable	218,514	191,408
VAT receivable	3,140,042	1,426,475
Other receivables	1,633,033	311,904
Prepayments	248,408	162,432
	<b>5,239,997</b>	<b>2,092,219</b>

**ENVIRONMENTAL MANAGEMENT AUTHORITY  
ENVIRONMENTAL TRUST FUND**

**Statement of Financial Position  
for the year ended September 30, 2018**

<b>7. PROPERTY, PLANT AND EQUIPMENT</b>										
	Land & Buildings	Leasehold Imp.	Furniture & Fittings	Office & Comp. Equip.	Motor Vehicle	Specialised Equipment	Library/ Infor.	RSWC Project	NSRCSL Project	Total
	\$	\$	\$							\$
<b>Year ended September 30, 2018</b>										
Cost/valuation	51,056,089	3,622,277	7,677,733	11,288,339	4,365,376	2,687,739	332,331	1,074,940	3,360,961	85,465,785
Accumulated depreciation	(6,456,088)	(1,184,431)	(4,506,829)	(9,705,956)	(3,638,251)	(1,294,524)	(292,535)	(696,012)	(1,857,723)	(29,632,346)
<b>Net book amount</b>	<b>44,600,001</b>	<b>2,437,846</b>	<b>3,170,904</b>	<b>1,582,383</b>	<b>727,125</b>	<b>1,393,215</b>	<b>39,796</b>	<b>378,928</b>	<b>1,503,238</b>	<b>55,833,437</b>
<b>Net Book Amount</b>										
October 1, 2017	60,615,003	2,708,718	3,509,805	1,975,611	1,053,875	1,535,681	44,218	502,570	1,895,009	73,840,490
Additions	46,314	-	12,957	55,381	-	199,862	-	45,324	-	359,838
Revaluation	1,833,500	-	-	-	-	-	-	-	-	1,833,500
Impairment	(17,004,378)	-	-	-	-	-	-	-	-	(17,004,378)
Disposal	-	-	-	-	(70,313)	-	-	-	-	(70,313)
Depreciation charge	(890,438)	(270,872)	(351,858)	(448,609)	(256,437)	(342,328)	(4,422)	(168,966)	(391,771)	(3,125,701)
<b>September 30, 2018</b>	<b>44,600,001</b>	<b>2,437,846</b>	<b>3,170,904</b>	<b>1,582,383</b>	<b>727,125</b>	<b>1,393,215</b>	<b>39,796</b>	<b>378,928</b>	<b>1,503,238</b>	<b>55,833,437</b>
<b>Year ended September 30, 2017</b>										
Cost/valuation	66,180,653	3,622,277	7,664,776	11,232,958	4,565,376	2,487,877	332,331	1,029,616	3,360,961	100,476,825
Accumulated depreciation	(5,565,650)	(913,559)	(4,154,971)	(9,257,347)	(3,511,501)	(952,196)	(288,113)	(527,046)	(1,465,952)	(26,636,334)
<b>Net book amount</b>	<b>60,615,003</b>	<b>2,708,718</b>	<b>3,509,805</b>	<b>1,975,611</b>	<b>1,053,875</b>	<b>1,535,681</b>	<b>44,218</b>	<b>502,570</b>	<b>1,895,009</b>	<b>73,840,490</b>
<b>Net Book Amount</b>										
October 1, 2016	61,424,775	3,009,688	3,872,118	2,202,000	1,405,245	1,918,088	49,131	690,789	1,007,164	75,578,998
Additions	107,538	-	81,768	295,908	-	1,513	-	33,000	1,333,045	1,852,772
Disposal	-	-	(54,547)	(9,950)	(69)	-	-	-	-	(64,566)
Depreciation charge	(917,310)	(300,970)	(389,534)	(512,347)	(351,301)	(383,920)	(4,913)	(221,219)	(445,200)	(3,526,714)
<b>September 30, 2017</b>	<b>60,615,003</b>	<b>2,708,718</b>	<b>3,509,805</b>	<b>1,975,611</b>	<b>1,053,875</b>	<b>1,535,681</b>	<b>44,218</b>	<b>502,570</b>	<b>1,895,009</b>	<b>73,840,490</b>

**ENVIRONMENTAL MANAGEMENT AUTHORITY  
ENVIRONMENTAL TRUST FUND**

**Notes to the Financial Statements  
for the year ended September 30, 2018**

	2018 \$	2017 \$
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**PROPERTY, PLANT AND EQUIPMENT (Cont'd)**

i) Fair value measurement of the Authority's properties.

The Authority's properties (land & buildings) are stated at their revalued amounts, being the fair value at the date of revaluation, less any subsequent accumulated depreciation and subsequent accumulated impairment losses. All four (4) properties were revalued by an independent valuator G. A. Farrell & Associates Limited. Two (2) of the properties recorded a revaluation gain of \$1,833,500 whilst the other two (2) recorded an impairment loss of \$17,004,378 at the date of revaluation. The effective date of the valuations was September 30, 2018 and the accumulated fair value of TTS\$44.6 million was determined after consideration and use of one or more of the following approaches: the Direct Sale Comparison Approach; the Income Approach; and the Cost Approach.

Details of the Authority's properties and information about the fair value hierarchy as at 30 September 2018 and 2017 are as follows:

	Level 1 \$	Level 2 \$	Level 3 \$	Total \$
<b>At 30 September 2018</b>	-	44,600,001	-	44,600,001
<b>At 30 September 2017</b>	-	60,615,003	-	60,615,003

There were no transfers between levels during the year.

ii) If the properties were stated using the historical cost basis, the carrying values would have been as follows:

**Land & buildings**

Cost	48,244,823	48,198,509
Accumulated depreciation/impairment	(20,547,388)	(2,960,103)
<b>Net book amount</b>	<b>27,697,435</b>	<b>45,238,406</b>

**8. PAYABLES AND ACCRUALS**

Accounts payable	1,388,500	1,477,364
Other payables	5,301	5,258
Contingent liability	1,132,827	1,132,827
Accruals	9,319,475	5,962,301
Violations payable	(1,539)	5,027
Ministry of Agriculture Forestry Division:		
National Forestry Inventory	378,455	384,438
National Restoration, Carbon Sequestration, Wildlife and Livelihood Project	4,130,952	7,813,123
Recyclables Solid Waste Collection Project	61,669,954	67,995,926
Highway Police Surveillance Bays	2,927,972	2,928,272
Oil Spill Assessment Remediation and Rehabilitation	12,309,988	13,119,096
National Beverage Container Bill Clean Up Project	7,280,208	6,650,639
IWEco Project	577,545	590,474
UNEP - UNC	259,551	-
NIDCO: TOR for CEC 5345/2017	605,000	-
	<b>101,984,189</b>	<b>108,064,744</b>

**ENVIRONMENTAL MANAGEMENT AUTHORITY  
ENVIRONMENTAL TRUST FUND**

**Notes to the Financial Statements  
for the year ended September 30, 2018**

	<u>2018</u>	<u>2017</u>
	\$	\$

**9. FAIR VALUES**

Fair value is the amount for which an asset could be exchanged, or a liability settled between knowledgeable, willing parties in an arm's length transaction. The existence of published price quotation in an active market is the best evidence for fair value. Where market prices are not available, fair values are estimated using various valuation techniques, including using recent arm's length market transactions between knowledgeable, willing parties, if available; current fair value of another financial instrument that is substantially the same and discounted cash flow analysis.

*Current assets and liabilities*

The carrying amounts of current assets and liabilities are a reasonable approximation of the fair values because of their short-term nature.

**10. RELATED PARTY TRANSACTION**

Parties are considered to be related if one party has the ability to control the other party or exercise significant influence over the other party in making financial decisions.

Key management personnel are those persons having the authority and responsibility for planning, directing and controlling the activities of the Authority.

A number of transactions are entered into with related parties in the normal course of business. These transactions were carried out on commercial terms at market rates.

Balances and transactions with related parties and key management personnel during the year were as follows:

**Other expenses**

Directors' fees	726,000	726,000
Directors' expenses	34,000	60,541
	<u>760,000</u>	<u>786,541</u>
<b>Key management compensation</b>		
Short-term benefits	<u>4,534,376</u>	<u>4,972,665</u>

**11. FINANCIAL RISK MANAGEMENT**

**Financial risk factor**

The Authority's activities are primarily related to the use of financial instruments. The Authority accepts funds mainly from the GORTT and earns interest by investing in short term money market instruments.

**Financial instruments**

The following table summarises the carrying amounts and fair value of the Authority's financial assets and liabilities:

**ENVIRONMENTAL MANAGEMENT AUTHORITY  
ENVIRONMENTAL TRUST FUND**

**Notes to the Financial Statements**  
for the year ended September 30, 2018

**11. FINANCIAL RISK MANAGEMENT (Cont'd)**  
**Financial instruments (cont'd)**

	Financial assets and liabilities \$	Non-financial assets and liabilities \$	Equity \$	Total \$
<b>As at September 30, 2018</b>				
<b>Assets:</b>				
Cash in hand and at bank	98,723,452	-	-	98,723,452
Receivables and prepayments	4,991,589	248,408	-	5,239,997
Property, Plant & Equipment	-	55,833,437	-	55,833,437
<b>Total</b>	<b>103,715,041</b>	<b>56,081,845</b>	<b>-</b>	<b>159,796,886</b>
<b>Liabilities and fund:</b>				
Payables and accruals	101,984,189	-	-	101,984,189
Funds	-	-	37,997,053	37,997,053
Revaluation reserve	-	-	19,815,644	19,815,644
<b>Total</b>	<b>101,984,189</b>	<b>-</b>	<b>57,812,697</b>	<b>159,796,886</b>
<b>As at September 30, 2017</b>				
<b>Assets:</b>				
Cash in hand and at bank	106,203,261	-	-	106,203,261
Short-term investments	3,164,135	-	-	3,164,135
Receivables and prepayments	1,929,787	162,432	-	2,092,219
Property, Plant & Equipment	-	73,840,490	-	73,840,490
<b>Total</b>	<b>111,297,183</b>	<b>74,002,922</b>	<b>-</b>	<b>185,300,105</b>
<b>Liabilities and fund:</b>				
Payables and accruals	108,064,744	-	-	108,064,744
Funds	-	-	59,253,217	59,253,217
Revaluation reserve	-	-	17,982,144	17,982,144
<b>Total</b>	<b>108,064,744</b>	<b>-</b>	<b>77,235,361</b>	<b>185,300,105</b>

**ENVIRONMENTAL MANAGEMENT AUTHORITY  
ENVIRONMENTAL TRUST FUND**

**Notes to the Financial Statements  
for the year ended September 30, 2018**

**11. FINANCIAL RISK MANAGEMENT (Cont'd)**

The Authority is exposed to interest rate risk, credit risk, liquidity risk, currency risk, operational risk, compliance risk and reputation risk arising from the financial instruments that it holds. The risk management policies employed by the Authority to manage these risks are discussed below:

**(a) Interest rate risk**

Interest rate risk is the risk that the value of financial instruments will fluctuate due to changes in market interest rates. The Authority's income and operating cash flows are substantially independent of changes in market interest rates as the Authority has no significant interest bearing assets. The Authority is only exposed to interest rate risk in relation to its savings account held at Republic Bank Limited and First Citizens Bank Limited. As the Authority has no significant variable interest-bearing asset, the Authority's income and operating cash flows are substantially independent of changes in market interest rates.

**(b) Credit risk**

Credit risk arises when a failure by counter parties to discharge their obligations could reduce the amount of future cash inflows from financial assets on hand at the reporting date. The Authority has policies in place to ensure that all amounts due are collected within the specified credit period.

**(c) Liquidity risk**

Liquidity risk is the risk that arises when the maturity of assets and liabilities does not match. An unmatched position potentially enhances profitability, but can also increase the risk of losses. The Authority has procedures with the objective of minimising such losses such as maintaining sufficient cash and other highly liquid current assets.

Liquidity gap

The Authority's exposure to liquidity risk is summarised in the table below which analyses assets and liabilities based on the remaining period from the reporting date to the contractual maturity date:

	On demand \$	Up to 1 year \$	Total \$
<b>As at 30 September 2018:</b>			
<b>Financial assets:</b>			
Cash in hand and at bank	98,723,452	-	98,723,452
Receivables and prepayments	218,514	5,021,483	5,239,997
	98,941,966	5,021,483	103,963,449
<b>Financial liabilities</b>			
Payables and accruals	-	101,984,189	101,984,189
<b>Net liquidity gap</b>	98,941,966	107,005,672	205,947,638



**ENVIRONMENTAL MANAGEMENT AUTHORITY  
ENVIRONMENTAL TRUST FUND**

**Notes to the Financial Statements**  
for the year ended September 30, 2018

**11. FINANCIAL RISK MANAGEMENT (Cont'd)**

	On demand \$	Up to 1 year \$	Total \$
<b>As at 30 September 2017:</b>			
<b>Financial assets:</b>			
Cash in hand and at bank	106,203,261	-	106,203,261
Short-term investments	3,164,135	-	3,164,135
Receivables and prepayments	191,408	1,900,811	2,092,219
	<u>109,558,804</u>	<u>1,900,811</u>	<u>111,459,615</u>
<b>Financial liabilities</b>			
Payables and accruals	-	(108,064,744)	(108,064,744)
<b>Net liquidity gap</b>	<u>109,558,804</u>	<u>(106,163,933)</u>	<u>3,394,871</u>

**(d) Currency risk**

Currency risk is the risk that the value of financial instruments will fluctuate due to changes in foreign exchange rates. Currency risk arises when future commercial transactions and recognised assets and liabilities are denominated in a currency that is not the Authority's measurement currency. The Authority is exposed to foreign exchange risk arising from various currency exposures primarily with respect to the United States Dollars. The Authority's management monitors the exchange rate fluctuations on a continuous basis and acts accordingly.

The Authority had the following significant currency positions:

	USD (TT\$ Equivalent)
<b>As at September 30, 2018</b>	
<b>Assets</b>	
Cash at bank	1,022,799
<b>Total foreign currency assets</b>	<u>1,022,799</u>

	USD (TT\$ Equivalent)
<b>As at September 30, 2017</b>	
<b>Assets</b>	
Cash at bank	1,312,143
<b>Total foreign currency assets</b>	<u>1,312,143</u>

**ENVIRONMENTAL MANAGEMENT AUTHORITY  
ENVIRONMENTAL TRUST FUND**

**Notes to the Financial Statements  
for the year ended September 30, 2018**

	2018	2017
	\$	\$
<b>11. FINANCIAL RISK MANAGEMENT (Cont'd)</b>		
<b>(d) Currency risk (Cont'd)</b>		
<u>Foreign currency sensitivity analysis</u>		
The following table details the sensitivity to a 5% increase and decrease in the Trinidad and Tobago dollar against the US dollar with all other variables held constant. 5% is the sensitivity rate used when reporting foreign currency risk internally to key management personnel and represents management's assessment of the possible change in foreign exchange rates. The sensitivity analysis includes only outstanding foreign currency denominated monetary items.		
If the Trinidad and Tobago dollar strengthens or weakens by 5% against the US dollar the effect would be as follows:		
	<b>US dollar impact</b>	
<b>Effect</b>	<b>7,770</b>	<b>9,941</b>
<b>(e) Operational risk</b>		
Operational risk is the risk derived from deficiencies relating to the Authority's information technology and control systems, as well as the risk of human error and natural disasters. The Authority's systems are evaluated, maintained and upgraded continuously.		
<b>(f) Compliance risk</b>		
Compliance risk is the risk of financial loss, including fines and other penalties, which arise from non-compliance with laws and regulations of the state. The risk is limited to the extent of monitoring controls applied by the Authority.		
<b>(g) Reputation risk</b>		
The risk of loss of reputation arising from the negative publicity relating to the Authority's operations (whether true or false) may result in a reduction in revenue and increase legal cases against the Authority. The Authority applies procedures to minimize this risk.		
<b>12. FUND INCOME</b>		
Government fund	45,278,605	44,886,386
NSRCSL Project Fund	3,679,515	4,574,601
RSWC Project Fund	6,325,972	6,051,688
Activities Income	2,992,485	2,691,368
Interest Income	23,241	41,080
Miscellaneous Income	111,439	113,358
	<b>58,411,257</b>	<b>58,358,481</b>
<b>13. PROJECT EXPENSES</b>		
Project expenses comprise of general expenses incurred by the different projects managed by the Authority.		
<b>Description</b>		
National Restoration, Carbon Sequestration, Wildlife and Livelihoods Project	3,679,515	4,574,816
Pollution Prevention and Control	1,695,949	1,085,814
Recyclable Solid Waste Collection Project	6,325,972	4,870,709
Other	-	1,592
	<b>11,701,436</b>	<b>10,532,931</b>

**ENVIRONMENTAL MANAGEMENT AUTHORITY  
ENVIRONMENTAL TRUST FUND**

**Notes to the Financial Statements  
for the year ended September 30, 2018**

	<u>2018</u>	<u>2017</u>
	\$	\$
<b>14. COMMITMENTS AND CONTINGENCIES</b>		
<i>i) Leasing arrangements commitments</i>		
Operating leases relate to leases of offices and other equipment with lease terms of between 6 months and 5 years. The Authority does not have an option to purchase the leased offices at the expiry of the lease periods.		
No later than 1 year	1,584,000	3,106,538
Later than 1 year and no later than 5 years	-	1,590,000
	<b><u>1,584,000</u></b>	<b><u>4,696,538</u></b>

*ii) Contingent liabilities*

The Authority is currently involved in various legal proceedings arising in the ordinary course of operation which are at various stages of litigation. Provision is made for such matters when, in the opinion of management and its professional advisors, it is probable that a payment will be made by the Authority, and the amount can be reasonably estimated. No provision is made for matters which are premature to determine their outcome and for which no reliable estimate of payment is available.

**15. EVENTS AFTER THE REPORTING DATE**

There are no significant events which occurred after the reporting date affecting the financial performance, position or change therein for the reporting period presented in these financial statements.

## **FINANCIAL ASSISTANCE/OTHER SUPPORT**

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There are no qualifying activities under Section 14 (d) of the EM Act, for the year 2018, however, the EMA is in receipt of funding from external organisations which is processed and accounted for through the Fund.

