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ENVIRO FOCUS

Newsletter of the Environmental Protection Department

From the Director...



The Environmental Protection Department (EPD) is pleased to present the seventh issue of our Envirofocus Newsletter. For many years the EPD has been serving the public by developing programmes, projects and policies to protect

dedicated and talented staff at the EPD for their contribution to another interesting and informative publication. These newsletters are a result of team work, and utilise the talents within the office.

We hope that you enjoy this issue and that it provides some information which you can use in your daily activities to contribute to a healthy and productive environment.

The EPD also invites you to join with us as we celebrate our 40th anniversary in March 2011. We are planning a full year of celebration where we will again seek to engage the public in fun and interesting activities to share information and increase awareness on environmental issues.

Let us all do our part to ensure future generations inherit an environment that is healthy, productive and enjoyable.

“Join us in
celebrating 40
years of serving
you”

the land, air, water and general well being of all inhabitants of Barbados. An integral part of these activities is the education and awareness component which is critical in helping us to make responsible decisions as it relates to how our activities affect the environment and by extension our health.

As we educate the public and share our vision for a healthy environment we are always seeking to use interesting and timely methods to engage the public. Our Envirofocus newsletter was the brainchild of our staff who wished to find other ways to share information and improve the public’s awareness not only of the work we do but also of some of the major environmental problems facing Barbados today.

I would like to take this opportunity to thank the

“Greening” Vehicle Maintenance Facilities

by Justin Yearwood



Senior Environmental Protection Officer Mark Welch making a presentation to participants.

Over the past ten years there has been a significant increase in the number of vehicles on the roads of Barbados. This increase has been accompanied by a rise in the number of vehicular maintenance facilities (VMFs) across the island. Bodywork shops, spray painting facilities, and air conditioning installation and repair facilities are just some of the examples of VMFs.

However, the operational activities conducted by these facilities combined with poor management practices can contribute significantly to environmental problems such as noise pollution and the release of particulates and malodours. There is also the potential for contamination of groundwater and the marine environment due to the improper disposal of hazardous and solid waste.

In an effort to minimize the impact of these operations on the environment and on the health of nearby residents, the Environmental Protection Department (EPD) hosted a Best Management Practices Seminar on Tuesday June 15th 2010 at the Meeting Hall of the National Union of Public Workers, Dalkeith St. Michael. The aim of the seminar was to raise the awareness of owners and operators of VMFs about:

- The need to obtain planning permission from both the EPD and Town and Country Development

- Planning Office in order to legally operate a VMF;
- Information pertaining to any relevant laws and regulations;
- The proper design of a VMF;
- Potential pollution sources;
- Proper waste disposal methods;
- Ways to control potential pollutants;
- Planning for spills and accidents;
- Preventive maintenance; and
- The proper use of personal protective equipment.

The EPD wishes to thank all the participants and attendees for their contributions to the Best Management Practices Seminar.



Participants at the VMF seminar.

Protecting Our Groundwater

by Gail Hinds



Groundwater flowing from a natural spring.

Barbadians have always boasted about having the best water in the world, however, our drinking water may be more vulnerable to contamination than we may think!

In Barbados, most of our drinking water is derived from ground water sources and is pumped from the coral limestone aquifer that covers most of the island. A small proportion is derived from the desalination of brackish water.

Ground water supplies are renewed when surface waters permeate or pass through the limestone and into the aquifer. When cracks, fissures or sinkholes exist in the limestone, water can pass through them unhindered and create direct pathways for contamination. As a result, any contaminants present on the land can easily enter and pollute our ground water supplies. Potential contaminants can range from microorganisms, for example bacteria and viruses, to chemicals which include substances like disinfectants, pesticides, oils and industrial wastes.

The Water Quality Section of the Environmental Protection Department (EPD) and the Barbados Water Authority currently collect water samples from 21 pumping stations, 11 agricultural wells and 7 public springs as part of a Groundwater Monitoring Programme. Tests are done at the Government Analytical Services to assess how the groundwater is being impacted. This information is then used to develop policies, which aim to protect our drinking water by minimizing sources of contamination.

You can also play your part to ensure that our groundwater remains safe to use. Here are a few pointers to remember:

- Avoid excessive use of chemicals and always follow the directions on the labels when mixing pesticides and herbicides.
- Dispose of your chemicals properly! (this includes household, industrial and agrochemicals). If you are unsure of how to dispose of a chemical seek guidance from the EPD.
- Do not dump illegally, use the following government managed and regulated disposal facilities:
 1. **Mangrove Pond Landfill**, St. Thomas - Municipal Solid Waste.
 2. **Bulky Metal Waste**, Bagatelle, St. Thomas - Metal Waste.
 3. **Blood and Grease Disposal Site**, Lonesome Hill, St. Peter - Blood, Offal and Vegetable Oil.
 4. **Asbestos Disposal Site** - Rock Hall, St. Philip - Asbestos and fibreglass.
- Hydrocarbons including waste cooking and automotive oils should be securely stored and recycled where possible. Please contact the EPD for disposal advice.
- Use the approved method of wastewater treatment for the groundwater protection zone where you are constructing your home or business.

Youth...Meet 1

The Garrison Secondary School is a neighbour to the Environmental Protection Department (EPD) here at our Dalkeith headquarters, and like any good neighbour the Department has continued to extend assistance to the students at this our adopted school. In the months of April and June there was a great deal of interaction which we hope will serve to strengthen ties between the school and the EPD.

On April 16, 2010, the Garrison School's Octagon Club hosted a lunch time session at the school and EPD officers were on hand to introduce students to the wonderful world of the marine environment and the not so wonderful issue of marine litter. They were introduced to the concept of owning one's litter from purchase to disposal and learned that litter rarely, if ever disappears completely. In fact, the litter that is

“Own your
waste”

thrown out of a bus or that is blown away at a picnic will eventually find its way to the sea and prevent us from enjoying that sea bath. It is always entertaining to see sea bathers jumping in fright when that plastic bag floats under their foot. Barbadians love calm, clear, clean beaches without surprises! Another reason why we need to 'own' that litter and dispose of it properly.

After an introduction to the theory of marine litter, it was time to get our hands dirty, in a school-approved manner of course. On April 24, 2010, members of the Octagon Club, the Environmental Club and the Photography Club jumped at the opportunity to take part in a clean up at Drill Hall beach in St. Michael, though not impressed by what they perceived as an inhumane 8.30 am start time. After a safety briefing and the issuing of gloves and bags the team

set out on the relatively short stretch of beach from Drill Hall to Amaryllis. The photographers in the group were also busy looking out for that perfect shot. Students were surprised at the variety of litter items seen which included old shoes housing barnacles, forks, drinking straws, rope, lots of plastic bags and food wrappers. Bottle caps were present in large numbers as seems to be the norm at most clean-ups. However, the most famous item was the used diaper; 'disgusting', 'nasty', 'funny' and 'ewww' were some of the responses that came at the sight of this particular item especially noting that the garbage cans at the beach were no more than 100 yards away.

Now that the students have seen where litter may end up, it is hoped that they will 'own' any potential litter they may generate and see that it is disposed in a suitable place. That is, in a recycling bin or garbage can.



Students of the Garrison Secondary School collecting refuse on Drill Hall Beach.



Breathtaking view of Cove Bay, St. Lucy.

On June 18, 2010, during environment month, students of the Garrison Secondary School were exposed to a hike on the scenic north east coast of the island. The hike included Little Bay, Chancery Cove and Gays Cove in the north and an area just before Pico Teneriffe further south. It was quite a large group of students who clearly had their own ideas of what a hike entailed. Some it seems had notions of quiet Sunday afternoon constitutionals in the neighbourhood, but these were decisively shattered by what was to come. The starting point was a beautiful area of Little Bay, a secluded beach protected on either side by cliffs and rubble and majestically battered by the rough Atlantic Ocean.

Here, some important geology and geography lessons were to be had. Students were introduced to Barbados' geological history and were able to get a first hand look at some limestone cliff geomorphology. Blow-holes, stacks, stumps, arches and wave cut platforms left the pages of geography texts and took life and shape in front of our eyes, with the additional sound and sensory effects caused by the crashing waves and sea spray.

The limestone that is the bedrock of our island showed itself to be the final resting place of coral like *Porites*

porites and other calcareous marine life. This limestone was introduced to the students as part of the 'layered cake' concept that adequately summarises the geology of the island. The chalk cliffs and Scotland formation form the inside layers while the limestone is the icing on top and our soils are the sprinkles that finish off the cake.

The hike then continued up into the hills and while some adventurous students pressed on enthusiastically, some were of the view that this hike was becoming just that, a hike. The adults in the group were however enthused and seemed fit for the task. Finally the end of our trail was met and the view at the top justified the physical effort and showed us clearly that which we are trying to protect.

In the May 2010 issue of EnviroFocus, Persistent Organic Pollutants (POPs) were identified as a category of highly dangerous organic chemicals. If you got a chance to read that issue or have otherwise become aware of the threat posed by POPs, you probably have some of these questions whirling through your mind:



Electrical equipment which might potentially contain a type of POP.

1. Are POPs produced or used in Barbados?

Production of POPs pesticides has never taken place in Barbados and no future production is anticipated. Although POPs pesticides have previously been used, a study conducted from 2003 to 2004 did not find any POPs pesticides in use at that time.

In 2004, a survey was carried out by the Environmental Protection Department (EPD); the aim of the survey

was to identify materials and equipment that might contain PCBs (a type of POP used in some electrical equipment) at concentrations in excess of 0.05% and volumes greater than five litres. Only two pieces of equipment were confirmed as containing PCBs.

Total releases of dioxins and furans for 2003 were estimated to be small with the majority of these releases being emissions to the air.

2. What is being done to eradicate POPs?

In May 2004, the Stockholm Convention on Persistent Organic Pollutants came into force. This Convention is a treaty to bring about international action on POPs. The primary objective of the Stockholm Convention is to protect human health and the environment from Persistent Organic Pollutants.

In order to achieve its objective, the Stockholm Convention sets out three major aims:

1. To reduce or eliminate releases of POPs from intentional production and use.
2. To reduce or eliminate the release of unintentionally produced POPs.
3. To reduce or eliminate releases of POPs from stockpiles and wastes.

As a Party to the Stockholm Convention, Barbados developed a national plan for the minimization and eventual eradication of POPs production and use in Barbados.

In addition, the Pesticide Control Board has issued bans on the importation and use of six POPs pesticides namely aldrin, chlordane, DDT, dieldrin, endrin and heptachlor. Three other POPs pesticides – hexachlorobenzene, mirex and toxaphene – have not been officially banned, but no licences have been issued for their importation and use.

ting POPs

by Philip Pile

3. Who is Responsible for the Implementation of the Stockholm Convention in Barbados?

The Environmental Protection Department is the main agency responsible for the implementation of the Stockholm Convention in Barbados.

4. What can I do to avoid exposure to POPs?

- Do not burn garbage, especially materials that might contain treated wood, plastics or chemicals.
- Do not smoke, and try to avoid second hand smoke.
- Do not use banned pesticides.

- Where possible use cleaner fuels like natural gas or kerosene rather than diesel, coal or wood.
- Dispose of waste oil appropriately.

A list of POPs Pesticides and Their Uses

Pesticide	Uses
Aldrin	Control of soil pests and termites
Chlordane	Control of insects such as cockroaches, ants, termites and other pests
DDT	Control of mosquitoes
Dieldrin	Human disease vectors, termites, locusts
Endrin	Pests found on cotton, maize, sugarcane and other crops
Heptachlor	Control of soil insects, termites, cotton insects, grasshoppers and malaria mosquitoes
HCB	Used as a fungicide in seed treatments
Mirex	Control of ants
Toxaphene	Used on cotton, cereal grains, fruits, nuts and vegetables

Activity Challenge

The Strategic Approach to International Chemicals Management (SAICM) is a policy framework for international action on chemical hazards. It supports achievement of the goal to ensure that by 2020 chemicals are produced and used in ways that minimize significant adverse effects on the environment and human health.

One of the objectives of SAICM is encrypted below. Can you decipher it?

ZU SOTOSOFK XOYQY ZU NASGT NKGRZN, OTIRAJOTM ZNGZ
 UL CUXQKXY, GTJ ZU ZNK KTBOXUTSKTZ ZNXUAMNUAZ ZNK
 ROLK IEIRK UL INKSOIGRY

Hint: Z → T K → E

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