

# GREEN LEAF

## EPA Completes €5M Guyana Protected Areas Systems Project (Phase II)

### Inside this issue:

EPA Completes €5M Guyana Protected Areas Systems Project (Phase II)	Pg 1
EITD continues climate change awareness	Pg 2
Litter enforcement progresses with targeted approach	Pg 3
Environmental Authorisations	Pg 3
EPA collaborates with WMA for World Wildlife Day	Pg 4
Outreach conducted for Environmental observances	Pg 4
Kids Corner	Pg 5
Building Staff Capacity	Pg 6
Students of St. Roses High learn of EPA's role in the tourism industry	Pg 6
Complaints and Response Management	Pg 7
Upcoming activities	Pg 7
Wildlife Spotlight	Pg 8

Guyana is recognised globally for its exotic biological wealth. Its vast rainforest is home to an untold variety of plant and animal species, some of which are endangered, and which provide essential benefits not only to the indigenous peoples who depend on them directly, but also to the growth and development of the country.

Recognising the values of our forests, the Government of Guyana has, over the years, been putting systems in place to manage and conserve these resources.

Significant endeavours towards forest conservation and management were accomplished through the Guyana Protected Areas System Project (GPAS) Phase II which commenced in December 2011, following the closure of GPAS Phase I in the same year. An agreement signed between the Government of Guyana and the Government of Germany, represented by the German Development Bank, KfW, earmarked EUR 5M for the Project. Specifically, the GPAS Phase II aimed to: support

Residents at a consultation



infrastructure measures in Protected Areas; establishment of the Protected Areas Commission; development of a Management Plan for the Shell Beach Protected Area (tranche I – EUR 1M); and support a sustainable and long-term financing mechanism for the National Protected Areas System (tranche II, EUR 4M), through the development of a National Protected Areas Trust Fund.

### GPAS Phase I

GPAS Phase I for which EUR 2.56 M was allocated was intended to support the conservation of ecosystems and improvement of the livelihood of Amerindian communities living in and around designated and proposed Protected Areas. GPAS Phase I resulted in forty-six (46) small-grant sub-projects being implemented and major achievements realised.

Among the achievements of GPAS Phase I, were the delineation of the boundaries of both the Kanuku Mountains and the Shell Beach Protected Areas; and the preparation of a Management Plan for the Kanuku Mountains Protected Area. Significantly, under GPAS Phase I, the Protected Areas Legislation was developed and was subsequently passed in Parliament as the Protected Areas Act in 2011. This Act legally established the Kanuku Mountains and Shell Beach Protected Areas as well as the Protected Areas Commission.

GPAS Phase I also resulted in development and strengthening of sustainable livelihoods in approximately thirty-two (32) Amerindian Villages and Communities associated with Protected Areas, through initiation of

### Editorial Note

The EPA continues to actively pursue environmental awareness geared specifically at addressing climate change. As such, the EPA joined the World Wildlife Fund for Nature (WWF), Caribbean Youth Environment Network (CYEN) and School of Earth and Environmental Sciences (SEES) to organise Guyana's Earth Hour, joining millions around the globe in celebrating this event on March 28, 2015. Earth Hour was celebrated under the theme "Use #yourpower to Change Climate Change".

This celebration was aimed at raising awareness about Climate Change and giving tips on reducing our Carbon Footprint in our everyday life.

Earth Hour was successfully carried out by having a series of activities to raise awareness and having persons involved. There were panel discussions, a poster exhibition at the National Museum and a Lights-Out concert which was held at the National Park.

Climate change education also took place at Primary Schools in Region 3.

The EPA continues to place emphasis on this ever - present threat to which we humans continue to contribute. It is our hope that through programmes such as Earth Hour, the Guyanese public will get the required knowledge and skills necessary to combat this issue and a change in attitude towards climate change will be brought about.

## EPA Completes €5M Guyana Protected Areas Systems Project (Phase II)

alternative livelihood projects. Additionally, several infrastructural improvements were made in many Communities and the Kaieteur National Park.

### GPAS Phase II

GPAS Phase II ended on February 28, 2015 having been successfully implemented by the Environmental Protection Agency with support from Mr. Ben ter Welle of GFA Consulting Group, the independent Consultant assigned by KfW, and the newly established Protected Areas Commission. Primarily, GPAS Phase II provided follow-up support to the community small grants projects in the Shell Beach intervention area which were implemented under Phase I of GPAS and saw the development of a Shell Beach Management Plan. Moreover, the Project supported the establishment of infrastructure and supply of equipment for the Kaieteur National Park to enhance its monitoring capability. Specifically, GPAS II supported the construction of a Guesthouse and Warden's Building at Tukeit in Kaieteur Gorge; construction of New Staff Quarters along with installation of

Warden's Quarters equipped with Photovoltaic Electrical System



a photovoltaic or electrical system at Kaieteur Top; renovation of the steps of the Visitors Arrival Centre; and Foundation and Short Columns at an Existing Staff Quarters, Kaieteur Top.

Importantly, GPAs Phase II also supported the establishment of the Protected Areas Commission Head Office, through the construction and furnishing of the building, installation of a grid-tied photovoltaic system and procurement of equipment and materials. Of note, is that GPAS Phase II also supported the capitalisation of the National Protected Areas Trust Fund, which will be fully operational this year. The closure of the GPAS Phase II Project marks the end of EPA's full involvement in the implementation of the GPAS Project. Importantly, the EPA's efforts led to the enactment of the Protected Areas Legislation in 2011 and establishment of the Protected Areas Commission in 2012. The GPAS Project which aims to ensure the sustainable operation and management of the National Protected Area System (NPAS) will continue with GPAS Project Phase III under the Protected Areas Commission which is now responsible for Protected Areas Management in Guyana. As the EPA relinquishes its responsibility for Protected Areas management, it takes the opportunity to extend gratitude to all its staff, stakeholders and partners, especially the indigenous communities and the Government of Germany, and consultant Ben ter Welle, and GFA for their role in helping to realise the significant achievements thus far in the history of Protected Areas in Guyana.

## EITD continues climate change awareness

Two hundred and seventy-seven (277) grade 6 students from Uitvlugt, Stewartville, Lenora, Malgre Tout and Vreed-en-Hoop Primary participated in interactive climate change sessions.

During these sessions, the students were exposed to activities that provided comprehensive knowledge of the issue of Climate Change in a simplified and fun way. The lessons

addressed causes, impacts and actions which can be taken even at the student's level to help in the fight against climate change. Students participated in unscrambling words; filling in the blanks, finding missing letters and mazes. The teachers of the different schools also expressed thanks for the information as it provided clarity on many of the concepts which puzzled them. The outreach was conducted using various methodologies which

Students of ... Primary during a session



included a poster, video and a climate change activity booklet developed by the EPA specifically for grade 6 students. The Agency intends to continue these awareness sessions with various target groups across the country.

The Environmental Protection Agency participated in the annual International Day of Forest Exhibition organized by the Guyana Forestry Commission. The exhibition was held on March 23, 2015 at the Guyana International Conference Centre (GICC) under the theme **"Forest and Climate Change"**.

The EPA used the opportunity of the exhibition to share information on the environment and forests with teachers, students, stakeholders and the public who visited its booth.

Visitors to the EPA's booth eagerly received bookmarks, booklets, brochures and posters on the various environmental issues. Visitors' attention were captured by a **tree of benefits** highlighting the importance of the forest and a **forest facts poster**.



Visitors to EPA's booth at the International Day of Forests exhibition

## Litter enforcement progresses with targeted approach

During the first quarter of 2015, the Litter Unit set out to enforce the Litter Regulations using a targeted approach. Using this approach, efforts will concentrate on areas most likely to be littered or *hot spots*. This targeted approach would continue to be implemented to resolve the issue of littering and illegal dumping.



With assistance from the Mayor and City Council, the area between Church and Lombard Streets was identified as one of the littering ‘hot spots’. This area was subsequently cleaned setting the course of action. Extensive public awareness is on-going in this area with Litter Wardens informing minibus and taxi drivers about Regulation 5 which requires owners of public transportation to have receptacles for the disposal of waste in their vehicles.

Vendors and owners of business establishments were also included in the outreach efforts and were encouraged to use dumpsters provided by the Ministry of Local Government and Regional Development.

### NATIONAL ROLLOUT

Following the waste management assessments conducted in 2014, the EPA has put plans in place to expand the Litter Programme to populated areas in other administrative regions. Litter Wardens will be hired to implement the programme in collaboration with local authorities. Volunteers who were engaged in workshops will also work with the wardens to further add to the efforts to enhance towns and villages across the country.

### COMMUNICATION

The Litter Unit continues to make ample use of social media to reach a wider audience and to provide information in a timely manner. Follow us on any or all of our pages (Anti-Litter Guyana on Facebook; Anti-litter Guyana@CleanGuyana on Twitter; and Greenguyana@gmail.com) to be in the know.

Remember, there is never a good reason to litter, be a good citizen and do your part to help us eliminate littering.

## Environmental Authorisations

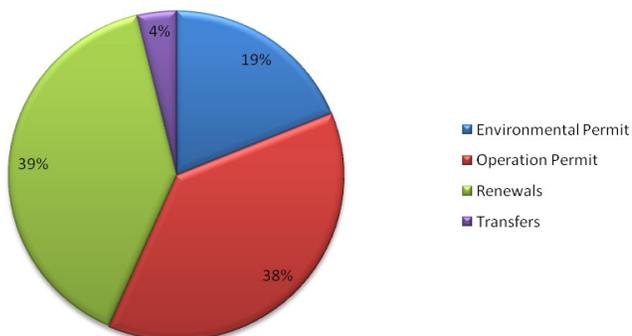
The first quarter of the year saw a large influx of requests for Environmental Authorisation, an indication that more developers are embracing the opportunity to employ sound environmental practices.

Additionally, forty-seven (47) applications for Short-Term Noise Permits and one (1) application for Long-Term Noise Permit were received. The Division conducted two (2) site visits for New Projects and four (4) site visits for Renewal of Authorisation.

A total of one hundred and one (101) applications for Environmental Authorisation were received for the period January to March, 2015. Twenty (20) of these applications were for New Projects, ten (10) were for Existing Projects, twenty-one (21) were for Renewal and two (2) were for Transfer of Environmental

The Agency granted seventy-four (74) Environmental Authorisations during this period: nineteen (19) Environmental Permits; one (1) Operation Permit for Existing Project and seven (7) Authorisations were renewed. A total of forty-seven (47) Short-Term Noise Permits were issued during the first quarter.

Applications Received by Types



Authorisations Granted by Types



The diagram above excludes the applications for Noise Permits

## EPA collaborates with WMA for World Wildlife Day

The Wildlife Management Authority (WMA) in collaboration with the Environmental Protection Agency (EPA) conducted outreach activities and a poster competition in observance of World Wildlife Day 2015. World Wildlife Day was first observed on March 03, 2013, with the objective of raising awareness on the exotic beauty and invaluable benefits of the world's wild flora and fauna.

Celebrated this year under the theme; **“Wildlife crime is serious; let's get serious about wildlife crime”**, highlighted the atrocities of wildlife crime and the enormous benefits that can be derived from wildlife conservation. Importantly, Wildlife Day is intended to remind us that urgent action is needed to curb the scourge of wildlife crime and its far-reaching social, economical and environmental impacts.

The joint WMA-EPA team conducted a series of awareness sessions on Wildlife and Wildlife crime targeting Grade 7 students of twenty-four (24) secondary schools in Region 3, 4, 5 and 10 to highlight the importance of wildlife and the significance of this year's theme. The same schools were also targeted for the poster competition for which a total one hundred and fifty (150) entries were received; each poster entry was accompanied by an essay describing the art piece.



Promotional awareness session in Linden

The WMA which spearheaded the awareness activities also awarded prizes to winners of the poster competition. Prizes included a Helicopter fly-over of

Georgetown for two for the first, second and third place winners. Additionally, the winners received prizes which included a phablet and trophy for first place and a trophy and \$20,000 voucher for school supplies for each of two second place winners. A certificate of recognition and \$10,000 gift voucher was awarded to Shecola Daymon of New Silvercity Secondary for her art piece. The winners were Anmarie Sukra of Rosignol Secondary, Thomas Singh of Marian Academy and Mahendra Hemraj of Bygeval Secondary. Uitvlugt Secondary copped the prize for the most entries – a total of fifteen (15) entries; the school received a certificate of participation and a gift voucher worth \$20,000 for school supplies.

## Outreach conducted for Environmental observances

Students participating in World Water Day session



Our motto was brought alive during March 23 to 26, 2015, as children benefited from EPA's World Water Day outreach under the theme 'Water and Sustainable Development'.

World Water Day is marked on March 22 every year, shining the spotlight on a different issue each time.

Three hundred and fifteen (315) grade six students from six (6) private schools in Georgetown, namely Marian Academy, School of the Nations, Josel Educational Institute, Green Acres Primary, Mae's Primary, and Ermsville Primary were engaged in the outreach. The students learned through presentations and group activities that water is a finite resource which is needed by all living and for the production of most manufactured things.

With an emphasis on fresh water, participants were educated about the water cycle; who needs water; why we need water; water pollution; and simple ways to conserve water. Further, the students learned about the role of the EPA in environmental protection, particularly, as it relates to keeping our water safe through the enforcement of the Environmental Protection (Water Quality) Regulations, 2000. Through a hands-on demonstration, participants observed that it is very easy to pollute our water but it takes a lot of time, energy and money to clean it up.

At the end of the session, the students all pledged to make a difference to the environment by conserving water.

On February 2, the Environmental Protection Agency facilitated an outreach exercise with students from President College and the Hope Secondary School in recognition of World Wetland Day 2015. This year's event was celebrated under the theme **“Wetlands Our Future”** and students were given the opportunity to gain a greater appreciation of Wetlands not only in Guyana but around the World. Students got the opportunity to enjoy a day packed with presentations, in-class role play and other learning activities which opened and stimulated their minds, thinking and reasoning abilities. They also made a field visit to the Mangrove Restoration Site at Golden Grove/Belfield foreshore to get a more hands-on approach and practical experience in identifying features of a Mangroves Wetland.

Participants at the end of the World Wetlands Day tour



## Kids Corner

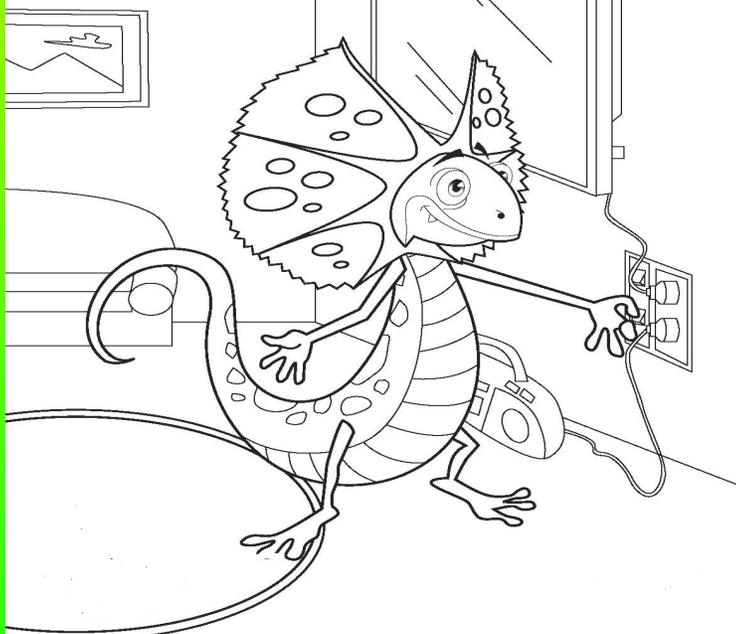
### 2015 – The International Year of Light

Can you imagine a world without light? Our world is as it is because of light. Sunlight is the source of energy for plants to make food through photosynthesis. Plants are at the beginning of the food chain; without them, plant-eating animals and animals that feed on them, e.g. humans, would not be able to exist.

Light is necessary to modern life as we know it. Throughout history light and its use has led to society changing from being basic to a modern. Light is used in medicine, e.g., microscopes and lasers; communications; and entertainment and culture. Industries involved in light-based technology are major economic drivers and directly respond to the needs of humans by providing access to information, promoting sustainable development, and increasing society's health and well-being.

To practice sustainable energy/electricity consumption, we can do many simple things one of which is shown in the picture below. As you enjoy colouring the picture, remember **one light switch makes a difference!**

**Turn off appliances at the power point to save energy.**

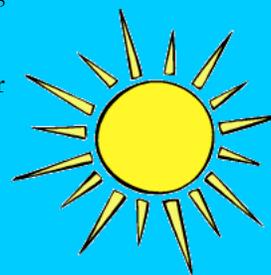


### Why is light coloured clothes better for sunny weather?

When you're out in the sun on a hot sunny day, it is more comfortable to wear light-colored clothes, but why is that? Let us experiment with light, color, heat and some water to find out.

#### What you'll need:

- 2 identical drinking glasses or jars
- 2 elastic bands or some scotch tape
- Water
- White paper
- Black paper



#### Instructions

1. Wrap the white paper around one of the glasses using an elastic band or scotch tape to hold it on.
2. Do the same with the black paper and the other glass.
3. Fill the glasses with the same amount of water.
4. Leave the glasses out in the sun for a couple of hours before returning to test the temperature of the water in each using your index finger.

#### Explaining what you observe

Dark surfaces such as the black paper absorb more light and heat than the lighter ones such as the white paper. After testing the temperature of the water, the glass with the black paper around it should be warmer than the other. Lighter surfaces reflect more light, that's why people wear lighter colored clothes in the summer, it keeps them cooler.

## Building Staff Capacity

At the end of the 1<sup>st</sup> Quarter of 2105, the Agency's Staff strength stood at ninety-six (96) fulltime employees, including ten (10) Litter Prevention Wardens.

### New Staff

Fifteen new staff were employed during the 1<sup>st</sup> quarter of the year, namely:

- ◆ Ms. Charlette Elliot, Accounts Clerk, ADMIN
- ◆ Ms. Taramati Lall, Senior Accounts Clerk, ADMIN
- ◆ Ms. Faneeza Karim, Administrative Assistant, ADMIN
- ◆ Mr. Rajesh Parbat, Environmental Officer II, EMCD
- ◆ Mr. Ronald Sanichara, Human Resources Officer, ADMIN
- ◆ Mrs. Prudence Archer, Litter Prevention Warden
- ◆ Ms. Shonella Charles, Litter Prevention Warden
- ◆ Mr. Carl Foo, Litter Prevention Warden
- ◆ Mrs. Carla Ann Payne-Thomas, , Litter Prevention Warden

- ◆ Mr. Tethram Persaud, Litter Prevention Warden
- ◆ Ms. Joycelyn Gibbons, Litter Prevention Warden
- ◆ Ms. Tenisha James, , Litter Prevention Warden
- ◆ Mr. Eshwar Samaroo, Litter Prevention Warden
- ◆ Mr. Benedict Singh, Litter Prevention Warden
- ◆ Mr. Surjipaul Singh, Litter Prevention Warden

### Workshops:

Staff of the Agency attended workshops as follows:

- ◆ **Mr. Kemraj Parsram:** The Sustainable Ocean Initiative (SOI) Capacity-Building Workshop was held in Lima, Peru during February 23 – 27, 2015.
- ◆ **Dr. Indarjit Ramdass and Ms. Jenniffer Bentick:** The Caribbean Sub-regional Capacity-Building Workshop on Mainstreaming Biosafety into National Biodiversity Strategies and Action Plans and Resource Mobilization was held in St. John's, Antigua and Barbuda, during March 09 – 13, 2015.

## Students of St. Roses High learn of EPA's role in the tourism industry

Accepting an invitation from St Roses High School, the Environmental Protection Agency, in February, 2015, conducted a presentation on Tourism, Environmental Science and Agriculture Science to 6<sup>th</sup> Form students. The presentation which was facilitated by officers of the Agency's EIT Division highlighted the contributions of the EPA in promoting sustainable development in Guyana's Tourism Industry. The presentation was also intended to provide students with a broader appreciation of the impacts of tourism, not just on the natural environment but on the socio-economic environment as well.

Students were informed of the Agency's requirements, and do's and don'ts for new and existing business operators in the field of tourism. Also, the principle of Sustainable Development and its three pillars were examined. While the impacts of different types of tourism were highlighted, so too were innovative and creative ways to reduce these impacts, e.g. utilising sound management strategies and a hands-on and real world approaches.

Students were engaged in a practical exercise which required them to carefully and strategically plan a tourist resort using the principles of sustainable development. As part of the exercise, aspects such as building design, resort management, tour operations and education were considered in the planning process. Students did not disappoint the presenters; they impressed with their remarkable and outstanding presentations at the end of the session.

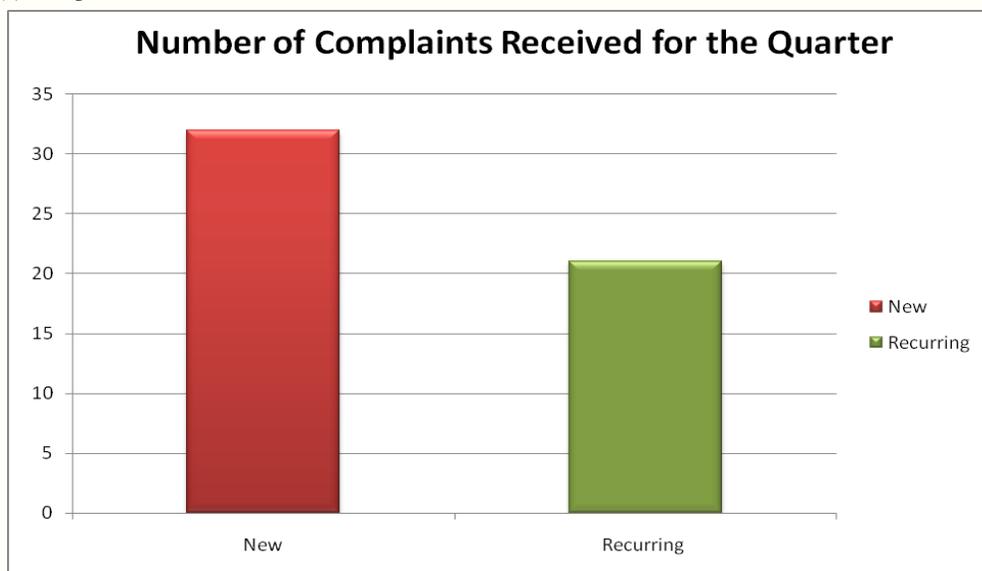
At the end of the session both students and teachers praised the presenters and extended a future invitation. "Well done." "Excellent." "Exceptional," and "We want to have you soon" were some of the sentiments expressed.



Students making a presentation based on a case study

## Complaints and Response Management

The Environmental Protection Agency (EPA) continues to make steady progress in its Compliance and Enforcement Programme. For the first quarter of the year, the Division continued to improve its systems to ensure more inclusivity of stakeholders and collaboration in environmental management and protection. The Environmental Management Compliance Division (EMCD) received a total of thirty-two (32) new complaints and twenty-one (21) recurring complaints. The Division conducted twenty-four (24) compliance inspections, thirteen (13) follow-up complaint inspections and two (2) surveillance monitoring exercises. Three (3) prohibition notices were issued for the quarter and one (1) complaint case was closed.



## Upcoming Activities

The EPA initiates and undertakes activities on a continuous basis to pursue its mandate. Having successfully achieved the set goals for the first quarter of the year 2015, planning and coordination have already begun towards strategic objectives for the second quarter.

Activities scheduled for April - June, 2015, are as follow:



Activity	Theme	Target Group	Date
<b>UG Career Day</b>	“Building block for a stronger foundation”	University of Guyana Students and Interested Public	April 17, 2015
<b>Earth Day</b> ♦ <b>Televised Quiz</b>	“It’s our turn to lead”	Sixth form students	April 2015
<b>International Day for Biodiversity</b>	“Biodiversity for sustainable development”		May 22, 2015
<b>World Environment Day</b>	“One World, One Environment”		June 05, 2015

# WILDLIFE SPOTLIGHT

## Did you know?

### *The Butterfly Peacock Bass (Cichla ocellaris)*

The Butterfly Peacock Bass (*Cichla ocellaris*) commonly referred to in Guyana as the Lukanani fish, belongs to the family Cichlidae under the genus *Cichla*.

#### Appearance

The Lukanani fish grows rather rapidly to about 30 to 35 cm during the first 16 to 18 months, after which they become much heavier with each centimeter they add in length. A 45 cm fish will weigh approximately 1.5 kg while a 50 cm fish will weigh about 2.5 kilograms. Their colour is highly variable ranging from brown/green/golden with three vertical dark stripes on their flanks (which may appear more as dark blotches or spots) that tend to fade; it has a stocky powerful body and a large mouth, with a small black spot at base of tail.



#### Habitat

The Peacock Bass occupies a wide variety of habitats being successful in warm, slow flowing canals, ponds and lakes. It is also frequently found in shady areas around bridges, culverts, and near fallen trees. The fish spawns and often feeds in shallow water adjacent to shorelines with overhanging vegetation. It cannot tolerate water temperatures below 60°F or salinities greater than 18ppt. This species of bass is native to the Marowijne River (in Suriname) and Essequibo drainages in the Guianas, and the Branco River in Brazil and has also been introduced to regions outside its natural range.

#### Diet

The butterfly peacock bass feeds almost exclusively on fish, and tends to use great speed to capture prey. Typically feeding during daylight hours, this fish has helped to reduce the number of undesirable exotic fishes, especially the spotted tilapia.

#### Reproduction and nesting

This fish species typically spawns from April through September with a peak in May and June; both adults prepare a flat, hard surface near the shore and the female lays between 4,000 to 10,000 eggs; young are guarded by both parents, sometimes for several months; males commonly develop a 'nucchal' hump on foreheads when reproductively active. Very young fish exhibit dark horizontal stripes down half of the body.

#### Facts

- ◆ This fish is a predatory fish and an active swimmer. It will leap and jump. The peacock bass is a middle to top swimmer.
- ◆ It is a popular sport fish in Guyana.
- ◆ Their eating quality is very good. Their flesh is white and sweet when cooked, and has very little oil, making it similar in taste to snapper or grouper.
- ◆ Tilapia farmers sometimes keep peacock bass to eat any spawn that occur among their fish, in addition to eating any invasive fish that pose a threat to young tilapia (e.g. sunfish, piranha).

#### 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.

This publication is intended to promote awareness on the work of the Environmental Protection Agency.

#### Editorial Committee:

Sharifah Razack

Candacie Brower -  
Thompson

Deuel Hughes

Gracelyn Trim

Dillon Charles

Fareena Alli - Narine

Whoopi Liverpool

#### E-mail:

[eit.epaguyana@gmail.com](mailto:eit.epaguyana@gmail.com)

#### Mailing address:

Environmental Protection  
Agency,  
EIT Division,  
Ganges Street,  
Sophia,  
Georgetown.

#### Telephone Numbers:

225-6044, 225-6048, 225-  
5467-9, 225-0506, 225-  
6917, 225-1218, 225-2062

