



# National Environment and Planning Agency

*An Executive Agency of the Office of the Prime Minister*



## Annual Report 2008/2009

# The National Environment & Planning Agency

## Annual Report

FINANCIAL YEAR 2008-2009



**Prepared by:**

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## MESSAGE FROM THE CEO

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On behalf of the Board of Directors of the Natural Resources Conservation Authority (NRCA) and the Town and Country Planning Authority (TCPA), the Directors and Staff of the NEPA, I wish to convey a special thanks to you our stakeholders, partners and colleagues in the public service for your continued support over the last year.

I would also like to use this opportunity to thank Dr. Leary Myers the former CEO of NEPA who left the Agency after three years of service. His efforts at automating a number of internal processes have served to improve on the quality of service delivered by the Agency.

### **Main Achievements**

During this year, we achieved the majority of our performance targets. Of the forty (40) (Key Performance Indicators) KPIs, thirty five (35) attained a score of over 85 %. A score of 100% was attained in twenty-eight (28) of the KPIs. For a number of reasons the Agency was not able to achieve the targets for five of the KPIs. The necessary systems will be put in place and every effort made during the upcoming year to ensure that all targets are achieved.

Notable achievements during 2008-2009 include the preparation of a number of development orders. A draft Development Order for Kingston & St. Andrew and a Preliminary Draft Parish Development Order for St Catherine were completed. Work was also very advanced regarding the completion of the St James Development Order. Activities towards the preparation of Development Orders for Clarendon, St Elizabeth, and Hanover will commence in 2010 and Development Orders for Westmoreland and St Mary will be prepared in 2011.

The Government has placed particular attention on the development approval process, challenging the Agency to work within the 90-days turnaround time for decisions on applications. The Agency has responded to the call and in 2008 was able to clear a backlog of applications amounting to one thousand three hundred and forty-four. Since January 2009 the Agency has achieved a one hundred percent throughput with eighty three percent of applications being processed within the ninety days timeline.

In keeping with the target established in VISION 2030 - National Development Plan, NEPA will commence the preparation of a National Spatial Strategy which is expected to provide the framework for a more technology driven and informed approach towards regional planning. In responding to the challenges posed by climate change, NEPA will be ensuring that climate change mitigation and adaptation strategies are incorporated into our policies and programmes.

Early in the new financial year I will be convening a series of consultative meetings with some of our critical partners and stakeholders. These meetings are intended to open dialogue with our partners towards achieving a shared vision for planning and environmental management in Jamaica.

The devastating economic situation over the last year is taking a major toll on our staff and their families as they struggle with job losses, diminished incomes and the daily challenge of making ends meet, yet if 2008 was the year of challenge, I believe 2009 will be the year of hope.

In these times of crisis and I dare say opportunities, informed and assertive leadership is vital to achieving environmental and economic goals simultaneously. We will continue to pursue policy consensus in the midst of contending economic and environmental perspectives and interests. Accordingly, the Agency will place priority on raising awareness and understanding among opinion leaders and decision makers across the country.

Finally we will build on the strengths of our team members as we continue to provide a valuable service to Jamaica.

Peter Knight, JP  
Chief Executive Officer (Acting)

# Executive Summary

This report provides information on NEPA's performance over the period April 2008 to March 2009. These achievements are reported against targets established in the Operational Plans 2008 - 2009. Also reported are the achievements with respect to NEPA's Key Performance Indicators (KPIs).

With regard to **Policy, Legislation and Standards**, the Enforcement Strategy and Policy was revised and the National Ozone Bill was reviewed. Guidelines were drafted for recreation/tourism activities in the Palisadoes-Port Royal Protected Area (PPRPA). Work commenced on the review of the Ambient Marine and Fresh Water Quality Standards.

In the area of **Ecosystems Management**, significant slope restoration work was done in the Hope River and Ocho Rios Watersheds. Island-wide monitoring of our coral reefs continues and a number of species surveys were undertaken.

**Protected Areas Management** efforts were concentrated in the Palisadoes-Port Royal Protected Area, the Canoe Valley area, the Black River Lower Morass/Ramsar Site and the Coral Spring-Mountain Spring Protected Area. Significant effort was made to increase both terrestrial and marine patrols in these areas.

With respect to **Pollution Monitoring**, Water Quality Monitoring continued in coastal areas and in selected priority rivers and protected areas. In relation to Ambient Air Quality Monitoring, three hundred and twenty nine (329) sampling exercises were conducted. Fifty one (51) monitoring reports from Permits and Licences were reviewed and seventeen (17) Pollution Incidents were reported.

In the area of **Spatial Planning**, the focus continued on the preparation of Development Orders for Kingston and St Andrew, St. Catherine, Negril and St. James.

Under the **Applications Processing System**, four thousand, four hundred and fifty nine (4459) applications were received and assessed. Four thousand, one hundred and ninety nine (4199) were processed.

With regard to **Public Education and Awareness**, NEPA embarked on several public education initiatives involving schools and community-based organizations. Additionally, several media features and interviews were produced.

In the area of **Enforcement and Compliance**, two thousand and seventeen (2,017) routine monitoring visits and two thousand and seven (2,007) post-permit monitoring visits were conducted. Twenty three (23) Enforcement Notices were served and twenty (20) Stop Notices were issued.

With regard to **Human Resources Development**, training sessions in Performance Appraisals and Information Technology were conducted and an additional twenty three (23) staff training initiatives were supported by NEPA.

# About NEPA

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The National Environment and Planning Agency (NEPA) is an Executive Agency which became operational on April 1, 2001. It is an Agency of the Office of the Prime Minister and represents a merger of the Natural Resources Conservation Authority (NRCA), the Town Planning Department (TPD) and the Land Development and Utilization Commission (LDUC).

## LEGISLATIVE MANDATE

NEPA operates under the following Acts:

- The Watersheds Protection Act;
- The Beach Control Act;
- The Wildlife Protection Act;
- The Natural Resources Conservation Authority Act;
- The Land Development and Utilization Act;
- The Town and Country Planning Act;
- The Endangered Species Act

## MISSION

To promote sustainable development by ensuring the protection of the environment and orderly development in Jamaica through highly motivated staff performing at the highest standard.

## VISION STATEMENT

Jamaica's Natural Resources are used in a sustainable way and there is broad understanding of environment, planning and development issues, with extensive participation amongst citizens and a high level of compliance with relevant legislation.



## CORE BUSINESS FUNCTIONS

The Core Business Functions of NEPA are:

- *Monitoring the Natural Resource Assets and the State of the Jamaican Environment.*
- *Preparing National Environmental, Planning and Developmental Strategies and Action Plans and monitoring the implementation of related programmes/ initiatives.*
- *Processing of Applications for Environmental Permits and Licences and granting Permits and Licences for:*
  - Beach Use
  - Construction and Operation of Industrial Facilities listed on the Prescribed Categories Project List (NRCA Permit and Licence Regulations 1996 & 2004 Amendment)
  - Sewage Discharge
  - Industrial Waste Discharge
  - Export of Wildlife Species e.g. Conch
- *Preparing Town and Parish Development Plans and Development Orders*
- *Enforcement of environmental and planning laws and regulations*
- *Providing Environmental and Land Use*

## STRATEGIC OBJECTIVES

### Strategic Objective 1:

Policies, programmes and projects are developed, continually assessed and improved to enable NEPA to effectively carry out its mandate.

### Strategic Objective 2:

Effective environmental, planning and development legislation, regulations, standards, and guidelines are put in place to guide NEPA's policies and programmes and all applications for approval, permits and licences are processed in a timely and efficient manner.

### Strategic Objective 3:

A pollution prevention and waste minimization approach is fostered and appropriate waste treatment and control measures are ensured.

### Strategic Objective 4:

Sustainable use of the nation's watershed, coastal, marine and biodiversity is promoted and the integrity of the island's ecosystem is enhanced.

### Strategic Objective 5:

Effective and efficient spatial strategies and development standards are developed and implemented to foster sustainable settlements, optimize the use of arable lands and promote a balance between the competing demands for the use of land.

### Strategic Objective 6:

Compliance with relevant laws, regulations and standards is monitored, enforcement actions taken where necessary and the Agency's programmes and services are implemented at the regional level.

### Strategic Objective 7:

A comprehensive environmental, land use database, mapping and management information system is put in place to enable NEPA to adequately carry out its mandate.

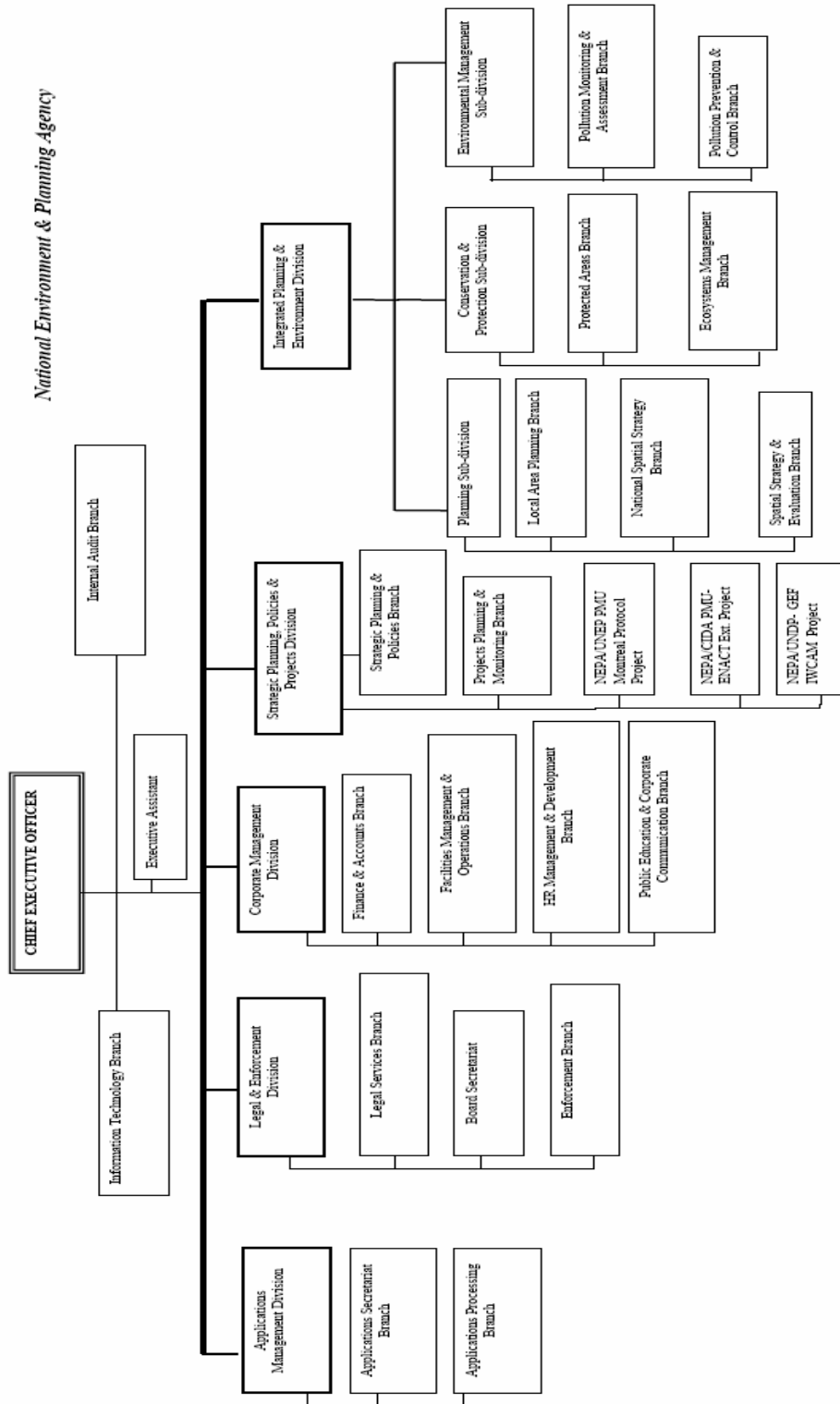
### Strategic Objective 8:

Adequate human and financial resources and effective and efficient management, administrative and public awareness systems are provided to enable the organization to carry out its mandate.

## **CORPORATE DATA**

Auditor:	PriceWaterhouseCoopers
Bankers:	<ul style="list-style-type: none"><li>- RBTT Jamaica Limited</li><li>- Bank of Nova Scotia Jamaica Limited</li><li>- First Caribbean International Bank</li></ul>
Business Offices:	10 Caledonia Avenue Kingston 5 (Headquarters) 11 Caledonia Avenue Kingston 5 & 191 Old Hope Road Kingston 6 (Laboratory)
Telephone:	(876) 754-7550-1, 754-7546-9 754-7543, 754-7554 Toll Free Help Line: 1-888-991-5005
Facsimile:	(876) 754-7595, 754-7596
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Website:	<a href="http://www.nepa.gov.jm">www.nepa.gov.jm</a>

# NEPA's Organizational Structure



## INTRODUCTION

This report describes the accomplishments of the National Environment and Planning Agency (NEPA) for the period April 2008 to March 2009. Achievements are presented under the following headings; Policies, Legislation and Standards, Protected Areas Management, Ecosystems Management, Pollution Monitoring, Spatial Planning, Applications Management, Enforcement, Public Education and Awareness, Human Resources Management, Finance Management and Projects. The Financial Statement for the period ending March 2009 is provided in APPENDIX I and the KPI Report in APPENDIX II.

## POLICIES, LEGISLATION AND STANDARDS

A number of Policies, Standards and Regulations were completed during the year. They include NEPA's Enforcement Policy and Strategy, Ambient Marine and Fresh Water Quality Standards, and Guidelines for recreation/tourism in the Palisadoes-Port Royal Protected Area (P-PRPA).

The Enforcement Policy and Strategy has three (3) specific objectives; to strengthen the capacity of NEPA to take effective enforcement action and achieve timely compliance; raise awareness about the importance of environment and planning legislation and; strengthen interagency and stakeholders' collaboration in enforcement. The strategies identified in the Policy are currently being implemented.

A National Water Quality Standards Committee was convened to review and revise the 1998 Ambient Marine and Fresh Water Quality Standards and to have them gazetted thereby establishing a benchmark for water quality in Jamaica. One objective of water quality management is to maintain water resources at their naturally high quality; by the creative and effective use of ambient water quality standards in conjunction with other relevant water quality and effluent discharge standards. Ambient Water Quality Standards are therefore intended to function as an environmental goal and yardstick.

One of the key goals of a system of protected areas as outlined in the Policy for Jamaica's System of Protected Areas (1997) is to provide recreation and educational opportunities to improve the

quality of life of Jamaicans and visitors. The Palisadoes-Port Royal Protected Area (P-PRPA) Recreation and Tourism Guidelines describe the National Environment and Planning Agency's approach to managing tourism and recreational activities in the P-PRPA in order to contribute to this goal. Through the implementation of these and other relevant guidelines, policies and legislation and the commitment of stakeholders, the conservation of the P-PRPA's valuable biodiversity as well as its historical and cultural resources will be achieved.

## **PROTECTED AREAS MANAGEMENT**

Protected Areas Management efforts were concentrated in the Palisadoes-Port Royal Protected Area, the Canoe Valley area, the Black River Lower Morass/Ramsar Site and the Coral Spring-Mountain Spring Protected Area. Significant effort was made to increase both terrestrial and marine patrols in these areas. In July of 2008 NEPA assumed management responsibilities for the Negril Marine Park with the staff wardens being under the direct control of the Agency.

### **National Ecological Gap Assessment Report (NEGAR)**

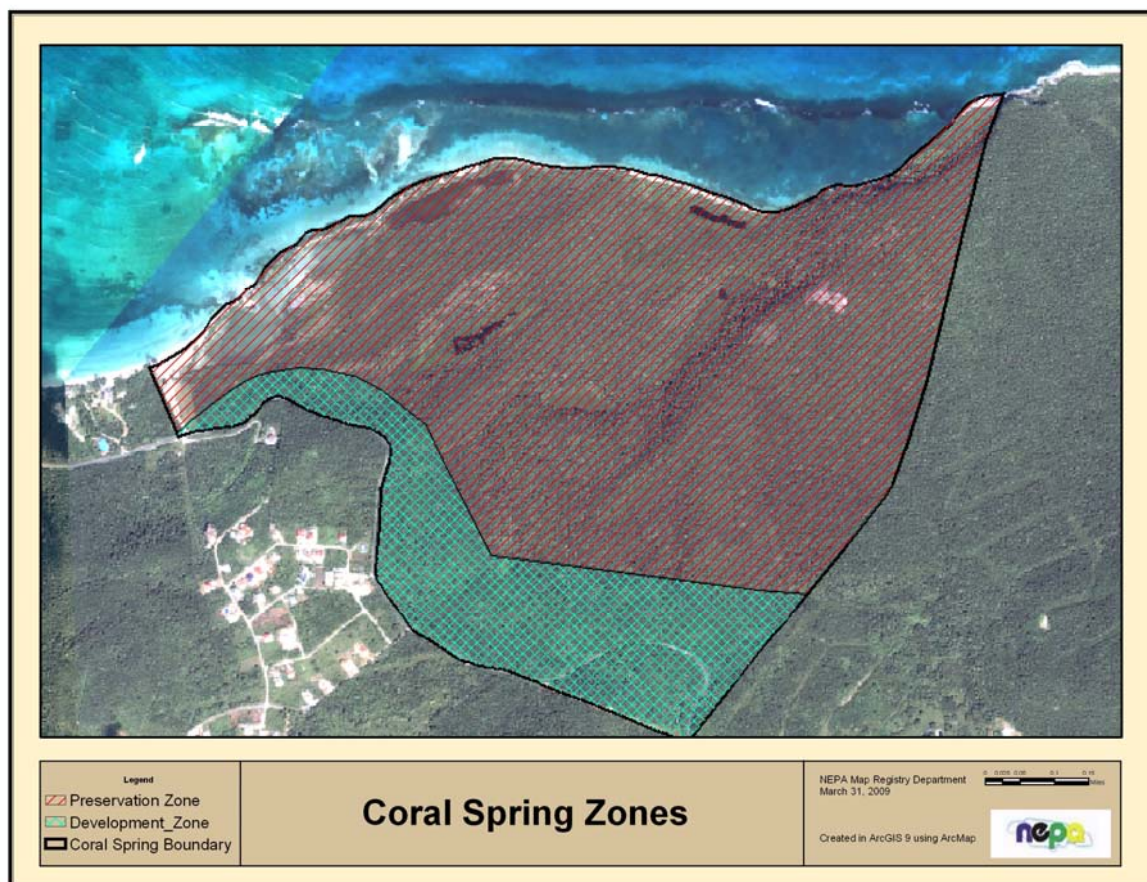
Work continued on the National Ecological Gap Assessment Report (NEGAR) which is the ecological component of the Protected Areas System Master Plan (PASMP). The NEGAR will be published during the 1<sup>st</sup> quarter of 2009-2010. In addition a Sustainable Financing Plan for Jamaica's System of Protected Areas was completed. A Protected Areas Committee (PAC), comprising the four main public sector agencies/departments responsible for protected areas management, is leading the development of the PASMP. The mandate of the PAC is to prepare the Master Plan in accordance with the Convention Biological Diversity (CBD) guidelines and national needs, as the road map towards an effectively managed and sustainably financed, protected areas system.

### **Zoning Plan Proposal for the Coral Spring-Mountain Spring Protected Area**

The Coral Spring-Mountain Spring Protected Area (CS-MSPA) which is located in the parish of Trelawny was declared a protected area on 18 September 1998 under the Natural Resources Conservation Authority Act (1991). The Agency decided that a Draft Zoning Plan should be prepared, as a first step towards the protection of the area, and that this should be undertaken as a collaborative effort by the relevant Branches of the Agency. In order to facilitate this process, a

team of qualified Officers was assembled and a consultant botanist was contracted to conduct an assessment of the various ecosystems within the area, their functions and interrelationships. The draft zoning planning process started in December 2008 and lasted for approximately four (4) months, ending on 31 March, 2009. The result was the preparation of a Draft Zoning Plan.

The key components of the plan include the designation of the area into zones and the kinds of activities which may be permitted. The activities that may be allowed in each zone are those that will support sustainable development and protect sensitive ecosystems.



There is a need for further consultations to be held with relevant stakeholders in order to finalize the document. When this is done, and the plan is approved by the Natural Resources Conservation Authority and gazetted, it will become an official document that will guide how the area is developed.

### **Mangrove forest rehabilitation**

Approximately 700 mangrove seedlings were planted along the Palisadoes Strip by the National Environment and Planning Agency (NEPA) in collaboration with the Port Royal Marine Laboratory of the University of the West Indies. The activity was the second such event done as a part of the activities for International Year of the Reef (IYOR) 2008 in which 1,400 mangrove seedlings and coastal plants were planted along the Palisadoes Strip.

Mangroves are important for the protection of coral reefs, as they filter out pollutants and trap sediments from land runoffs which could kill the reef. They also act as a nursery for many of the fishes that live on the reef, and help to stabilize the shoreline, thus reducing erosion. They are also among the most productive ecosystems in the world, and absorb carbon dioxide, a greenhouse gas that is fueling climate change.

The Palisadoes Strip was chosen for this activity because it suffered major vegetation loss in recent hurricanes. It is also an area of ecological importance as it lies within the Palisadoes/Port Royal Protected Area which has been designated a Ramsar site, signifying that it is a wetland of international importance. The planting of the mangroves will improve the aesthetics of the area, as well as increase its ecological value by increasing the amount of habitat available for wildlife such as fish, crabs and birds. It will also help with the stabilization of the Palisadoes Strip.

### **ECOSYSTEMS MANAGEMENT**

#### **Hope River Watershed Slope Stabilisation**

The Hope River Watershed Slope Stabilisation Project which began in the 2007-2008 financial year was successfully finalized over the 2008-2009 financial year. Its major objectives were to establish visible demonstrations of proper land management practices on degraded lands in the watershed (to residents) that would be replicable in other watersheds, reduce soil erosion, protect water resources and enhance biodiversity habitat values. After an extensive site and partner agency selection process, the project was implemented via a Memorandum of Understanding (MOU)



between the National Environment and Planning Agency (NEPA) and the Rural Agricultural Development Authority (RADA).

Two (2) farming communities in Woodford; namely Windsor Castle and Freetown, St. Andrew were selected. Woodford has a vibrant agricultural structure and its chief cash crop is coffee, due to the nature of the soil, rainfall and elevation. The underlying geology and climatic regime of steep slopes and thin shallow soils predispose the area to severe landslides. Proper farming practices are essential to the protection of this watershed, since historically, land clearing practices for agriculture have contributed to extensive soil erosion. The impacts from these activities have multiplier effects downstream such as siltation of streams and a general deterioration of water quality that negatively impacts aquatic ecosystems.

The Rural Agricultural Development Authority (RADA) provided technical assistance and supervision of the workers employed to the sites. The site at Windsor Castle covered an area of 1.2-1.6 ha and was more extensively damaged by heavy rainfall than Freetown. The engineering solutions used at Windsor Castle were bamboo log barriers to contain sediment and the construction of two (2) check dams below these barriers to reduce the velocity of runoff, a retaining wall, and culvert improvement to transport excess stormwater into an existing gully. One hundred (100) Blue Mahoe seedlings were also planted to serve as soil binders. The Freetown site covered an area of 2.4 ha. Three (3) check dams were built on this site and fifteen hundred (1,500) pineapple suckers were employed as live contour barriers.

Monitoring of the anticipated project benefits to the residents and the environment (which include enhanced crop protection through minimised gully and landslide formation and stream quality preservation), will be conducted to ensure that project objectives have been fulfilled.

### Upper Ocho Rios Watershed Pilot Reforestation

The Upper Ocho Rios Watershed Pilot Reforestation Project was successfully implemented during the year in the Rio Bueno-White River Watershed. Its major objectives were:



1. Improvement of the status of the watersheds through public awareness and stakeholders' participation.
2. Protection of critical surface water features, livelihoods and infrastructure.
3. Enhancement of watershed services.
4. Increase in the land cover in the upper watershed areas with a mix of tree species.

Routine watershed monitoring revealed that proper management of the Rio Bueno-White River Watershed is a challenge, due to a number of biophysical and human induced factors, including:

- Improper disposal of solid waste in gullies and an increase in the number of illegal dumpsites throughout the watershed – flooding and erosion as a consequence of the restriction of the storm water flows
- Squatting/informal settlements e.g. Parry Town/ Pimento Park – deforestation and sewage impacts on water quality due to increase in levels of faecal coliform
- Poor agronomic techniques, particularly on hillsides that increase the risk of soil erosion and surface run-off. These factors compromise water quality with respect to nutrient loads (nitrates, phosphates, pesticides and suspended solids)

The first phase of the project commenced with the hosting of stakeholders' consultative reforestation workshop at the Executive Shaw Park Guest House in Ocho Rios on 8 July 2008. The overall goal of the consultation was the identification of suitable lands and partners for the implementation of the project.

The sites ultimately selected were two (2) privately owned properties in Union, St. Ann and Maiden Hall, St. Mary. The Forestry Department provided the hardwood seedlings and the Coconut Industry Board (CIB) supplied coconut seedlings. To ensure that seedlings were provided with adequate soil organic content and moisture at their initial growth stages, compost material was purchased from Johnson's Organic Fertilizer Ltd. Seven hundred (700) seedlings were planted at Union by six (6) workers over a ten (10) day period and one thousand seven hundred (1,700) seedlings were planted in Maiden Hall, employing the services of twenty (20) persons for ten (10) days.

### Reforestation Activities at Union in St Ann



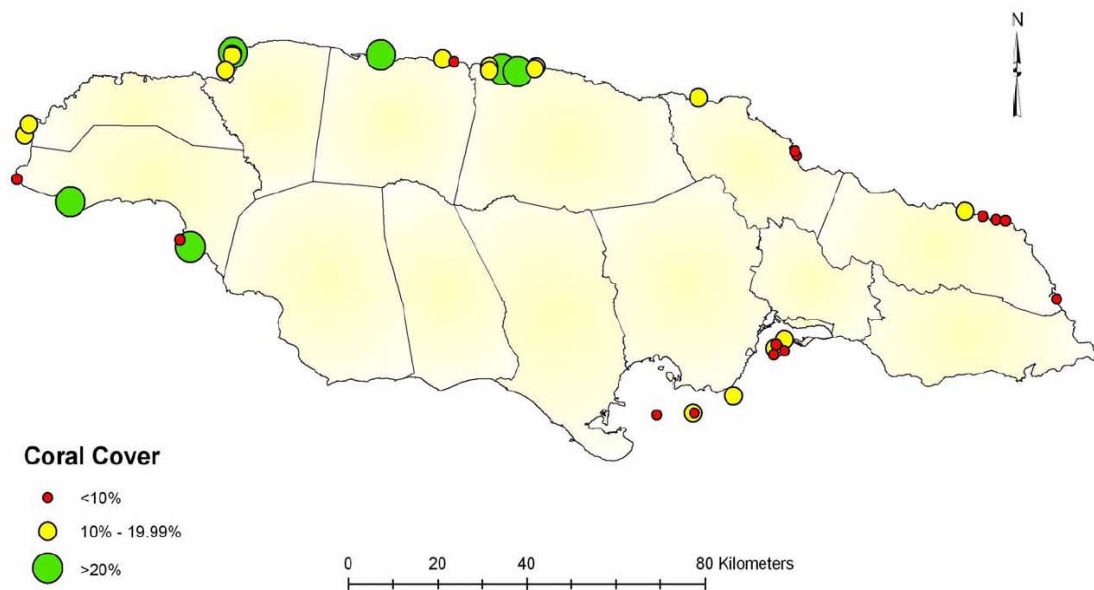
An assessment of survival estimates at Union indicates that all seedlings are growing remarkably well with minimum mortality. Weed and pest management have however been identified as a requirement, to ensure the continued viability of the young trees.

The response from the community members to continue reforestation efforts in their areas and the high survival rates for the seedlings are encouraging indicators of the ultimate success of the project. It is envisaged that additional projects of this nature will be implemented in degraded watersheds that have undergone deforestation, and will benefit from community support.

## Coral Reef Status

Reef check surveys in 2008 revealed that overall the reefs are in relatively stable condition with an overall country average of 13.7% compared to 10.9% for the 2007-2008 country average. Currently, the island is experiencing a recovery in the *Diadema antillarum* population, which is more pronounced on the north coast. Data collected during the 2008-2009 surveys showed a slight increase in the overall abundance of fish recorded when compared to the 2007-2008 assessments; but abundances are still at an alarmingly low level. The method used to conduct the assessments targets fish species which are commercially important, inclusive of grunts, snappers, groupers and parrot fish. The results show that reef systems are devoid of these species close to shore in depth ranges of up to 12.2m (40 ft). It should be noted however that the overall densities recorded for commercially important fish and lobster were approximately 2 and 3.4 times more abundant inside the protected areas when compared to unprotected areas. This presents a very strong case that with proper management and monitoring, the local Marine Protected Areas (MPAs) have the potential to play an important role in the sustainability of near-shore fisheries and shoreline protection.

The lionfish is the newest addition to the list of invasive alien species currently inhabiting our waters. Information received has indicated that the fish have been sighted in all parishes except St. Andrew, St. Catherine, Clarendon, Manchester and Trelawny.



Ranked hard coral percentage cover by sites

## Bird shooting report

The total number of birds shot during the 2008 Bird Shooting Season is approximately 128,058 birds. White-winged Doves accounted for 42%, Mourning Doves 16%, White-crowned Pigeons 34% and Zenaida Doves 8% (see Table below).

YEAR	PERMITS	WWDO	MODO	WCPI	ZEND	TOTAL	AVERAGE
2001	1,344	68,675 (41%)	33,500 (20%)	65,356 (39%)	*	167,431	124
2002	1,398	58,380 (35%)	25,020 (15%)	75,060 (45%)	8340 (5%)	166,867	112
2003	1,400	74,336 (44%)	18,584 (11%)	67,578 (40%)	8,447 (5%)	168,945	122
2004 <sup>1</sup>	1,444	31,949 (43%)	8,414 (11%)	31,361 (41%)	4,766 (5%)	76,490	76
2005 <sup>2</sup>	1,289	54,251 (47%)	16,160 (14%)	35,782 (31%)	9,235 (8%)	115,428	115
2006	1,354	86,715 (41%)	29,610 (14%)	82,485 (39%)	12,685 (6%)	211,495	142
2007 <sup>3</sup>	900	61,854 (61%)	11,154 (11%)	22,304 (22%)	6,046 (6%)	101,358	104
2008 <sup>4</sup>	1,122	53,785 (42%)	20,490 (16%)	43,540 (34%)	10,243 (8%)	128,058	107

**Table.** Comparative figures for the 2001 to 2008 Bird Shooting Seasons. NB: WWDO – White-winged Dove, MODO – Mourning Doves, WCPI – White-crowned Pigeons, ZEND – Zenaida Dove. \* this species was not on the prescribed list for those seasons.<sup>1</sup> Denotes season was closed prematurely because of Hurricane Ivan, hence only 4 weeks; <sup>2</sup>Season was declared open for 5 weeks only. <sup>3</sup>Season was open only for 3 weeks due to Hurricane Dean. <sup>4</sup>Season was interrupted by Tropical Storm Gustav in the second week.

## Beach Assessment for Sea Turtles

In 2008 the National Environment and Planning Agency conducted an assessment of sea turtle nesting beaches. Beaches previously recorded as activity nesting sites were visited and persons in the community were interviewed and signs of sea turtle activities on the beach noted. Five (5) sea turtles [Hawksbill turtle (*Erethmochelys imbricata*), Loggerhead turtle (*Caretta caretta*), Green turtle (*Chelonia mydas*), Leatherback turtle (*Dermochelys coriacea*) and Kemps Ridley turtle (*Lepidochelys kempii*)] are found in the wider Caribbean and all are protected under Jamaica's Wild Life Protection Act (1945) and the Endangered Species (Protection, Conservation and Regulation of Trade) Act (2000). The main nester is the Hawksbill turtle, while the Green turtle nests occasionally and the Leatherback turtle infrequently. There have been no records in the last ten (10) years for the Loggerhead turtle.



The Island's sea turtle population has been in decline since the 1940's and continued absence of consistent data makes it difficult to provide an accurate picture of the nesting population. The factors affecting the population however, include decline in foraging (feeding) areas; degradation of nesting habitats; predation (for example by dogs), the small Indian Mongoose and feral pigs; collection of eggs or the adults and other factors such as lights on beaches.

The 2008 survey visited fifty-seven (57) beaches of which only twenty-six (26) showed evidence of sea turtle nesting activities; with the Hawksbill being the main nester and occasional sites having the Green Turtle (see pictures of the Palisadoes beach site below). NEPA will continue its public education drive and other management efforts geared towards the recovery of the sea turtle population.



Location of hatched nests (H1 – H7) observed along the Palisadoes from Sept. 15 to Dec. 12, 2008 (image courtesy of Google Earth)



Baby turtles making their way across the beach at Palisadoes.

## SPATIAL PLANNING

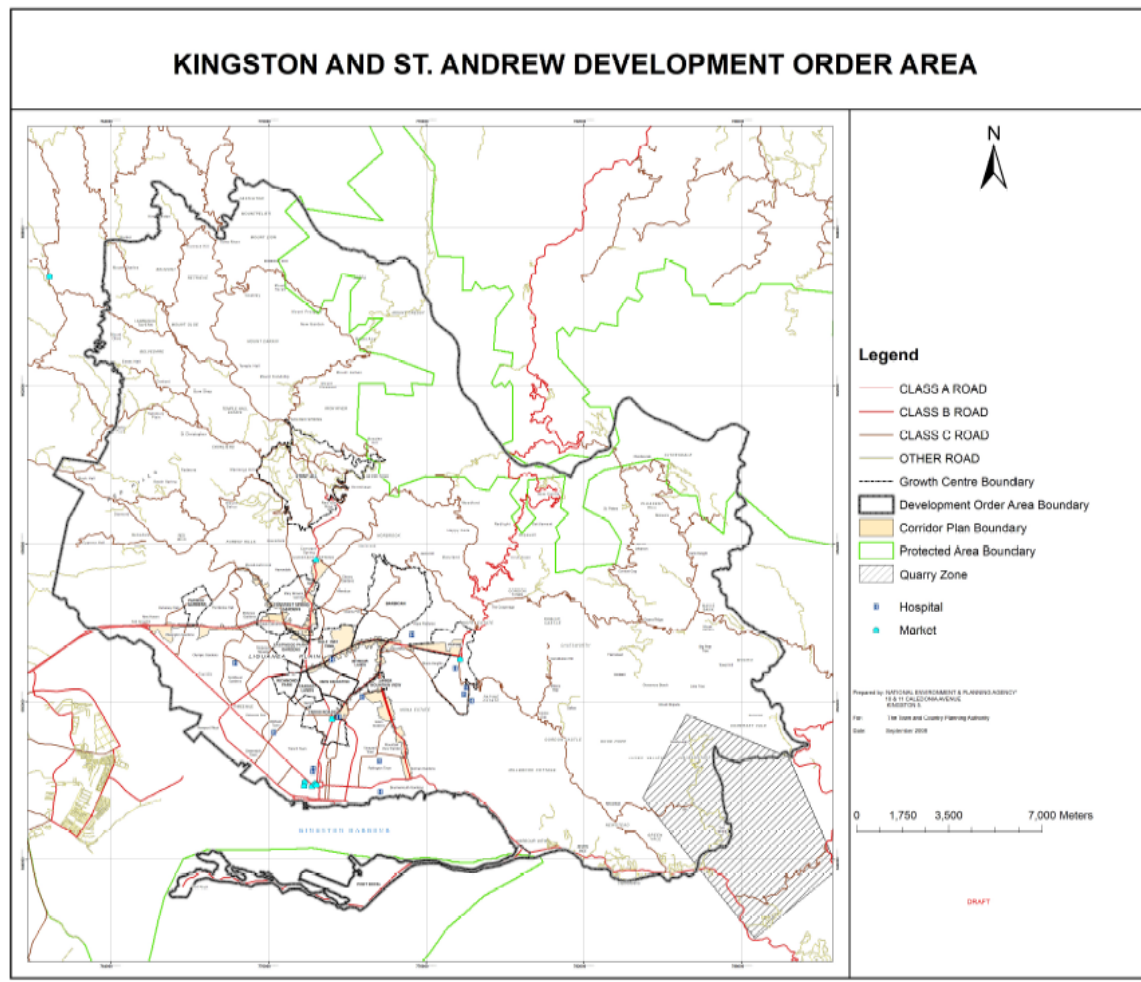
The following indicates the status of the on-going work on Development Orders which are prepared under the Town and Country Planning Act.

### Kingston & St. Andrew

A Draft Development Order has been prepared and is being reviewed by the TCPA.

### St Catherine

A preliminary Draft Parish Development Order was prepared and will soon be reviewed by the TCPA, after which it is to be submitted to the Minister and Chief Parliamentary Counsel for promulgation.



### St James

NEPA commenced land use surveys of growth centres in St James for the St James Parish Development Order in the 3<sup>rd</sup> quarter and undertook land use surveys in the 4<sup>th</sup> quarter of 2008-2009. The remaining activities for the promulgation of the Development Order are slated to be undertaken during the 2009-10 financial year.

### Development Orders for the other areas

Activities towards preparation of the St Thomas Parish Development Order are scheduled to commence in the last quarter of the 2009-10 financial year. Activities towards preparation of Development Orders for Clarendon, St Elizabeth, and Hanover will commence in 2010. Development Orders for Westmoreland and St Mary will be prepared in 2011. Finally, a review of the 2000 St. Ann Parish Development Order will be done in 2012.



## POLLUTION MONITORING PROGRAMMES

### Water Quality

The Routine Water Quality Monitoring Programme was expanded in 2008 to focus on coastal water quality across the island. One of the objectives of this programme is to classify the status of coastal region in terms of the level of threat and degradation from land based sources of pollution.

The coast was delineated by the twenty-six (26) established watersheds. The sampling programme began in March 2008 is slated to be wound up at the end of July 2009 at which time a full report will be prepared.

Based on the results of analysis the trend shows that the areas sustaining the greatest impact are those:

1. Bordering built up commercial and residential areas. This is true for most townships where at least some sections of the bordering coast line are affected.
2. Near the mouth of rivers; most of the which originate and flows through regions where they are continuously impacted by dispersed sources from agricultural run off and improper sanitation as well as sewage and industrial effluent.

The primarily affected pollution indicators are faecal coliform and nutrients, although there are sections showing signs stress due to sedimentation.

In spite of the forgoing, there are areas of the coast that remain unaffected by sources of pollution and remain in near pristine conditions. There are others that are under threat but could be restored with the right intervention measures.

### Air Quality

The Ambient Air Quality Monitoring Programme continues as in previous years. One monitoring station (St. Ann) was discontinued in August 2008; however the remaining three in the Kinston and St Andrew (see Table below) were monitored for the entire period.

The highest number of monitoring exercises expected was three hundred and sixty (360). Of this number three hundred and twenty nine (329) sampling exercises were conducted, fifty (50) of

which had to be discarded or aborted due to errors equipment failure or bad weather conditions. Each site was monitored for Particulate Matter – TSP<sup>1</sup> and PM<sub>10</sub><sup>2</sup>. No PM<sub>10</sub> was done at the Harbour View.

The results of sampling and assessment for TSP are presented in the Table below. As shown, the site at Cross Road exceeded the annual standard for the period under review. While this is cause for concern it is not surprising given the level of influence from industrial facilities as well as motor vehicle exhaust.

TSP monitoring data for air monitoring stations for KSA

Monitoring Stations	Period	# of usable exercises	Range (µg/m <sup>3</sup> )	Average (µg/m <sup>3</sup> )	Annual standard (µg/m <sup>3</sup> )
10 Caledonia Avenue	2008-01-13 to 2008-12-29	48	29.98 – 129.60	69.04	60.0
191 Old Hope Road	2008-01-13 to 2008-12-29	47	3.87 – 84.36	39.41	60.0
Harbour View	2008-01-07 to 2008-12-31	51	4.33 – 92.63	44.55	60.0
Discovery Bay	2008-01-03 to 2008-09-24	31	5.77 – 80.93	44.47	60.0

Note;

1. Each discrete monitoring exercise is conducted on a continuous basis for a period of 24 hours.
2. µg/m<sup>3</sup> = microgram per metre cube

Monitoring results for PM<sub>10</sub> shows that both sites are compliant with the ambient air monitoring standards.

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<sup>1</sup> Total Suspended Particulate

<sup>2</sup> Particulate matter less than 10 micron

## APPLICATIONS MANAGEMENT

Approximately four thousand one hundred and ninety nine (4199) applications were processed during the year. Of the two thousand five hundred and ninety five (2595) planning and environment applications, approximately 65% were processed within 90 days.

### Applications Received and Processed for the period 2007- 2009

TYPES OF APPLICATIONS	NO. RECEIVED & ASSESSED	NO. PROCESSED	NO. RECEIVED & ASSESSED	NO. PROCESSED
	2007/2008	2007/2008	2008/2009	2008/2009
(i) Planning	672	704	812	781
(ii) Subdivision	769	1461	1121	1336
(iii) Enquiry	116	276	121	210
(iv) Environmental Permit	285	205	462	
(v) Environmental Licence	113	89	115	159
(vi) Beach Licence	46	38	202	106
(vii) Restrictive Covenant	956	956	1598	1607
(ix) CITES	40	40	-	-
(xii) Exemptions under Wildlife Protection Act	11	11	-	-
(xiii) Research	23	23	-	-
Transboundary Movement of Hazardous Waste Permit	4	4	1	-
Air Quality Licence			27	-
TOTAL	3035	3807	4459	4199

### Public Access Interface of AMANDA

The public access interface to track development applications online has been operational since July 2008. This has provided information on the major milestones and the current status of development applications being processed by NEPA in real time. As the Application Management System AMANDA is rolled out to the Local Planning Authorities, the same information will become available to them.

The System or AMANDA will be further developed to create a virtual One Stop Shop.

The first phase of the AMANDA roll out to the Local Planning Authorities will be implemented in the first quarter of 2009-2010. This phase will consist of the implementation of AMANDA for subdivision applications of nine (9) lots and under (five (5) hectares) in two (2) pilot sites, Kingston and St. Andrew Corporation (KSAC) and the Manchester Parish Council (MPC). By the end of 2009-2010 all Local Planning Authorities are expected to use the system to manage the processing of subdivision applications.

### Customer Service

The records show that 95% of applicants who visited NEPA's Offices to discuss aspects of their applications were seen by NEPA's staff within 15 minutes. Special efforts will be made to ensure that this standard is met as we continue our efforts to deliver improved customer service.

In an attempt to further enhance the public image of the Agency, a Public Relations Plan for the Agency was developed. Aspects of this Plan will be implemented during 2009-10.

## ENFORCEMENT

Two hundred and fifty six (256) enforcement actions were recorded for the year (see Table below). Of significance is the number of cases (11) brought before the courts in relation to prosecution. The inserts below provide information on two (2) of these cases

Enforcement Actions	Number of Enforcement Actions
Enforcement Notice (NRCA)	23
Cessation Orders (NRCA)	21
Stop Notices (TCPA)	20
Notice of intention to suspend	3
Notice of intention to revoke	1
On site breach notices	93
Warning letters	84
Court Cases	11
TOTAL	256

NEPA and Police personnel's (from the Santa Cruz Police Station in St. Elizabeth) quick action led to the confiscation of three (3) adult snakes; two (2) male and one (1) female, and the arrest of a man on Monday, April 21, 2008. According to the police the man reportedly caught the animals in Maggoty in the parish and was held as he transported them in a bucket. NEPA was called in by the lawmen and the animals were identified as being of the Jamaican Boa variety. They were measured by the NEPA team, with the female being seven (7) feet in length and the two (2) males measuring six (6) feet each.

The NEPA team then transported the snakes to the heavily forested Cameron Hill Area in Maggoty where they were released. The snakes, which are endemic to Jamaica, pose no threat to humans as they feed on birds, bats, rats, lizards, frogs and insects. They are the largest snakes in Jamaica, reaching lengths of eight (8) feet or more.

NEPA was successful in its court action against the management of Club Ambiance Jamaica, located on Main Street in Runaway Bay, St. Ann for failing to comply with an Enforcement Notice (served on them) arising from the discharge of improperly treated sewage into the marine environment. The management pleaded guilty in the St. Ann Resident Magistrate's Court and was fined 25 thousand dollars (\$25,000.00) by the Presiding Magistrate.

The court action was undertaken after Club Ambiance refused to comply with the NEPA despite being written several letters requesting compliance under the Natural Resources Conservation Authority (NRCA) Act. NEPA served Club Ambiance with an Enforcement Notice on January 7, 2008 advising it to cease the offending activity or face court action. Included in the Enforcement Notice were three (3) steps to be implemented by the company to ameliorate the effects of the offending activity.

## Protected Areas Monitoring

As part of the Agency's "stepped up" efforts at monitoring, NEPA secured the services of a new boat. The vessel, the 'Hippocampus' (scientific name for Seahorse), was named in recognition of the mascot for the Palisadoes-Port Royal Protected Area. The boat will be used for the Agency's marine environmental enforcement patrols and marine research and assessment activities. The 26 ½ foot long 'Hippocampus' is a MercPanga fibre glass hull vessel that can attain a top speed of 53 knots or approximately 100 kilometres per hour. It is powered by two (2) fuel efficient 90 horsepower four-stroke engines which are more environmentally friendly than the older two-stroke designs. The vessel has a fuel capacity of 81 gallons and a range of 40 nautical miles.



The 'Hippocampus', which was purchased with funds donated by the Natural Resources Conservation Authority (NRCA), will allow the Agency to enhance its operational capacity. While the vessel will be used primarily in the Palisadoes-Port Royal Protected Area, it will also be used to carry out routine patrols and enforcement activities along the south coast. The 'Hippocampus' will also allow the Agency to effectively deploy and maintain marker and mooring buoys within protected areas on the south coast.

## PUBLIC EDUCATION AND AWARENESS

NEPA maximized the use of existing information to sensitize and educate the public. Target groups included students, service clubs, church groups and professional bodies. The Agency was involved in fourteen (14) exhibitions, and staff participated in thirty (30) media interviews. There were fourteen (14) newspaper articles and thirty seven (37) news releases. The Agency was also involved in exhibitions and promotion of World Wetlands Day, World Water Day, NEPA's anniversary in April, Earth Day, Wood and Water Day, Biodiversity Day, World Environment Day, International Ozone Day and International Coastal Clean-up Day. In total the Agency distributed in excess of twenty three thousand (23,000) Brochures, Flyers, Posters, etc.

### National Environmental Awareness Week

June 1-7 was celebrated as National Environmental Awareness Week (NEAW) under the theme: "Breathe Your Oxygen: Don't Burn It! Reduce Your CO<sub>2</sub> and Save Our Air". It is part of efforts to mobilize local support for global warming and climate change awareness issues, internationally. It is a modification of the theme selected by the United Nations Environment Programme (UNEP): "Kick the Habit! towards a Low Carbon Economy."

A number of activities were planned by the NEPA to mark the event. There was a church service to mark the start of the week on Sunday, June 1 at the Boulevard Baptist Church, in St. Andrew where The World Environment Day Message was read by Dr. Leary Myers.

As part of efforts to raise awareness about climate change issues, a concert and expo were held on World Environment Day (WED), Thursday, June 5, on the North Lawns of Devon House in Kingston. Twenty-one (21) government agencies and private sector organizations participated in the event, which also showcased the talents of several schools, communities and cultural groups.

The concert also featured prominent acts from ongoing national Jamaica Cultural Development Commission (JCDC) festival competitions in the fields of dance, drama and music.

A National Environmental Awareness Week (NEAW) newspaper supplement highlighting the work of the Agency was published in the Gleaner newspaper on WED. The feature offered a wide array of environmental and planning information.

## World Town Planning Day (WTPD)

Another public awareness day celebrated under the theme “Revitalizing our Capital Towns” was World Town Planning Day (WTPD). The day is celebrated worldwide on November 8 in over thirty (30) countries, and focuses primarily on the integral relationship of planning in respect of sustainable development of cities.

NEPA observed the day with a panel discussion, and exhibition at Devon House on Friday, November 7, 2008. The panel discussion focused on the challenges and successes of the redevelopment programmes and strategies implemented for the sustainable development of the island's towns. Exhibitors included the Urban Development Corporation (UDC), Kingston Restoration Company (KRC), Office of Disaster Preparedness and Emergency Management (ODPEM), Department of Local Government (DLG) and the Planning Institute of Jamaica (PIOJ).

The theme for the celebration of the day is of particular significance to Jamaicans, as many of our capital towns are undergoing stress due to declining social amenities, reduced employment opportunities, and poor living conditions. Hence, there is a critical need for regeneration programmes to raise the standard of living for urban communities and provide a catalyst for future sustainable development.

## International Coastal Cleanup Day

This year marked the twenty-third celebration of International Coastal Clean-up Day (ICCD) with clean-up activities staged on September 20, 2008. In Jamaica, more than twenty (20) projects (island-wide) were registered with the national coordinator, the Jamaica Environment Trust (JET). Activities were organized by hoteliers, non-governmental organizations, community groups, parish councils and the National Environment and Planning Agency (NEPA).

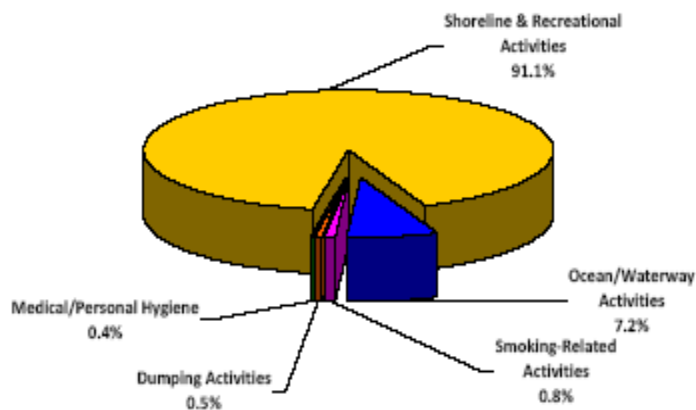
NEPA coordinated clean-up activities at Half Moon Bay, Hellshire and the recreational beach in Port Royal. This year, in recognition of the International Year of the Reef, the Agency collaborated with the University of the West Indies' Sub-Aqua Club (USAC) to stage an underwater clean-up of Lime Cay. Additionally, through the Integrated Watershed and Coastal Area Management



(IWCAM) Project, the Agency was instrumental in the two (2) days of cleanup and beautification activities staged in the Drivers River Watershed at the Manchioneal fishing beach in Portland.

International Coastal Day 2008 was well supported at all sites. Most volunteers quickly grasped the concept of sorting and recording the debris encountered at the respective clean-up sites. This activity is growing into a major calendar event and as the message spreads, it is expected that the 2009 staging will be even better supported.

Debris Items	Number of Items	Percentage of Total
1. Beverage Bottles (Glass)	6,691	36.4%
2. Bags	2,547	13.9%
3. Caps/Lids	1,882	10.2%
4. Clothing/Shoes	1,786	9.7%
5. Beverage Bottles (Plastic) 2 liters or less	1,077	5.9%
6. Cups/Plates/Forks/Knives/Spoons	1,074	5.8%
7. Food Wrappers and Containers	669	3.6%
8. Oil/Lube Bottles	507	2.8%
9. Bleach/Cleaner Bottles	470	2.6%
10. Beverage Cans	463	2.5%
<b>Total Top Ten</b>	<b>17,166</b>	<b>100.0%</b>



## HUMAN RESOURCES MANAGEMENT

### Training Programme for NEPA staff

Twenty-three (23) technical workshops and conferences were offered to staff. All categories of staff participated in these workshops and conferences. In addition, forty seven (47) staff members were trained in IT related courses. This comprises approximately twenty percent (20%) of staff.

### Recruitment

Nine (9) new members of staff were recruited.

### Staff Welfare Activities

A number of staff activities were held during the year. These included the annual Christmas party, and a health and wellness fair. During the third quarter, the Sports and Social Club organized a number of sporting competitions where staff competed against each other (in houses) in netball and football. The consensus is that the activities fostered a high level of camaraderie among staff members and should be continued in subsequent years.

## FINANCE MANAGEMENT

The Internal Audit Branch conducted fifteen (15) Financial Audits, three (3) Operational Audits, two (2) Project Audits and one (1) Contracts Audit.

PriceWaterhouseCoopers (PWC) completed the Year- End Audit for 07/08. A Full Cost Accounting System is being developed and the Cost of Service Study is ninety percent (90%) completed.

Monthly Financial Reports were prepared and distributed both internally and externally.

### Investments

Excess funds are placed on deposits at commercial banks for periods of 30 – 90 days at an average interest rate of 12%.

## PROJECTS

The work of the Agency continued to be significantly enhanced through the support of donor funding such as that provided by the Canadian International Development Agency (CIDA), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP) and the Inter-American Development Bank (IDB). These corresponding capacity development projects were the Environmental Action (ENACT) Programme, the Montreal Protocol (Ozone Depletion) Programme being implemented via the National Ozone Unit, the North Coast Highway Improvement Project (NCHIP), and the Integrated Watershed and Coastal Areas Management (IWCAM) Project.

### ENVIRONMENTAL ACTION (ENACT) PROGRAMME Extension

The ENACT Programme commenced in 1994, with funding of CD\$15 million dollars from CIDA and J\$15 million from the Government of Jamaica annually. The ENACT Programme - a joint initiative between the Governments of Jamaica and Canada - has completed the four-year extension phase – April 1, 2005- April 15, 2009. The extension allowed for the institutionalization of initiatives within five components.

The programme had five (5) main components:

- Greening of Government
- Local Sustainable Development Planning (LSDP)
- Environmental Education for Sustainable Development
- Strengthening of NEPA's Capacity
- Environmental Management in the Private Sector

The main Project Outputs under these components are outlined below:

#### Greening of Government

- 10 environmental training courses designed for various levels of public sector officials including policy analysts, senior and middle management; technical and operational staff. These courses included: Environmental and Sustainable Development; Environmental Accounting; Environmental Economics, etc. Training materials were developed to accompany all training courses.
- Training was delivered to over 3,200 persons between 2001 and 2004, representing over 1,500 hours of teaching and learning over 250 days
- Over 19 Environmental Stewardship Action Plans/Environmental Programmes were developed and implemented across GOJ Ministries and Agencies. Departments included the Office of the Prime Minister, Jamaica Constabulary Force, Ministry of Finance & Planning; and Management Institute for National Development.

- GOJ Environmental Stewardship Policy and its 11 accompanying Environmental Stewardship Guidelines developed. The policy and guidelines were written by over 45 officials in the public sector.
- Over 2000 persons in the public sector trained on how to use the *Government of Jamaica Environmental Guide to Green Procurement*.
- The GOJ Strategic Environmental Assessment (SEA) Policy developed using participatory and consultative processes and approved by Cabinet in June 2005. This Policy will ensure that all sectoral policies of government incorporate environmental considerations. Training was received by over 200 policy analysts of the GOJ in SEA
- The "Strategic Environmental Assessment Handbook" developed; this is a 311-page manual developed to provide policy analysts and senior officials in the public sector with the information necessary to formulate environmentally-sound policies, plans and programmes.
- Supported MIND to incorporate environmental issues in many of their existing curricula, such as its General Management Post Graduate Diploma; Public Sector Senior Management Development Programme; Supplies Management; Supervisory Management; and Project Management.
- Developed a master's level course in environmental management at the UWI – SA64F Environmental and Sustainable Development. This course is offered through the Sir Arthur Lewis Institute for Social and Economic Studies.

### Strengthening of NEPA's Capacity

- Facilitated the inclusion in the regulatory process of more hands-on technical development and review of various environmental guidelines and regulations (e.g. air quality, waste management, bird-shooting enforcement and EIA approval process).
- Applications procedures manual and applications screening tool developed.
- Manual developed for the review of EIA as well as a generic set of terms of reference for the conducting of EIAs.
- Capacity of the legal division built through training and procurement of legal resources
- Ability enhanced to perform Regulatory Impact Analysis (RIA) to ensure better capacity in the development of future regulations. (The establishment of this RIA process is now internalised and will be followed to scope future regulations by NEPA.)
- Supported the enhancement of the technical, process management and participatory development skills of key staff within the organisation, and through the acquisition and use of this new set of skills, will help to establish regulations that are recognised as legitimate by various sectors of government and society (e.g. line ministries concerned, private sector, NGOs, etc).
- Raised the competency of enforcement officers through training and through the development of NEPA's Compliance and Enforcement manuals, including *A Pocket Guide to Environmental and Planning Laws of Jamaica*, and made these officers more effective through the procurement of a tool kit of field resources for officers. The Pocket Guide was revised and reprinted in 2005
- Symposia on environmental legislation for the judiciary held
- Enforcement officers trained over five days in public speaking and presentation skills
- Two public consultations held for the public and private sectors on the draft Wastewater and Sludge Regulations
- Guideline documents on the Wastewater and Sludge Regulations for the regulated community and NEPA under construction
- A training strategy in enforcement and compliance of environmental and planning regulations developed and implemented
- Training resource materials in compliance and enforcement of environmental and planning legislation in five courses for learners and facilitators developed. These were edited in 2005.

- A training mechanism was set-up at MIND for enforcement officers to ensure the continuous updating of their skills
- Six hundred and forty persons (mainly GOJ enforcement officers including 140 Police officers of the Jamaica Constabulary Force and Island Special Constabulary Force) trained in enforcement and compliance in environmental and planning legislation across three major regions of Jamaica. Eighteen rounds of training were conducted, each extending from two to ten days.
- EIA Guideline Document revised
- Three chapters on environmental and planning completed as part of the Development and Investment Manual
- Two Web Servers and Licence and Maintenance software procured to enhance the Applications Management and Data Analysis system (AMANDA) at NEPA
- Multi-agency enforcement strategy drafted and ongoing support for the Kingston & St. Andrew (KSA) Multi-Agency Forum maintained
- Awareness-raising seminar convened for the senior officers of the Island Special Constabulary Force and the Jamaica Constabulary Force with a one day conference held on March 29, 2006 for that group
- Funding approved to support the MLE to review the existing environmental and planning framework for Jamaica.

### Local Sustainable Development Planning (LSDP)

- Two participatory planning processes have been successfully established in Portland and KSA.
- An LSDP Framework, endorsed by the Minister of Land & Environment and the Minister of Local Government, Community Development & Sport, was published and over 3000 copies disseminated.
- Both NEPA and MLGCDS have adopted LSDP as part of their planning process and Local Government Reform respectively.
- SDC has incorporated LSDP in their vision and mission and trained staff worked in support of local sustainable development.
- Discussions on a national SD Framework have begun to incorporate LSDP considerations. A Scoping exercise to support the development of the national SD framework is being conducted under the guidance of the National SD Task Force.
- LSDP is central to practice and projects of local Parish Councils and Parish Development Committees in Manchester, Portland and Kingston & St. Andrew.
- Sensitisation activities have promulgated sustainable development planning in St. Elizabeth, Hanover, St. Ann and other parishes across Jamaica.
- Research papers on Economics and Development; Social Services and Facilities Environment, Transportation; and Infrastructure produced and integrated with the KSA Vision and incorporated into the preparation of the KSA Sustainable Development Plan.
- Detailed (property by property) Land Use mapping and assessment completed for the KSA.
- Draft Information Guide prepared to complement the KSA SD Plan
- Portland SD Plan and Interim Development Order Project document approved by grouping led by Development Division in the Office of the Prime Minister; this is part of the Trelawny and Portland Development Order project being implemented by NEPA.
- KSA PDC Planner transferred fully into KSAC
- The KSA Sustainable Development Plan completed and 150 copies printed for dissemination by KSAC and the KSA PDC.

## Environmental Education for Sustainable Development

- The *National Environmental Education Action Plan for Sustainable Development* was developed by the National Environmental Education Committee (NEEC). This plan, endorsed by the Ministers of Education & Culture and Environment & Housing, was officially launched in 1998 by the Governor General. It has been used extensively as an education planning tool throughout Jamaica and is a model internationally. 4,000 copies have been disseminated and it is frequently downloaded from the Internet.
- EESD training conducted, in collaboration with MOEYC, for more than 5,000 teachers of Grades 2, 3, 5 and 6 island-wide.
- EESD incorporated through the Joint Board of Teacher Education in Teacher Education syllabuses for Physics, Chemistry, and Biology; 13 Early Childhood Education courses; and a new elective, Environmental Education for Secondary School Teachers. Another new elective, Environmental Education for Primary School Teachers, is being developed.
- EESD incorporated into the Professional Development programme at Teachers' Colleges.
- EESD included in MOEYC procedures (e.g. School standards, School Development Planning) and the Ministry's Professional Development Programme (supporting Primary, ROSE and CXC curricula)
- EESD Resource materials for schools and communities produced. These include: *Life-line: Environmental Education Resource Kit to Promote Sustainable Development in Jamaica*, *An Environmental Steward's Handbook*, *Guidelines for Environmental Clubs*, *Enhancing Environmental Education in the Curriculum: A Workshop Session for Teachers in Jamaican Primary Schools*, *DRAFT: Handbook for Leadership Development in Environmental Education for Sustainable Development*, *DRAFT: Teaching and Learning Activities for Environmental Education for Sustainable Development*
- The capacity of ENGOs enhanced in areas such as networking & relationship-building, and EESD methodologies.
- There is a growing and diverse use of the "Environment Logo."
- Proposal by the National Environmental Education Committee (NEEC) to be a separate organization (and not a sub-committee of the NRCA) approved by the NRCA; NRCA representative named to the NEEC Executive.
- Arrangements for institutionalising the NEEC Secretariat within NEPA in progress: Public Education Officer who will assume responsibility for NEEC support identified.
- NEEC Constitution being finalized.
- NEEC Annual General Meeting convened and elections for Executive Officers (Chairperson, Vice-chairperson, Secretary, and Treasurer) held for the first time at that meeting.
- Professional development events held for NEEC members: Workshop on Environmental Communication & Advocacy; Workshop on "Sharing Our Stories"; Presentation on "The Role of Education in Disaster Prevention."
- Bi-monthly NEEC Executive meetings held.
- EE sessions held for groups including SRC Camp LIFE (Living in Favour of the Environment), VTDI, US Peace Corps, and schools.
- EESD sessions held for MOEYC Education Officers, principals, teachers, and school administrative and ancillary staff.
- Article, *'Environmental Education for Sustainable Development: Jamaica Forging Ahead'* published in "The Green Cross Optimist", Geneva.
- Supported the conduct of school visits and 2 sets of teacher workshops per year conducted for up to 350 schools through the Schools Environment Programme, implemented by the Jamaica Environment Trust.
- Knowledge-Attitude-Practice research for NEEC public awareness campaign on burning conducted

- Strategic meeting held with the CEO and the Permanent Secretary of the MOEYC re institutionalising EESD in the Ministry within context of recommendations from National EE Action Plan review and Education Task Force.
- Co-hosted – with UWI, UNICEF and other partners – the Regional Conference on Education for Sustainable Development which launched the UN Decade of Education for Sustainable Development (2005-2014) in the Caribbean.

### Environmental Management in the Private Sector

- Developed a 9-million dollar environmental management programme for the private sector entitled – “Environmental Management in the Private Sector...Creating Sustainable Business
- Developed an Energy Management Position Paper for the Manufacturing Sector – “Exploring Issues and Opportunities for Improving the Competitiveness of Jamaica’s Manufacturing Sector through Energy Management” for discussion with the public sector towards implementing cleaner technologies in the manufacturing sector
- Developed and implemented a 60-hour online course in environmental management for business leaders conducted via the MIND Online Platform. Over 50 persons participated on this course.
- Support provided to 9 companies in the development and implementation of environmental management systems (EMS) – these companies are: J. Wray and Nephew; LASCO Foods; Federated Pharmaceuticals; Trade Winds Tru Juice Limited; Jamaica Citrus Growers; Turbolife Manufacturing, EdgeChem Ltd.; VCG Holdings; and Jamaica Manufacturers’ Association Ltd. A Study Tour on EMS and sustainability practices for business for the aforementioned 9 companies was implemented in Vancouver Canada. Participants left Jamaica on March 25, 2006.
- Developed Guidelines for use by the manufacturing sector in developing and implementing an Environmental Management System (EMS).
- First Trade and Environment conference held in November 2005
- Training workshops held with various sections of the private sector in natural capital and eco-efficiency issues
- Environmental Codes of Practice developed and adopted by sectoral clusters such as the Sugar Industry, the Coffee Industry and the Motor Repairers Association.
- Supported the development of two infrastructure support mechanisms: the Jamaica Institute of Environmental Professionals (JIEP) and the Business Council for the Environment (BCE).

## NATIONAL OZONE UNIT

The National Ozone Unit implements projects geared towards the phase-out of ozone depleting substances. The Projects were funded by the Multilateral Fund for the Implementation of the Montreal Protocol.

### Institutional Strengthening Project (implemented by the United Nations Environment Programme - UNEP)

- Financial support was obtained from the GoJ to supplement salary and administrative expenses associated with the project
- Final disbursement of US\$12K under current phase of project received.
- International Ozone Day was celebrated on September 16th. To commemorate the event a Supplement Page was placed in The Daily Gleaner. It included articles on the Montreal Protocol and related issues as well as an advertisement from Appliance Traders Limited (Tech Centre) which provided part sponsorship for the supplement page. Presentations were given at schools namely Ardenne and St. Jago Preparatory and Ensom City Primary. There was also a presentation to the St. Hugh's Environmental Club members. Media interviews were done on CVM, TV, Television Jamaica, Nationwide Radio and an outside Broadcast was carried by Power 106 FM from the National Ozone Unit.
- Multilateral Fund Secretariat recommended renewal of the project to the Executive Committee which manages the Multilateral Fund. The Executive Committee approved renewal of the project from November 2008 to October 2010. The Project Agreement for the renewal period was signed; NEPA and UNEP (implementing agencies)

### Terminal Phase out Management Plan (follow on activities) – implemented by United Nations Development Programme (UNDP)

- Refrigeration and air-conditioning equipment was purchased and donated to the Caribbean Maritime Institute and University of Technology
- Revised Code of Practice for the Refrigeration and air-conditioning industry was distributed to various Refrigeration and Air-Conditioning Training Institutions and Companies across the island.
- Project close out activities were carried out and included return of unspent project funds to UNDP

### Technical Assistance to Phase out the Use of Methyl Bromide in Jamaica Project – implemented by Environment Canada

- The Local Consultant based at the Food Storage and Prevention of Infestation Division, continued field assessment of trainers who were trained in the use of Eco2fume (alternative to methyl bromide). To aid the evaluation, equipment such as pest control books, flashlights and other fumigation equipment were purchased.
- The Methyl Bromide Working Group met to discuss Phase II training activities. These included additional training of industry personnel in the use of Eco2fume .

### Regional Public Awareness Activity – implemented by UNEP

- The public awareness activity for the Ozone Officers of the English Speaking Caribbean was the production of a 2009 calendar
- Jamaica signed the Agreement with UNEP to undertake production and distribution of the calendar.
- Fourteen thousand calendars were printed and distributed within the English Speaking Caribbean



## Global Environment Facility – Integrating Watershed and Coastal Areas Management project (GEF-IWCAM)

The GEF-IWCAM project is part of a regional initiative funded in the sum of US\$601,000 by GEF/UNDP. The objective of the project is to strengthen the commitment and capacity of the participating countries to implement an integrated approach to the management of watersheds and coastal areas and although the review period commenced April 2007, project implementation started in May 2007. In Jamaica, the project is being implemented in the Drivers River Watershed Management Unit (WMU). The project's main goal is to develop a Watershed Area Management Mechanism (WAMM) which will be adopted for use in the remaining 25 WMUs of the country and in the rest of the Caribbean.

Some key interventions of the project include:

- Water quality monitoring of nine (9) rivers running from East River to Hectors River in Portland, stream flow monitoring at six (6) sites, and coastal water quality monitoring at five (5) marine sites
- Upgrading of pit latrines in selected schools to flush toilets with septic tanks
- Promotion of conservation activities for land-based and marine resources
- Funding of community projects that provide sustainable livelihood opportunities such as ecotourism and agro-forestry
- Improved public awareness of the value of the environmental assets of the Drivers River Watershed.

### Improved Environmental Monitoring

- 12 Environmental Monitoring Committee Meetings conducted
- Monthly Water Sampling and stream flow programme commenced within the Watershed
- 16 community members trained in Water Quality monitoring
- A total 29 environmental monitoring sites ( 20 fresh water, 9 marine) have been identified
- 3 Town Meetings Conducted
- 4 Beach Clean-ups conducted with over 29 loads of garbage remove
- Clean-up and Opening of Salt Creek Mangrove
- Bio-monitoring training conducted
- Procurement of Stream flow & weather equipment
- 2 Fisher Folks Workshop conducted

### Improved Governance & Enforcement Structures

- 12 Stakeholders meeting Conducted
- 4 local governance Committees formed
- 1 Governance Workshop conducted – Stakeholders Analysis
- 1 Enforcement Workshop conducted
- Governance review workshop conducted – updated 6 months Work plan
- 25 Community members trained in Advocacy with request made for another similar workshop

- KAP Study showed that cohort 18-35 registered the lowest levels of participation hence World Water Day Commemoration was linked with sporting activities. World Water Day Expo and Sport Extravaganza
- 2 New persons from cohort participated in Stakeholders meeting
- Continued strengthening of the DAC & Presentation to PDC

#### Improved Public Education & Partnership

- At celebrations for National Wood & Water Day – 200 cassava sticks and 500 coconut seedlings planted
- World Wetland Day Commemoration (Mangrove Boat Tour, Mini Exhibition, snorkeling )
- Finals held for the Debate Competition for High Schools. Winners & participants treated with a tour of Green Grotto
- Poster and essay competition completed; award was given at Earth Day Expo. April 22, 2009 at Folly Oval
- Poster series depicting watershed management prepared for distribution
- First in the series of Project activities prepared for presentation on local cable network

#### Promotion of Best Agricultural Practices

- Farmers Training Day held in several communities within the watershed (Horses Savanna, Rowslandfield ,Drapers, Spring Valley, Nonsuch, and Kensington)
- Farmers were also exposed to Soil Conservation techniques such as contour farming, fruit tree production & siting, Fruit planting technique, Crop establishment, and the proper use of Organic fertilizers
- Sustainable Livelihood was also promoted amongst the farmers. 400 baby chicks were provided to a set of farmers to assist with a Chicken Raising Programme



Farmer from the Driver's River WMU participating in Tree Planting Exercise

## Grants Programme

As part of the promotion of good agricultural practices and sustainable livelihoods, the GEF-IWCAM project has issued a series of Grants to members of the community within the Driver's Rivers Watershed. The details of the Grants are summarized as follows:

Project Number	Area of Support	Title/Organization	Amount (JAS)
001	Protection of Rivers & Waterways Protection of Mangroves & Marine Resources	Restoration of Drivers River Mangroves by: <b>Manchioneal Fishing Village</b>	566,280.00
002	Environmental Monitoring and Enforcement	Integrating Community Based Disaster Risk Assessment by: <b>Portland Environment Protection Association (PEPA)</b>	653,183.30
003, 012, 014, 017	Any other community Project that supports IWCAM	School sanitation by: <b>Build Jamaica; Rural Hill Primary, Fair Prospect Primary, Reach Primary and Reach Infant School</b>	3,618,00.00
005	Community Solid waste Management Improvement, Environmentally Sustainable Programmes	Fruit Tree and Communal Garbage Disposal Project by: <b>Priestman's River Citizens Benevolent Society</b>	541,200.00
006	Community Solid Waste, Protection of Rivers, Waterways, Mangroves and Marine Resources	Restoration, flood mitigation and garbage disposal by: <b>Long Bay/Fair Prospect Citizens Association</b>	691,700.00
007	Community Solid Waste, Training and Capacity Building	Hectors River Solid Waste Recycle Project by: <b>Hectors River Senior Citizens Association</b>	532,400.00
008	Community Solid Waste, Protection of Mangroves and Marine Resources	Manchioneal CDC Mangrove Resuscitation and Communal Garbage Project by: <b>Manchioneal CDC</b>	447,800.00
009	Environmental Monitoring, Training & Capacity Building, Environmental Awareness	Drivers River DAC Environmental Monitoring & Awareness Project by: <b>Drivers River DAC</b>	414,214.18
010	Protection of River and Waterways	The Turtle Crawl Rehabilitation Development by: <b>Nonsuch Environmental Trust</b>	577,800.00
013	Training and Capacity Building	Fairy Hill Makers Handmade Paper and Waste Management Project by: <b>Fairy Hill Citizens Association &amp; Neighbourhood Watch</b>	508,607.00
015	Environmentally Sustainable Programme	Fruit Tree Crop Production by: <b>Manchioneal JAS</b>	301,200.00
016	Environmentally Sustainable Programme	Fruit Tree Crop Production by: <b>Hectors River JAS</b>	368,918.00

## North Coast Highway Improvement Project (NCHIP)

The NWA received a permit from NEPA for the construction of Segments 2 and 3 of the North Coast Highway with stipulated conditions. The development project was funded by the Inter-American Development Bank (IDB), with funding passed to NEPA to assist with the environmental monitoring of the permit. The IDB provided US\$345,000 towards the initiative over an 18-Month period. NEPA also built its capacity to monitor road construction works.

The main outputs of the project were:

- Operations Manual for Monitoring Road Construction Works
- Environmental Monitoring and Air Quality Monitoring Reports
- Training programme for Enforcement Officers in the monitoring of road construction works

The project also built the infrastructure capacity of the Enforcement Branch by providing office and field equipment, air quality monitoring equipment, noise monitoring equipment, Motor Bikes for Enforcement Rangers, and a Boat for Marine based post permits and enforcement monitoring.

APPENDIX I

FINANCIAL STATEMENTS

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## APPENDIX II

### KEY PERFORMANCE INDICATORS REPORT

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