

# ENVIROFOCUS

MAGAZINE OF THE ENVIRONMENTAL PROTECTION DEPARTMENT

Issue #18





# W HAT'S INSIDE...

Have a look at

3  
5  
6  
7  
8  
10  
12  
13

## Director's Message

The Director's remarks on protecting Barbados' environment

---

## Radiation Safety

A look at how radioactive sources and radiation devices are regulated in Barbados

---

## Banning Styrofoam

The benefits of banning styrofoam in Barbados

---

## Illegal Dumping

Why this practice is bad for the environment and your health

---

## Chemicals Management

A look at the work being done by the Environmental Protection Department

---

## 2018 Interns

An account of the experiences of this year's interns

---

## Value of Recycling

The benefits of recycling and why recycling should matter to you

---

## Chemical Weapons

A look at what is being done to protect you from this type of weapon

---

# Director's Message



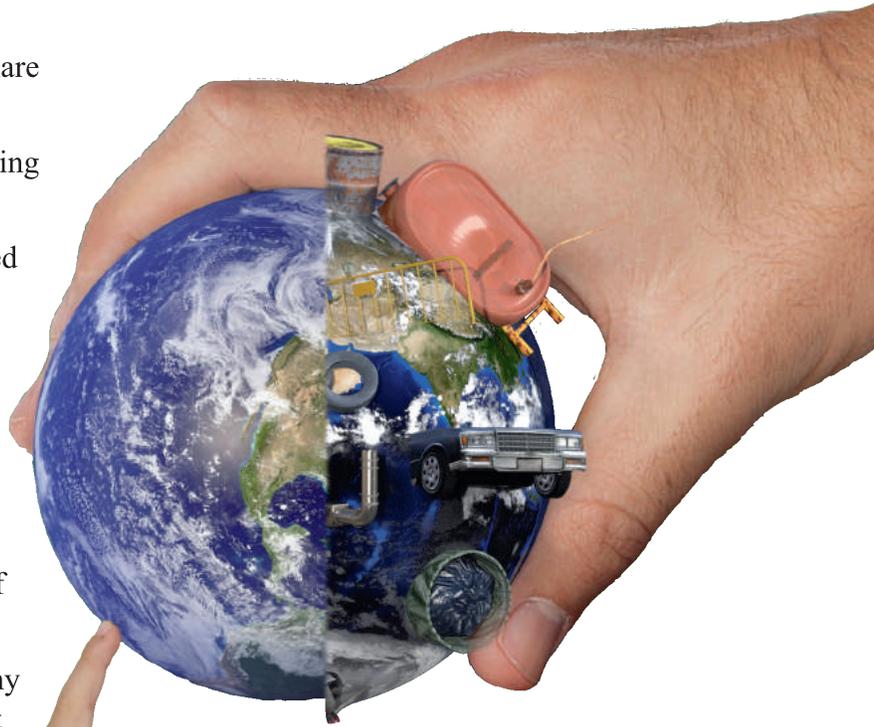
Choose our legacy. By that, I mean that we need to decide what condition the environment will be in when we pass it on to our sons, daughters and children that we adore.

On the one hand, each of us can take steps to keep our air fresh, water clean and soil productive. For example, we can:

- take personal responsibility for our waste materials;
- use reusable products or borrow, rent, or share items used infrequently;
- respect the environment and stop dumping illegally;
- select products made from recycled materials or designed to be safer for the environment;
- turn off appliances and lights when they are not in use;
- turn off the water while we are soaping up in the shower;
- take public transportation instead of driving;
- use rechargeable batteries as many batteries contain metals that are better kept out of landfills;
- hang our clothes on the line rather than use the dryer (for those who do this sort of thing); or
- avoid waiting in long drive-thru lines at fast-food restaurants

or banks when we can park our cars and go in.

These are just a few; there are other steps that we can take as well. Each of these helps to ensure that our limited resources – clean drinking water, energy from fossils and fresh air to breathe – are still available for our children and their children to enjoy and benefit from.



*Act Now!*

On the other hand, we can continue to behave as we currently do:

- dumping illegally;
- using and disposing of harmful chemicals incorrectly;
- wasting water and other resources;
- buying more lawn chemicals, pesticides, paints and other hazardous materials than we need so that they are more leftover to dispose of;
- using non-recyclable plastics and other materials that persist in the environment for centuries; and
- burning wastes and polluting the air, just to mention a few.

And in doing so, give our children and the young people that we claim to treasure, a future of hardship. A future where there is lack of fresh drinking water, polluted air and perhaps limited access to affordable energy. At present, energy from renewable sources such as the sun and wind are still a bit out of reach of most people. Fortunately, with advances in technology renewable energy is becoming more affordable.

Here at the Environmental Protection Department (EPD), we prefer the first option. We are committed to protecting our environment and ensuring that it remains safe, productive and enjoyable for existing and future generations.

**Which will you choose?**





# RADIATION PROTECTION & SAFETY

**R**adiation. When most people think of radiation, they imagine skin burns, sickness and death! These are possible outcomes when radiation is used inappropriately or maliciously. However, there are many beneficial applications of radiation.

Did you know that some smoke detectors use tiny amounts of a radioactive substance to keep watch while we sleep?

Radiation may be used for agricultural, medical, industrial and educational purposes. In fact, there is an organisation whose main focus is to promote the safe, secure and peaceful use of radiation and nuclear technologies. That organization is the International Atomic Energy Agency or IAEA. Barbados became a member of the IAEA in November of 2015. As a member of this organisation, Barbados must ensure the safety and security of all radioactive sources and radiation devices on the island.

To achieve this, the Environmental Protection Department (EPD) and Ministry of Health and Wellness are working to identify and collect

information on all companies, institutions and facilities that use radioactive sources and radiation devices in Barbados. Information collected includes the type of radioactive sources, how the radiation sources are stored, the qualifications of the personnel using the radiation devices and the safety practices used, among other things.

Are you wondering why this should matter to you?

Here is why. This information will help to ensure that the necessary controls and technology are in place to protect you from damaging radiation when these radioactive sources and radiation devices are imported, used, stored or exported.

The efforts to protect your safety do not end there!

The relevant emergency response personnel in Barbados are undergoing various levels of training in order to monitor, regulate and control the use of radiation devices and radioactive sources.

So, the next time you think of radiation, remember: it is dangerous; there are a number of beneficial uses; and that you are protected!

## DID YOU KNOW...?

The EPD and the Department of Commerce and Consumer Affairs (DCCA) both play a role in regulating the importation of radioactive materials. A business that wishes to import radioactive materials must first submit an application to the EPD. Once the application is approved, the approval must be taken to the DCCA in order to obtain a licence to import the radioactive materials.

# STYROFOAM: 5 REASONS BANNING IT IS A BIG DEAL

**B**arbados is moving towards banning single use of Styrofoam by April 1st, 2019. Here are five reasons we could not be happier!

## 1. It is made of a hazardous material.

Made of polystyrene, Styrofoam contains this well-known hazardous substance that has been suspected to cause cancer. There is also a lack of knowledge on the effect that polystyrene can have on the body.

## 2. Food and drinks can absorb toxins from Styrofoam containers.

Toxins such as styrene and benzene can leach into the container's content especially if it holds liquid or is heated up.

## 3. It is everywhere.

From take away containers to those fluffy box bubbles — once it's used, it's here to stay. Because Styrofoam is almost weightless it can be easily picked up by the wind and carried into waterways and other areas. Eventually, the Styrofoam can break down, releasing those harmful chemicals into the immediate surroundings.

## 4. You may be inhaling it.

Air inhalation is one of the most common methods of exposure to the toxins in Styrofoam. The skin is another. Every time you touch it, you increase your chances of the chemicals being absorbed into the body through your skin.

## 5. It is not safe no matter where we store it.

Styrenes can also leach from landfills into the soil where they could potentially contaminate our groundwater supply. A range of health issues such as liver and kidney problems may affect those exposed to the water and persons living closer to the landfills may also be at higher risks of exposure.

Further information on the issues with Styrofoam can be found on the websites of the Environmental Protection Agency (EPA) and the Center for Disease Control's Agency for Toxic Substances and Disease Registry (CDC, and ATSDR).



## Styrofoam Alternatives

1. Take your own reusable containers to the local food vendor.
2. Use biodegradable alternatives where available such as compostable food takeout containers.



# ILLEGAL DUMPING

**I**llegal dumping, also known as fly dumping, is the disposal of waste in areas not designated for garbage by individuals or companies. Items illegally dumped include everything from newspapers, plastic cups, mattresses or fridges to toxic industrial waste. It can happen anywhere – in residential neighbourhoods, along roadsides or most commonly in open fields and gullies. Illegal dumping may occur for many reasons: simply because of laziness, lack of knowledge about the harmful effects of dumping, or due to imposed waste disposal fees.

If we continue to throw our waste wherever we please, how will it affect us, our families and our communities?

It seems that few of us take the time to consider the answer to this question. We should!

Increased research in recent years has confirmed the negative effects of plastics on the environment and wildlife. The improper disposal of some wastes may result in the release of emissions or chemicals that could potentially find their way into the air, our drinking water, soil and crops.

The result?

The stench from these illegal dump sites can prevent us from enjoying spending time in our homes. Our respiratory health may be affected and there may be an increased risk of developing illnesses, for example, particular types of cancers.

Let's not forget about flooding. The waste from these dump sites can block drains and cause severe flooding especially during the hurricane season. Illegal dumping can also make our surroundings very unpleasant to look at and can lead to an increase in vermin such as rats, which can spread diseases.

Education is an important factor in curing this practice. People should be made knowledgeable about the effects of their habits, not just on the environment, but on themselves and others. Hopefully, this article will help to raise awareness about illegal dumping and how it affects all of us.

So, the next time you think about dumping illegally, DON'T! Contact the Sanitation Service Authority (535-5000) to have your waste disposed properly. The Environmental Protection Department (535-4600) can also help if obsolete chemicals are what you want to dispose.



- **Health Services (Nuisances) Regulations, 1969** — These Regulations prohibit nuisances which may include solid waste that is left or placed in a manner that may be injurious or dangerous to health.
- **Health Services (Disposal of Offensive Matter) Regulations, 1969** — These Regulations restrict the disposal of offensive matter to approved disposal sites only.



# CHEMICALS MANAGEMENT

**W**e live in a technological age. Practically, everyone has a cellular phone, computer or other electrical or electronic device. When these items reach the end of their useful life they are discarded and considered as electronic waste or e-waste.

E-waste contains a wide variety of materials including hazardous materials such as lead, cadmium and mercury. Cadmium, lead and mercury are toxic substances, which may contaminate the environment and negatively affect human health when e-waste is disposed. Especially, when that disposal occurs in gullies, through burning of waste in our backyards or other inappropriate means.

Is e-waste the only way for these substances to enter the environment?

What are the levels of these substance in the environment?

What actions needs to be taken to protect your health?

These are questions that the Environmental Protection Department (EPD) intends to answer.

The EPD is undertaking a project to assess the quantities of cadmium, lead and mercury released into the environment and to use this information to



Participants in the training in Environmental Monitoring for Heavy Metals. The aim of the training was to provide the participants with knowledge regarding the environmental behaviour of heavy metals and the tools to effectively assess and monitor heavy metals in the environment.

The training was conducted by a representative from the IHE-Delft and ran from October 1-5, 2018.

develop strategies to reduce their negative impact within the country.

This will be achieved in three phases.

The first phase will be to identify the ways by which cadmium, lead and mercury are introduced into the Barbadian environment as well as estimate the quantities generated. Representatives from the EPD will reach out to organizations in the retail, medical and manufacturing sectors and academia, to name a few, to collect this information.

The second phase will be to collect and analyse samples of air, groundwater, marine water, soil and sediment and fish to determine the existing levels of cadmium, lead and mercury. The collected samples will be sent to international laboratories for analysis.

After collecting all of this information, it must be put to use. This will be phase three. The information from phases one and two will be

used to make recommendations about how releases of cadmium, lead and mercury can be controlled and the disposal and use of items containing these substances can be better managed.

How chemicals are managed affects all of us. If we take steps to better manage them, not only can we protect the environment but your health as well.



Participants in the training in Inventory Development. The training will help participants to estimate the quantities of cadmium, mercury and lead in Barbados. A representative from the United Nations Institute of Training and Research (UNITAR) conducted the training. The training ran from September 17-20, 2018.



# INTERNSHIP

## PROGRAMME 2018

Each year the Environmental Protection Department (EPD) strives to provide meaningful work experience for young people who have an interest in environmental monitoring and control. This is achieved through the Department's annual internship programme, which caters to:

- final year students in the Environmental Science Programme at the Barbados Community College; and

- students from secondary and other tertiary institutions.

This year the Department was pleased to host Mr. Christian Chandler and Mr. Justin Howard.

The interns were exposed to the various functions of the Department, undertook projects and accompanied the officers on their daily duties. From all reports, they enjoyed the experience.

READ WHAT  
**THE INTERNS**  
HAD TO SAY ABOUT THEIR EXPERIENCE  
NEXT



**CHRISTIAN CHANDLER**

**JUSTIN HOWARD**

"Working at the Environmental Protection Department (EPD) as an intern was an interesting and educational experience as I was given the opportunity to work with most of the sections at the EPD. While working at EPD, I learnt and developed new skills through on the job training.

For example, I worked with the Building Development Control Section, where I was able to attend different site visits. I learnt about vetting the different types of applications, that is, residential and commercial and about the different regulations used by the Building Development Officers to determine whether an application should be approved or refused. Another section that stood out was the Water Quality Section, where I was given the opportunity to partake in the sampling process from beaches, abattoirs and groundwater wells.

Overall, my experience at the EPD was enjoyable and a very educational experience. I have learned so much about our environment. Also, the staff were very friendly and helpful in the answering of my questions."

**~ Christian Chandler**

"The past eight weeks of working at the Environmental Protection Department (EPD) have been a wonderful and eye opening experience. The opportunity that was given to me to learn about the role that the EPD plays in Barbados has given me new respect for the work done by this department.

It was very interesting and educational to experience the various sections in the department. These being: Marine Pollution Control, Solid Waste Management, Water Quality, Air and Noise Pollution Control, Building Development Control and Derelict Buildings and Vehicles. Each section provided me with valuable knowledge, which I would have otherwise never known without interning at the EPD. Especially, the Marine Pollution Control section, as I am now going on to the University of the West Indies, Mona Campus, to study Marine Biology.

It has overall been an exciting eight weeks here at the EPD and I would be delighted to return and work at the EPD after the completion of my studies."

**~ Justin Howard**



# IF YOU CANNOT REUSE IT, REFUSE IT!

Over the years, plastics have gotten a bad rap for two reasons:

1. Its final fate in the environment is that it ends up as litter – clogging drains and choking our sea turtles.
2. We have also learnt that plastics containing bisphenol A (BPA) could negatively affect our brain and the prostate gland of fetuses and children.

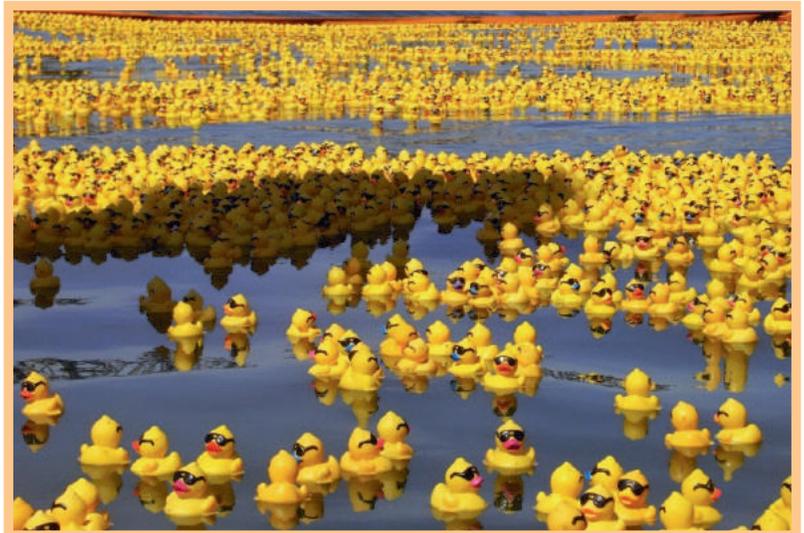
The durability of plastic makes it useful for numerous applications; this durability also makes it persistent in our environment. In 1992, a shipping container carrying approximately 28,800 bath toys including rubber ducks capsized at sea during a storm en route to the United States from Hong Kong. Twenty-five years later, those bath toys are arriving on the shores of the Hawaii, United Kingdom, South Africa and even Australia. Do you remember that plastic drink bottle you threw away yesterday? Just imagine 25 years from now, that same bottle will still be in one of our landfills or washing up onshore somewhere.

However, all hope is not lost for Barbados when it comes to reducing our plastic footprint. The following initiatives have been willfully undertaken to speed up the process:

- In 2016, BICO Ltd. started distributing Vegware products, an ecofriendly alternative to traditional food packaging.

- Slow Food Barbados promoted #PlasticFreePartying during the 2018 Crop Over season.
- The government will ban the use of single use plastics and Styrofoam by April 1, 2019.
- Massy Stores Barbados started charging 10 cents per plastic bags at all of their locations to discourage the use of these bags.
- Copacabana Beach Club encourages patrons to say no to straws and only offers Vegware straws for patrons who “must” have one.
- Sea Cat Restaurant replaced Styrofoam take away containers with Vegware containers, patrons are also encouraged to bring their own reusable containers.

You too can play your part; remember, if you can't reuse it, refuse it.



# CHEMICAL WEAPONS

**A** chemical weapon is a material or device that uses chemicals formulated to cause death or harm to humans. The Chemical Weapons Convention, or CWC for short, is an agreement between 193 countries from across the globe to create a world free of chemical weapons.

Why is this important?

At present, 98% of the global population lives under the protection of this Convention and that includes you!

Barbados became a member of the CWC in January, 2007. Membership to this Convention has provided Barbados with several benefits:

1. Personnel from the Barbados Fire Service, Barbados Defence Force, Royal Barbados Police Force, Department of Emergency Management, Labour Department and the Environmental Protection Department have received training to handle chemical emergencies.
2. There have been opportunities to participate in regional and national meetings to share knowledge and experiences about the implementation of the Convention as well as achieving national commitments under the Convention.

Additionally, from August 28th to 30th, 2018, Barbados hosted a meeting to ensure that countries in the Caribbean can adequately respond to an event involving a chemical weapon. Representatives discussed the capability of their countries to respond

to chemical emergencies as well as identified ways for the different countries to work together to efficiently and effectively respond to chemical emergencies. The meeting brought together emergency response coordinators from 12 Caribbean countries, which are members to the Convention. The countries represented were: Antigua & Barbuda, Bahamas, Belize, Dominica, Guyana, Haiti, Jamaica, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines and Suriname; along with Barbados.



**Participants at the regional chemical weapons meeting**

Therefore, if there is an incident involving dangerous chemicals or even a chemical attack in Barbados, there are trained personnel to effectively respond to the situation to reduce loss of life. There are also means to get help from other countries, if Barbados is unable to handle the situation on its own.



**ENVIRONMENTAL PROTECTION DEPARTMENT**

**L.V. Harcourt Lewis Building  
Dalkeith, St. Michael  
Telephone: (246) 535-4600  
Facsimile: (246) 228-7103  
Email: [epd.secretary@epd.gov.bb](mailto:epd.secretary@epd.gov.bb)**