

GREEN LEAF

Litter Enforcement Unit now functioning

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The Litter Enforcement Unit attached to the Environmental Management Compliance Division of the Environmental Protection Agency began official operations on May 12, 2014. The Unit currently consists of eleven (11) Litter Wardens concentrating operations and patrols in three (3) strategically identified zones around Georgetown.

The Litter Wardens completed an intense training programme before being deployed into the fields. The training concentrated on ensuring the Litter Wardens had a thorough but concise understanding of the Environmental Protection (Littering Enforcement) Regulations 2013 and the Standard Operating Procedures of a Litter Warden.

A critical element of the training focused on customer service to ensure the Litter Wardens understood how to assess personality types and employ suitable approaches to address challenging situations and deal with conflicts.

The most important component of this training exemplified the themes of professionalism, setting standards, effective listening,



Litter Wardens on patrol

communication and most importantly, demonstration of dignity in execution of duties.

The Unit consists of three (3) teams that patrol three (3) zones on a daily basis. *Zone one is located between the head of Lombard Street and the southern side of Hadfield Street. The second zone is bordered by the northern side of Hadfield Street extending to the southern side of Church Street. The third and final zone begins at the northern side of Church Street and expands to Lamaha Street. It is important to note that the designated boundary to the east for all zones is Camp Street.* However, wardens are encouraged to make their presence felt beyond the boundaries of the zones, or what is termed the buffer zones.

The teams also investigate complaints that are received by the Litter Unit or the Environmental Management & Compliance Division of the Environmental Protection Agency

To date, the Unit has issued a series of Clean-up Orders and Litter Removal Orders totaling ninety-seven (97). The Unit would like to thank the general public, including the business community, for the general support and cooperation they have received while interacting, sensitising and issuing orders. The Unit looks forward to contributing and maintaining the Government's intensive drive to provide a clean and healthy environment for all Guyanese.

Editorial Note

Throughout the second quarter, a number of environmental days were celebrated. These days all focused on environmental issues related to Small Island Developing States (SIDS). The biggest of these environmental celebrations was World Environment Day (WED), which is observed annually on June 05. This year, WED called on us to make a difference in society and advocate for positive environmental action. We were called to raise our voices against the many negative human actions that degrade the quality of our environment, and in our own little way, portray actions that will lead to a better environment for us and future generations.

WED, coincidentally is the anniversary of the EPA. The EPA was established by the passing of the Environmental Protection Act on June 05, 1996. Since then, the environment has increasingly been mainstreamed into development in Guyana. Over the years, the EPA has seen many achievements, some small and others significant, but all equally important in moving towards the goal of sustainable use of the environment. The recent additions of the Water Quality and Litter Enforcement Units attest to the progression that the Agency continues to make to fulfill its mandate. As the EPA turns 18, we pledge to continually improve our services to ensure that we can all have a clean and healthy Guyana. We also encourage all Guyanese to remember that **THE ENVIRONMENT IS EVERYBODY'S BUSINESS!**

Repsol environmental essay competition

As organisations continue to recognise the enormous benefits of collective actions for environmental sustainability, many are making their contributions to the cause. It is against this backdrop that Repsol Exploracio'n Guyana has partnered with the Ministry of Education (MoE), Environmental Protection Agency (EPA) and the Guyana Geology and Mines Commission (GGMC) to execute an essay competition for selected Primary Schools. The winners were significantly applauded for their efforts through very substantial prizes which benefit the entire school.



Winners from the Tucville Primary School

Candice Ramlall of Graham's Hall Primary captured the coveted first place for her essay on, 'Planting Trees', which won 10 computers for her school. Second place went to Junior

Kandasammy of Tucville Primary who focused his piece in 'Littering' and secured 7 computers for his school; while Priscilla Jailall from Graham's Hall Primary won the third place for her essay which was also captioned, 'Planting Trees'. Furthermore, five computers went to West Ruimveldt Primary's Antwone Allen for his focus on 'Solar Energy'.

Winning essay - 'Planting trees' by Candice Ramlall

One of the best things a person can do to help our suffering planet is to plant a tree. We all know that our planet Earth is warming up and some things need to be done. We all can do our share and contribute to a worldwide effort to save our climate from going crazy. Planting a tree can make a real change.

Trees give off a lot of oxygen and take in the waste gas, carbon dioxide, that is given off by animals. One tree provides us with a lot of oxygen, therefore animals from the smallest insect to the largest whale cannot survive without our precious trees. We also cannot exist if there were no trees. It helps to lower temperature through respiration. Many people don't realize that the forest also acts as a giant filter that cleans the air we breathe. So do not cut them down.

Trees recycle water by absorbing them again and again. The same process goes for the soil. The roots of the trees hold the earth together and prevent soil erosion. Mangroves also work as sea defence in helping to prevent the land from flooding.

Trees provide shelter and home for many kinds of species of wildlife in the forest. When fully grown, some can be used for construction, but if we cut them down we must practice reforestation, which is replanting our trees. We use certain types of trees for medicine. From many trees, prescription and over the counter drugs were made, so I encourage you to plant trees.

I have clearly stated why we should plant trees. A single tree means much more than what it may seem. It takes months for newly planted trees to adjust to their new surroundings. Ensure that they receive sufficient water and sunlight. So if everyone plants at least one tree, we would have a better environment.

I encourage you all to plant trees.

EPA hosts inaugural Earth Day camp

On April 15, 2014, thirty (30) eager youths along with nine (9) teachers from Secondary schools across Regions 2, 3, 4, 5 and 6 assembled at Saint Stanislaus College on Brickdam to depart for Camp Wesleyana on the Soesdyke/Linden Highway with the aim of engaging in fun, but informative and educational activities at EPA's inaugural Earth Day Camp. The Camp was conducted during the period April 15 - 17, 2014, under the Earth Day



Participants displaying their certificates at the end of the Camp

theme: **Green Cities** and was facilitated by seven (7) EPA staff.

The participants ranged from ages 12-15 and were drawn from Abraham's Zuil Secondary, West Demerara Secondary, Stewartville Secondary,

Uitvlugt Secondary, Tutorial High, Marian Academy, Bygeval Secondary, Tagore Memorial Secondary, and Berbice High.

The camp aimed at:

- Raising awareness on environmental issues faced by cities;
- Exposing youths to non-formal methods of learning about the environment in a natural setting;

- Fostering interaction and networking among youths; and
- Enhancing investigative, analytical and communication skills of participants.

Students were placed in groups that were named after various features related to Climate Change. The unit names were as follows: Floods, Heatwaves, Drought, Breeze, and Raindrops.

Information was presented through experiments, storyline and presentations, which were all done outdoors on various topics such as:

- Where did the energy go? (Energy);
- Thirsty Cities (Water Conservation);
- Sometimes hot, sometimes cold (Climate Change);
- Did someone say waste? (Waste Management);
- Oh, how refreshing! (Green Spaces in cities); and
- Let's go for a ride (Transportation in cities).

On the last day of the camp, students were challenged with the task of building a city based on the Earth Day theme and they were judged.

At the end of the camp, prizes were awarded to the most popular, improved, learnt, funny and participatory student.

Guyanese encouraged to 'Raise their voice, not the sea level' at WED Ceremony

Guyana joined the rest of the world to celebrate World Environment Day (WED) on June 05, 2014, under the international theme "*Raise your Voice, not the Sea Level*". This day gives us an opportunity to reflect on real issues affecting our country, our region and the global economy, and to commit as a nation and as individuals to appropriate actions in order to address these issues.

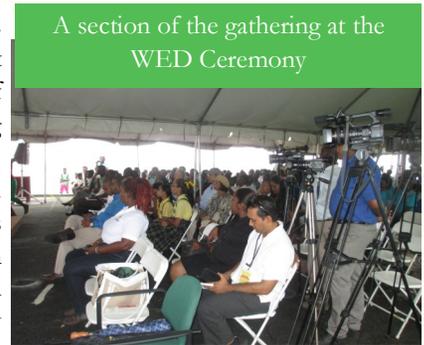
The celebrations this year focused on climate change, complementing the designation of 2014 as the year for Small Island Developing States (SIDS). As is public knowledge climate change is not a figment of our imagination but a real problem with global impacts. This year's focus on SIDS is to highlight the plight of these vulnerable islands and instigate action to ensure their continued existence. Though not an island, Guyana is classified as a SIDS due to our densely populated coastline which is below sea-level and the imminent threat of sea-level rise we face at high tide. Guyana also meets most of the characteristics of SIDS, which include small population size and limited diversification in our productive sectors.

The EPA under the Ministry of Natural Resources and the Environment (MNRE) executed a WED Ceremony on June 05, 2014 at the Kingston Seawall Bandstand. In attendance were the Minister of Natural Resources and the Environment, Mr. Robert Persaud, Minister of Public Works, Mr. Robeson Benn, members of the diplomatic core, civil society, ministries and schools. In

excess of 350 persons participated in the event which also saw a blend of various cultural items being delivered reflecting the interpretation of the theme. Individuals as well as groups who have been prominent in environmental advocacy across Guyana were also awarded for their efforts. In addition, special recognition was given post-humously to Mr. Ronald Webster for his sterling contribution to environmental management in Guyana and as Chairman of the EPA Board.

Most of the speakers at the ceremony reiterated the call for affirmative action in managing and sustainably utilising resources to aid in combating and preparing for the impact of climate change. Recognising that proper waste management is integral to the fight against climate change, the MNRE is coordinating a series of environmental conversations on waste management, the first of which was conducted on June 21, 2014, at the Amerindian Village, Sophia Exhibition Centre.

Remember small steps can make a big difference!



A section of the gathering at the WED Ceremony

Awareness raised on 'Island Biodiversity' for IDB



Students at the end of the forum

With 2014 being proclaimed the International Year of Small Island Developing States (SIDS), the International Day for Biological Diversity (IDB), which is observed annually on

May 22, was celebrated under the theme: "**Island Biodiversity**". As Guyana's focal point to the United Nations Convention on Biological Diversity, the Environmental Protection Agency (EPA) is responsible for coordinating activities to promote biodiversity conservation. In this regard, the Agency hosted an Exhibition at the National Museum during the period May 19-23, 2014 and conducted a Biodiversity Youth Forum on the island of Leguan on May 28, 2014.

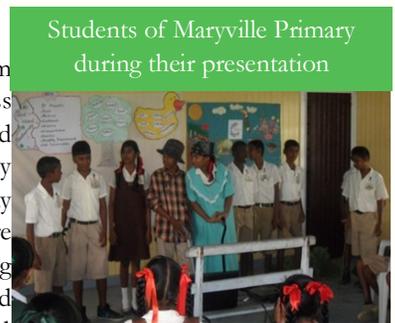
For the Exhibition, a mural containing various species of island biodiversity was posted in the Museum. Visitors to the Museum were tasked with identifying which species from the mural could be found within the museum. Species on the mural included the manatee, frigate and blue-tailed skink. Educational materials such as brochures and flyers were also included as part of the Exhibition so persons could expand their knowledge as it relates

to island biodiversity.

In Leguan, 52 students from Leguan Secondary, Success Primary, Maryville Primary and Richmond Hill Primary benefitted from the Biodiversity Youth Forum. Students were tasked with creatively presenting on the topics: Beautiful Island Life; We Need Island

Biodiversity; Unseen Benefits of Island Biodiversity; and Threats to Island Biodiversity. They were required to research on their topics beforehand and present using dramatic skits, poems and also the use of models to enhance their presentations. At the end of the Youth Forum, students were able to teach one another the importance of island biodiversity, threats to island biodiversity and actions that can be taken to preserve island biodiversity. Videos on Rainforests and Wetland ecosystems were also shown to boost the programme.

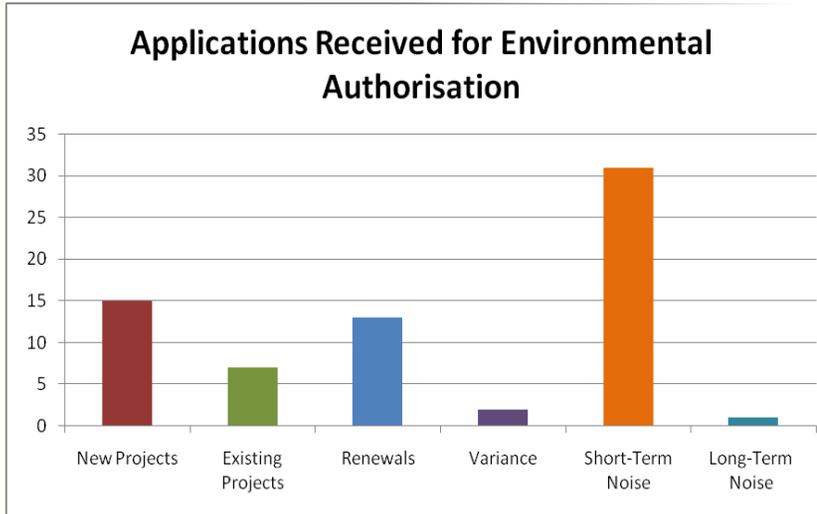
In addition, a National Art Competition was held under the theme 'Protecting our beautiful island life'. Entries were received and are currently being judged. The top three winners of the Art Competition will receive a book voucher worth \$25,000 plus a trip, book voucher worth \$20,000, and a book voucher worth \$15,000, respectively among other prizes.



Students of Maryville Primary during their presentation

Environmental Authorisations

The Environmental Management Permitting Division (EMPD) grants Environmental Authorisations for various projects submitted to the Agency. This is done after a site visit is conducted to assess the potential or current environmental impacts of the project. Large projects are usually required to submit an Environmental and Social Impact Assessment (ESIA) or Environmental Management Plan (EMP). Noise permits for various events and operations are also granted by the Agency.



During the period April to June, 2014, a total of sixty-nine (69) applications for Environmental Authorisation was received. Twelve (12) of these applications were for the Industry, Infrastructure and Energy (IIE) Unit, thirteen (13) applications for the Mining and Forestry (M&F) Unit, eleven (11) for Agriculture, Fisheries and Tourism (AF&T) Unit and one (1) for Hazardous Waste and Air Quality Management (HW&AQM) Unit. Thirty-one (31) applications for short-term noise permits and one (1) for long-term noise permit were also received for this period. These applications are further categorised by type of application, as presented in the graph.

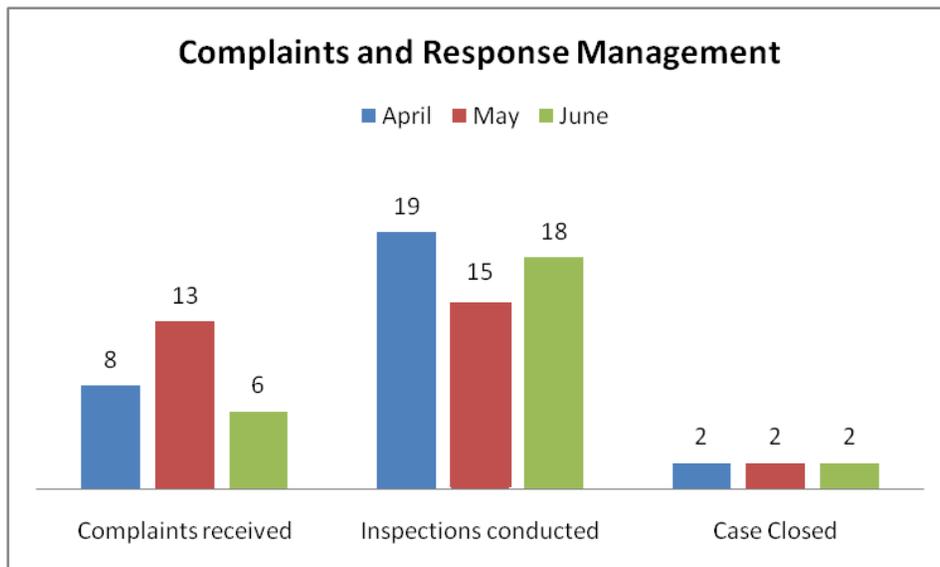


Complaints and Response Management

The Environmental Management Compliance Division (EMCD) undertakes monitoring of projects to ensure that they are compliant with the Environmental Regulations. This is conducted through compliance inspections and response to complaints.

For the period of April to June 2014, a total of twenty-seven (27) complaints were received, of which twenty-one (21) were new and six (6) were recurring. The majority of these complaints were related to smoke and dust nuisances. Region Four (4) recorded the highest number of new complaints with the majority related to smoke nuisance.

A total of fifty-two (52) complaint investigations were conducted during the months of April, May and June. These inspections targeted East Coast Demerara, West Cost Demerara, Berbice and Essequibo. Twenty-three (23) were for new complaint cases and twenty-five (25) were follow-up inspections. Four (4) additional cases were investigated and closed. Six previous (6) complaint cases were also closed during this period.



Kids Corner

Clean and Shiny Ronny!

R



RACCOON

Ronny the Raccoon is a terrible litter monster who loves to throw his garbage around.



One night Ronny had a dream that he visited a beautiful princess named Wendy who lives in a beautiful palace where everything was clean and sparkly. Wendy told Ronny, "If you clean up your surroundings I will come to visit you, I hate trashy places". When Ronny awoke he set about cleaning up his toys and papers preparing for Wendy's visit.

Wendy kept her promise and visited Ronny after he had cleaned up and they played and laughed and became best friends forever.

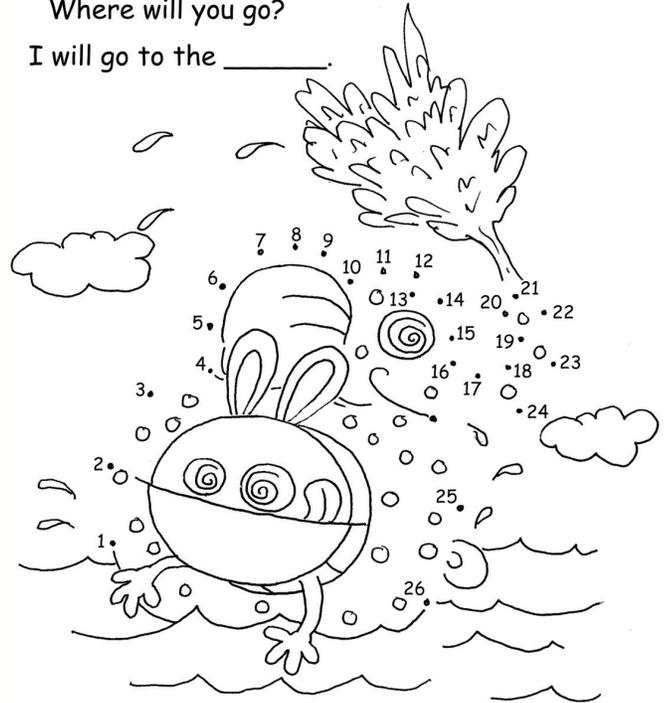


What is it?

Connect the dots from 1-26 to find out what it is?

Where will you go?

I will go to the _____.



Our environment is very important to us and we must do all that we can to take the very best care of it.

C B E G P C J C Q T R G
 O E U O P Q R D J F E R
 R A N I M A L S W B N C
 I M M M Z P Z R F Z V L
 A C H O Y G X U K H I X
 N P O C E A N T V U R L
 A F I Y K C V A R X O I
 E X G W D R V K N S N T
 L T R A S H C A N S M T
 C P U T N A E L C L E E
 Q B P E P L A N T S N R
 M M P R O V L F L W T W

Animals

Environment

Plants

Clean air

Litter

Trash Cans

Clean -Up

Ocean

Water

Equipping staff for excellence

The Environmental Protection Agency (EPA) continues its quest in improving environmental management throughout Guyana. As such, during the second quarter, the Agency welcomed twenty-one (21) new staff. In April, eleven (11) persons were hired and assigned to the Environmental Management Compliance Division (EMCD) as Litter Wardens. In May, two (2) new Officers joined the Agency while in June there were eight (8) additions. Additionally, there were six (6) interns that were welcomed in the Agency with two (2) each to EITD, EMCD and EMPD.

The Agency also seeks to enhance the technical capacity of staff to make environmental management more effective. To this end, a number of staff underwent various training during the quarter.

- Ms. Stacy Lord, Senior Environmental Officer, Biodiversity Unit, NRMD and Ms. Jenniffer Bentick, Project Coordinator, NBF Project, NRMD, took part in the Regional Biosafety Project Training Workshop on Environmental Risk Assessment in Biosafety held in Dominica, during April 14-16, 2014.

- Ms. Kerean Geer, Ms. Radhika Mottoo, Ms. Faneeza Alli, Ms. Alisha Rambarran and Ms. Nicole Hohenkirk, Executive Assistant, Ms. Divinjali Bailey, Administrative Assistant and Ms. Jewell-Ann Harry, Human Resource Assistant attended the Administrative Professional Seminar which was organised by Zoywin's Reflections on April 23, 2014.

- Ms. Geeta Singh, Director, Environmental Management Permitting Division attended a one (1) day Transboundary Diagnostic Analysis (TDA) Workshop which was organised by Ministry of Public Works on May 08, 2014.

- Ms. Latoya Farinha, Environmental Officer II, EMPD, took part in the Regional Workshop for the Safe Transport of Radioactive Material which was held in Panama City, Panama, during June 02-06, 2014.

- Ms. Geeta Singh, participated in the Second Meeting of the Scientific, Technical and Advisory Committee to the LBS Protocol which was held in Managua, Nicaragua, during June 10-13, 2014.

EPA turns 18!



The EPA passed its 18th year milestone on June 05, 1996. From its initial location at the IAST Building, UG Campus, Turkeyen, the Agency later moved to Broad and Charles Sts., Charlestown and since 2010, is located at Ganges St., Sophia, Georgetown. Now operating with five (5) Divisions and a staff complement of close to one hundred (100), the EPA

had humble beginnings. In order to get a grasp of the journey of the EPA to this point, it is a good idea to examine its development in phases.

Start-up

The period 1996-2000 can be considered to be the Agency's start-up phase, during which a US \$1.5M grant was secured through the IDB Environmental Management Project Phase I and key management staff were hired. This phase also saw the Agency implementing a large Public Awareness and Education (PAE) Project funded by the UNDP. EPA also crafted its 1st Strategic Plan (1998-2003) and a National Biodiversity Action Plan (1999-2004) to guide its work over the ensuing five years.

Emerging

The Agency entered its emerging phase in 2000-2005, expanding its structure and operating three fully staffed Divisions while placing emphasis on development and strengthening of systems and procedures, particularly in relation to Environmental

Authorisations. It successfully secured \$US 1.28 M under the IDB EMP Phase II to further advance its work.

During this period, supporting Environmental Protection Regulations (2000) and a Draft Solid Waste Management Bill were developed. Coordination was also enhanced by the signing of Memoranda of Understanding (MoUs) with major sector agencies.

The Natural Resources Management Division (NRMD) which was added in 2001 began to gain momentum in this period, revising the 1st National Biodiversity Action Plan and accelerating work in protected areas. During this phase, the top managerial positions were no longer funded under the IDB EMP Phase I, as such an entirely new management team had to be recruited.

Established

The Agency became well established during the period 2006-2010, with increasing sector agencies' and developers' participation in its processes. A complaints process became well established in order to address the increasing numbers of reports reaching the Agency.

During this period, the KfW Project took off and realised outputs such as a Draft Protected Areas Bill; delineation of the Kanuku Mountains and Shell Beach Protected Areas; and sustainable livelihood projects in communities within Protected Areas. In this period, the NRMD began forging ahead in the

Upcoming Activities

The EPA initiates and undertakes activities on a continuous basis to ensure that the concept of environmental stewardship reaches across Guyana. Having successfully achieved the set goals for the second quarter of the year in this regard, planning and coordination have already begun to guarantee a varied and participatory approach to events planned for the next quarter.



The interesting mix of activities planned for July - September, 2014, includes the following:

Activity	Theme	Target Group	Date
Collaboration with Global Youth Movement	Creating a Green Country	Secondary Schools in Regions 5 & 6	July
Collaboration with PYARG	Climate Change	PYARG Volunteers	Jul - Aug
Guyana Mining Week	To be announced	General public	August
International Day for Preservation of the Ozone Layer	To be announced	Primary Schools	September 16
International Coastal Clean up	Turning the Tide on Trash	General public	September 20

EPA turns 18!

area of Biosafety, developing a National Biosafety Framework. A 2nd National Biodiversity Strategy and Action Plan (2007-2011) was also developed in this period and a 2nd Strategic Plan (2006-2010) crafted during this period to guide the Agency's future direction.

Transforming

A decade after the EPA was first established, its role in ensuring that environmental concerns are integrated into development became increasingly recognised at all levels of society. Indeed its stamp of approval is a pre-requisite for donor funding for several large projects.

The Agency continued to make strong strides towards its goals during the period 2007-2014. It succeeded in drafting Wildlife Management and Conservation Regulations and Litter Prevention Regulations, both of which became enforceable as of last year. Further, a National Policy on Access and Benefits Sharing was approved and Access and Benefits Sharing Regulations were drafted.

A National Biodiversity Research Information System (NBRIS) has been set-up to allow online access for application for Biodiversity Research Permits; it will also enable the collection of data in formats for easy analysis.

On the Environmental Management front, the Agency has, over time, expanded its range of environmental management tools inclusive of Environmental Guidelines; Environmental Standards; Environmental Authorisations screening criteria and Permit Fees to name a few. Compliance enforcement is being accelerated with the addition last year of a new Compliance and Enforcement arm.

Through the years, the environmental awareness and capacity building programmes have been ongoing and has reached a wide range of target groups inclusive of schools, teachers, women, local government, sector agencies and developers. These programmes place the environmental issues of the day into the public domain for discussion and action.

At this juncture, the EPA is well set to anticipate the changes it needs to make in order to accommodate for expanding development and emerging new spheres of development, e.g. oil exploration and hydro-power. Additionally, the EPA is at a point where it has to contemplate its role in the Monitoring, Reporting and Verification System (MRVS) as part of the implementation of the country's Low Carbon Development Strategy.



WILDLIFE SPOTLIGHT

Did you know?

The Emerald-eyed tree frog (Hypsiboas crepitans)

The Emerald-eyed tree frog found in the family *Hylidae* is a species of common tree frogs. They are native to South America and commonly found in Brazil, Colombia, French Guiana, Guyana, Panama, Suriname, Trinidad and Tobago, and Venezuela.

Appearance

The adult of this frog species is a large tree frog with long slender arms and legs. The males measure up to 59mm and females usually longer at 68mm. The webbing between the hand and feet although pale in colouration is not particularly extensive in emerald-eyed tree frog. The dorsal surface is a pinkish tan with some darker brown spots or other markings. A thin dark mid-dorsal stripe is usually present and dark bars are found on the upper surface of the thighs and extends onto the rear of it. The concealed surfaces are coloured similarly to the dorsum except for the rear surfaces and their eyes are grey with a yellowish cast.

Habitat and Ecology

This species has a variety of habitats, ranging from humid tropical forests, semi-arid environments, grasslands, llanos, intervening habitats, pastures and lower montane forests. It is an arboreal, nocturnal species, found on leaves of trees, on shrubs and other vegetation near watercourses. The species breeds in temporary pools at the beginning of the rainy season. Specimens are occasionally found on the ground and it is possible to find this species in severely degraded habitats including urban areas and human dwellings.

Diet

The main foods in this tree frog's diet are insects like crickets, flies, small water insects and small bugs.

Reproduction and nesting

Breeding for the emerald-eyed tree frog occurs throughout much of the rainy season. Males call from the edges of temporary ponds or flooded grassy areas. Females may lay over 1,000 eggs in a single ovi-position event; eggs usually take about 6-21 days (average) after being fertilised to hatch. Tadpoles are hatched either grey or light brown; the tail though has more of a yellow undertone. Their bodies are ovoid, with a rather long tail that ends in a distinct point; the upper caudal fin is much deeper than the lower one.

Facts

- Male emerald-eyed tree frogs has a rattle-like call, consisting of a series of short pitched notes.
- Males do not construct nests, as do other species in this group of frogs.
- It is sometimes found in the International pet trade but at levels that do not constitute a major threat.
- When frogs mate, the male frog tends to clasp the female underneath in an embrace called *amplexus*. He literally climbs on her back, reaches his arms around her "waist", either just in front of the hind legs, just behind the front legs, or even around the head.



About Our Logo...

Our logo is the Passion Fruit leaf. Yellow Passion Fruit (*Passiflora edulis flavicarpa*) is native to the Amazon. The passion fruit plant produces beautiful flowers and a sweet - tart fruit. It was named by the Spanish missionaries in South America. Passion Fruit is widely grown throughout the tropics and subtropics. The leaves are used in traditional medicine to settle edgy nerves. They are also used for colic, diarrhea, dysentery and insomnia.

THE GREEN LEAF

The Green Leaf is published quarterly by the Environmental Protection Agency, Guyana.

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