

# Ocean Plastics are Worse than Climate Change

Difficulty:

**DIFFICULT**

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## *Discussion activities to be done after completing this EA lesson*

Today's lesson is about the increasing problem of plastic in the oceans of our planet. How much plastic is produced every year? How does plastic end up in the ocean? Who is trying to fight this phenomenon?

## *Extension discussion topics*

### **A. Talking about and going over the specific topic / idea / issue in listening text**

*Introduction = How bad is the problem of plastic in the ocean? What are the effects on sea life? Who is working to fight it?*

1. What do you remember about plastic, plastic production, plastic in the ocean, etc.?
  - Each year we produce 250-300 million tons of plastic.
  - Every two years, we produce the equivalent of the entire world population's weight in plastic.
  - Only 5% of plastic is recycled.
  - 3% of plastic ends up in the ocean.
  - Charles Moore's sand sample from Hawaii was 90% plastic.
2. Who are the two people we hear from in the report? What type of work do they do? Why are they interviewed?
  - Captain Charles Moore: recently wrote a book called *Plastic Oceans*, which talks about plastic pollution in the sea.
  - Bill MacDonald: environmental filmmaker, provided video to Captain Moore for a documentary.
3. What examples are given of the effects of plastic in the ocean on sea creatures living there?
  - They get tangled in plastic. (100,000 marine mammals die like this each year.)
  - They eat the plastic. (100,000 albatross chicks die like this each year.)
  - Herons get frightened by Styrofoam blowing around them.
  - Seagulls try to eat rubber gloves.
  - Animals forage around (looking for something to eat) amongst the synthetics.

Do you know anybody working on environmental issues? What is their focus?

**B. Expanding on (one of) the topics / ideas / issues in listening text**

*Topic = Challenges facing our oceans.*

1. Plastic pollution is only one of many challenges facing the oceans today. Can you think of some of the other challenges? (endangered species, increasing sea surface temperatures, overfishing, habitat loss, invasive species) Are any of these problems related? (See: [http://www.adxhosting.com/seakeepers/news\\_item.php?id=6](http://www.adxhosting.com/seakeepers/news_item.php?id=6))
2. What solutions do you think there are for the problems you came up with in question #1? How easy or difficult do think they would be to put into practice?
3. What global forces are in place that make these and other environmental problems so difficult to solve? Are you optimistic that these environmental problems can be addressed in a serious way? Why or why not?
4. The report mentions the world's population as being approximately 7 billion. In 1960 it was 3.5 billion, in 1980 it was 5 billion, and in 2000 it was 6 billion. Does the world's increasing population concern you? Why or why not? Do you know how fast population is increasing in your country (if it is)? What implications does an increasing world population have for the environment? Would you consider limiting your family size for environmental reasons?

*OR, Topic = Scientific solutions.*

Find out all you can about one of the environmental challenges facing the oceans (see #1) and give an oral presentation of your findings to a partner or to your teacher.

**C. Extending discussion of (one of) the topics / ideas / issues in listening text**

*Topic = Back to basics.*

Plastics are present in many everyday situations now, where 20-30 years ago (or more), other materials were used. How difficult would it be to return to these previous materials, in order to reduce the amount of plastic humans produce?

<u>Domain or area</u>	<u>Plastic items used</u>	<u>Replacement item</u>	<u>How difficult would this change be?</u>
Restaurants, particularly fast food and takeout	silverware (cutlery and serving utensils) plates, glasses, etc.	Metal silverware, glass glasses, real plates, etc.	Not so difficult, but more dishwashers would be required. Tricky for take-out orders.
Grocery stores	Bags to take things home in, bags for fruits and vegetables.	Cloth bags or other reusable bags that customers would bring themselves.	Fairly easy, but customers must remember to bring their bags.
Food packaging	Boxes, bags for pre-made meals, processed foods, etc.	Reusable cloth bags for bulk items. For others??? Would it be possible to continue selling pre-made meals and wet processed foods without plastic?	More difficult than replacing plastic bags. Presentation would be sacrificed.

Other packaging	Boxes, trays, other packaging around non-food items.	Cardboard, wood shavings, extruded maize, or simply no packaging for some items.	Relatively easy.
Hospitals and other medical care facilities	gloves, tubes, trays, tools, etc. - many one-use items made out of plastic.	Gloves - replaceable? Others - could be replaced by metal items.	Sterilization would be required.
Other areas of life?			

## Audioscript

Once upon a time, the oceans of our planet were beautifully clean. Not anymore. Captain Charles Moore calls this "the age of plastic."

"Between 250 and 300 million tons of plastic are produced every year. To get that into terms you can understand, every two years we make enough plastic to be the equivalent of the weight of the 7 billion people on earth."

In his new book, *Plastic Ocean*, Moore says less than five percent of all plastic is recycled and nearly three percent of world production is dumped into the ocean. That debris kills millions of sea creatures every year.

"We know over 100,000 albatross chicks are dying every year with stomachs full of plastic; we've had some evidence that about 100,000 marine mammals are dying every year, being tangled in plastic."

Moore has spent his life on the ocean, and witnessed its transformation. In his book he tells about his 1997 voyage, discovering tons of plastic, floating in an endless spiral. In what is now known as the Great Pacific Garbage Patch, plastic outweighs the plankton, by a factor of six to one.

Moore created the Algalita Marine Research Foundation, and began to collect samples from the world's oceans. He says plastic waste flows into oceans from rivers, beaches... and ships.

"Not only all the navies of the world but all the merchant vessels of the world, until the 1980s were routinely dumping all their garbage at sea."

Moore says today ships of all flags and functions continue to ignore international agreements, dumping their trash into the ocean - synthetic chemicals, pesticides, nuclear waste, nerve and mustard agents.

He says he is upset by the destruction of his own habitat.

"Whether I'm surfing, whether I'm sailing, whether I'm swimming, I'm touching, seeing, running into persistent waste that will be there longer than any of our children, any of our grandchildren. It will be there for centuries, and it doesn't go away, we're adding to it."

The pollution expert carries with him a bag of sand, collected from a beach in Hawaii. He had it analyzed. It is more than 90 percent plastic.

Captain Moore has worked with environmental filmmaker Bill MacDonald to document the plastic takeover of the oceans. MacDonald provided most of the video in this story, including this octopus living in a plastic shower head.

"There's not a lot of beauty in a river full of trash, this is obvious. And the things that I see, herons that are frightened by Styrofoam that blows around them. I see seagulls that try to eat rubber gloves. I see all sorts of animals foraging around, and what used to be natural debris is now contaminated with synthetics."

And so the campaign continues. In *Plastic Ocean*, Captain Charles Moore calls plastic pollution more damaging than climate change, and issues a call to protect the oceans - where life began - for future generations.

This is Zulima Palacio, VOA News.