

ENVIRONMENTAL PROTECTION AGENCY



ANNUAL REPORT 2011

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OVERVIEW OF ACHIEVEMENTS 2011

The Environmental Protection Agency (EPA) successfully undertook most of its programme areas in 2011. Improved efficiency was experienced in the Environmental Management Division through the streamlining of the functions of the units and enhancing the supervisory role of the senior officers. Additionally, a new unit, the Hazardous Waste/Materials & Air Quality Unit, was established.

Internal procedures for conducting Research and Development were revised and improved. The Mining and Forestry (M&F) Unit received the highest number of Applications for the development of new projects reflecting the developmental tendency in the country.

The Agency improved the enforcement of the Environmental Protection Act through the issuance of Prohibition Notices (eight) and proceeded with enforcement action through the courts (six cases currently engaging the courts).

Several projects, including the completion of the KfW Small Grants Component of the Guyana Protected Areas System (GPAS) Project, the completion of the EPA Capacity Building Project, and the implementation of several other projects including the Biodiversity Enabling Activity Project (BEAP), were also successfully executed by the Natural Resources Management Division.

A number of new educational materials were developed to support the Agency's awareness efforts on a wide range of relevant environmental issues. The scope of education and awareness programmes were also extended with the second EE Workshop being hosted for trainee teachers and Climate Change sessions conducted with students of the Primary level.

Administration

Finance

The Agency received subventions totalling G\$148,192,000 from the Government of Guyana, compared to G\$123,334,000 in 2010. The difference between the total subvention received and the actual expenses for the year which was G\$167,125,000 was supported by revenues from the Agency which totalled \$20,000,000. Over the year, the Agency was dependent on Miscellaneous Receipts to support its operational expenses and this placed constraints on the Agency with regards to filling vacant positions and providing adequate support for field activities.

The financial statements for the Agency and the Wildlife Division for 2010 were prepared and submitted to Audit Office of Guyana.

All financial reporting requirements were met for the Biosafety Project; WWF KR- 37 Project and the KfW Small Grants Project being implemented by the Agency.

Administrative Services

The Administrative Unit continued to provide administrative and logistical support to all Divisions of the Agency.

Human Services

The Human Resources Unit continued to be responsible for recruiting a skilled and committed workforce and building a team of professionals empowered to perform competently and with excellence.

Workshop and Meetings

Staff of the Agency continued to benefit from training both in Guyana and overseas. In 2011, ten (10) Cabinet Papers were received for overseas workshops and meetings and a number of local training sessions were attended.

Geographical Information Systems

The GIS Database was updated with new information acquired from the field and from Sectoral Agencies such as the Guyana Lands & Surveys Commission (GLSC), Guyana Forestry Commission (GFC), and the Guyana Geology and Mining Commission (GGMC)

Natural Resource Management

Achievements for 2011 in the NRM Division included the completion of the KfW Small Grants Component of the Guyana Protected Areas System (GPAS) Project, the completion of the EPA Capacity Building Project, and the implementation of several other projects including, the Biodiversity Enabling Activity Project (BEAP).

Protected Areas

Shell Beach and Kanuku Mountains were declared as Protected Areas on October 20, 2011.

Biodiversity

For the period, January to December, 2011, applications were received from students, professionals, and institutions worldwide.

Wildlife

The EPA provided the SPAW Secretariat with the nominations for the Working Group on Exemptions under the Article 11(2) of the SPAW Protocol.

Environmental Management

A new Unit - the Hazardous Waste/Materials & Air Quality Unit was established within the EM Division in February, 2011, and has been focusing on developing tools to enforce the Hazardous Waste and Air Quality Regulations, 2000.

Revised Organizational Structure

A new organizational structure to improve the efficiency of the Division by streamlining the functions of the units, and enhancing the supervisory role of the senior officers was implemented in 2011. The implementation was successful, and the results surpassed the expectations, especially in the areas of Authorisations and Renewals of Environmental Authorisations.

Authorisation Process

Twenty-one (21) professionals with varying expertise in environmental management registered with the Agency to provide a range of services to developers applying to the Agency for Environmental Authorisation

Monitoring and Enforcement

The unit's monitoring activities increased significantly during the year 2011. A total of eighty-eight (88) environmental audits were conducted, and representing a 151 percent increase compared to 2010.

Complaints and Response

During the year 2011, a total of two hundred and seventy-five (275) complaints were received by the Agency of which, one hundred and forty-six (146) complaints were new to the Agency, while one-hundred-and-twenty-nine (129) were recurring complaints. The number of complaints received by the Agency in 2011, presented a decrease of 21% compared to 2010, when three hundred and fifty (350) complaints were received.

Research and Development

Research and Development continued to provide necessary support to the work of the Division and the Agency.

Guidelines, Standards and Code of Practice

Through collaboration with the GNBS and other relevant sector agencies, the EPA continued to develop Standards, Guidelines and Code of Practice.

Hazardous Waste Capacity Building

The HW&AQ unit was formed on February 01, 2011. The Unit developed an Action Plan and the necessary procedures, guidelines and mechanisms that will support the functioning of the Unit.

Multi-Lateral Environmental Agreements

During 2011, used lead acid batteries were the major hazardous waste exported. Shipments were generally destined for South Korea and Hong Kong for recycling purposes. The EPA prepared an Expression of Interest for the Caribbean Hub-ACP MEAs Project: Internship Facility in response to this project.

Education Awareness and Capacity Building

The Agency continued to provide high quality programmes on a range of current environmental issues to support the thrust of environmental protection and capacity building.

Development of Educational Materials

During the year, relevant information was selected and developed to meet the needs of varied target groups. This information was packaged on a range of topics and in varied formats for dissemination to groups and individuals throughout the country.

Outreach

Outreach aimed at increasing awareness of environmental issues as a first step towards making sound decisions for the maintenance of a safe and healthy environment.

International Year of Biodiversity (2011)

In collaboration with stakeholders, International Biodiversity Day (IBDD) observances were given an increased profile in recognition of 2011 being the International Year of Forests. Activities were conducted under the theme “Forest Biodiversity”

World Wetlands Day

In collaboration with the Nature School of the National Parks Commission, Primary Schools were targeted for World Wetlands Day (WWD) 2011. A total of three hundred and forty-nine (349) students were involved in activities focusing on the WWD Theme: **“Wetlands & Forest”** under the slogan – **‘Forest for Water and Wetlands’**.

World Water Day

The Agency produced a Water Activity Workbooks focusing on the theme for World Water Day 2011: **“Water for cities: Responding to the urban challenge”**. Sixty (60) Workbooks were printed and distributed to six (6) schools in Region 5 in observance of World Water Day

Earth Day

Packages were prepared for Earth Day and sent *via* email to sixteen (16) schools with environmental clubs, for use in observance of the day. Each package included an Earth Day message intended to be read at school assemblies and club meetings, fact sheets, and activities such as word searches and mazes.

WED 2011

Several activities were conducted in observance of World Environmental Day 2011; these included TV Panel Discussions, Green Walk, and Ride-for-the-Environment.

International Ozone Day

The Agency conducted interactive presentations with in excess of 130 students within four (4) primary schools in Georgetown in observance of International Ozone Day. Newspaper articles were published and a television appearance was coordinated on the Guyana Today Show highlighting the activities undertaken by the Ozone Protection Unit, Hydrometeorological Office.

Exhibitions

The Agency participated in four (4) exhibitions during the year.

Environmental Camp

The Annual Environmental Camp was held during July 12 – 15, 2011, at Camp Madewini, Soesdyke. Forty-three (43) youths aged 12-16, nine (9) teachers and six (6) Officers of the EPA participated in the Camp which was held under the theme, “Forests: Nature at your Service”.

Wildlife Festival

The Agency participated the Annual Wildlife Festival held at Bina Hill Institute, North Rupununi, Region 9.

Annual Taxidermy Camp

Two presentations on the topic “Climate Change” were delivered to eighty participants attending the Annual Taxidermy Camp hosted by the Guyana National Museum.

Teacher Training Workshop

Twenty-seven (27) third year Trainee Teachers at the Primary Level and three (3) Lecturers of the Cyril Potter College of Education participated in the second Environmental Education Workshop during October 13 – 16 at Camp Wesleyana, Linden/Soesdyke Highway.

Participants were introduced to the use of different tools and methods to develop and deliver Environmental Education (EE) and were taken through sample lessons of an EE Curriculum Supplement developed by the Agency. At the end of the workshop, each teacher was able to develop a lesson plan integrating EE into one of the four core subjects of the Primary curriculum.

TV and Print Media

Maximum use was made of the free space provided during 2011, to the Agency, by the Guyana Chronicle and Guyana Times newspapers.

During the year, full advantage was taken of the opportunity provided by the National Telecommunications Network (NCN) to feature discussions on topical activities and events on the environment on the Guyana Today Show.

A number of interviews were also done on TV to highlight the significance of Environmental Days and simple actions that can be taken at the individual level to conserve the environment.

Capacity Building Development

In addition to the routine work, staff capacity was built through the development and delivery of training modules for Conservation at Home; Strengthening Environmental Clubs; and Climate Change Education for Children.

Documentation Centre

Materials in the Document Centre were entered into an Endnote Database.

1. GUIDING LEGISLATION AND STRATEGIES

1.1 MISSION

The mission of the Environmental Protection Agency (EPA) is to *“take measures necessary for effective protection and management of the natural environment, coordination of conservation programmes, sustainable use of natural resources, assessment of the impact of development activities on the environment and the integration of appropriate environmental provisions into development planning”*.

1.2 ENVIRONMENTAL PROTECTION ACT

On June 05, 1996, the **Environmental Protection Act (EP Act)** was passed in Parliament, thereby, establishing the Environmental Protection Agency (EPA). The EP Act mandates the Agency to oversee the effective management, conservation, protection and improvement of the environment, the prevention and control of pollution, the assessment of the impact of economic development on the environment and the sustainable use of natural resources.

In working towards its mandate, the Agency enables Guyana to contribute to global and national environmental protection, sustainable use of natural resources, and conservation. To achieve its mandate, the Agency develops and implements education, regulation and enforcement programmes and uses partnerships and collaborative approaches to strengthen the impact of its interventions.

1.3 FUNCTIONS

The functions of the Agency are stated in the EP Act, Part II 4 (1) and can be classified broadly as being *regulatory, coordinating, and the promoting of public participation in environmental protection*.

As part of its regulatory functions, the Agency enforces the EP Act (1996) and its amendments, and the Environmental Protection Regulations (2000), to ensure that measures for environmental protection are integrated into development activities.

The Agency also coordinates the sustainable use and conservation of Guyana’s natural resources. Both the coordinating and regulatory functions of the Agency are complex, spanning a range of inter-connected issues and requiring collaboration with private, public sector and non-governmental organizations.

Another major responsibility of the Agency is to promote the participation of the public in the process of integrating environmental concerns in the planning for sustainable development. This 8

requires the provision of information to the public on environmental development projects, issues and problems, and on the Agency's procedures and processes.

1.4 STRATEGIC PLAN 2006-2010

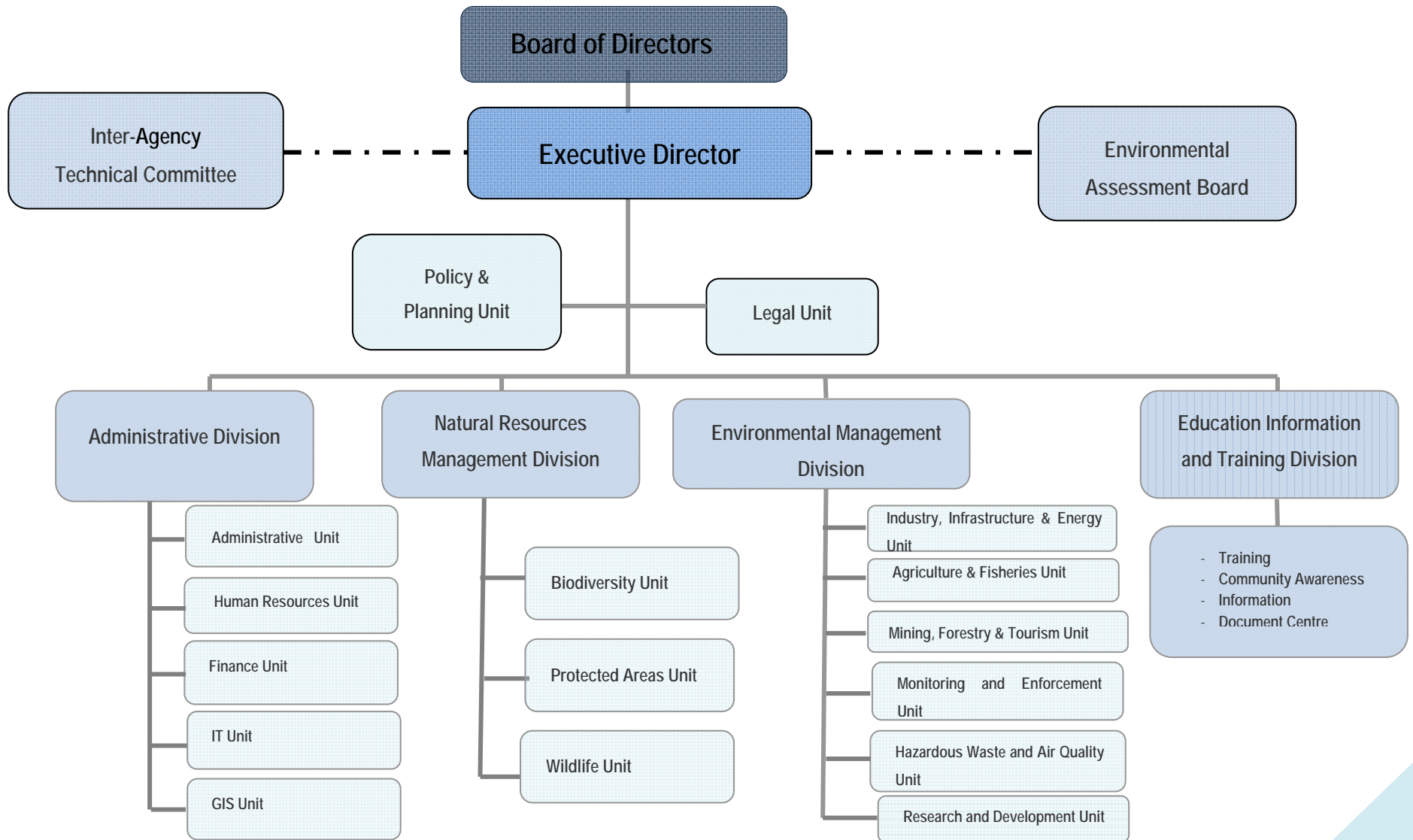
The Agency developed its Strategic Plan for the period 2006-2010. In the Plan, FOUR Themes are identified which are linked to two levels of objectives: Outcomes at the first level and Specific Objectives at the second level. The first theme: ***Promoting the Sustainable Use and Conservation of Biodiversity*** is implemented mainly under the Natural Resources Management Programme of the Agency. The second Theme: ***Environmental Protection and Management*** is implemented largely under the Environment Management Programme of the Agency. The third Theme: ***Environmental Information for Decision Making*** is implemented by the Education Information and Training Programme and is cross-cutting. The fourth Theme: ***Strengthening Institutional Capacity*** is also cross-cutting and is implemented under the Capacity Building Programme of the Agency.

The Agency is seeking to develop a new Strategic Plan, taking into consideration new directions under the Low Carbon Development Strategy (LCDS) and the focus of the new Ministry of Natural Resources and the Environment (MoNRE).

1.5 ORGANIZATIONAL STRUCTURE

Figure 1 below shows the Organizational Structure of EPA during 2010. The Chairman of the EPA Board and the Executive Director of the EPA both report to the President of Guyana in his capacity as Minister of Environment through the Head of the Presidential Secretariat. With the establishment of a new Ministry of Natural Resources and the Environment (MoNRE), reporting is now done to the new Minister.

Figure 1: Organizational Structure of EPA.



1.6 PROGRAMME AREAS

The mandate of the EPA is implemented through its Natural Resources Management (NRM), Environmental Management (EM), Education, Awareness, Capacity Building and Cross-Sectoral Programmes (Figure 2). The NRM Programme has three components: Sustainable Use of Biodiversity, Biodiversity Conservation, and Wildlife. The EM programme has four components: Environmental Authorizations, Monitoring and Enforcement, Complaints and Response, and Research and Development. The Education and Capacity Building Programme has two components: Education and Awareness and Training, and Capacity Building, both of which are cross-cutting.

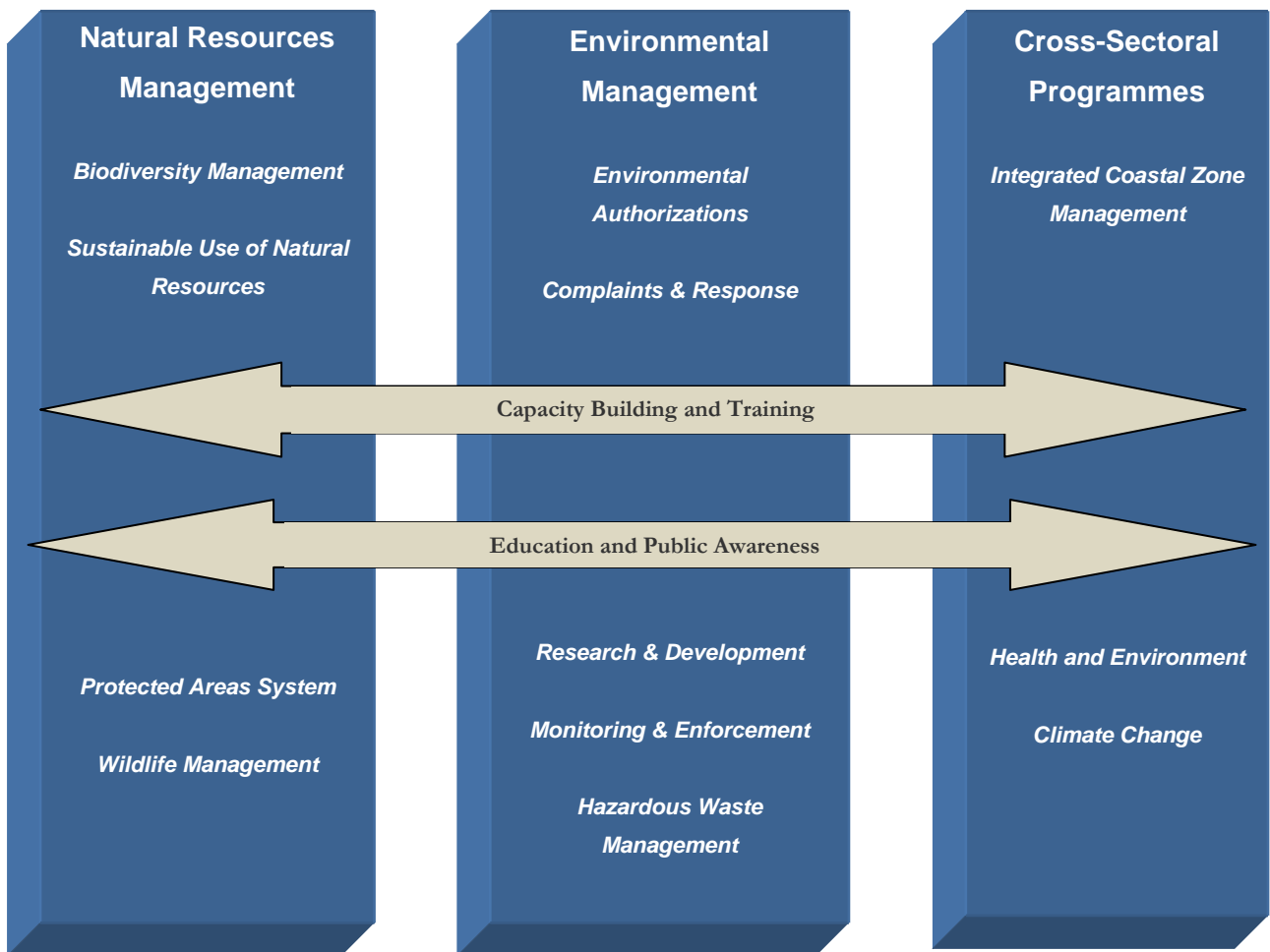


Figure 2: EPA Programmes, Components and Links.

1.6.1 Natural Resources Management

Having ratified the Convention on Biological Diversity (CBD) and the Cartagena Protocol on Biosafety (CPB), Guyana committed to developing National Strategies, Plans and Programmes for the conservation and sustainable use of biodiversity, and the regulation of the transboundary movement and use of Living Modified Organisms (LMOs) and Genetically Modified Organisms (GMOs) and to take legislative, administrative and policy measures towards achieving these goals. Under the EP Act, 1996, the Agency is required to coordinate and maintain a programme, for the conservation of biodiversity and its sustainable use in Guyana. These requirements and the responsibilities under the CBD, and CPB are the primary focus, of the NRM Programme.

To achieve the objectives of the NRM Programme, there is collaboration with various Sectoral Agencies and Institutions and with Amerindian Communities in Guyana. Some of the main collaborative Sectoral partners include the Guyana Forestry Commission, Ministry of Agriculture, Wildlife Division, Guyana Geology and Mines Commission, University of Guyana, National Parks Commission, among others. There is also collaboration with local and international Non-Governmental Organizations (NGOs), such as Conservation International – Guyana (CIG), the Guyana Marine Turtle Conservation Society (GMTCS), and the World Wildlife Fund for Nature (WWF), among others.

The most important strategy documents guiding the work of the NRM Programme are the National Biodiversity Action Plans (NBAP I and II) and the National Biosafety Framework (NBF), which outline the major programme areas for biodiversity management in Guyana as: Conservation of Biodiversity, Sustainable use of Biodiversity, and Conservation and Sustainable use of Wildlife.

1.6.2 Environmental Management

Through the EM Programme, the Agency works towards achieving its mandate for pollution control and prevention. As such, developmental projects are required to conform to the goal of sustainable development with the Agency overseeing an environmental authorization process and conducting environmental monitoring and enforcement. Some of the strategies of the Agency's EM programme include:

- **Authorising New Developments:** Any new development that may have a significant effect on the environment is required to apply to the Agency for an Environmental Authorization. When an application is received, it is screened by the Agency, which then publishes its decision, on whether an Environmental Impact Assessment is required or not, and whether an environmental authorization will be granted or not.

- **Monitoring of Environmental Authorisations:** To ensure that developments mitigate against pollution and remediate as necessary, they are monitored by the Agency. The ambient environment and specific requirements of Environmental Authorizations are also monitored.
- **Authorising Existing Developments:** The EP Regulations (2000) provide for the regularizing of existing industrial activities through a registration process. Existing operations are required to apply to the Agency for an Operations Permit, the granting of which, is dependent on compliance and good environmental management practices.
- **Developing Competencies in Environmental Management:** The Agency recognizes that its role would be much more effective if the stakeholders are aware of their responsibilities and the means by which these can be met.
- **Developing Regulations:** In keeping with the EP Act, the Agency pursues the development of Regulations.
- **Reviewing and Developing Standards, Environmental and Operational Guidelines and Codes of Practice.**
- **Coordinating Environmental Management through Stakeholder collaboration.**
- **Managing Environmental Complaints:** the EMD continues to resolve legitimate environmental complaints.
- **Preparing for environmental emergencies.**
- **Enforcement.**

1.6.3 Education, Awareness and Capacity Building

The promotion of public awareness and participation in protection, conservation and sustainable use of the environment is a key function of the EPA as outlined in the EP Act (1996).

A National Environmental Education Strategy formulated in 1998 has served as a guide in the promotion of public awareness and public participation in the protection, conservation and sustainable use of the environment.

Through its Education Awareness and Capacity Building Programme, the Agency provides information in a range of formats to a wide segment of the population.

The delivery of the Programme entails working in close collaboration with the Environmental Management and the Natural Resources Management Programmes of the EPA as well as a number of Sectoral Agencies and Non-Governmental Organizations.

The purpose of the Programme is twofold, promoting public awareness of and participation in environmental decision-making as well as informing the public of the systems and procedures established by the Agency for environmental management and conservation.

1.6.4 Cross-Sectoral Programmes

Currently, the Agency plays a role in a number of cross-sectoral programmes including integrated coastal zone management (ICZM), climate change and solid waste management.

As part of its role regarding environmental coordination, the Agency's primary approach is to work with and to create strategic partnerships with existing organizations.

1.6.5 Conventions and Multilateral Environmental Agreements (MEA)

Basel Convention

The Environmental Protection Agency is Guyana's Focal Point for the Basel Convention for the control of transboundary movements of hazardous wastes and their disposal. During the year, the Agency completed the Basel Convention Questionnaire for 2009. In addition, the Agency sought technical assistance from the Basel Convention Secretariat towards the finalization of the draft Environmental Protection (Export and Intransit Import) Hazardous Wastes Management Regulations, following approval from the Office of the President to do so. The Agency complied with the requirements of the Convention regarding the notification of Hazardous wastes movements through the processing of notification documents to country of import as well as communicating with countries who wished to use Guyana as a transit point.

The Agency prepared an Expression of Interest for the Caribbean Hub-ACP MEAs Project: Internship Facility in response to a letter received on October 05, 2011, regarding the project. This project aimed to strengthen the human resources capacities of Member Countries to ensure the sustainable implementation of the MEA requirements.

Cartagena Convention

The appointment of EPA as Focal Point for the Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region (Cartagena Convention) is still pending. Nevertheless, the Agency continued being actively involved in several activities related to the Convention.

The Agency participated in the Steering Committee for the National Plan of Action for the reduction of land-based sources of pollution that was developed for Linden. In addition, the interim Guidelines for industrial effluent discharged into the environment were under revision by the Technical Committee – Environment, Guyana National Bureau of Standards. This Standard will be a legally binding document, where the maximum permissible limits for the discharge of relevant parameters are established for different industries, in accordance with the Environmental Protection (Water Quality) Regulations.

The Agency continued to process Applications for Environmental Permits and assessed those projects in relation to their potential environmental impacts. Environmental Impact Assessments were required for projects which had potential environmental impacts to ensure sustainability for the project and the environment. Sector Agencies and Public consultations were carried out to include any concerns of the public regarding these projects and to ensure that consideration was given to them in the design and implementation of projects.

2. ADMINISTRATION

The Administrative Division comprises the Administrative, Finance, Geographical Information Systems (GIS), Human Resources, Policy and Planning, and Information Technology (IT) Units. The main responsibilities of the Division are the provision of IT and GIS Support to staff and Administrative and Human Resources Management. Materials, equipment and services to meet the needs of the Agency are procured with core funding from Government subvention and donor funded projects.

2.1 FINANCE

The Agency received subventions totalling G\$148,192,000 from the Government of Guyana, compared to G\$123,334,000 in 2010. The difference between the total subvention received and the actual expenses for the year which was G\$167,125,000 was supported by revenues from the Agency which totalled \$20,000,000. Over the year, the Agency was dependent on Miscellaneous Receipts to support its operational expenses and this placed constraints on the Agency with regards to filling vacant positions and providing adequate support for field activities.

For the year in review, achievements in Financial Management were as follows:

- The 2010 Draft Financial Statements for EPA and Wildlife Division were prepared and submitted to the Audit Office of Guyana;
- Quarterly Financial Overview were prepared and submitted to the Ministry of Finance;
- Monthly Financial Reports were submitted to the Board of Directors and Management of EPA;
- All financial reporting requirements for the Biosafety Project, WWF KR-37 Project and the KfW Small Grants Project were met in accordance with project guidelines;
- All sub-projects under the KfW Small Grants Project were officially closed and the funds remaining in the bank accounts were disbursed to Germany;
- An Audit of the KfW Small Grants Project for 2010 was conducted by the Audit Office and the report was submitted to Germany;
- An Audit of the National Biosafety Framework Project was conducted by the Audit Office and the audited report was submitted to Office of the President;
- The Agency's Budget for the year 2012 was prepared and submitted to the Office of the President.

2.2 ADMINISTRATIVE UNIT

The Administrative Unit continues to provide administrative and logistical support to all Divisions of the Agency. The Unit efficiently assisted with the evaluation and procurement of materials, equipment and

services through core funding from Government of Guyana and through several donor-funded Projects managed by the Agency. Some of the donors included UNDP, KfW and WWF.

2.2.1 Procurement and Management

The Unit maintained stock records for all items procured by the Agency and facilitated physical checks by the Finance Unit for compliance with procedures and accuracy of record keeping. Additionally, the Unit ensured that adequate stock levels were maintained to meet the needs of the various Divisions within the Agency through the use of the Inventory Management document and monthly stock reporting mechanisms that were implemented.

Approval was received from the Ministry of Finance for the disposal of a quantity of obsolete and damaged assets. This was completed and verified by Auditors from the Audit Office of Guyana. The Fixed Asset Database was updated reflecting the disposal of all damaged and obsolete assets. The Fixed Asset Database continues to be updated as assets are procured and distributed to employees. One hundred percent (100%) fixed assets check and verification was completed.

Under Capital Expenditure 2011, the Agency upgraded its ACCPAC SAGE Accounting Software, procured fire extinguishers, printers, air quality meter, chain saw, water dispenser, microwave and secretarial chairs. Other procurement included the supply of two (2) GPS units to aid in the mapping of points showing site locations. Also, personal protective equipment inclusive of safety boots, respirators, gloves and eyewear were procured for staff to conduct field visits.

2.2.2 Vehicle Maintenance

During the year in review, the Unit was able to fulfill the transportation needs of the Agency. However, repairs and maintenance continued to be a significant cost as the Unit strove to keep all vehicles in operation through regular and scheduled maintenance. An increased cost was as a result of the older models of vehicle that the Agency continued to keep in operation.

The Unit continued to prepare and submit weekly fleet inspection reports to management detailing the use and status of the vehicles. All relevant documents for the vehicles were renewed and updated and general servicing and minor repairs were completed when necessary. Additionally, tyres, air flow meter, and radiator were some of the spares procured and or replaced for the fleet during the period under review.

The radio system continues to malfunction and challenges are faced when communicating with officers in the field. The radio system cables were replaced for its effective operation based on a report from diagnostic testing that was executed. However the system is still to become fully operational and testing continues to be done to verify its operation. The satellite phone is operational and works as an alternative to the radio system whenever staff is in the fields.

2.2.3 Building and Compound Maintenance

The rehabilitation of the Eastern Wing of the building was completed and handed over by the Contractor (V.I. Graham Associates). This section houses the Hazardous Waste and ICZM Units, Stockroom and Kitchenette areas. Additionally, procurement was completed for the supply and installation of air conditioning units and grills for the section.

The Agency's air conditioning units have become problematic and malfunction intermittently. However, efforts were made to have them repaired and scheduled maintenance was undertaken to resolve some of the problems.

The first servicing/maintenance was completed on the generator set; the Unit continued to prepare and submit weekly inspection checklists for the set.

A new set of transformers and meter were installed by the Guyana Power and Light Inc. to satisfy the electrical demands of the Agency.

Contracts were prepared and/or renewed for the following services:

1. Servicing of the Agency's air conditioning units.
2. Cleaning of the water supply system and installation of water filters.
3. Minor carpentry repairs around the building.
4. Termite control and eradication of bees in the building.
5. Disposal of sanitary material.
6. Security services for the building.
7. Upgrading the main feeder (electrical) cables.
8. Rehabilitation of the vehicle shed.

The Unit continued to enhance the general aesthetics of the compound by planting decorative plants, regular weeding, cleaning and maintenance. Equipment has been procured for the care and maintenance of the compound.

2.2.4 Additional Support

Procurement, transportation, photocopying and support services were provided to the Agency's Outreach Programmes, KfW Small Grants component of the GPAS Project, National Biosafety Framework Project, and the World Wildlife Fund KR37 Project. Additionally, the Division coordinated the Agency's Occupational Health and Safety programme.

The Administrative Services work programme was reviewed and updated on a monthly basis.

2.3 HUMAN RESOURCES

The Human Resources Unit is responsible for recruiting a skilled and committed workforce and building a team of professionals empowered to perform competently and with excellence. Achievements in Human Resources during 2011 were as follows:

2.3.1 Staffing

A total of twenty-three (23) suitable candidates were recruited to fill vacancies in the various Divisions of the Agency as shown in the Table 1. At the end of 2011, sixty-three (63) members of staff were in the employ of the Agency and were distributed across the four Divisions (Appendix I).

Table 1: Staff Recruitment in 2011.

Divisions	Number of Staff Recruited	Designations
Administration	10	Administrative Director (1), Office Attendant (2), Office Assistant (1), Finance Officer (1), Accounts Clerk (1), Human Resources Officer (1), Technical Support Officer (1), Information Technology Specialist (1) and Handyman (1).
Education, Information & Training	3	Environmental Officer I
Natural Resources Management	3	Senior Environmental Officer, Environmental Officer and Executive Assistant.
Environmental Management	7	Environmental Officer I

During the year, there were twelve (12) resignations, two (2) involuntary terminations of service, and one (1) termination. As a result, the following two (2) senior level positions within the Agency were vacant at the end of the year.

- Senior Environmental Officer, NRMD.
- Finance Officer

Additionally, four (4) staff members were promoted in two Divisions: one (1) to the position of Senior Environmental Officer and three (3) to Environmental Officer II. Two (2) staff members were also

transferred: one (1) to the National Parks commission (NPC) and one (1) to the Ministry of Natural Resources and the Environment (MoNRE).

At the end of 2011, sixty-three (63) members of staff were in the employ of the Agency. Although staff turnover continue to be high (Figure 3), there was a decrease from seventeen (17) leaving the Agency in 2010, to fifteen (15) in 2011.

Figure 3: Staff turn-over for the period 2006-2011.

2.3.2 Workshops & Meetings

Staff continued to benefit from Meetings and Workshops during the year. (Appendix II)

Overseas:

Approval of ten (10) Cabinet Papers was received for overseas workshops and meetings.

In-Country:

Throughout the year, officers participated in meetings and workshops which have contributed to building capacity in the Agency. These related to various aspects of the Agency's work as follows:

- KfW Small Grants Component of the Guyana Protected Area Project.
- WWF project, Capacity Building within the Environmental Protection Agency to support Protected Areas Development and Management and Promote Sustainable Livelihoods in Amerindian Communities in Guyana.
- REDPARQUES.
- Wildlife Management Authority Board Meeting.
- GEF Working Group.
- Convention on Biological Diversity (CDB ABS9).
- National Reports to the CBD.
- Biodiversity Clearing House Mechanism.
- ISO/IEC 17020:1998 Standard for Inspection Agencies.
- Principles of Supervisory Management (Module 1); and Induction/Orientation.
- Payment for Eco-systems Services (PES) hosted by the Guyana Forestry Commission.
- "Remote Sensing".
- Potential of Biomass Energy use (Environmental, Social and Economic).
- International Day for Disaster Reduction Meeting.
- First National Training Workshop under the BCH Phase II Project
- Preliminary Findings on Application of the IDB Disaster Risk indicators to Guyana.

- A symposium on International Standards – Creating Confidence Globally.
- Stakeholders’ Consultation Workshop in Support of three (3) Studies: Development of a Medium-Term Investment Plan, Identification of Incentives to Stimulate Investment in Sustainable Land Management and a Funding Needs Assessment for Sustainable Land Management Priorities.
- Stakeholder Consultation Workshop - Development of Land Use Planning Project.
- Seminar on Atlantic Canada’s Energy Regulations Model.
- National Bird Strike Committee

The Agency continued to serve on the following Sectoral Boards and Committees:

- LCDS Multi-Stakeholder Steering Committee.
- Kaieteur National Park Board.
- Wildlife Management Authority Board.
- National Climate Committee (NCC).
- Guyana Tourism Authority Board.
- Guyana Fire Service Board.
- Guyana Geology and Mines Commission Board.
- Guyana Forestry Commission Board.
- MRVS Steering and Technical Committees.
- Natural Resources Communication to UNFCCC, Steering Committee.
- National Biodiversity Committee.

The Agency also facilitated three (3) work-study students from the University of Guyana.

2.4 INFORMATION TECHNOLOGY

2.4.1 PC Support

The IT Unit repaired a number of desktops and laptops which were affected by hardware or software problems.

Fifteen computers were completely upgraded to replace problematic and obsolete systems. These computers were loaded with the Windows 7 operating and relevant software. Eighty-five percent (85%) of the Agency’s computers were upgraded to Windows 7 operating system to improve securities and better user functionality within the Server 2008 Environment.

All printers within the Agency were serviced and are fully functional. Four new printers were received and deployed to various Divisions. Defective monitors, mouse, keyboards, surge protectors, line conditioners and UPS were also replaced.

2.4.2 Network Support

During 2011, complete backup of the Agency data and virtual machines was done and archived on a regular basis.

During the year, the Unit diagnosed a Dell 2900 server and found defective SCSI HDD and memory Modules. These parts were completely replaced and are functioning perfectly. This server is used for the GIS Department and NBRIS application.

A new virtual machine was created to facilitate the NBRIS LAN Module for the Natural Resources Management Division.

The ISA 2006 (Internet Security and Acceleration Server 2006) was upgraded from Windows Server 2003 Standard Edition to Windows Server 2003 Enterprise Edition R2 to accommodate the newly constructed Domain Controller 2008. On several occasions, the server went down due to hardware and software problems. The IT department brought up an alternate server, loading all software data and re-configured all company policies. This server is functioning and performing the relevant functions applied in order to allow internet access to all users within the Agency.

The IT unit upgraded the Agency's firewall Service to Sonic Wall Firewall which aimed to achieve better network securities such as gateway antivirus, packet inspection, intrusion alert, bandwidth monitoring, internet access and usage, application level control, virtual private network, etc.

The Local Area Network was expanded to accommodate the Hazardous Waste Unit. This expansion included structured cabling and installation of network switches.

ESET NOD 32 Antivirus Business Edition and Microsoft Security Essentials were deployed to newly installed Operation System Windows 7. All computers and servers now have antivirus protection.

All network connectivity errors were fixed such as defectives cables, surface mounts and switches. User accounts, mapped drives and permissions were created to facilitate new staff entering the Agency. GIS software and one user license was donated by ESRI and was installed in the GIS unit.

2.4.3 Management Information Systems

Maintenance was done on the Assets database, restoring and configuring. This was updated and data sets migrated to be compatible with Windows 7.

ACCPAC datasets was backed up and all computer systems were upgraded to Windows 7 to facilitate the new version of ACCPAC 6.0. Data synchronization of Accounts Payable, Accounts Receivable, General Ledger and System Manager was set up and awaiting consultant to further complete the installation. Seventy percent (70%) completion was achieved on this.

The Data server and a new Domain Controller (EPAGUYANA.ORG) were created in server 2008 Enterprise Edition, and relevant configuration was done to facilitate the access of data and internet over the Network.

Work was done on the Permit database in the EM Division; this includes updates such as fields, functions, and reports. Tables were created for General, Compliance and Enforcement. Changes were done to tables such as Project, Developer Detail, Application, Payment, Fee-Type and Notification Type. Database problems were resolved to improve user interface functionality.

The Complaints Database was updated and maintained. The SQL backend of the database was backed up and also maintained.

2.4.4 Website Development

During the year, a new external website www.epaguyana.org was created and deployed. The hosting package was upgraded in order to accommodate data upload and more bandwidth usage.

In November, the Agency's website was hacked. The website was restored from backup and scripts were written to enhance the website's security.

Additions were made to the external website and a few functions were added. Public notices, EIAs, Vacancies and other related documents were uploaded.

2.4.5 Miscellaneous

The IT Unit attended and assisted other departments in presentations and seminars such as ACCPAC, NBRIS, BCH, ARCGIS 11 and CHM training, etc.

2.5 GEOGRAPHICAL INFORMATION SYSTEM (GIS)

The GIS Unit has responsibility for the efficient management of all spatial related data and for the empowerment of all employees within the Agency with the necessary skills to enable the use of GIS data as a tool for sound decision-making. During 2011, the Unit continued to provide internal GIS support to the various Divisions within the EPA and to work on Projects within the Unit. Additionally, a number of initiatives were taken to update the GIS database and ensure the effective functioning of the GIS Unit of the Agency. These included:

- Prepared maps and satellite images identifying the proposed protected areas located in Upper Canje (the Canje River).
- Updated the Geodatabase for complaints received, for each Unit within EMD.
- GPS coordinates, taken from inspections carried out by EMD officers, were converted and plotted in Google Earth, Satellite images. These were extracted and prepared for environmental officers to present in their inspection reports.

- A total of two hundred and twenty three (223) sets of GPS coordinates were plotted for each of the EMD Units. This project is an ongoing project.

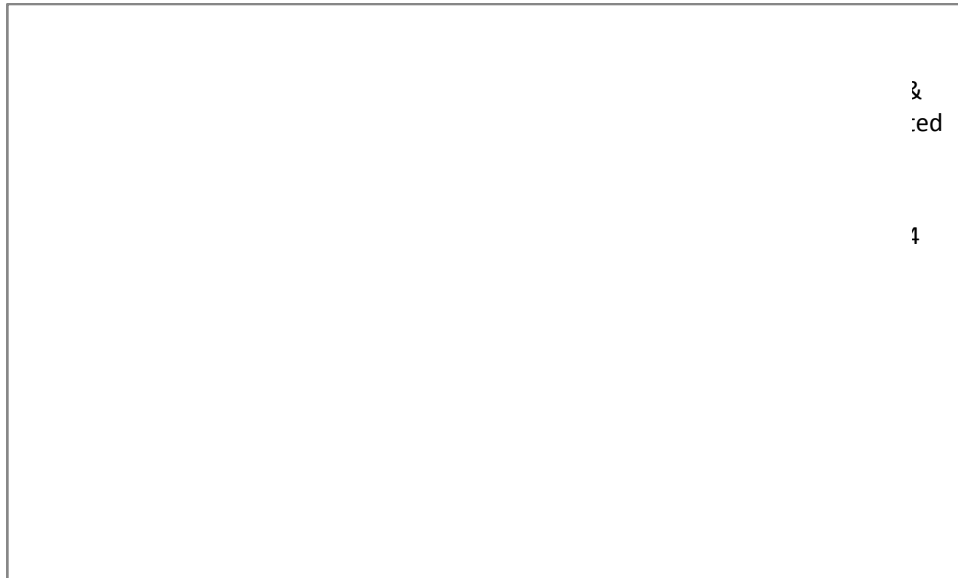


Figure 4: Number of GPS Points Plotted for 2011 for the EMD Units.



Figure 5: Number of GPS Points Plotted for various visits.

- Plotted a total of fifty six (56) GPS points for EIAs Not Required Projects for the period of January to December, 2011; for the different Units within EMD. Figure 3 outlines the amount of GPS points plotted.
- No required EIAs were plotted during this period.

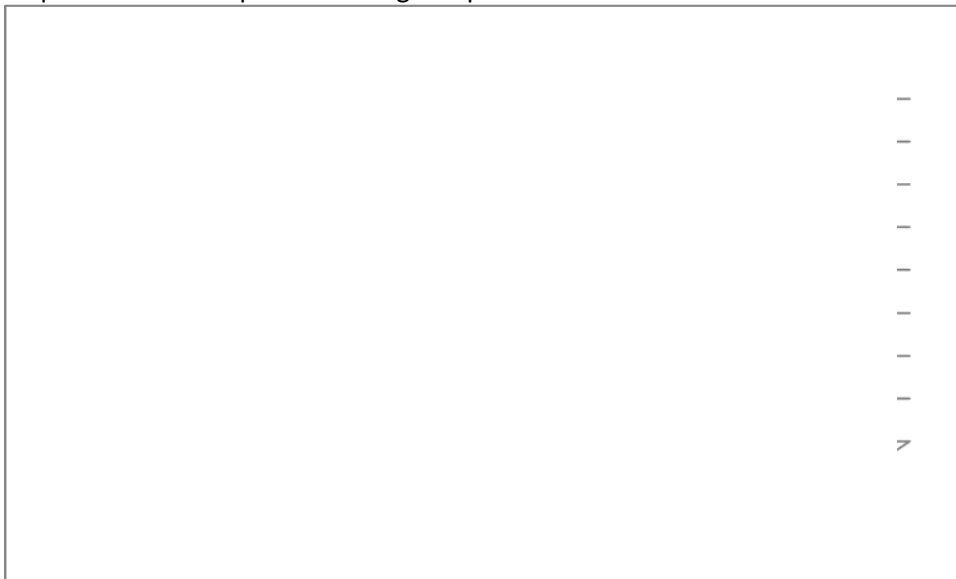


Figure 6: Number of GPS points plotted for the period January – December 2011.

- Several Road Maps were prepared and printed to guide drivers and officers in out-of-town field trips.
- Prepared maps showing the locations of Canacol Energy Inc. proposed drill Site.
- Clipped, merged and exported digital data for the ICZM Unit.
- Plotted GPS points and digitized the boundary area for Seba Quarry, prepared and printed four maps on letter size papers.

- Assisted in evaluating two proposals for Winrock and Alteera Bids and evaluated candidates for the MRVS Forest Area Assessment-Year 2, SarVision, Indufor, Winrock, CATHALAC and CARANA for the MRVS Technical Steering Committee.
- Updated the geodatabase with information on EIA and EIA not required for the year 2010 and the period from January to December 2011.
- Plotted twelve (12) GPS points for the following areas: Barama River, Barima River, Waini River, Mazaruni River, Cuyuni River and Essequibo River; extracted the google images and prepared maps showing these areas for the Sustainable Forest Products Project.
- Plotted all Nursery, Primary and Secondary Schools in their respective Regions 1 to 10 and entered attribute information to the data; maps were prepared, printed and exported to Jpeg images for all these Regions. A total of seventeen (17) maps were printed on tabloid paper (11x17).
- Plotted a total of three hundred and seventy four (374) GPS points for Governmental schools within Guyana in their respective Regions; these were Nursery, Primary, Community High, Secondary, Multilateral, Agriculture, College, Technical Institute and the University of Guyana. Private schools were not plotted. Figure 4 below outlines the number of schools plotted in the respective regions.

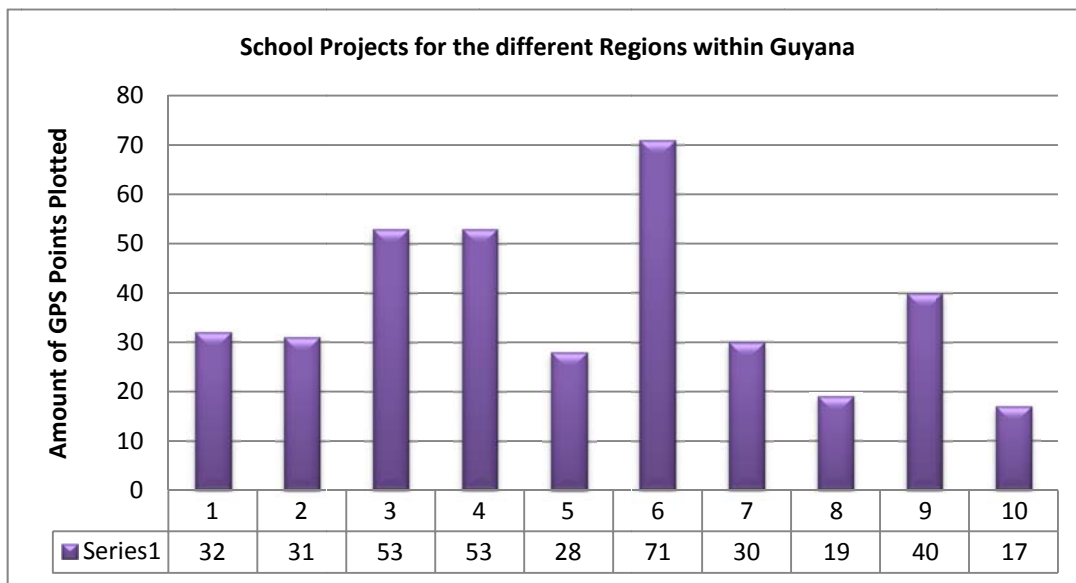


Figure 7: Number of schools plotted for the respective regions within Guyana’s ten Administrative Regions.

- Prepared maps from NRMP: the Soil Map of Guyana, National Vegetation Map of Guyana, Forest Concessions of Guyana and Mining Concessions of Guyana; these maps were prepared, printed and exported to BMP map images. Prints were made on 17x22 and 34x44 paper size.
- Digitized the outline boundary for the State Forested Area via zones.
- Maps highlighting Primary and Secondary schools within Guyana’s ten Administrative Regions were edited and exported as Jpeg images.
- Prepared Map showing Shell Beach Protected Area and highlighted the turtle nesting sites of Guyana; this map was exported to PDF and PNG format.

- Plotted two GPS points for the Proposed Project Blattodei of Guyana; prepared two maps and exported it to PDF files.
- The Unit modified its present data filing system. Datasets were renamed and reorganized. The data sources for corresponding MXD files, containing maps, were resourced due to the changes made to the ungraded software.
- Improved data management within the GIS Unit by converting shapefiles into features classes' formats and stored in Geodatabases.
- The Agency received Mineral Properties digital data from GGMC; this data was last updated on June 30, 2011.
- The Unit received digital data from the Guyana Lands and Surveys Commission (GL&SC) for the following Regions: 1, 3, 6, 8 and 10. Maps of Georgetown, New Amsterdam, Rose Hall and Corriverton and State Forest Boundary of Guyana were also received.

Others Activities

The GIS Unit assisted the Agency in other activities other including sharing digital data of Mangrove (shape file) areas along the Guyana Coastal Plain with the Ministry of Public Works & Communications.

3. NATURAL RESOURCES MANAGEMENT

Under the Environmental Protection Act (1996), the EPA is mandated to coordinate and maintain a programme for the conservation and sustainable use of biological diversity in Guyana. Also, the Environmental Protection Agency (EPA), as the national focal point for the Convention on Biological Diversity (CBD) and the Cartagena Protocol on Biosafety (CPB), is required to design, source funding, execute and implement projects that would assist in achieving the general objectives and programmes of the Convention.

The Natural Resources Management Division (NRMD) undertakes the above mandates, and in order to achieve them, the Division has three technical units: Protected Areas, Biodiversity, and Wildlife, each focusing on particular areas.

The Division is working towards achieving its planned activities for 2011, successfully executed several projects on the work programme for the year.

Some of these achievements included: the completion of the KfW Small Grants Component of the Guyana Protected Areas System (GPAS) Project, the completion of the EPA Capacity Building Project, and the implementation of several other projects including the Biodiversity Enabling Activity Project (BEAP).

The Division was headed by a Director who was supported by three (3) Senior Environmental Officers (SEO), two (2) Environmental Officers II, three (3) Environmental Officers I, one (1) Special Projects Officer, one (1) Senior Technical Officer, and an Executive Assistant. Towards the end of 2011, with the establishment of the new Ministry of Natural resources and the Environment (MoNRE), the Director was seconded to the Ministry, and the Special Projects Officer was seconded to the NPC.

Staff of the Division continued to function as representatives on various Committees and Boards.

3.1 PROTECTED AREAS

3.1.2 Guyana Protected Areas System (GPAS) Project

KfW Small Grants Component

In July 2004, the Governments of Guyana and Germany, represented by the Kreditanstalt für Wiederaufbau (KfW, or the German Bank for Reconstruction and Development), signed a Financing Agreement for EURO 2.56M (US\$3.1M at the then exchange rate) to support the Small Grants Component of the Guyana Protected Areas System (GPAS) Project. The goal of this Component is the conservation of ecosystems and the enhancement of livelihoods of the various Amerindian communities living in or in close proximity to protected/proposed protected areas.

The Environmental Protection Agency (EPA) was identified by the Government of Guyana as the Implementing Agency for the Project. On August 22, 2005, the GFA Group, a German Consultancy Firm, was contracted by KfW to assist the EPA to accomplish the following:

- Provision and maintenance of basic infrastructure and equipment for protection, management and environmental communications;
- Measurement and demarcation of borderlines of conservation zones;
- Establishment of management plans or parts thereof;
- Provision of equipment and temporary operational support for administration of conservation areas; and
- Provision of support to ecologically sustainable land use in the surrounding support zones.

The Project provides small grants (a maximum of US\$180,000 per project) for projects that will benefit Amerindian communities particularly at the two pilot study sites, Shell Beach and the Kanuku Mountains, and the established protected area, Kaieteur National Park. The Upper Mazaruni Region was also included as an area for intervention due to its high conservation value.

The Project requires visits to the intervention areas to sensitise the communities of the funding opportunities from KfW for livelihood improvement sub-projects, to inform of the requirements and the procedure for accessing the funds, discuss sub-project concepts, gather information, and assist the communities in the preparation of sub-project proposals. These activities were on-going since the start of the project and have since been completed.

Visits are also conducted to the various communities in order to monitor the progress of these sub-projects and provide guidance on implementation activities as necessary. For the reporting period, fifteen (15) field visits were conducted (Appendix III).

At the end of the reporting period, a total of forty-six (46) sub-projects were implemented under the KfW Small Grants Component of Guyana Protected Area System Project, including one that focused on the drafting of National Protected Areas Legislation.

Table 2: Sub-projects implemented in each of the respective Intervention Areas

Intervention Area	TOTAL
Kaieteur National Park	8
Kanuku Mountains	16
Shell Beach	19
Moraballi Reserve	1
Upper Mazaruni Region	1
TOTAL	45

Sub-projects Completed

For the reporting period, twenty-two (22) sub-projects were closed:

Kaieteur National Park Intervention Area:

1. Construction of a Rest House/Warden Building at Tukeit, Lower Potaro, Kaieteur National Park - submitted by the Kaieteur National Park Board.
2. E & A Consultancy - for designing and supervision of works for the Visitor Arrival Centre and Rest House/Warden's Building at Kaieteur National Park.
3. Construction of a Visitor Arrival Centre for Kaieteur National Park - submitted by the Kaieteur National Park Board.
4. Furnishing of the Visitor Arrival Center for Kaieteur National Park – submitted by the Kaieteur National Park.
5. Completion of Chenapau Airstrip – submitted by the Chenapau Village Council.

Kanuku Mountains Intervention Area:

6. Equipment and Materials for Farms – submitted by the Parikwaranawa Village Council.
7. Fencing of Sand Creek Farmlands – submitted by the Sand Creek Village Council.
8. Construction of Benabs for Accommodation and for Use as a Traditional Skills Centre – submitted by the St. Ignatius Village Council.
9. Cashew Farming Project – submitted by the Shulinab Village Council.
10. Construction and furnishing of the Maruranau Village Guesthouse –submitted by the Maruranau Village Council.

Shell Beach Intervention Area:

11. Equipment and Materials for Farms – submitted by the Little Kaniballi Village Council.
12. Construction of a Multi-Purpose Centre in St. John’s Community (Three Brothers’ Village) – submitted by the St. John’s Community Development Council (CDC).
13. Delineation of the Proposed Shell Beach Protected Area using Community Participatory Approaches and Mapping Tools – submitted by the Guyana Marine Turtle Conservation Society.
14. Construction and furnishing of a Multipurpose Building and Guesthouse in Kumaka –submitted by the Santa Rosa Village Council.
15. Procurement of additional materials & furnishing for Kumaka , Kamwatta and Manawarin Multi-purpose Building.
16. Furnishings for the Multi-purpose Building (Three Brothers).
17. Construction of a Multipurpose Centre in Warapoka – submitted by the Warapoka Village Council.
18. Construction and furnishing of a Multipurpose Building and Guesthouse in Kamwatta - submitted by the Santa Rosa Village Council.
19. Construction and furnishing of a Multipurpose Building and Guesthouse in Manawarin –submitted by the Manawarin Village Council.

Moraballi Forest Reserve Intervention Area:

20. Enhancing Forest Conservation and Monitoring for the Moraballi Forest Reserve – submitted by the Guyana Forestry Commission.

3.1.3 KfW Missions and Aide Memoire

During February 06-08, 2011, a KfW Mission was conducted by the Head of the LAC Agriculture and Environmental Division, Mr. Peter Hilliges, and the responsible Programme Manager for the GPAS Project, Dr. Martin Lux. Subsequently, a team comprising Mr. Helmut Gauges, Vice President, KfW; Dr. Martin Lux, Programme Manager for the Guyana Protected Areas System Project; and Mr. Rainer Schwark, GFA Consulting Group; conducted a follow-up visit to Guyana during March 17-25, 2011. Progress control visits to the Kaieteur National Park and the Kanuku Mountains Intervention Areas were conducted by Dr. Lux, Mr. Fernandes, Mr. ter Welle and Mr. Schwark to assess the works completed under various Sub-projects.

Aide Memoires outlining the processes for closure of Phase I of the GPAS Project, and required conditions for the commencement and implementation of Phase II were signed by KfW, Germany, and GoG following each visit.

3.1.4 Instrument for Sustainability

National Protected Areas Legislation

The draft National Protected Areas Legislation, including the Trust Fund component, was submitted by the Office of the President to WWF International for review and comments. The comments provided by WWF International primarily focused on streamlining the text of the legislation with the Convention of Biological Diversity (CBD), its Programme of Work on Protected Areas and Decisions of the Conference of the Parties to the CBD. Many of these comments were incorporated into the text and resubmitted to the Office of the President. The draft Protected Areas Bill was tabled in Parliament on June 23, 2011, and subsequently passed on July 07, 2011. The Act commenced with effect from November 01, 2011.

Declaration of New Protected Areas

Shell Beach and Kanuku Mountains were declared as Protected Areas on October 20, 2011. The Agency requested the assistance of the Guyana Lands and Surveys Commission (GL&SC) to produce revised maps and descriptions of both areas since several changes (issuance of State Forest Permits and extension of Titled Amerindian Lands) would have occurred since the delineation exercises were conducted. The Agency was collaborating with the GL&SC to finalise the maps and descriptions.

3.1.5 Other Conservation Sites

Wetlands Assessment Project

This project seeks to identify major wetland ecosystems in Guyana, determine their status, prioritise wetlands of major importance based on management needs, and suggest interventions for their conservation and management. It is currently being implemented by the WWF in collaboration with the EPA.

During the reporting period, Biological and Social Assessments were conducted in wetland sites along the Essequibo Coast, in the North and South Rupununi Regions, and various areas in Region One. A Biological Assessment of an area on mangrove forests along the East Coast of Demerara (Victoria) was also done. These sites, which were previously identified under the Project through remote sensing techniques, were assessed by a team which included representatives from WWF and the EPA. A draft wetlands booklet with illustrations was being compiled by WWF.

Management of Konashen Community Owned Conservation Area

A visit was conducted to the community during May 11-26, 2011 to assess the implementation of the draft management plan prepared by CI-Guyana and the community in 2006. The visit was conducted

within the framework of a Consultancy that is being executed by CI-Guyana and will form the basis of a revision of the Management Plan. An assessment of the Community's partnership with CI-G was also done. A follow-up engagement was conducted during the period November 14 -19, 2011. The findings of the previous engagement and priority activities for the first half of 2012, as they relate to the management of the Community Owned Conservation Area, were discussed with the Community.

Capacity Building within EPA to Support Protected Areas Development and Management and to Promote Sustainable Livelihoods in Amerindian communities in Guyana

The World Wildlife Fund (WWF) continued to provide financial resources to the EPA for the employment of a Senior Technical Officer (STO). The project is expected to contribute to the strengthening of the EPA in the process of establishment and management of a national system of protected areas. The STO was actively involved in the monitoring of the KfW sub-projects being implemented in the Kanuku Mountains and Shell Beach Intervention Areas. The development of an initial draft proposal for the implementation of a collaborative management planning project at the Shell Beach Intervention Area was also completed by the STO.

In addition to providing upgraded support to the Protected Areas Unit, the STO has assisted the Biodiversity and Wildlife Units with the implementation of their respective work-plans and participated in the Wetlands Assessment Project.

The Contract for the STO and the Grant Agreement for the Project concluded on June 30, 2011. The Project was further extended to facilitate a training workshop on the principles and practices of Protected Areas Management. Unspent funds under the project, along with an additional grant of US\$ 7,500 provided by WWF US, was utilised to train staff of state agencies, NGOs and community representatives involved in protected areas. The training was delivered by representatives of Colorado State University and Conservation International during the period October 31-November 03, 2011.

The requisite Financial and Technical reports were prepared and submitted to WWF.

3.1.6 Other

Criteria for Identifying Priority Areas for Biodiversity within Guyana's Forests

A concept paper outlining the process for development of criteria for identifying priority areas for biodiversity and their application within Guyana's context was prepared. The development of these

criteria was identified as an activity under the Government's MOU with Norway. The approach suggested was guided by a number of internationally developed methodologies, including the Pro-forest High Conservation Value Forest (HCVF) Toolkit. The concept paper was submitted to the Office of Climate Change for consideration. Subsequent to this submission, the EPA further revised the concept paper to focus more on the application of criteria at both national and localised levels. Its application at the localised level is specific to the REDD-Plus relevant areas of mining, forestry and agriculture.

3.2 BIODIVERSITY

3.2.1 Biodiversity Research

The Biodiversity Unit (BU) is responsible for the processing of Research Applications and the issuance of Research and Filming Permits to conduct research in Guyana and export biological specimens from Guyana. For the period January to December, 2011, applications were received from students, professionals, and institutions worldwide. These included Icon Films, U.K, Tony Comiti Productions, France; Red Line Films, U.S.A; JGP Consultancy LTD, Brazil; John G. Shedd Aquarium, U.S.A; American Museum of Natural History, U.S.A; University of St. Andrews, Scotland; Humboldt State University, U.S.A.; Boise State University, U.S.A.; Blue Paw Artist, Germany; EEREPAMI, Germany; Panthera, U.S.A.; University of Ottawa, Canada; York University, Canada; University of Oxford, UK; Technische Universitaet Dresden, Germany; Newcastle University, UK; University of Leeds, U.K; University of the West Indies, Barbados; Smithsonian Institute, U.S.A; Ministry of Agriculture and South Central Peoples Development Association, Guyana.

The majority of the Research Projects were concentrated primarily in the interior locations of Guyana, including Kaieteur National Park, and Iwokrama Rainforest, Region 8; North and South Rupununi, Region 9; the Pakaraima Mountains, the Upper Mazaruni District, Region 7; Pomeroon District, Region 2 and the North-West District, Region 1. Research was also conducted at various localities in Georgetown, Region 4.

For the reporting period, January to December, 2011, thirty-nine (39) Research Applications were received by the Natural Resources Management Division (See Figure 8).

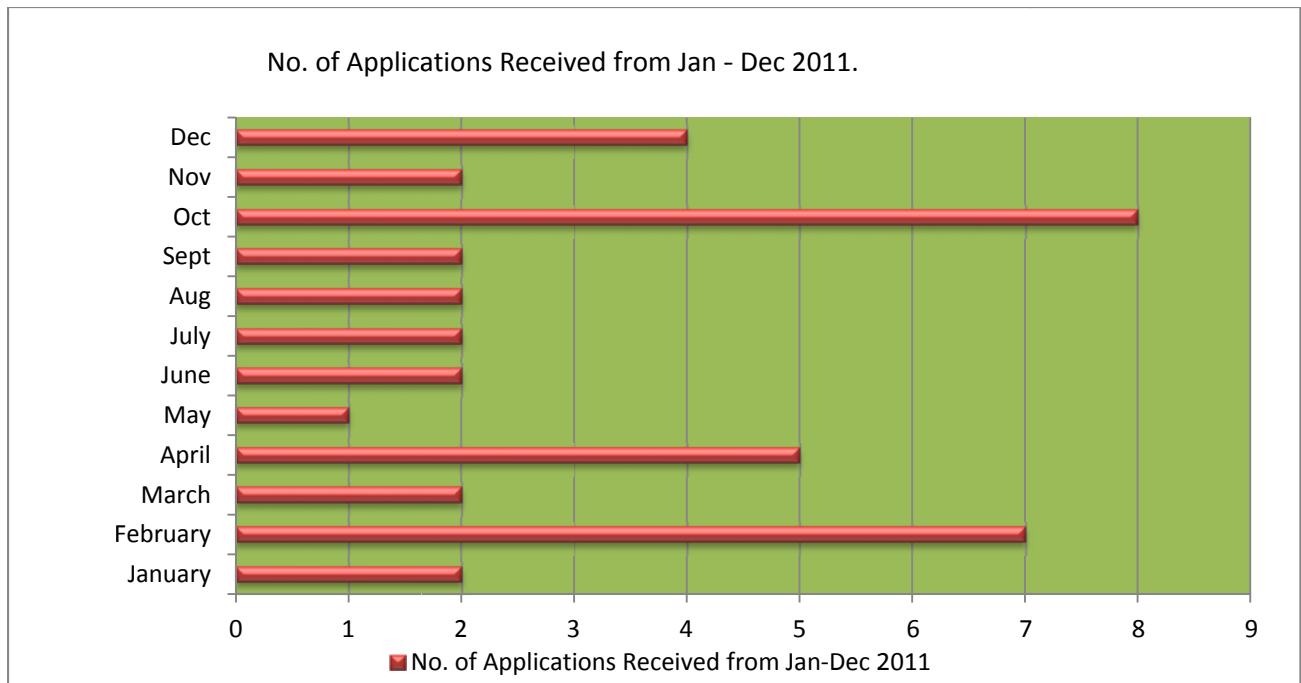
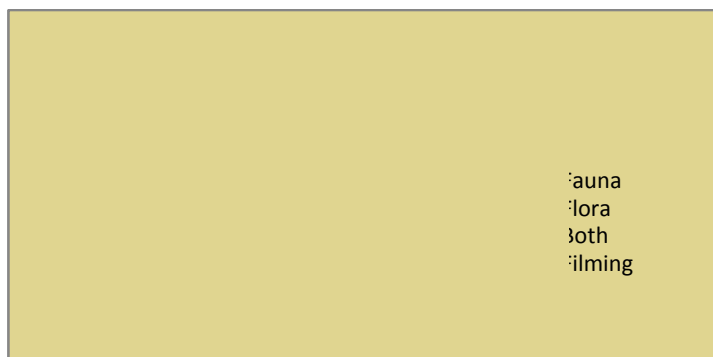


Figure 8: Monthly distribution of applications received during review period.

Processing of Research Applications and Issuing of Permits

Applications Processed: A total of thirty (30) research applications were processed and approved, seven (7) of them being applications that were received in 2010. Nine (9) applications are at various stages of processing.



Period.

Research Permits Issued: Thirty (30) Research Permits were issued for the reporting period; twenty-three (23) covering research applications that were received, processed, and approved in 2011 and seven (7) that were received in 2010 but were processed and approved in 2011. Requests for extension of duration

of four (4) research permits were granted, and three (3) requests for extension of geographical scope were granted. Also, one (1) request for both extension of duration of research and geographical scope was granted.

The permits issued were for research to be conducted on flora and fauna, as well as for filming, and other studies. Figure 9 shows the categories of applications permitted by the EPA during the reporting period.

Export Permits Issued: At the end of the reporting period, eighteen (18) Specimen Export Permits (Figure 10) were issued; one (1) being an export permit for species collected under a Research Permit granted in 2009, seven (7) for export permits issued for specimens collected under Research Permits granted in 2010, and ten (10) export permits were granted for specimens collected under a Research Permit that was issued in 2011. The specimens exported include faunal tissue samples, herbarium and tissue samples from different plant families, fungal herbarium specimens, artifacts, faunal remains, fragmentary human remains, charcoal and lithic debris. All specimens are required to be used in accordance with the Guidelines for Biodiversity Research in Guyana and are to be returned to Guyana as specified by the University of Guyana, Centre for the Study of Biological Diversity (verification body acting on behalf of the EPA).

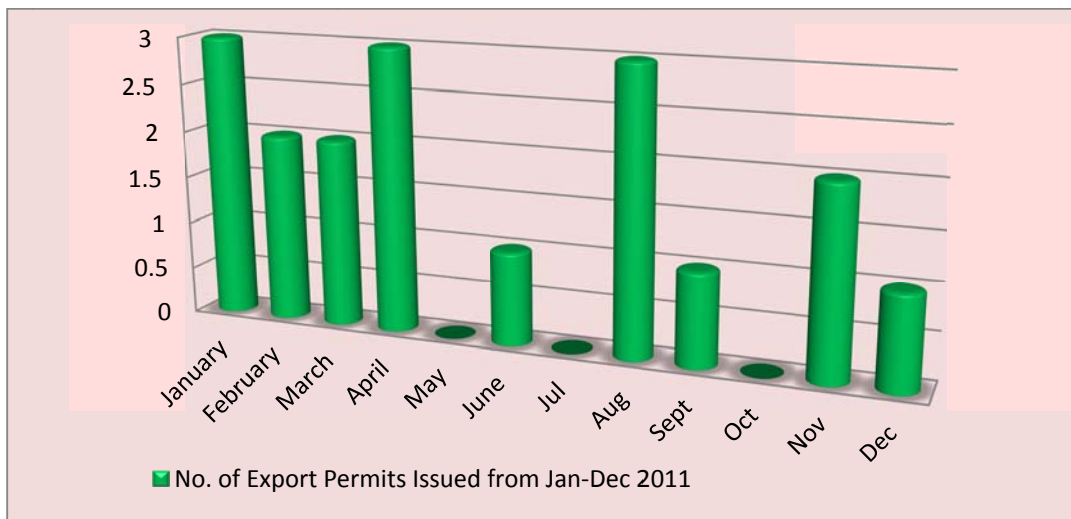


Figure 10: Monthly distribution of export permits granted during review period.

Comparative Analysis (2010 vs. 2011): Figure 11 shows a comparison of research applications received for the same period. In total, more applications were received in 2011 (39 applications) than 2010 (37 applications). February and October were the only months for 2011 where more applications were received, while the month of April received more applications for 2010.

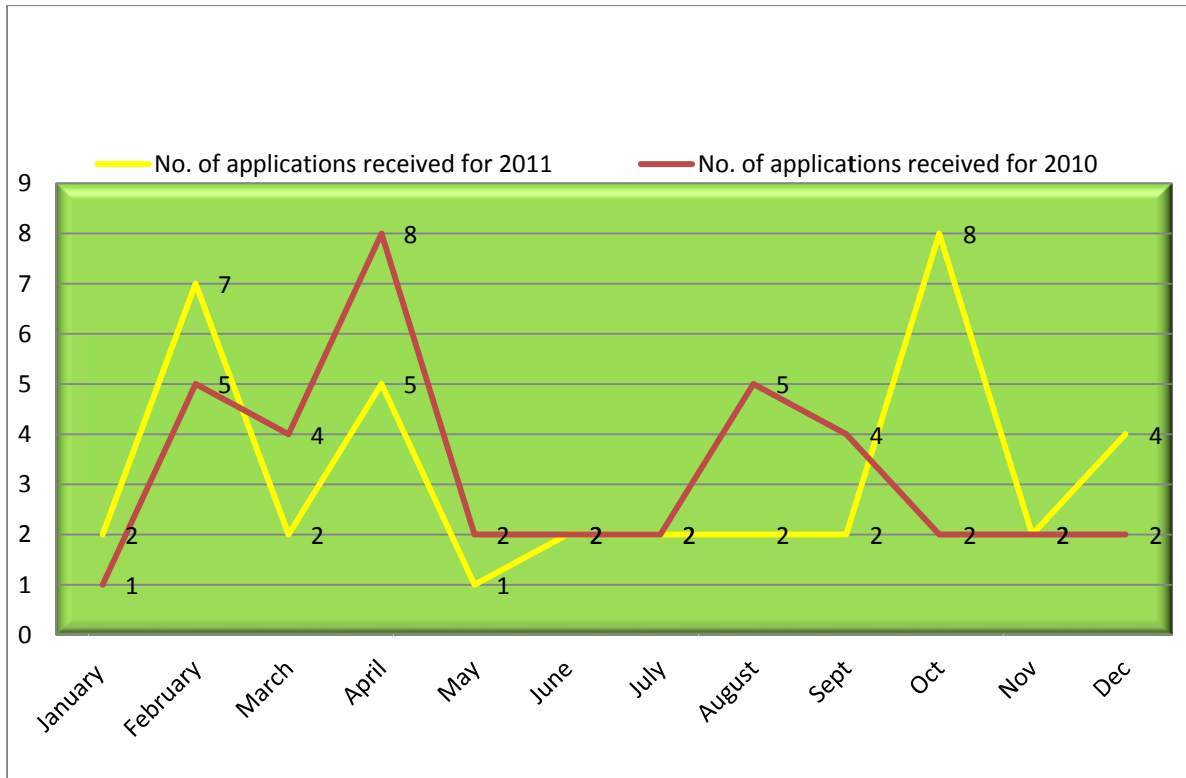


Figure 11: Comparison of the number of Research Applications received for January-December, 2010 and 2011.

3.2.2 Biodiversity Projects

A number of projects were executed to support the conservation and sustainable use of biodiversity in Guyana. These are presented below.

National Biosafety Framework (NBF)

The National Biosafety Framework (NBF) was developed to ensure an adequate level of protection for transfer, handling and use of living modified organisms (LMOs) resulting from modern biotechnology in Guyana. The document provides a framework for the control and monitoring of Genetically Modified Organisms (GMOs) and LMOs, in order to prevent adverse effects on Guyana’s biological diversity. This project was conducted over an eighteen-month period with support from UNEP/GEF. The NBF document was approved by the Government of Guyana in August, 2008. The final activities under this project were completed in 2010.

The EPA collaborated with the Audit Office and an audit was conducted for the period January, 2008 to June, 2010 under this project. The sub-project Closure Revision was submitted by the UNEP for the Agency's records.

Implementation of a National Biosafety Framework in the Caribbean Sub-Region countries of Bahamas, Belize, Grenada, Guyana, Jamaica and Suriname - (Regional Project on Biosafety)

Guyana has endorsed the project proposal entitled "Implementation of a National Biosafety Framework in the Caribbean Sub-Region countries of Bahamas, Belize, Grenada, Guyana, Jamaica and Suriname" with the support of UNEP.

Following a request by UNEP, the EPA provided a completed technical document (required by the GEF) known as a "Tracking Tool" and a correspondence highlighting the country's co-financing contribution towards the project.

The Project document, along with these supporting documents, were subsequently submitted to, reviewed and endorsed by the Global Environment Facility (GEF). UNEP and the University of the West Indies (UWI) also signed the relevant legal agreement to ensure that the necessary management arrangements are in place under this project. This included the hiring of the Regional Project Manager, Professor Leonard O'Garro. The EPA also submitted a correspondence to UNEP identifying the Focal Point for the Regional Biosafety Project in Guyana.

Full endorsement was obtained from the Office of the President to sign the Third Party Agreement between University of the West Indies and the EPA, the hiring of a National Biosafety Project Coordinator and establishment of a National Coordination Committee. The signed Third Party Agreement was forwarded to Professor Leonard O'Garro, Regional Project Manager.

The Terms of Reference for the National Biosafety Project Coordinator and the National Coordination Committee, along with country activities were being prepared.

Continued Enhancement of Building Capacity for Effective participation in the Biosafety Clearing House (BCH II)

Guyana endorsed Phase II of the Biosafety Clearing House Project as well as reviewed, signed and submitted the Small Scale Funding Agreement to UNEP for their records. This Agreement will facilitate countries to access the project funds and formalise the disbursement process for training activities.

UNEP submitted a correspondence stating that the implementation of the Project had commenced, including the appointment of the Project Manager. The project is being executed through UNEP's Division of Environmental Law and Conventions (UNEP/DEL/C) based in Nairobi, Kenya. UNEP also indicated that 32 Regional Advisors (RAs) were re-trained in the operation of the BCH during February, 2011. A correspondence was sent to UNEP identifying the Guyana's Focal Point for the project, and subsequent to this, another correspondence was sent to UNEP that acknowledged receipt of the project funds.

Form 5, Request for the BCH Regional Advisor along with a Status Report on the BCH phase I, was prepared and submitted to UNEP. The Regional Advisor provided guidance for the planning and execution of the first training workshop which was held during the week of September 12 – 15, 2011 at the Centre for Information Technology, University of Guyana.

The workshop was held to re-train stakeholders as Competent National Authorities, who would be responsible for updating and maintaining the National BCH and registering information on the CBD Central Portal. A workshop report was prepared and the recommendations from the Regional Advisor who facilitated the workshop, received endorsement of the EPA Board.

Preparation of the Second National Report to the Implementation of the Cartagena Protocol on Biosafety

The Agency received a correspondence indicating that GEF has given approval to three umbrella medium-sized projects to expedite the disbursement of Small grants (USD \$20,000) to complete the Second National Report; these projects are to be implemented by UNEP.

A draft Second National Report to the Cartagena Protocol was prepared. A copy of this report was submitted to the relevant stakeholders for their inputs. Comments received from stakeholders were then incorporated into the document. The Report was endorsed by the EPA Board and Office of the President, and was submitted to the Convention on Biological Diversity.

CBD: Nagoya Protocol

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their utilisation is an international supplementary agreement to the Convention on Biological Diversity, which was adopted on October 29, 2010 at the tenth meeting of the Conference of Parties held in Nagoya, Japan.

The Nagoya Protocol addresses the third objective of the Convention which aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way. This was established in accordance with Articles 8(j) and 15 of the Convention. The Protocol will create greater legal certainty and transparency for both providers and users of genetic resources.

To further understand the text of the Protocol, an Explanatory Memorandum was prepared. The Memorandum also highlighted capacity building needs for implementation, should Guyana decide to sign onto the protocol.

CBD: Nagoya-Kuala Lumpur Supplementary Protocol

The Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety was adopted to harmonise international legal principles applicable to environmental and human health risk from living modified organisms. It is an extension to the Cartagena Protocol, which makes provisions under Article 27 for the establishment of a formal process towards the completion of the consideration of procedures in the field of liability and redress for damage resulting from trans-boundary movements of living modified organisms, within a defined timeframe.

This supplementary protocol was adopted on October 15, 2010 at the tenth meeting of the Conference of Parties to the Convention on Biological Diversity (CBD) held in Nagoya, Japan. An Explanatory Memorandum was also prepared.

Information in accordance with Decision X/1 on Access and Benefit Sharing

Information was prepared on the following areas highlighted under the CBD's Notification 2010-216. Such areas should be addressed in accordance with decision X/1 on access and benefit-sharing and for consideration by the Inter-governmental Committee at its first meeting in accordance with Annex II to Decision X/1:

1. Modalities of operation of the Access and Benefit-Sharing Clearing-House.
2. Measures to assist in the capacity-building, capacity development and strengthening of human resources and institutional capacities in developing countries.
3. Measures to raise awareness of the importance of genetic resources and traditional knowledge associated with genetic resources and related access and benefit-sharing issues.
4. Cooperative procedures and institutional mechanisms to promote compliance with the Protocol and to address cases of non-compliance, including procedures and mechanisms to offer advice or assistance.

Strengthening the implementation of Access to Genetic Resources and Benefit Sharing Regimes in Latin America and the Caribbean

The project entitled Regional ABS: Strengthening the implementation of Access to Genetic Resources and Benefit-Sharing regimes in Latin America and the Caribbean was approved and will be funded by the GEF Trust Fund. A correspondence was sent to UNEP identifying the Project Focal Point for the ABS Regional Project.

The first activity of the Project was a Regional Inception Workshop, which was held in Panama City (August 30 – September 2). As part of Guyana's preparation for this workshop, the Division filled out a questionnaire as well as prepared a country presentation, and a poster. The Director, NRMD, attended the workshop.

The EPA also supplied possible country activities to be conducted within the project's logical framework.

Capacity Building Workshop for Indigenous and Local Communities of Latin America and the Caribbean

A Capacity Building Workshop for Indigenous and Local Communities of Latin America and the Caribbean was held at Grand Coastal Inn Hotel, during the period March 16-18, 2011. This workshop focused on Article 8 (j) of the Convention.

Several meetings were conducted between the CBD representatives and key stakeholders prior to the Workshop. A Cocktail Reception was also held for participants of the workshop. The Reception took place at the Umana Yana on March 15, 2011.

A Memorandum of Understanding was signed between the Government of Guyana and the CBD Secretariat on the arrangements for convening the above-mentioned workshop.

Access and Benefit Sharing of Genetic Resources Regulations

The Agency is currently reviewing the Nagoya's Protocol to ensure synergy with the draft ABS Regulations.

Biodiversity Enabling Activity Project

The EPA has received funding from GEF-UNDP for the Biodiversity Enabling Activity Project which would assess Capacity Building Needs, and result in the preparation of second and third National Reports (CBD), and the establishment of the Clearing House Mechanism for the CBD.

The following were sub-projects of the Capacity Building Needs component of the project:

1. Traditional knowledge incorporation into biodiversity management (completed).
2. Report on Invasive and Alien Species in Guyana (incomplete).
3. Initial Assessment and Monitoring, including Taxonomy (completed).
4. Access to Genetic Resources and Benefit Sharing (completed).
5. Implementation of Incentive Measures (completed).
6. Stocktaking of existing Capacity and Mechanisms (completed).

Traditional knowledge Incorporation into Biodiversity Management

A contract was prepared and signed between the EPA and Metro Office and Computer Supplies for the printing of copies of a booklet on Field reports for Regions 1, 2 and 9, prepared under this Consultancy. A copy of this Agreement was submitted to UNDP for their records, and the printed reports were repatriated to the relevant communities. Booklets were also printed and distributed to the EPA Board.

Report on Invasive and Alien Species in Guyana

Mr. Giorgio Muscetta was awarded the Invasive and Alien Species Consultancy to prepare and submit the following: A National IAS inventory/database, a Thematic Report, an Assessment report and a Strategy and Action plan.

A National Stakeholders' Workshop on Invasive Alien Species (IAS) was held on March 23, 2011. The Consultant submitted a revised final draft of the reports under the IAS Consultancy. These reports were reviewed by the Division and comments were subsequently addressed by the Consultant.

Clearing House Mechanism (CHM)

Information received from institutions was uploaded on the CHM including data on the summary of exports for species, received from the Wildlife Management Authority. Outreach materials, such as brochures, booklets and flyers were also uploaded.

Information on the overview of Guyana's Biodiversity and final reports under the Biodiversity Enabling Activity Project (BEAP), excluding the Invasive Alien Species Component was uploaded.

A presentation that focused on the overview of the CHM, its aims and objectives, and importance, was prepared and finalised.

Second and Third National Report to the CBD

Copies of the final draft of the Second and Third National Report received a no-objection from the Office of the Presidential. These reports were submitted to the CBD.

The NRMD prepared and submitted the Annual Operational Plan and the Annual Report, 2010 to UNDP under the Biodiversity Enabling Activity Project.

The NRMD prepared and submitted a signed copy of the statement of assets and equipment, under the Biodiversity Enabling Activity Project. Electronic copies of the Reports under the BEAP were also submitted to UNDP for their records.

Fourth National Report to the Convention on Biological Diversity

The Fourth National report received a no-objection from the Office of the President; as a result, 127 copies of the Fourth National Report were printed by Metro Office and Computer Supplies. The reports were submitted to Idea Graphics Design and Advertising for binding and was distributed to relevant stakeholders.

Support to GEF Eligible Parties (LDcs & SIDs) for the Revision of the NBSAPs and Development of Fifth National report to the CBD

The UNEP submitted a correspondence seeking Guyana's endorsement to participate in the CBD Enabling Activities Umbrella Project. The draft PIF was submitted by the GEF Secretariat. A correspondence was subsequently submitted to UNEP endorsing Guyana's participation in the Project.

Project Development

Three project concepts were prepared for consideration. These concepts were:

Concept 1: The establishment of a National Natural Resources Information Database.

Concept 2: A Capacity Building Programme to promote Biodiversity protection in forest areas, focusing on three economic activities threatening biodiversity, i.e. mining, logging and agriculture.

Concept 3: The utilization of native biodiversity for the reclamation of mined out sites in Guyana.

The concepts were merged and submitted to the UNDP for consideration under the GEF 5 funding cycle. The EPA was subsequently advised to prepare a joint project concept with the Guyana Lands and Surveys Commission on the basis of similarities in project concepts submitted.

National Biodiversity Research Information System (NBRIS)

The Division recommended that payments be made to Server Intellect for continued hosting of the website and to the University of Guyana, Centre for Information Technology for maintenance of the following domain www.epabiodiv.gy.

A Special Service Contract was prepared and signed between the EPA and the Consultant for the reinstallation of the Local Area Network (LAN) and to ensure that all components of the Software, the Web and LAN-based Modules, were fully functional.

The issues encountered while testing the database were rectified and further testing of the database is being conducted by the Agency.

Global Environment Facility (GEF)

The GEF Evaluation Office undertook an assessment of the Conservancy Adaptation Project during the period August 1 – 5, 2011. Meetings were held with the Ministry of Agriculture, implementer of the project, as well as various stakeholders involved with the project and the GEF Operational Focal Point.

A Conservancy Adaptation Project Workshop was conducted on August 8 – 9, 2011 at the Ocean View International Hotel. The workshop gave an overview of the methods and techniques used to collect data on the East Demerara Water Conservancy (EDWC); such as a bathymetric survey of the dam to determine which areas needed critical intervention.

GEF Small-Grants Programme (SGP)

A summary of the SGP, which included the financial and operational considerations, and the administrative implications of executing the SGP in Guyana was prepared for Office of the President. This was done with the view of wider project base, i.e. sub-projects considered under the Amerindian Development Fund.

Subsequent to the submission of this summary, the Office of the President requested further details on the SGP and its operations along with a financial comparison of implementing the SGP on its own and the SGP and the Amerindian Development Fund. This has been submitted to the OP.

Further details on the SGP and its operations along with a financial comparison of implementing the SGP on its own and the SGP and the Amerindian Development Fund were submitted to the HPS.

The EPA received a correspondence on August 10, 2011 indicating that the GEF – Small Grants Mission was scheduled for the week of September 05, 2011. The Mission arrived on September 06, 2011 and held meeting with UNDP, the implementing agency for the start up of SGP in Guyana. The SGP can provide funding for projects which focus on the Sustainable use of Biodiversity, Climate Change, Land Degradation and Sustainable Forest Management, International Waters, Persistent Organic Pollutants/Critical Chemicals, Community Based Adaptation and Indigenous Community Conservation Areas.

3.3 CONSERVATION AND SUSTAINABLE USE OF WILDLIFE

The Wildlife Unit of the Natural Resources Management Division (NRMD) is tasked with the responsibility for the coordination, development, and maintenance of a programme of activities for the sustainable use and conservation of Wildlife in Guyana.

Revised 2011 Work Programme

With the appointment of a Senior Environmental Officer in December, 2010, and in streamlining and expanding the programme of work of the Unit, a revised work programme for 2011 was prepared; this was approved by the Director, NRMD, and the Executive Director.

3.3.1 Specially Protected Areas and Wildlife (SPAW) Protocol

Working Group on Exemptions under Article 11(2) of the SPAW Protocol

The EPA provided the SPAW Secretariat with the nominations for the Working Group on Exemptions under the Article 11(2) of the SPAW Protocol. The representatives were Ms. Michelle Kalamandeen, Senior Lecturer, University of Guyana (primary); and Mr. Damian Fernandes, Director, NRMD (secondary). The Working Group is expected to design criteria and a procedure to assess exemptions under article 11(2) of the Protocol for the protection and recovery of the species listed in Annexes I and II. These exemptions will be for scientific, educational or management purposes necessary to ensure the survival of the species or to prevent significant damage to forests or crops. Such exemptions shall not jeopardise the species and shall be reported in order for the Scientific and Technical Advisory Committee to assess the pertinence of the exemptions granted.

Working Group on the review of the SPAW Annexes

Ms. Michelle Kalamandeen, Senior Lecturer, University of Guyana (primary), and Mr. Damian Fernandes, Director, NRMD (secondary) were also designated to serve on the Working Group for the review of the SPAW Annexes. The SPAW Secretariat has since established a closed google-group, speciesreview@googlegroups.com to commence discussion on the species list of the SPAW Annexes. To start, country representatives in the group were asked to provide a first list of the species they feel should be reviewed by the group, including a short rationale. Guyana proposed that the Jaguar (*Panthera onca*) be included, as a species of a regional interest. This was communicated to the SPAW Secretariat.

Listing of Protected Areas under SPAW

In a correspondence issued by the SPAW Secretariat on November 23, 2011, the Secretariat began the process of listing of protected areas under the SPAW Protocol and invited Parties to consider presenting the Protected Areas from their country for listing under SPAW at the Conference of the Parties, tentatively planned for October 2012. Under Article 7, only the SPAW Contracting Parties can propose Protected Areas for listing.

Country reports will have to be reviewed by the SPAW Regional Activity Centre and assessed by the Scientific and Technical Advisory Committee (STAC) before a comprehensive report can be presented to the Conference of the Parties for adoption. It is hoped that a one-day STAC meeting will be convened just before the COP specifically to address the process of listing of protected areas under SPAW.

The Secretariat has provided the final format for the Report for the proposal of Protected Areas to be listed under the SPAW Protocol and the guidelines for preparing the report. Also, the SPAW RAC has developed a web-based tool that follows exactly the reporting format to offer the possibility to prepare and submit on-line reports by the Parties.

From the Guidelines and Criteria provide, IWOKRAMA currently satisfy **ALL** the required criteria set out by the SPAW Secretariat. The Kaieteur National Park (KNP), Kanaku Mountains Protected Area (KMPA), and the Shell Beach Protected Area (SBPA) do not satisfy the Protection, Planning and Management Measures criteria. This criteria speaks of an **established functional management structure/body** inclusive of an evaluation component/management effectiveness, stakeholder involvement, implementation mechanism (all of which will be addressed by the management plans for the respective areas). Nonetheless, work has been done in these three protected areas where a draft management plan was developed for the KMPA (but there is no established functional management body), one is currently being developed for the KNP (but there is an established functional management body), and the development of a plan is in the pipeline for the SBPA.

As such, it was agreed that the EPA will complete the report for all four protected areas to be listed under the SPAW Listing of Protected Areas.

3.3.2 Guidelines for the Transport of Wild Fauna and Flora

In an effort to establish guidelines for the transport of Wild Fauna and Flora nationally, the Unit prepared a draft Guidelines for the Transport of Wild Fauna and Flora. The Guidelines were adopted and amended from the CITES Guidelines, 1981.

3.3.3 Project Development

The Agency received a discussion paper, “Elements for a regional cooperation project for marine mammal conservation in areas under Amazonian influence in north-eastern Latin America” from Dr. Marion Brichet, French Marine Protected Areas Agency. The document was prepared by the French Marine Protected Areas Agency and the Caribbean SPAW Secretariat (CAR SPAW). The document proposed an initial assessment for a regional cooperation programme and a baseline for a workshop at the second International Conference on Marine Mammal Protected Areas (ICMMPA2). It is planned to

organise a specific workshop at this conference with partners and stakeholders working in Brazil, French Guiana, Suriname, Guyana, Venezuela and Trinidad to discuss the document and more overall on a regional project.

The document was reviewed by the Unit and the Agency has since expressed its interest in participating in the workshop. The workshop was scheduled for the period November 7-11, 2011 in Martinique, but no representative from Guyana could attend.

3.3.4 The Second (2nd) International Conference for Marine Mammals Protected Areas, and Workshop on a Regional Cooperation Project for Marine Mammals Conservation in Areas under Amazonian Influence in Northeastern Latin America

The Conference and Workshop was scheduled for the period November 7-11, 2011 in Fort-de-France, Martinique (French West-Indies). Approval was granted for Mr. Oumardatt Ramcharran, Senior Environmental Officer to attend the Conference and Workshop. However, the Agency was unable to participate as there was insufficient time for logistic arrangements.

3.3.5 Draft Wildlife Import and Export Bill

The Division assisted with the finalisation of the draft Wildlife Import and Export Regulations into a draft Bill. Draft Regulations were also prepared under the draft Bill for operation of premises, licensed as holding premises and holding cages (size).

3.3.6 Invasive Alien Species Consultancy (details provided under the BEAP under the Biodiversity Unit)

The Unit assisted significantly with the implementation/execution of the Project. Activities included attending and facilitating meetings with key stakeholders for the Consultant to solicit information to assist with the preparation of the Assessment Report; assisted with the preparation for, and facilitation of the National Stakeholders' Workshop; and the review of the first and final drafts of the Invasive Alien Species Thematic Report; Assessment Report, Strategy and Action Plan; and IAS Inventory.

3.3.7 Sea Turtle Tracking

Marine turtles were satellite tagged in Guyana during the early part of May, 2011. WWF-Guianas Regional Marine Coordinator provided an update and a link, <http://www.conserveturtles.org/wwf/>, to

follow their migrations. Updates were also provided on turtles tagged in Suriname. Their migrations can also be followed *via* the link.

3.3.8 Guyana Marine Turtle Conservation Society (GMTCS) – Project proposal for Alternative Livelihoods Development in Support of Marine Turtle Conservation at Shell Beach, Guyana

The proposal was revised, based on guidance provided by the EPA, and submitted by the GMTCS to the United States Fish and Wildlife Service (USFW). As a condition for NGOs submitting proposals, Government's endorsement is required. The EPA acting on behalf of the Government provided the letter of endorsement. Receipt of the proposal by the USFW was acknowledged.

3.3.9 Guyana Wildlife Management Authority Board Meeting

Mr. Oumardatt Ramcharran, SEO, Wildlife Unit, attended Wildlife Management Authority Board Meeting for the months of October, November, and December, 2011.

3.3.10 Database of Species List

The Unit is working on creating a database of all species collected under Research Permits granted by the Agency. The list is being developed using the template of the National Biodiversity Research Information System (NBRIS). This will allow easy uploading of the information once NBRIS becomes operational.

3.4 OTHER ACTIVITIES

- **The Unit participated in the following activities:** Seminar Session on Research Methodology by Dr. Jake Bicknell, Iwokrama; Public Consultation on the review of the Code of Practice for Timber Harvesting and Non-timber Forest Products (Kufa, Nibbi, and Manicole); Amazon Corporation Treaty Organisation (ACTO) public consultation on developing environmentally sustainable community-based tourism in the Amazon Region; Protected Areas Management Training; Hazardous Waste Management Training; and field visits in collaboration with the Biodiversity and Protected Areas Unit, and the Environmental Management Division among others.

4. ENVIRONMENTAL MANAGEMENT DIVISION

In the Environmental Management Division (EMD), the year 2011 was a year of new things, starting with the implementation of the new organizational structure based on a Divisional approach to tasks. The objective was to improve the efficiency of the Division by streamlining the functions of the units, and enhancing the supervisory role of the senior officers. The implementation was successful, and the results surpassed expectations, especially in the areas of Authorisations and Renewals of Environmental Authorisations. Additionally, a new unit, the Hazardous Waste/Materials & Air Quality Unit, was established in February, 2011, and has been focusing on developing tools to enforce the Hazardous Waste and Air Quality Regulations, 2000.

The Division continued to manage the processes of Environmental Authorization, Complaints and Response, and Monitoring and Enforcement. The processing of Environmental Authorisations and management of complaints were carried out by the three sectoral units, namely Agriculture, Fisheries and Tourism (AFT), Industry, Infrastructure and Energy (IIE), and Mining and Forestry (M&F). In addition, the Monitoring and Enforcement (M&E) Unit, is tasked with monitoring permitted operations, processing Applications for Renewals, Variance and Transfer and coordinating the Anti-Littering Programme. The Division also has an Integrated Coastal Zone Management (ICZM) Unit. During the year, the Unit faced the challenge of an extended vacancy of the ICZM officer position. Nevertheless, the Unit took steps to resuscitate the Integrated Coastal Zone Management Committee (IZCMC) and pursued funding to support the necessary activities.

Furthermore, the Division conducted Research and Development activities to improve its processes, practices, procedures and guidelines. During 2011, some of the internal procedures of the Division were revised and improved. Changes aimed to contribute to the enhancement of the Division's efficiency on processing Environmental Authorisations Applications, improve collaboration with Sector Agencies, ensure the involvement of all relevant parties on the Authorisation of developmental activities, and on the resolution of environmental complaints, and to provide better guidance to developers on how to meet the Agency's requirements for compliance.

4.1 AUTHORISATIONS

The Environmental Permitting Process as prescribed in the Environmental Protection Act, 1996, the Environmental Protection Regulations, 2000, and the Environmental Protection Amendments, 2005, continued to be implemented. A comprehensive approach to environmental management was utilized, based on Regulations and Standards developed. The Agency continued to support the work of the Environmental Assessment Board (EAB).

Twenty-one (21) professionals with varying expertise in environmental management registered with the Agency to provide a range of services to developers applying to the Agency for Environmental Authorisation.

4.1.1 The Permitting Process

The Agency continued to process and permit new development projects for Environmental Authorization. During the year 2011, four hundred and ten (410) Applications were received for Environmental Authorizations. These included ninety-eight (98) for new projects, fifty-five (55) for existing operations, seventy-nine (79) for renewals, four (4) for transfer, fifteen (15) for variance, and one hundred and fifty-nine (159) Noise Applications. The total number of Applications received increased by 14 percent in relation to 2010.

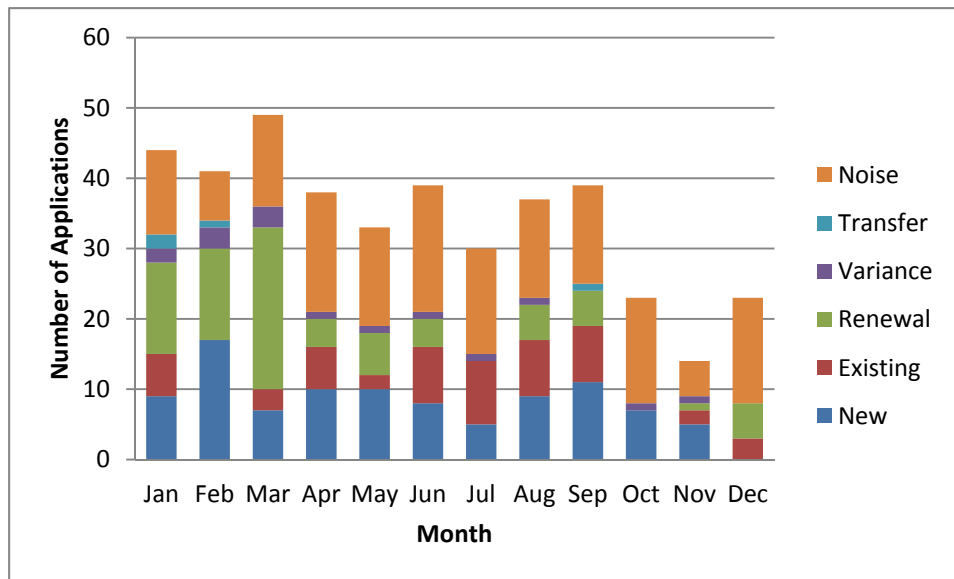


Figure 12: Environmental Authorisations Applications received in 2011

The Mining and Forestry (M&F) Unit received the highest number of Applications for the development of new projects. Lumber and lumber-processing facilities accounted for a large number of Applications received for Environmental Authorisation. This reflects the developmental tendency in the country and highlights the importance of establishing sustainable logging practices in keeping with the Low Carbon Development Strategy (Appendix IV).

4.1.2 Distribution of Authorization Applications across EMD'S Sectoral Units

The Mining and Forestry Unit (M&F) received the highest number of Environmental Authorisation Applications during the year under review, followed by the Industry, Infrastructure and Energy Unit (IIE), Monitoring and Enforcement Unit (M&E), and Agriculture, Fisheries and Tourism Unit (AFT) (Table 3). For projects going through the Environmental Authorisation process, one (1) was required to conduct EIA, while eleven (11) were required to prepare EMPs. Projects of this nature were managed mainly by the M&F and IIE Units. Additionally, the Monitoring and Enforcement Unit (M&E) received ninety-eight (98) Applications for the renewal, variance, and transfer of Environmental Permits. A total of three hundred and thirty seven (337) inspections were conducted as part of the Authorization process. This represented an increase of 65 percent in relation to 2010 (204).

Table 3: Applications received by Units

Units	No. of Applications	Permits Issued	EMP Projects	EIA Projects
AFT	27	8	1	
IIE	52	34	3	
M&F	73	57	6	1
M&E	98	54		
HW	1		1	
Noise	159	157		
Total	410	310	11	1

4.1.3 Distribution of Permits Granted in 2011

Three hundred and ten (310) Environmental Authorizations were issued during the year 2011, this represents a 51 percent increase in relation to 2010 figures (204). The 310 permits granted included seventy-four (74) Environmental Permits, sixty-six (66) Operational Permits, three (3) Construction Permits, ten (10) Letters of Authorization, and one hundred and fifty-seven (157) Noise Permits (Figure 3).

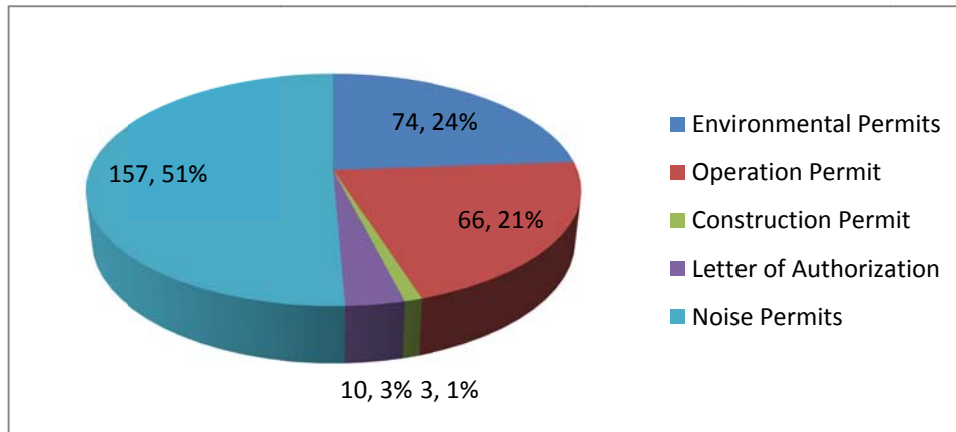


Figure 13: Distribution of Permits granted in 2011.

From the granted Permits, two EIA projects, the Romanex Guyana Int. Marudi Mountain Alluvial Gold Mining Project and the CPT Logging and Sawmilling Project, were issued Environmental Authorisations in April and July, 2011, respectively.

4.1.4 Overall Performance of the Permitting Process

The Agency's efficiency on the processing of Environmental Authorisations is assessed by the ratio of Permits granted over Applications received. During the last two years, performance has increased significantly (Figure 4) with 6 percent increase in efficiency. This was realised due to the implementation of the new organizational structure, and an increased staff complement.

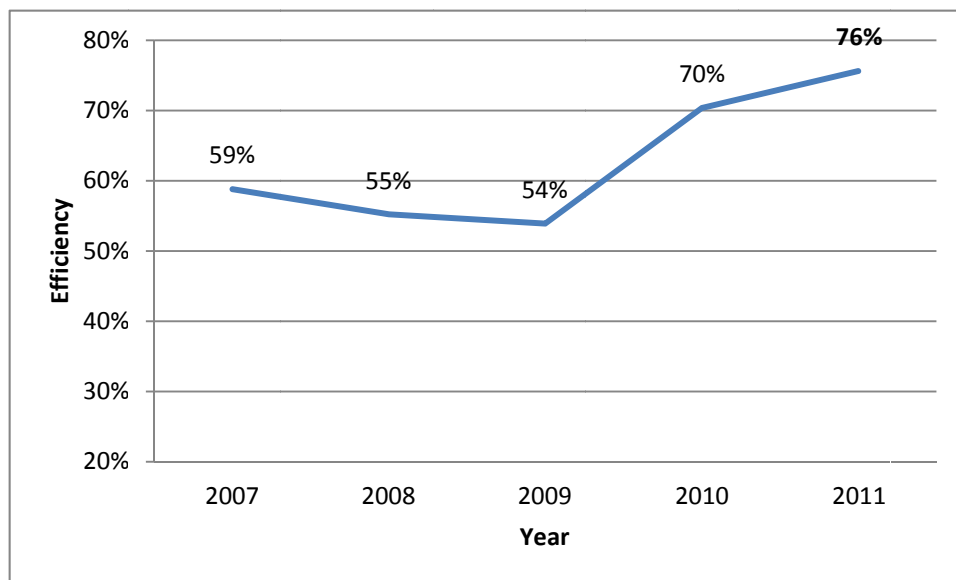


Figure 14: Environmental Authorisation Programme Efficiency.

The main constraints for the issue of Permits were the workload in relation to the human resources, and the fact that many of the Applications being processed were lacking submission of outstanding information. In this regard, the Division implemented a new strategy involving strict control in the

acceptance of Applications which have been successful for recent projects; nevertheless, there are still Applications prior to 2011 with this limitation. There is a continuous effort to ensure these projects continue with the process of Authorisation.

4.2 MONITORING AND ENFORCEMENT

The Unit's monitoring activities increased significantly during the year 2011. A total of eighty-eight (88) Environmental Audits were conducted, representing a 151 percent increase compared to 2010. The Environmental Audits entailed the verification of compliance by companies with their existing Environmental Authorisations. Additionally, the Unit continued to process renewals, variances and transfers of Environmental Authorisation. During the year under review, the Agency received seventy-nine (79) applications for renewal of Environmental Authorisation, four (4) for transfer, and fifteen (15) for variance. All operations with Permits that expired in 2011 were reminded of the requirement to apply for Renewal of their Environmental Authorisation.

Additionally, the Unit worked along with other Units to investigate complaints and recommend enforcement actions to be taken. The Unit also reviewed numerous Monitoring & Compliance Reports / Environmental Management Plans (EMPs)/Annual Reports and Closure Plans during the year, and made recommendations.

The Agency improved the enforcement of the Environmental Protection Act through the issuance of Prohibition Notices. A total of eight (8) Prohibition Notices were issued in 2011. The Agency also proceeded with enforcement action through the courts, filing injunctions against those persons non-compliant with the Prohibition Notices. At the end of 2011, the following (6) cases were legally engaging action:

1. D.R. Dhunmun (*Swine Rearing Operation*)
2. Rajunauth Iserdar (*Swine Rearing Operation*)
3. Jadoo Narine & Hardat Narine (Service Station)
4. Leondre Ramcharran (Spray Painting Operation)
5. D.P. Shivrattan (Furniture and Molding Factory).
6. Awad Boodhoo (Hardware Store).

The Agency has also sought to strengthen its compliance monitoring towards resolving cases of persistent environmental nuisance e.g. Bosai at Linden, and Hackh Rice Mill at Cane Grove, Mahaica. There is dire need for an in-house legal Officer to be attached to the Agency, as there are many cases requiring legal attention and the current logistical arrangements do not facilitate speedy response from the current legal representative.

The Anti-Littering Work Programme continued to be maintained as a Programme under the Monitoring & Enforcement Unit Work Programme.

4.3 COMPLAINTS AND RESPONSE#

4.3.1 Complaints Received in 2011

The Division continued to respond to environmental complaints and emergencies from the public. During 2011, a total of two hundred and seventy-five (275) complaints were received by the Agency of which, one hundred and forty-six (146) were new while one hundred and twenty-nine (129) were recurring (Figure 15). The number of complaints received by the Agency in 2011, reflected a decrease of 21 percent compared to 2010, when three hundred and fifty (350) complaints were received.

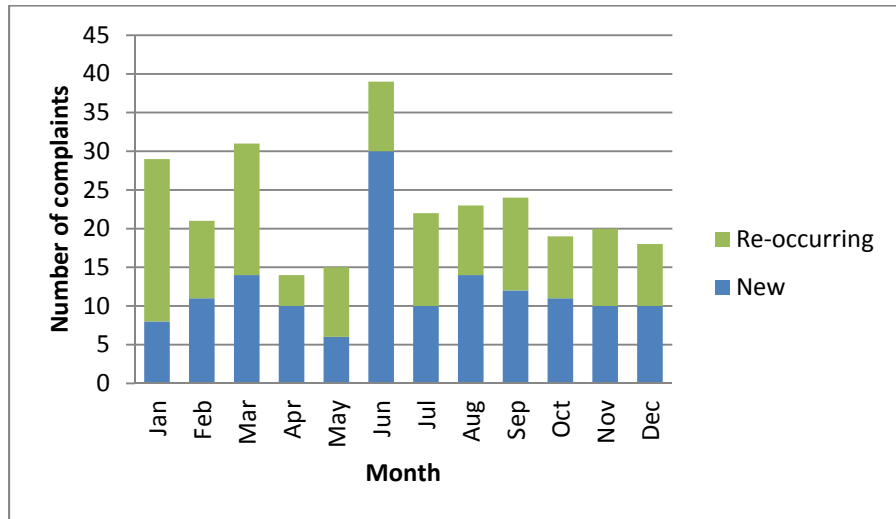


Figure 15: Complaints received in 2011.

4.3.2 Management of Complaints

During the year under review, the Agency inspected one hundred and seventeen (117) complaints. Subsequent to the investigations of these complaints, a number of defaulters were instructed in writing of mitigation measures to be implemented to ensure that their operations were managed in keeping with appropriate environmental standards. In keeping with the Agency's policy of continuous monitoring, one hundred and sixty-nine (169) follow-up inspections were conducted. Additionally, ten (10) complaints were inspected and subsequently referred to the relevant Agencies (Figure 16).

Follow-up inspections allow the Agency to monitor the implementation of mitigation measures as well as address non-compliance with measures prescribed. With the large number of recurring complaints received by the Agency, these visits were essential in resolving the complaint issues. Six (6) complaints were closed as a result of the Agency's efforts towards compliance with mitigation measures.

The Agency received several complaints that were not under the purview of the Agency. These were referred to the relevant Agencies. During the year, the Agency referred twenty-four (24) complaints to agencies such as an NDC and the CH&PA (based upon the initial information collected from complainants).

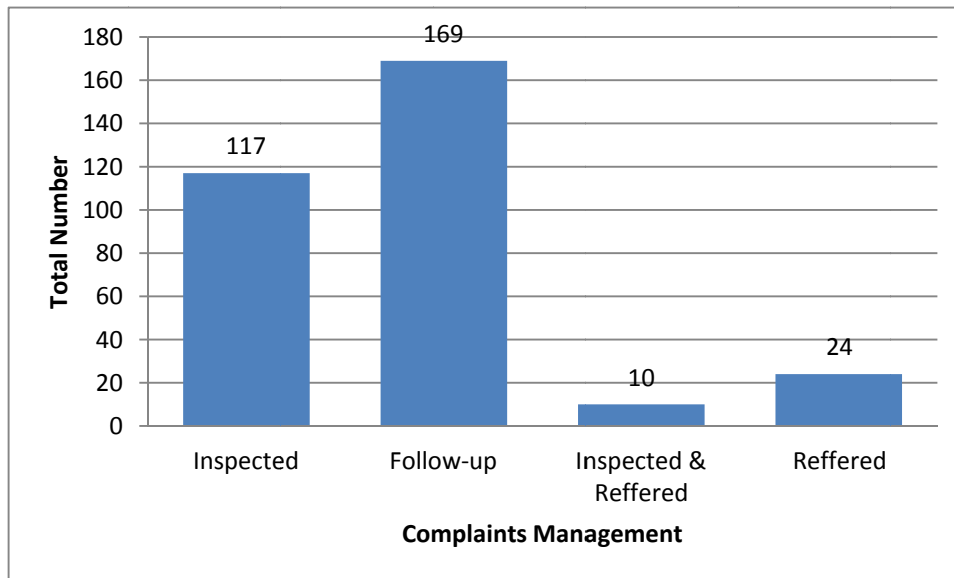


Figure 16: 2011 Complaints Management.

Furniture and woodworking operations, generators, spray painting workshops, and poultry operations were the sources of the greatest number of complaints in 2011. Swine rearing and waste disposal were also significant causes of complaint. The Industry, Infrastructure and Energy (IIE) Unit received the largest number of complaints in 2011 accounting for 63 percent, followed by the AFT Unit with 22 percent. These complaints were made with regards to fume and noise pollution associated with the operation of furniture workshops and generators whereas offensive animal odour, insect infestation, and improper waste disposal from livestock rearing operations were among the complaints received for the agricultural sector. While in the instance of furniture/wood working operations dust, noise, and odour nuisances were often criticized, improper methods of waste disposal such as dumping and burning of garbage comprised a considerable number of complaints received. Also of note were the complaints received related to noise nuisances from music and liquor restaurants.

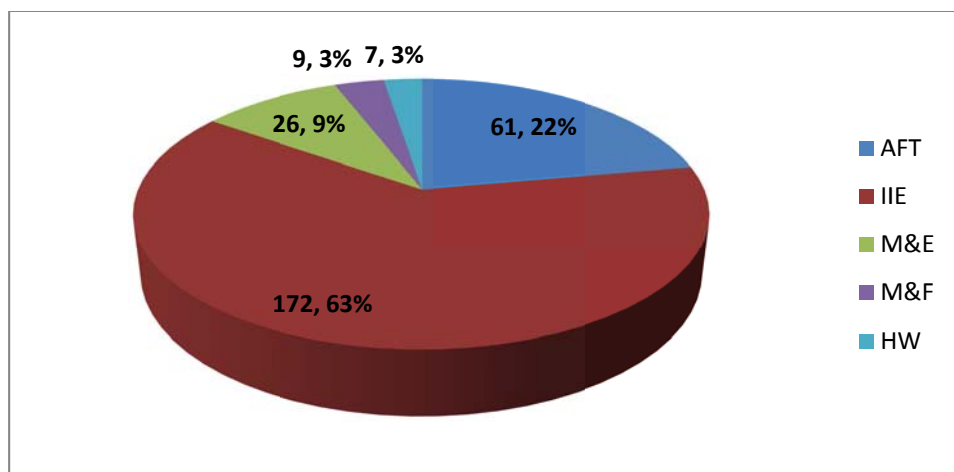


Figure 17: 2011 Distribution of Complaints by Sectors/Units.

4.4 HAZARDOUS WASTE/MATERIAL & AIR QUALITY MANAGEMENT

The HW&AQ Unit was formed on February 01, 2011 and development of the Unit in terms of clearly defining an Action Plan, procedures, guidelines and mechanisms that will support the functioning of the Unit were undertaken. Capacity Building of the members was also pursued.

4.4.1 Unit Development

The Unit has developed a Work Plan of activities which included the development of guidelines and forms to support the Agency in the execution of its mandate according to the Environmental Protection (Hazardous Wastes) Regulations, 2000.

- Development of guidelines: The following draft guidelines were developed - Storage, transportation and Occupational Handling of Biomedical Hazardous Waste, Storage, Transportation and Occupational Handling of Chemical/Industrial Hazardous Waste/ Materials, and Removal, Treatment and Disposal of oily sludge. The Guidelines were submitted to the Board and approved on September 2011. Guidance was sought from the Ministry regarding these documents.
- Development of supporting documents: The following documents were developed to support the Unit Work-plan - Notice of Activity Form for hazardous waste generators (new operations), Reporting and Record Keeping Form for hazardous waste generators, and Manifest Form for the transport of hazardous wastes. The Forms were submitted to the Board for approval on July 15, 2011 and were implemented in the Agency upon approval.
- Memorandum of Understanding: The Unit drafted an MOU between EPA and the Pesticide and Toxic Chemical Control Board.
- Collaboration: The Unit has been actively involved with the Authorisation Programme by providing Permit Conditions specific to Hazardous Waste Management for different sectors and activities, i.e. gas stations, logging operations, saw mills, GWI water treatment facility, and Repsol Mudplant. The Unit has also been involved in the review of the Haags Bosh Landfill Site EIA Addendum for the hazardous component of the facility. In addition, the Unit reviewed an Environmental Management Plan (EMP) For Tiger Tanks Waste Management Facility.
- Emergency Response: In collaboration with IIE, the Unit responded to an Oil Spill report on February 21, 2011, and in follow-up actions on February 24, 2011. The Unit responded to complaints regarding the leakage of waste oil into the surrounding drains in Enmore, ECD, and the leakage of lead acid into the surrounding drains in Craig, EBD, in September. The Unit also responded to an emergency regarding the leakage of fuel/oil into the Demerara River at the Muneshwar Wharf in September.
- Public Awareness: a Hazardous Waste Information Brochure and a Factsheet on treatment/disposal option for Waste Oil, for public sensitization, were prepared. Additionally, consultations and meetings were conducted with different private and government Agencies to inform and promote awareness regarding the role they play or should play in relation to hazardous wastes management.

4.4.2 Projects

The Unit was also involved with specific projects undergoing Environmental Authorization, such as Tiger Tank Limited-Waste Management Services, Mr. Dennis Rambarran Ship dismantling and Mr. Henry Rambarran Jr. Ship dismantling.

4.5 RESEARCH AND DEVELOPMENT#

In exercising its functions, the EPA is mandated under Section (4) of the EP Act, 1996, to continuously formulate policy recommendations and plans in the furtherance of its functions, standards and guidelines to be observed for the improvement and maintenance of the quality of the environment, and to conduct, promote and coordinate research in relation to any aspect of pollution or prevention. Research and Development continued to provide necessary support to the work of the Division and the Agency.

4.5.1 Guidelines, Standards and Code of Practice

Through collaboration with the GNBS and other relevant sector agencies, the EPA continued to develop Standards, Guidelines and Code of Practice. The primary purpose of the *Standards, Guidelines and Code of Practice* was to provide sound, practical guidance to achieve good environmental management.

- Standards Development: During the year under review, the Technical Committee - Environment, started to review the Interim Standard for Industrial effluent discharge into the environment.
- Conformity Assessment: The Agency continued to support the GNBS with the development of the National Conformity Assessment System through the National Committee on Conformity Assessment. The Agency worked towards the implementation of the ISO 17020 Standard for Inspection bodies. A Gap Analysis was conducted by GNBS; as a result, an Action Plan was developed, and an Internal Committee was formed to pursue the activities of the Action Plan. At the end of 2011, 70 percent of the activities were successfully concluded. The Action Plan was completed by the first quarter of 2011.
- Environmental Guidelines: The Environmental Guidelines for Swine Rearing and Spray Painting Operations were finalized and approved by the EPA Board on September 2011. The Agency sought guidance from the Ministry to proceed with the release of the documents to the public. Additionally, the Environmental Guidelines for Poultry Rearing Operations were drafted.

4.5.2 Projects

- National Programme of Action and Water Safety Plan: The Government of Guyana (GoG) through Local Stakeholder Agencies partnered with the Caribbean Environmental Health Institute (CEHI) and US Government in the execution of a Joint Demonstration Project Linking National Programmes of Action (NPA) and Water Safety Plans (WSP) in the Demerara Watershed and the Community of Linden. The National Plan of Action activities, for which the EPA is responsible for implementing, were reviewed to assess progress. A document was developed stating the status of the activities and the follow – up actions to be taken.
- Fee Criteria Revision: The review of the Fee Criteria for New Projects was started; several consultation meetings were conducted during April to October 2011. A draft Format was finalized and it was approved to be tested during a trial period of 2 months. The results and final format are expected during the first quarter of 2012.
- Capacity Building: A workshop on “Hazardous Waste Management in Guyana” was conducted by SENES Consultants during March 07- 08, 2011. This capacity building project was supported by the Inter-American Development Bank. There were a total of twenty-seven (27) participants, thirteen (13) being Officers of the Agency. This project supported the establishment of the new Unit which deals with hazardous waste and air quality.

4.6 MULTI-LATERAL ENVIRONMENTAL AGREEMENTS

The EPA continued to meet Guyana’s obligations under the Basel Convention by managing the trans-boundary movement of hazardous waste through the processing of notification documents to country of import as well as communicating with countries who wished to use Guyana as a transit point. It was noted that during the year, used lead acid batteries were the major hazardous waste exported. Shipments were generally destined for South Korea and Hong Kong for recycling purposes.

The EPA prepared an Expression of Interest for the Caribbean Hub-ACP MEAs Project: Internship Facility in response to a letter received on October 5, 2011, regarding the project.

4.7 COLLABORATION – INTERDIVISIONAL AND SECTORAL AGENCIES SUPPORT

- The EMD provided technical assistance on environmental management issues and supported the EITD in the development and review of articles, newsletters and the participation in public awareness exercises including workshops and television programmes.
- Representatives of the Agency continued to actively support national statutory Boards and technical committees, at the CHPA, GGMC, GFC, GNBS, Sea Defence and the National Trust.
- EMD continued to involve the NRMD in review of EIA projects which affected the programme areas of that Division.
- The EMD participated in workshops hosted or arranged by the other Divisions.

4.8 FIELD AND LABORATORY SUPPORT

GUYSUCO provided the Agency with laboratory analysis services during the year.

4.9 CROSS-SECTORAL PROGRAMMES

Integrated Coastal Zone Management (ICZM)

- The ICZM Unit remained dormant for a major part of the year.
- The New ICZM Officer in the Unit continued to actively provide support to the other Units in the EMD.
- Research was conducted towards the development of a strategy for the delineation of the Coastal Zone.

4.10 CONSTRAINTS

- Legal Support remained a challenge over the last six (6) years at the Agency. This considerably affected progress with compliance and enforcement, especially in resolving complaints and for legal advice on matters relating to the authorization process.
- Inadequate field staff and scarcity of financial resources, transportation and equipment to undertake monitoring and inspections continued to be major limitations.
- An Environmental Appeals Tribunal (EAT) was not in place to resolve appeals and objections in EIA matters.
- Due to the persistent demand, most of the Division's time was invested in ongoing activities such as the permitting process and complaints management and as a result, the extent of verification of existing industries, compliance monitoring and enforcement, research and development that should be done was affected.
- Budgetary constraints have also affected performance, in cases where field activities were planned for monitoring, permitting or complaints response and were delayed. Some projects and programmes were also not implemented.
- Timely submission of the various requirements of EIAs from consultants and developers and the provision of additional information for processing of environmental authorizations caused delays in the issuance of some environmental authorizations. Sectoral Agencies were also slow in providing necessary feedback.
- There was need to have more technical staff to deal with the dynamics of the new types of large scale, high profile projects received by the Agency.
- Security for field Officers especially when conducting night investigations was also lacking.

4.11 IMPORTANT MEETINGS / CONFERENCES

Officers from the Division participated in a number of meetings and workshops as reflected in Appendix II.

5. EDUCATION AWARENESS AND CAPACITY BUILDING

The Education, Information and Training Division implements the Education and Awareness Programme of the Agency. Capacity Building is cross-cutting and is undertaken by all of the Divisions. Public awareness and education programmes are planned and implemented with the goal of increasing understanding of environmental issues, thereby increasing participation in environmental decision-making at the individual and societal levels.

Achievements of the EA and CB Programmes during 2011 are summarized below.

5.1 DEVELOPMENT OF EDUCATIONAL MATERIALS

The development of educational materials is a key element of the work of the Division. During the year, relevant information was selected and developed to meet the needs of varied target groups. This information was packaged on a range of topics and in varied formats for dissemination to groups and individuals throughout the country. The materials produced included the following:

Booklets/Handouts

A total of nine (9) booklets/handouts were prepared for distribution and training purposes during the year. These were as follows:

- Activity Booklet for World Water Day.
- Climate Change Workbook for Children.
- Handbook for Environmental Clubs Supervisors.
- *"The Value of Trees"* - booklet for teachers.
- Climate Change Manual for Women.
- Environmental Issues Booklet – Water & Energy conservation, Climate Change and Biodiversity.
- Environmental Education (EE).
- Effective EE Tools.
- Action Planning.

Brochures

Three (3) new brochures were created during the year:

- Biodiversity and Climate Change.
- Hazardous Waste.
- About EPA.

Green Leaf Newsletter

The Division produced its usual quarterly electronic newsletter which highlighted environmental issues, Agency news, projections and achievements, among other topics in a timely manner.

Information/Activity Packages

Several packages were prepared for schools and environmental clubs. Materials included in these packages were related to World Wetlands Day, Earth Day and International Day of Biodiversity as well as general information on environmental issues.

World Wetlands Day

Packages were prepared for the ARMS Environmental Ambassadors of the Anna Regina Multilateral School, the students participating in sessions at the Nature School, and the Wales and Patentia Primary Schools.

Earth Day

Packages for this observance were distributed to sixteen (16) environmental clubs/schools in Georgetown.

International Day for Biodiversity

Packages were prepared for schools in Berbice and Georgetown.

Teaching Aids

A total of four (4) teaching aids were prepared to enhance awareness outreach efforts during the year.

These were:

- A Mangrove Wetland Diorama.
- Guyana Forest Pie Chart.
- Career tree.
- Trivia Game/Action Window.

5.2 OUTREACH

Outreach is vital to fostering awareness on environmental issues and influence attitudinal change for a clean and healthy environment. 2011 was a very challenging but rewarding year for the Agency as it sought to expand the magnitude and reach of its public awareness programmes. The outreach conducted for 2011 built on the success of the previous year and included the following:

International Year of Forests (2011)

The EPA collaborated with a number of stakeholders to observe the “*International Year of Forest*” under the theme “*Forests for People*”. The focus on forests sought to highlight the key role of forests in the lives of people and the dynamic relationship between forests and the people who depend on them. The Agency collaborated with the Guyana Forestry Commission (GFC), which has responsibility for forest management, for some of the activities done. Activities undertaken highlighted the critical role forests play in stabilising ecosystems and sustaining life and included the annual environmental camp, Climate Change outreach for children, film series, youth forum and training of environmental club supervisors. Additionally, a tree planting exercise in Regions 4 and 6 was also successfully undertaken.

World Wetlands Day

In collaboration with the Nature School of the National Parks Commission, Primary Schools were targeted for World Wetlands Day (WWD) 2011. A total of three hundred and forty-nine (349) students were involved in activities focusing on the WWD Theme: “*Wetlands & Forest*” under the slogan – ‘*Forest for Water and Wetlands*’.

World Water Day

The EIT Division produced a Water Activity Workbooks focusing on “Water for cities: Responding to the urban challenge”. Sixty (60) Workbooks were printed and distributed to six (6) schools in Region 5 in observance of World Water Day. The booklets included several interactive activities such as; word searches, cross words, experiments, anagrams, etc. The schools were encouraged to use the booklet to conduct internal competitions at the Grade 7 level.

World Forest Day

A Tree Planting exercise was conducted in observance of World Forest Day, during which twenty-eight (28) trees were planted by students of twenty-six (26) primary and secondary schools in Regions 4, 5 and 6. The Guyana Forestry Commission (GFC) provided the plants in two species – Flamboyant and Saaman, to facilitate the exercise.

Earth Day

Packages were prepared for Earth Day and sent via email to sixteen (16) schools with environmental clubs, for use in observance of the day. Each package included an Earth Day message intended to be read at school assemblies and club meetings, fact sheets, and activities such as word searches and mazes.

International Day for Biodiversity

In collaboration with stakeholders, International Biodiversity Day (IBDD) observances were given increased profile in recognition of 2011 being the International Year of Forests. Activities conducted under the theme “Forest Biodiversity” included a Seminar for Trainee Teachers of the Cyril Potter College of Education and Film Series for selected schools in Georgetown; Youth Forum for targeted schools in Region 6; Biodiversity Display; Book and Pictorial Exhibition in the Lobby of the National Library; Newspaper Articles in the Guyana Chronicle and Guyana Times, TV Message and Viewpoints on NCN 11.

WED 2011

Several activities were conducted in observance of World Environmental Day 2011. These included TV Panel Discussions, Green Walk, Ride-for-the-Environment and the Annual Environmental Camp.

International Ozone Day

The Agency conducted interactive presentations with approximately 130 students within four (4) primary schools in Georgetown in observance of International Ozone Day. Newspaper articles were published, and a television appearance was coordinated on the Guyana Today Show highlighting the activities undertaken by the Ozone Protection Unit, Hydrometeorological Office.

Environmental Camp

The Annual Environmental Camp was held from July 12 – 15, 2011, at Camp Madewini, Soesdyke. Forty-three (43) youth aged 12-16, nine (9) teachers and six (6) Officers of the EPA participated in the Camp which was held under the theme, “Forests: Nature at your Service”.

Wildlife Festival

The Agency participated in this year’s Annual Wildlife Festival held at Bina Hill Institute, North Rupununi, Region 9. Officers prepared and presented an interactive presentation on Environmental Conflict Resolution to Wildlife Clubs and were also involved in the judging of banners and costumes, art, poetry, and *impromptu* speaking competitions at the Festival.

Annual Taxidermy Camp

Two presentations on the topic “Climate Change” were delivered to eighty participants attending the Annual Taxidermy Camp hosted by the Guyana National Museum.

Teacher Training Workshop

Twenty-seven (27) third year Trainee Teachers at the Primary Level and three (3) Lecturers of the Cyril Potter College of Education participated in the second Environmental Education Workshop during October 13 – 16 at Camp Wesleyana, Linden/Soesdyke Highway.

School Visits

Students (80) and Teachers (4) of the New Amsterdam Multilateral School were hosted in the Agency's Boardroom for interactive presentations on the work of the EPA, Water Pollution, the LCDS and Climate Change. Six (6) information packages were also presented to the group.

Climate Change

Climate Change outreach using the Activity booklet "Children and the Changing Climate" created by the EITD were conducted with students of the Grade 6 level of seven (7) primary schools in Georgetown and its environs. A total of 279 students benefited from this exercise. This outreach will be continued in 2012.

EC Supervisory Training:

Supervisors of Environmental Clubs of 15 Schools in Region 6 participated in Sessions intended to provide skills and resources to enhance and resuscitate Clubs within Schools. Each participant was presented with resources and a Handbook for EC Supervisors compiled by the EITD.

Nature School - Guyana Zoological Park

Collaboration with the Guyana Zoo for Outreach at the Nature School was conducted in 2011. These sessions highlighted a different topic for each school term: Biodiversity in wetlands, Trash and Climate Change, and Climate Change and Reptiles, respectively. Sessions, held on Wednesdays, involved a total of 541 students from 15 primary schools.

5.3 PRESENTATIONS

During the year, a total of forty-two (42) presentations were prepared and delivered by the EIT team (Appendix V). The majority of these presentations were themed on the different environmental

observances for which they were prepared and were delivered to various target groups including environmental clubs, schools, community and youth groups. All presentations were interactive and formatted to engage the audience in discussion. During the year, three presentations were also prepared, but not delivered due to circumstances beyond the control of the EIT team.

5.4 MEDIA PROGRAMMES

Television Appearances

The medium of television was utilized as fully as possible in the promotion of environmental awareness. Through the Guyana Today Show hosted on the National Communications Network (NCN), the Agency was permitted a fifteen-minute weekly segment based on availability of broadcast time. This opportunity was maximally utilized during the year to highlight a range of environmental issues and occurrences during twenty (20) programmes.

Panel Discussions

Along with the Guyana Today show, NCN Channel 11 facilitated two panel discussions as follows:

- Forest Biodiversity: Panelists included Mr. Damian Fernandes, Director, Natural Resources Management Division, EPA, Mr. Calvin Bernard, Co-Manager, Centre for Biological Diversity, University of Guyana, and Mrs. Sumedah Mahadeo-Singh, Botanist, Guyana Forestry Commission.
- Earth's Living Treasures: Panelists included Dr. Patrick Chesney of UNDP and Mr. Khellawan from the Guyana Forest Products Association.

Press Releases

Three (3) press releases were prepared and sent to the Government Information Agency (GINA) for dissemination to Media Houses during the year. The press releases focused on:

- Tree Planting Exercise;
- International Day for Biological Diversity and
- World Environment Day observances.

Interviews

Interviews were conducted and broadcasted by various television channels to highlight various activities concerning World Environment Day:

- NCN Linden and RCA Essequibo highlighted the Ride for the Environment.
- Officers of the EITD and participants of the Environmental Camp were interviewed by NCN for features for Homestretch Magazine and Youth Expressions.

Additionally, Earth Day Tips were provided to NCN for use on both Television and Radio.

Newspaper Articles

Throughout the year, newspaper articles were prepared for and published in the Guyana Chronicle and the Guyana Times to highlight a range of environmental topics and issues.

From the month of April to December, a total of thirty-four (34) articles were published in the “Our Environment” Column in the Sunday Chronicle.

For the Column “Our Earth, Our Environment” featured in the Thursday Edition of the Guyana Times, a total of fifty-one (51) articles were published. Apart from the weekly articles, a news-spread was prepared and submitted for publication in the Guyana Chronicle and the Guyana Times for Earth Day and International Day for Biological Diversity. These “special features” were only carried in the Guyana Times.

5.5 EXHIBITIONS

The Division participated in a number of Exhibitions (Appendix VI) during the year during which information material on a range of environmental issues were distributed. The opportunity was also maximally utilised to engage the public in interactive activities through which they learnt of environmental issues.

5.6 CONCEPTUALISATION AND REVIEW OF MATERIALS

The dynamic nature of education and training necessitates continuous adaptation, flexibility in creation and presentation of education materials.

Three new Manuals were created in 2011 - Activity Booklet for World Water Day, Handbook for Environmental Clubs Supervisors and “The Value of Trees” booklet for teachers were prepared and utilized in training during the year. Additionally, a Booklet on “Environmental Issues” which focused on Climate Change, Energy, Water and Biodiversity was produced during 2011.

5.7 DOCUMENTATION CENTRE

The Document Centre continued to be a valuable source of information for researchers and members of the public.

6. CONCLUSION

The Agency successfully implemented its work programme in 2011. Additionally, ensuring a full complement of staff was a significant challenge in the face of many vacancies emerging over the year but despite this, the Agency was able to forge ahead with its planned activities.

The complaints, authorisations and response aspects of the Agency work have continued to increase without a proportional increase in human and other resources. The challenge of advancing enforcement matters legally still remains although significant numbers of case summaries have been provided to the Agency's legal retainer.

Whenever opportunities to build capacity were available, these were capitalized on by the Agency. These will continue to be pursued by the Agency to ensure that it has the requisite capability to meet its needs to deliver on its mandate of environmental management and natural resources conservation and management.

APPENDIX I. EPA STAFF LIST AT THE END OF DECEMBER, 2011.

	Name of Officer	Designation
	Office of the Executive Director	
1	Indarjit Ramdass	Executive Director (ED)
2	Kerean Geer	Executive Assistant to ED
3	Ramsarran Etwaroo	Driver to ED
	ADMINISTRATIVE DIVISION	
4	Dhanraj Persaud	Administrative Director (AD)
5	Faneeza Alli	Executive Assistant to AD
	<i>Policy, Planning & Research Unit</i>	
	Vacant	Environmental Economist
	<i>GIS Unit</i>	
6	Nadia Nasir	GIS Technician
	Vacant	Environmental Officer (GIS)
	<i>IT Unit</i>	
7	Ryan Tiwari	IT Specialist
8	Antonio Valenzeoela	Network Administrator
9	Steafan Rix	Technical Support Officer
	<i>Human Resources Unit</i>	
	Vacant	Human Resources Officer
	Vacant	Human Resources Assistant
	<i>Finance Unit</i>	
10	Solomon Baldeo	Finance Officer
11	Fiona Marshall	Senior Accounts Clerk
12	Hollee Ragnauth	Accounts Clerk
13	Dadre Bayley	Accounts Clerk
	<i>Administrative Unit</i>	
14	Victor Wills	Administrative Officer

15	Debbie Wilkinson	Administrative Assistant
16	Garth Husbands	Driver
17	Deodat Puranram	Driver
18	Kamal Ramdayal	Driver
19	Kumardev Samaroo	Officer Assistant
20	Afazal Baksh	Officer Assistant
21	Winifred Perreira	Office Attendant
22	Carla Anderson	Officer Attendant
23	Shelton Smith	Handyman
<i>Environmental Management Division</i>		
24	Geeta Devi Singh	Director
25	Radhika Mootoo	Executive Assistant
26	Sonia Gumbs-Luke	Senior Environmental Officer
27	Marle Pantoja	Senior Environmental Officer
28	Teijvarti Persaud	Senior Environmental Officer
29	Tashana Redmond	Senior Environmental Officer
30	Karen Alleyne	Senior Environmental Officer
31	Felicia Adams	Environmental Officer II
32	John Benn	Interm
33	Kimberly Craig	Environmental Officer
34	Osbert Ellis	Environmental Officer
35	Latoya Farinha	Environmental Officer
36	Marcia Hall	Environmental Officer
37	Shellaun Harper-Cox	Field Technician
38	Samantha Semple	Field Technician
39	Anzaleen Hoossein	Environmental Officer II
40	Savitri Itwaru	Environmental Officer
41	Earlla Nelson	Environmental Officer

42	Nalissa Persaud	Environmental Officer II
43	Colis Primo	Environmental Officer II
44	Saudia Sadloo	Environmental Officer
45	Mahendra Saywack	Environmental Officer
46	Asma Sharief	Environmental Officer II
<i>Education, Information and Training Division</i>		
47	Sharifah Razack	Director
48	Fareena Alli	Executive Assistant
49	Padmini Persaud-Roberts	Senior Environmental Officer
50	Candacie Thompson	Environmental Officer II
51	Sean Mendonca	Environmental Officer II
52	Aretha Forde	Environmental Officer I
53	Deuel Hughes	Environmental Officer I
<i>Natural Resources Management Division</i>		
54	Clydecia McClure	Senior Environmental Officer
55	Chuvika Harilall	Environmental Officer II
56	Oumardatt Ramcharran	Environmental Officer II
57	Juliana Persaud	Environmental Officer II
58	Stacy Lord	Environmental Officer II
59	Diana Fernandes	Environmental Officer
60	Joanne Ford	Environmental Officer
61	Rayner McAndrew	Environmental Officer
62	Rae Smith	Environmental Officer
63	Melissa Leonard	Executive Assistant

Total Staff

Males 23

Females 40

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APPENDIX II. MEETINGS AND WORKSHOPS/SEMINARS ATTENDED BY THE STAFF.

Nalissa Persaud – EO II	The FPA/ACP: FLEGT Support Programme Workshop
Geeta Devi Singh – Dir EMD Enrique Monize – GIS Officer	Capacity Building Sessions on the MRVS: Forest Area Change Assessment Capacity Building Sessions on the MRVS: Forest Carbon Stock Assessment
Geeta Devi Singh – Dir, EMD Marle Reyes- SEO, R&D Karen Alleyne- SEO, HWMAQ Sonia Gumbs-Luke - SEO, IIE Felicia Adams – EO II Colis Primo – EO II Mahendra Saywack - EO I Savitri Itwaru - EO I Malicia Hall - EO I Latoya Farinha - EO I Kimberly Craig - EO I	Hazardous Waste Management in Guyana
Geeta Devi Singh – Dir, EMD Earlla Nelson – EO I	World Water Day Workshop (Ministry of Agriculture).
Mahendra Saywack – EO1	Occupational Health and Safety Training hosted by REPSOL – “Hand and Finger Injuries”
Ms. Geeta Devi Singh – Dir, EMD	Disaster Response and Risk Reduction Coordination Platform Meeting (3rd)
Geeta Devi Singh – Director, EMD Mahendra Saywack – EO1	Workshop: “Expanding Bio-energy Opportunities in Guyana Training, hosted by Ministry of Agriculture”
Karen Alleyne-SEO- HWAQ	Attended the National Strategic Approach International Chemical Management (SAICM) Implementation Plan Workshop.
Ms. Malicia Hall- EO I Ms. Shabana Yusuf- EO I	Seminar: Induction/Orientation-Public Service Ministry, Training Division.
Geeta Devi Singh – Dir EMD Tashana Redmond – SEO AFT/ME Sonia Gumbs-Luke – SEO II Teijvarti Persaud – SEO M&F Marle Reyes – SEO R&D	Workshop: Offshore Oil and Gas Management: The U.S. Model.
Earlla Nelson - EO I Mahendra Saywack - EO I	Workshop: “Expanding Bio-energy Opportunities in Guyana Training, hosted by Ministry of Agriculture”

Osbert Ellis – EO1	Workshop: Payment for Ecosystem Services (PES), hosted by the Guyana Forestry Commission.
Ms. Geeta Devi Singh – Director EMD	Risk Programme Management (RPM) Course (USAID & CDC)
Desiree Hopkinson – EO 1	Workshop : Review of the Economics of Climate Change in the Caribbean –(Office of Climate Change)
Ms. Tashana Redmond – SEO M&E/AFT Ms. Marle Reyes Pantoja – SEO R&D	Understanding the requirements of the ISO 14001:2004
Karen Alleyne	Regional Training Workshop on Enhancement of Implementation and Enforcement Capacity, Strengthening the Legislative, Regulatory and Enforcement Capacity of Small Developing States in the Caribbean with regard to the Basel, Stockholm and Rotterdam Conventions.
Ms. Desiree Hopkinson – EOI Ms. Latoya Farinha – EOI Ms. Asma Sharief – EOII Mr. Colis Primo – EOII Ms. Kimberly Craig – EOI Ms. Shabana Yusuf – EOI	Training Workshop on Conservancy Adaptation Project with presentation series on GPS Data Acquisition and Processing, Bathymetry Surveys and Applications in the Conservancy Channels and Rivers and Real Time Kinematic Procedures and Applications in the EDWC.
Ms. Sonia Gumbs-Luke – SEO IIE	Workshop on Climate Risk Adaptation in the Caribbean.
Ms. Sonia Gumbs- Luke – SEO IIE Ms. Felicia Adams – EOII	Induction Training Course on Social Engagement Plan for Multi –Stakeholder Committee
Karen Alleyne-SEO HWMAQ	Developing a National Implementation Plan for Strategic Chemicals Management in Guyana, Stockholm Convention Inception Workshop.
Shabana Yusuf- EO I Mahendra Saywack- EO I	Expand knowledge of the potential use of biomass energy.
Kimberly Craig – EO 1	Continued Enhancement of Building Capacity for Effective Participation in the Bio-safety Clearing House Portal.
Anzaleen Hoosein – EO11 Mahendra Saywack – EO1 Latoya Farinha – EO1 Earlla Nelson – EO1	General Training-Landfill Construction and operations.
Dr. Indarjit Ramdass – ED Ms. Tashana Redmond – SEO M&E Ms. Marle Reyes – SEO R&D	Ninth General Capital Increase - Water Resources and Adaptation to Climate Change - Developing an Agenda to respond to Climate Change Impacts on Water Resources
Dr. Indarjit Ramdass – ED Ms. Geeta Devi Singh – Dir, EMD Ms. Tashana Redmond – SEO M&E Ms. Teijvarti Persaud – SEO M&F Ms. Marle Reyes – SEO R&D	IDB’s Environmental and Social Safeguards - The purpose of the workshop was to provide an introduction to international safeguards as part of the process to develop international best practice safeguard standards for REDD+ programmes in Guyana.

Ms. Geeta Devi Singh – Dir EMD	Tenth Meeting of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
Ms. Nalissa Persaud – EO 11, M&F Ms. Earlla Nelson – EO 1, M&E	Workshop at the Guyana Forestry Commission CD –REDD (Capacity Development for forest- related GHG inventories)
Ms. Sonia Gumbs-Luke-SEO-IIE	One-day Workshop on the preliminary findings on the application of the IDB Disaster Risk Indicators to Guyana.
Ms. Marle Reyes Pantoja – SEO R&D. Ms. Teijvarti Persaud – SEO M&F Ms. Sonia Gumbs-Luke – SEO IIE.	Petroleum Seminar. Preparing for Offshore Energy Resources – The Atlantic Canada Oil & Gas Experience.
Ms. Felicia Adams-EO II, IIE Ms. Clydecia Mc Clure-SEO, NRMD	Workshop hosted by the Guyana Lands and Survey Commission on the on the Development of a Land Use Planning Project.
GIS Staff	Geographic Information System (GIS) and Global Position System (GPS) training workshop
GIS Staff	Geographic Information System (GIS) training seminar
GIS Staff	Second phase of workshop on Multi-user geodatabase applications on GIS

APPENDIX III: FIELD TRIPS MADE TO KFW INTERVENTION AREAS IN 2011.

No.	Duration	Intervention Area	Participants
1.	14-17 January, 2011	Kanuku Mts.	J. Persaud, R. Smith, O. Duncan, & S. Austin
2.	23-28 January, 2011	Kanuku Mts.	C. Harilal
3.	25 January, 2011	Kaieteur	D. Fernandes & B. ter Welle
4.	06 February, 2011	Kaieteur	D. Fernandes, B. ter Welle, P. Hilliges & M. Lux
5.	11-14 February, 2011	Shell Beach	J. Persaud, R. Smith, & O. Duncan
6.	05-08 March, 2011	Kanuku Mts.	J. Persaud & R. Smith
7.	19 March, 2011	Kaieteur	D. Fernandes, B. ter Welle, H. Gauges, & M. Lux
8.	22-23 March, 2011	Kanuku Mts.	D. Fernandes, B. ter Welle, M. Lux & R. Schwark
9.	02-06 April, 2011	Shell Beach	J. Persaud & R. Smith
10.	12-14 April, 2011	Kanukus Mts.	O. Ramcharran & S. Lord
11.	14-18 May, 2011	Shell Beach	J. Persaud & R. Smith
12.	June 17-19, 2011	Shell Beach	J. Persaud
13.	June 24, 2011	Kaieteur	J. Persaud
14.	June 29, 2011	Moraballi	C. Harilal
15.	October 14, 2011	Moraballi	J. Persaud

APPENDIX IV: DISTRIBUTION OF APPLICATIONS FOR NEW PROJECTS RECEIVED IN 2011 BY SECTOR.

New Applications	No. of Applications
Agri Chemical Storage	1
Animal & Food Production & Tourism	1
Aquaculture Farming	1
Bauxite Mining	1
Cattle Ranch and Guesthouse	1
Firewood (Buying and Selling)	1
Funeral Home	1
Furniture Workshop.	2
Gas/ Service Station/ Fuel Depot	9
Gold Mining	1
Hotel/Guest House/ Apartment Building	3
Ice Factory	1
Infrastructure Projects - East Bank Demerara Four Lane Expansion/ Improvement Access Road to International Airport/ Rehabilitation of Sea Defence/ Quarantine Officer Quarters/ Onshore Logistic Facility/ Extension of Cheddie Jagan International Airport	6
Installation of Fibre Optic Cables	1
Kilm Drying Complex	1
Logging	3
Logging and Sawmilling	5
Lumber Yard (with and without processing)	7
Petroleum Exploration/ Drilling	2
Potable Sawmill	10
Poultry Processing	2
Production/Storage of Lubricating Oils	2
Quarrying	1
Rice Mill	5
Sand Mining	6

Sawmill	16
Shallow Well	1
Storage of Aviation Fuel	1
Toilet Paper Manufacturing	1
Transit Point for Logs	1
Underwater Logging Sinker Recovery	1
Waste Management Facility	1
Wharf	1
Wood Processing Facility	1
Total	98

APPENDIX V: PRESENTATIONS PREPARED AND DELIVERED IN 2011.

Month	Title	Target group
January	Wetlands	Nature School
February	Wetlands	Nature School
	About the EPA	UG Open/Career Day
March	Wetlands	Nature School
	Pollution and the Environment Climate Change and the LCDS	New Amsterdam Multilateral
April	Conflict Resolution	Wildlife Festival
	Trash and Climate Change	Nature School
May	Forest Biodiversity	Secondary Schools (6)
	Trash and Climate Change	Nature School
June	“Forests: Nature at your service”	Red Cross Youth Group
	Trash and Climate Change	Nature School
July	World Environment Day and Forests Beyond the Trees Guyana’s Forests and the LCDS Climate Change Biodiversity: All the world’s a web	EPA Environmental Camp
	Climate Change: What you need to know	Taxidermy Camp
August	Pollution and the Environment	National Parks Commission Garden Camp
September	Impacts of Improper Environmental Practices on the Natural Environment	ECHO Seminar
	Ozone Day	Primary Schools (4)
October	Environmental Education- concepts, Principles and	Teachers Training Camp

	Practices Infusion vs. Diffusion Tools of Environmental Education Problems vs. Issues Environmental Problems- Global and local Water Climate Change Biodiversity Programme Planning	
November	Energy Wise Lifestyles	Energy Week
	The EPA and your Environmental club	Stewartville Environmental and Health Club
	Children and Climate Change	Nature School

APPENDIX VI: EXHIBITIONS PARTICIPATED IN 2011.

Exhibition	Date	Venue	Theme
University of Guyana annual open/career day fair	February 18, 2011	University of Guyana, Turkeyen Campus	“Showcasing Our Services; Unlocking Your Potential”
International Day for Biological Diversity	May 18-25, 2011	National Library	“Forest Biodiversity”
Annual Mining Exhibition	August 22-24, 2011	Ocean View International hotel	Evolving methods, embracing excellence, enjoying success.
International Day for Disaster Reduction	October 13, 2011	Sophia exhibition site	“ Making Children and Young People Partners for Disaster Risk Reduction ”.
Kwakwani Day	November 5, 2011	Independence Square, Kwakwani	Logging and Mining