



2006 ANNUAL REPORT





Mission Statement

The Environmental Management Authority is committed to protecting and conserving the natural environment to enhance the quality of life by promoting:

- *Environmentally responsible behaviour*
- *Development and enforcement of environmental legislation*
 - *Encouragement of voluntary compliance*
 - *The use of economic and other incentives*

This is to be achieved in an atmosphere of mutual respect, professionalism, accountability, transparency, collaboration and social responsibility.

CHAIRMAN'S MESSAGE



Dr. Allan Bachan
Chairman

For the 2006 reporting period the EMA's Board of Directors operated under the Chairmanship of Dr. John Agard. On behalf of the current Board of Directors it is my pleasure to present the 2006 Annual Report. I am very pleased to say that the EMA conducted its functions, and achieved its objectives set out for the reporting year, according to the Environmental Management Act, Chapter 35:05 and its Strategic Plan for the period 2003-2008. The EMA also continued to meet Government's international obligations while enhancing the legal, regulatory and institutional framework for environmental management.

The EMA continued to deliver significant results in several areas of its mandate in 2006.

In 2006, the Nariva Swamp was finally designated an Environmentally Sensitive Area pursuant to the Environmentally Sensitive Areas Rules, 2001. This was a significant step for the Authority as it could now take enforcement action against anyone who contravened provisions in Legal Notice No. 334 of 2006.

Groundbreaking work also began in 2006 on two other areas, the Main Ridge National Park and Caroni Swamp National Park. The update of the Aripo Savannas Management Plan (1980) project also began in 2006, facilitated by the Caribbean Natural Resources Institute (CANARI) and involved participatory management planning with the Aripo Savannas Stakeholder Management Committee (ASSMC) acting as Project Steering Committee.

The Draft Air Pollution Rules were revised to incorporate public comments and the Administrative Record prepared. These rules were then forwarded to the Minister with responsibility for the Environment for further action. The Authority also began the process of drafting the Waste Management Rules. The EMA also proposed amendments to the Water Pollution Rules and focused its efforts on monitoring the water quality in two recreational areas in Trinidad.

The EMA also remediated lead-contaminated sites to reduce the risk of lead poisoning at Cuchawan Trace, Debe, Demerara Road, Wallerfield and La Chance Trace in north-east Trinidad. The Authority conducted the first ever Hazardous Waste Inventory (HWI) for Trinidad and Tobago, which analyzed and reported on the hazardous waste generated in 2003 as a baseline year. This HWI allowed the Government of Trinidad and Tobago to meet its reporting obligations under the Basel Convention. The results from studies such as this would be used to influence and inform national policy and legislation on the issue of hazardous waste, especially in areas related to their safe handling, transportation, storage and disposal.

The EMA also engaged in collaborative projects and public education and outreach initiatives to sensitize citizens about the effects of global warming and climate change on our small island

developing state. Some of these projects included the publication of a *Disaster Preparedness* magazine, to guide in the development of awareness and readiness plans to deal with disasters and the production of a *Climate Change Handbook for Caribbean Journalists*. The latter being a joint effort between the Mainstreaming Adaptation to Climate Change (MACC) Project, the EMA and the Association of Caribbean Media workers (ACM).

In 2006 the demand on the country's natural resources also continued increasing at an exponential rate, fuelled by the desire for accelerated economic growth. The EMA purposely focused its resources on a few key areas that would have the highest impact on the greatest number of people. These areas were identified in the Strategic Plan as Clean Air, Clean Water, Waste Management, Noise Management and Healthy Ecosystems. In pursuing these priorities, sustainable development must be the basis for our decision-making at every level, including government, industry and the wider civil society. We believe there is an urgent need to consider all environmental factors in the formulation of domestic policies for the development of Trinidad and Tobago.

Recognising that there is much to be done, the Authority remained committed to ensuring the establishment of an integrated environmental management system. The EMA, in consultation with stakeholders, determines priorities and facilitates co-ordination among governmental entities to effectively harmonize activities designed to protect, enhance and conserve the environment. The Authority also continued to develop and effectively implement written laws, policies and other programmes for the conservation and wise use of the environment. Significant accomplishments were made with respect to the drafting of key environmental legislation and public awareness and education programmes necessary to effect good environmental governance. In keeping with the Government's dedication to achieve economic growth in accordance with sound environmental practices, the EMA continued to explore innovative ways to support sustainable development in Trinidad and Tobago.

In delivering on its mandate and meeting its strategic goals and objectives outlined in the 2003-2008 Strategic Plan, the EMA remained committed within the context of a rapidly changing local landscape driven by the Government's economic development agenda.

Dr. Allan Bachan
Chairman
February 2014

TABLE OF CONTENTS

PART A: ASSESSMENT OF THE STATE OF THE ENVIRONMENT	10
EXECUTIVE SUMMARY	11
1.0 INTRODUCTION	12
2.0 SETTING THE STAGE: GENERAL ECONOMIC/DEVELOPMENT PATTERNS IN TRINIDAD AND TOBAGO	13
3.0 FRESHWATER RESOURCES	14
4.0 COASTAL AND MARINE RESOURCES.....	17
5.0 CLIMATE AND AIR.....	26
6.0 NOISE POLLUTION.....	40
7.0 CONCLUSIONS.....	42
8.0 CHALLENGES IDENTIFIED BY THE 2006 ASOE	43
BIBLIOGRAPHY	44
PART B: ACTIVITIES, ACCOMPLISHMENTS & PLANS OF THE EMA	46
Introduction	47
Organisational Structure.....	48
Activities and Accomplishments for 2006	52
Plans for 2007.....	82
APPENDIX 1	86
BOARD OF DIRECTORS	86
BOARD COMMITTEES.....	86
PART C: ENVIRONMENTAL TRUST FUND	87
PART D: OTHER FINANCIAL ASSISTANCE OR SUPPORT	100

LIST OF FIGURES

NO.	TITLE	PAGE
1	Real Percentage GDP Growth at 2000 (constant) Prices for Trinidad and Tobago (1997 – 2006)	13
2	Relative Proportions (%) of Energy and Non-energy Related CEC Applications by Year (2005 & 2006)	14
3	Water Use in Trinidad as a Proportion (%) of Total Water Produced by WASA (2006 estimated)	15
4	Freshwater Abstraction from Different Sources as a Percentage of Total Abstraction in Trinidad and Tobago (2006)	16
5	Domestic Water Demand for Trinidad and Tobago (2006 projected to 2035)	16
6	Projected Water Requirements (MCM/Year) for Agriculture in Trinidad and Tobago to the Year 2025	17
7	Gillnetting Areas Around Trinidad and Tobago	18
8	Line Fishing Areas Around Trinidad and Tobago	19
9	Seining Areas Around Trinidad and Tobago	20
10	Trawling Areas Around Trinidad and Tobago	21
11	Areas in Trinidad and Tobago	22
12	Estimated Annual Landings (Tonnes) by Fleet For the Marine Capture Fisheries in Trinidad and Tobago (1996 – 2006)	23
13	Estimated Annual Landings (Tonnes) for Some Commercially Important Species Groups for the Marine Capture Fisheries in Trinidad and Tobago (1998 – 2006)	24
14	Estimated Annual Landings (Tonnes) From the Marine Capture Fisheries For Some Important Sites Around Trinidad (1998 – 2006)	25
15	Number of Fishers Registered (New Registrants and Renewals) in Trinidad and Tobago (2001 – 2006)	26
16	Number of Fishing Vessels Registered (New Boats and Transfers to New Owners) in Trinidad and Tobago (2001 – 2006)	27
17	Importation of Chlorofluorocarbons (Tonnes) in Trinidad and Tobago (2001 – 2006)	28
18	Number of Motor Vehicles on Register in Trinidad and Tobago (1995 – 2006)	30
19	Mean Air Temperatures (°C) at Piarco, Trinidad and Crown Point, Tobago (2006)	30
20	Mean Annual Air Temperatures (°C) at Piarco, Trinidad (1975 – 2006)	31
21	Mean Annual Air Temperatures (°C) in Trinidad (1975-2006)	31
22	Total Annual Rainfall (mm) in Trinidad and Tobago (2006)	32
23	Total Annual Rainfall (mm) at Piarco Trinidad (1975 to 2006)	33
24	Predicted Annual Mean Sea Level (m) in Port of Spain Trinidad for the First Half of the 21 st Century	35
25	Location of the EMA Air Quality Monitoring Station in Relation to the Point Lisas Industrial Estate	36

26	Ambient Atmospheric Concentration ($\mu\text{g}/\text{m}^3$) of Ozone in the Point Lisas Areas for 2005 and 2006 by Quarter	37
27	Ambient Atmospheric Concentration ($\mu\text{g}/\text{m}^3$) of Nitrogen Dioxide in the Point Lisas Areas for 2005 and 2006 by Quarter	38
28	Ambient Atmospheric Concentration ($\mu\text{g}/\text{m}^3$) of Sulphur Dioxide in the Point Lisas Areas for 2005 and 2006 by Quarter	38
29	Ambient Atmospheric Concentration ($\mu\text{g}/\text{m}^3$) of Carbon Monoxide in the Point Lisas Areas for 2005 and 2006 by Quarter	39
30	Ambient Atmospheric Concentration ($\mu\text{g}/\text{m}^3$) of Particulate Matter in the Point Lisas Areas for 2006 by Quarter	39
31	Number of Noise Complaints Received by the EMA for Trinidad and Tobago (1995 - 2006)	40
32	Noise Complaints Received on a Monthly Basis in Trinidad and Tobago (2006)	41
33	Noise Variation Applications for Events in Trinidad and Tobago (2006)	42

ACRONYMS

ASOE	Assessment of the State of the Environment
°C	Degrees Celsius
CEC	Certificate of Environmental Clearance
CFCs	Chlorofluorocarbons
CH₄	Methane
cm	Centimetre
CO	Carbon Monoxide
CO₂	Carbon Dioxide
CPUE	Catch Per Unit Effort
CSO	Central Statistical Office
DAPRs	Draft Air Pollution Rules
DPPA	Direct Private Party Action
EAA	Environmental Application
EAP	Environmental Appeal
EMA	Environmental Management Authority
EM Act	Environmental Management Act, Ch 35:05
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GORTT	Government of the Republic of Trinidad and Tobago
HFCs	Hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
km²	Square Kilometre
m³/day	Cubic metres per day
µG/m³	Micro-grams per cubic metre

MCM	Million Cubic Metres
ML/day	Million liters per day
mm	Millimetre
NEP	National Environmental Policy (2006)
NO	Nitrogen Monoxide
N₂O	Nitrous Oxide
NO_x	Nitrogen Oxides
NO₂	Nitrogen Dioxide
NPCRs	Noise Pollution Control Rules
O₃	Ozone
PFCs	Perfluorocarbons
PM₁₀	Particulate Matter (10 micrometers or less)
SIDS	Small Island Developing States
SO₂	Sulphur Dioxide
SF₆	Sulphur Hexafluoride
US EPA	United States Environmental Protection Agency
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WASA	Water and Sewerage Authority of Trinidad and Tobago
WPRs	Water Pollution Rules
WRI	World Resources Institute

PART A: ASSESSMENT OF THE STATE OF THE ENVIRONMENT

EXECUTIVE SUMMARY

Available environmental datasets for Trinidad and Tobago for the year 2006 indicate that, in general, many of the trends noted in the 2004 and 2005 Assessments of the State of the Environment appear to have remained unchanged, and that the state of the environment in the country is generally deteriorating on account of human activities and influences.

There are some notably positive steps such as successful efforts to continue to phase out the use of ozone-depleting substances; the continued operation of an ambient air quality monitoring station in the Point Lisas Industrial Estate to track air pollution patterns; and efforts to designate environmentally sensitive areas and species so as to protect biodiversity and human livelihoods. However, there are signs of rapid and sustained intensification of both consumption and conversion patterns locally. The drafting, implementation and enforcement of environmental legislation over the 2006 period did not progress to the extent envisaged. Further, many of the measures outlined by the National Environmental Policy (2006) were only at an embryonic stage.

It is now well established and understood that as a small island developing State, Trinidad and Tobago is especially vulnerable to changes in the environment – whether from sea level rise, a reduction in the availability of freshwater, extensive and intensive flooding patterns, or a number of other effects which often work in combination.¹

If the country is to continue to sustain its economic growth, while at the same time ensuring that the natural environment and consequent human well-being are not compromised as a result, a more concerted effort at all levels within society is required.

The 2006 Assessment of the State of the Environment has identified the need for several future work plans or fundamental needs that would facilitate the Environmental Management Authority in discharging its statutory obligations. These include law enforcement, implementation of legislation, investing in resources, promoting efficiency in the use of both freshwater and energy and proper disposal of garbage, widening environmental datasets and more extensive monitoring of the environment.

¹ Small Island Developing States (SIDS) share similar sustainable development challenges, including small population, lack of resources, remoteness, susceptibility to natural disasters, excessive dependence on international trade and vulnerability to global developments. In addition, they suffer from lack of economies of scale, high transportation and communication costs, and costly public administration and infrastructure. A feature of SIDS is that they are so small that they are vulnerable to global developments regardless of the measures they implement within their territories.

1.0 INTRODUCTION

The 2005 Assessment of the State of Environment (ASOE) was a marked departure from previous ASOEs because it was the first attempt by the Environmental Management Authority (EMA) to produce a comprehensive, in-depth, simultaneous analysis of several aspects of the environment in Trinidad and Tobago - including atmosphere; land, coasts and oceans; inland waters; biodiversity; and economy, industry and resource use. Previous ASOEs, which focused on either specific environmental issues (air, water, noise etc.) or were based on specialized studies such as the environmental vulnerability index and the Northern Range Assessment, were very important in providing key environmental information, and in helping to raise awareness about a wide range of issues from year to year. In preparation for the 2005 ASOE it was felt that the focus should not be on one issue, or one area of the country, but should include as many environmental datasets as relevant to paint a picture of the state of Trinidad and Tobago's environment, and to measure environmental performance in the country.

While the new approach to ASOE production introduced in the 2005 report is favorable for many reasons, its production was extremely lengthy because of its intensive data gathering phase. The 2005 ASOE took four years to produce. In order to produce more timely reports, the current (2006) ASOE utilizes available data and information for 2006 to record whether certain environmental trends persist, or whether there are changes worth noting.

The report is divided into the following sections:

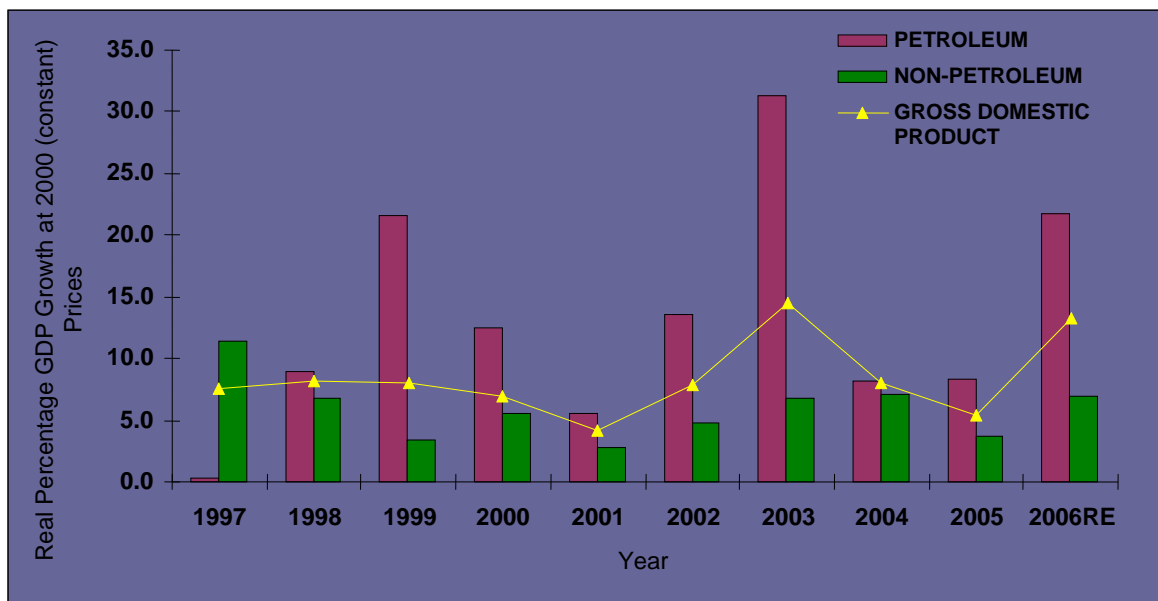
- Setting the stage: general economic/development patterns in Trinidad and Tobago – this section provides an overview to facilitate an understanding of economic and infrastructural development in Trinidad and Tobago in 2006.
- Freshwater resources – this section considers the supply and demand of fresh water and any attendant environmental impacts.
- Coastal/marine resources – this section updates some of the data and information on fisheries presented in the 2005 ASOE.
- Climate change and air – this section examines selected trends in ozone-depleting substances, climate-related data and information on air pollution.
- Noise – this section focuses on selected noise pollution datasets collected by the EMA under the Noise Pollution Control Rules, 2001 (NPCRs).
- Concluding remarks.

2.0 SETTING THE STAGE: GENERAL ECONOMIC/DEVELOPMENT PATTERNS IN TRINIDAD AND TOBAGO

The 2005 ASOE presented an in-depth explanation and assessment of the economic issues in Trinidad and Tobago, which influence many of the changes that are currently being observed in the environment. One of the main driving forces addressed is the rapid economic growth being experienced in the country due to the expansion of the energy sector. This trend continued in 2006.

Data from the Central Statistical Office (CSO) for 2006, shown in Figure 1, illustrate that there was an increase in the percentage Gross Domestic Product (GDP) growth in Trinidad and Tobago between 2005 and 2006, with petroleum GDP accounting for the largest proportion of this increase. It should be noted however, that between 2005 and 2006, there was also an increase in non-petroleum related GDP.

FIGURE 1: REAL PERCENTAGE GDP GROWTH AT 2000 (CONSTANT) PRICES FOR TRINIDAD AND TOBAGO (1997 – 2006)



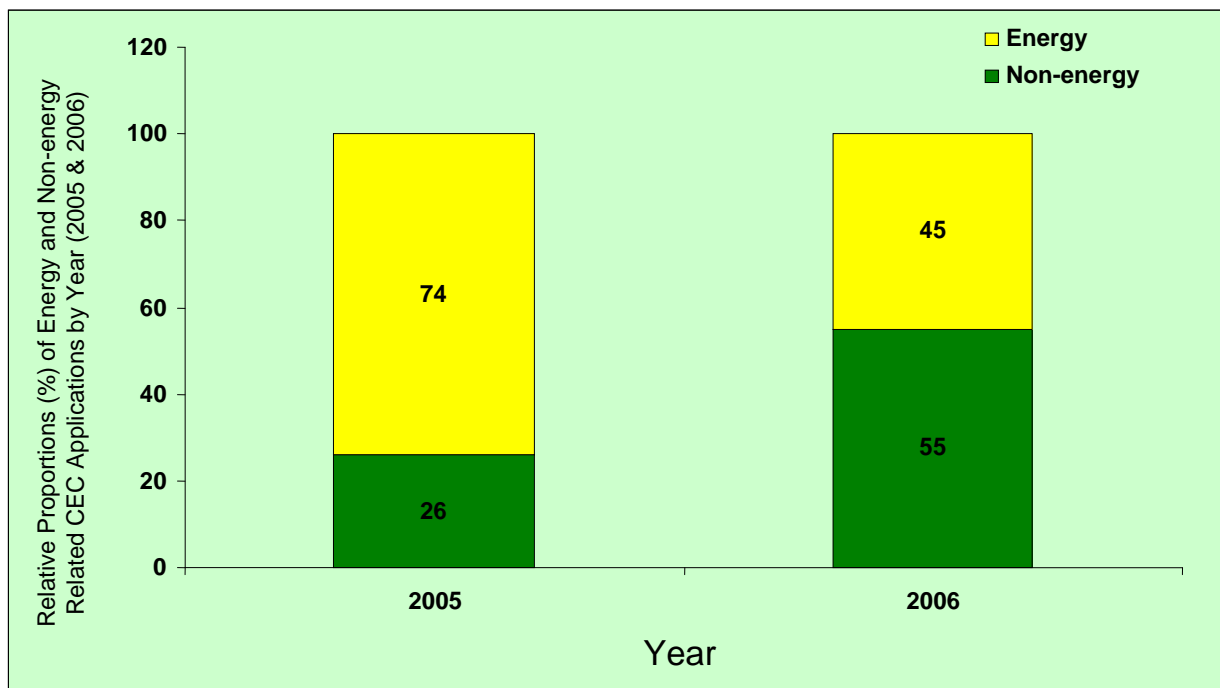
Source: CSO, 2009
RE – revised estimate

It is widely accepted that industrial development, if not properly managed, can produce exceedingly adverse effects upon the environment. Under the Environmental Management Act, Chapter 35:05 (EM Act), the EMA is the body charged with the responsibility to oversee management of the environment in the context of sustainable development and to take appropriate precautionary measures to prevent serious and irreversible damage to the

environment. One of the avenues through which the EMA discharges its responsibilities is through the Certificate of Environmental Clearance (CEC) process.

For the periods 2005 and 2006, there was an increase in the proportion of non-energy related CEC applications compared with energy related CEC applications (Figure 2), and the total number of CECs increased from 382 in 2005 to 441 in 2006. Accordingly, the number of CECs, which is linked to infrastructural and other development patterns, can provide an indicator of economic growth. The increase in applications from designated activities outside the energy sector in 2006 ranged from small-scale chicken farms to cross-country highway expansion programmes.

FIGURE 2: RELATIVE PROPORTIONS (%) OF ENERGY AND NON-ENERGY-RELATED CEC APPLICATIONS BY YEAR (2005 & 2006)



Source: EMA, 2009

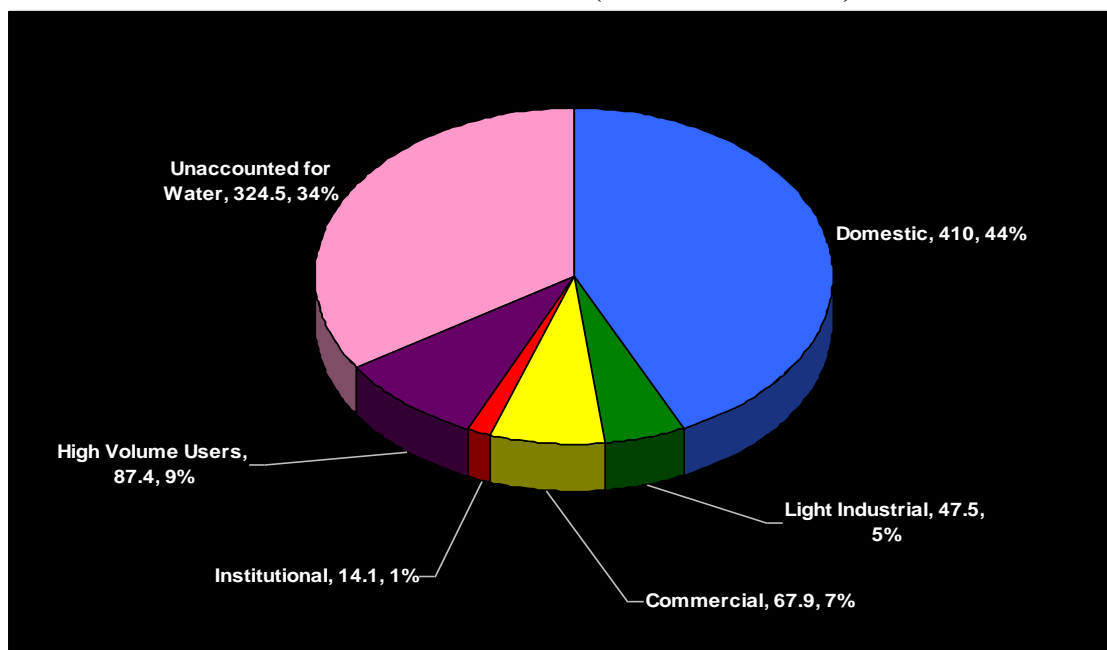
3.0 FRESHWATER RESOURCES

Previous ASOEs (principally the 1998, 2004 and 2005 reports) have recorded that the freshwater resources of Trinidad and Tobago have been declining concomitant with an increased demand for freshwater. The decline in freshwater sources can be attributed to reductions in quantity due almost exclusively to anthropogenic (human induced) activities, including watershed destruction. Although the Intergovernmental Panel on Climate Change (IPCC)

projects that climate change and climate variability will have an impact on global freshwater resources, there is insufficient evidence at this time to support any of the linkages between climate change and local freshwater provision from natural sources in Trinidad and Tobago.

Figure 3 shows estimated values for water used in Trinidad by different sectors during 2006, as a proportion of the total water produced by the Water and Sewerage Authority (WASA) in that year. According to these figures, domestic water usage accounted for the highest percentage in 2006 (44%) and unaccounted for water (or water lost during transmission) accounted for the second highest (34%).

FIGURE 3: WATER USE IN TRINIDAD AS A PROPORTION (%) OF TOTAL WATER PRODUCED BY WASA (2006 ESTIMATED)



Source: WASA, 2008

Unit for water use – ML/day

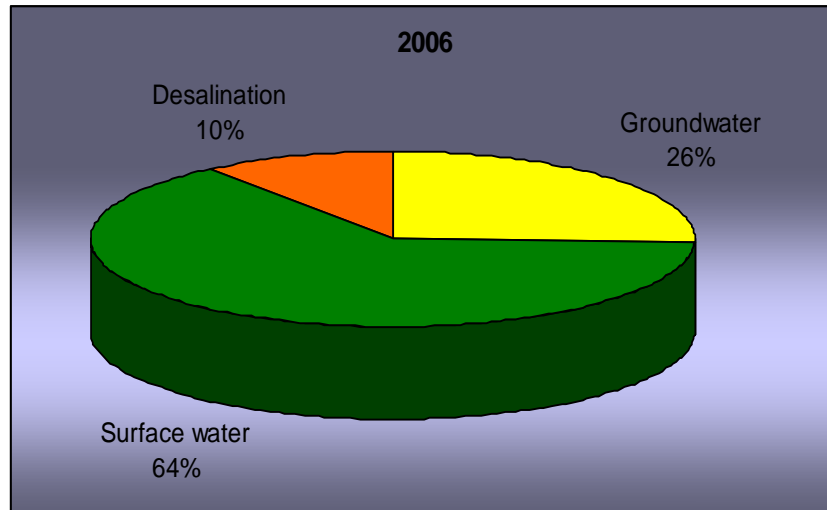
NB: High volume users are industries which have consumption greater than 1,000 m³ /day

To meet Trinidad and Tobago’s water needs, freshwater is drawn from three main sources – surface water (rivers, streams etc.), groundwater and desalination. Figure 4 shows the relative volumes of water abstracted by WASA in 2006 from each of these sources. What is clear from this figure is that most of WASA’s water is derived from natural freshwater sources (surface and groundwater) which collectively account for 90% of the total.

With demand levels in the country expected to continue to increase (Figures 5 & 6), and conversion of some natural watersheds due to development activities (such as housing, quarrying, agriculture), there is a high possibility that there will be a shortfall in the availability

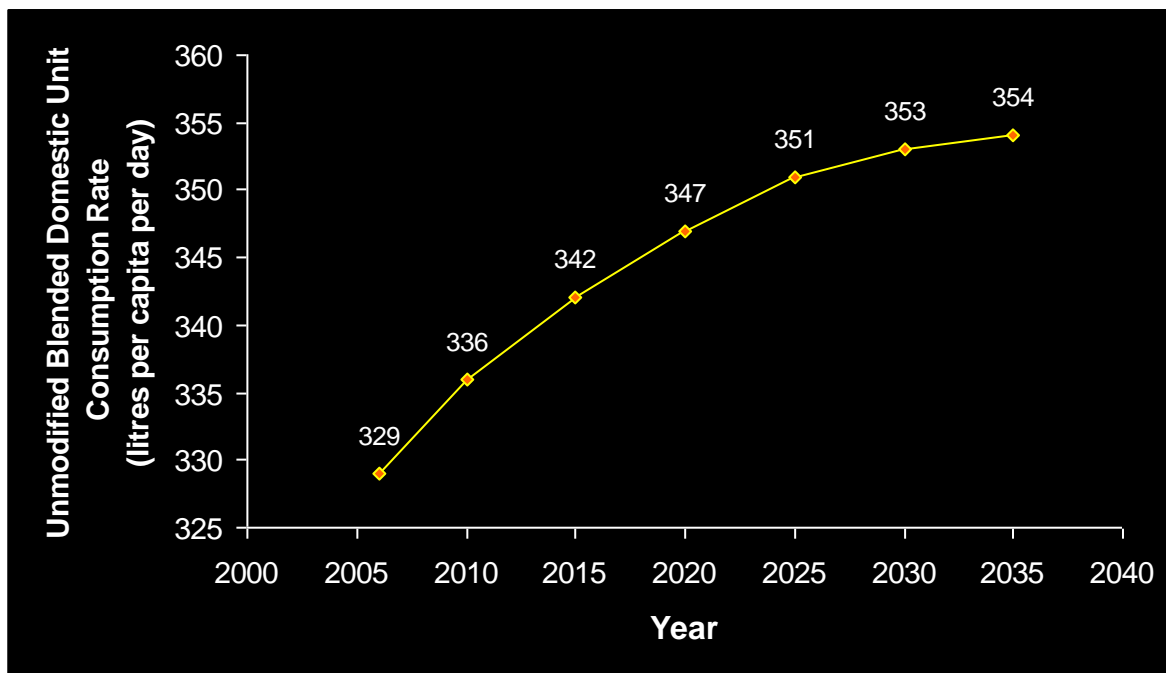
of water if corrective action is not taken, particularly with respect to a reduction in the high proportion of water that is unaccounted for in the system.

FIGURE 4: FRESHWATER ABSTRACTION FROM DIFFERENT SOURCES AS A PERCENTAGE OF TOTAL ABSTRACTION IN TRINIDAD AND TOBAGO (2006)



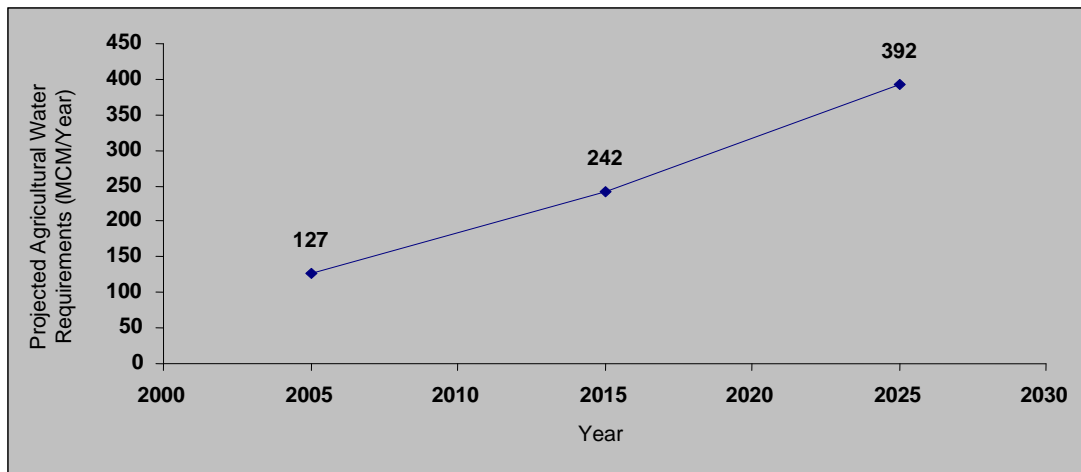
Source: WASA, 2008

FIGURE 5: DOMESTIC WATER DEMAND FOR TRINIDAD AND TOBAGO (2006 PROJECTED TO 2035)



Source: WASA, 2008

FIGURE 6: PROJECTED WATER REQUIREMENTS (MCM/YEAR) FOR AGRICULTURE IN TRINIDAD AND TOBAGO TO THE YEAR 2025



Source: WASA, 2008

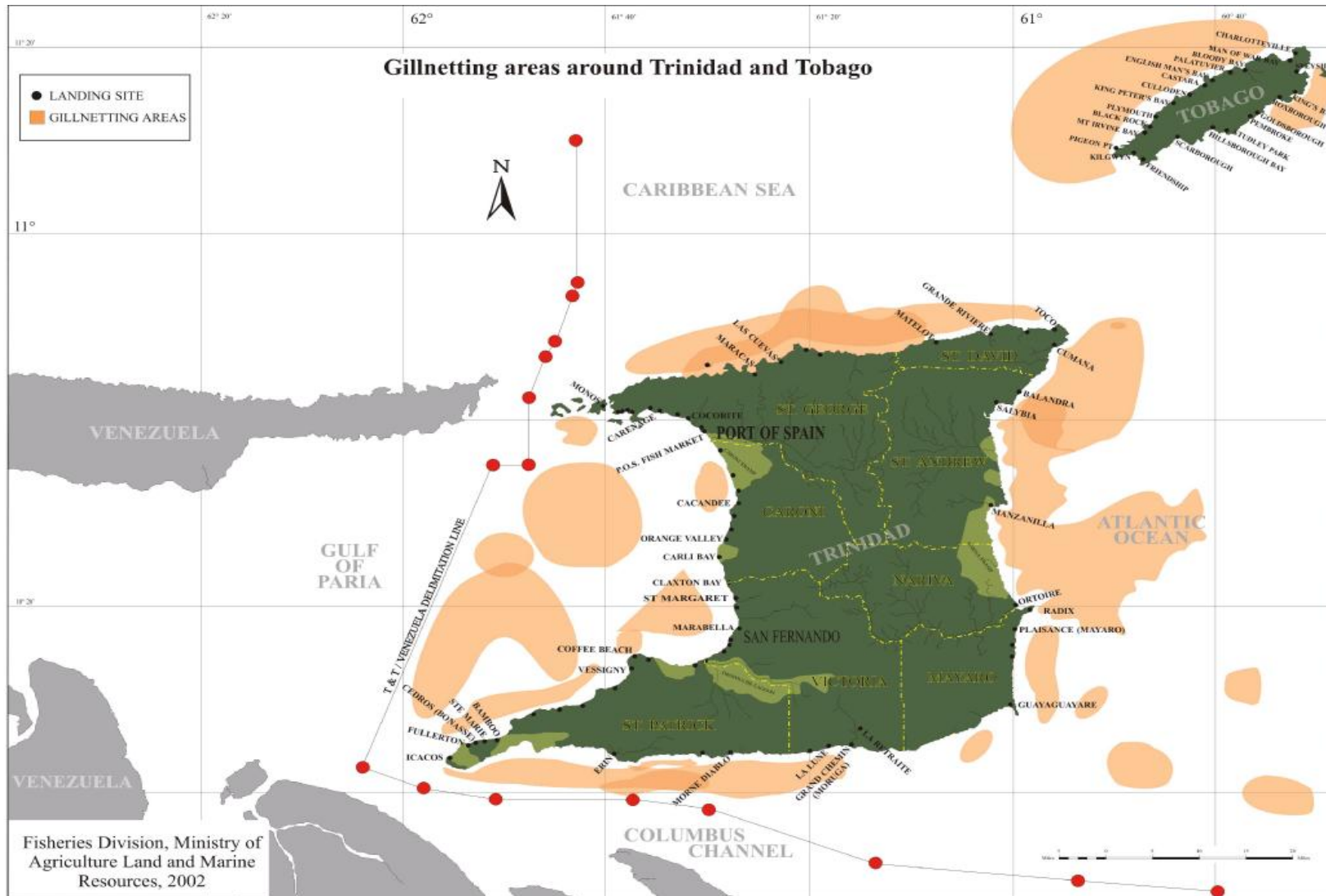
As at 2006, no national system had yet been implemented for monitoring water pollution in key watersheds and water bodies (especially rivers) throughout Trinidad and Tobago. Up-to-date data on freshwater pollution remain relatively scarce, and published reports and articles continue to refer to studies on watershed and river quality from 1997 (EMA, 1997), 1999 (DHV Consultants BV, 1999), and a number of one-off studies over the years. There were no significant water quality studies undertaken in 2006 on which a proper assessment of trends in water quality in T&T could be made. However, based on trends established from past ASOEs, the increase in development activities throughout the country, and in the absence of mitigation measures, it cannot be precluded that raw freshwater quality in many areas throughout Trinidad and Tobago has continued to decrease.

Notably, the Water Pollution Rules, 2001 (WPRs), which were amended in 2006, had not yet come into force by the end of 2006. Consequently, during 2006 the EMA had no jurisdiction over the control of pollutants from point sources in order to mitigate any harmful effects on the environment and/or human health.

4.0 COASTAL AND MARINE RESOURCES

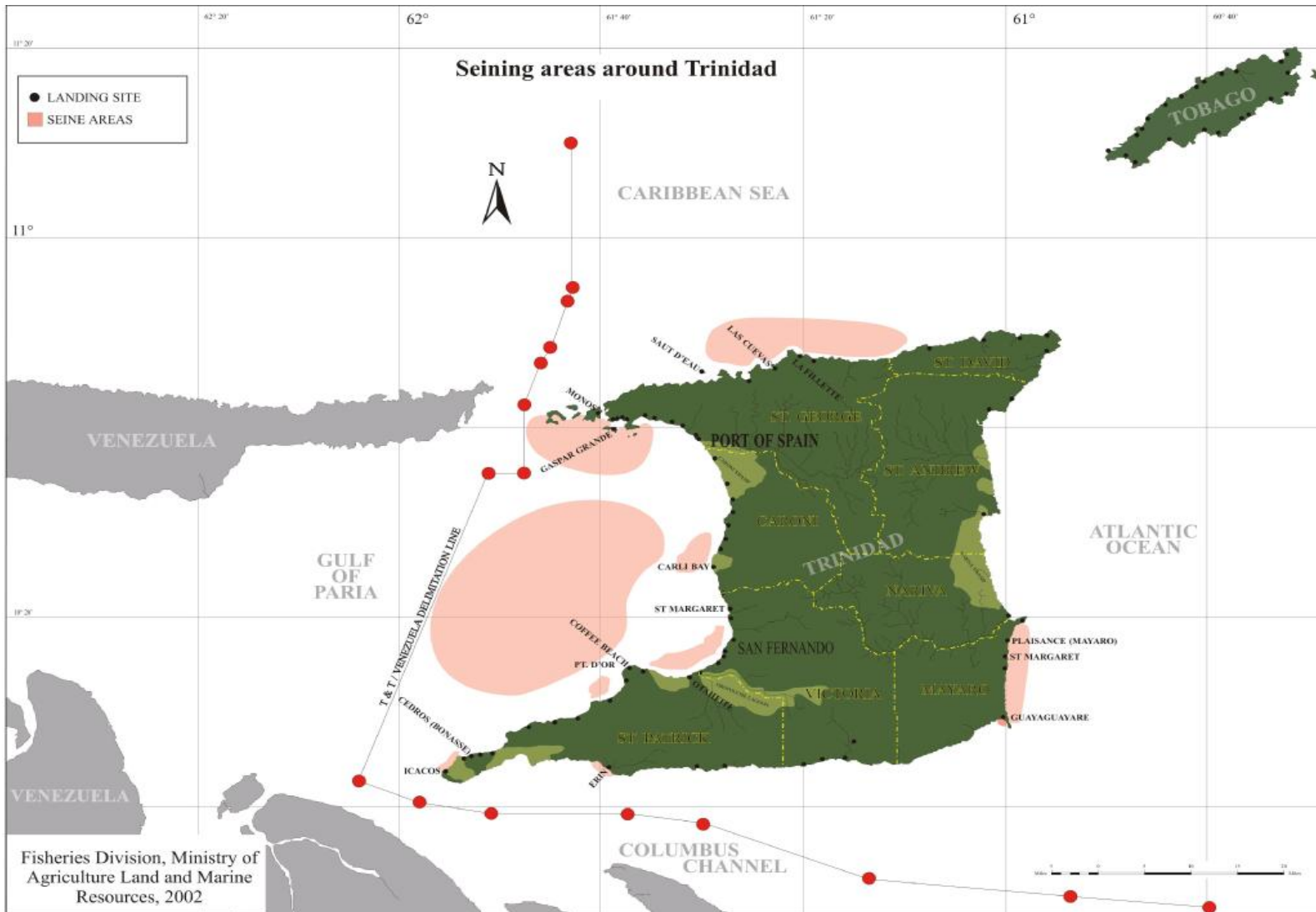
The 2005 ASOE provided an overview of the main services provided by the coastal/marine environment, the pressures acting on these and some of the impacts on the environment and humans. Significant portions of the coastal and marine areas around Trinidad and Tobago are important fishing grounds, as illustrated in Figs. 7 – 11. Data on coastal/marine resources in Trinidad and Tobago, especially related to fisheries, have been collected from 21 major fish landing sites. This section presents a few fisheries-related datasets for years up to and including 2006.

FIGURE 7: GILLNETTING AREAS AROUND TRINIDAD AND TOBAGO



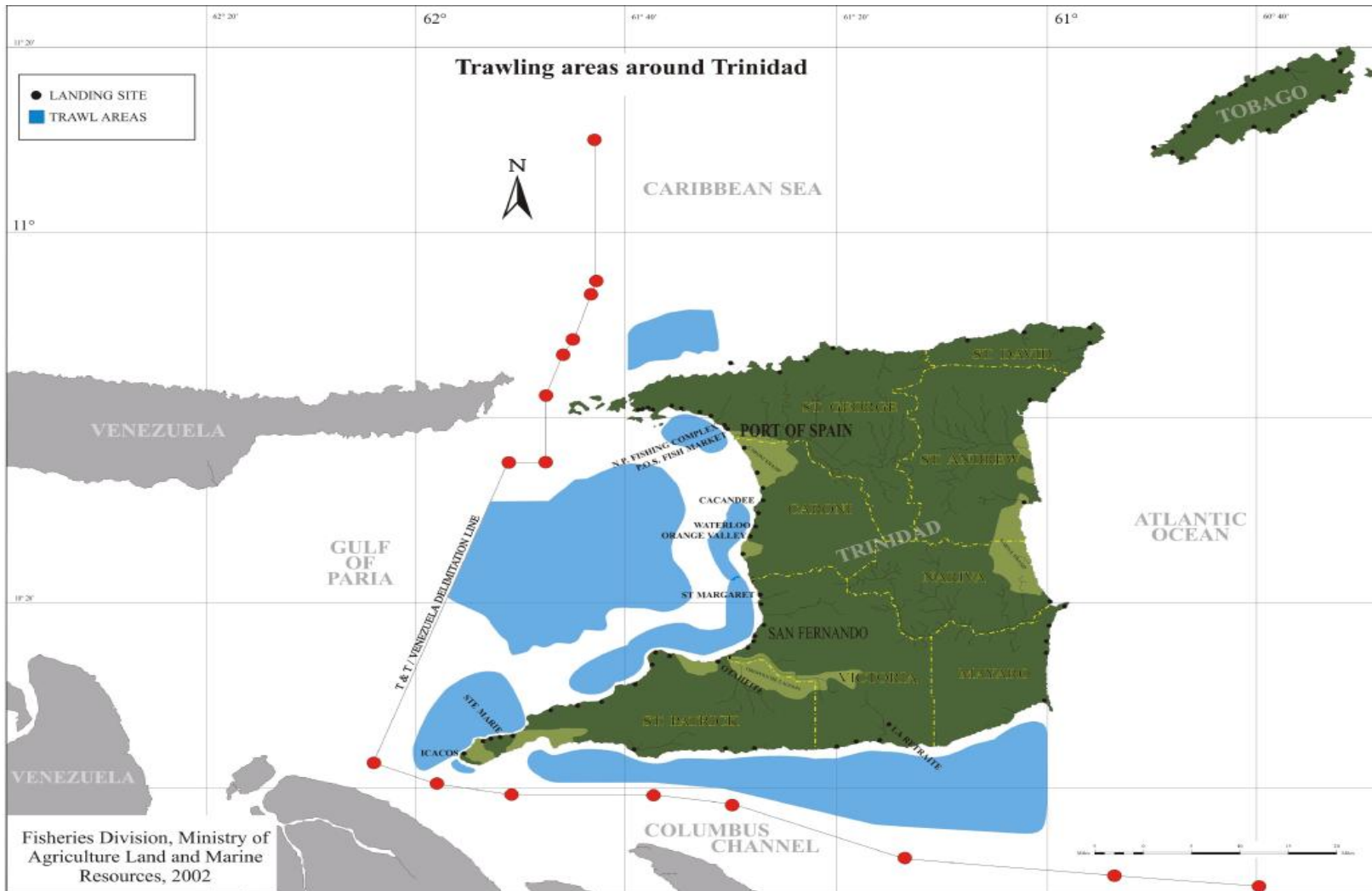
Source: Fisheries Division, 2002

FIGURE 9: SEINING AREAS AROUND TRINIDAD AND TOBAGO



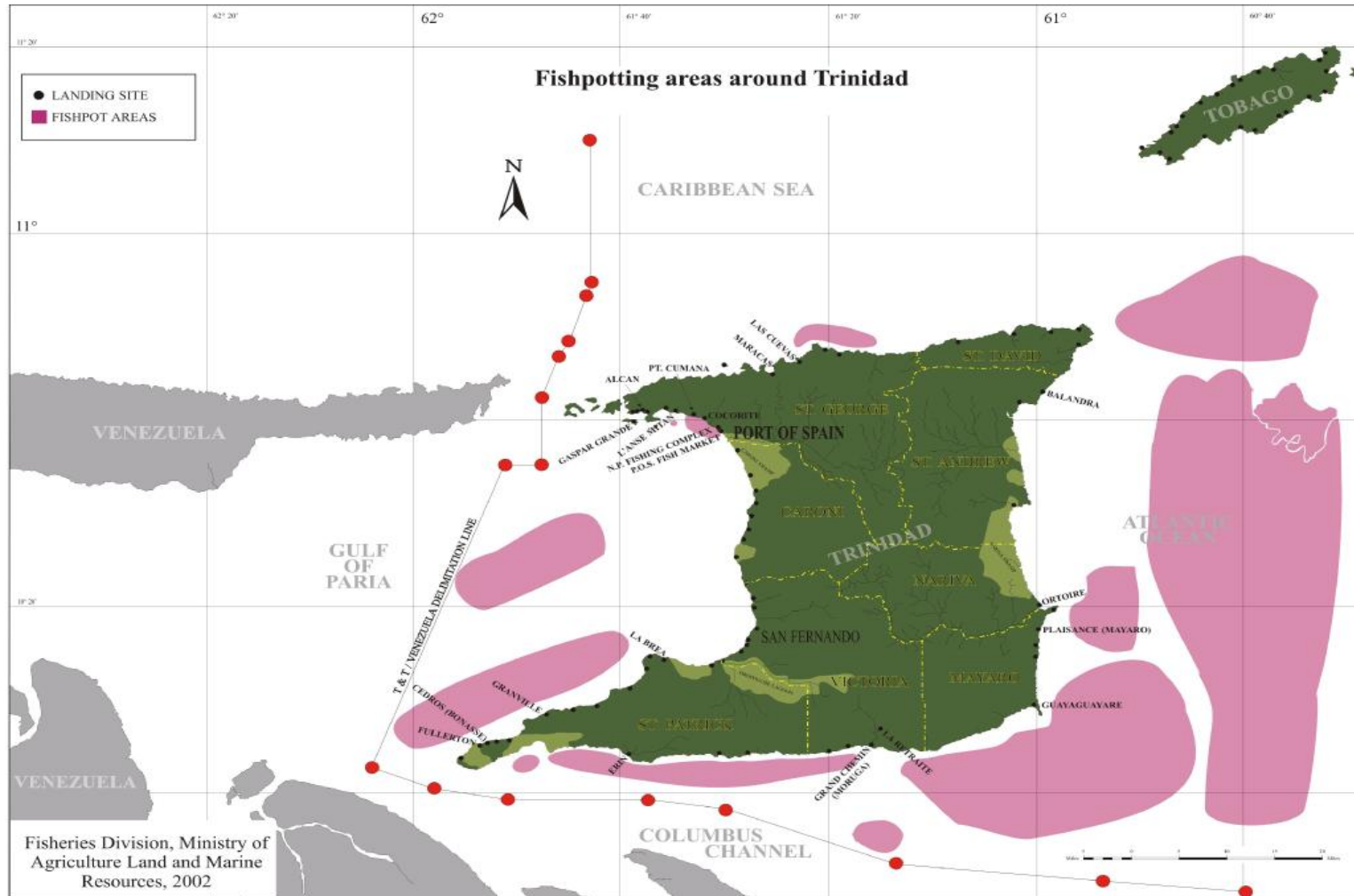
Source: Fisheries Division, 2002

FIGURE 10: TRAWLING AREAS AROUND TRINIDAD AND TOBAGO



Source: Fisheries Division, 2002

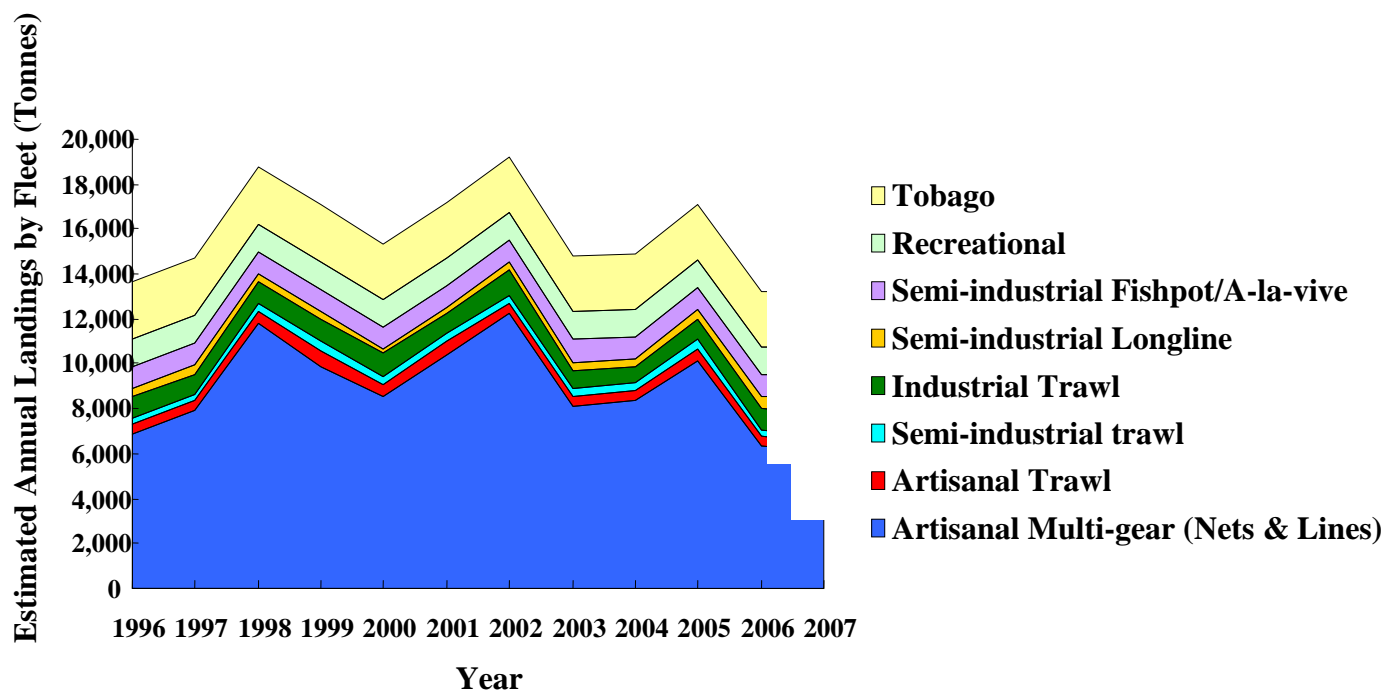
FIGURE 11: FISHPOTTING AREAS AROUND TRINIDAD AND TOBAGO



Source: Fisheries Division, 2002

As can be seen in Figures 12, 13 and 14, there was a decrease in annual fish landings in Trinidad and Tobago between 2005 and 2006 whether landings were calculated based on fleet type, species or landing site. Data on the numbers of fishing vessels indicate an increase in 2006. When analysed against the decrease in annual landings, this indicates a decrease in overall catch per unit effort (CPUE) where the unit of effort is one fishing vessel. Declining CPUE generally indicates over-fishing.

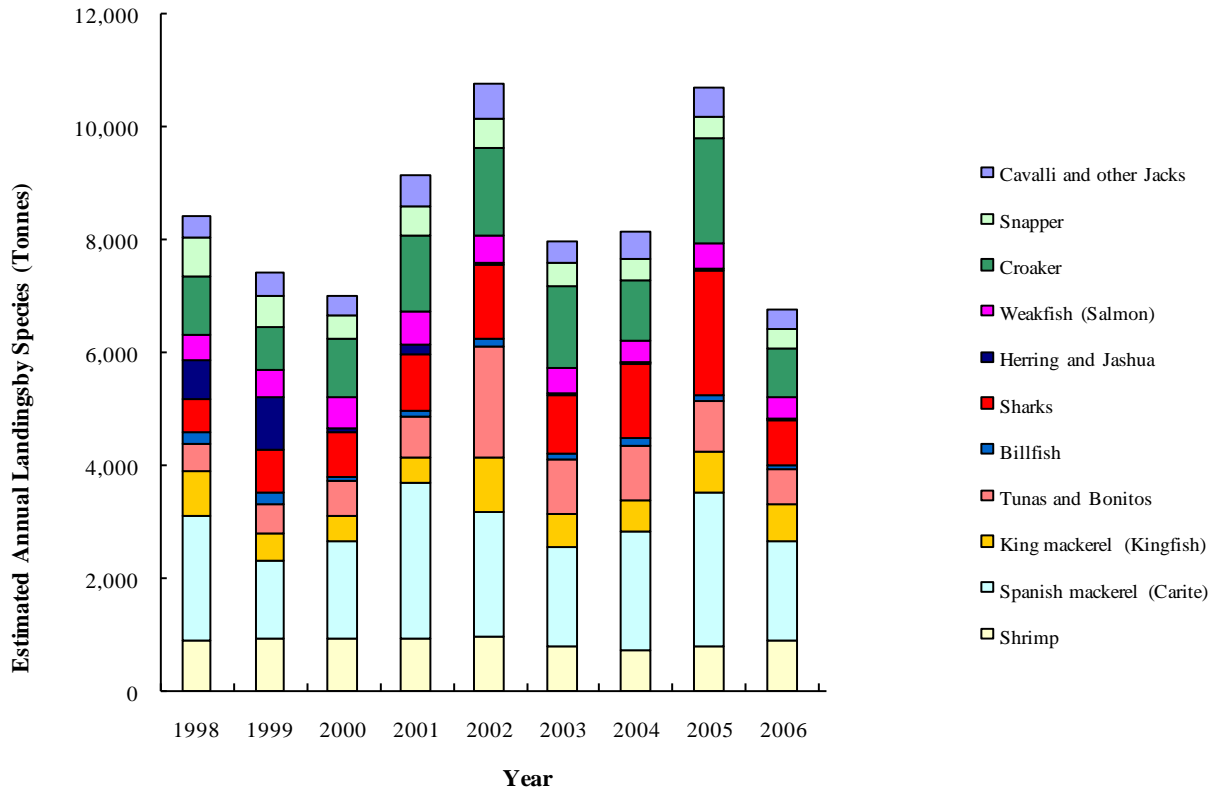
FIGURE 12: ESTIMATED ANNUAL LANDINGS (TONNES) BY FLEET FOR THE MARINE CAPTURE FISHERIES IN TRINIDAD AND TOBAGO (1996 – 2006)²



Source: Fisheries Division,
Ministry of Agriculture, Land and Marine Resources,
2009

² The figures for Tobago are not disaggregated.

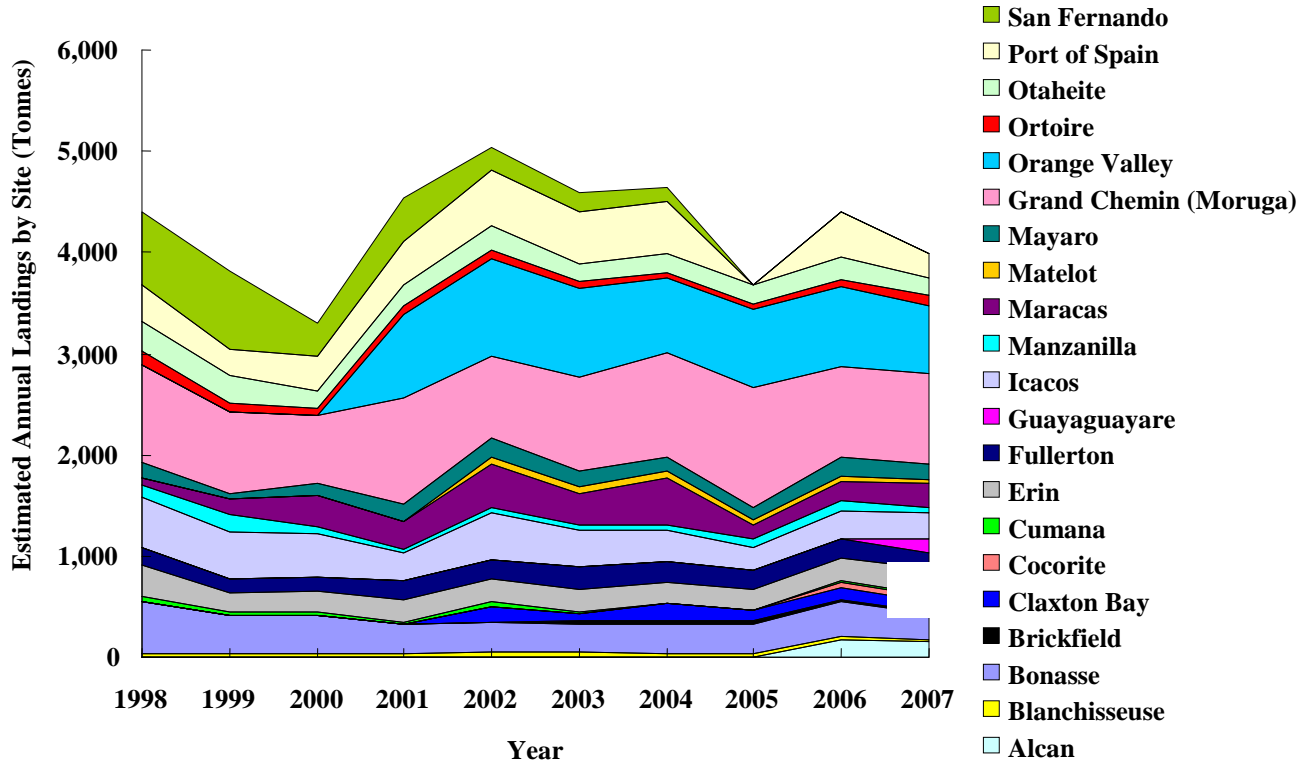
**FIGURE 13: ESTIMATED ANNUAL LANDINGS (TONNES) FOR SOME
COMMERCIALY IMPORTANT SPECIES GROUPS FOR THE MARINE CAPTURE
FISHERIES IN TRINIDAD AND TOBAGO
(1998 – 2006)**



NOTES:
Landings of the Tobago inshore fisheries and flying fish; Trinidad semi-industrial fishpot and line fleet; Trinidad & Tobago recreational boats (other than from tournaments) are not included in the graph

Source: Fisheries Division, Ministry of Agriculture, Land and Marine Resources, 2009

FIGURE 14: ESTIMATED ANNUAL LANDINGS (TONNES) FROM THE MARINE CAPTURE FISHERIES FOR SOME IMPORTANT SITES AROUND TRINIDAD (1998 – 2006)



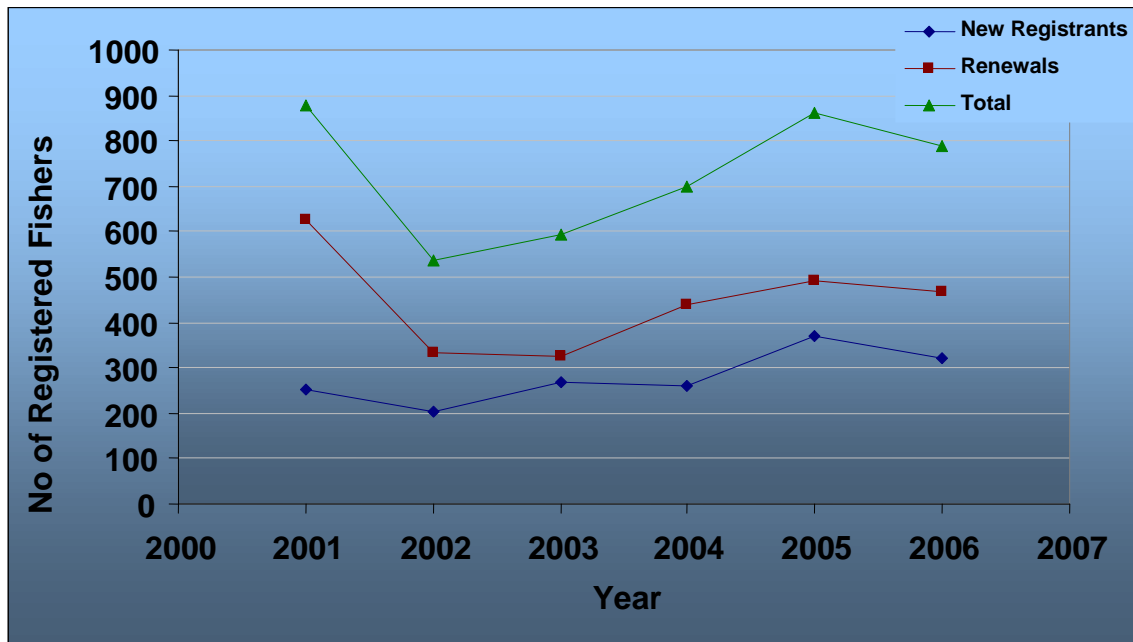
NOTES

Data not available for the following sites and years:
 Alcan, Cocorite: 1998-2005
 Brickfield: 1998-2002
 Claxton Bay, Matelot: 1998-2001
 Cumana: 2004-2005
 Guayaguayare: 1998-2006
 Orange Valley: 1998-2000
 Port of Spain: 2005
 San Fernando: 2005-2007

Source: Fisheries Division,
 Ministry of Agriculture, Land and Marine Resources,
 2009

Data for the number of registered fishers (new registrants and renewals, Figure 15) show a decrease in the number of registered fishers between 2005 and 2006. However, based on the information presented in Figure 16, there was a slight increase in the number of fishing vessels registered (new boats and transfers to new owners) between 2005 and 2006.

FIGURE 15: NUMBER OF FISHERS REGISTERED (NEW REGISTRANTS AND RENEWALS) IN TRINIDAD AND TOBAGO (2001 – 2006)

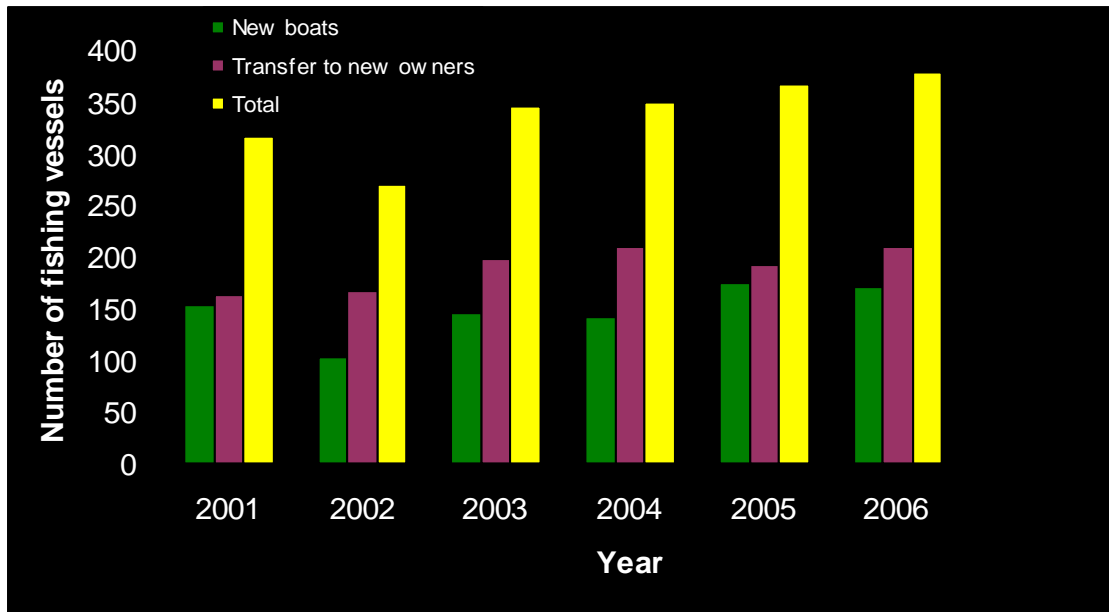


Source: Ministry of Agriculture, Land and Marine Resources, 2008

5.0 CLIMATE AND AIR

In the 2005 ASOE, an in-depth description of the Earth’s atmosphere, and issues related to climate change, ozone depletion and air pollution were presented. There have been positive developments over the 2005/2006 period which are worth noting – especially related to ozone-depleting substances and the introduction of a monitoring station to track air pollutants in Trinidad. The introduction and implementation of more measures to track and manage air quality in Trinidad and Tobago will provide critical data to assist both policy-making and assessments of possible impacts upon the climate.

FIGURE 16: NUMBER OF FISHING VESSELS REGISTERED (NEW BOATS AND TRANSFERS TO NEW OWNERS) IN TRINIDAD AND TOBAGO (2001 – 2006)



Source: Ministry of Agriculture, Land and Marine Resources, 2008

5.1 Ozone-Depleting Substances

As reported in the 2005 ASOE, the Government of the Republic of Trinidad and Tobago (GORTT) had begun taking steps to phase out the use of chlorofluorocarbons (CFCs) locally, and as at 2005, the consumption of CFCs was noted as being on the decline.

Data from the Ministry of Planning, Housing and the Environment indicate that in 2006, the decline continued. As shown in Figure 17 for example, the importation of CFCs (one of the parameters monitored and tracked by the Government) continued to be reduced significantly indicating lower levels of consumption locally.

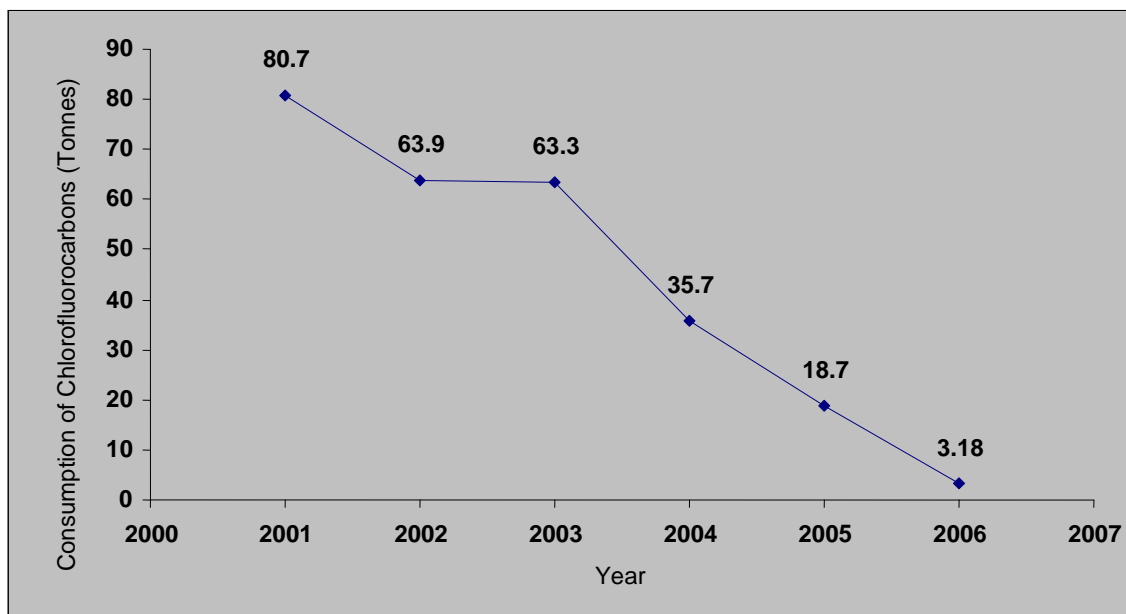
5.2 Greenhouse Gases

Over the past century, there has been a global increase in the atmospheric concentrations of anthropogenic greenhouse gases (GHGs) – e.g. carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulphur hexafluoride (SF₆) – and halogenated compounds such as CFCs, Hydrofluorocarbons (HFCs) and Perfluorocarbons (PFCs)³. GHGs, particularly CO₂ have been linked with the increase in global mean temperature experienced over the last century⁴. The Kyoto Protocol, an international agreement of the United Nations Framework Convention on Climate Change which Trinidad and Tobago signed in 1999, came into force in 2005. Two major features of the Kyoto Protocol are that it sets

³<http://www.ncdc.noaa.gov/oa/climate/globalwarming.html>. Last Updated Wednesday, 20-Aug-2008.

⁴<http://www.epa.gov/climatechange/science/recentac.html>. Last updated Thursday, August 19, 2010.

FIGURE 17: IMPORTATION OF CHLOROFLUOROCARBONS (TONNES) INTO TRINIDAD AND TOBAGO (2001 – 2006)



Sources: EMA, 2008; Ministry of Planning, Housing and Environment, pers. comm. 2008.

binding targets for 37 industrialized countries and the European Community for reducing GHG emissions as well as introducing mechanisms – including international emissions trading and joint implementation – to help countries achieve their commitments at the lowest possible cost. The Kyoto Protocol is therefore considered a first step in the long-term GHG emissions reduction effort globally that is needed to prevent dangerous levels of global warming and resultant climate change. While the Kyoto Protocol does not set GHG emission reduction targets for Trinidad and Tobago, the country has a moral obligation to implement measures geared towards GHG reduction.

Trinidad and Tobago's net CO₂ emissions from the consumption of fossil fuels have been increasing over the years primarily due to the rapid growth of the petrochemical sector.⁵In 2006, natural gas demand in Trinidad and Tobago was approximately 3.6 billion cubic feet (due primarily to use as feedstock for export industries, fuel and power generation) in a context where global natural gas consumption amounted to 2,850.8 billion cubic meters (100,675.051 billion cubic feet). Additionally, Trinidad and Tobago produced about 143,000 barrels per day of crude oil in 2006, while consuming an estimated 28,730 barrels per day of oil (ranked 77th in terms of global consumption). In 2006, the country's CO₂ emissions were estimated at 33.6 million tonnes⁶ or

⁵Boodlal, D., R. Williams and H.I. Furlonge. 2008. Trinidad's Carbon Dioxide Inventory and Technoeconomic Evaluation of Carbon Capture Options for Emission Mitigation. Tobago Gas Technology Conference, Scarborough, October 2008.

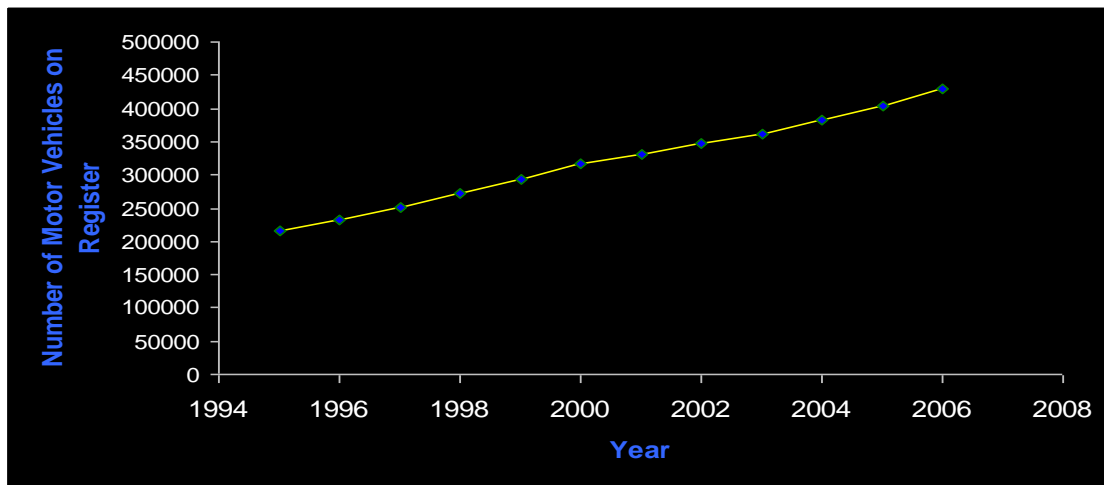
⁶*Ibid.*

approximately 0.1% of the global total of 28,431.7 million metric tonnes. While these emissions are small in relation to the levels produced world-wide, as a signatory to Kyoto Protocol, the generation of GHG in Trinidad and Tobago should not be overlooked and, where feasible, steps should be taken to minimize such emissions.

One contributor to Trinidad and Tobago’s increasing CO₂ emissions is the large number of motor vehicles operating on the nation’s roads. As reported in the 2005 ASOE, there was a significant increase in the number of motor vehicles registered in Trinidad and Tobago between 1995 and 2005. As Figure 18 shows, when data for 2006 are included, the trend of an increasing number of vehicles on the road remains unchanged. It can therefore be assumed that GHGs emissions arising from the increasing number of motor vehicles on the road will continue to increase. Notably, in terms of abundance of cars per square kilometer (km²), latest available data⁷ indicate that at 28.61 cars per km², Trinidad and Tobago ranks 28th in the world. This situation demonstrates the need for appropriate measures to monitor and control GHG emissions from vehicles. Among the measures outlined in Section 4.4 of the National Environmental Policy, 2006 (NEP) are:

- Inspection, maintenance and certification programmes for vehicles;
- Roadside inspection programmes;
- Emission standards and vehicle emission fines;
- Improved gasoline standards; and
- Stricter diesel standards.

FIGURE 18: NUMBER OF MOTOR VEHICLES ON REGISTER IN TRINIDAD AND TOBAGO (1995 – 2006)



Source: CSO, 2007; 2008

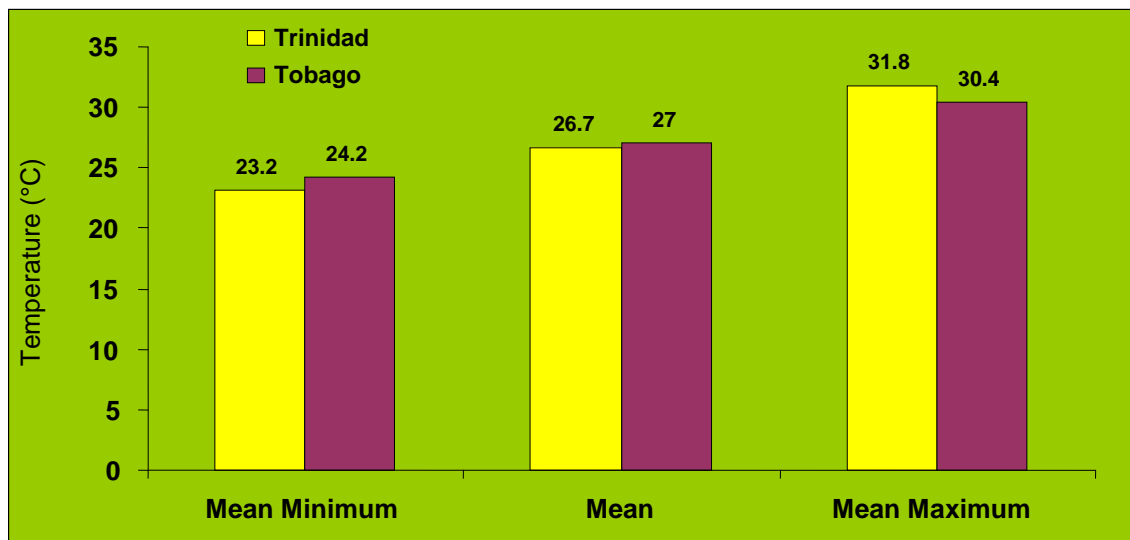
⁷ Data accessed at http://www.nationmaster.com/graph/tra_veh_abu-transportation-vehicle-abundance. Source stated as: World Bank. 2001. World Development Indicators 2001. World Bank, Washington, DC.

5.3 Impacts of Climate Change on Rainfall and Temperature

Trinidad and Tobago uses data provided by the Meteorological Services with respect to rainfall and temperature to help track the impacts of climate change on local weather. Data for 2006 for the minimum, mean and maximum annual temperatures at Piarco, Trinidad and Crown Point, Tobago are shown in Figure 19, while Figure 20 shows the mean temperatures at Piarco Trinidad. In 2006 the mean temperature in Tobago (27°C) was slightly higher than that in Trinidad (26.7°C), although the mean maximum in Trinidad (31.8°C) was higher than that in Tobago (30.4°C).

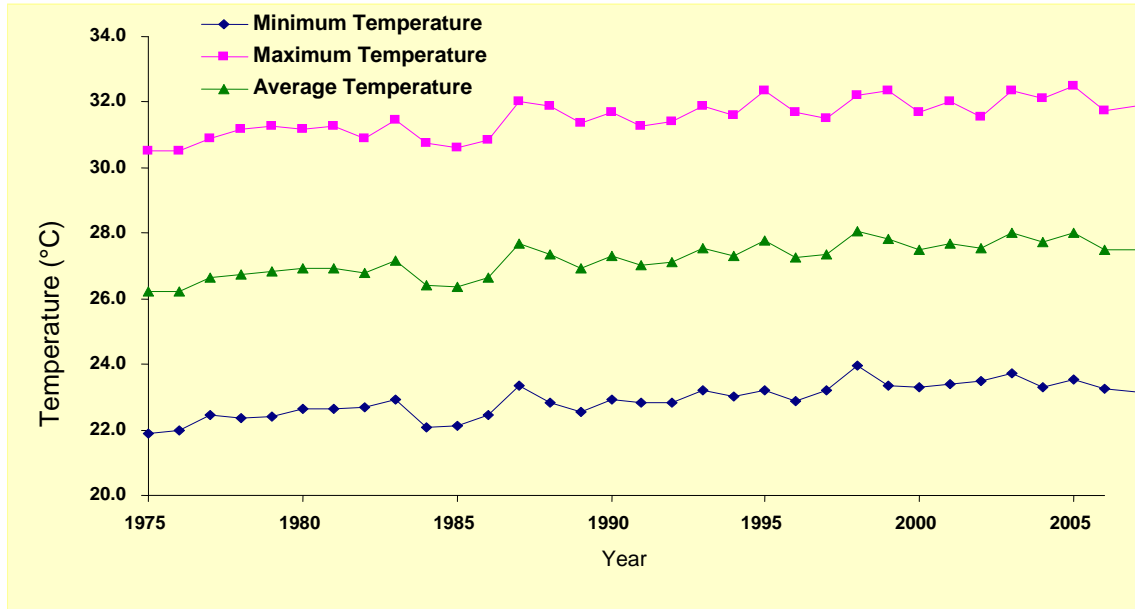
By using the mean annual temperatures at Piarco Trinidad for the period 1975 to 2006 and performing a trend line analysis (Figure 21), there is strong evidence to indicate that although there are annual fluctuations in temperature (variations from one year to the next), the mean temperature in Trinidad has been increasing ($R^2= 0.6982$; Standard Deviation = 0.5322). Calculated using the trend line equation, the temperature in Trinidad is estimated to have risen by approximately 1.4°C between 1975 and 2006 – a significant change.

FIGURE 19: MEAN AIR TEMPERATURES (°C) AT PIARCO, TRINIDAD AND CROWN POINT, TOBAGO (2006)



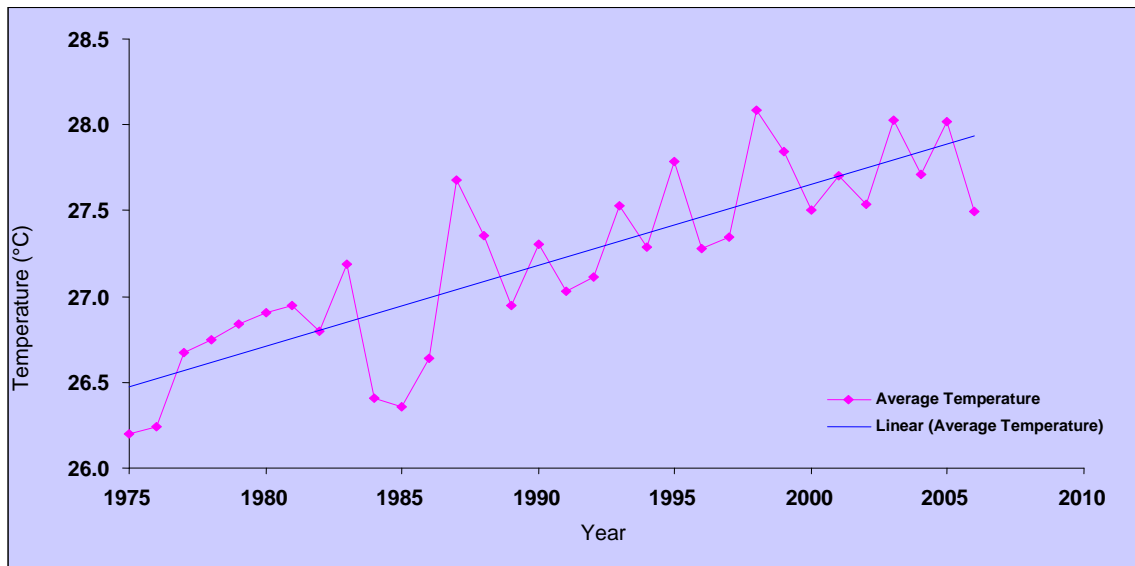
Source: Meteorological Services of Trinidad and Tobago, 2008

FIGURE 20: MEAN ANNUAL AIR TEMPERATURES (°C) AT PIARCO, TRINIDAD (1975 - 2006)



Source: Meteorological Services of Trinidad and Tobago, 2008

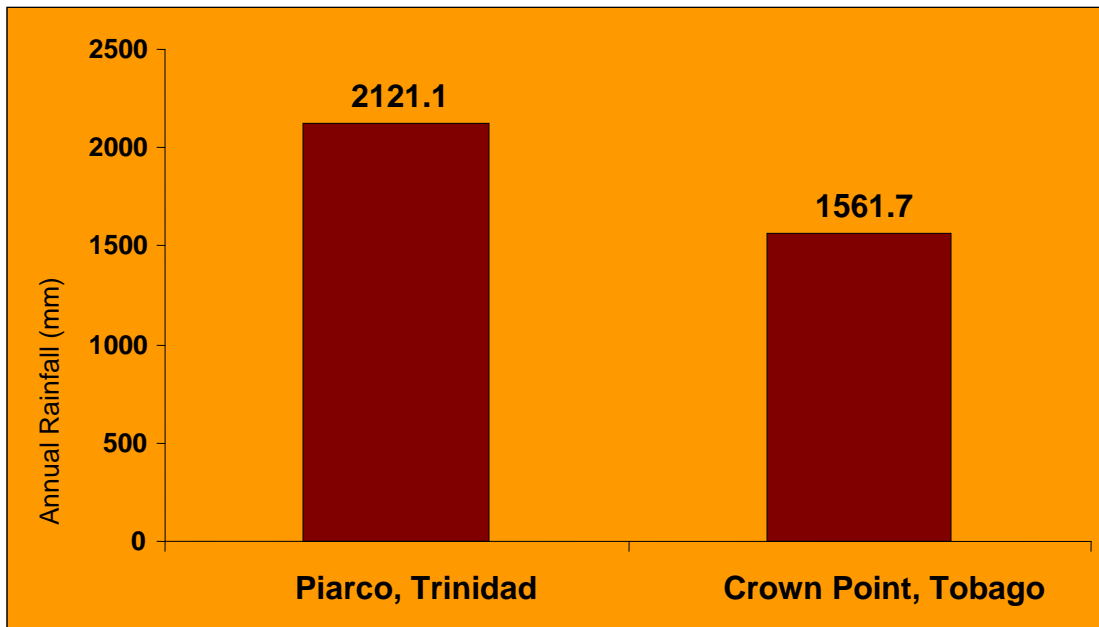
FIGURE 21: MEAN ANNUAL AIR TEMPERATURES (°C) IN TRINIDAD (1975 – 2006)



Source: Meteorological Services of Trinidad and Tobago, 2008

Based on rainfall data provided by the Meteorological Services for 2006 (Figure 22), the total annual rainfall in Trinidad (2,121 mm) was higher than that recorded in Tobago (1,561 mm) – a relationship which is in keeping with long-term trends.

FIGURE 22: TOTAL ANNUAL RAINFALL (MM) IN TRINIDAD AND TOBAGO (2006)



Source: Meteorological Services of Trinidad and Tobago, 2008

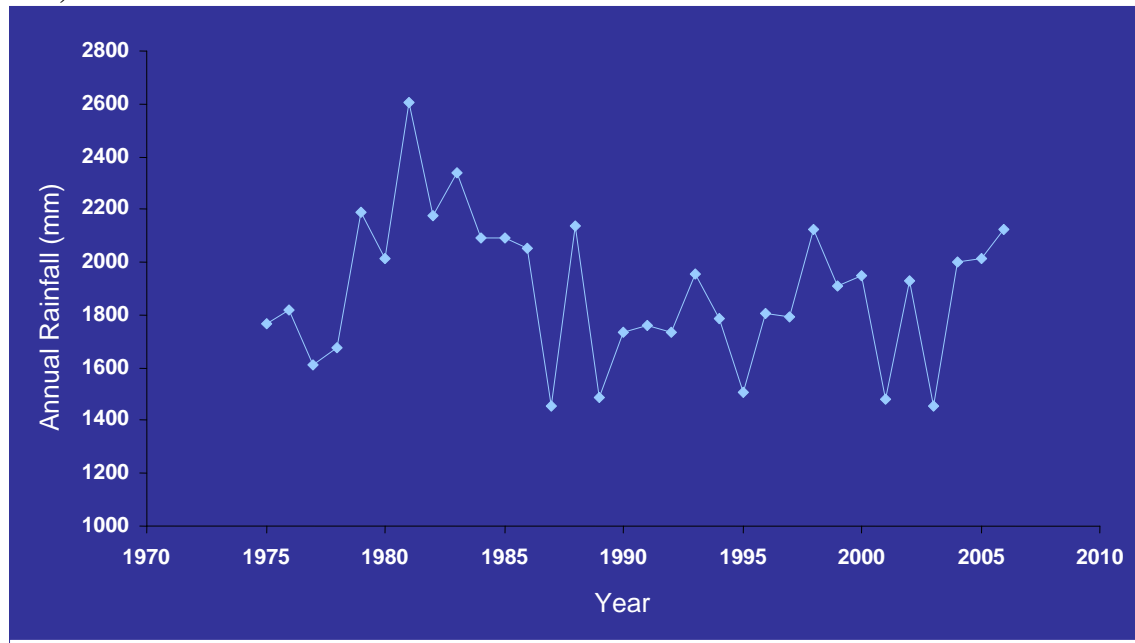
Total annual rainfall in Trinidad between 1975 and 2006 (Figure 23) shows that there are marked annual differences in rainfall over the period, yet regression analysis of the data indicates that any persisting trends (either continuously increasing or decreasing) are statistically very weak. Accordingly, the available data do not support any meaningful correlation suggesting any impact of climate change on long-term rainfall in Trinidad and Tobago.

5.4 Other Impacts of Climate Change

The impacts of climate change present small island states (SIDS) such as those in the Pacific and Caribbean with unique challenges⁸. Small islands are considered among the most vulnerable to climate change because extreme events have major impacts on them. Changes in weather patterns and the frequency and intensity of extreme events, sea-level rise, coastal erosion, coral reef bleaching, ocean acidification, and contamination of

⁸UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage. Item 7.1 of the Provisional Agenda: Issues related to the state of conservation of World Heritage properties: the impacts of Climate Change on World Heritage properties. WHC-07/31.COM/7.1, Paris, 23 May 2007.

FIGURE 23: TOTAL ANNUAL RAINFALL (MM) AT PIARCO, TRINIDAD (1975 TO 2006)



Source: Meteorological Services of Trinidad and Tobago, 2008

freshwater resources by salt water are among the potential phenomena small islands are likely to experience as a result of climate change.

Recent studies provide some indication of how a changing climate has affected two of the above phenomena locally, namely: coral reef bleaching and sea level rise. As indicated in Table 1, in 2005 there was significant bleaching of the coral reefs around Tobago – a phenomenon caused by elevated sea surface temperatures experienced that year. Coral reefs are very sensitive to changes in temperature and can thus act as indicator species.

Coral reefs are of significant economic value and their loss could have financial consequences. For example, an economic valuation study undertaken by the World Resources Institute (WRI)⁹ published in 2008 estimated that the value of coral reefs to Tobago's economy is high, and as at 2006, the total direct value gained from fisheries and tourism was given at US\$44 million, approximately 15% of Tobago's GDP. This is broken down as US\$43.5 million from tourism and US\$0.1 – US\$1.1 million from fisheries. When pooled together, the total direct and indirect value from both fisheries and tourism was estimated at US\$101 and US\$130 million respectively. Since the coral reefs of Tobago are important for tourism, fisheries and shoreline protection, the adverse effects of increased temperatures on coral reefs could have serious implications for Tobago's environment and economy.

⁹ Burke L., S. Greenhalgh, D. Prager and E. Cooper. 2008. Coastal capital - Economic valuation of coral reefs in Tobago and St. Lucia. World Resources Institute, WashingtonD.C.

TABLE 1: BLEACHED CORAL SPECIES AS A PERCENTAGE OF TOTAL CORAL COVER IN TOBAGO IN 2005

Taxonomic name	Common name	% bleached	% of total corals observed	N
<i>Acropora palmata</i>	Elkhorn	0	0.5	7
<i>Agaricia agaricites</i>	Leaf	93	3	40
<i>Colpophyllia natans</i>	Giant Brain	80	9	122
<i>Diploria labyrinthiformis</i>	Grooved Brain	84	1	13
<i>Diploria strigosa</i>	Smooth Brain	50	11	149
<i>Madracis mirabilis</i>	Yellow Pencil	3	4	54
<i>Meandrina meandrites</i>	Butterprint Brain	67	2	27
<i>Millepora spp.</i>	Fire Coral	53	12	162
<i>Montastrea annularis</i>	Boulder Star	73	37	502
<i>Montastrea cavernosa</i>	Cavernous Star	47	4	54
<i>Porites astreoides</i>	Mustard Hill	34	3	40
<i>Porites divaricata</i>	Thin Finger	60	1	13
<i>Porites furcata</i>	Finger	50	1	13
<i>Siderastrea radians</i>	Rough Starlet	93	1	13
<i>Siderastrea siderea</i>	Smooth Starlet	68	6	81
Other	Various	5	5	67

Source: Buccoo Reef Trust, 2008

NB: N – number of surveys on which the species of coral was observed

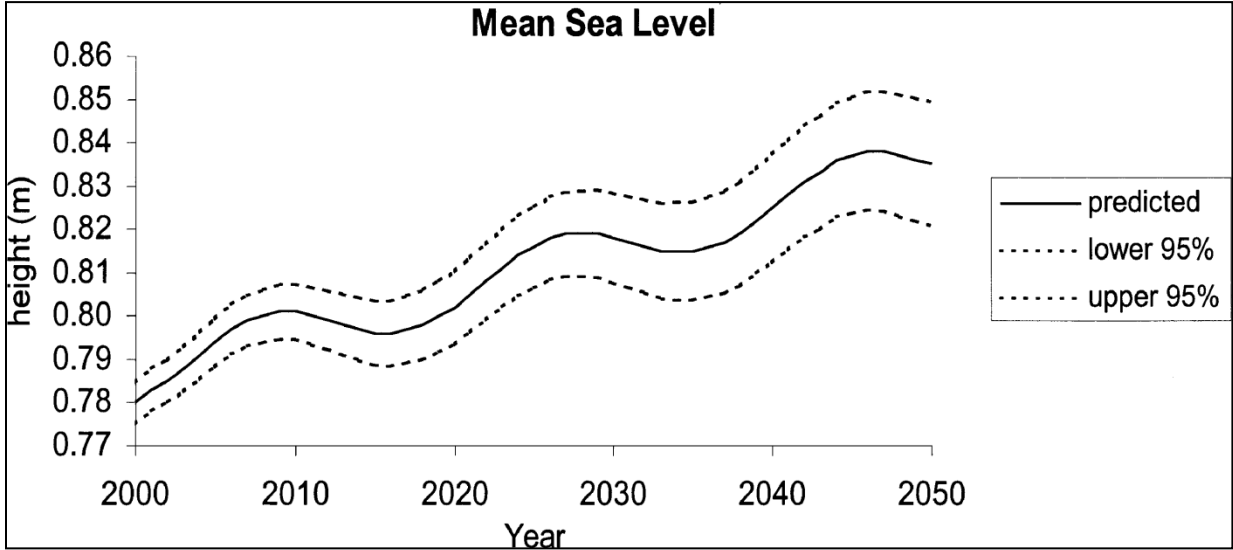
It is well established that one of the main effects of increased global temperatures is sea level rise – a phenomenon which will have the greatest impact on developing nations, especially the SIDS. According to the IPCC, the average temperature of the earth's surface has risen by 0.74°C since the late 1800s, and it is projected to increase by another 1.1 to 6.4°C by the year 2099. The sea level rose on average by 10 to 20 cm during the 20th century, and an additional increase of 0.18 to 0.59 cm is projected by the end of the current century. SIDS are highly vulnerable to such sea level rise and severity of extreme weather conditions and could, in some cases, even become uninhabitable¹⁰. As one of the SIDS, Trinidad and Tobago is therefore expected to be affected.

Data from a study conducted in Trinidad¹¹ to track changes in sea level, projected that by 2050, sea level will rise approximately 0.05m above its recorded height in 2001, and that this change cannot be attributed to geological factors (Figure 24). This study is a first indication that sea level rise is already affecting Trinidad.

¹⁰UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage. Item 7.1 of the Provisional Agenda: Issues related to the state of conservation of World Heritage properties: the impacts of Climate Change on World Heritage properties. WHC-07/31.COM/7.1, Paris, 23 May 2007.

¹¹ Miller, Keith M. 2005. Variations in Sea Level on the West Trinidad Coast. Marine Geodesy, 1521-060X, Volume 28, Issue 3, 2005, Pages 219 – 229.

FIGURE 24: PREDICTED ANNUAL MEAN SEA LEVEL (M) IN PORT OF SPAIN TRINIDAD FOR THE FIRST HALF OF THE 21ST CENTURY



Source: Miller, 2005

5.5 Air Pollution

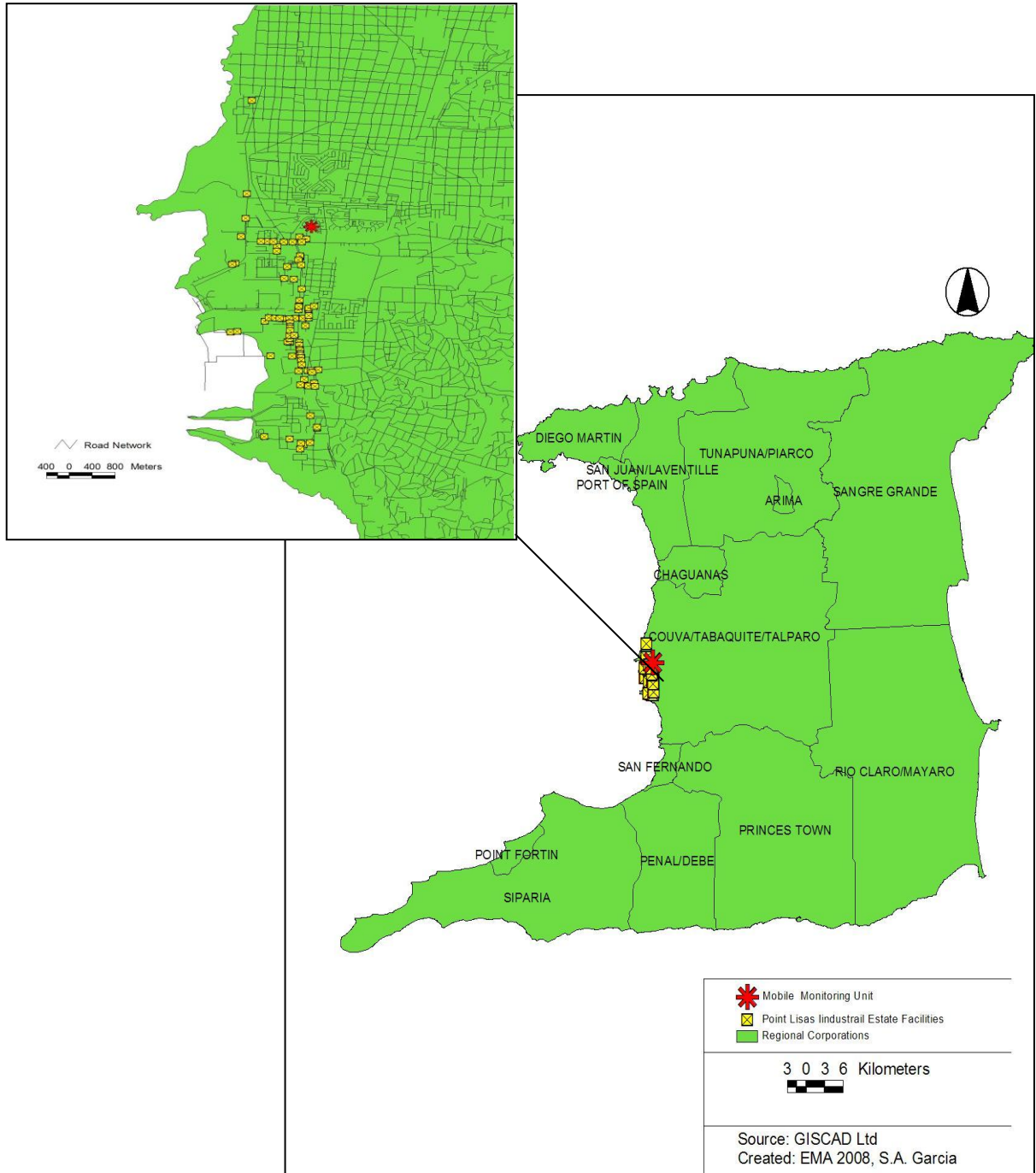
The 2005 ASOE provided a comprehensive listing of the major air pollutants, their anthropogenic sources and associated human health impacts. In the light of the threat posed by the increasing number of activities with potential air pollution impacts in Trinidad and Tobago, the EMA believes that the enactment of legislation¹² to regulate emissions from major sources is necessary. However, as at 2006, the Draft Air Pollution Rules (DAPRs) had not been in force.

In September 2004, the EMA began to develop baseline air pollution data at the Point Lisas Industrial Estate in order to monitor air pollution in Trinidad and Tobago. An ambient air quality monitoring station was established upwind of the industrial facilities (Figure 25) to record the concentrations of the following seven air pollutants on a daily basis:

- Ozone (O₃)
- Nitrogen dioxide (NO₂)

¹² A listing of laws relevant to air pollution is given in the EMA's State of Environment Report, 1999.

FIGURE 25: LOCATION OF THE EMA AIR QUALITY MONITORING STATION IN RELATION TO THE POINT LISAS INDUSTRIAL ESTATE



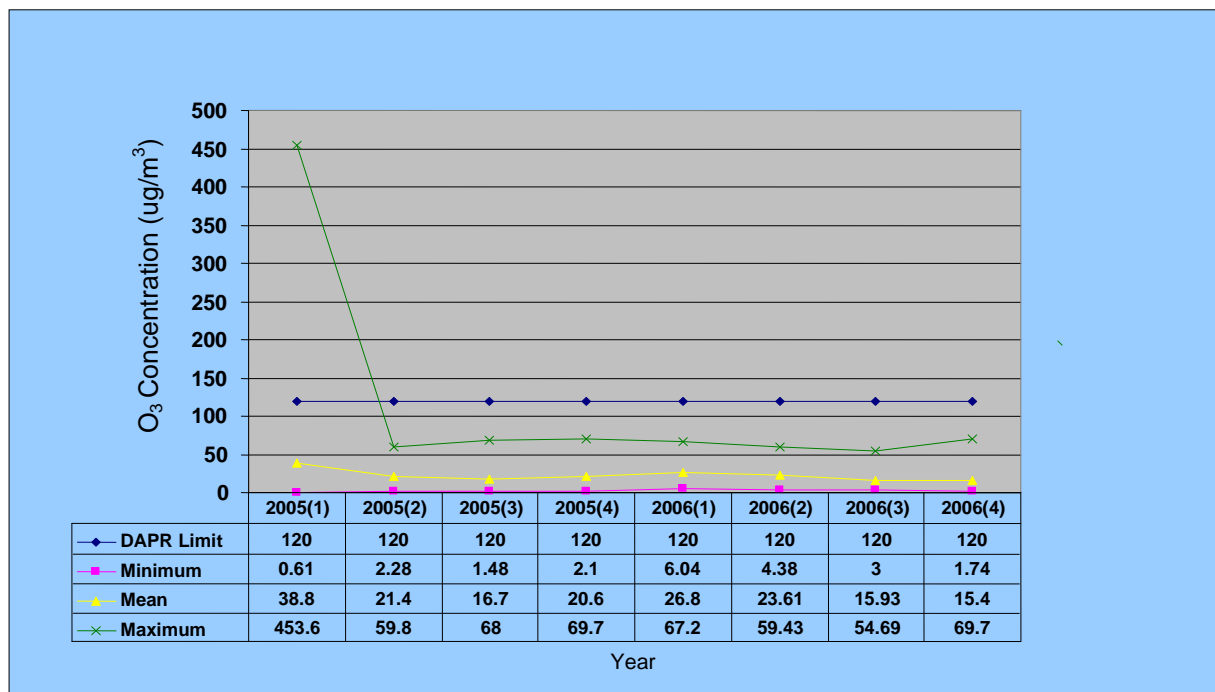
Source: EMA, 2008

- Nitrogen oxides (NO_x)
- Nitrogen monoxide (NO)
- Sulphur dioxide (SO₂)
- Carbon monoxide (CO)
- Particulate matter (PM₁₀)

The data in respect of five pollutants (O₃, NO₂, SO₂, CO and PM₁₀) relate to periods in 2005 and 2006¹³, and a summary is presented for each pollutant on a quarterly basis in Figures 26 to 30. The results show that all the monitored pollutants were within the maximum permissible levels for ambient air quality set out in the DAPRs, except for O₃, NO₂ and PM₁₀, which only exceeded the limits proposed in the DAPRs (120 µG/M³ for O₃ and 200 µG/M³ for NO₂) in one quarter over the entire period reported¹⁴.

The results indicate that upwind of the Point Lisas Industrial Estate, the air pollutants being monitored are below the maximum permissible levels set in the DAPRs. More extensive monitoring over several years and across a wider geographic scope must be undertaken so as to provide a sound basis for conclusions about the quality of the air in the Point Lisas area and throughout Trinidad and Tobago.

FIGURE 26: AMBIENT ATMOSPHERIC CONCENTRATION (µG/M³) OF OZONE IN THE POINT LISAS AREA FOR 2005 AND 2006 BY QUARTER

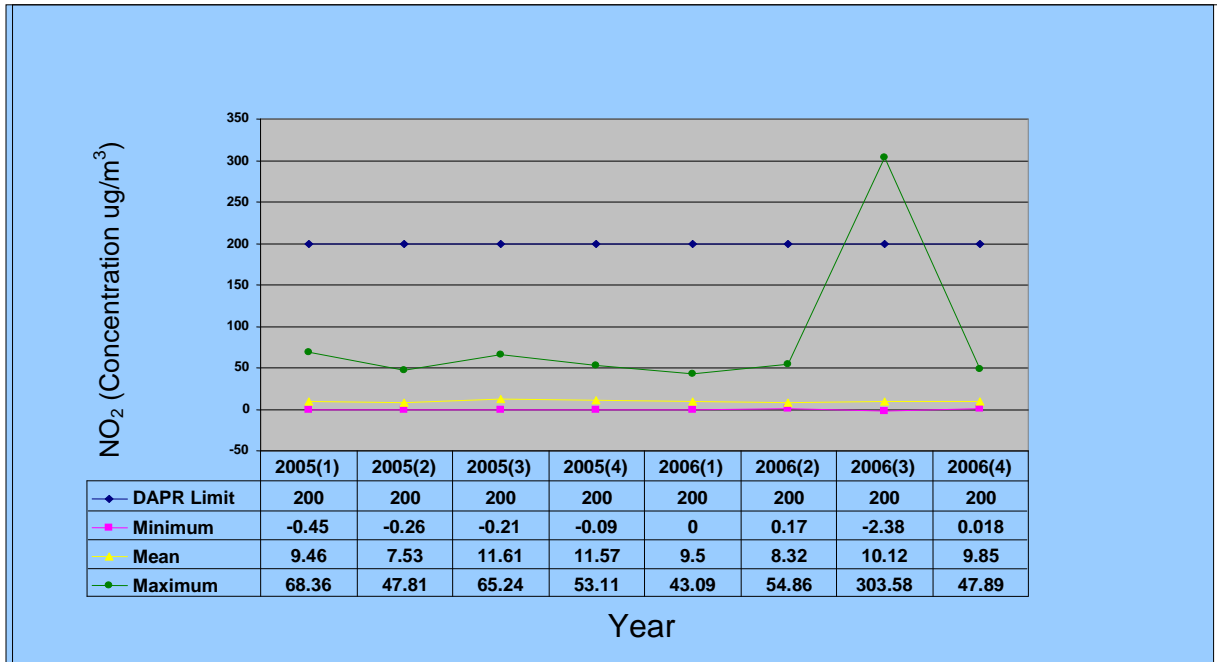


Source: EMA, 2008

¹³ EMA. 2008. Ambient air quality monitoring at the Point Lisas Industrial Estate: 2005-2006 Yearly Report. Environmental Management Authority, Port of Spain, Trinidad. 74pp.

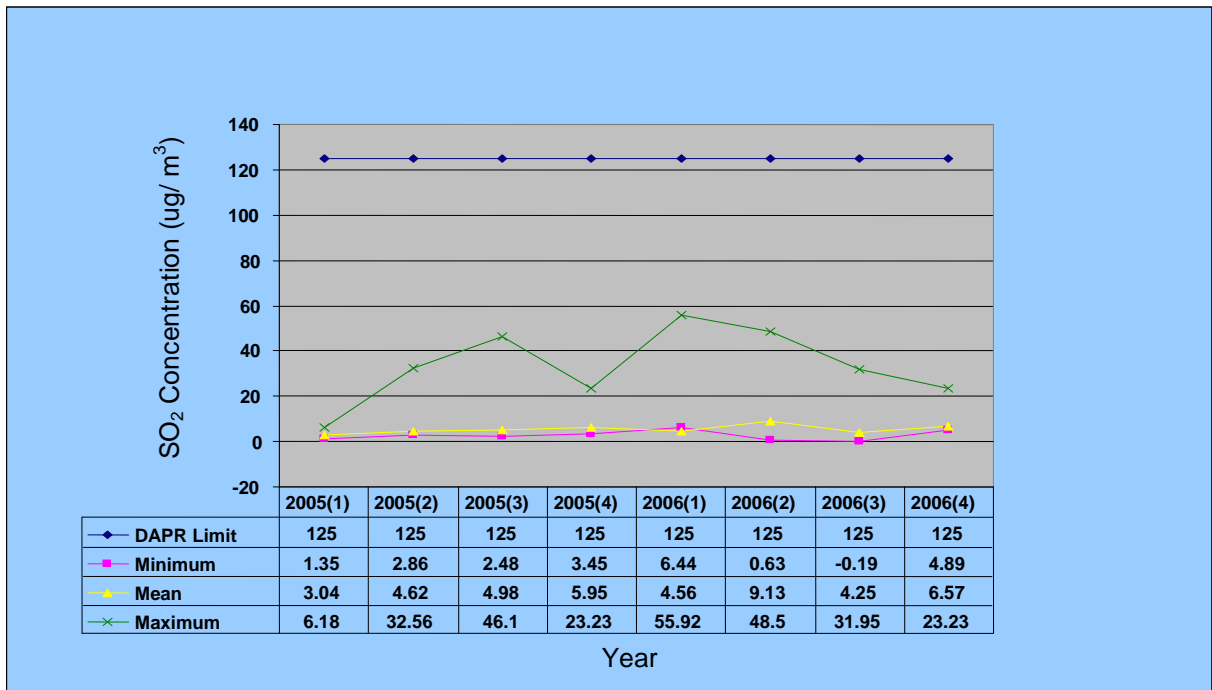
¹⁴ For all gases, the negative figures represented are well within the acceptable limits set by the United States Environmental Protection Agency (US EPA).

FIGURE 27: AMBIENT ATMOSPHERIC CONCENTRATION ($\mu\text{G}/\text{M}^3$) OF NITROGEN DIOXIDE IN THE POINT LISAS AREA FOR 2005 AND 2006 BY QUARTER



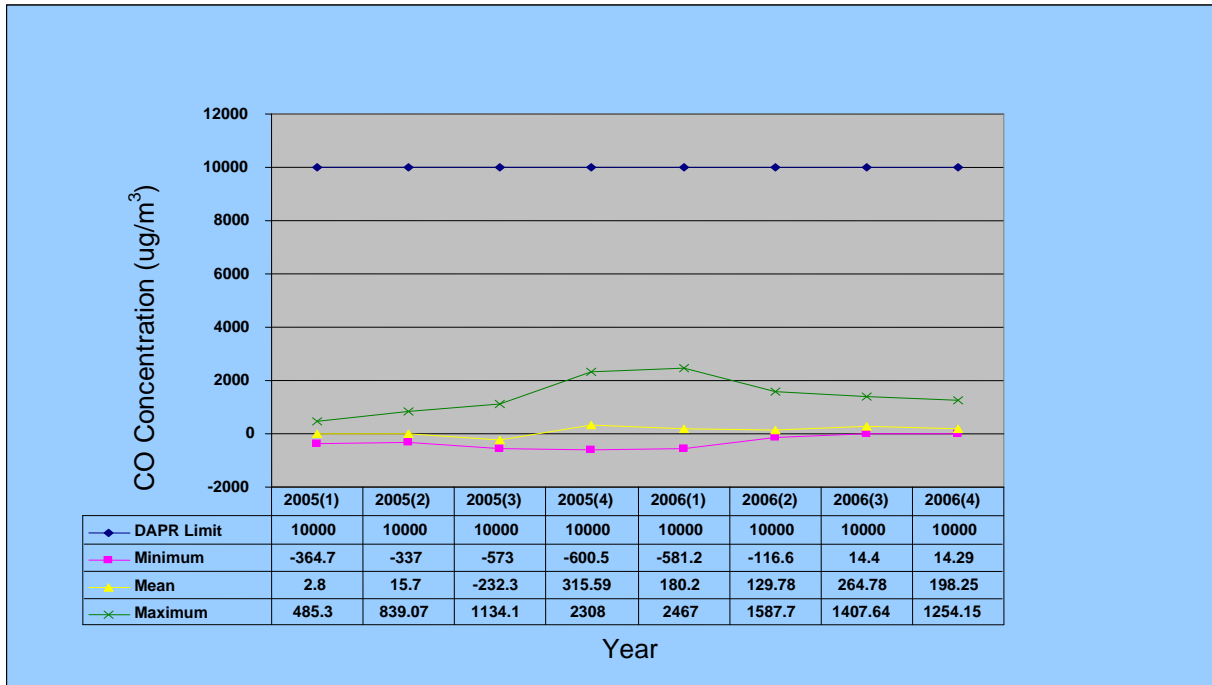
Source: EMA, 2008

FIGURE 28: AMBIENT ATMOSPHERIC CONCENTRATION ($\mu\text{G}/\text{M}^3$) OF SULPHUR DIOXIDE IN THE POINT LISAS AREA FOR 2005 AND 2006 BY QUARTER



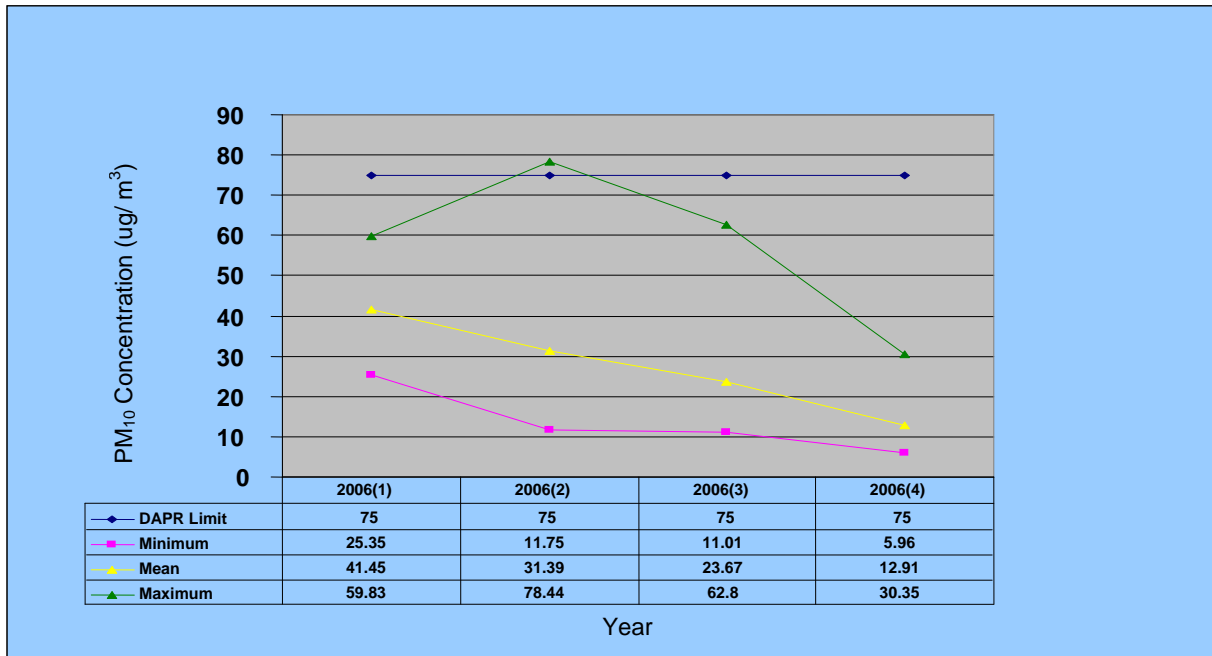
Source: EMA, 2008

FIGURE 29: AMBIENT ATMOSPHERIC CONCENTRATION ($\mu\text{g}/\text{m}^3$) OF CARBON MONOXIDE IN THE POINT LISAS AREA FOR 2005 AND 2006 BY QUARTER



Source: EMA, 2008

FIGURE 30: AMBIENT ATMOSPHERIC CONCENTRATION ($\mu\text{g}/\text{m}^3$) OF PARTICULATE MATTER (PM_{10}) IN THE POINT LISAS AREA FOR 2006 BY QUARTER



Source: EMA, 2008

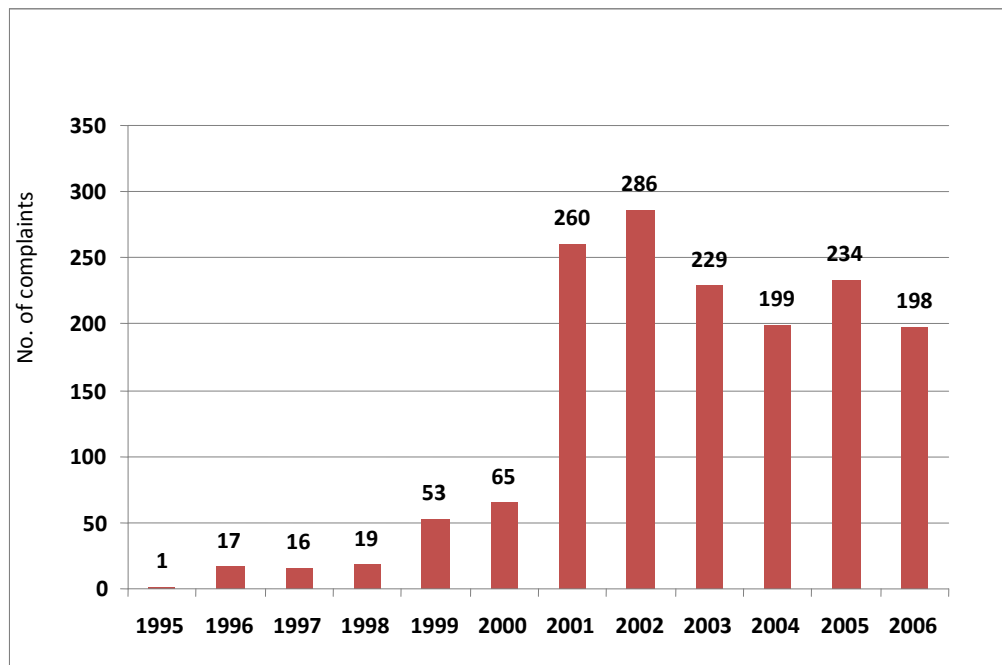
6.0 NOISE POLLUTION

Noise can perhaps be described as the most abstract form of pollution regulated by the EMA under the EM Act. The 2003ASOE¹⁵ provided an in-depth explanation about noise as a form of pollution (including impacts on human well-being), and it also outlined in detail the content, scope and data collected under the NPCRs¹⁶. However, no ASOE since then has considered, or included, noise pollution.

6.1 Noise Complaints

The number of noise complaints increased significantly between 2000 and 2001 and they reached a peak in 2002 (Figure 31). Further, a snapshot of the monthly complaints received in 2006 (Figure 33) shows no increase in noise complaints in February and March during the Carnival Season. This may be due to more noise tolerance by the public during that period.

FIGURE 31: NUMBER OF NOISE COMPLAINTS RECEIVED BY THE EMA FOR TRINIDAD AND TOBAGO (1995 – 2006)



Source: EMA, 2008

NB: Data for 2005 were calculated using 2004 and 2006 datasets and are thus presented with relatively lower scientific certainty than that for other years.

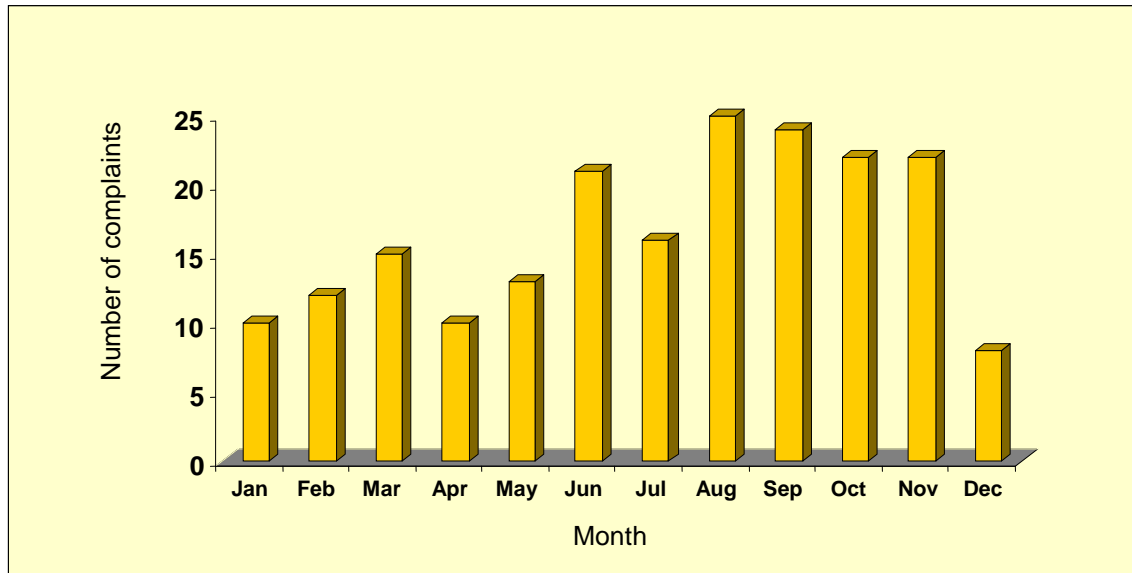
¹⁵ The 2003 ASOE is available at:

<http://www.ema.co.tt/docs/techServ/SOE/SOE%20Report%20%202003%20-%20Noise%20Pollution.pdf>

¹⁶ A copy of the Noise Pollution Control Rules is available at:

http://www.ema.co.tt/docs/legal/sub/LN%2060_2001_Noise_Pollution_control.pdf

FIGURE 32: NOISE COMPLAINTS RECEIVED ON A MONTHLY BASIS IN TRINIDAD AND TOBAGO (2006)



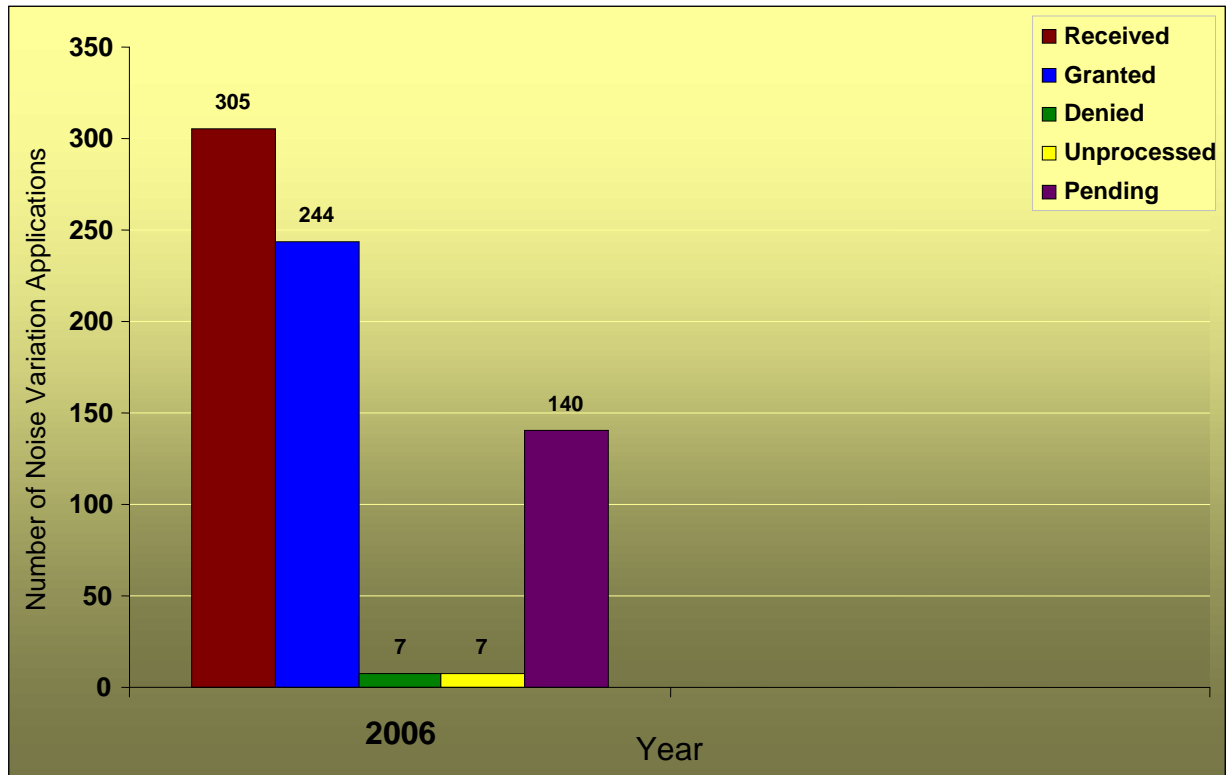
Source: EMA, 2008

6.2 Noise Variations

Under the NPCRs, any person (or facility) proposing to conduct an event that will cause sound in excess of the prescribed standards must apply to the EMA for a variation, and based on an investigation, the EMA determines whether it is fair to grant such a variation to the applicant for a specified period. Once granted, however, the variation will stipulate certain standards to which the facility must adhere¹⁷. An assessment of the number of applications for noise variations in 2006 (including applications rolled over from previous years) is shown in Figure 33.

¹⁷Violating such standards could result in the issuing of a Notice of Violation.

FIGURE 33: NOISE VARIATION APPLICATIONS FOR EVENTS IN TRINIDAD AND TOBAGO (2006)



Source: EMA, 2008

7.0 CONCLUSIONS

In 2006, there were no significant changes in the environmental trends in Trinidad and Tobago that had been identified in previous ASOEs.

Positive steps to minimize environmental impacts were introduced e.g. phasing out of ozone-depleting substances. The EMA continued the operation of the ambient air quality monitoring station at Pt. Lisas.

Demand for freshwater continued to increase; however, the threats to sources of freshwater (e.g. hillside land clearance, pollution, increased extraction) also continued to increase. If appropriate action is not taken, the supply from these freshwater sources may later prove to be inadequate, especially during the dry season.

The world-wide phenomenon of global warming appears to be observed locally by the trend of increases in local ambient air temperatures and predicted increases in sea level height which points to an urgent need to protect very sensitive and fragile ecosystems such as Tobago's coral reefs (already showing signs of deterioration) and other aspects of the country's biodiversity and land mass that may also be under threat.

Noise pollution persisted as a cause for concern among the general public in 2006.

8.0 CHALLENGES IDENTIFIED BY THE 2006 ASOE

In developing the 2006 ASOE, several future work plans or fundamental needs were identified that would facilitate the EMA in discharging its statutory obligations. These include:

- Law enforcement of existing legislation to the fullest extent and enactment of the DAPRs.
- Investing in resources which are important for the country's sustained growth and well-being e.g. protection of watershed and areas with tourism potential.
- Promoting efficiency in the use of both freshwater and energy and proper disposal of garbage to reduce the volume of garbage which enters waterways.
- Widening environmental datasets by extending studies to other geographical areas in the country, which will provide a better assessment of the state of environment and any changing trends.
- Studying how factors such as deforestation, housing, drainage, climate change etc contribute to flooding incidents and possible linkages of flooding incidents with various aspects of human well-being.
- Extending the monitoring of the environment to areas that are not currently being monitored, which will provide more reliable data for the evaluation of key environmental issues/elements such as climate change.
- Revisiting the initial list of environmental indicators prepared in the production of the 2005 ASOE with a view to developing a nationally-accepted list of environmental indicators for Trinidad and Tobago.

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**PART B:ACTIVITIES, ACCOMPLISHMENTS & PLANS OF THE
EMA**

Introduction	47
Organisational Structure	48
Activities and Accomplishments for 2006	53
Plans for 2007	84
Appendix 1 – Board of Directors	88

Introduction

The EMA of Trinidad and Tobago was established by the EM Act in 1995 on World Environment Day (June 5th).

The EMA is committed to protecting, restoring and conserving the environment to improve the quality of life by promoting:

- Environmentally responsible development.
- A culture of care for the environment.
- Development and enforcement of environmental legislation.
- Use of economic, financial and other incentives.

This is to be achieved in an atmosphere of mutual respect, professionalism, accountability, transparency, collaboration and social responsibility.

One of the main tasks of the EMA to date has been the development and implementation of a comprehensive and cohesive package of (subsidiary) environmental regulatory legislation in accordance with the requirements of the EM Act. Yet, it should be noted that the role of the EMA goes beyond regulation.

The EMA has been investing resources in improving environmental awareness and education; is responsible for state of environment reporting; coordinates environmental management functions performed by persons in Trinidad and Tobago; has been working with partner agencies, organisations and institutions in the development and implementation of other relevant environmental policies and plans; and has also been lending support to the fulfillment of the country's obligations to a number of regional and international conventions and treaties.

In an effort to improve environmental management, the EMA aligns its work programme to the goals and objectives of the NEP. The objectives of the NEP include:

- Prevent, reduce or where possible recycle all forms of pollution to ensure adequate protection of the environment and consequently the health and well-being of humans
- Conserve the vitality and diversity of the natural environment through the conservation of ecological systems and the biodiversity within
- Develop within the carrying capacity (the assimilative capacity of the environment) of the country through national physical development and planning; and the sustainable use of renewable resources and the conservation of non-renewable resources
- Change attitudes and practices of citizens with a view to reducing the polluting practices of the public
- Ensure that all industries install a certified Environmental Management System
- Empower stakeholders, including communities, to care for their own environments by providing opportunities to share in managing their local resources and the right to participate in decision-making
- Promote the integration of the principles of environmental sustainable development into all national policies and programmes

The EMA is responsible for a wide range of activities, a responsibility which has become increasingly important over the last few years given the country's rapidly growing economy. To help guide the organisation's work, a five-year strategic plan, spanning the period 2003 to 2008 was developed, within which five strategic priority areas were identified:

- Clean Air
- Clean Water
- Waste Management
- Noise Management
- Healthy Ecosystems

As is evident, most of the NEP strategies are directly supported by the EMA's strategic priorities, and the EMA's overall strategic plan.

Organisational Structure

The Authority is governed by a Board of Directors comprising a Chairman and nine other members, appointed by the President of the Republic of Trinidad and Tobago. The Managing Director/CEO, who is appointed by the Board, is an *ex-officio* member of the Board. The Board must appoint a Corporate Secretary who must be an employee of the EMA. The Manager of Corporate Services within the EMA currently serves as the Corporate Secretary.

The Chairman and the Board of Directors report to the Minister with responsibility for the Environment. The Members of the Board and Board Committees are detailed in Appendix 1.

The Authority itself is organized into five responsibility centers:

- **CEO's Office**

The Office of the Managing Director/CEO is responsible for coordinating and managing all aspects of the work of the EMA. Some specific areas include:

- The fulfillment by the EMA of the objectives detailed in the NEP, and the EM Act;
- The implementation and enforcement of the subsidiary legislation arising out of the EM Act, including monitoring conditions in permits and licenses granted pursuant to legislation;
- The development of environmental awareness among the citizenry of Trinidad and Tobago;
- The development of an organisational image that projects a strong, professional organization and engenders confidence in the Authority by members of the public;
- Maintenance of the focus on sustainable development while engaging in environmental enhancement and preservation activity;

- To lead, guide, coach and inspire a team of managers towards the achievement of the highest level of performance;
- To promote a productive work atmosphere that would elicit high standards of performance from staff;
- Ensuring that the programmes and projects of the authority are implemented, consistent with budgetary allocations;
- Developing and delivering on EMA's overall strategic and operating plans;
- Advising the Board of Directors on all matters relating to the operations of the Authority;
- Advancing the work of the Authority through meaningful interaction with the political directorate, and other similar regional and international bodies;
- Developing mutually beneficial relationships with participating national agencies that perform various environmental management functions so that the coordination function is effectively achieved;
- Ensuring that the day-to-day operations of the Authority are effectively managed;

- **The Environmental Police Unit**

The EMA's Environmental Police Unit (EPU) also falls under the CEO's Office. Formed in 1999, the EPU comprises Special Reserve Police officers from the Trinidad and Tobago Police Service. Their responsibilities include patrolling highways, serving Notice of Violations and monitoring noise variations. They also police environmentally sensitive areas and monitor the protection of environmentally sensitive species designated under the EM Act. According to the EPU's 2006 statistics, 2463 tickets were issued for offences ranging from vehicular emissions, transporting garbage and goods without a secured cover, defective fittings (e.g. lights, wipers etc.) and unnecessary discharge of lubricant. Ticket fines for 2006 totaled \$492,600.

These officers are appointed as Environmental Inspectors under the EM Act and have the power to enforce legislation outside the EM Act (Motor Vehicles and Road Traffic Act, Minerals Act, Litter Act,) in addition to pollution monitoring and responding to environmental complaints. The Unit falls under the jurisdiction of the Commissioner of Police but, as facilitated by the EMA, they receive day-to-day work assignments from, and submit reports to the EMA.

- **The Human Resource Unit**

The Human Resource Unit falls under the CEO's office and is responsible for the following:

- Manpower Planning
- Succession Planning
- Recruitment / Selection
- Performance Management
- Training
- Industrial Relations

- Compensation and Benefits
- Employee Relations
- **Legal Services**

A full range of legal services are provided to the Authority, these include, but are not restricted to, the following:

- Drafting and development of subsidiary legislation under the EM Act;
- Enforcement of the EM Act and its subsidiary legislation;
- Litigation/representation at the Environmental Commission, Court of Appeal, High Court and other Courts in this jurisdiction;
- Provision of timely and sound legal advice and opinions on the applicability of environmental law to issues affecting the Authority, other governmental entities and the general public;
- Formulation and review of internal policies to ensure that the Authority's activities and operations are consistent with its legislative mandate, national policies and programmes, international environmental law and best practices.
- Resolution of matters using non-litigious methods, e.g. Alternative Dispute Resolution (ADR)/ Mediation;
- Drafting, reviewing, negotiating, and providing advice on the implementation of all legal documents, agreements, contracts and other formal arrangements for operational activities of the Authority with other governmental and non-governmental entities.
- Working in conjunction with Technical Services for the granting of CECs and Noise Variations

- **Corporate Relations and Public Education**

The Corporate Relations and Public Education (CR/PE) Department is responsible for ensuring that the Authority establishes itself as a continuing presence and influences national consciousness. CR/PE has the responsibility within the EMA to “promote educational and public awareness programmes on the environment” as well as to assist with fulfillment of the mandate to “establish and co-ordinate institutional linkages locally, regionally and internationally.

One of the ways in which the EMA executes its mandate involves making the public more aware and concerned about environmental issues. In focusing on environmental improvement, the EMA develops special education initiatives to change attitudes and behaviours towards a range of issues including Air Pollution, Water Pollution, Noise Pollution, Waste Disposal and Ecosystem conservation.

- Every year, in collaboration with the Ministry of Education, the EMA coordinates two school competitions: the Primary Schools' Hands-On Environmental Programme and the Secondary Schools' Dramatic Envirologue.

- The EMA delivers lectures, conducts workshops and develop programmes on environmental issues for the benefit of Government Agencies and Ministries, Community Groups and Non-Governmental Organisations, Corporate and Industrial Sector entities, Civic society groups, Faith Based organisations and Educational Institutions.
- The EMA also supports the creation of environmental clubs in primary and secondary schools, as well in communities.
- The Authority is also a clearing house for environmental information. The Information Center houses a specialized environmental reference collection that includes journals, environmental science texts, copies of legislation and newspaper clippings on environmental issues.
- The National Registers for the CEC and NPCR are also available at the Information Centre.
- The EMA also collaborates with other governmental agencies, statutory bodies in the execution of their environmental education campaigns.

The Corporate Relations function remains critical as it is responsible for:

- Creating awareness of the EMA's mandates
- Generating a body of public opinion favourable to the EMA and its mandates.
- Building and maintaining a sound corporate image/identity
- Fostering good relationships with internal and external publics
- Creating a mutually beneficial relationship with the Media

- **Technical Services**

The Technical Services Department is responsible for the implementation of the technical and administrative processes relating to the following:

- CEC
- Water Pollution Management
- Waste Management
- Management of Hazardous substances
- Emergency Incidents Response
- Complaints Investigation
- Site Remediation
- Biodiversity Protection and Conservation
- Market Based Instruments
- Environmental Monitoring and Research
- Inspection and Compliance Monitoring
- Noise Pollution Management
- Strategic Environmental Management

The EMA is charged with the responsibility of implementing subsidiary legislation under the EM Act, Chapter 35:05. This includes the NPCR, the ESSR, the ESAR, the CEC Rules and most recently the WPR (amendments to which were prepared on December 18, 2006 and submitted to Parliament for consideration). In addition to implementation of the foregoing, the

EMA designs the framework and provides legal and technical instructions for proposed legislation.

- **Corporate Services**

The Corporate Services Department is responsible for the following functions:

- Financial Accounting
- Fund/Treasury Management
- Procurement and Asset Maintenance
- Information Technology
- Secretarial Services to the Board
- General Administration
- Health, Safety and the Work Environment

Corporate Services serves to ensure the implementation of good governance and accountability. It has the primary responsibility for providing logistical support to the organization and making available, timely, accurate and complete information on the financial performance and status of the Authority for sound decision making.

Activities and Accomplishments for 2006

- **Legal Services**

As part of its key functions of developing and implementing policies and programmes for the effective management and wise use of the environment and establishing national environmental standards and criteria, the EMA, was actively involved in the continued revision and execution of vital elements of subsidiary legislation in order to modernize and streamline its regulatory process.

In 2006, the EMA continued its diligent pursuit of enforcement as it pertains to environmental and public law, public health and safety and science. Every enforcement action undertaken imposed a high standard and burden of proof on the Authority in order to bring environmental requirement violators/polluters into compliance with the relevant environmental requirements.

Since these actions call for the concerted effort, time due care and diligence of the entire organization, Legal Services continued its close association and working relationship with Technical Services and the EPU as the 'badge of enforcement' of the Authority.

Finally, Legal Services continued its representation of the EMA before the Courts of the land and the Environmental Commission forming a vital link and input in the further development of the common law, practice and procedure in the environmental field.

The following are the legal matters which engaged the attention of the EMA in 2006:

- **Water Pollution (Amendment) Rules, 2006**

Pursuant to Sections 52 and 53 of the EM Act, which outlines the legislative mandate of the EMA regarding the management of water pollution, the Water Pollution Rules (WPR) were developed by the EMA in 2001. Subsequently, the Authority drafted amendments to the WPR in 2006. With the new amendments, house sewers were deleted from the definition of a “registrable facility” and are therefore exempt from certain requirements of the WPR.

- **Air Pollution Rules 2005**

The Draft Air Pollution Rules, 2005 were submitted for Public Comment during the period October 3rd, 2005 to November 11th, 2005. The Draft Air Pollution Rules were then revised during the course of 2006 to incorporate the comments received.

- **Waste Management Rules**

In furtherance of fulfilling its mandate of waste management under Sections 55-60 of the EM Act, the Authority has begun the process of drafting the Waste Management Rules. The draft Waste Management Rules are being specifically developed to define hazardous wastes, establish standards and criteria for hazardous waste generation, hazardous waste handling and disposal facilities and to establish licensing and permitting requirements regarding such wastes. The Rules also seek to fulfill the obligations of the Government of the Republic of Trinidad and Tobago (GORTT) under the Basel Convention concerning the import, export, transit and illegal traffic of wastes.

- **Nariva Swamp Managed Resource Protected Area**

By Legal Notice No. 334 dated December 29th, 2006, Nariva Swamp was designated as an Environmentally Sensitive Area pursuant to the Environmentally Sensitive Areas Rules, 2001. The effect of the designation is that the Nariva Swamp is deemed a Managed Resource Protected Area where there are prescribed limitations on the use of and activities within the swamp. The Authority can effectively take enforcement action against anyone who contravenes provisions in the notice. Such contraventions constitute a breach of an “environmental requirement” which triggers the issue of a Notice of Violation and the subsequent enforcement process. It is also important to note that under section 70(2) of the EM Act that

“any person who knowingly or recklessly undertakes or conspires to allow any activity in an ‘environmentally sensitive area’ or with respect to an ‘environmentally sensitive species’ designated under section 41, which may have an adverse impact on the environment within such area or on such species, commits an

offence and is liable, on conviction on indictment, to a fine of one hundred thousand dollars and imprisonment for two years.”

Therefore, criminal action can also be effected.

- **Aripo Savannas Strict Nature Reserve**

A proposed Notice was prepared by the EMA in accordance with the EM Act and the Environmentally Sensitive Areas Rules, 2001 to initiate the process of designating the Aripo Savannas Strict Nature Reserve as an environmentally sensitive area. The EMA has improved the text of the proposed Notice from the original draft. These improvements include a re-surveyed northern boundary of the proposed area and description and a map of the proposed ESA. The proposed Notice was submitted for stakeholder comment during the period October 23rd 2006 to December 6th 2006 to give stakeholder agencies an opportunity for input into the designation process.

- **EMA DPA 002/2006 Vijay Sookdeosingh v. Atlantic LNG Company of Trinidad and Tobago, the Attorney General and the EMA**

On October 6th, 2006, the Applicant filed a Notice of Direct Private Party Action against Atlantic LNG, for breach of an environmental requirement, more particularly, a breach of a term at clause (ii) (j) of the Certificate of Environmental Clearance - CEC0114/2002 (CEC) dated June 6th, 2003 whereby Atlantic LNG was granted approval for the establishment of a Fourth Train (Train IV) for the liquefaction of natural gas. The CEC clause referred to the requirement that Atlantic LNG develop mechanisms to establish a buffer zone around the Atlantic LNG facility if such was required and to do so consistent with applicable international standards and guidelines.

In this case, the Applicant stated that he was an individual with a specific concern with respect to the claimed violation in that the Applicant lived in close proximity to the facility; he lives just outside of the buffer zone of 710 metres and he had concerns with respect to his health, safety and his quality of life.

The parties, Atlantic LNG and Vijay Sookdeosingh engaged in settlement talks. The Environmental Commission ordered mediation between the parties which was ongoing.

- **EAA 003/2006 Atlantic LNG Company of Trinidad and Tobago, the Attorney General and the EMA v. Vijay Sookdeosingh**

Preliminary points of law were taken arising out of the direct private party action brought by Vijay Sookdeosingh. Atlantic LNG and the EMA raised certain preliminary points which concerned the interpretation of section 69 of the EM Act. Section 69 of the Act governs the manner in which a private party can commence an action against any other person for a claimed violation of any environmental requirement(s) described in the Act.

Hearing of the preliminary points was adjourned to facilitate mediation between the Atlantic LNG and Vijay Sookdeosingh.

- **CV 2005-00194; High Court Action S-270 of 2003 – Calvin Cayenne and the Environmental Management Authority and American Life and General Insurance Company (Trinidad and Tobago)**

A Writ was filed on February 14th, 2003 against the EMA and American Life and General Insurance Company (Trinidad and Tobago) (ALGICO) by Calvin Cayenne.

This matter involved a Special Reserve Police (SRP) attached to the EPU of the EMA namely, Calvin Cayenne, who was injured on February 3rd, 2002, whilst he was a passenger in a motor vehicle owned by the EMA. As an SRP he was appointed as an Environmental Inspector pursuant to section 21 of the EM Act.

The dispute was whether by virtue of the terms of the insurance policy and/or the Motor Vehicles Insurance (Third Party Risks) Act Chapter 48:51 as amended, the EMA was entitled to be indemnified by the Insurer.

Judgment was delivered on November 10th, 2006 by Madame Justice Judith Jones. It was held that:

1. The EMA was liable to the plaintiff/Cayenne for the injuries suffered as he was not considered an employee of the EMA and
2. Pursuant to the terms of the insurance policy, the EMA was entitled to be indemnified by the insurer/ALGICO with respect to all sums including the costs and expenses, which the EMA was legally liable to pay as a result of the injury to the plaintiff/Cayenne.

It was ordered that:

- (1) There be judgment for the plaintiff/Cayenne against the EMA and ALGICO with damages to be assessed.
- (2) ALGICO indemnify the EMA with respect to all the sums including all costs and expenses the EMA would be legally liable to pay as a result of the injury.
- (3) ALGICO pay the plaintiff/Cayenne's costs and the EMA's on the claim and the EMA's costs on the third party proceedings.

ALGICO has since filed an appeal in this matter. No date has been set for the appeal.

- **National Petroleum v. EMA, EAP 002/2006**

On March 22nd, 2006 the Appellant, Trinidad and Tobago National Petroleum Marketing Company Limited (NP) filed its Notice of Appeal of the decision of the EMA to deny NP's claim for confidentiality made in its application for a permit to upgrade a gasoline station off the Beetham Highway. NP requested that certain specific information be kept confidential in part because it included trade secrets, and in part because the information might be used in such a manner as to present a security risk.

The EMA denied this request on grounds that the public was entitled to the information and that NP had not met the standard for establishing that it was a trade secret. From that decision, NP appealed to the Environmental Commission. Judgment was delivered on November 30th, 2006. NP's appeal was allowed and the matter was remitted to the EMA to re-consider NP's application.

Corporate Relations and Public Education

- **World Environment Day (WED)**

Every year, the EMA celebrates World Environment Day (WED) by hosting several education and awareness activities. Its major event is the Green Leaf Awards Competition, the theme of which is pegged to the United Nations' (UN) International Theme for the year. In 2006, the international theme was "Don't Desert Dry Lands".

The Green Leaf Awards (GLA) was implemented by the EMA which chaired the WED Steering Committee. This committee comprised representatives from the Ministry of Public Utilities and the Environment (MPUE) and its agencies such as:

- Solid Waste Management Company Ltd (SWMCOL)
- Water and Sewerage Authority (WASA)
- Trinidad and Tobago Electricity Commission (T&TEC)
- Meteorological Services Division
- Trinidad and Tobago Postal Corporation (TTPOST)
- Horticultural Services
- Town and Country Planning Division (TCPD)
- The Institute of Marine Affairs (IMA)
- Department of Natural Resources and the Environment (DNRE) in Tobago
- The Forestry Division of the Ministry of Agriculture, Land and Marine Resources
- The Trinidad and Tobago Chamber of Industry and Commerce (TTCIC).

Exhibitions based on the UN theme and the work of the agencies were held at Trincity Mall, Gulf City-La Romaine and the Scarborough Port in Tobago. The EMA's annual WED conference took place at the University of the West Indies' Learning Resource Centre and was geared towards Sixth Form students as well as our stakeholders.

Celebrations to commemorate World Environment Day also included the Green Leaf Awards Ceremony on June 5th. This ceremony was held to honour the winners of the

GLA and other individuals, NGOs, companies and media practitioners who had made significant contributions to the environment in Trinidad and Tobago during the year in review.

This year the EMA focused on the theme as it related to our climate and environment conditions here in T&T. The focus was on activities that cause land to become arid, and while judging the Green Leaf Awards, the EMA sought out activities undertaken by groups that prevented lands from becoming barren or being turned into wastelands. Awards were given in the following categories: Youth, Community Based Groups, Organisation, Individual and Media. Long service awards were also conferred to members of staff who had worked with the EMA for 10 years.



- ❖ **The Honourable Ms. Penelope Beckles, Minister of Public Utilities & the Environment, opens the EMA's Conference and Exhibition to celebrate World Environment Day, 2006.**

- **Media Activities**

Interaction with the media remained high on the EMA's priority list in 2006. Media conferences were held to inform the public on the Alutrint CEC application. Posters on 'Frequently Asked Questions' on the CEC process, with specific references to ALCOA and Alutrint, were printed and distributed as a result of the public concern about the CEC process related to these applications. The EMA newspaper column continued its run and was supported by regular press releases.

Resulting from the various sensitization sessions, it was recognized that the CEC process requires tools to promote its understanding. One such tool was identified as a CEC Poster detailing a visual representation of the process. This poster was distributed to

stakeholders especially in the relevant communities, as well as published in the newspapers.

Television, radio and print advertising on littering, flooding, noise and vehicle emissions continued. Staff of the EMA also took part in television and radio interviews throughout the year.

One of the highlights for the EMA in 2006 was the production of its documentary on Water Pollution entitled, "Water Pollution - Threatening our quality of life". This six minute documentary was made to sensitize members of the public about water pollution and to explain issues such as point source and non-point source pollution, in preparation for the impending Water Pollution Rules.

Frequently Asked Questions (FAQs) on the CEC Process

Q. What is a CEC (Certificate of Environmental Clearance)?

A. It is a permit from the EMA for certain types of projects or activities.

Q. Is a CEC the only permission needed to start a project?

A. No. In most cases, a CEC is one of many approvals needed before an activity can start.

Q. Do all projects need CECs?

A. No. CECs are required for projects involving any of 44 activities, which are listed in the law. Only new projects need CECs. Other projects may need approval from other government bodies but not the EMA.

Q. What kinds of work can start on a site before a CEC is issued?

A. Very little. No construction can start before a project that needs a CEC is approved. Only minor works that are needed to investigate the site are allowed.

Q. What is the importance of a CEC?

A. Getting a CEC means that the EMA has looked at the environmental issues and found that the project is acceptable if done a certain way. The CEC lays down rules that must be followed for the project to go ahead.

Q. What does the EMA consider when it decides on a CEC?

A. The EMA considers environmental issues such as the effect of noise, dust and fumes water above and below ground and waste. It also considers flooding, landslides, beach destruction and damage to homes, and whether the negative effects of the project could be reduced to acceptable levels.

Q. What else?

A. The effect on animals and plants, services such as drinking water, roads and traffic and electricity supply.

Q. Anything else?

A. Yes. The EMA considers issues that affect the community such as health, wealth, education, customs and traditions that can be made better or worse by the project and can affect the environment.

Q. What is a Terms of Reference?

A. It is an official document that is prepared by the Environmental Management Authority as part of the CEC application review process. The Terms Of Reference gives strict guidelines that applicants must use in conducting the Environmental Impact Assessment (EIA).

Q. What is the purpose of an EIA?

A. An Environmental Impact Assessment (EIA) is a study that is used to identify the environmental, social and economic consequences of any development project. The EIA ensures that any potential problems are foreseen and dealt with at an early stage in the project's planning and design.

Q. How can the public participate in the EIA process?

A. The EMA and the project developers are required to encourage the public to comment on the EIA through direct contact with the EMA or developer's staff, submitting written comments or attending and voicing their concerns at public or community meetings. Please contact the EMA for more details.

Q. Is there anything the CEC does not consider?

A. Yes. There are many things that the EMA does not have power to consider when deciding on a CEC. These include:

- The health and safety of persons when working on the project during construction or operation.
- Whether the project area is zoned for agricultural, commercial, residential or industrial use.
- Whether the project is the most beneficial use of the country's energy resources.

Notes

These Frequently Asked Questions are intended to help persons who are new to and wish to participate in the Certificate of Environmental Clearance (CEC) process. If more details are needed or persons wish to view the actual legal requirements, please consult the CEC legislation available at:

The EMA's Information Centre
#8 Elizabeth Street St. Clair
Phone: 628-8042 / 43 / 44
Fax: 628-9122

Copies are also available on the EMA's website at: www.ema.co.tt





UPDATE ON ALCOA'S CEC APPLICATION

STAKEHOLDER CONSULTATION AND PARTICIPATION:

The EMA also includes in all TORs a requirement that the applicant conduct public consultations. The Authority has mandated that a robust and comprehensive public consultation take place during this EIA process.

These consultations will be conducted in a specific format to ensure that all relevant stakeholders will be fully engaged in participatory, productive and mutually respectful discussions.

Some of these measures include:

The applicant will host no less than four public meetings in the Chatham/Cap-de-Ville area during the conduct of the EIA.

Each forum will be facilitated by a professional, impartial facilitation team, which will be contracted by the EMA. The facilitation team will develop the agendas and format for each forum in consultation with the applicant and stakeholders in the project area.

A separate, independent Expert Advisory Forum will be established to guide stakeholders on the process, provide clarification and interpretation of technical issues, and achieve consensus on issues of fact.

HOW CAN YOU PARTICIPATE?

To encourage informed and active participation by members of the public during the public consultation process, the TOR on the proposed ALCOA Aluminium Smelter can be accessed at the following locations:

The EMA's Information Centre
#8 Elizabeth Street, St. Clair
Port-of-Spain

EMA – South Office
#2 Dumfries Road, La Romaine

A copy of the Final TOR is also available on the EMA's website at HYPERLINK "<http://www.ema.co.tt>" www.ema.co.tt by clicking on the menu item that states, "Alcoa Info."

UPDATE:

As part of the Environmental Management Authority's (EMA) ongoing commitment to administer a comprehensive and thorough evaluation of the proposed Aluminium Smelter project, the Authority has issued the Final Terms of Reference (TOR) for the Environmental Impact Assessment (EIA) with regards to the Certificate of Environmental Clearance (CEC) application by Alcoa Trinidad Unlimited (CEC 1468/2006) for the establishment of an Aluminium Complex at Chatham/Cap-de-Ville.

The TOR establishes guidelines that must be strictly adhered to in the development of the EIA. These guidelines address social, economic and cultural impacts as well as environmental impacts on flora, fauna, soil, water and air in addition to related mitigation measures.

In the drafting of the TOR, the Authority conducted a formal and detailed public engagement process and situation assessment and took into account the many concerns that various stakeholders have expressed about the proposed project.

Therefore, the EMA has mandated that, within the EIA, the applicant must sufficiently address particular issues, including:

Avoiding risks of aquifer contamination from direct and indirect sources

Ensuring that Hydrogen Fluoride emissions are always within acceptable concentrations, thereby meeting relevant standards

Handling of Hazardous Wastes to avoid contamination during storage, treatment, transportation or disposal

Conducting site specific Human Health and Ecological risk assessments

Evaluating the effects of the facility in combination with past, present and reasonably foreseeable future activities

Conducting a Social Impact Assessment to analyse the impacts the proposed project may have on the social aspects of the environment and how these social impacts may result in changes to public health and the physical environment

It should be noted that the preparation of TOR and the resulting EIA provide the technical basis for evaluating the application and does not suggest in anyway the outcome of the EMA's decision.





ENFORCING ENVIRONMENTAL LAWS FOR THE ESTABLISHMENT OF ALUMINIUM SMELTERS

PUBLIC CONSULTATION ON THE ENVIRONMENTAL IMPACT ASSESSMENT FOR ALUTRINT SMELTER

The Environmental Management Authority (EMA) will be hosting a public consultation on the Environmental Impact Assessment (EIA), submitted as a requirement for the application for a Certificate of Environmental Clearance (CEC), in respect of the proposed Aluminium Smelter to be established at Union Estate, La Brea (CEC1033/2005).

It will be held on **Saturday 27 May 2006** at the **La Brea Community Centre**, La Brea, starting at **5:00 p.m.**

The EMA welcomes your views, comments and concerns regarding the environmental impacts and remedial measures presented in the EIA.

WHAT CAN I DO?

The consultation will discuss information contained within the EIA that was recently out for public comment.

This is a further opportunity for the residents of La Brea and environs to engage in discussion about the proposed activity.

Copies of the EIA can be accessed at:

The EMA's Information Centre
#8 Elizabeth Street
St. Clair
Port-of-Spain

Copies of the EIA are also available on the EMA's website at "www.ema.co.tt" www.ema.co.tt by clicking on the link that states, "Documents out for Public Comment."

For further information, please contact the EMA Environmental Management Authority at 628-8042-44, ext. #3267 and 2269.



Environmental Awareness and Education

Disaster Preparedness and Management

In 2006, the EMA was actively involved in meetings of the Disaster Preparedness and Management Committee of the Ministry of Public Utilities and Environment. This committee comprised the EMA, Forestry Division, TTPOST, Meteorological Services, WASA, SWMCOL, T&TEC and the Horticultural Services Division.

The mandate of this committee was to develop action plans aimed at providing timely and effective advice to the public in the event of natural disasters such as hurricanes, earthquakes and floods, as well as man-made disasters such as chemical spills and forest fires. A key objective of this Disaster Committee was to provide the population with safety tips to assist in preserving the lifeline supplies to homes, health care facilities and businesses before, during and after an emergency.

In this regard, the EMA spearheaded the publication of a *Disaster Preparedness* magazine, which provided useful information from key agencies under the Ministry, to guide in the development of awareness and readiness plans to deal with disasters. Through TTPost, the magazine was mailed out to inhabitants of coastal communities and flood-prone areas.

- **Dengue Awareness and Prevention**

The EMA continued its partnership with the Ministry of Health on a Dengue Awareness and Prevention Media Campaign. Television, radio and print advertisements were produced especially for this campaign. The EMA also worked closely with the Regional Corporations to deliver lectures on Dengue Awareness and Prevention.

The goal of this collaborative initiative was to sensitise the nation to this life-threatening disease through the print and electronic media. The campaign focused on the disease-carrier – the *Aedes aegypti* mosquito, dengue prevention, its symptoms and treatment. Advertising began at the onset of the rainy season and was blitzed during key vacation periods e.g.: Easter, July/August vacation and Carnival season.

- **Best Village Environmental Competition**

The EMA also served on the Executive Committee of the Best Village Environmental Competition, an activity spearheaded by the Ministry of Community Development, Culture and Gender Affairs.

The Prime Minister's Best Village Environment and Sanitation Competition takes a yearly snapshot of the people of Trinidad and Tobago, and the way residents beautify and maintain their communities. Since it started in the 1960s, communities throughout the country have taken part in the competition, displaying their efforts to maintain and clean their surroundings, and to deal with local issues through environmental education and awareness. The competition is designed to encourage community residents to come together and work towards the improvement and regeneration of local environments by

maintaining their streets, blocks and community centres; planting trees and flowers, cultivating gardens, producing attractive landscaping, conducting environmental projects as well as cleanliness and replanting initiatives.

The EMA became involved in the Prime Minister's Best Village Environment and Sanitation Competition in 2003. At that time, the Ministry of Community Development, Culture and Gender Affairs, under whose purview the competition falls, decided to revise the competition and established a committee to draft a Strategic Plan. Two EMA representatives served on this committee. Since then, these members have been serving each year as judges for the competition, along with personnel from affiliated Government Ministries and Agencies.

- **Secondary Schools Public Speaking Competition**

This year's annual Secondary Schools' Public Speaking Competition took place during the period January to March, 2006. The main objectives of this competition were to educate and expose secondary school students from Forms Four to Six to environmental issues. This year the EMA encouraged a more dramatic presentation and participating students had 10 topics to choose from.

- **Primary Schools' Hands-On Competition**

The annual Hands-On Prize-giving Ceremony took place on June 28th, 2006 at the Rudranath Capildeo Learning Resource Centre, Couva. This year, there were 32 participating schools, inclusive of two from Tobago. The theme for this year was ***Our Environment, Our Responsibility: a Natural Disaster is Everybody's Business!*** The EMA used this opportunity to sensitise the primary school students about the dangers associated with natural disasters, before the hurricane season began.

- **Tidy T&T Project**

The EMA continued to work with Tidy T&T, a joint project of the Rotary Clubs in Trinidad and Tobago. The Authority was pleased to be a part of this project whose mission is to motivate and empower communities, allowing them to take pride in and responsibility for the natural, physical and cultural environment, in which they live. The project, patterned after a similarly and particularly successful programme called "Tidy Towns" was initiated in Ireland by its Tourist Board. Categories for judging this project included Waste Management, Landscaping, Heritage/Built environment, Nature Conservation and Community Eco-tourism.

- **Volunteer Programme**

EMA volunteers continued to assist in the dissemination of information, as well as the expansion of education and public awareness programmes coordinated by the Authority. This year the EMA worked with 15 volunteers, all with environmental backgrounds, who helped at EMA exhibitions and assisted with event planning. They were also trained to deliver lectures in their own areas to support the public education initiatives of the EMA.



- ❖ **Community Lecture: A volunteer-led presentation on climate change given to members of the Salybia Environmental Group, a coastal community that is particularly vulnerable to the effects of climate change.**

- **Lectures and Displays**

Throughout 2006, the EMA delivered more than 180 lectures on the CEC process, Disaster Preparedness, Subsidiary Legislation under the EMA, Climate Change, Lead Poisoning, Pollution, Flooding, the Role of the EMA in environmental protection, and Ozone Depletion. The EMA also mounted more than 45 displays on themes such as Global Warming and Climate Change, Environmentally Sensitive Areas and Species, and Ozone Depletion. Most of these were done for the nation's schools (including primary, secondary and tertiary institutions), NGOs, CBOs, Faith-Based Organisations (FBOs), other civil society groups, as well as the business and industrial sectors. The EMA also continued to work closely with specialized programmes such as Service Volunteer for All (SERVOL) and Civilian Conservation Corps (CCC) in the provision of environmental education.

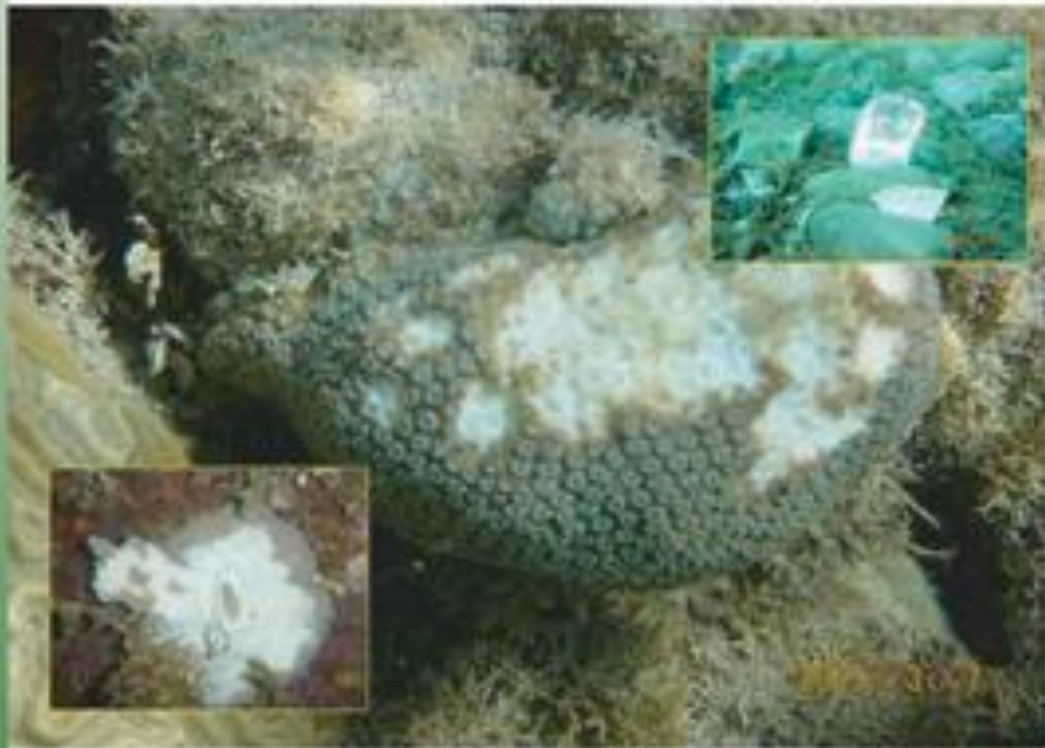
The EMA participated in a week long exhibition at the WASA compound to celebrate World Water/ Meteorological/Forestry Days. Other exhibitions included Tourism Park 2006, ScitechKnowFest, The Building and Interiors Shows (BITS), and the Ministry of Health's Roving Caravan which visited Rio Claro, Princes Town, Arima and Siparia.

- **Climate Change Education**

Under Article 6 (Education, Public Awareness and Training) of the United Nations Framework Convention on Climate Change (UNFCCC), the EMA continued its education initiatives to sensitize citizens about the effects of global warming and climate change on small island developing states (SIDS). These activities were also supported by the Mainstreaming Adaptation to Climate Change (MACC) project, which involves 12 participating CARICOM member states. The principal objective of the MACC is to build capacity within CARICOM to develop adaptation strategies and measures, according to the UNFCCC.

One of the major projects for the year was the production of the 84-page *Climate Change Handbook for Caribbean Journalists*. This was a joint effort between the MACC, the EMA, and the Association of Caribbean Media workers (ACM). This handbook attempts to clarify areas of doubt, identify sources of immediate and long-term concern and examine existing strategies being designed by the region to adapt to climate change. It provides practical direction on matters of language, central concepts and possible story angles. It is hoped that in time this handbook will assist in lifting the quality of Caribbean journalism and play a role in shaping more informed public awareness and opinion in an area of increasingly critical concern.

Mainstreaming Adaptation to Climate Change (MACC) Project



Climate Change Handbook for Caribbean Journalists

- ❖ Cover of the Climate Change Handbook for Caribbean Journalists.

- **Information Centre**

Located at the EMA's head office in Port-of-Spain, the Information Centre continues to attract a large number of external users from Trinidad and Tobago, the Caribbean region, as well as the international community. In 2006, a total of 2,495 external visitors came to the Information Centre; there were 1,003 telephone requests, 98 email requests and 1,023 requests from staff.

The National Registers for the CECs Rules and the NPCR are also housed at the Information Centre. In 2006, five hundred and seventy-one (571) persons accessed the CEC Register while 12 persons accessed the Register for Noise.

MINISIS, an integrated library management system, was also acquired in 2006. This system allows staff to electronically browse the complete collection of the Information Centre and therefore expedites research.

Technical Services

Technical Services, due to the nature of its operational activities, has to have a very close working relationship with other responsibility centers within the EMA:

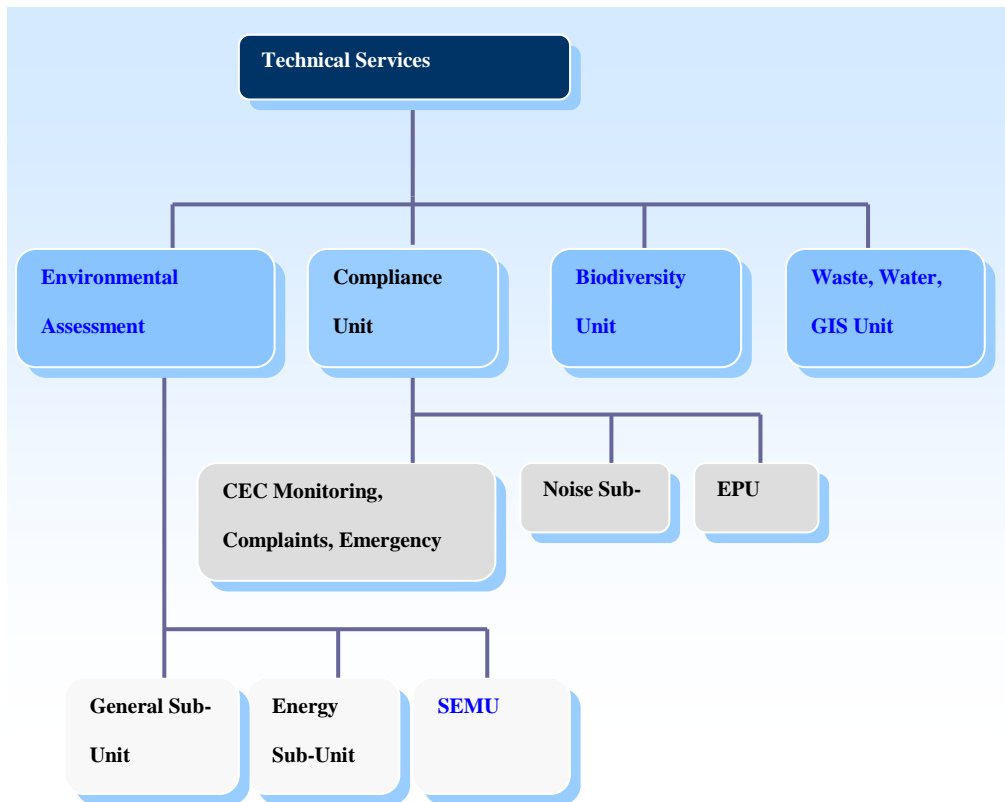
- The Office of the Managing Director/CEO - for signing off on permits and projects
- Legal Services - for the development of its legal instruments
- Corporate Services - to provide the resources required to execute its functions
- CR/PE - through which the EMA raises public awareness and encourages public involvement.

Over the last few years, the importance of the relationship between Technical Services and CR/PE has grown. There is a strategic attempt to link their work functions under each strategic priority. What this means therefore is that each strategic priority now lists an education and public awareness component along with relevant technical projects.

Very important for the effective operation of the EMA is its use of Memoranda of Understanding (MoU) with other governmental agencies to execute functions that it does not have the authority to execute, or functions that the agency is logistically unable to accomplish on its own.

In Tobago, environmental management functions fall under the purview of the Department of Natural Resources and the Environment (DNRE) of the Tobago House of Assembly (THA). The EMA is therefore required to work with DNRE to implement environmental legislation in Tobago. DNRE in collaboration with the EMA have been working on the implementation of the NPCR and the CEC Rules. Again, this relationship is facilitated by the EMA's CEO, through a quarterly leadership forum between the THA and the EMA.

As the number of CEC applications entering the EMA increased, streamlining of work functions occurred within Technical Services.



Technical Services from 2004 to 2007

The following is a description of major activities within Technical Services:

- **CLEAN AIR**

In 2006, the EMA sought to develop a Pollutant Release and Transfer Register System with activities to include collection of baseline data, conducting consultative sector workshops and creation of an electronic database. Given the budget constraints at that time, the EMA engaged with the Point Lisas Industrial Port Development Corporation (PLIPDECO) (landlord to the Point Lisas Industrial Estate) to carry out preliminary research through tertiary level students.

A Technology Needs Assessment project was completed in 2006 and the groundwork for the preparation of the country's Second National Communication (SNC) to the Conference of the Parties (COP) of the UN Framework Convention on Climate Change (UNFCCC) began in 2006.

The SNC will include:

- A trend analysis of greenhouse gas emissions for the various emitting sectors such as energy, transportation and industry;
- Vulnerability analysis of the health, water, agriculture and coastal zone sectors;
- Identification of mitigation options along with appropriate technologies;
- Identification of adaptation options along with appropriate technologies;
- Recommendations for a national climate change policy;
- Preliminary analysis of alternative energy use including natural gas, renewable energy and biofuels.

Associated with the UNFCCC, is SBSTA, the Subsidiary Body for Scientific and Technological Advice which counsels the Conference of the Parties to UNFCCC on scientific and technological issues related to addressing climate change. Trinidad and Tobago chaired this Body during 2006. The SBSTA agenda for this period included, *inter alia*, the development and transfer of technologies and the work programme on adaptation.

- **CLEAN WATER**

The EMA is charged with leading and coordinating efforts to meet the clean water priority objective. In this regard, the EMA's main focus is the implementation of the WPR, but it has also diversified into dealing with Waste Management issues and GIS development.

- **Implementation of the Water Pollution Rules**

Two main projects began in 2006 - the first being the water quality monitoring of two selected recreational areas, and the second being an awareness programme on non-point source pollution.

The water quality monitoring project sought to assess bathing beach quality at Maracas Beach and Caura River using the United States Environmental Protection Agency (USEPA) recreational water quality criteria for *Escherichia coli* and *Enterococci*. After consultation with the IMA it was determined that a similar study of wider coverage was being developed and a recommendation was made that the EMA should play a collaborative and supportive role to the IMA, so as not to duplicate efforts.

In support of the Water Pollution Rules, and to raise awareness about the problems associated with non-point source pollution which impacts on environmental water quality (including the quality of recreational water) in Trinidad and Tobago, a Non-Point Source Pollution Programme (NPSPP) was considered an important initiative for development.

The NPSPP is in the developmental stage and consists of a set of attainable goals that are designed around sustainable land use, and supported by carefully prescribed actions to minimize water quality degradation. Assessing the extent of the Non-Point Source Pollution problem and minimizing future impacts requires the involvement of many

different areas of expertise. NPSP management must utilize the focused cross-disciplinary tools of education, technology, monitoring, regulation, and stewardship. Such actions require clear aims, measurable standards, financial resources, and the understanding and support of the public through education and outreach to achieve measurable progress. It is expected that the NPSPP would be further elaborated and implemented in years to come.

- **Waste Management**

Remediation of contaminated lead sites at Demerara Road, Wallerfield and La Chance Trace in north-eastern Trinidad continued. The main aim of this project was to remediate lead contaminated areas in these communities to reduce the risk of lead poisoning.

Over the period, the EMA sought to assess and determine the extent and volume of contaminated lead soil at three sites in Trinidad. Field surveys, soil sampling and analysis were carried out to establish the extent and volume of contaminated lead soil identified from previous studies. A draft final report on the determined volume of lead contaminated soils found at the three selected sites was prepared. Via this project, officers were able to apply field screening techniques using equipment such as the X-Ray Fluorescence (XRF) handheld analyser as an effective resource-planning tool for lead remediation projects or any project requiring on-site screening of similar environmental contaminants.

Another significant project that began in 2006 was the remediation of a burnt out facility site in Cuchawan Trace, Debe. On March 19th, 2005, there was a fire at the Petroleum Laboratories Company Limited, Debe which left the landscape littered with debris and barrels, some of which contained highly flammable and hazardous materials.

The EMA conducted an initial site assessment and prepared recommendations regarding the possible evacuation of the area and the need for remedial actions as soon as possible. Subsequently a proposal was developed and submitted for supplemental government funding. The EMA obtained the requisite financial resources and hired a contractor to carry out the remediation works which began in mid-2006. The EMA provided direct supervision throughout the entire project which involved removal of contaminated soil and hazardous material from the area; treatment and disposal of hazardous chemicals and wastes and restoration of the affected area in order to meet the soil clean-up standards in keeping with the Ministry of Energy and Energy Industry's Guidelines.



❖ Petroleum Laboratories Company Limited site after explosion



❖ Isolation and demarcation of Site



❖ Onsite Treatment



Photo of Petrolab site three (3) months after completion of restoration project

International Obligations

Trinidad and Tobago is a signatory to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. This is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries. The EMA is the designated Competent Authority for the Basel Convention and currently reviews and researches all incoming and outgoing requests for the movement of transboundary waste to ensure that specified conditions for transport are adhered to.

In 2006 the EMA continued to perform this role as Competent Authority, processing applications for transit, import and export of hazardous waste.

Hazardous Waste Inventory

In 2006 the EMA conducted the first ever Hazardous Waste Inventory which covered data for the reporting year 2003. As a party to the Basel Convention (the Convention) the GoRTT is required to report annually on the generation, export and import of hazardous wastes covered by the Convention. In the absence of national legislation to meet the requirements of the Convention, it is incumbent on the Competent Authority (EMA) and the national focal point (Ministry of Public Utilities and the Environment) to conduct inventories on hazardous wastes on an annual basis.

At the end of the study, the EMA was able to submit for the first time to the Basel Convention Secretariat, populated tables for the reporting year 2003 regarding:

- export and import of hazardous wastes and other wastes;
- generation of hazardous wastes and other wastes;
- disposals which did not proceed as intended;
- accidents occurring during the transboundary movement; and disposal of hazardous wastes and other wastes.

Apart from a comprehensive report detailing all the findings and recommendations from the study, an electronic database was created with all the relevant data generated from the survey along with geo-referenced coordinates.

- **HEALTHY ECOSYSTEMS**

Environmentally Sensitive Areas

Under the Environmentally Sensitive Areas Rules 2001, a total of eight areas across Trinidad and Tobago have to date been identified (through consultation with stakeholders) as areas which meet the criteria for designation as environmentally sensitive. Out of the eight areas, two have been designated - the Matura National Park in 2004 and the Nariva Swamp Managed Resource Protected Area on December 29th, 2006

Groundwork began in 2006 on two other areas, the Main Ridge National Park and Caroni Swamp National Park. The update of the Aripo Savannas Management Plan (1980) project began in 2006, facilitated by the Caribbean Natural Resources Institute (CANARI) and involves participatory management planning with the Aripo Savannas Stakeholder Management Committee (ASSMC) acting as Project Steering Committee.

During 2006, the EMA continued identifying more areas for designation. Given the EMA's participatory approach to environmental management, this was done in consultation with stakeholders.

On December 29th 2006, Nariva Swamp was designated an environmentally sensitive area. The Nariva Swamp is the largest, most diverse wetland ecosystem in Trinidad and

Tobago. It is located on the east coast of Trinidad, covering an area of approximately 11,343 hectares. The biodiversity within this ecosystem is extremely high and it is the habitat of a number of sensitive plants and animals.

Nariva Swamp possesses the best examples of bloodwood and Crappo-Guatecare forest type in the country. With 319 species of plants, the vegetation of the swamp is classified into the following plant communities and habitats: mangrove swamp, freshwater marsh, palm swamp and freshwater swampwood. It is the main habitat for the locally and globally endangered West Indian Manatee (*Trichechus manatus manatus*), the locally extirpated Blue and Gold Macaw (*Ara ararauna*), which was recently reintroduced into the wild, and the Giant Anaconda (*Eunectes murinus*). The Swamp is home to a number of stakeholders who tap the wetland's faunal and floral resources.

Another area identified for designation is the Buccoo Reef Marine Park, which has been a part of the EMA's work programme for at least five years. Currently, a survey of the high water mark to determine the landward boundary of the ecosystem is being undertaken. Designation is expected to be approved by Cabinet once these boundaries are agreed on by the Tobago House of Assembly, and then approved by the Lands and Surveys Division.

Also, the EMA is currently meeting with software designers towards developing an interactive Nariva CD-ROM.

- **Environmentally Sensitive Species**

Species selected for designation over the period 2003 – 2007 in consultation with stakeholders include the:

- West Indian Manatee
- Trinidad Piping Guan or Pawi
- White-tailed Sabrewing Hummingbird
- Five species of marine turtles, including Leatherback, Green, Hawksbill, Olive Ridley and Loggerhead
- Ocelot
- Golden Tree Frog
- Silky Anteater
- Bloody Bay Poison Frog
- Scarlet Ibis
- All orchids
- Goliath Grouper
- River Otter or Neotropical Otter
- Stony Corals
- Black Coral

Prior to 2006, three species were designated - the West Indian Manatee, the Trinidad Piping Guan or Pawi, and the White-tailed Sabrewing Hummingbird. During 2005, the

EMA focused on the preparatory work required for designating five species of marine turtles. The EMA, however, met with a number of roadblocks for example, Primary legislation such as the Fisheries Act and the Conservation of Wildlife Act, which take precedence over the EMA's subsidiary legislation.

Some of the conflicting issues include:

-According to the Fisheries Act, turtles are considered as fish and can be hunted at certain times of the year.

-With respect to the Conservation of Wildlife Act, once the turtle has landed and is on dry ground, is it then only considered a protected species

Under the ESSR, the designated species and its habitat must be protected at all times (save and except for specific scientific purpose) no matter its location.

During 2006, the Authority progressed with identifying more species for designation. Given the EMA's approach to environmental management, this was done in consultation with stakeholders.

- **Environmental Assessment**

In 2006, the EMA focused its attention on sensitizing stakeholders on the CEC process. Throughout the year, the EMA met with over 46 stakeholder groups and organizations to raise awareness of the CEC process and to highlight the possible impacts and benefits. This exercise also facilitated the strengthening of relationships between the EMA and its stakeholders. The list of stakeholders included:

- National Energy Corporation (NEC)
- National Gas Company (NGC)
- Ministry of Works & Transport (MOWT)
- Ministry of Housing
- Ministry of Local Government
- Ministry of Education
- Ministry of Agriculture, Land and Marine Resources (MALMR)
- Land Settlement Agency (LSA)
- Sugar Industry Labour Welfare Committee (SILWC)
- Estate Management and Business Development Ltd. (EMBD)
- Housing Development Corporation (HDC)
- Urban Development Company of Trinidad and Tobago (UdeCoTT)
- Rural Development Company of T&T
- Evolving Technologies (E-Teck)
- Petrotrin (Petroleum Company of Trinidad and Tobago Limited)
- Trinmar (a subsidiary of Petrotrin)
- Yara Trinidad Ltd (19 participants). This session had a mix of Yara personnel including executive management and operational staff.
- Petrotrin-Trinmar (35 participants). This was a second session to target the operators and other field personnel responsible for initiating projects.
- Municipal Corporations. 8 Corporations were represented
- Financial Institutions. 9 Institutions were represented

- Professional Associations. 11 Associations were represented
- CEC information booth at Agricultural Development Bank's (ADB) World Food Day Exhibition.
- UWI Tourism and Hospitality Undergraduate students
- Forestry Division
- Water Resources Agency (WRA)

The Strategic Environmental Assessment for the North Coast Marine Area (NCMA) was initiated in 2006 and development of the CEC Procedures Manual continued throughout 2006. As part of the process to document and standardize procedures this project continued throughout 2006 since it required that every detail of each step in the CEC process be captured in writing. A first draft will be completed and reviewed in 2007.

An Environmental Impact Assessment (EIA) Preliminary Review Checklist was developed in 2006 to standardize the procedure for determining if an EIA submitted by an applicant could be accepted. This document is important in providing guidance to the processing officer and allows for early identification of potentially deficient EIAs.

- **Noise Management**

In 2006, the EMA's objective was to ensure that all noise complaints received are investigated within a one-week period with voluntary compliance being the first option. The EMA continues to maintain close interactions with the EPU in the execution of the responsibilities as defined under the Rules.

The majority of the environmental complaints received by the EMA from the public since the organization's establishment in 1995 were noise complaints. The NPCR was one of the first pieces of environmental legislation to be passed in Parliament under the EM Act, and therefore was the first law to be implemented by the EMA. Since 2001, the EMA has been challenged to manage noise effectively while ensuring that it does not adversely hamper local culture, economic activity and religious expression.

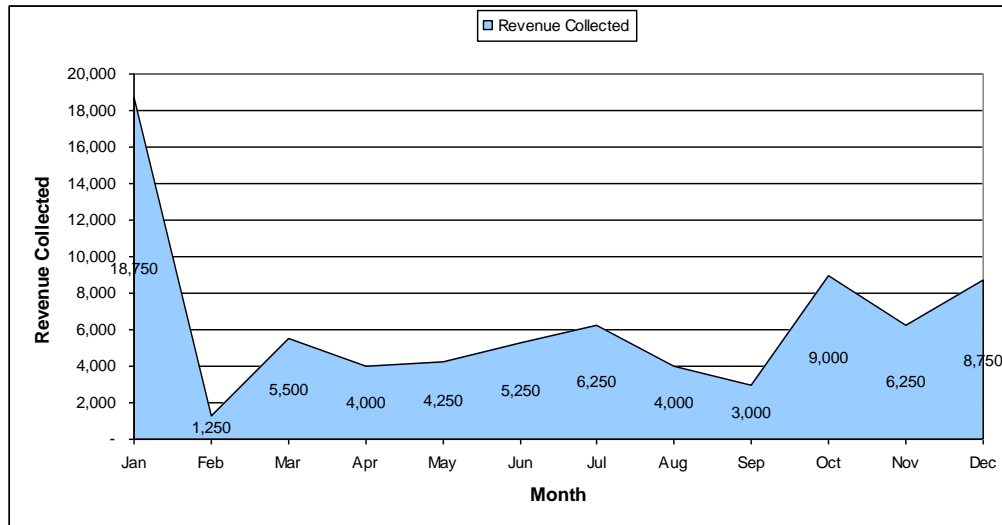
A Code of Practice was developed for the Entertainment Industry in 2003. The code is supposed to enable the Authority to emphasize and promote enforcement of all noise control legislation, so that the legal rights of all interest groups can be managed in accordance with the law.

To ensure efficient and effective implementation of NPCR, the EMA has regularly engaged in training and re-training of internal staff, the EPU, the DNRE and other stakeholders in the measurement of sound pressure levels to measure compliance with the Noise Standards. The objective of training these officers is to expand the ability of the EMA to respond to noise-related complaints.

The Noise Sub-Unit is a part of Technical Services and officers attached to this Sub-Unit are involved in processing noise variations. The timelines and requirements for these permits are outlined within the Rules and the process to execute the Rules can be

considered to be mature with predictable peak times around from November through February of each year. It has been found that the public has a fair understanding of the requirements of this law, but the EMA continues to make attempts to boost public awareness efforts around peak times.

EPU officers monitor sound pressure levels at events which have received noise variations to ensure that they comply with allowed levels. On the other hand, noise complaints received from the public are monitored by both the EMA and the EPU. A total of \$75,650 was collected from application processing fees in 2006. See chart below.

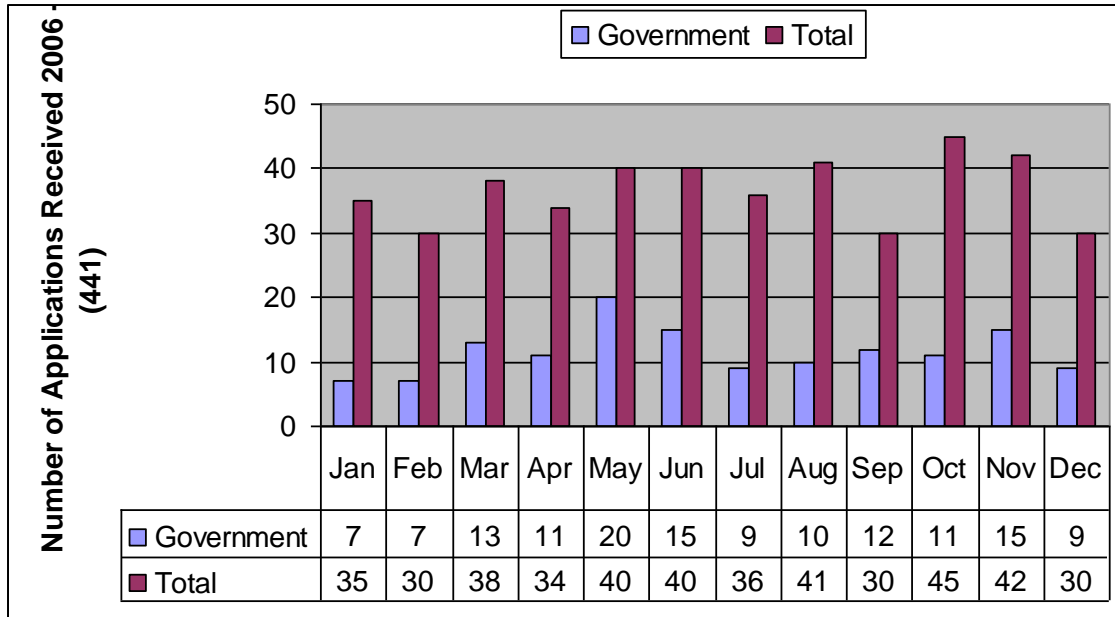


❖ **Application Fee Revenue Collected under the Noise Pollution Control Rules (2001) in 2006**

• **Implementation of the CEC Rules (2001)**

In 2006, the EMA experienced a significant increase in both the number of applications and in the complexity of applications received. CEC statistics for 2006 are shown in the table below. 441 applications were received, nine were refused and 218 certificates were issued. The process earned a total of TT\$1.425M, which was directed to help pay for the administration of the process and the sourcing of technical (often international) expertise to assist in the review process of Environmental Impact Assessments (EIAs).

There was also a notable increase in the number of government applications submitted, and these tended to involve large scale development projects such as infrastructure for an intra-island ferry service, cross-country highways, large scale housing developments, development of fishing ports in rural areas and large and medium scale agricultural development. These projects are loosely attributed to the country's expanded development thrust. In addition, non-energy applications generally surpassed energy-related applications over the period.



GOVERNMENT APPLICATIONS COMPARED TO THE TOTAL NUMBER OF CEC APPLICATIONS SUBMITTED - 2006

Applications of Note - 2006

Some of the more significant CEC applications received or processed in 2006 included the following:

<p><i>TOBAGO</i></p> <p>→ 0938/2005 - Application for the establishment of residential resort-type villas inclusive of associated utility and infrastructural amenities at Speyside. This was of interest to the EMA due to the sensitivity of the area. This project was assessed through the EIA process and a CEC was issued.</p> <p>→ 1214/2005 – Application for the installation of infrastructural works for the development of 4.89 hectares of land for the establishment of an Eco Lodge at Bon Accord. This was of interest to the Authority due to the sensitivity of the area. This project was assessed through the EIA process and a CEC was issued.</p> <p>→ 0563/2003 – Angostura Limited was issued a CEC for the establishment of a resort at Buccoo and Golden Grove Estates.</p>
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MORUGA

- 1676/2006 – **Application received for the drilling programme for the Moruga and Balata East Fields by Petrotrin – this is significant as it represents a combined application for two separate blocks in two different areas, but which have similar environmental receptors making it acceptable for EMA to review these under one application. Another significant aspect of Balata East is that it is just south of the designated Nariva Swamp Managed Resource Area.**
- 1363/2006 – **Application was received and a Final Terms of Reference was issued to the Rural Development Company of Trinidad and Tobago Limited for the establishment of a fishing facility off Grand Chemin. This was the first project of its kind to be addressed by the EMA.**

LA BREA/PT. FORTIN

- 1438/2006 – **Application was received and a Final Terms of Reference was issued to ALNG for the proposed establishment of the Guapo Shoreline Protection Project at Guapo Beach by ALNG. This project was of interest to the EMA as it represented a large-scale attempt to stabilise the Clifton Beach area.**

POINT LISAS

- 1248/2005 - **Essar Steel was issued a CEC for the establishment of the iron and steel complex in Claxton Bay. This was the first time a steel plant was approved.**
- 1263/2005 – **A final Terms of Reference was issued to the NEC for the clearing of land and establishment of infrastructure for the establishment of a Point Lisas South and East Industrial Estate. This was deemed a file of interest due to the size and location.**
- 1563/2006 – **Application was received and a Final Terms of Reference was issued to Westlake Trinidad Limited for the establishment of an ethylene and polyethylene complex at the proposed Point Lisas South and East Industrial Estate. This was the first project of its kind to be processed by the EMA.**
- 1284/2005 –**Final Terms of Reference was issued to the NEC for proposed Port Development at Pt. Lisas. This was deemed sensitive due to the location and receptors.**

UNION INDUSTRIAL ESTATE

1311/2006 –**Final Terms of Reference was issued to the National Energy Corporation for the proposed construction of a multi-user petrochemical pier and port facilities and reclamation for port storage at the Brighton Harbour.**

1516/2006 – **Application was received and a Final Terms of Reference was issued to the NEC for the construction of docking facilities and land reclamation at the Brighton Harbour. This project is associated with CEC1033/2005, the proposed establishment of an aluminium smelter at Union Estate.**

CENTRAL TRINIDAD

- 1126/2006 – An application was received and a CEC subsequently issued to the Ministry of Works for the construction of a flood control dam in Mamoral.

SOUTH TRINIDAD

- 1305/2005 -Establishment of a gas to liquids plant. This is significant as it is proposed to be located within the Petroleum Company of Trinidad and Tobago's Pointe-a-Pierre Refinery. This project was assessed through the EIA process and a CEC was issued.
- 0954/2005 -Establishment of an ethynol dehydration plant at the Pointe-a-Pierre Refinery. This is significant given its proposed location. This project was assessed through the EIA process and a CEC was issued.
- 1267/2005 -Establishment of a laboratory for designing and testing cement slurries for concreting oil wells, Woodlands. This was the first project of its kind to be issued a CEC.
- 1266/2005 –The abandonment of storage and assembly facility for explosives and a storage facility for radioactive material. This was the first project of its kind to be issued a CEC.
- 1468/2006 – Final Terms of Reference was issued to ALCOA for the establishment of an aluminium smelter at Cap-de-Ville. This project was of interest due to the nature, scale and proposed location.
- 1690/2006 - Final Terms of Reference was issued to ALCOA for the establishment of a power plant at Cap-de-Ville. This project was of interest due to the nature, scale and proposed location.
- 1321/2006 – Application was received and a Final Terms of Reference was issued to the Ministry of Works and Transport for the establishment of a highway from St. Mary's Junction to Point Fortin; this is significant as the proposed highway traverses forested areas, oil fields and communities.
- 1264/2005 – A Final Terms of Reference was issued to the NEC for the clearing of land for the expansion of the proposed Industrial Estate at Cap de Ville. This is related to CEC0851/2005.

EAST TRINIDAD

- 0174/2002 – A Notice of Refusal was issued to Snubbing Services Limited due to an inadequate assessment of potential impacts associated with land reclamation and the establishment of a port.
- 1166/2005 - Establishment of a Residential and Commercial Business Centre along Toco Main Road, Sangre Grande by Vision City Limited; this application was of particular interest due to its size and possible impacts on existing infrastructure. A Final Terms of Reference was issued. This file was withdrawn and subsequently re-applied as CEC1633/2006.
- 1633/2006 – Re-application by Vision City Limited (previous file number 1166/2005) and issuance of a Final Terms of Reference.
- 1630/2006 – Application received and Final Terms of Reference issued for the drilling of two wells with the Eastern Block by Talisman Trinidad Petroleum Limited. This was deemed of interest due to the proximity of the project to the Nariva Swamp.

NORTH WEST TRINIDAD

- 0783/2004 - the establishment of a resort to include hotels, villas, spa, condominiums and auxiliary support services. This was deemed of interest to the EMA due to coastal location, Las Cuevas Bay, and the sensitivity of the area.
- 1097/2005 – Final Terms of Reference was issued to the Housing Development Corporation for the proposed establishment of infrastructure for housing in Tucker Valley. This was deemed of interest to the EMA due to the sensitivity of the proposed location.
- 1453/2006 - Final Terms of Reference was issued to the Chaguaramas Development Authority for the proposed establishment of offshore breakwaters at Chagville Beach, Chaguaramas. This was deemed of interest to the EMA due to the sensitivity of the proposed location.

Plans for 2007

Legal Services

As the major arm of the Authority's enforcement mechanism with respect to the protection of the environment, Legal Services plans:

- To have the amendments to the Water Pollution Rules laid before Parliament
- To proceed with the enactment of the Air Pollution Rules 2005
- To submit the Notice designating the Aripo Savannas Scientific Reserve as an environmentally sensitive area for public comment and to proceed with the final designation of the Aripo Savannas Scientific Reserve as an environmentally sensitive area.
- To continue pursuing enforcement action through the CEC Rules and the NPCR, for example.
- To defend actions brought against the Authority through Direct Private Parties and Judicial Review.

Corporate Relations and Public Education

- **Media Activities**

Collaboration with the media will continue in 2007. A number of media conferences will be held during the year to discuss emerging environmental issues as well as the work of the organization.

- **Publications/Productions**

Newspaper articles produced by the EMA will be published weekly. Television, radio and print advertising will continue and staff will participate in television and radio interviews. The EMA's semi-annual External Newsletter will be produced for stakeholder distribution as part of its promotional items. Other print educational and public awareness material to be produced include a disaster preparedness manual, a Flooding and Chemical spills brochure, bookmarks, t-shirts with environmental messages, pens, pencils, activity books and posters to highlight various topics such as biodiversity, disaster preparedness and climate change.

- **Networking**

The EMA will also be involved in community meetings and public consultations to address matters under the CEC process.

Preparations for WED Conference, Exhibitions and the annual "Green Leaf" Awards Ceremony will begin in April.

- **Schools' Programmes**

The 9th annual Secondary Schools' "Hands-on" Competition and the Secondary Schools' Public Speaking Competition will be launched in January 2007. In 2007, the competition for secondary schools will evolve into the Secondary Schools' Dramatic Envirologue Competition. Its aim is to encourage a more dramatic presentation from participating

students. The EMA will also work with DNRE of the THA, to launch these programmes in Tobago. Documentaries as well as features on the secondary and primary schools' competitions will be produced in collaboration with Gayelle The Channel.

- **Media Campaigns**

Media campaigns will utilise television documentaries, print and radio advertisements and will focus on the EMA's strategic objectives - Clean Air, Clean Water, Healthy Ecosystems, Less Noise and Improved Waste Management.

- **Public Awareness**

Special emphasis will continue to be placed on educating the public about the EMA's subsidiary legislation – the ESAR and ESSR, the CEC Rules and the NPCR. A documentary entitled, "Water Pollution – Threatening our Quality of Life" will be aired on television to sensitize the public in preparation for the soon to be enacted Water Pollution Rules. The EMA will also follow through on its ongoing awareness programme with the Ministry of Health to alleviate the spread of dengue fever.

- **Campaigns**

A Biodiversity Public Awareness Campaign is to be launched and will include a Nariva CD ROM. The EMA will also undertake a 'Vanishing Species' Campaign, for which Calendars and Diaries with relevant information will be distributed. The EMA will also continue its collaborative efforts for the National Disaster Management Campaign.

Technical Services

- **Clean Air**

Ultimately, the area of air pollution management in Trinidad and Tobago is one that requires an iterative approach with more research accompanying and reinforcing the implementation of legislation. The EMA will be undertaking the finalisation of technical instructions for the Air Pollution Rules. A consultant will be retained to conduct a review of the ambient air quality standards and stack emission standards for selected air pollutants and will provide recommendations on appropriate standards for Trinidad and Tobago. The Pollutant Release and Transfer Register System which has been initiated in 2006 will continue in 2007. The EMA hopes to produce a draft final report in 2007.

- **Clean Water**

With regards to water pollution there are end-of-pipe standards (also known as discharge standards) for industrial effluents (TTS 547:1998), wastewater effluents (TTS 417:1993) and standards contained in the schedules of the Water Pollution Rules. Ambient water quality standards for water bodies or parts thereof in Trinidad and Tobago are non-existent. There is need to consider a simpler yet sufficiently informative method of depicting the overall status of our water quality in the interim.

The EMA is undertaking a project titled "Recreational Water Quality." This will involve water quality testing at various sites throughout Trinidad and Tobago. This project proposes to monitor the water quality of popular recreational areas (including swimming, bathing,

water sports) throughout Trinidad and Tobago, to get a snapshot of the present condition and at the same time establish the need for the promulgation and implementation of the water pollution regulations.

- **Waste Management**

In an effort to eliminate lead (Pb) exposure to residents and children throughout Trinidad and Tobago, the EMA would assess the extent of soil Pb contamination for subsequent remediation. Further environmental investigation of two previously identified contaminated sites at Guayaguayare and St. James is expected to continue.

Lead remediation is currently being undertaken at La Chance Trace and at Demerara Road Community Pond Area (DRCPA).

- **Healthy Ecosystems**

Future priorities include research into the preparation of Technical Briefs for the Maracas National Park and the Speyside Reef Management Area. Research on the West Indian Manatee is a project that the EMA hopes can be resourced in the near future.

The EMA has started the process of developing management plans for several of the eight areas so far identified i.e.: Matura Forest National Park, Aripo Savannahs, Nariva Swamp, Caroni Swamp, Main Ridge and Buccoo Reef in Tobago, and the Maracas National Park. Participatory research for Aripo and the update of the Aripo Savannah Management plan is currently being undertaken.

Designations and the activities related to designations are expected to continue. In the next two years, it is expected that the Buccoo Reef Marine Park would be declared an ESA, followed by the designation of Main Ridge National Park and Caroni Swamp National Park. Also, over the next two years, it is expected that the Ocelot, Golden Tree Frog and the Bloody Bay Poison Frog will be designated as environmentally sensitive.

- **Environmental Assessment**

The EMA is coordinating the development of a Cumulative Impact Assessment Practitioners' Guide through a contract with Mind Alliance of Jamaica. There will also be a review of the EIA process by Mind Alliance of Jamaica.

Cumulative impact assessment is a critical part of managing the environment and promoting sustainable development. The impact of a particular project on an environmental resource may be considered insignificant when assessed in isolation, but may be significant when evaluated in the context of the combined effect of all past, present and reasonably foreseeable future activities that may have or have had an impact on the resources in question. For this reason, the EMA must incorporate the assessment of cumulative effects in conducting environmental assessments.

The EMA also proposes to complete the slope stability manual and the CEC procedures manual in 2007. Also, the format of the current CEC Certificate will be reviewed and assessed based on officer feedback.

It is expected that a greater number of more complex applications will be received by the EMA for processing (as a direct correlation to the strength of the local economy and future discoveries of viable oil and gas reserves, especially in Tobago and in Central Trinidad and the East Coast of Trinidad). Future projects will therefore relate to improving the efficiency and effectiveness of the CEC process and building the technical capacity of the organisation to deal with the management of the environmental impacts of development. It is expected that CEC monitoring will feature in the next cycle of the EMA's strategic planning which is expected to occur in 2008.

In addition, projects to deliver Geographic Information Systems (GIS) training to technical staff will be undertaken. It is intended that GIS be increasingly utilized as a tool for management decisions and to execute desk-based assessments of CEC and other permit applications.



APPENDIX 1

BOARD OF DIRECTORS

As at December 31, 2006

Dr. John Agard	-Chairman
Mr. David Abdulah	-Director
Dr. Rohit Doon	-Director
Ms. Molly Gaskin	-Director
Dr. Carol James	-Director
Mr. Ruben McSween	-Director
Ms. Nafeesa Mohammed	-Director
Mr. Raye Sandy	-Director
Dr. Dave Mc Intosh	- Ex-Officio Member Managing Director

BOARD COMMITTEES

HUMAN RESOURCES COMMITTEE

Mr. David Abdulah	-Chairman
Dr. John Agard	-Member
Mr. Ruben Mc Sween	-Member
Ms. Molly Gaskin	-Member

PUBLIC AWARENESS AND EDUCATION COMMITTEE

Ms. Molly Gaskin	-Chairperson
Mr. Ruben Mc Sween	-Member

TECHNICAL COMMITTEE

Dr. John Agard	-Chairman
Dr. Rohit Doon	-Member
Mr. Raye Sandy	-Member
Dr. Carol James	-Member
Ms. Nafeesa Mohammed	-Member

TRUSTEES OF THE ENVIRONMENTAL FUND

Mr. Ruben Mc Sween	-Chairman
Mr. Raye Sandy	-Trustee
Ms. Carol James	-Trustee
Ms. Molly Gaskin	-Trustee
Dr. Dave Mc Intosh	-Trustee



PART C:ENVIRONMENTAL TRUST FUND

**Audited Financial Report
For the year Ended
30 September 2006**

Audited Financial Report	Page
Auditor General's Report	89
Auditor's Report	90
Balance Sheet	91
Statement of Income	92
Statement of Movement of Funds	93
Statement of Cash Flows	94
Notes to the Financial Statements	95



REPORT OF THE AUDITOR GENERAL OF THE REPUBLIC OF TRINIDAD AND TOBAGO ON THE FINANCIAL STATEMENTS OF THE ENVIRONMENTAL TRUST FUND FOR THE YEAR ENDED 2006 SEPTEMBER 30

The accompanying Financial Statements of the Environmental Trust Fund for the year ended 2006 September 30 have been audited. The Statements as set out on pages one (1) to eleven (11) comprise a Balance Sheet as at 2006 September 30, a Statement of Income, a Statement of Movement of Funds and a Statement of Cash Flows for the year ended 2006 September 30 and Notes to the Financial Statements numbered one (1) to eight (8).

2. The audit was conducted by a firm of Accountants appointed by the Board of Directors with the covering written consent of the Auditor General. Their Report dated 2007 March 21 refers.

SUBMISSION OF REPORT

3. This Report is being submitted to the Speaker of the House of Representatives, the President of the Senate and the Minister of Finance in accordance with the provisions of sections 116 and 119 of the Constitution of the Republic of Trinidad and Tobago.

2007 JULY 26



MAJ
MAJEED ALI
ACTING AUDITOR GENERAL



**PANNELL
KERR
FORSTER**

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AUDITORS' REPORT

**The Trustees
Environmental Management Authority -
Environmental Trust Fund**

We have audited the accompanying financial statements of Environmental Management Authority – Environmental Trust Fund, which comprise the balance sheet as of 30 September 2006, the statements of income, movement of funds and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory notes.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with International Financial Reporting Standards. This responsibility includes: designing, implementing and maintaining internal control, relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the financial statements 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 entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of Environmental Management Authority – Environmental Trust Fund as of 30 September 2006, and its financial performance and cash flows for the year then ended in accordance with International Financial Reporting Standards.

Port of Spain
21 March 2007


CHARTERED ACCOUNTANTS

ENVIRONMENTAL MANAGEMENT AUTHORITY
ENVIRONMENTAL TRUST FUND

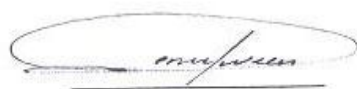
BALANCE SHEET

ASSETS

	<u>Notes</u>	30 September	
		<u>2006</u>	<u>2005</u>
Cash Resources:			
Cash in hand and at bank	3	\$ 5,791,127	\$ 1,643,748
Short-term investments	4	<u>15,750,933</u>	<u>11,594,848</u>
Total Cash Resources		<u>21,542,060</u>	<u>13,238,596</u>
Other Assets:			
Accounts receivable and prepayments	5	385,200	718,283
Fixed assets	6	<u>17,207,215</u>	<u>17,736,747</u>
Total Other Assets		<u>17,592,415</u>	<u>18,455,030</u>
Total Assets		<u>\$39,134,475</u>	<u>\$ 31,693,626</u>

LIABILITIES AND FUNDS

Liabilities:			
Accounts payable and accruals	7	<u>\$ 2,397,165</u>	<u>\$ 1,054,380</u>
Total Liabilities		<u>2,397,165</u>	<u>1,054,380</u>
Funds:			
GORTT Fund		32,427,846	25,320,818
UNDP Fund		(161,025)	484,223
IBRD Fund		4,227,745	4,550,873
Other Fund		<u>242,744</u>	<u>283,332</u>
Total Funds		<u>36,737,310</u>	<u>30,639,246</u>
Total Liabilities and Funds		<u>\$39,134,475</u>	<u>\$ 31,693,626</u>


Trustee


Trustee

(The accompanying notes form part of these financial statements)

**ENVIRONMENTAL MANAGEMENT AUTHORITY
ENVIRONMENTAL TRUST FUND**

STATEMENT OF INCOME

	For the year ended 30 September	
	<u>2006</u>	<u>2005</u>
Income:		
Government Fund	\$ 24,378,000	\$ 18,950,000
UNDP Fund	1,076,420	522,776
Interest income	692,536	508,408
Activity and other income	4,775,900	2,601,321
Profit on disposal of fixed assets	<u>-</u>	<u>20,591</u>
	30,922,856	22,603,096
Project expenses	<u>(4,319,177)</u>	<u>(3,398,522)</u>
Income after project expenditure	<u>26,603,679</u>	<u>19,204,574</u>
Expenditure:		
Advertising and promotions	812,650	37,762
Audit fees	52,350	53,473
Conference costs	10,350	13,670
Contract services	416,173	332,208
Depreciation	1,467,196	1,368,579
Directors' fees	229,200	248,100
Interest and bank charges	7,016	6,416
Insurance	292,876	253,902
Loss on disposal of fixed assets	187,673	-
Loss on foreign exchange	732	-
Motor vehicle expenses	324,694	268,911
Maintenance contracts	282,632	253,964
Office and general expenses	107,271	80,833
Permitting and compliance costs	1,466,342	436,191
Professional fees	19,234	94,560
Publication costs	229,200	-
Reference and research cost	120,189	124,918
Rent	422,500	271,500
Repairs and maintenance	201,933	182,816
Salaries and benefits	11,595,052	9,313,177
Security	419,962	195,381
Selection and recruitment costs	368,501	48,065
South office expenses	49,472	143,795
Supplies	420,050	450,802
Training	149,594	215,746
Travel	164,075	137,304
Utilities	<u>688,698</u>	<u>615,729</u>
	<u>20,505,615</u>	<u>15,147,802</u>
Net surplus for the year	<u>\$ 6,098,064</u>	<u>\$ 4,056,772</u>

(The accompanying notes form part of these financial statements)

ENVIRONMENTAL MANAGEMENT AUTHORITY
ENVIRONMENTAL TRUST FUND

STATEMENT OF MOVEMENT OF FUNDS

For the year ended 30 September 2006

	<u>GORTT Fund</u>	<u>UNDP Fund</u>	<u>IBRD Fund</u>	<u>Other Fund</u>	<u>Total</u>
Balance as at 1 October 2004	\$ 20,774,653	\$ 348,893	\$4,978,200	\$ 480,728	\$26,582,474
Income:					
Funds received	18,950,000	522,776	-	43,831	19,516,607
Interest income	508,408	-	-	-	508,408
Activities income	2,557,491	-	-	-	2,557,491
Expenditure	<u>(17,469,734)</u>	<u>(387,446)</u>	<u>(427,327)</u>	<u>(241,227)</u>	<u>(18,525,734)</u>
Balance as at 1 October 2005	25,320,818	484,223	4,550,873	283,332	30,639,246
Income:					
Funds received	24,378,000	1,076,420	-	193,450	25,647,870
Interest income	692,536	-	-	-	692,536
Activities income	4,582,450	-	-	-	4,582,450
Expenditure	<u>(22,545,958)</u>	<u>(1,721,668)</u>	<u>(323,128)</u>	<u>(234,038)</u>	<u>(24,824,792)</u>
Balance at 30 September 2006	<u>\$ 32,427,846</u>	<u>\$ (161,025)</u>	<u>\$4,227,745</u>	<u>\$ 242,744</u>	<u>\$36,737,310</u>

(The accompanying notes form part of these financial statements)

ENVIRONMENTAL MANAGEMENT AUTHORITY
ENVIRONMENTAL TRUST FUND

STATEMENT OF CASH FLOWS

	For the year ended 30 September	
	<u>2006</u>	<u>2005</u>
Cash Flows from Operating Activities:		
Net surplus for the year	\$ 6,098,064	\$ 4,056,772
Adjustments:		
Depreciation	1,467,196	1,368,579
(Loss)/gain on disposal of fixed asset	<u>187,673</u>	<u>(20,591)</u>
	7,752,933	5,404,760
Net change in accounts receivable and prepayments	333,083	(383,109)
Net change in accounts payable and accruals	<u>1,342,785</u>	<u>(713,879)</u>
Cash provided by Operating Activities	<u>9,428,801</u>	<u>4,307,772</u>
Cash Flows from Investing Activities:		
Purchase of fixed assets	(1,103,840)	(1,919,621)
Proceeds from sale of fixed assets	17,165	35,000
Fixed assets disposal costs	<u>(38,662)</u>	<u>-</u>
Cash used in Investing Activities	<u>(1,125,337)</u>	<u>(1,884,621)</u>
Net change in cash and cash equivalents	8,303,464	2,423,151
Cash and cash equivalents, beginning of year	<u>13,238,596</u>	<u>10,815,445</u>
Cash and cash equivalents, end of year	<u>\$21,542,060</u>	<u>\$13,238,596</u>
Represented by:		
Cash in hand and at bank	\$ 5,791,127	\$ 1,643,748
Short-term investments	<u>15,750,933</u>	<u>11,594,848</u>
	<u>\$21,542,060</u>	<u>\$13,238,596</u>

(The accompanying notes form part of these financial statements)

**ENVIRONMENTAL MANAGEMENT AUTHORITY
ENVIRONMENTAL TRUST FUND**

NOTES TO THE FINANCIAL STATEMENTS

30 SEPTEMBER 2006

1. Registration and Activities:

The Environmental Management Authority is a Statutory Authority established when Parliament assented to the Environmental Management Act on 7 March 1995. The Authority was established to develop and implement institutional arrangements for the regulation and management of the environment in the Republic of Trinidad and Tobago.

The Environmental Trust Fund was established by the Act 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.

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

2. Accounting Policies:

The accounting policies of the Authority's Trust Fund are based on generally accepted accounting principles. The most significant of these are summarised below:

(a) Basis of Accounting -

These financial statements have been prepared in accordance with International Financial Reporting Standards on the historical cost basis and no account has been taken of the effects of inflation.

(b) Income Recognition -

Interest on loans is recognised on a cash basis consistent with previous years. Except as stated above, the accruals basis of accounting has been used for the recording of income and expenses.

(c) Depreciation -

Depreciation is provided for on a reducing balance basis at annual rates designed to write-off the respective costs of fixed assets over their estimated useful economic lives as follows:-

Building	-	2% - 20%
Furniture and fittings	-	10%
Office equipment	-	20%
Motor vehicles	-	25%
Computer equipment	-	25%
Library/Information	-	10%

ENVIRONMENTAL MANAGEMENT AUTHORITY
ENVIRONMENTAL TRUST FUND

NOTES TO THE FINANCIAL STATEMENTS

30 SEPTEMBER 2006

2. Accounting Policies (Cont'd):

(d) **Foreign Currency -**

Monetary assets and liabilities denominated in foreign currencies are expressed in Trinidad and Tobago dollars at rates of exchange ruling at the balance sheet date. Non-monetary assets and liabilities are converted at the rate of exchange at the date of the transaction. Income and expenses are converted at the average rate of exchange.

(e) **Taxation -**

The Authority is exempt from taxation under the Environmental Management Act of 2000, Part VII Section 76.

(f) **Use of estimates -**

The preparation of financial statements in conformity with International Financial Reporting Standards requires management to make estimates and assumptions that affect the reported amount of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of the income and expenses during the reporting period. Actual results could differ from those estimates.

ENVIRONMENTAL MANAGEMENT AUTHORITY
ENVIRONMENTAL TRUST FUND

NOTES TO THE FINANCIAL STATEMENTS

30 SEPTEMBER 2006

3. Cash in Hand and at Bank:

	30 September	
	<u>2006</u>	<u>2005</u>
Petty cash	\$ 3,982	\$ 904
Republic Bank Limited	4,046,809	69,623
First Citizens Bank Limited – Project accounts		
United Nations Development Programme		
-Ozone depleting substances	-	42,076
United Nations Environmental Programme		
-Ozone depleting substances	-	104,867
National Biodiversity Strategy	-	842
Climate change	-	152,807
Halon Management Plan	-	8,929
Biosafety	-	183,072
Permit deposits	946,911	800,702
RBTT Bank Limited		
Institutional strengthening	118,267	-
Other projects	104,725	-
Biodiversity	41,934	-
UNFCCC	152,665	-
Biosafety	325,819	-
Scotiabank Trinidad and Tobago Limited	50,015	279,926
	<u>\$ 5,791,127</u>	<u>\$ 1,643,748</u>

4. Short-term Investments:

	30 September	
	<u>2006</u>	<u>2005</u>
Republic Bank Limited Pool Bond	\$ 4,626,182	\$ 2,959,962
First Citizens Bank Limited – Abercrombie Fund	1,241,349	1,176,982
Trinidad and Tobago Unit Trust Corporation	4,838,683	3,627,384
RBTT Bank Limited	5,044,719	3,830,520
	<u>\$ 15,750,933</u>	<u>\$ 11,594,848</u>

5. Accounts Receivable and Prepayments:

	30 September	
	<u>2006</u>	<u>2005</u>
VAT receivable	\$ 314,011	\$ 314,783
Other receivables	30,250	225,257
Insurances prepaid	40,939	178,243
	<u>\$ 385,200</u>	<u>\$ 718,283</u>

ENVIRONMENTAL MANAGEMENT AUTHORITY
ENVIRONMENTAL TRUST FUND

NOTES TO THE FINANCIAL STATEMENTS

30 SEPTEMBER 2006

6. Fixed Assets:

<u>Cost</u>	<u>Land</u>	<u>Building</u>	<u>Furniture and fittings</u>	<u>Office equipment</u>	<u>Motor vehicles</u>	<u>Computer equipment</u>	<u>Library/ information</u>	<u>Total</u>
Balance as at 1 October 2005	\$ 3,229,868	\$ 11,336,082	\$ 2,153,883	\$ 3,551,113	\$ 2,001,620	\$ 3,705,816	\$ 332,331	\$ 26,310,713
Additions	-	-	98,835	304,696	343,802	356,507	-	1,103,840
Disposals	-	-	-	(343,223)	-	(696,517)	-	(1,039,740)
Balance as at 30 September 2006	<u>3,229,868</u>	<u>11,336,082</u>	<u>2,252,718</u>	<u>3,512,586</u>	<u>2,345,422</u>	<u>3,365,806</u>	<u>332,331</u>	<u>26,374,813</u>
Accumulated Depreciation								
Balance as at 1 October 2005	-	2,098,725	796,834	1,683,705	1,159,915	2,659,019	175,768	8,573,966
Charge	-	356,826	142,504	396,680	256,519	299,011	15,656	1,467,196
Disposals	-	-	-	(246,173)	-	(627,391)	-	(873,564)
Balance as at 30 September 2006	<u>-</u>	<u>2,455,551</u>	<u>939,338</u>	<u>1,834,212</u>	<u>1,416,434</u>	<u>2,330,639</u>	<u>191,424</u>	<u>9,167,598</u>
Net Book Value								
Balance as at 30 September 2006	<u>\$ 3,229,868</u>	<u>\$ 8,880,531</u>	<u>\$ 1,313,380</u>	<u>\$ 1,678,374</u>	<u>\$ 928,988</u>	<u>\$ 1,035,167</u>	<u>\$ 140,907</u>	<u>\$ 17,207,215</u>
Balance as at 30 September 2005	<u>\$ 3,229,868</u>	<u>\$ 9,237,357</u>	<u>\$ 1,357,049</u>	<u>\$ 1,867,408</u>	<u>\$ 841,705</u>	<u>\$ 1,046,797</u>	<u>\$ 156,563</u>	<u>\$ 17,736,747</u>

ENVIRONMENTAL MANAGEMENT AUTHORITY
ENVIRONMENTAL TRUST FUND

NOTES TO THE FINANCIAL STATEMENTS

30 SEPTEMBER 2006

7. Accounts Payable and Accruals:

	30 September	
	<u>2006</u>	<u>2005</u>
Accounts payable	\$ 1,008,139	\$ 646,392
Other payables	33,834	52,996
Accruals	<u>1,355,192</u>	<u>354,992</u>
	<u>\$ 2,397,165</u>	<u>\$ 1,054,380</u>

8. Funding:

Sources of Funds

- (i) Proceeds of a loan of US\$6.25 million from the IBRD to the Government of the Republic of Trinidad and Tobago (GORTT). The loan facility closed on 31 December 2000.
- (ii) Counterpart funding of US\$3.3 million from GORTT.
- (iii) Grant funds of US\$950,000 from the UNDP under the Capacity 21 and IPF Projects (subsequently closed); US\$66,000 to fund the Ozone Depleting Substances (ODS) Unit; US\$127,000 under the National Biodiversity Project and Phase II of the ODS Project. This facility was operationally closed during the financial year ended 30 September 2004. Also, the UNFCCC Project was renewed and additional funding of US\$100,000 approved by the UNDP. Along similar lines, Phase III of the ODS Project commenced with additional approved funding of US\$57,200. A project entitled Terminal Phase-Out Management Plan for ODS (TPMP) became operational during the year ended 30 September 2005 with an approved budget of US\$220,000.

ENVIRONMENTAL MANAGEMENT AUTHORITY
ENVIRONMENTAL TRUST FUND

NOTES TO THE FINANCIAL STATEMENTS

30 SEPTEMBER 2006

8. Funding (Cont'd):

Funds received during the year ended 30 September 2006 are as follows:

		30 September	
		<u>2006</u>	<u>2005</u>
External Funding			
UNDP	TT\$	\$ 1,076,420	\$ 522,776
Other	TT\$	193,450	43,831
Core Funding			
GORTT	TT\$	25,070,537	19,458,408
Activity Income	TT\$	4,582,450	2,557,491

PART D: OTHER FINANCIAL ASSISTANCE OR SUPPORT

There are no qualifying activities under Section 14 (1d) of the Environmental Management Act, 2000, for the year 2006.



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