

ENVIRONMENTAL PROTECTION AGENCY



ANNUAL REPORT 2007

MESSAGE FROM THE EXECUTIVE DIRECTOR	3
1.0 THE ENVIRONMENTAL PROTECTION AGENCY	7
1.1 MISSION OF THE EPA	7
1.2 ENVIRONMENTAL PROTECTION ACT	7
1.3 FUNCTIONS OF THE EPA	7
1.4 ORGANIZATIONAL STRUCTURE OF THE EPA	9
1.5 PROGRAMME AREAS	10
2.0 ADMINISTRATIVE DIVISION	14
2.1 GEOGRAPHICAL INFORMATION SYSTEM	20
2.2 FINANCE UNIT	21
2.3 ADMINISTRATIVE UNIT	22
2.4 INFORMATION TECHNOLOGY UNIT	20
3.0 NATURAL RESOURCES MANAGEMENT	23
3.1 CONSERVATION OF BIODIVERSITY	23
3.2 SUSTAINABLE USE OF BIODIVERSITY	29
3.3 CONSERVATION AND SUSTAINABLE USE OF WILDLIFE	39
4.0 ENVIRONMENTAL MANAGEMENT PROGRAMME	47
4.1 ENVIRONMENTAL AUTHORISATIONS PROCESS	47
4.2 DEVELOPMENT AND RESEARCH	56
4.3 COMPLAINTS AND RESPONSE	60
5.0 EDUCATION INFORMATION AND TRAINING PROGRAMME	64
5.1 DEVELOPMENT OF EDUCATION MATERIALS	67
5.2 OUTREACH PROGRAMMES	67
5.3 BUILDING CAPACITY	71
5.4 ENVIRONMENTAL DAY OBSERVANCES	68
5.5 MEDIA PROGRAMMES	70
5.6 INFORMATION AND COMMUNICATION	72

MESSAGE FROM THE EXECUTIVE DIRECTOR

During the year 2007, the Environmental Protection Agency made significant progress in the implementation of its programmes in Natural Resources Management, Environmental Management, Education, Awareness and Capacity Building and Cross-Sectoral Programmes.

The Agency developed National Strategies, Plans and Programmes and successfully carried out a number of activities for the conservation and sustainable use of biodiversity. A number of policies, legislative, and administrative measures were achieved with respect to coordinating and maintaining a programme for the conservation of biodiversity and its sustainable use in Guyana.

During the year, the Agency continued to refine systems to ensure that developmental projects conform to the goal of sustainable development through the process of pollution control and enforcement. To achieve this goal, special programmes were developed and implemented.

To complement the progress made in the two technical programme areas, significant work was carried out in public awareness and capacity building for participation in protection, conservation, management and sustainable use of the environment.

Of note, were three assessments conducted in the Coastal Zone programme area, focusing on its vulnerability, adaptation measures, and the management of infrastructure and natural resources for necessary its protection in face of sea-level rise. In addition, associated activities undertaken during the year led to the establishment of measures for adaptation to the effects of climate-related environmental problems.

The achievement of set goals for the year was the result of a united approach and individual commitment of staff to maintain high standards of etiquette, efficiency, effectiveness, professionalism and team-spirit. These, and the willingness to persevere in the face of challenges, were the driving force behind the Agency's success.

Building on the successes achieved during the year will be a major focus of the Agency in its quest to continue to make progress and to deliver effectively on its mandate for environmental protection, management, and sustainable use of our natural resources.

Doorga Persaud
Executive Director

EXECUTIVE SUMMARY

Several notable achievements were recorded by the Agency in the year 2007. Key projects were designed and successfully implemented to promote the Agency's mandate and to address Guyana's obligations to the international Multi-Lateral Environmental Agreements (MEAs).

The Agency satisfactorily advanced its programme for the conservation and sustainable use of biodiversity and the preservation of the environment through the development of strategies, action plans, legislative, administrative and policy measures. Additionally, inter-sectoral collaborations were enhanced with various agencies and institutions in pursuance of environmental conservation objectives.

The Natural Resources Management Division (NRMD) tasked with the responsibility of carrying out the Agency's mandate under the EP Act and the CBD, achieved many of its planned activities and targets for the year. These included the successful sourcing of funds for projects, and the execution of several projects on the work programme for the year.

Some specific achievements in 2007 included: the execution of three World Wildlife Fund (WWF) – funded projects; the drafting of the Wildlife Management and Conservation Regulations; and, the development of the National Biodiversity Research Information System (NBRIS). There has been progress with the KfW Small Grants Project with the implementation of a number of sub-projects.

Other significant successes included the commencement of preparatory work for the establishment of Mount Roraima as a Protected Area, working towards developing programmes for the Amazon Cooperation Treaty Organization (ACTO), strengthening of the Biodiversity Research process, and the establishment of stronger linkages with other relevant sectoral agencies and organizations among others.

Environmental Management continued to be a major focus of the Agency during the year 2007 and Environmental Permits featured prominently in this aspect the Agency's work. A total of three hundred and eighty-six (386) applications were received for the year 2007 – one hundred and six (106) of which were for new projects, one hundred and eleven (111) for existing projects, one hundred and forty-five (145) for noise, twenty-two (22) for renewal of permits for existing projects, one (1) for variance of environmental authorization, and one (1) for the transfer of environmental. This represents an increase of approximately one hundred and fifty (150) applications compared to those received in 2006 and was due to the increase in the number of noise applications received combined with the Agency's drive to permit existing operations. Additionally, two hundred and twenty-seven (227) environmental authorizations including those for new and existing projects, renewals, transfers and variances of existing permitted projects and noise authorizations were issued.

Monitoring and Enforcement of the Environmental Protection Regulations was enhanced in October 2007 with the establishment of the Monitoring and Enforcement Unit which coordinated and implemented compliance monitoring and enforcement activities under the EM Programme. This Unit is also responsible for the implementation of the Anti-Littering Programme which has responsibility for dealing with littering offences. For the hosting of Cricket World Cup, an Anti-Littering Campaign was formulated and implemented along the East Bank of Demerara since this area was of major focus during the World Cup Cricket period.

A number of Staff was trained as the Agency continued to capitalize on available opportunities for capacity building both locally and overseas and; to collaborate with stakeholders to enhance aptitudes and refine the skills of its workforce in several areas.

During the year, the Agency continued its public education efforts with a number of outreach activities, creation of new information materials and the updating and reprinting of existing ones. These efforts enhanced the environmental awareness of a

range of target audiences including schools, community, voluntary groups, and sector agencies. In addition, outreach programme targeting small and medium-scale miners under the GENCAPD Phase I Project concluded during the year and the report was completed.

Overall, the Agency achieved benchmark goals within the specified time and satisfactorily accomplished tasks outlined for the period. This was made possible with teamwork and effective management of the resources allocated to the Agency.

1.0 THE ENVIRONMENTAL PROTECTION AGENCY

1.1 MISSION OF THE EPA

The mission of the Environmental Protection Agency (EPA) 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 5, 1996, the **Environmental Protection Act (EP Act)** was passed by Parliament. This legislation comprehensively addresses the areas of environmental management and sustainable use of natural resources and established the Environmental Protection Agency (EPA). The EP Act mandates the EPA to oversee 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.

Although an Environmental Unit was created in the Office of the President after the passing of the EP Act, the EPA itself did not become fully staffed and operational until 1998.

The objectives of the EPA are to protect Guyana's environment and in so doing, contribute to global environmental protection. The EPA approaches environmental protection through education, partnership, collaboration, regulation and enforcement.

1.3 FUNCTIONS OF THE EPA

The functions of the EPA are clearly stated in the EP Act, Part II 4 (1). They can be classified into three broad categories, namely, *regulatory, coordinating and the promotion of public participation in environmental protection.*

The Agency's regulatory function gives it the responsibility to monitor and enforce the EP Act and

associated regulations. This function of the EPA ensures that development integrates measures for environment protection.

The EPA has a major coordinating function with regard to the sustainable use and conservation of Guyana's natural resources. The work of the EPA is complex, spanning a range of interconnected issues, making coordination with private and public sector and non-governmental organizations essential for the accomplishment of its mandate.

The EPA has a responsibility to promote the participation of the public in the process of integrating environmental concerns in the planning for sustainable development. This is achieved by providing information to the public on environmental issues and problems and EPA's procedures and processes.

1.4 ORGANIZATIONAL STRUCTURE OF THE EPA

Figure 1 below shows the Organizational Structure of EPA during 2007. The Chairman of the EPA Board and the Executive Director of the EPA reports to the President of Guyana. The President of Guyana is the Minister with responsibility for the Environment.

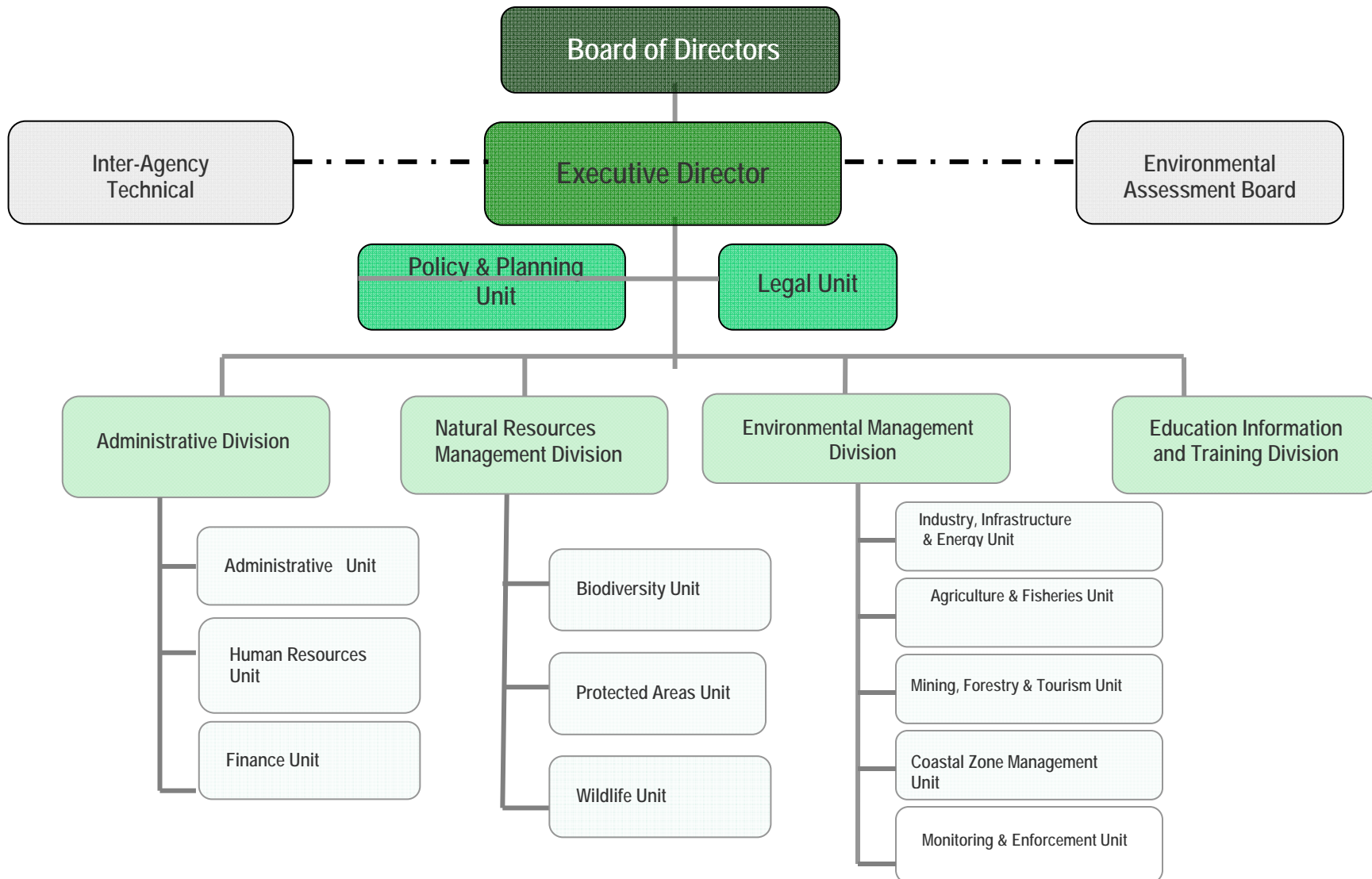


Figure 1: Organizational Structure of EPA

1.5 PROGRAMME AREAS

The Environmental Protection Agency implements its mandate through four Programmes. These are, the Natural Resources Management, Environmental Management, Education, Awareness and Capacity Building and Cross-Sectoral Programmes.

NATURAL RESOURCES MANAGEMENT

Having ratified the Convention on Biological Diversity, Guyana committed to developing National Strategies, Plans and Programmes for the conservation and sustainable use of biodiversity and to take legislative, administrative and policy measures towards achieving these goals. The mandate of the Environmental Protection Agency includes the coordination and maintenance of a programme, for the conservation of biodiversity and its sustainable use in Guyana. The Natural Resources Management Division (NRMD) of the Agency has a dedicated focus on implementing a programme towards meeting this mandate.

To achieve its objectives, the NRMD collaborates with various sectoral agencies and institutions in Guyana. These include, the Guyana Forestry Commission, Ministry of Agriculture, Wildlife Division, Guyana Geology and Mines Commission, University of Guyana, National Parks Commission and others. The Division also collaborates with several, local and international Non-Governmental Organizations (NGOs), such as Conservation International – Guyana (CIG), the Guyana Marine Turtle Conservation Society (GMTCS), World Wildlife Fund for Nature (WWF) and Fauna and Flora International (FFI), among others, and most importantly with the local communities.

One of the most important strategy documents guiding the NRMD is the National Biodiversity Action Plan (NBAP), which outlines the major programme areas for biodiversity management in Guyana. These include Conservation of Biodiversity, Sustainable use of Biodiversity, and Conservation and Sustainable use of Wildlife.

ENVIRONMENTAL MANAGEMENT

The Environmental Management Division (EMD) implements programmes towards enabling the Agency to achieve its mandate for pollution control and prevention. As such, the Division has the major role of ensuring that developmental projects conform to the goal of sustainable development. To ensure that this goal is met, the Division oversees the process of authorization and ensures that polluters remediate the environment through the process of pollution control and enforcement. Some of the strategies adopted by the EMD to assure that the EP Act, 1996 is enforced include:

- **Authorising New Developments:** Any new development that may have a significant effect on the environment is required to conform to the EPA's authorization process which involves application, screening, publication of the EPA's decision, EIA (or not), decision to grant environmental authorization or not.
- **Monitoring of Environmental Authorisations:** The EPA has the responsibility to ensure that developments mitigate against pollution and remediate when necessary. The Agency must also monitor the ambient environment as well as specific requirements of Environmental Authorizations.
- **Authorising Existing Developments:** The Agency, through the Environmental Protection (EP) Regulations (2000) is in the process of regularizing existing industrial activities through a registration process. These operations are required to apply to the Agency for an Operation Permit which is granted once the operation is in compliance with good environmental management practices.
- **Developing Competencies in Environmental Management:** The EPA recognizes that the role of the Agency 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, EMD has begun and will continue the pursuit of regulations development.
- **Reviewing and Developing Standards, Environmental and Operational Guidelines, Codes of Practice etc.**

- **Coordinating Environmental Management through Stakeholder collaboration.**
 - EPA-UG ongoing environmental management research programme
 - Inter-agency collaboration in the area of environmental authorizations and complaints responses has been strengthened
- **Managing Environmental Complaints:** EMD continues to resolve legitimate environmental complaints.
- **Preparing for environmental emergencies**
- **Enforcement**

EDUCATION, INFORMATION, 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). This function of the EPA is the responsibility of its Education, Information and Training (EIT) Division.

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

Through its EIT Programme, the EPA interfaces with a wide segment of the population and provides information in a range of formats to raise environmental awareness and knowledge of the populace.

The delivery of the EIT 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 EIT Programme is twofold; it promotes public awareness of and participation in environmental decision-making as well as informs the public of systems and procedures established by the EPA for environmental management and conservation.

CROSS-SECTORAL PROGRAMMES

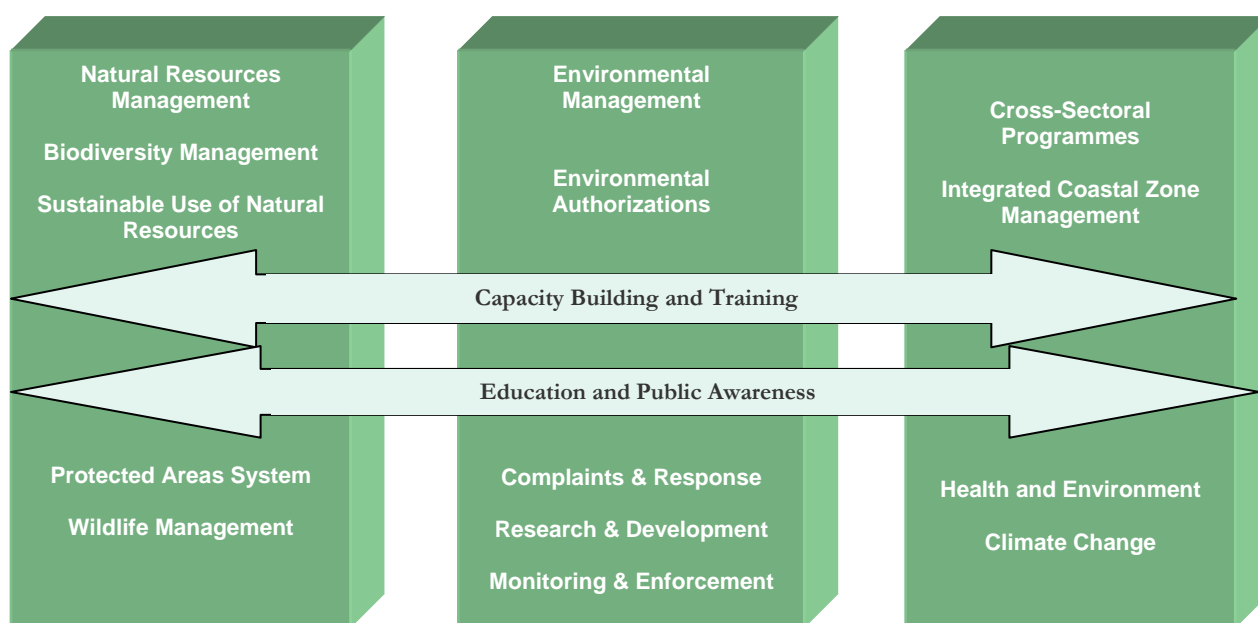
Currently, the EPA plays a major role in two cross-sectoral programmes in the areas of Integrated Coastal Zone Management and Climate Change.

The ICZM focuses on three major activities: assessment of the potential damage and loss to the Coastal Zone (vulnerability assessment) in face of sea-level rise, assessment of steps that are in place for the Coastal Zone to adjust/adapt to sea level rise and Management of infrastructure and natural resources.

The Climate Change program focuses on the establishment of measures for adaptation to consequences of climate-related environmental problems.

As part of its role regarding environmental coordination, the EPA's primary approach to environmental protection and management is to work through existing organizations dealing with the environment and create partnerships around important environmental activities.

Figure 2: EPA Programmes, Components and Links



2.0 ADMINISTRATIVE DIVISION

The Administrative Division provides critical support to effect the work of the Agency and has during the past year been instrumental in charting a course for change and development in all areas of its operations.

The Division achieved progress in all areas of its work. This was accomplished with enhanced understanding of its pivotal role, a strong team spirit and dedication to a high performance standard.

The Division achieved its main objective of implementing and managing administrative systems to allow effective and efficient conduct of the affairs of the Agency with the calculated use of the available resources.

2.1 HUMAN RESOURCES UNIT

The Human Resources Unit is responsible for recruiting skilled and committed people who are competent and capable of working towards the achievement of the goals and objectives of the Agency.

The Unit promotes team spiritedness at the EPA for effective and efficient performance of Staff.

Below are achievements of the Unit for 2007.

STAFFING

The Agency recruited a total of twelve (12) persons to fill vacancies in the various Divisions as shown in the Table 1 below:

Divisions	Number of Staff Recruited	Designation
Administration	3	(1) Finance Officer, (1) Technical Support Officer (1) Environmental Officer (GIS)
Education, Information & Training	3	(1) Senior Environmental Officer, (1) Documentation Assistant, (1) Environmental Officer
Natural Resources Management	2	(1) Senior Environmental Officer, (1) Executive Assistant
Environmental Management	4	(1) Director, (2) Environmental Officers, (1) Senior Environmental Officer

Table 1 Recruitment in 2007

The staff complement at the end of 2007 was forty-eight (48) (See Appendix 1 for Staff List) and comprised (27) females and twenty-one (21) males (Fig.2). Staff were distributed across the four Divisions as shown in Fig.1 below:

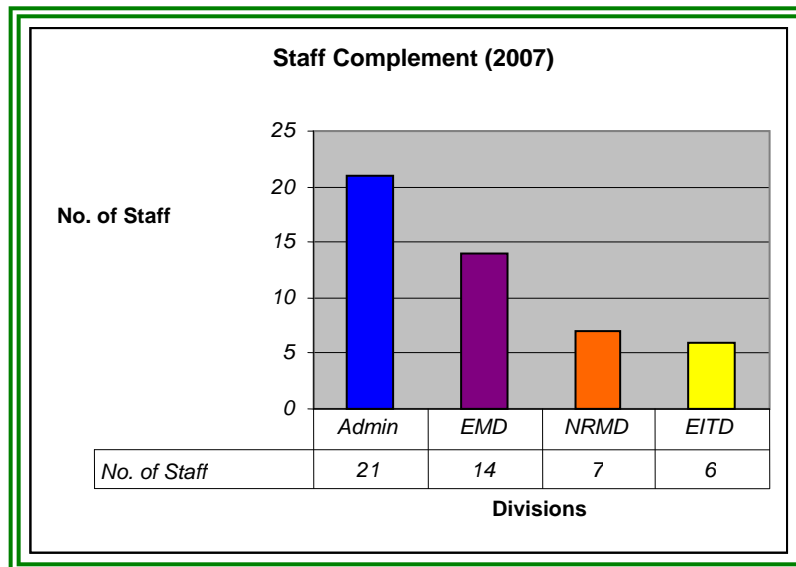


Fig. 3– EPA Staff Distribution (2007)

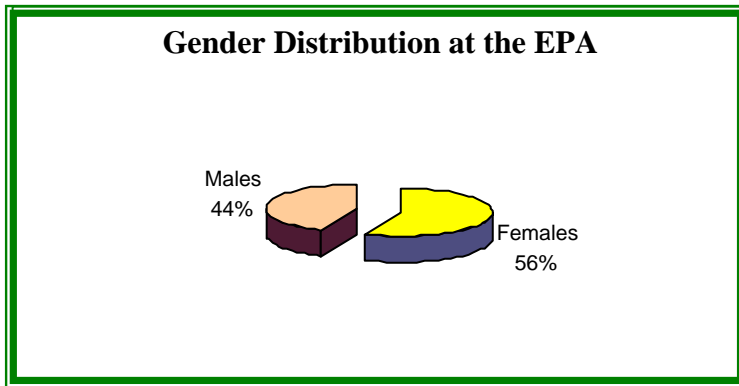


Fig.4 – Gender Distribution at the EPA

The Agency continues to experience setbacks as a result of high staff turnover. During the course of the year, seventeen (17) persons resigned from the Agency compared to nine (9) persons in 2006 and 2005.

Additionally, one (1) Officer opted not to request a renewal of contract which expired during the year.

Previously, staff resigned to take up appointments overseas or for further studies. However, the recent trend has indicated that staff have been leaving for appointments locally. This is an indication that the Agency’s salaries are no longer competitive. In this regard, the Agency prepared a salary review which was approved by the Board and forwarded for the consideration of the Office of the President. Figure 3 below shows staff turnover for the period 2005-2007.

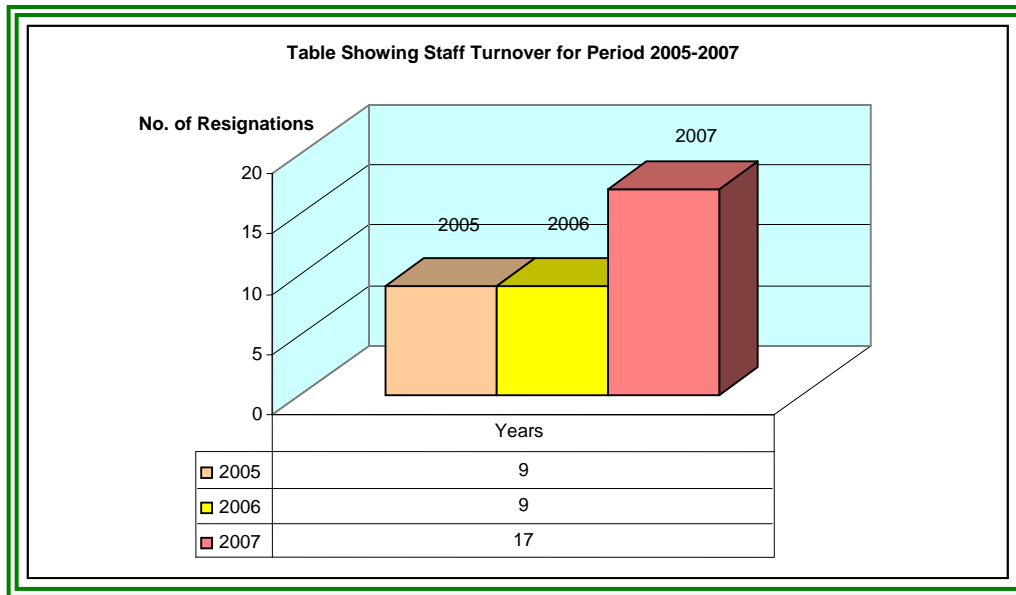


Fig. 5: Staff Turnover for the Period 2005-2007

TRAINING, WORKSHOPS, SYMPOSIUMS, MEETINGS

In 2007, Officers of the Agency attended a number of seminars, workshops, meetings and training sessions both locally and internationally. This is summarized in Table 2, below:

Officers of the Agency also continued to represent the Agency on the various Boards and committees of local organizations including the Guyana Geology and Mines Commission, Guyana Forestry Commission, Guyana National Bureau of Standards, National Parks Commission and the Guyana Tourism Authority.

CONSTRAINTS

While the Staff of the Agency continued to benefit from sponsored training, opportunities for other areas of training relevant to the Agency's work could not have been pursued as a result of a lack of resources. Such areas included training in the use of ACCPAC Accounting software.

Training	Date	Country	Officer (s)
Workshop on Local Communities and Protected Areas	April 26 & 27, 2007.	Guyana	Ramesh Lilwah
Strategic Environmental Assessment for Guyana and Suriname	May 3, 2007.	Guyana	Alana Lancaster; Preeya Rampersaud
Workshop on Environmental Monitoring of Industrial Waste and Coastal Zone Management	May 16-18, 2007-	St. Lucia	Alana Lancaster
W/shop on the KfW-funded Project "Delineating the boundaries of the proposed Kanuku Mountains Protected Area (KMPA) using community participatory approaches and GIS Tools".	May 23-25, 2007.	Guyana	Ramesh Lilwah and Ian Kissoon
National Influenza Preparedness workshop	May 30-June 1, 2007;	Guyana	Dominique Saheed
World no-Tobacco Day	May 31, 2007	Guyana	Dylon Rachpaul
Geo-Amazonia Workshop	June 18-19, 2007		Khalid Alladin
NIS Seminar	June 19-20, 2007	Guyana	Raywattie Singh
Strategic Environmental Assessment for Guyana and Suriname workshop	June 21, 2007.	Guyana	Preeya Rampersaud, Indira Mattai, Sharifah Razack, and Karen Alleyne
GIS Training	June 23- August 25, 2007	Guyana	Rhiana Bissu, Indira Mattai
Workshop Mercury Impact Assessment	July 11, 2007.	Guyana	Karen Alleyne and Indira Mattai
Geo Cities Project Workshop	July 11	Guyana	Karen Roopchand & Tejjvarti Harnanan-Persaud
Workshop – Promoting enhanced access to sustainable livelihood development	July 26-27, 2007	Guyana	Cyldecia McClure and Indira Mattai
GIS Online Training	August – December 2007	Organisation of American States	Tejjvarti Harnanan, Oumardatt Ramcharran, Ian Kissoon, Chuvika Harilal
Workshop for the Formulation of a Regional Program for the Sustainable Management of the Amazon Protected Areas	August 6-9, 2007	Brazil	Ian Kissoon and Oumardatt Ramcharran
Workshop on Review of Preliminary Version of the Geo Amazon Report in	August 6-8, 2007	Brazil	Dr. Indarjit Ramdass
Principles of Environmental Compliance and Enforcement	Aug 20-23	Guyana	Alicia Foster and Renwick English

Training	Date	Country	Officer (s)
Amazon Initiative Workshop	August 21, 2007.	Guyana	Alana Lancaster and Teijvarti Harnanan-Persaud
Workshop for the Delineation of the Boundaries of the Proposed Kanuku Mountains Protected Area	Mon Sept 3-7, 2007 – CI-G and Sept 10-11- Lethem.	Guyana	Ian Kisson
Bio-safety Clearing House Training Workshop	September 11, 2007	Guyana	Stacey Phillips and Samantha Heyliger
“History of U.S. Forest Service and Management of Public Lands” This seminar was coordinated by the Embassy of the United States of America	Tuesday September 18, 2007.	Guyana	Alicia Foster and Renwick English.
Short Course on Conservation of Biodiversity	September 7-27, 2007.	Germany	Clydecia McClure
Technical Workshop and Second Stakeholder Forum for the delineation of the proposed Kanuku Mountains Protected Area (KMPA).	September 10–11, 2007 Lethem, Region 9.	Guyana	Ian Kisson
‘International Conference on the Status of Biological Science in Caribbean and Latin American Societies’	September 25-26, 2007.	Guyana	Alicia Foster, Ian Kisson, and Dominique Saheed
Presentation of Regional Prog. For the sustainable mgt of Amazonian Protected Areas	Sept 30-Oct 6, 2007,	Argentina	Ian Kisson
Short Course on Water Management	October 18 – November 8, 2007	Germany	Karen Alleyne
Invitation to Participate in the Sixth Session of the Open-Ended Working Group of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	September 3-7, 2007	Switzerland	Khalid Alladin
CI Protected Areas Management and Governance Training	Oct 29-31, 2007	Bolivia	Oumardatt Ramcharran
4 th Meeting of the interim Scientific, Technical and Advisory Committee (ISTAC) to the Protocol on Pollution from Land-based Sources and activities (LBS) in the wider Caribbean Region	30-Nov 1, 2007.	Guatemala	Alana Lancaster
8 th Global Training in Environmental Law and Policy.	Nov 5-16, 2007.	Kenya.	Indira Mattai

Table 2 : EPA Participation in Training Courses and Workshops

2.2 GEOGRAPHICAL INFORMATION SYSTEM

The GIS Unit is responsible for the efficient management of spatial related data and for building the skills of employees of the Agency to use GIS data as a tool for sound decision-making.

In 2007, the Unit successfully provided support to the other Divisions of the Agency by management and analysis of geographic data, creation of specialized applications and preparation of maps.

PREPARATION OF MAPS

The following new maps were prepared during the year:

- Waterfalls and Rapids in Guyana
- The Natural Regions of Guyana
- Stabroek Market
- Protected Areas and Proposed Protected Areas in Guyana
- Location of Biodiversity Research in Guyana by Region
- The Proposed Aquaculture Farms at Nig and Belvedere
- Location of Mining Areas in Guyana.
- Location of Mangrove Swamps from the Demerara Harbour Bridge to Vreed-en-Hoop
- Location of the major Mountain Ranges of Guyana
- Precipitation Distribution across Guyana
- Economic Activities across Guyana

Several banners and posters were printed for use in different activities that were implemented by the other Divisions of the Agency.

DATA MANAGEMENT

A number of initiatives were taken to update the GIS database and ensure the effective functioning of the Unit. New information on Tourist Resorts, Mining Areas, Forestry Concessions, Agricultural Areas on the Coastland, as well as *shapefiles* obtained from GFC was added to the database.

Maintenance work including the review and archiving of GIS projects for 2006 was also carried out on the database. Other initiatives taken include:

- A research on the utilization of the procured satellite imagery to update the GIS database on the Shell Beach and Kanuku Mountains proposed Protected Areas.
- Assistance to the CDB funded ICZM Project.
- The defective satellite imagery procured in November 2006 was replaced.
- An inventory of GIS assets was compiled for the Administrative Division of the Agency.

TRAINING

The newly recruited GIS Technician received intensive training on the use of the ArcGIS software used by the GIS Unit for map making and spatial analysis operations. She also attended GIS training at the Lands and Surveys Commissions.

2.3 FINANCE UNIT

The Agency received subventions totaling G\$ 43.6 million from the Government of Guyana in 2007 compared to G\$40.3 million in 2006. In addition, G\$ 45M was made available from other sources to support the Agency's operational expenses for the year.

System documentation was done for Petty Cash, Cheque Payments, Salaries, Receipts, Bank Reconciliation Statements and Journals.

The audit for the year ended December 31, 2005 was completed and the Agency received the Audited Financial Report from The Audit Office on October 25, 2007.

The Draft Financial Report for the year 2006 was prepared and submitted to the Audit Office and monthly Financial Reports were submitted to the Board of Directors & Management of EPA on a timely basis.

The Finance Unit also provided support for several Projects implemented by the Agency. These included the KfW Small Grants Project and the Biosafety Clearing House Project. All financial reporting requirements for individual projects were met in accordance with the project agreements.

The Agency's Budget for the year 2008 was prepared and submitted to the Office of the President.

2.4 ADMINISTRATIVE UNIT

The Administrative Unit is responsible for procuring and managing the assets of the Agency and providing support services to the other Divisions and Units to facilitate efficient and effective performance. In this regard, support was provided in the areas of procurement, vehicle management, asset management and general administration.

VEHICLE MANAGEMENT

Day-to-day management of the fleet of vehicles was effectively carried out to meet the transportation needs of the Agency.

FIXED ASSET MANAGEMENT

The Agency's Fixed Assets Register was updated and all items listed therein were physically verified. Divisional inventories were prepared and signed off by the various Divisions.

PROCUREMENT

The Unit procured items requested by the Agency during the year to facilitate the efficient implementation of its various programmes.

Additionally, the Administrative Unit was engaged in the procurement of materials, equipment and consultancy services under several Projects managed by the Agency during the year. Among these were the KfW Small Grants Component of the Guyana Protected Areas System (GPAS) Project, funded by the German Government and the National Biosafety Clearing House Project funded by UNEP.

Funds were made available through the Government of Guyana under its Capital Program for 2007 for the procurement of computer equipment which included eight (8) computer systems and four (4) monitors. These equipment were procured and deployed to the various Divisions of the Agency.

2.5 INFORMATION TECHNOLOGY (IT) UNIT

The IT Unit is staffed with an IT Specialist and a Technical Support Officer and is responsible for servicing and repairing all computer equipment (PCs, Notebooks/Laptops) Network hubs and switches, routers and servers within the Agency.

The Unit is also responsible for the successful functioning of the Local Area Network and building/maintaining custom made database management information systems and applications.

A general overview of the work done by the IT Unit during the year 2007 is as follows:

INFORMATION SYSTEMS MANAGEMENT

Work was done on the Assets database with reporting and querying features added as required.

The server that hosted the complaints database experienced a hardware problem. This was rectified and the database was restored.

Querying features were added to the Complaints Management Database. These have been categorized as follows:

- Query by year 2007;
- Query by polluter; and
- Query by Complaints made per month or a particular time-frame.

Apart from querying features a reporting feature was included which now has the capability to produce a Custom report for monthly submission to the EPA Board. This report is generated programmatically by inputting a date into the database. In the past, this report was done manually.

An Asset Checkout Form database was rebuilt for the Administrative Division. This database has the capability to store data on Check-In and Check-Out of equipment by Officers within the Agency. A number of changes were made in 2007 to this database. These included the addition of a number of reports, queries and a secure login.

Software for the management of human resources data was created and is currently functional.

A number of changes and additions were made to the database during the year 2007, some of which included the addition of queries, reports, features, additional fields among others.

A Payroll software module was created for integration into the HR software.

WEBSITE DEVELOPMENT

The year 2007 was a very challenging one for the Unit. However, these challenges were overcome by the use of innovative measures.

General maintenance was done on the external and internal websites. The internal website was upgraded and some new functions were added. Public Notices, EIAs, vacancies and other related documents were included to ensure the availability of current information.

Internal and external email were maintained and Spam filters were updated.

A Country website was developed (www.TheGEFGuyana.org), funded by the Global Environment Facility. This website was intended to be database driven and dynamic, hosting a portfolio of all the projects done by the Global Environmental Facility and their status.

NETWORK SUPPORT

In January 2007, a complete backup of the server and all data files was done. This backup routine is now done on a regular basis.

During the year, the four servers (funded by IDB Phase I & Phase II) were maintained despite numerous power related issues. As a temporary solution, the Unit was able to minimise downtime through the use of alternative servers.

Norton Antivirus was deployed to the entire network and all computers and servers now have antivirus protection. The updating process of the Antivirus definition files was automated to enhance the security of the Agency's network and information.

Several new systems were added to the network and preventative maintenance was done to ensure minimum disruptions.

PC SUPPORT

A number of computers (desktops & laptops) were repaired and some were replaced. Problems with these systems varied from Operating System (software) problems to hardware problems. Printers and plotters were maintained and serviced throughout the Agency.

The IT Unit also provided support to other Divisions in presentations and training seminars such as the Biosafety Clearing House training and the NBRIS training among others.

The Unit also facilitated the movement of Divisions (computer and network equipment) throughout the year whenever the need arose.

Under the Environmental Protection Act (EP 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), is required to design, source funding, execute and implement projects that would assist in achieving the general objectives and programmes of the Convention.

3.0 NATURAL RESOURCES MANAGEMENT

Within the EPA, the Natural Resources Management Division (NRMD) has responsibility for carrying out the Agency's mandate under the EP Act and the CBD. This mandate is being addressed by the Division's three technical units: Protected Areas, Biodiversity, and Wildlife.

The Division has achieved many of its planned activities and targets for 2007. These included the successful sourcing of funds for projects, and the execution of several projects on the work programme for the year.

Some specific achievements in 2007 included: the execution of three World Wildlife Fund (WWF) – funded projects, the drafting of the Wildlife Management and Conservation Regulations, and the development of the National Biodiversity Research Information System (NBRIS). There has been progress with the KfW Small Grants Project with the implementation of a number of sub-projects.

The capacity of the staff to execute the mandate of the Agency was enhanced with the provision of local, overseas, and online training in several areas relevant to the work of the Division.

The Division was headed by a Director who was supported by one (1) Senior Environmental Officer (SEO), three (3) Environmental Officers II, two (2) Environmental Officers I, and an Executive Assistant.

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

3.1 CONSERVATION OF BIODIVERSITY

GUYANA PROTECTED AREAS SYSTEM (GPAS)

KfW Small Grants Project

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) to support the Small Grants Component of the

Guyana Protected Areas System (GPAS) Project. The goal of this Component is the conservation of ecosystems through enhancing the 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 deliver the following:

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

There are three intervention areas for the GPAS Small Grants Component: the Kaieteur National Park, Kanuku Mountains and Shell Beach.

The projects are envisaged to contribute to the conservation of the natural resources of the intervention areas and to benefit the communities both socially and economically in the long-term, through enhanced sustainable livelihoods.

The implementation of the two-year project began in March, 2006.

During 2007, three projects were completed. These included:



Fig. 6: Boat and Engine for Rangers at Waratuk

A Boat and Engine for Rangers at Waratuk – the project was submitted by the Kaieteur National Park Board and implemented by the National Parks Commission. It resulted in the provision of an aluminium boat and outboard engine (see Figure 6) to

more efficiently monitor activities within the Park. The cost of the project was G\$1,233,167, with G\$1,004,500 (US\$4,900) funded by KfW.

Craft Development in Chenapou Village – the proposal for Craft Development was submitted by the community of Chenapou. The project led to the development of craft-making skills among community members in the Chenapou Village and income generation for community members through the sale of craft material (see Figure 7). The project cost G\$1,411,000.00, of which G\$1,251,000.00 (US\$6,255) was funded by KfW.

Fencing of Farmlands – the project, submitted by the community of Maruranau, Region Nine resulted in the construction of ten (10) miles of fence (see Figure 8) along the edge of the village farmlands. The total cost of this was G\$5,460,660 (US\$27,303).



Fig. 7: Craft items produced by the Chenapou community



Fig. 8: Fence for Farmlands in Maruranau

Two other projects were near completion during the year 2007. These are:

Development and Marketing of North West Organic (NWO) Products – this project, submitted by the Guyana Marine Turtle Conservation Society (GMTCS) aims to improve the livelihoods of communities in and around the Shell Beach proposed Protected Area by garnering a greater local market share for the NWO harvesters and producers through sustained and phased marketing.

So far, the project has resulted in infrastructural development (construction of a Crabwood oil factory at lower Waini, provision of boat and engine and provision of mechanical presses), awareness, display and promotion of products of NWO at trade fairs (See figure 9 and 10). G\$33,924,000 (US\$169,620) is budgeted for this project.

Ranger Kits for Rangers at Kaieteur National Park – this proposal was submitted by the Kaieteur National Park Board. So far, the project resulted in the purchasing of field equipment for the rangers (see Figure 9). The budget for the project is G\$2,230,980 (US\$11,155).



Fig. 9: NWO Product



Fig. 10: Crabwood Oil Factory



Fig. 11: Items for the Ranger Kits

Seven projects were at various stages of implementation at the end of the year 2007. These included:

1. **Rest House at Tukeit** – submitted by the Board of the Kaieteur National Park.
2. **Kaieteur National Park Visitor's Arrival Centre** – also proposed by the Board of the Kaieteur National Park
3. **Kumu Village Eco-Lodge** – submitted by the Village Council of St. Ignatius.
4. **Delineation of Boundaries for Kanuku Mountains Proposed Protected Area** – submitted by Conservation International (CI).
5. **Farming in Moco Moco** – conceptualised by the Moco Moco Village Council.
6. **Fencing of Shea Farmlands** – undertaken by the Shea Village Council.
7. **Multi-Purpose Administration Centre** – identified by the Three Brother's (St. John's) Village.

Towards the end of 2007, three proposals were approved for implementation in 2008. These are:

1. **Furnishing of the Multi-Purpose Administration Centre in Three Brother's** – this project was submitted by the Three Brother's (St. John's) Village.
2. **GMTCS Environmental Education and Awareness Programme** – submitted by GMTCS.

3. **Infrastructure Development (Tractor and Trailer) for water coconut collection at Almond Beach** – submitted by the Almond Beach Community Development Council (CDC).

One proposal - **Delineation of the Proposed Shell Beach Protected Area** – submitted by EPA/GFA on behalf of GMTCS, was recommended for approval by the Appraisal Committee and is pending processing.

During 2007, four proposals viz:

1. **Participatory Collaborative Management Plan for the Proposed Kanuku Mountains Protected Area** – submitted by the CI-G.
2. **Fencing of Rupunau Farmlands** – submitted by the Rupunau Village Council.
3. **Warapoka Multi-Purpose Building** – submitted by the Warapoka Village Council.
4. **Construction of a Crabwood Seed Drier** – submitted by the Three Brother's Village.

were being finalised for submission to the Appraisal Committee (AC).

Up until December 31, 2007, the Cumulative Actual amount of funds received from KfW was US\$ 467,200. The Cumulative Actual Expenditure was US\$ 224,100 and the estimated committed amount for sub-projects was US\$ 1.0 M.

KfW Training Component

Apart from the Small Grants Component, KfW is also funding training in Participatory Natural Resource Management valued at EURO 370,000. The training is being delivered by the Iwokrama International Centre. At the end of the reporting period, four core courses on Ranger Training and Tour Guiding were successfully delivered to seventy one persons in the intervention areas: Proposed Kanuku Mountains Protected Areas, proposed Shell Beach Protected Area, Kaieteur National Park and from a number of government and non-government organisations.

Fauna and Flora International (FFI)

In 2004, the EPA in collaboration with Fauna & Flora International (FFI) embarked on a partnership to strengthen capacity for the development of Guyana's National Protected Areas System at the central government and site (Shell Beach) levels. These project activities were completed in 2006. For the reporting period in 2007, the project was prepared for auditing. It was also noted that television stations continued to air the Infomercials for Kaieteur National Park and Shell Beach and the Protected Areas documentary "Our National Treasures", periodically throughout the year.

Situation Analysis and Rapid Biodiversity Assessment (SARBA) of Mount Roraima

In October 2006, World Wildlife Fund (WWF) Guianas and the Environmental Protection Agency (EPA) of Guyana signed a Grant Agreement for a six-month project to commence preparatory work for the establishment of Mount Roraima as a Protected Area. The project commenced in January, 2007 and the final report was completed and is to be printed. This is one of the first initiatives towards establishing Mt. Roraima as a Protected Area.

The output of the project was a document which captured the stakeholders' vision, provided socio-economic, cultural and political background information on the area and identified the main issues and challenges for the legal establishment of Mt. Roraima as a Protected Area.

The Biodiversity Assessment was designed to gather background information from literature, identify data gaps, determine possible alterations to the environment due to anthropogenic activities and act as a basis for future studies leading to the establishment of Mt. Roraima as a Protected Area.

In February 2007, a team comprising a Natural Resources Management Specialist, Environmentalist, Biologist, Socialist, a representative from the EPA, and two research assistants from the University of



Fig. 12: Participants at a Community Consultation.

Guyana, visited the area to conduct the SARBA (see Figure 12).



Fig. 13: Mr. Ramesh Lilwah – Protected Area Specialist, EPA
Delivering Opening Remarks at the Workshop

A workshop (see Figure 13) was held on May 8, 2007 with participation from different sectors and representatives from the communities. The team's findings were presented followed by a plenary session where discussions were held and the comments used to finalise the report.

The SARBA report was subsequently finalised by the consultants and approved by the EPA and WWF-

Guyana. The final document is to be printed and distributed to stakeholders.

Amazon Cooperation Treaty Organization (ACTO) Collaboration

Guyana is a member of the Amazon Cooperation Treaty Organization (ACTO) and has been participating in programme areas relating to protected areas. Guyana is working towards developing programmes in conjunction with other member countries, to strengthen collaboration for sustainable management of Amazon protected areas through information-sharing and trans-boundary conservation initiatives.

The EPA participated in the ACTO workshop for the Development of Sustainable Regional Management Programmes for Amazon Protected Areas held in Rio de Janeiro, Brasil during August 06-09, 2007.

3.2 SUSTAINABLE USE OF BIODIVERSITY

BIODIVERSITY RESEARCH

The Biodiversity Unit (BU) is responsible for the processing of Biodiversity Research (BR) Applications and the issuance of Permits to conduct BR in Guyana. As in previous years, applications were received from students, professionals and institutions worldwide. These included the Adelaide Botanical Gardens, Australia; the Royal Ontario Museum, Canada; the Imperial College, London; and the Utrecht University, Netherlands.

Renowned filming companies such as the British Broadcasting Corporation (BBC) also applied to film Guyana's rich Biodiversity. Research and filming activities were concentrated primarily in the unexplored interior regions of Guyana.

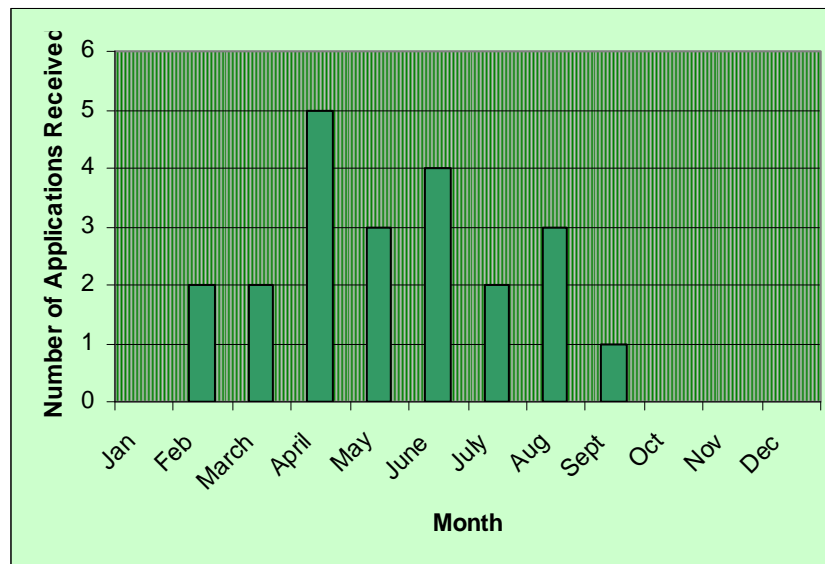


Fig. 14 Total Number of Biodiversity Research Applications received in 2007

In 2007, twenty-one (21) Research Applications were received by the Division (see Figure 14).

Twenty-one (21) Research Permits were also issued for the year. It should be noted, however, that this is inclusive of applications that were received late in 2006. Figure 10 shows the categories of applications permitted by the Agency in the year 2007. It is evident that applications for faunal

studies dominated the requests received. Eighteen (18) Specimen Export Permits were issued during the year and these included some permits that were issued for collections made in the previous year as well as collections made as part of previously approved on-going studies.

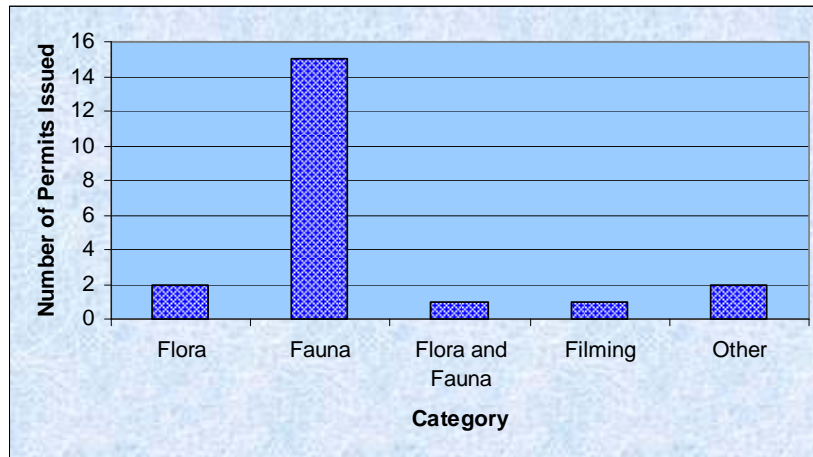


Fig. 15: Research Applications Permitted by the Agency

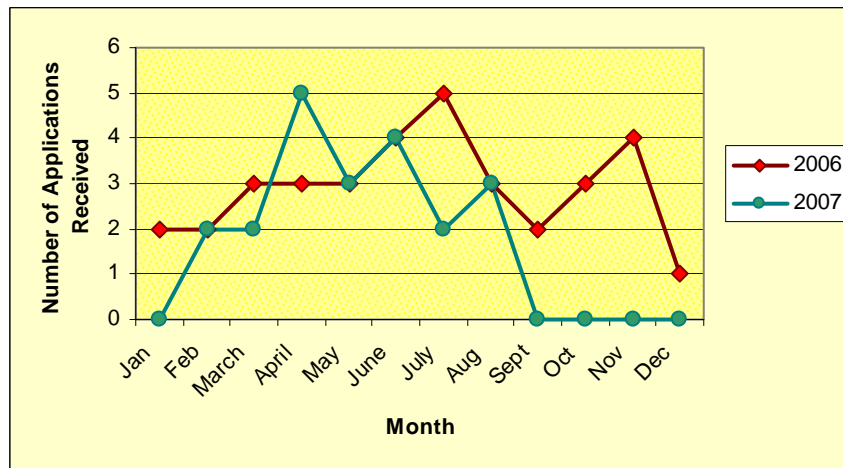


Fig. 16 - Comparison of Research Applications received in 2006 and 2007

Eighty-five percent of applications received were approved. Two (2) applications received were deferred to other relevant institutions for procedural action.

Total Number of Applications Received	Total Number of Applications Approved	Total Number of Research Permit Issued	Total Number of Specimen Export Permit Issued
21	18	21	18

Table 3: Summary of Applications Received, Approved and Permits Issued in 2007

The monitoring and enforcement aspect of the Biodiversity Research process has been strengthened over the year. The Agency has also established stronger linkages with other relevant sectoral agencies and organizations such as the Ministry of Amerindian Affairs and Iwokrama in order to ensure researchers' adherence to the national research guidelines and the terms and conditions of their respective Research Permits.

Complaints filed at the EPA were also investigated and appropriate enforcement action was administered. The improved system has resulted in a larger number of preliminary research reports and outstanding final reports being submitted to the Agency.

LOCATIONS OF BIODIVERSITY RESEARCH

Generally, research activities for 2007 were concentrated in Region 9. As depicted in Figure 17, research has been more prevalent inland in relatively flat areas that were previously understudied.

Projects

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

Development of the National Biodiversity Action Plan (NBAP), 2007-2011

The National Biodiversity Action Plan I (1999-2004) was used to guide national efforts to implement the CBD and the provisions of the EP Act. The implementation timeframe for the first NBAP (1999-2004) has concluded and the EPA undertook the development of Guyana's second National Biodiversity Action Plan (2007-2011).

NBAP II is not a separate plan from NBAP, but rather a continuation of the process with a focus on four main thematic areas: forests, agriculture, coastal resources, and marine and freshwater resources. The process began with the preparation of Situation Analyses for each of the thematic areas which addressed the physical, biological, work-programmes and macro-variables of each area and identified programme areas and activities in order to meet the UNCBD obligations.

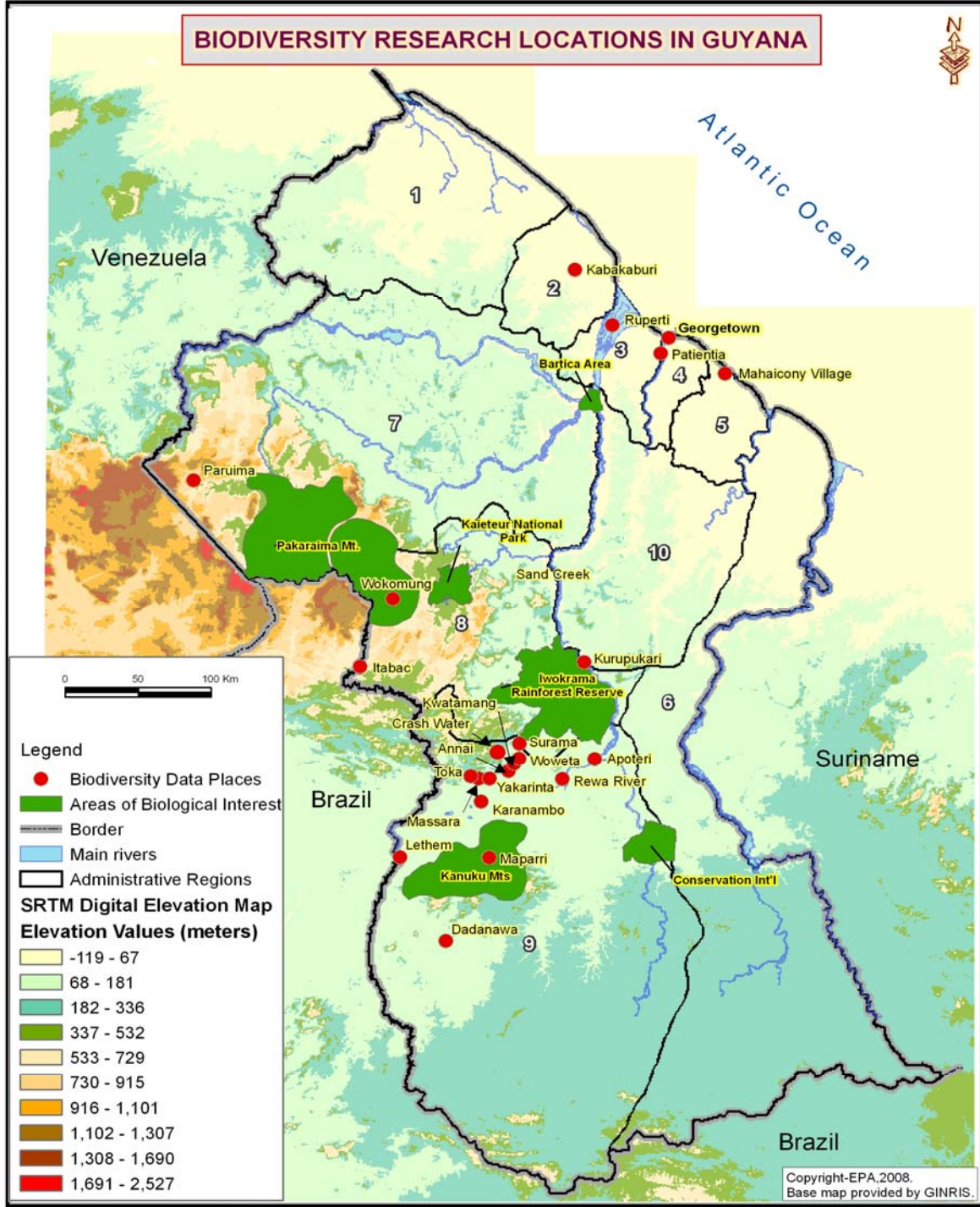


Fig. 17: Map showing Locations of Biodiversity Research conducted in 2007

A national workshop was held on March 1, 2007 with participation from a broad range of stakeholders from different sectors and representing several regions of the country. With the guidance from stakeholders, the National Biodiversity Action Plan II (2007-2011) was prepared with an elaboration of 12 Priority Programme Areas into Project Concepts and Log Frames, which are to be implemented within the five-year period.

NBAP II was approved by the EPA Board and was currently awaiting approval by the Government. The Project was funded by the World Wildlife Fund (WWF).

National Biosafety Framework (NBF)

The draft National Biosafety Framework was finalized by the consultant and was submitted to the Government for approval. The NBF would ensure an adequate level of protection in the field of the safe transfer, handling and use of Living Modified Organisms (LMOs) resulting from modern biotechnology in Guyana. This document would aim to control and monitor the use of Genetically Modified Organisms (GMOs) and LMOs while preventing adverse effects on the conservation and sustainable use of biological diversity in Guyana.

The Environmental Protection Agency is the Implementing Agency of the NBF Project. This project was conducted over an eighteen-month period with support from UNEP/GEF.

The NBF was approved by the EPA Board, the NREAC and Cabinet Sub-Committee on Natural Resources and Environment.

Biosafety Clearing House

Significant progress has been made towards the establishment of the Biosafety Clearing House (BCH) which will be established as a component of the Clearing-House Mechanism under the Convention on Biological Diversity (CBD).

The establishment of the BCH will foster and formalize the facilitation of the exchange of scientific, technical, environmental and legal information on Biosafety and Living Modified Organisms (LMOs) among sectoral Agencies in Guyana.

A Memorandum of Understanding (MoU) was signed between the EPA, the National Executing Agency, and the United Nations Environment Programme (UNEP) to develop and establish the BCH for Guyana with funding from GEF. Subsequently, the EPA established a BCH Task Force comprising multi-sectoral institutions for decision-making under the BCH which would guide the project.

Eight computer systems were purchased for the competent national authorities to input data applicable to biosafety. Training workshops were also held in September to introduce the participating institutions to the operation of the BCH Portal and the requirements and operation of a national BCH. Two Regional Advisors from the UNEP-GEF Biosafety Unit facilitated the training (see figure 18).

This project is expected to conclude in March, 2008.



Fig. 18: EPA Representative, Regional Advisor and Chairperson (BCH Task Force) at the BCH National Training Workshop

Access and Benefit Sharing of Genetic Resources Regulations

The Division made significant progress with the Access and Benefit Sharing Regulations, which had been finalized and was currently awaiting approval by the Government. The implementation of these regulations will strengthen the permitting process and the local institutional capacity to facilitate research which requires access to Guyana's genetic resources. It will also further assist Guyana in achieving the objectives of the Convention on Biological Diversity.

The Access and Benefit Sharing Policy had been previously completed and approved by the EPA Board and NREAC and was awaiting approval by the Government.

National Biodiversity Research Information System (NBRIS)

The National Biodiversity Research Information System has been developed and testing was being conducted. It will enable better management of data arising out of research which requires access to biological diversity by placing data in a format that could be analyzed so as to develop useful reports. More importantly, the NBRIS will facilitate online registration and application by researchers.

Components of the system included online evaluation of applications, a Document Management System, a General Information Component, and a Specimens Tracking and Inventory System.

The members of staff of the Natural Resources Management Division (NRMD) of the EPA were trained on the use of each component of the system and will be responsible for the management of the database. The database was designed and developed by Resonant Technology which signed a maintenance warranty contract with the EPA for a period of one year (see Figure 19).



Fig. 19: Mr. Doorga Persaud - Executive Director, EPA signing the Maintenance Warranty Contract with Mr. Clarence Garraway, Software Engineering Director of Resonant Technology.

The development of the National Biodiversity Research Information System was funded by the UNDP under the Capacity Building for the Management of Natural Resources and Environment Project.

National Capacity Self-Assessment (NCSA)

The key objective of this project was to develop a National Strategy and Action Plan for the improved implementation of three United Nations Conventions to which Guyana is party, namely the Convention on Biological Diversity, the Convention to Combat Desertification and the Framework Convention on Climate Change.

The outputs for NCSA Project this year were the completion of the Cross-cutting Capacity Issues Report, NCSA Report, and the Strategy and Action Plan. The preparation phase of the NCSA Project was completed in March. Upon approval of the Strategy and Action Plan, the Implementation and Monitoring and Evaluation phases will follow. This project was funded by the Global Environmental Fund (GEF) through the United Nations Development Programme (UNDP).

The key achievements of the Project during the year included:

- The finalization of the NCSA Report and the Strategy and Action Plan;
- The publication of the fifth and final newsletter; and
- The finalization of the Cross-Cutting Capacity Issues Report.

The NCSA Strategy and Action Plan was approved by the EPA Board, NREAC and the Cabinet Sub-Committee in May 2007. It is awaiting approval by the Government.

Micro-Level Forest Biological Diversity Indicators

The Micro-Level Forest Biological Diversity Indicators Project represented the second phase of an assessment of indicators of impacts on forest biological diversity. The first phase involved the

development of macro-level indicators and the production of a report on the state of Guyana's forest at a macro-level (funded by the Inter-American Development Bank - IDB).

The findings of the first phase were used to guide the second phase which involved the development and field-testing of micro-level forest biological diversity indicators in two contrasting areas (a logged site and control site) (see Figures 20-21).

Demerara Timbers Inc. was used as the logged site and the Pibiri Reserve as the control site. These sites were selected based on the recommendations of the Guyana Forestry Commission. Indicators tested included species richness/diversity, forest density, regeneration, fragmentation, erosion of land surfaces, and water quality.

The outputs were a System of Indicators to monitor forest biological diversity and a National Plan of Action to monitor impacts on forest biodiversity.

The Project was funded by the World Wildlife Fund (WWF) and was a collaborative effort between the EPA and the Guyana Forestry Commission (GFC).



Fig. 20: Field team conducting research in the logged site, Region 7



Fig. 21: Field Team in the Pibiri Reserve, Region 7

International Biodiversity Day 2007

The Division in collaboration with the Education, Information and Training (EIT) Division organized activities in observance of International Biodiversity Day celebrated under the theme "Biodiversity and Climate Change".

Several activities, including a Classroom Discussion for Tour Operators and Customs Officers, airing of the CBD video on local television stations, appearance on the local morning show, “**Guyana Today**”, and a Panel Discussion on National TV Programme “Close Up” were done.

Thirty students from 15 Environmental Clubs were selected to participate in a nature tour of the CEIBA Biological Research Centre (see Figures 22-23). This activity was conducted in collaboration with the National Parks Commission (NPC).

All activities conducted for this project have been incorporated in the 2007 publication of the CBD Secretariat entitled, “Celebrations of International Biodiversity Day 2007 – Biodiversity and Climate Change”.



Fig.22: Dr. Bourne giving students a lecture at the Ceiba Biological Centre.



Fig. 23: Students touring the forest at the Ceiba Biological Centre.

3.3 CONSERVATION AND SUSTAINABLE USE OF WILDLIFE

The Wildlife Unit made significant progress in 2007 with the development of draft Wildlife Management and Conservation Regulations. The Unit also continued to collaborate with sectoral agencies to achieve the sustainable use and conservation of wildlife in Guyana.

Wildlife Management and Conservation Regulations

The EPA secured support from the GOG/UNDP Capacity Building for the Management of Natural Resources and the Environment Project to facilitate the finalization of the draft Wildlife

Management and Conservation Regulations. The project was implemented by the Ministry of Foreign Affairs with financial support from the United Nations Development Programme (UNDP) and is expected to be completed in the first quarter of 2008.

Two Consultants (Legal and Technical Experts) were recruited and two National Consultation Workshops on the draft Regulations were conducted. Critical issues identified by stakeholders in relation to the management and conservation of wildlife in Guyana were addressed at these workshops.

3.4 INTRA- AND INTER-AGENCY COLLABORATION

Collaborative partnerships were undertaken during the year 2007 with local and Regional institutions for wildlife conservation particularly in the area of sea turtles protection and conservation.

The EPA through the Guyana Marine Turtles Conservation Society (GMTCS) and WWF submitted sea turtle nesting data to the State of the World's Sea Turtle (SWOT) to support data collection for the SWOT Report Vol. 3. This document titled "Where the Hawksbills Are" will be published in 2008.

Another collaborative effort resulted in a marine turtle being returned to its habitat through the effort of the GMTCS, the Guyana Zoological Park, Iwokrama and the EPA following an investigation of a report of the turtle being entangled in a fishing net.

Joint visits with the Wildlife Management Authority to twelve Wildlife Holding Stations led to enhanced knowledge of members of the Division in the field of species identification.

Collaboration with the other Divisions of the Agency continued throughout 2007. Activities for International Day for Biological Diversity 2007, articles for the EPA quarterly Greenleaf and appearances on television programmes such as Guyana Today Show and Close Up were successfully undertaken in partnership with the Education, Information and Training (EIT) Division.

Officers of the NRMD also assisted the Environmental Management Division (EMD) on several site monitoring visits, scoping meetings and reviewed EIA documents.

CONSTRAINTS

The work of the Division was affected by the resignation of two senior members of Staff and an Executive Assistant. These positions have since been filled with the addition of an SEO – Biodiversity/Wildlife and an Executive Assistant.

Inadequate monitoring for research activities in the field continued to impact negatively on enforcement efforts during the year. Limited financing for field work impacted on the development of field skills for natural resource management.

In addition to this, the split locations of the EPA continued to present some logistical and administrative difficulties.

MEETINGS, WORKSHOPS AND TRAINING

Every member of Staff of the Division participated in workshops and formal training programmes during the year which contributed to enhanced capacity building. The fora which contributed to the development of staff included:

Meetings

- National Influenza Preparedness Planning Committee Meetings - Ministry of Health.
- Meeting to establish a National Bee Producer's Steering Committee - Ministry of Agriculture.
- Meeting to discuss WWF's Freshwater Workplan - World Wildlife Fund.
- Meeting with Guyana Amazon Tropical Bird Society.

Workshops/Seminars

- Geo-Amazonia workshop in Belem, Brazil
- ACTO workshop for the Development of Sustainable Regional Management Programmes for Amazon Protected Areas held in Rio de Janeiro, Brasil.
- Workshop on Protected Area Management and Governance held in Santa Cruz, Bolivia (Organised by Conservation International).
- Workshop on Protected Area Management and Governance Capacities in the Neotropics in Santa Cruz, Bolivia.
- Seminar on “Critical Review of the Statutory Framework for Environmental Protection in Guyana”, University of Guyana.
- CI-G workshop on the KfW-funded Project “Delineating the boundaries of the proposed Kanuku Mountains Protected Area (KMPA) using community participatory approaches and GIS Tools”, Lethem, Region 9.
- National Influenza Preparedness Planning Committee Workshop to review and finalize the national plan against Pandemic Influenza in Guyana, Le Meridien Pegasus Hotel.
- The International Conference on the “Status of Biological Sciences in Caribbean and Latin American Societies”, Buddy’s International Hotel.
- North Rupununi Adaptive Management Plan (NRAMP) Workshop (Post Darwin Initiative Project), Centre for the Study of Biological Diversity.
- “Payment for Ecosystem Services” seminar organized by Conservation International – Guyana.
- Two-day ACTO Workshop on Biodiversity Management in Guyana, Le Meridien Pegasus Hotel.
- National Consultation Workshop, Hotel Tower and Stakeholder Discussion Forum, Le Meridien Pegasus Hotel to review the National Biodiversity Action Plan (NBAP) II.
- Seminar on the Amazon Initiative Consortium (AIC), EPA, IAST Boardroom.
- Two-day Workshop on Local Communities and Protected Areas hosted by WWF-Guianas.

Training

The Staff of the Division benefited from online, local and overseas training in 2007. These included:

- UNEP/UNESCO/BMU 41st Short Course on Biodiversity Conservation, Technical University of Dresden, Germany.
- Collaborative Management for Graduates, Iwokrama Field Station.
- Learning ArcGIS Desktop - Online GIS Course by ESRI (sponsored by the OAS).

OTHER

The Division was involved in a number of other activities during the year. These include:

- participation at national consultations;
- site visits;
- reconnaissance surveys; and
- education and awareness programmes.

The Division continued to participate on various sectoral Boards and Committees such as the Board of the Wildlife Management Authority, the Board of the Kaieteur National Park, the Board of the Guyana National Trust, the Natural Resource and Environment Advisory Committee and the EPA Occupational Health and Safety Committee.

4.0 ENVIRONMENTAL MANAGEMENT PROGRAMME

Environmental Management (EM) is of critical importance to implementation of the Agency's mandate. The Environmental Management Division has the responsibility for managing the Environmental Authorization process, Complaints and Response, Research and Development as well as Integrated Coastal Zone Management (ICZM) activities.

Integrally linked to the Programme of the Environmental Management Division are compliance, monitoring and enforcement activities which, in October 2007, were given increased impetus with the establishment of a Monitoring and Enforcement (M & E) Unit.

The M & E Unit comprised of two (2) Environmental Officers and a Senior Environmental Officer. This Unit coordinates and implements compliance monitoring and enforcement management activities as well as the recently established Anti –Littering Programme.

Within the EM programme, development projects are classified into three categories: Agriculture, Fisheries and Tourism (AFT), Industry, Infrastructure and Energy (IIE) and Mining and Forestry (M&F). This categorization facilitates the effective and orderly coordination and execution of activities within the Division.

4.1 ENVIRONMENTAL AUTHORISATIONS

Under the Environmental Protection Act 1996, the Agency is responsible for the protection of the environment, the prevention of pollution and the assessment of the impact of economic development activities. The established permitting process for existing and new development/ investment projects at both the public and private sector levels is of crucial importance in the discharge of the Agency's functions.

This process requires that environmental authorizations be obtained from the EPA as the first development consent and that projects incorporate environmental management in their design and operation.

The environmental permitting process as prescribed in the Environmental Protection Act (1996) and the Environmental Protection Regulations 2000 continued to enable the efficient functioning of the Environmental Management Programme. The EPA continued to utilize a comprehensive approach to environmental management, based on regulations, standards and guidelines that were developed. In addition, the Agency has collaborated with several sectoral agencies, particularly those in the planning and natural resources sectors, to identify environmental quality objectives and develop synergistic processes that achieve these objectives.

The Agency implemented and utilized various strategies to address the authorizing of operations and ensuring their compliance with the requirements of good environmental practices. These included the authorizing of new developments, monitoring of these authorized facilities, monitoring of unauthorized activities and authorizing of existing developments. It is the requirement of the Environmental Protection Act, No. 11 of 1996, Part IV that developers of proposed projects which are deemed by the Agency to have potentially significant impacts on the environment or listed in the Fourth Schedule, apply to the Agency for Environmental Authorisations.

A total of three hundred and eighty six (386) applications – one hundred and six (106) of which were for new projects, one hundred and eleven (111) for existing projects, one hundred and forty five (145) for noise, twenty two (22) for renewal of permits for existing projects, one (1) application for variance of environmental authorization and one (1) for the transfer of environmental authorization respectively were received for the year 2007. This represents an increase of approximately one hundred and fifty (150) applications compared to those received in 2006.

The increase in the number of applications received in 2007 was due to the increase in the number of noise applications received combined with the Agency's drive to permit existing operations.

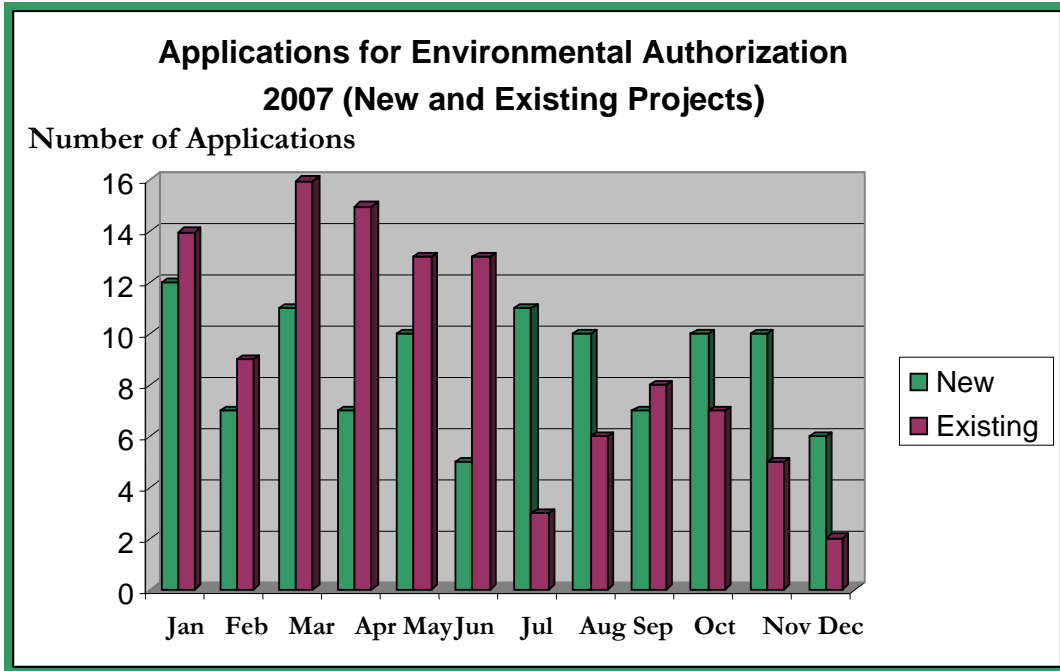


Figure 24: Applications for Environmental Authorization in 2007

A total of two hundred and twenty seven (227) environmental authorizations were issued for the year. These included authorizations for new and existing projects, renewals, transfers and variances of existing permitted projects and noise authorizations. Eighty-five percent (85%) of the authorizations granted during the year were for applications made in 2007, twelve percent (12%) were for applications made in 2006 and three percent (3%) were for applications made in 2005.

The forestry sector continued to submit the highest number of applications. Among these are applications for sawmills, lumber yards, etc. In terms of applications submitted, the forestry sector was followed by rice mills, service stations and hotels/inns/apartment buildings. Table 24 provides a breakdown of applications received.

Sector	# of Applications
Aquaculture Farm	3
Atlantic Centre	1
Bauxite Transport and Transshipment	1
Clay Brick Factory	1
Cold Storage Factory	1
Fire Wood Dealer	2
Fish Processing Plant	2
Foot Manufacturing Facility	1
Funeral Home	4
Furniture Manufacturing	2
Garment Factory	1
Gas Station	1
Gas Station/ Fuel Depot	14
Hatchery	1
Hospital/Medical Center	2
Hotels/Inns/Apartment Building	9
House Factory	1
Jetty/Wharf	2
Logging/ Sawmilling	4
Lumber Yards (with and Without Processing)	56
Machine/Mechanical Workshop	5
Mechanical Oil Extraction	1
Mining (Sand, Loam and Quarry)	4
Poultry Rearing/ Processing Plant	4
Public Health Reference Laboratory	1
Rice Mill	17
Sawmill/Portable Sawmills	49
Scrap Metal Yard	1
Sewage Main Relocation	1
Solid waste Disposal Site	5
Tannery	1
Telecommunication Towers	8
Transmission Lines and Substation	1
Wash Bay	1
Wood Processing Facility	6
Wood Working Operations	3
Total	217

Table 4: Number of Applications received for New and Existing Projects in 2007

Sector	No. of Applications Received in 2007	Number of Environmental Authorization Issued 2007	No. of Applications Requiring EIAs 2007	No. of Applications Requiring EMP 2007
Agriculture, Tourism and Fisheries	42	15	1	2
Industry, infrastructure and Energy	67	32	-	2
Mining and Forestry	132	32	2	2
Noise Applications	145	148	-	-
Total	386	227	3	6

Table 5: Management of the Permitting Process across Sectoral Units in the EMD

The applications received in 2007 were distributed to the various Units as follows:

- **Mining and Forestry (M&F) Unit:** Thirty-four (34%) – the majority of applications were for sawmills/portable sawmills and lumber yard (with and without processing).
- **Industry, Infrastructure and Energy (IIE) Unit:** Seventeen (17%) - the majority of these applications were for service/gas stations.
- **Agriculture, Fisheries and Tourism (AF&T) Unit:** Eleven (11%) - the majority of which were for rice mills followed by hotel/inns/apartment buildings.

Noise applications accounted for the remaining thirty-eight (38%) of the applications received in 2007.

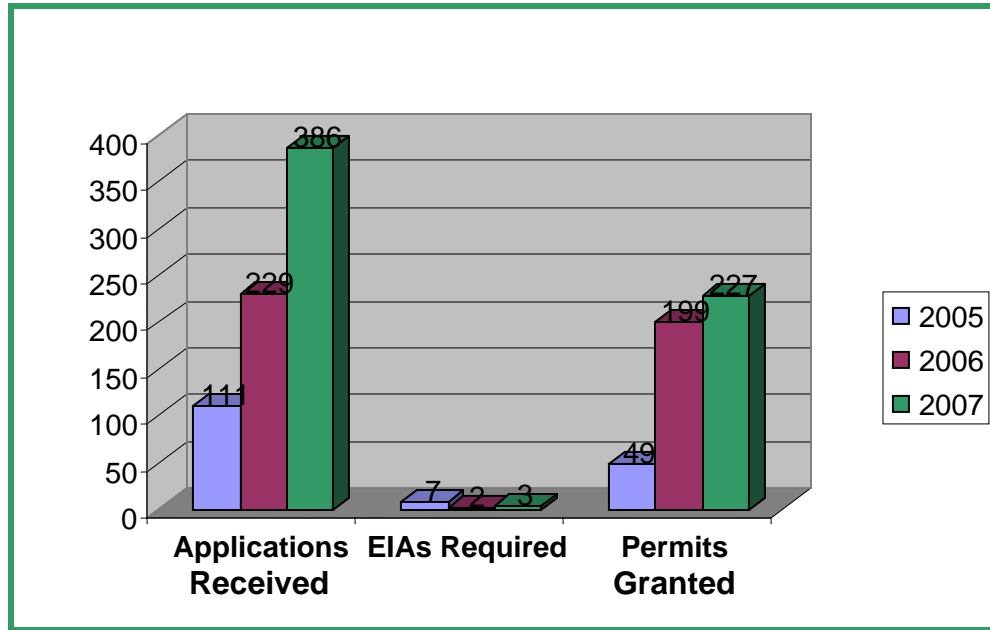


Figure 25: Applications Processed in Period 2005-2007

Compared with 2006, the number of projects requiring EIAs in 2007 increased by one and the number of projects requiring EMPs showed a decrease.

Fifty-three percent (53%) of the applications received in 2007 fulfilled the requirements according to the EP Act 1996 and the Environmental Authorizations Regulations 2000 and were granted environmental authorizations during the year. Thirty-eight percent (38%) were for noise applications. However three percent (3%) of the authorizations granted were still to be uplifted.

The remaining forty-seven percent (47%) of the projects were at different stages of the authorization process:

- Environmental authorizations were prepared for fifteen percent (15%) of those projects. However, these were not issued because some projects were pending the acceptance of the draft permit by the developer before finalization and some were deferred due to the lack of submission of outstanding information e.g. permission from Neighborhood Democratic Councils (NDC), Regional Democratic Council (RDC) and Central Housing and Planning Authority (CH&PA) approvals and Proof of Land Ownership- transport/lease, etc.

- Appeals were received for one (1) percent of the projects received for the year.
- One (1) percent of the projects was required to conduct an Environmental Impact Assessment (EIA).
- Of the nine (9) projects that were required to do an Environmental Management Plan (EMP), only one (1) percent was pending submission. Two of these projects received appeals.
- The other twenty-eight percent (28) of projects were at the following stages:
 - In 30 days public notification period
 - Pending site visit, preparation of reports etc.
 - Pending the implementation of mitigation measures before issuance of a permit
 - On hold or non compliant with permit conditions (renewal)
- Environmental Authorizations were not granted to one (1) percent of projects for the following reasons:
 - Sites chosen were not suitable or were refused based on a joint decision by sectoral agencies
 - Unresolved complaints against the developer.

Developer	Project	Location
Iwokrama International Center for Rainforest Conservation and Development	Timber Harvesting from the Sustainable Utilisation Area of the Iwokrama Forest	Iwokrama Forest
Mohabir Singh (Puruni Wood Products Inc.)	Logging and Sawmilling	Mazaruni – Potaro District, Essequibo
Delta Energy and Petroleum Company (DEPCO)	Design Phase of the Crab Island Refinery Inc. (Crude Oil Refining)	Seawell /Palmyra, Canje, East Berbice.
Omprakash Shivraj	Buddy’s International Hotel and Mall	Tract ‘BS’- Block 2 Public Road Plantation Providence, East Bank Demerara
Guyana Beverage Inc.	Water Production and Ancillary Facilities	Block ‘AA’ Great Diamond, East Bank Demerara.

Table 6: Major Development Projects Granted Environmental Authorizations in 2007

Existing Operations

The permitting of existing operations remained a main focus of the Agency. All existing operations are now required to apply to the Agency for an Operation Permit. The Agency expects that this would increase since sectoral agencies are now requiring environmental authorizations to facilitate the renewal of licenses.

Compliance Monitoring

The Division continued compliance monitoring of authorized operations. However, this activity was affected because of limited resources including staff shortage, availability of equipment and budgetary constraints. As such, compliance monitoring was carried out only in priority areas which have increased as compared to previous years. Compliance monitoring was conducted for the following operations:

- Omai Gold Mines Ltd. Operations: ground and surface water testing; review of environmental monitoring reports and closure activities.
- Bosai Minerals Group Bauxite Operation at Linden.
- Bosai Services Inc Power Generation Plant at Linden.
- Demerara Lumber Suppliers Sawmill at Caledonia, East Bank Demerara.
- Iwokrama Sustainable Timber Inc timber harvesting operation.
- Barama Company Limited: review of Compliance Monitoring Report.
- Bauxite Company of Guyana: review of Compliance Monitoring Report.
- GUYSUACO's Sentinel Agricultural Waste Treatment Plant: review of Compliance Monitoring Report.
- Ogle Airport Expansion Project: compliance checks and review of progress reports and EMP.

Reminders of compliance obligations were sent via correspondence to permit holders and polluters.



Figure 26: EPA Conducting Compliance monitoring at a Mine Site

Environmental Assessment Board (EAB)

The work of the Environmental Assessment Board (EAB) continued in 2007. The four (4) members who were appointed to the Board by Cabinet in 2006 continued to function in that capacity. These were Mr. Neermal Rekha, (Chairman), Ms. Denise Simmons, Ms. Vanessa Benn and Mr. Maurice Veacock – Representative of GAPE. Mr. Nicholas Chuck a Sang was co-opted to serve as the fifth member for projects relating to the mining sector.

The Agency was informed that the life of this Board was extended until the end of 2008. The Board reviewed several EIAs during the year and made recommendations to the Agency. The Board was also engaged in addressing several appeals.

EIA Consultants

Seven (7) Environmental Consultants capable of preparing EIAs and EMPs registered with the Agency during the year 2007.

Legal Issues

Support was provided by the Attorney General's Chambers with regard to management of court proceedings on environmental matters in the civil jurisdiction to be resolved by the Agency.

4.2 DEVELOPMENT AND RESEARCH

In performing its functions, the EPA is mandated under Section (4) of the EP Act 1996 to continuously formulate policy recommendations and plans in the promotion 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 in 2007 and the following activities were undertaken:

Standards, Guidelines and Legislations

- The Agency continued to participate and support the Guyana National Bureau of Standards (GNBS) on National Conformity Assessment activities through participation in the National Committee on Conformity Assessment (NCCA). In this regard, the Agency drafted Procedures and an Operational and Systems Manual for the implementation of the ISO 17020 Standard for Inspection Bodies. For this purpose, seventeen (17) procedures and a quality manual were drafted and submitted to the GNBS.
- The Agency continued to provide technical support and information to the GNBS for standards development in 2007. The Agency was represented on a number of Technical Committees for Standards Development. The Agency also continued to provide technical support for the continued development of the Interim Standards for Noise Emissions, Air Quality and Industrial Effluent Discharge into the Environment.

- The development of guidelines and codes of practice continued internally and with the GNBS and other agencies. EPA provided technical support and information to the GFC in development of the Draft Code of Practice for Sawmills and Lumber Yards.
- A Module on the Authorisation Process for Public Investment Projects was developed.
- Support continues to be provided to the Education, Information and Training Division in the development and review of fact sheets, brochures, articles, newsletters and the participation in public awareness exercises including workshops and TV programmes.

Projects

Hazardous Wastes Inventory and Management Strategy

The Government of Guyana/United Nations Development Programme (GoG/UNDP) Capacity Building for the Management of Natural Resources and the Environment Project through the Ministry of Foreign Affairs approved funding for the EPA to develop a National Hazardous Wastes Inventory and Management Strategy. Implementation of this project has commenced.

National Programme of Action and Water Safety Plan for the Demerara Watershed

The GoG through Local Stakeholder Agencies was partnering 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 EPA, as the Focal Point for the NPA aspect and a Task Force member for the WSP, continued to provide technical support and information for the execution of the project.

Anti-Littering Programme

The Agency developed, in collaboration with stakeholder agencies and institutions, and implemented the EPA's Anti Littering Programme for the Cricket World Cup period. The programme was successfully executed and littering was significantly reduced especially along the East Bank of Demerara.

Marine Litter Management

The EPA prepared a proposal for a project to develop a Strategy for the Management of Marine Litter in Guyana for funding from the UNEP Caribbean Regional Coordinating Unit. The project will pilot the implementation of the UNEP-CAR/RCU Draft Regional Action Plan for the Management of Marine Litter in the Wider Caribbean Region.

Cross-Sectoral Programmes

Conventions and Multi-lateral Environmental Agreements

- The EPA has continued to take measures to meet Guyana's obligations under the Basel Convention. In this regard, a questionnaire on the Transmission of Information for 2006 was completed and submitted to the Basel Convention Secretariat. The Agency has also contributed to the Development of Regional Strategies for managing certain hazardous wastes through the Basel Convention Regional Centre in Trinidad and Tobago.
- The Agency participated in activities of the Cartagena Conventions through the Caribbean Environment Programme.
- The Agency continued its support and participation in the negotiation and preparation for accession/ratification of new Conventions. A paper recommending Guyana's ratification to the Stockholm Convention on Persistent Organic Pollutants was prepared for the Office of the President and Ministry of Foreign Affairs.

Integrated Coastal Zone Management (ICZM)

- The Grant Agreement for the Coastal Zone Management System (CZMS) Project was signed in July 2006 between the Government of Guyana and the Caribbean Development Bank (CDB)

The objective of this Technical Agreement is to strengthen GOG's existing capacity for decision-making with respect to coastal and marine living and non-living resources by providing an efficient mechanism to capture, analyze, model and manage data collected from the coastal zone

through the establishment of a CZM System. Meetings were held with representatives from the various agencies as outlined in the Agreement as part of the Project Implementation Team (PIT).

Project implementation for the CZMS Project continued in 2007 with the short listing of three (3) Consultancy Firms which were approved by the CDB. The Firms were invited to submit technical and financial proposals for the execution of the CZMS Project. Only two (2) Firms submitted proposals.

Two (2) committees were established to evaluate the proposals in two stages. The Firm selected to execute the project was invited to negotiate the scope of work of the project. Negotiations were facilitated by a team selected and approved by the NPTAB. The negotiations led to several amendments to the scope of works. The CDB and the Ministry of Finance are yet to give no-objection to the amended scope of works. Monthly updates were sent via email to PIT members.

Meanwhile, with the impending terminal disbursement date being January 31, 2008, the EPA submitted requests to the Ministry of Finance for an extension of the Project. The requests were forwarded to the CDB. The CDB is yet to grant approval for the extension.

- The ICZM Unit continued to substantively support the Units of Environmental management Division (EMD) during the year.
- A draft status report of the ICZM Action Plan was developed and awaits consultations with the ICZM Committee. The ICZM Action Plan sought to strengthen the process of ICZM and the capacity of key national institutions to deliver an effective ICZM Programme.

Climate Change

- EPA continued to provide support to the National Climate Change Committee and the National Climate Unit within the Ministry of Agriculture.

4.3 COMPLAINTS AND RESPONSE

Environmental Complaints and Emergency Response

The Agency has the mandate to resolve environmental complaints expressed by the public through specific and strategic interventions at various levels of decision-making. This includes both the facilitation and coordination of emergency response and disaster management actions in the event of an environmental emergency or disaster, and response to nuisance complaints that are made by the members of the public.

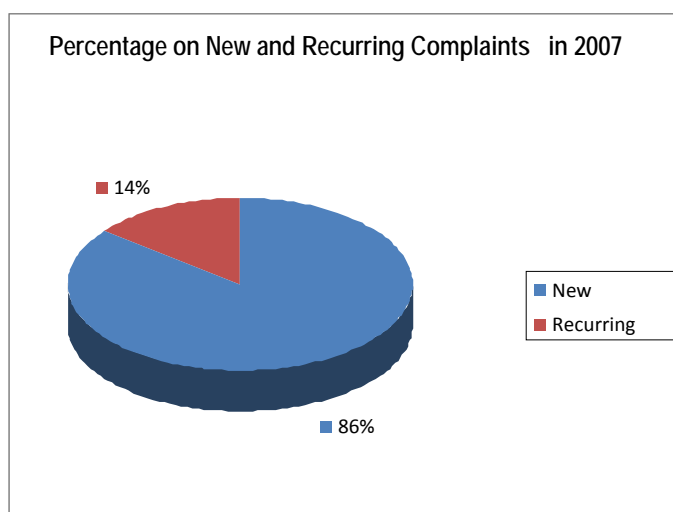


Figure 27: Proportion of New and Recurring Complaints in 2007

For the year 2007, the Agency received a wide range of complaints. Of the total 312 complaints received, 267 were new complaints and 37 recurring ones. A total of 57 complaints relating to odor/fumes emanating from livestock rearing operations were received.

In addition, the area listed as "Other" received 61 complaints that included issues such as noise from private residences, spraying of chemicals on plants, barking of dogs and an array of other issues that did not fall specifically into a category. These complaints constituted the largest percentage received for the year.

Additionally, eight (8) Cease Orders were served to establishments that had environmental authorizations but were in breach of conditions reflected in their permits and eleven (11) Prohibition Notices were also served to operations that were defaulters.

Issues of odor, flies and improper waste disposal from livestock rearing operations reflected the second highest percentage of complaints made in 2007 – a total of 57. Hollow-block-making, fish processing and rice mills accounted for the least sectoral complaints with between 2%- 3%.

Improper methods of waste disposal such as dumping and burning of garbage comprised of 27 complaints or 8% and proved to be significant as well, while noise nuisances from Mechanical, Welding and Spray painting workshops accounted for 12% or 27 of the complaints received for 2007

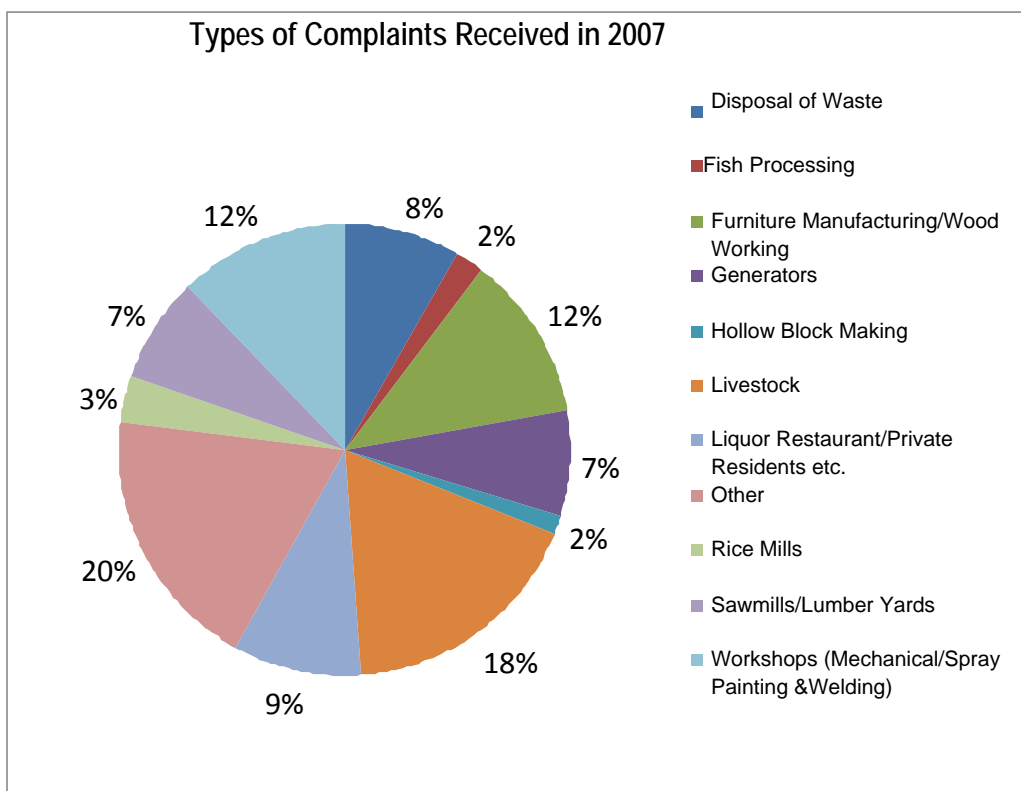


Figure 28: Types of Complaints Received in 2007

Of the 312 complaints received for the year, 37 or 14% were recurring ones.

Two hundred and four (204) complaints were inspected by the Division in 2007. Seventy (70) of these were referred to the appropriate body which included the NDC, the CH&PA, etc. Thirty-eight

(38) complaints were noted to be pending further investigation. The Division will examine new methods of reconciling recurring complaints in the upcoming year.

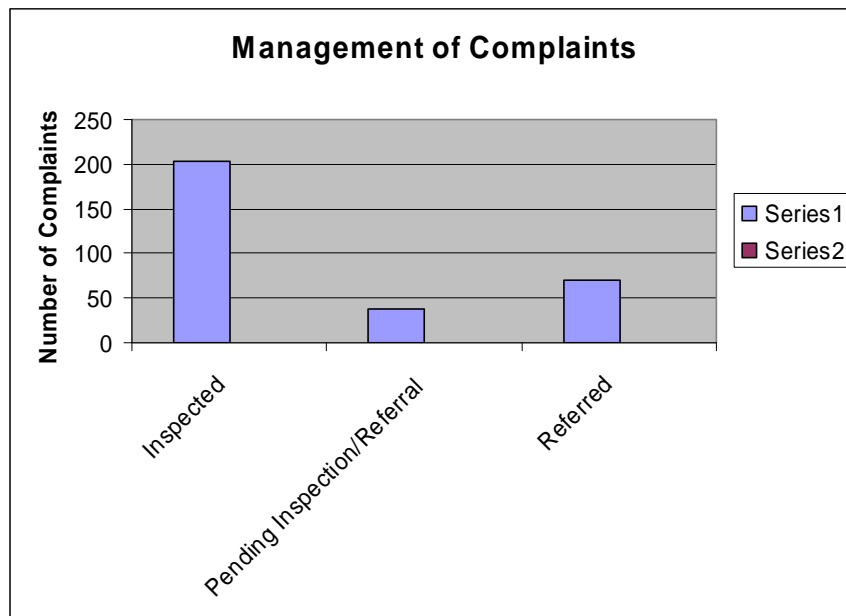


Figure 29: Management of Complaints in 2007

Monitoring and Enforcement

The EPA is mandated to conduct inspections to ensure compliance with the EP Act 1996 and to monitor and enforce the Environmental Protection Regulations. In October 2007, the EPA established the Monitoring and Enforcement Unit which coordinated and implemented compliance monitoring and enforcement activities under the EM Programme. The Unit is also responsible for the implementation of the Anti-Littering Programme. The Workplan for the Unit was being finalized. The following activities were undertaken within the M&E Unit.

Anti-Littering Programme

The Agency has responsibility for dealing with littering offences. This is conferred under the Environmental Protection Act, No. 11 of 1996 which specifically states in s. 34(1)(a) that “Any person who throws down, abandons, drops or otherwise deposits or leaves anything in any manner whatsoever in circumstances as to cause or contribute to, or tend to lead to litter shall be guilty of an offence and shall be liable to the penalties prescribed under paragraph (a) of the Fifth Schedule.” Further, s. 34 (1)(b) stipulates that “Any person responsible for any function which results in any

litter shall be guilty of an offence and shall be liable to the penalties prescribed under paragraph (b) of the Fifth Schedule.” The penalties referred to in paragraphs (a) and (b) of the Fifth Schedule are “a fine of not less than \$10,000 nor more than \$50,000” and “a fine of not less than \$30,000 nor more than \$80,000”, respectively.

In anticipation for the 2007 Cricket World Cup games held in Guyana, the Agency recognized that increase instances of littering could be a significant problem since littering on the whole was previously identified as an issue. As such, under the provisions of the Act, an Anti-Littering Campaign was formulated to be implemented along the East Bank of Demerara since this area would be of major focus during the World Cup Cricket period.

Officers of the Agency met with the Neighborhood Democratic Councils (NDCs) along the East Bank corridor in February 2007 to discuss urgent issues and to determine needs. Joint visits with the NDCs were carried out at sites of concern. During this time, the idea of delegating authority to the NDCs under the Environmental Protection Act was explored. The reasoning behind this was that the fines in the Environmental Protection Act were significantly higher than the Local Government Act and would provide a more effective deterrent to an offender.

During this time, two cases were taken to court against scrap metal dealers located in New Hope and Craig along the East Bank of Demerara. Both Offenders were alleged to have left a quantity of scrap metals and builder’s wastes in manner so as to cause litter contrary to the Environmental Protection Act. Both cases were subsequently withdrawn as the Offenders took actions to remedy the situation.

After the completion of Cricket World Cup activities, the Office of the President (OP) requested that the Anti-littering Campaign become a continuous activity and that this be incorporated into the Agency’s Work Programme. As such, the Agency took the initiative to form the new Monitoring & Enforcement (M&E) Unit within the Environmental Management Division and a Senior Environmental Officer (a.g.) as appointed in October 2007. The Anti-Littering Programme was instituted under M&E Unit.

It was decided that collaboration with the NDCs would remain vital but decided that the NDCs would provide names of recurring offenders to the Agency and the Agency would then take appropriate action against these offenders, including prosecution.

This course was adopted since the fines stipulated in the Environmental Protection Act range from \$10,000 to \$80,000 while those stipulated in the Local Government Act are minimal. However, the NDCs have responsibility for Solid Waste Management within the District, so in order to reduce overlaps in legislation and practices, the names of offenders sent to the Agency would be individuals who were previously served a Notice or a number of Notices by the NDC but failed to comply with this and continued to litter.

A Littering Report form is being developed to guide the NDC in providing the specific information required by the EPA as well as provide the Agency with information to establish a database of offenders.

A specific component of the Anti-Littering Programme will be a Public Awareness Campaign which will not only publicize the fines and penalties, but will also educate the public about the negative effects of littering. This includes activities such as community lectures, seminars and various competitions within NDC Districts and schools. National activities will take the form of televised interviews, featured newspaper articles and television and radio advertisements. Many activities will be promoted in schools and within youth groups, women's clubs and religious groups as well.

Compliance Monitoring and Enforcement

The M&E Unit is involved in coordinating compliance monitoring and enforcement activities. In this regard, the Unit is also tasked with reviewing Environmental Authorizations and conducting post-authorization verification visits to ensure that the conditions of the Permit are being complied with. The M&E Unit will also continuously assist the other Units in reviewing Compliance and Monitoring Reports, Environmental Management Plans (EMPs) and Environmental Impact Assessments (EIAs).

Additionally, although the responsibility for conducting water quality monitoring for specific projects remains with the respective units, the M&E Unit will provide assistance when requested. The Unit will also be responsible for implementing the recommendations made in the Water Quality Monitoring Plan as well as the Air Pollution Monitoring Index developed during the Inter-American Development Bank Environmental Management Programme – Phase II Consultancy although this is envisaged to be implemented in the future.

Since its formation, the Unit has reviewed a number of Compliance and Monitoring Reports and has participated in the review of Environmental Management Plans (EMPs) and an Environmental Impact Assessment (EIA).

4.4 COLLABORATION

Field and Laboratory Support

The Agency prepared a justification to the Ministry of Finance for the procurement of Air Quality Monitoring Equipment. Procurement of the equipment will significantly contribute to the gathering of baseline data that will be utilised in establishing national ambient PM₁₀ levels; informing inter-agency decision-making; the achievement of the Agency's workplan objectives by enhancing its ability to effectively execute a key aspect of its Pollution Management Programme, namely, the process of verification of existing industries; and the strengthening of the Agency's response to environmental complaints and emergencies in the long-term.

Government Analyst Department of the Ministry of Health and IAST provided the Agency with analytical laboratory services during the year.

Inter-Agency Collaboration and Sectoral Agencies Support

- Four (4) project proposals for funding under the GoG/UNDP Capacity Building for the Management of Natural Resources and the Environment Project through the Ministry of Foreign Affairs were prepared. These proposals addressed Hazardous Waste Management, Air Quality Monitoring, Water Quality Monitoring and a Revision of the Environmental Legislations. Of these the Hazardous Waste Project was identified for funding.

- The EPA participated in the development of a Code of Practice for lumber yards and sawmills coordinated by the GFC.
- The EPA contributed to the development of the GENCAPD Phase II project.
- Representatives of the Agency continue to actively support national statutory Boards and technical committees, at the CHPA, GGMC, GFC, GNBS, Cricket World Cup Local Organising Committee and Sea and River Defence.

Inter – Divisional Collaboration

- The Division worked with the Environmental Economist on several activities including a screening criterion to determine the scale of projects, etc.
- The EMD provided technical assistance on environmental management issues to the EIT via television appearances, brochures, workshops, annual reports, newsletter, calendars and World Environment Day activities.
- EMD continued to involve the NRMD in review of project EIAs that affect the programme areas of that Division.
- EMD participated in workshops hosted or arranged by the other Divisions.
- Officers of the EMD benefited from training activities organized by the other Divisions.

Constraints

Human Resources:

1. Legal Support remains a challenge over the last three (3) years at the Agency. This has considerably affected progress with compliance and enforcement, especially in resolving complaints and for legal advice on matters relating to the authorization process.
2. Staff turnover continues to affect the Division especially with the loss of senior personnel.
3. Inadequate field staff and scarcity of financial resources, transportation dedicated to the EMD and equipment to undertake monitoring and inspections continued to be a major limitation.
4. An Environmental Appeals Tribunal (EAT) is still not in place to resolve objections and EIA matters in the permitting process.

5.0 EDUCATION, INFORMATION AND TRAINING PROGRAMME

Effective environmental management can be strongly complemented by vibrant information gathering and dissemination, outreach and educational programmes as well as training. In the year 2007, the Education Information and Training (EIT) Programme of the Environmental Protection Agency continued to promote and foster greater understanding and appreciation of the natural environment and highlight its role in social and economic development. Educational programmes targeting the public on the need to protect the environment and the means of doing so formed a substantial component of the Division's work during the year. Additionally, public participation in the integration of environmental concerns in planning for development was also undertaken in 2007.

Generally, the EIT work programme for 2007 revolved around four central areas:

- (i) Development of Education Materials
- (ii) Outreach
- (iii) Capacity Building
- (iv) Information and Communication

5.1 DEVELOPMENT OF EDUCATION MATERIALS

In 2007, the Division successfully compiled for public use several educational/information materials. These are shown in Table 7.

5.2 OUTREACH PROGRAMMES

EXHIBITIONS

In the year 2007, the EPA took advantage of opportunities to participate in a number of exhibitions hosted by organizations. At these events the Agency interacted with a wide cross-section of the public and shared information on environmental best practices. Booths were hosted at the following exhibitions in 2007:

- “UG Career Day”. At this activity, educational materials were disseminated and Visitors benefited from poster displays and video presentations.
- ‘Pork Knocker’s Day’. Held at Bartica, miners from various areas including those from the Mazaruni area benefited from interactions with Officers of the EPA and received posters.
- ‘National Mining Week’, organized by the Guyana Geology and Mines Commission also offered the opportunity for the EPA to extend its reach to members of the public.
- World Water Day Exhibition. This activity was organized by the Tutorial High School Environmental Club in observance of World Water Day.
- Guyana Gift and Craft Show/Exhibition. This event was organized by the Ministry of Tourism and Go-Invest and offered developers the opportunity to access information with regard to processes and procedures for establishing development projects in Guyana.

Type	No.	Title
Posters	4	For public awareness under Phase 1 of the GENCAPD project
	1	Environmental Club Poster
Article	1	An article on <i>Biodiversity and Climate Change</i> was published in an Earth Day Supplement in the Chronicle and Stabroek News. The Supplement was funded by USAID and coordinated by the School of Earth and Environmental Sciences (SEES) of the University of Guyana.
Packages	Over 100	Packages on the following subjects were compiled and distributed: <ol style="list-style-type: none"> i. Climate Change ii. Climate Change and Ozone Depletion iii. World Water Day 2007 iv. Earth Day v. School Package for UG Career Day vi. World Environment Day vii. Information Materials on Solid Waste Management were prepared and sent to the Regions on request.
Calendar	1	A 2008 Calendar was produced on the theme: “Litter is Bad for the Environment”
Reports	1	The Environmental Protection Agency’s 2006 Annual Report
Proposal	1	A Motion for Parliament on Mainstreaming Environmental Education was redrafted and submitted to the Office of the President
	1	“Environmental Management for the Tourism Sector”
Newsletter	1	The EPA Newsletter, Green Leaf, was produced and circulated to Sectoral Agencies and posted on the EPA Webpage

Table 7: Materials Developed in 2007

GENCAPD

The outreach programme targeting small and medium-scale miners under the GENCAPD Phase I Project concluded in 2007 and a report was prepared on the project activities.

The public awareness aspect of the GENCAP project also commenced and outreach was conducted in three (3) of the four (4) locations identified. These areas are: Aranka, Region 7, Arakaka, Region 1 and Madhia, Region 7.

Environmental Clubs

In 2007, there was frequent interaction with the more than 100 Environmental Clubs in the country. Activities were conducted with these Clubs which exists in all of the Administrative Regions except Region 8.

Developmental Sessions on Proposal Writing and School Yard Ecology were conducted. The EIT successfully facilitated a training exercise in “School Yard Ecology” for representatives of 50 environmental clubs from nine schools within the Corentyne, Berbice, area from January 19-21, 2007. The Environmental Clubs, as a joint project, obtained funding from the Green Fund for this training exercise. The funds facilitated the purchase of materials, meals and transportation for participants. Training manuals were also provided for the sessions.

Presentations

The Agency conducted presentations as shown in Table 8 below:

Topic	Target Audience
'Ozone and Climate change.'	Youths (60) at Church of the Nazarene's annual children's camp, Camp Madewini.
The EIA process was used at Seminar for Sector Agencies and Industry	This presentation delivered to several schools in the observance of 'International Biological Diversity Day' 2006.
EMS awareness seminar for Sector Agencies and Industry	Teachers and students of the Business College
Ozone Depletion	Youths of the International Business & College Church of the Nazarene's annual children's camp
Celebrating 20 years of Progress	Secondary School students – east Coast Demerara
"Water and its importance to us" – at the Inter-Village Exchange Programme, Karrau Creek.	Youths (60) at Inter-Village Exchange Programme, Karrau Creek, Region Seven (7).
Mining and its effects on the environment	
Environmental legislation as regards development projects and pollution	Students – Mackenzie High School
A video presentation on Mining and Guyana's environment	Students – Cyril Potter College of Education
'Natural Resources and its Effect on Tourism'	Staff of the Guyana Tourism Authority
Environmental Ethics	Participants at a workshop coordinated by IPED.
Coping with water Scarcity"	Students of primary schools
"Invest in Health Build a Safer Future" delivered for Health Day Observance at the Enmore Polyclinic	Community Members – Enmore
The importance of Plants to the Environment	Students – Marian's Academy
Oszyzy Video	Youths at summer camps in Wisburg, Blankenburg, Wales, 3 Mines Friends, Uitulugt and Den Amstel.
Schoolyard Ecology	Environmental Club members
The "Environmental Protection Act	Junior Officers - Guyana Police Force
Knowing & Growing	Women Organic Farmers
Environmental Initiatives in Guyana	Guyana Olympic Association

Table 8: Presentations Conducted in 2006

5.3 BUILDING CAPACITY

Training plays a key role in the development of people and staff of the Division participated in available training courses during the year. Three members of the team participated in the Environmental Economics Course which was delivered by the Environmental Economist of the EPA.

Officers of the EITD also participated in training activities as follows:

- BCH workshop organized by the NRMD
- 'Principles of Environmental Compliance and Enforcement' facilitated by the US EPA with support from the Guyana Forestry Commission and the Ministry of Agriculture.
- Public Awareness of the Mining Regulations (2005), a two-day workshop coordinated by the GGMC.
- Seminar on the Mining (amendment) regulations 2005.
- A training course on Human Health & Global Climate Change held at the University of Guyana and funded by PAHO/WHO.
- Workshop on Biodiversity Permitting and Application Process and a seminar hosted by the USDA in association with the US Embassy, in relation to US forestry management and practices.
- The Director of the EITD participated in a training session on SEA at the EPA under the IRSA Project.

The EIT Division also delivered a training session on School Yard Ecology for Staff of the EPA.

5.4 ENVIRONMENTAL DAY OBSERVANCES

The EPA, as the lead Agency for environmental management in Guyana, in collaboration with various partners, spearheaded activities during the year 2007 in commemoration of all major environmental observations.

World Water Day was observed with school talks, coordination of television appearances and information packages being distributed to schools and newspaper article.

International Day for Biological Diversity was commemorated in a similar manner in addition to the distribution of biodiversity video to TV stations and coordinating the participation of members of Environmental Clubs in a nature tour.

Earth Day was executed in partnership with the University of Guyana. The activities which took place in observation of Earth Day 2007 included:

- (i) *Eco-Walk* – The EPA also contributed four trophies, two each for best banner and largest contingent.
- (ii) Climate Change Symposium
- (iii) Poster Exhibition and Documentary.

Additionally, a contribution was also made for a Newspaper Supplement for the observance.

The EITD also coordinated activities making World Environment Day observance a success. Activities in 2007 were held under the theme Melting Ice – a hot topic? The local slogan adopted from this was: Climate Change – A Reality- How can we adapt?

The Division coordinated the recording of a WED Message by the Prime Minister as well as a Panel Discussion on the WED theme.

The Green Walk coordinated in observance of this Day saw wide participation from Public and Private Sector, Non-Governmental Organisations, schools and members of the public as hundreds of persons from these organisations braved heavy rains to participate in the Walk. Trophies were awarded for the largest and second largest contingent and for the best and second best banner. The Walk commenced at the Umana Yana and ended at the Botanic Gardens. Mr Chandarpal, Adviser to the President on Sustainable Development addressed the participants at the end of the Walk.

Another dimension was added to the Green Walk since, with support from DEMTOCO, the Agency took the opportunity to design permanent labels for trees along the Green Walk route which were mounted on January 24, 2007.

Other activities held for the observance of WED 2007 included:

- Green Concert coordinated by Guybernet
- WED Message by the Prime Minister
- Panel Discussion on the WED theme
- Children’s Picture colouring and interpretation competition was conducted.
- Feature Film “An Inconvenient Truth” was shown at the Umana Yana.
- Film “Day after Tomorrow” a drama on the impact of Climate Change.

5.5 MEDIA PROGRAMMES

The Agency continued to coordinate the weekly environment segment of the Guyana Today Show which is aired on Tuesdays on NCN Channel 11. A wide range of stakeholders appeared on the programme and shared information on their work in relation to the environment. The groups and organisations that contributed to the programme are shown in the Table below:

Table : Groups and Organizations which Participated on the Guyana Today Show in 2007

Groups and Organizations	No. of Appearances
Guyana Amazon Birds Society	1
Tutorial High School Environment club	1
Caribbean Youth Environmental Network.	2
Environmental Protection Agency (EPA)	4
UNFPA	1
National Parks Commission	1
GWI	1
Marian Academy Environmental Club	2
Conservation International Guyana	1
Iwokrama Rain Forest Programme	1
Banks DIH Ltd.	1
Habitat for Humanity	1
University of Guyana Biodiversity Centre	1

Newspapers

The EPA continued to contribute articles to the weekly Environment Column published in the Guyana Chronicle. The articles published for the year addressed the conservation and sustainable use of the environment with specific focus on:

1. Environmental Health
2. Environmental Protection Regulations 2000
3. Environmental Protection Act (1996) and the Environmental Permitting Process
4. Environmental Management
5. Coastal Zone Management
6. Population and the Environment
7. EPA's Complaints Process
8. Types of Environmental Authorisation
9. Environmental Management Plans
10. Global Warming and Climate Change
11. World Habitat Day
12. Wetland and Dry-land Conservation
13. International Environmental Days
14. Biodiversity Conservation
15. Protected Areas
16. Marine Turtles
17. Forest Conservation
18. Biosafety and its importance to Guyana

5.6 INFORMATION AND COMMUNICATION

The Documentation Centre continued to provide public access to its environmental resources during the year 2007. The major users of the Centre's resources were students of the University of Guyana, CPCE and schools.

The Centre was not open on a full-time basis for a short period of time because of the absence of a Documentation Assistant. Services, however, continued to be provided for environmental clubs, university students and members of the public and the Centre was opened on a full-time basis with the employment of a Documentation Assistant.

The Digitization of the Centre's Resources via a simple programme called Endnote was undertaken during the year.

CONCLUSION

The work of the EPA is complex and spans a range of interconnected issues. Taking this into consideration, the achievements made by the Agency in 2006 is very commendable.

During the year, the Staff of the Agency effectively implemented the work programme which was conceptualized strategically for maximum impact. The projects were facilitated during the year with a high level of ethics and professionalism including efficient financial planning, management and reporting systems. In addition, efficient and effective coordination with private and public sector as well as non-governmental organizations was effected for the successful achievement of objectives.

Continued public participation in the process of integrating environmental concerns in the planning for sustainable development as well as enhancing existing partnerships will be given continued priority in the year ahead. This will be complemented with the necessary legislative, administrative and policy measures towards achieving set goals.

It is expected that this year's achievements will be built on next year to further the Agency's efforts towards meeting its wide mandate. The Agency will endeavour to continue to provide its Staff with the tools, resources and guidance and to encourage the dedication and professionalism required for the realization of its goals and objectives.

APPENDIX 1

EPA STAFF LIST - 2007

	NAME OF OFFICER	DESIGNATION
1	Doorga Persaud	Executive Director
	ADMINISTRATIVE DIVISION	
2	Dhanrajie Madray	Director - Admin
3	Dharamdei Mohan	Executive Assistant
	<i>Office of the Executive Director</i>	
4	Vannie Rooplall	Executive Assistant
5	Mohamed Chan	Driver
	<i>Policy, Planning & Research Unit</i>	
6	Tim Laing	Environmental Economist
	<i>GIS Unit</i>	
7		GIS Specialist
8		Environmental Officer II
	<i>IT Unit</i>	
9	Ryan Persaud	Technical Support Officer
10	Carlos De Cunha	IT Specialist
	<i>Human Resources Unit</i>	
11	Seema Greene	Human Resources Officer
12	Roxanne Hutson	Office Attendant
13	Laverne Rampersaud	Office Attendant
	<i>Finance Unit</i>	
14	Punraj Singh	Finance Officer
15	Raywattie Singh	Accounts Clerk
16	Fiona Marshall	Accounts Clerk
17	Hollee Ragnauth	Senior Accounts Clerk (a.g)
	<i>Procurement Unit</i>	
18	Mark Pertab	Administrative Officer -General
19	Tanisha Romain	Administrative Assistant
20	Paul Sukhu	Office Assistant
21	Orlando Kirton	Office Assistant
22	Asrath Ali	Driver
23	Ramsarran Etwaroo	Driver
24	Andrew Adams	Driver
	ENVIRONMENTAL MANAGEMENT DIVISION	
25	Alana Lancaster	Director
26		
27	Preeya Rampersaud	Senior Environmental Officer
28	Khalid Alladin	Senior Environmental Officer
29	Hance Thompson	Environmental Officer II(no pay leave)

30		Environmental Officer II
	Samantha Heyligar	Field Technician
31	Sharmattie Ramnath	Executive Assistant
32	Nasheta Dewnath	Environmental Officer I
33	Teijvartie Harnanan	Environmental Officer I
34	Stacey Phillips	Environmental Officer I
35	Neil Henry	Environmental Officer II
36	Karen Roopchand	Environmental Officer II
37	Alicia Foster	Environmental Officer I
38		Environmental Officer II
39	Karen Alleyne	Environmental Officer I
40	Cleavon Cameron	Environmental Officer I
41	Indira Mattai	Environmental Officer II
42	Dylon Rachpaul	Field Technician
	EDUCATION INFORMATION & TRAINING DIVISION	
43	Sharifah Razack	Director
44	Christopher Chin	Senior Environmental Officer
45	Sonia Gumbs	Environmental Officer I
46	Michelle Chow	Environmental Officer I
47	Candacie Brower	Environmental Officer I
48	Renwick English	Environmental Officer I
49	Jermaine Agard	Documentation Assistant
	NATURAL RESOURCES MANAGEMENT DIVISION	
49	Indarjit Ramdass	Director - NRMD
50	Ramesh Lilwah	Biodiversity Specialist
51	Pameshwari Pitamber	SEO
52	Clydecia McClure	Environmental Officer I
53	Ian Kissoon	Environmental Officer II
54	Dominique Saheed	Environmental Officer I
55	Chuvika Harilall	Environmental Officer I
56	Oumardatt Ramcharran	Environmental Officer I
57	Deoranie	Executive Assistant