

GREEN LEAF

Twenty-six (26) new teachers trained as environmental educators

Inside this issue:

Twenty-six (26) new teachers trained as environmental educators	1
EPA spreads environmental awareness at GuyExpo 2013	2
PIUG continues public awareness efforts	3
EPA promotes 'Safety and its Importance' during Fire Safety Week	3
Equipping Staff for Excellence	4
SDGs to place emphasis on environment and development	4
Kids' Corner	5
Environmental Authorisations	6
Complaints and response management	6
Upcoming Activities	7
Wildlife Spotlight	8

For the fourth (4th) consecutive year, the Environmental Protection Agency (EPA) collaborated with the Cyril Potter College of Education (CPCE) to conduct its annual Environmental Education (EE) training. Twenty-six (26) 2nd year teachers specialising in primary level education, were brought together at Camp Wesleyana, Soesdyke/Linden Highway, during October 25-27, 2013, and given the opportunity to acquire knowledge and skills to make effective EE interventions within their respective schools



Assessing an EE tool



A small group activity

and communities.

The objectives of the camp were achieved using a variety of interactive methods which integrated the available natural environment.

The teachers were introduced to the content through methodologies intended to enhance their analytical, investigative and communication skills. In the process, teamwork and critical thinking were strengthened.

The workshop sought to empower the teachers with skills to design and deliver lessons that integrate EE.



Conducting a field exercise

Editorial Note

Solid waste management is one of the major ills across our beautiful country. Rectifying this issue requires the involvement of all Guyanese. Recognising this, the Government of Guyana has begun the process of improving solid waste management in Guyana through the enforcement of a ban on Styrofoam products, which will come into effect on June 01, 2014. The government saw this as a necessary step in reducing the eyesore and other negative impacts associated with our improper disposal of waste.

This ban, however, would not eliminate the problem of littering nor the solid waste issue, but it is an important step for us to move towards having a cleaner environment and a greener economy.

In order to avoid the use of styrofoam, alternatives have already been put in place for this ubiquitous product. These alternatives are biodegradable and environmentally friendly. Let us as Guyanese endeavour to have a litter free environment by supporting this ban and using the environmentally friendly options that are available.

Twenty-six (26) new teachers trained as environmental educators

The programme was designed to encourage the teachers to exercise creativity and make adequate use of the natural environment for the delivery of different concepts to their students.

Small group sessions enhanced interaction and participation. A lesson-plan competition challenged the trainee teachers to apply some of what they had learnt. The top five lesson-plans that successfully infused EE into a particular subject area were given recognition and awarded tokens.

Non-academic activities on the program included a talent night and camp fire which gave participants a chance to infuse the message of environmental awareness into drama, songs and poetry.

The teachers evaluated the programme as very valuable,

and highly recommended the need for a wider cross-section of teachers from across the country to be trained. Heeding this, the Agency continues to seek opportunities to extend the reach and scope of this programme.



Participants at the end of the Camp

EPA spreads environmental awareness at GuyExpo 2013



EPA Staff interacting with eager members of the public.

GuyExpo, Guyana's premier trade fair and exposition, was held during the period October 03-06, 2013. The theme for this year's Expo was "Advancing Productivity through Innovation, Modernisation and Expansion."

The Environmental Protection Agency, under the Ministry of Natural Resources and the Environment, used this opportunity to interface with the general public on current environmental issues. The Agency's main exhibit was an 'Environmental Trivia Game', which challenged patrons to test their knowledge about environmental issues related to Water, Energy, Climate Change and Waste Management. For this activity, participants were required to correctly answer a question from each category in order to gain a prize. The Agency's booth also displayed posters and brochures to inform the

public of the Agency's work throughout the year and gave general information on environmental issues, especially climate change, waste management, and wildlife. Throughout the Expo, the Agency's booth was crowded, indicating the willingness of the public to gain knowledge about the environment and how it is being impacted by our actions, particularly as it relates to solid waste management.



Patrons engaging in the Environmental Trivia Game during GuyExpo 2013

PIUG continues public awareness efforts



Minister Robert Persaud addressing attendees at the Georgetown viewing

Pick it up Guyana (PIUG), in collaboration with the US Embassy's Guyana Shines Programme, facilitated the viewing of 'Trashed', an environmental documentary which highlights the global waste problem. The documentary was allowed to be aired thrice within the country; therefore, viewings were held strategically at the University of Guyana (Tain campus) in Berbice, the Theatre Guild, in Georgetown, and the Linden Technical Institute, in Linden, on October 23, October 25 and November 29, 2013, respectively.

The film, intended to raise awareness on the various methods employed globally to address waste disposal and the actions taken by individuals to join the fight, was

viewed by approximately five hundred students and members of the public from Regions 4, 6 and 10.

The viewings are an example of the ongoing public awareness efforts by both Pick it up Guyana and Guyana Shines to address the problem of solid waste management in Guyana.



A section of the audience at the Georgetown viewing.

EPA promotes 'Safety and its Importance' during Fire Safety Week

The Environmental Protection Agency joined the Guyana Fire Service (GFS), and other relevant organisations from the private sector in observing 'Fire Safety Week' during October 07-12, 2013, under the theme 'Safety and its Importance'.

Crowning off the week of activities organised by the GFS, was an exhibition held on Water Street in front of Fogarty's Department Store on October 11, 2013. The Agency displayed informational material on its work in relation to the theme, as well as samples of household products that are potential fire hazards. The household products were grouped based on the characteristics of the hazardous materials they contained as follows: **Toxic**, e.g., toilet bowl cleaners, bleach; **Flammable**, e.g., nail polish; and **Explosive**, e.g., bug spray, air freshener.

Visitors to the Agency's booth were also given the opportunity to view alternative household cleaning agents such as baking soda and vinegar that are more effective,

less expensive, and safer for human health and the environment.



Melinda Franklin, EO I, Hazardous Waste Material/Air Quality Unit, displaying the Agency's exhibits.

Equipping Staff for Excellence

To continually improve environmental management within the country, the EPA seeks to build the capacity and technical skills of its staff. As a result, the following officers benefitted from workshops/training during the fourth quarter:

- Mr. Deuel Hughes, EO II, EITD, Mr. Sean Mendonca, SEO, NRMD and Ms. Stacy Lord, EO II, NRMD attended a half day workshop on October 17, 2013 on *'Discovering innovative methods for local community engagement'* at the Cheddi Jagan Research Centre.
- Ms. Aretha Forde, EO II, EITD, attended a workshop on *'Using social media the right way'* hosted by the Volunteer Support Platform under the Ministry of Culture, Youth, and Sport at the GNS Sports Complex.
- Mrs. Sonia Gumbs-Luke, SEO, EMPD, Mr. Delon Earle, EO I, EMPD and Ms. Malicia Hall, EO II, EMPD attended a two (2) day training workshop on *'Guidelines for Incorporating Integrated Disaster Risk Management in Agricultural Planning and Environmental Management'* organised by the Civil Defence Commission (CDC).
- Ms. Darshini Seeram, EO I, EMCD, attended a three (3) day workshop on *'Caribbean Disaster Risk Reduction and Climate Change'* in St. Vincent and the Grenadines.
- Ms. Sharmin Joseph, EO I, EMPD, Mrs. Candacie

Sobers, EO II, EMPD, Mr. Andrew Gupta, EO I, EMPD, Ms. Monique Williams, EO I, EMCD and Ms. Whoopi Liverpool, EO I, EMCD attended a four (4) day workshop on *'Adaptation to Climate Change'*.

- Mrs. Sonia Gumbs-Luke attended a five (5) day workshop organised by the Ministry of Foreign Affairs on the *'Development of Infrastructure Projects'* in Brazil.
- Ms. Tashana Redmond, SEO, EMCD, attended a one (1) day workshop on *'Reviewing the Draft Tourism Investment Guide'* organised by the Ministry of Tourism, Industry and Commerce.
- Ms. Geeta Singh, Director, EMPD, Karen Alleyne, SEO, EMPD, and Ms. Teijvarti Persaud, SEO, EMPD, attended a one (1) day workshop on *'The Environment'* organised by CIDA.
- Mr. Clint Baboolall, PIUG coordinator, attended a training program in Okinawa, Japan entitled, *'Sustainable Solid Waste Management in CARICOM Member States'* from October 16 to December 07, 2013
- Ms. Stacy Lord and Ms. Diana Fernandes, EO II, NRMD, attended an ABS Workshop, organised by the Justice Institute from December 03 - 05, 2013.

SDGs to place emphasis on environment and development



In 2000, at the Millennium Summit in New York, the Millennium Development Goals (MDGs) were outlined. They defined global development as addressing human development needs. While the anti-poverty goals gave the global community eight achievable, and measurable objectives, they did not address development in its entirety. The MDGs focused mainly on tackling extreme poverty, prioritising social needs over economic and environmental ones.

However, at the Rio+20 Summit in 2012, the concept of sustainable development goals (SDGs) was formulated. These goals are intended to be a framework for international development and take into account all aspects of the environment.

An Open Working Group was selected by the United Nations General Assembly to formulate these goals which will be

action oriented, concise and easy to communicate, limited in number, aspirational, global in nature, and universally applicable to all countries.

Areas of focus for the SDGs include women, youth, energy, and water and sanitation. The SDGs are currently in the proposal phase, and it is still unclear how and when these goals will be named. Until such a time, Guyana and the rest of the world will continue to take actions to achieve MDG number 7, ensuring environmental sustainability. Thus far, Guyana has made significant strides towards achieving these goals.



Kids Corner

Blow up a balloon with yeast.

An important element in making bread is yeast. But do you know that yeast is actually a living organism? When bread is made, the yeast becomes spread out in the flour. As yeast eats sugar, it releases a gas called carbon dioxide. This causes tiny bubbles to be formed within the dough before it is baked. When the bread gets baked in the oven, the yeast dies and leaves all those bubbles (holes) in the bread. These help to make the bread fluffy and soft.

Here's an experiment to see yeast in action.

You will need

- A packet of yeast
- A clean, clear, plastic soda bottle
- 1 teaspoon of sugar
- Some warm water
- A small balloon



What to do

1. Fill the bottle up with about one inch of warm water.

(When yeast is cold or dry the micro organisms are resting.)

2. Add all the yeast and gently swirl the bottle a few seconds.

(As the yeast dissolves, it becomes active - it comes to life! Don't bother looking for movement, yeast is a microscopic fungus organism.)

3. Add the sugar and swirl it around some more.

Like people, yeast needs energy (food) to be active, so we will give it sugar. Now the yeast is "eating!"

4. Blow up the balloon a few times to stretch it out then place the neck of the balloon over the neck of the bottle.

5. Let the bottle sit in a warm place for about 20 minutes. If all goes well the balloon will begin to inflate!

Popsicle Stick Photo Frames

Ever had a problem in giving a gift to your Mom, Dad or any other loved one? Do you love popsicles? Well here's a simple idea that will reuse those popsicle sticks while making a gift that your loved ones will surely cherish. Make them a popsicle stick frame.

Here's what you'll need:

- Popsicle sticks
- Glue
- Magnets (optional)
- Decorating supplies, e.g., glitter, decorating paper, buttons, etc.



How to make it

1. Decorate 4 sticks and glue them in a square fitting the picture you have

2. Glue or tape your picture to the back

3. Glue a magnet to the back if you want it posted on the refrigerator.



Alternatively, you can glue the popsicle sticks together depending on how big you want your frame to be.

You can glue, pin or tape your photo on to the frame, then glue the magnet on the back and stick it on your refrigerator.



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 impact 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, October to December, 2013, a total of sixty-one (61) applications for Environmental Authorisation were received. Sixteen (16) of the applications were for new projects, four (4) for existing projects, and nine (9) for renewal of Environmental Authorisations. Thirty (30) applications for noise permits were received and issued for this period. Two (2) applications for long-term noise permits were received.

The Division conducted sixteen (16) site visits for new projects and five (5) site visits for existing operations.

Compliance/renewal audits were also conducted for eighteen (18) operations that were issued with an Environmental Authorisation.

The Agency granted forty-two (42) Environmental Authorisations during this period. Three (3) environmental permits and four (4) operation permits were granted for new projects. Four (4) renewals and one (1) modified environmental permit were granted. A total of thirty (30) short-term noise permits were issued.

The Division continues to process the other applications received during this period to determine whether these projects will be required to conduct an Environmental Impact Assessment (EIA) or prepare an Environmental Management Plan (EMP).



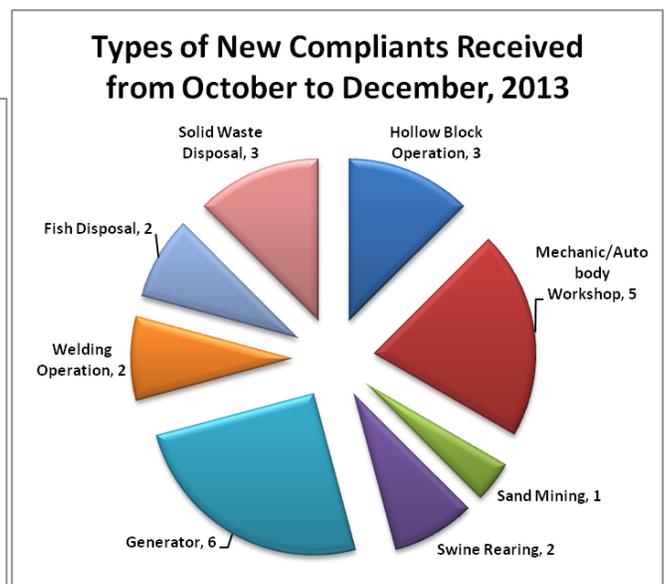
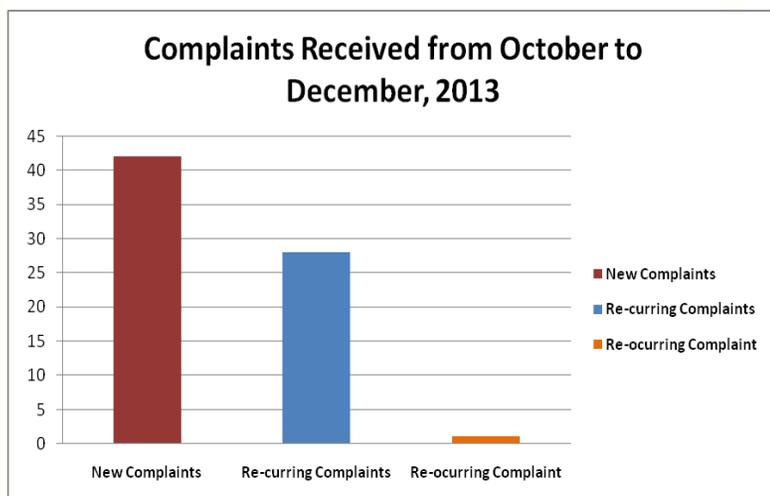
Complaints and Response Management

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 October to December 2013, EMCD received a total of forty-two (42) new complaints, twenty-eight (28) recurring complaints, and one (1) re-occurring complaint for a case that was already closed. The most common

complaints were made against generators and mechanic/auto-body workshops.

The Division conducted fifteen (15) compliance inspections, thirty-five (35) follow-up compliance inspections, and three (3) surveillance monitoring exercises. Six (6) prohibition notices were issued for the quarter and three (3) complaint cases were closed.



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 fourth 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 January - March, 2014, includes the following:

Activity	Theme	Target Group	Date
World Wetlands Day	'Wetlands and Agriculture: Partners for Growth'	Primary school students	February 02
University of Guyana Career Day	'Honouring the Past, Moulding the Present, Transforming the Future'	University students and the general public	February 14
World Water Day	'Water and Energy'	General public	March 22
Nature School Outreach		Primary school students	January - March
Climate Change Outreach		Grade Six (6) students (Region 2)	January



WILDLIFE SPOTLIGHT

Did you know?

The Fire Ant (Solenopsis conjurata)

Fire Ants are also known as 'stinging ants' or commonly referred to as red ants. They belong to the family *Formicidae* with the genus being *Solenopsis*.



Appearance

The body of a Fire Ant is divided into three sections: the head, the thorax, and the abdomen; with three pairs of legs and a pair of antennae. It can be distinguished from other ants by its copper brown head and body with a darker abdomen. The worker ant is blackish to reddish, and its size varies from 2 mm to 6 mm (0.12 in to 0.24 in).

Habitat

Fire ants can be found throughout the world except in harsher climatic conditions.

Diet

The Fire Ant feeds mostly on young plants, seeds, and sometimes crickets. The ant often attacks small animals and their sting can kill them. Unlike many other ants, which bite and then spray acid on the wound, fire ants bite only to get a grip and then sting (from the abdomen), injecting a toxic alkaloid venom called *Solenopsin*. For humans, this is a painful sting, a sensation similar to what one feels when burned by fire; hence the name 'fire ants'.

Reproduction and nesting

The ants nest in the soil, often near moist areas, such as river banks, pond shores, watered lawns and highway shoulder. Usually, the nest will not be visible, as it will be built under objects such as timber, logs, rocks, or bricks. If there is no cover for nesting, dome-shaped mounds will be constructed, but these are usually only found in open spaces, such as fields, parks and lawns. These mounds can reach heights of 40 cm (15.7 in), and can also be as deep as a metre and a half (five feet). Colonies are founded by small groups of queens or single queens. Even if only one queen survives, within a month or so, the colony can expand to thousands of individuals.

Facts

- Fire ant queens, usually the most important ants in their colony, are also generally the largest. Their primary function is reproduction; they can produce up to 3,500 eggs per day.
- Young, virgin fire ant queens have wings (as do male fire ants), but rip them off after mating.
- Males mate with the queen and they die immediately after mating.
- Within a nest, there are also worker and soldier ants. The soldier ants are known for their larger and more powerful mandibles while the worker takes care of regular tasks (the main tasks in a colony are caring for the eggs/larvae/pupae, cleaning the nest, and foraging for food).
- Severe allergic reactions to fire ant stings include severe chest pain, nausea, severe sweating, loss of breath, serious swelling, and slurred speech. The after effects of the sting can even be fatal.

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

Fareena Alli - Narine

Candacie Brower - Thompson

Aretha Forde

Deuel Hughes

Gracelyn Trim

E-mail:

eit.epaguyana@gmail.com

Mailing address:

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

Telephone Nos.:

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

Fax # 225-5481

