Sustainable Jersey for Schools

Education for Sustainability Questionnaire (rev. 4/2018)

Answer these 4 questions about the **significant lesson** or **set of lessons** that you are submitting for points under the Education for Sustainbility (EfS) action.

1 The lesson(s) must have addressed at least **one** of the **sustainability topics** listed below. Check off the sustainability topic(s) addressed by the lessons, and for which there are documented results:

____ Ecological Systems

Investigating natural environmental processes and systems – Students can investigate ecological systems at a local level – e.g. biodiversity in the school grounds – or link to studies occuring further away.

____ Climate Change

Acquiring climate literacy – Learning climate science to understand the causes and consequences of global climate change; studying the impact of human activity on the climate and adaptations of man-made and natural systems in the face of climate change. Students can take action to address climate change by reducing their "carbon footprints."

__x__ Waste

Reducing, reusing, recycling – Re-thinking consumption and product design to eliminate the very idea of "waste." Any school or community can reduce its environmental impact by analyzing the full life cycle of the products it uses, and acting to reduce packaging and transport distance, and to recycle or re-purpose as many items as possible.

____ Energy

Addressing sustainable energy supply and use – Learning about the multiple factors that play a role in energy demand, supply and use and the impacts on ecosystems and socio-economic systems. In some municipalities, schools are the largest energy consumers, but up to 30 percent of that energy may be used inefficiently.

____ Health and Wellness

Addressing issues that impact human health – Eliminating toxic and hazardous materials, while maximizing elements that promote health (e.g. providing clean air and good ventilation, providing clean water, promoting outdoor time and physical activity) will improve the school, work, and home environment for everyone.

____ Food Systems

Improving nutrition and food sustainability – Many of the systems for producing, processing, and delivering the food we eat rely on practices that have deleterious effects on the environment, on livestock, on food-sector workers, and on consumers. Choosing local and whole foods impact both human health and the environment.

____ The Built Environment

Addressing transportation, housing, and other infrastucture development – Raise awareness of sustainable solutions such as transportation and development plans that reduce fuel consumption, pollution, and car use.

____ Water

Addressing water quality, availability, and use – Learning about the water cycle and how use of water and land development in one place impacts water quality and availability in other places.

____Economic Systems

Investigating how economic systems play a role in sustainability – History recounts the collapse of civilizations whose economic activity degraded the natural and/or social environments. Sustainable economies support a good quality of life for all and maintain healthy ecosystems.

____**Social and Cultural Systems**

Investigating the impact of social and cultural systems on sustainability – Social and cultural norms shape the interaction of different groups with each other and with the environment; and these practices are themselves influenced by changes in natural environments .

2 The lesson(s) must have taught about and assessed for at least **one** of the **enduring understandings** of education for sustainability listed below. Check off the enduring understanding(s) that the lesson(s) addressed, and for which there are documented results:

____ **A Healthy and Sustainable Future Is Possible**

We can learn how to live well within the means of nature. This viewpoint inspires and motivates people to act.

____ **We Are All In This Together**

We are interdependent on each other and on the natural systems.

____ **Healthy Systems Have Limits**

Rather than exceeding or ignoring the limits, tap the power of limits. Constraints drive creativity.

____ **Recognize and Protect The Commons**

The Commons are the creations of nature and society that we inherit jointly and freely, and hold in trust for future generations. We all depend on them and we are all responsible for them.

____ **Reconcile Individual Rights with Collective Responsibilities**

Responsible and ethical participation and leadership are required in order to make the changes we need to make. We must reconcile the conflicts that exist between our individual rights and our responsibilities as citizens.

____ **Diversity Makes Our Lives Possible**

Diversity is required to support rich complex systems (like us), to build strength and to develop resilience in living systems. Biological diversity, cultural, gender, political and intergenerational diversity all serve this purpose.

____ **Create Change at The Source Not the Symptom**

Distinguish problems from symptoms. Identify the most upstream problem within your sphere of influence.

____ **Think Far into the Future (1,000 Years)**

Envision the kind of future we want and start working towards it. We should not sacrifice our children's future to meet our needs.

____ **Read the Feedback**

We need to pay attention to the results of our behavior on the systems upon which we depend. If we keep our eyes on the feedback, we can adjust our thinking and behavior before we cross detrimental thresholds.

____ **It All Begins With a Change In Thinking**

Thinking drives behavior and behavior causes results. As Einstein had observed, the significant problems we face cannot be solved with the same level of thinking we used to create them. Think systems, cycles and out of the box.

____ **Live By The Natural Laws**

We must operate within the natural laws and principles rather than attempt to overcome them. It is nonnegotiable.

___x_ **We Are All Responsible**

Everything we do and everything we don't do make a difference.

3 Teachers must have used at least **one** of the following **instructional approaches** in conducting the EfS lesson(s). Check off those that apply.

____ **Inquiry based**

Students ask questions, plan and carry out investigations, analyze and interpret data, construct explanations and engage in argument based on evidence.

____ **Experiential**

Students learn through doing – participating in projects, events, challenges, experiments and other learning activities.

____ **Place-based student learning**

Students participate in investigations and learning activities in school grounds, neighborhoods or natural areas that engage them with real-life scenarios that are tangible, observable and meaningful to them.

_x___ **Interdisciplinary**

2 or more teachers covering different academic disciplines design and/or present related lessons that integrate subject matter from 2 or more academic disciplines (e.g. social studies and science).

4 Explain how the uploaded student work is evidence of the the **enduring understanding(s)** of sustainability that was (were) checked off in Question 2.

Everything we do and everything we don't do make a difference.

The uploaded student work provides evidence of the concept "everything we do and everything we don't do make a difference". Through research and discussion, the students have come to the understanding they directly impact the cleanliness of the oceans and the safety of sea life. The majority of the students have vowed to cut back on their use of plastics. They have also asked others to do the same.Some of the students even went on to present infomercials to the class presenting ways to reduce, reuse, and recycle plastic products to save the sealife and beaches. They have taken on the responsibility of making a difference through their actions.

Optional: Please share any comments or lessons learned.

Note: As part of the submission requirement you are asked to submit as separate document uploads (see application portal), copies of graded rubrics and student work samples as assessments of student learning that meet/exceeded expectations, and copies of standards-aligned lesson plans. Additional documentation of the lessons such as photographs and news articles may also be submitted.

Accelerated Language Arts 8

Writer's Worshop, Research Simulation Task

Scheduled to be taught on 11/12 11/13 11/14 11/15 11/18 11/19 11/20

Created by Jenkins, Maggie

21st Century Themes

*Global Awareness

21st Century Skills

*Critical Thinking and Problem Solving
*Information Literacy

Goals and Objectives

By the end of the research simulation task, students will write a proficient informative essay, earning a score of 3 or higher as scored by the NJSLA Research Simulation Task Rubric.

Learning Activities or Instructional Strategies

Day 1- Students will read Plastics in Our Oceans independently. They will highlight the main ideas presented in the article and then complete the graphic organizer for note taking. Students will then compare notes with a collaborative group through discussion.
Day 2 Students will read Island Beach Covered in Trash independently. They will highlight the main ideas presented in the article and then complete the graphic organizer for note taking. Students will then compare notes with a collaborative group through discussion.
Day 3 Students will read The Plastic Problem independently. They will highlight the main ideas presented in the article and then complete the graphic organizer for note taking. Students will then compare notes with a collaborative group through discussion.
Day 4 and Day 5 Students will organize their notes into categories and write rough draft

- What is the plastic problem?
- How does the plastic problem affect sea animals?
- How does the plastic problem affect the environment?
- What are solutions to the plastic problem?
- Students will write a rough draft of informative essay

Day 6 Students will peer conference to revise and edit the rough draft. Students will also use grammarly to imporve writing style and make grammar corrections.
Day 7 Students will publish their final draft of the informative essay.

Day 8 and 9 Teacher will conference with students to review informative essays and grade with rubric.

Differentiation

Teacher will work with select students using a scaffold essay format to help guide struggling writers.
Extended time will be provided based upon IEP and 504 plan needs

Resources Provided

Achieve3000.com
Grammarly.com

Assessments

Informative Essays
Graphic Organizers for Notes
Highlighted Articles
NJSLA Research Simulation Task Rubric
Teacher observation during collaborative group discussions

Standards

1. **3.11 Grade K CPI NJSLSA.R1**
   Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. **3.13 Grade K CPI NJSLSA.R8**
   Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
3. **3.13 Grade K CPI NJSLSA.R9**
   Analyze and reflect on how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
4. **3.133 Grade 8 CPI WHST.6-8.7**
   Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
5. **3.51 Grade K CPI NJSLSA.W2**
   Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
6. **3.52 Grade K CPI NJSLSA.W4**
   Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
7. **3.52 Grade K CPI NJSLSA.W5**
   Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
8. **3.53 Grade K CPI NJSLSA.W9**
   Draw evidence from literary or informational texts to support analysis, reflection, and research.
9. **3.61 Grade 8 CPI W.8.1**
   Write arguments to support claims with clear reasons and relevant evidence. A. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. B. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. C. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. D. Establish and maintain a formal style. E. Provide a concluding statement or section that follows from and supports the argument presented.
10. **3.63 Grade 8 CPI W.8.7**
    Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
11. **3.81 Grade 8 CPI SL.8.1**
    Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. A. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. B. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. C. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. D. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
12. **3.82 Grade 8 CPI SL.8.4**
    Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
13. **3.91 Grade K CPI NJSLSA.L1**
    Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
14. **3.91 Grade K CPI NJSLSA.L2**
    Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Lesson Documents

No documents have been uploaded to this lesson

Condensed Scoring Rubric for Prose Constructed Response Items

Research Simulation Task and Literary Analysis Task

Rubric Categories	Score Point 4	Score Point 3	Score Point 2	Score Point 1	Score Point 0
Reading Comprehension of Key Ideas and Details	The student response demonstrates **full comprehension** of ideas stated explicitly and inferentially by providing an **accurate** analysis and supporting the analysis with **effective and convincing** textual evidence. • Minimum of 3 pieces of textual support	The student response demonstrates **comprehension** of ideas stated explicitly and/or inferentially by providing a **mostly accurate** analysis, and supporting the analysis with **adequate** textual evidence. • Minimum of 3 pieces of textual support	The student response demonstrates **basic comprehension** of ideas stated explicitly and/or inferentially by providing a **generally accurate** analysis and supporting the analysis with **basic** textual evidence. • Minimum of 3 pieces of textual support	The student response demonstrates **limited comprehension** of ideas stated explicitly and/or inferentially by providing a **minimally accurate** analysis and supporting the analysis with **limited** textual evidence. • Minimum of 2 pieces of textual support	The student response demonstrates **no comprehension** of ideas by providing inaccurate or no analysis and **little to no** textual evidence.
Writing Written Expression	The student response • addresses the prompt and provides **effective and comprehensive** development of the claim or topic that is **consistently appropriate** to the task by using **clear and convincing** reasoning supported by **relevant textual** evidence (details effective and vivid); • demonstrates **purposeful** coherence, clarity, and cohesion, making it **easy to follow** the writer's progression of ideas; • Strong **opening and closing;** • **Compositional risks** successful and advanced; • establishes and maintains an **effective** style, attending to the norms and conventions of the discipline.	The student response • addresses the prompt and provides **mostly effective** development of the claim or topic that is **mostly appropriate** to the task, by using **clear** reasoning supported by **relevant textual** evidence (details appropriate and varied); • demonstrates coherence, clarity, and cohesion, making it **fairly easy to follow** the writer's progression of ideas; • Strong **opening and/or closing;** • **Compositional risks** effective • establishes and maintains a **mostly effective** style, while attending to the norms and conventions of the discipline.	The student response • addresses the prompt and provides **some** development of the claim or topic that is **somewhat appropriate** to the task, by using **some** reasoning and **text-based** evidence (uneven development of details); • demonstrates **some** coherence, clarity, and/or cohesion, making the writer's progression of ideas **usually discernible (clear) but not obvious;** • Generally has **opening and closing;** • Attempts **compositional risks;** • has a style that is **somewhat** effective, **generally** attending to the norms and conventions of the discipline.	The student response • addresses the prompt and develops the claim or topic and provides **minimal** development that is **limited in its appropriateness** to the task by using **limited** reasoning and **text-based** evidence (unelaborated details); *or* • is a developed, text-based response with **little or no awareness** of the prompt; • demonstrates **limited** coherence, clarity, and/or cohesion, making the writer's progression of ideas **somewhat unclear;** • May lack **opening and/or closing;** • No evidence of **compositional risks;** • has a style that has **limited** effectiveness, with **limited** awareness of the norms of the discipline.	The student response • is **undeveloped** and/or **inappropriate** to the task (details random, inappropriate, or barely apparent); • **lacks** coherence, clarity, and cohesion. • May lack **opening and closing;** • No evidence of **compositional risks** • has an inappropriate style, with **little to no** awareness of the norms of the discipline.
Writing **Knowledge of Language and Conventions**	The student response to the prompt demonstrates **exceptional command** of the conventions of standard English at an appropriate level of complexity. There may be a **very few, if any, errors** in mechanics, grammar, and usage, but **meaning is clear.**	The student response to the prompt demonstrates **full command** of the conventions of standard English at an appropriate level of complexity. There may be a **few minor errors** in mechanics, grammar, and usage, but **meaning is clear.**	The student response to the prompt demonstrates **some command** of the conventions of standard English at an appropriate level of complexity. There **may** be errors in mechanics, grammar, and usage that **occasionally impede understanding**, but the **meaning is generally clear.**	The student response to the prompt demonstrates **limited command** of the conventions of standard English at an appropriate level of complexity. There **may** be errors in mechanics, grammar, and usage that **often impede understanding.**	The student response to the prompt demonstrates **no command** of the conventions of standard English. **Frequent and varied errors** in mechanics, grammar, and usage **impede understanding.**

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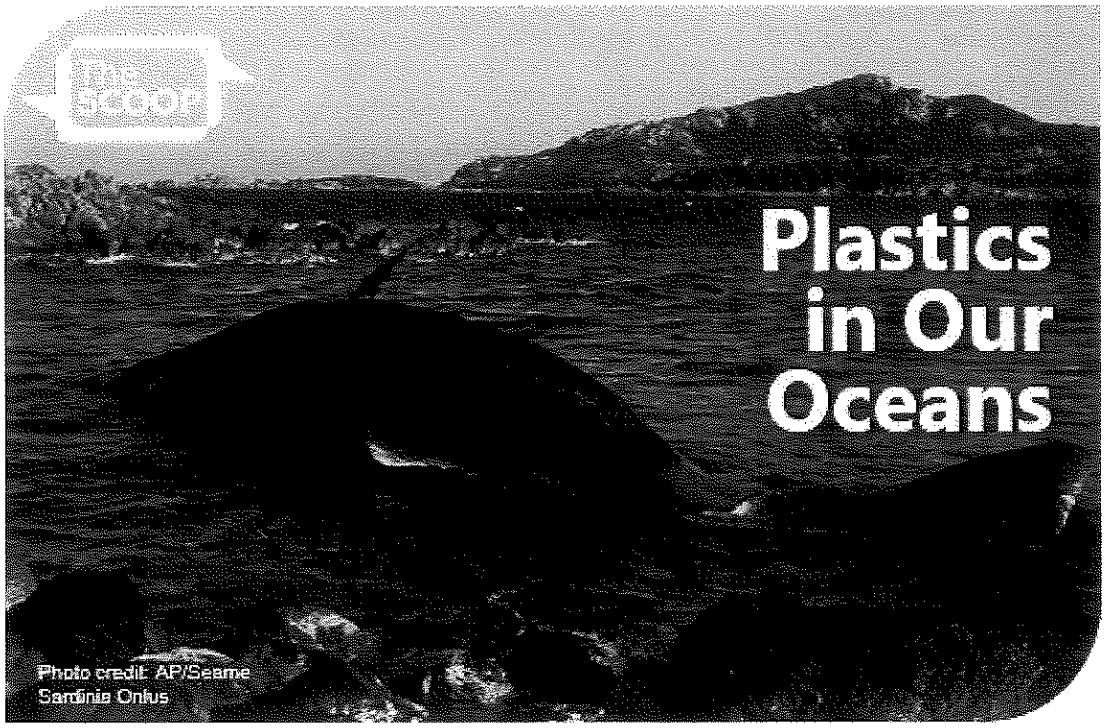
Plastics in Our Oceans

Article



- **Hundreds of thousands of tons of plastic ends up in our oceans each year.**
- **Marine life is dying from ingesting and becoming entangled in plastic.**
- **Forty-eight pounds of plastic found in one whale's stomach**

Not long ago, a 26-foot (8-meter) sperm whale washed up on a beach in Italy. Clearly, it hadn't died of natural causes. When scientists opened up the whale's stomach, they didn't find squid or fish. What they *did* find was a corrugated tube for electrical works, plastic plates, plastic shopping bags, tangled fishing lines, and a laundry detergent package with its bar code still legible. The whale had unwittingly become a vessel for plastic that humans had thrown in the trash without a thought. And the plastic was so plentiful that it prevented the animal from being able to digest actual food. Just how plentiful? There were *48.5 pounds* (22 kilograms) of plastic garbage in the whale's gut.

"It is the first time we have been confronted with an animal with such a huge quantity of garbage," said Cinzia Centelegghe, a biologist with the University of Padova.

Most plastic ever swallowed by a whale… Not a record anyone was looking to set.

And this wasn't the first discovery of a whale full of plastic. In 2018, a dead sperm whale was discovered off the coast of Indonesia with more than 13 pounds (6 kilograms) of plastic in its belly. In fact, in the last two years, at least five other whales have died after ingesting large amounts of plastic.

It sounds horrifying, but it really shouldn't be surprising. After all, the World Wildlife Foundation (WWF) says that between 150,000 and 500,000 tons (136,078 and 453,592 metric tons) of plastic objects wind up in Europe's seas each year. The seas are also littered with 70,000 to 130,000 tons (63,503 and 117,934 metric tons) of micro-plastics annually.

And that's just one part of the planet. The National Oceanic and Atmospheric Administration (NOAA) says that every year, about 8.8 million tons (8 million metric tons) of plastic make their way into the world's oceans. That's the weight of nearly 90 aircraft carriers.

So it's no wonder that all kinds of marine life swallow or become entangled in plastic.

The death of the whale in Italy—and sheer amount of plastic it was carrying—prompted an alarm call from the WWF over the dangers of plastic waste in the Mediterranean Sea. And soon thereafter, the European Parliament approved a new law banning a wide range of single-use plastic products, including plates and straws. The law goes into effect in 2021.

This isn't just a Mediterranean problem; it's a worldwide one. Experts say that solving it will require all of us to change our habits.

"We have been using disposable plastics in a carefree way in these years, and now we are paying the price," said Italian Environment Minister Sergio Costa. "The war on disposable plastics has started. And we won't stop here."

The Associated Press contributed to this story.

What's Your Take?

Elaborate on whether or not the U.S. should ban single-use plastic products like the European Union is doing starting in 2021.

What evidence from The Scoop supports the idea that plastic is a growing environmental problem?

Brainstorm possible ways to reduce the amount of plastic in the oceans. What are the advantages and disadvantages of each of those solutions?

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Island Beach Covered in Trash

Article

ADAMSTOWN, Pitcairn Islands (Achieve3000, June 21, 2017). In 2015, researchers traveled to Henderson Island, a tiny island in the middle of the Pacific Ocean. They were astonished to find an estimated 38 million pieces of trash, mostly made of plastic, washed up on the beaches. There were toy soldiers, dominos, hair combs, hundreds of hard hats of every shape, size, and color, and more. The researchers say the density of trash was the highest recorded anywhere in the world. In May 2017, they published a report about their findings in the journal *Proceedings of the National Academy of Sciences*.

Credit for photo and all related images: Jennifer Lavers/AP

Researchers were astonished to find about 38 million pieces of trash washed up on the beaches of this tiny, uninhabited island in the Pacific Ocean.

The amount of trash on Henderson Island may seem unlikely. After all, the island is uninhabited. It is only about 6 miles (10 kilometers) long and 3 miles (5 kilometers) wide. And Henderson Island is part of the Pitcairn Islands, which are located in the South Pacific about halfway between New Zealand and Chile. Henderson Island is so remote that Jennifer Lavers, a marine biologist and research scientist at Australia's University of Tasmania —and one of the researchers who journeyed to the island—said she was late to her own wedding after the boat coming to collect the researchers from the island was delayed.

So where did all the trash on Henderson Island come from? The island may be far from major landmasses, but it is at the edge of a large system of circulating ocean currents known as the South Pacific Gyre. Ocean gyres tend to capture and hold floating trash that has made its way into the ocean. A significant amount of trash from the South Pacific Gyre washed ashore on Henderson Island. According to Lavers and her team, the trash that had accumulated there weighed an estimated 17.6 tons (about 16 metric tons). More than two-thirds of it was buried in shallow sediment on the beaches. The researchers cleared trash from part of the beach and then watched new pieces wash up, Lavers said. After that, they estimated that more than 13,000 pieces of trash wash up on the island each day.

Lavers said she noticed green toy soldiers among the trash. She recognized them as identical to those her brother played with as a child in the early 1980s. There were toothbrushes and red motel pieces from the Monopoly board game. Lavers said she sometimes found herself getting mesmerized by the variety and colors of the plastic that she saw littering the island. Then, the tragedy of it would sink in.

"The quantity of plastic [on Henderson Island] is truly alarming," she said. "It's both beautiful and terrifying."

As the researchers sorted through the trash, they found a sea turtle that had died after getting caught in an abandoned fishing net. They found a crab that was living in a cosmetics container.

Plastic waste that enters the marine environment is a global problem, the *Henderson Island News* wrote in an October 2015 newsletter about the expedition to the island. In the newsletter, researchers implored readers to dispose of trash in a way that is environmentally friendly, including recycling and reusing plastic items. This would help to reduce the amount of plastic that makes its way into oceans.

Using fewer plastic products would help, too, and this is exactly what Lavers decided to do. She said she was so appalled by the amount of plastic in the oceans that she traded in her plastic iPhone case and toothbrush for bamboo ones. After all, bamboo is biodegradable.

"We need to drastically rethink our relationship with plastic," Lavers explained. "It's something that's designed to last forever, but [it's] often only used for a few fleeting moments and then tossed away."

The Associated Press contributed to this story.

Dictionary

appalled *(adjective)* disgusted or horrified

biodegradable *(adjective)* capable of being slowly broken down into harmless products by the action of living things, such as bacteria

cosmetics *(noun)* makeup and other products used to improve the appearance of the face, skin, hair, or nails

mesmerize *(verb)* spellbind; fascinate

sediment *(noun)* material (e.g., stones and sand) deposited by water, wind, or glaciers

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The Plastic Problem

Article

PART 1

NEW YORK, New York. When plastic ends up in the ocean, it can potentially be harmful to fish and other wildlife. Now, a new study from the Proceedings of the National Academy of Sciences suggests that there is less floating plastic in the world's oceans than previously thought.

The study drew on results from a research ship that traveled around the world. The vessel used a mesh net to capture floating debris at 141 sites. Based on the amount of plastic the net caught, researchers estimated the total amount of floating plastic debris in the open ocean at about 7,000 to 35,000 tons (6,350 to 31,751 metric tons). That's a lot less than previously estimated, said Andrés Cózar of the University of Cádiz in Spain. Based on data going back to the 1970s, scientists had thought there were about 1 million tons (907,185 metric tons) of floating plastic.

Scientists have long been concerned about plastic pollution in the ocean. Plastic debris from land reaches the ocean mostly through storm water runoff. Because of winds and ocean currents, much of it ends up concentrated in "patches." Two of these areas are called the Western and Eastern Pacific Garbage Patches. However, there are other concentrations as well. It is difficult to pinpoint the exact location and amount of plastic in the world's oceans because debris is constantly moving with the winds and currents.

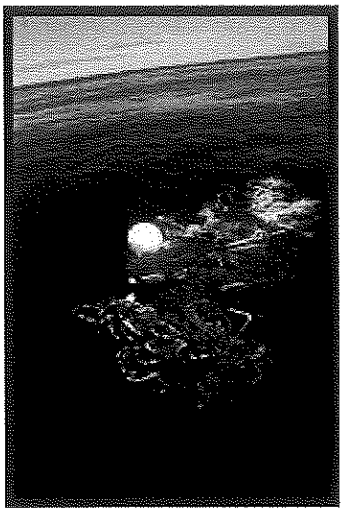


Photo credit and all related images: AP/Scripps Institution of Oceanography, Mario Aguilera, File

This image shows a patch of sea garbage in the Pacific Ocean. A study released by the Proceedings of the National Academy of Sciences in 2014 estimated the total amount of floating plastic debris in the ocean at 7,000 to 35,000 tons (6,350 to 31,751 metric tons).

The new research found that plastic is widely distributed, but concentrations were highest in five areas that were predicted by ocean current patterns. They are west of the U.S., between the U.S. and Africa, west of southern South America, and east and west of the southern tip of Africa.

Of the plastic pieces caught by the research ship's net, most were less than about a fifth of an inch (2.5 centimeters) long. Some floating pieces are small when they enter the ocean. These include the microbeads found in some toothpastes and cosmetics, as well as industrial pellets used to make plastic products. Other small pieces can result when wave action breaks up larger objects, like bottle caps, detergent bottles, and shopping bags.

The mesh net turned up fewer small pieces than expected, and it will be important to figure out why, researchers said. Perhaps small fish are eating the tiniest pieces. Scientists are not certain how eating plastic would affect the fish. They do know that animals can mistake plastic for food. They also know that most plastic contains toxic substances that can be deadly when ingested. Consumption can lead to malnutrition or starvation. That's because once plastic is in the stomach, it can make an animal feel full.

Kara Lavender Law studies plastic pollution but was not involved in the new study. Law agreed that the impact of plastic on fish and birds is hard to assess. That's because scientists don't fully understand things like how much plastic animals encounter and how animals might be harmed if they swallow it. Still, she said, plastic in the ocean is never a good thing. And while there may be less plastic than previously estimated, any amount is too much.

"We are putting, certainly by any estimate, a large amount of a synthetic material into a natural environment," Law said. "We're fundamentally changing the composition of the ocean."

The Associated Press contributed to this story.

PART 2

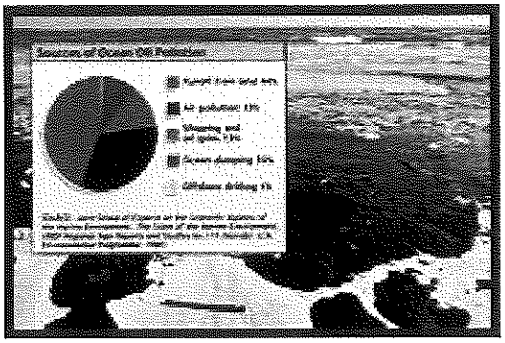
Dig Deeper

Every part of the ocean is polluted. Solid waste is a visible form of pollution along ocean shorelines. This waste includes plastic garbage, tar balls, and hypodermic needles. Trash washes up on beaches worldwide. It even washes up on the beaches of remote islands. Sea animals may mistake trash for food. They might eat plastic. The plastic can block their digestive systems. Animals also get tangled in plastic waste. They can even be strangled by it.

Most ocean pollution is harder to see than solid waste. Chemical pollutants and nuclear wastes are found in all parts of the ocean; so are heavy metals like mercury and lead. These pollutants are known to harm and kill ocean life. They are also harmful to humans. Pregnant women are sometimes advised not to eat tuna and other fish. This is because the fish may contain low levels of toxic mercury. The small amounts of mercury may not harm an adult. But they could damage the developing child.

Human waste, sewage, and fertilizers have caused *dead zones* in the ocean. These are areas where no plants or animals can live. The pollutants named above contain nutrients. They cause a huge increase in the amount of algae that live in an area. When the algae die, bacteria consume them. The large numbers of bacteria use up all the oxygen in an area of ocean. The animals in the area cannot survive without oxygen.

Some pollutants are dumped directly into the ocean. Many other pollutants wash from the land into the ocean. They may also wash into rivers that flow into the ocean. Oil spills are dramatic events that kill many animals. But they account for only a small percentage of the oil pollution in the ocean. More oil enters the ocean by washing off the land than by being spilled. Pesticides also wash into the ocean from land; so do fertilizers and many other pollutants.



Credit: Houghton Mifflin Company (inset); Danny E Hooks/Shutterstock (background photo)

Remember that the ocean is a connected global body of water. Ocean currents circulate water around the globe. They carry pollutants to all parts of the ocean. Pollution that occurs in any part of the world can affect the whole ocean. The United Nations made a law in 1994. It is called the Law of the Sea. The law attempts to manage ocean resources. It also attempts to conserve ocean environments. The law calls on all countries to enforce pollution controls. It also sets pollution rules for ships operating in international waters. It regulates fishing and attempts to divide rights to undersea resources as well. This international law is an important step toward protecting the ocean and its resources for future generations.

Dictionary

assess *(verb)* to make a judgment about something

cosmetics *(noun)* makeup and other products that help a person look better

pollution *(noun)* the release or presence of harmful substances into the air, water or land

resource *(noun)* any type of material or energy found in nature that humans use to meet their needs

synthetic *(adjective)* artificial

McKenzie Holmes

Dickinson and Jenkins

ELA

Plastic Damaging Our World

Imagine being in a world where humans get sick easily because of pollution. The chemicals from the plastic filtering with our air and affecting us when we breathe. Unfortunately, there are only some people who are trying to stop the problem before it is too late. Humans are throwing too much waste in the ocean. This problem is killing and damaging sea life. Also, it is destroying the beaches. Plastic waste from human use that enters the marine environment is a global problem that needs to be solved.

THE PLASTIC PROBLEM

To begin with, the plastic enters the ocean by people throwing their trash on the ground and the wind carries it onto the beaches and into the ocean. The majority of the plastic in the ocean is located along the lines of the water near the beaches. The type of plastic that researchers and all find most of the time are tiny pieces of plastic found in everyday used things. Plastic moves around by the waves in the ocean crashing down on top of them, which is also why there are pieces of plastic that are so tiny.

Effects on marine animals. Plastic in the ocean kills or damages the sea life. The animals eat the plastic and garbage because most of the time they think it's the food or prey they eat on a day to day basis. A 26-foot sperm whale washed up on the beach of Italy dead. It consumed so much plastic that the whale couldn't even digest real food. There were exactly 48.5 pounds of plastic in

the whale's gut. And that was not just a one-time thing, there was also a spotting of another sperm whale full of plastic and dead. They found more than 13 pounds of plastic in its belly. Cinzia Centelegghe, a biologist with the University of Padova, said something about this awful sighting,"It is the first time we have been confronted with an animal with such a huge quantity of garbage." ("Plastics in Our Oceans.") Between 150,000 and 500,000 tons of plastic objects go into seas each year. It is a truly awful and disgusting thing to see.

Effects on Islands. The large amounts of plastic floating in the sea damages the beaches, making them gross. A group of researchers traveled to Henderson Island in 2015. They found an estimated amount of 38 million pieces of trash on the beaches on the island that was mostly made of plastic. Jennifer Lavers, a marine biologist and research scientist at the Australia's University of Tasmania says,"We need to drastically rethink our relationship with plastic, it's something that's designed to last forever, but it's often only used for a few fleeting moments and then tossed away." ("Island Beach Covered in Trash.") It is awful when you want to walk on the beach and you see all this trash on it.

The solution to the problem. Recycling and reducing the number of plastics used will help solve the problem. Jennifer Lavers, the marine biologist decided to trade in her plastic iPhone case and her toothbrush for bamboo ones since bamboo is biodegradable. There are about 7,000 to 35,000 tons of floating plastic debris in our oceans. If we could just learn to be more aware of what we use or what we produce out of our factories, we can live happily. In a world that won't be hazardous to life and things. Animals are dying because of plastics. They could live a happy and healthy life with the rest of us if we change our ways. It's a lot to ask for but we can do it as humans who need to care for the earth since we live on it.

CONCLUSION

In conclusion, a global problem that must be solved is plastic waste from human use enters the marine environment. We can stop the damaging effects of plastic by picking up any trash we see and throwing it out so are little and big marine friends can live happy and healthy and our beaches can be beautiful. So remember, the next time you see tons of trash take time out of your day to pick it up, it may not be that much trash but less trash equals the closer we become to have beautiful and healthy earth.

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Plastic in the Ocean is a Global Problem

There is too much plastic in the ocean from human waste. It is a global problem that needs to be solved. The plastic kills marine life such as turtles, fish, and whales. This plastic has also polluted too many beaches. Some of the beaches are covered in hundreds of pounds of plastic and it needs to go.

THE PLASTIC PROBLEM

All around the world, there is a major problem. This is all the plastic that winds up in the ocean and the plastic that lands on the beaches. Too many people throw their trash anywhere without thinking about the consequences. Some people try to throw their trash out properly but then it ends up missing the trash can or the wind blows it out. The majority of the plastic goes the Great Pacific Garbage Patch between Hawaii and California. There they have only found hundreds of thousands of tons of trash. This is roughly only one percent of the plastic found in the ocean. Ninety percent of the trash found in the ocean is styrofoam food containers. An issue with the trash is that it moves all around the ocean, this happens because it is so light that the tide can just pull it wherever it goes, the waves move it all over the place and can break it into multiple pieces, and the wind blows the trash everywhere.

Effects to Sea Life. Waste in the ocean is damaging and killing marine life. Plastic kills so much of the marine life and this death needs to be stopped. A beached whale in the Philippines was

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found with 88 pounds of plastic in its stomach. One hundred thousand marine animals die from plastic each year. These are only the animals that are found. There could be thousands more that die from plastic each year. That number will get higher every year because of garbage being dumped off of cargo ships and cruise liners. There are already fourteen billion pounds of trash in the ocean and more trash keeps getting dumped into it. If this doesn't stop then marine life will just keep dying faster every year.

Pollution on our beaches. The plastic isn't all in the oceans either, a lot of it ends up on beaches. An island in the middle of the Pacific Ocean was found with thirty-eight million pieces of trash and most of it was plastic. The plastic on the island had accumulated up 17.6 tons of trash. After it was all cleaned up a bunch more came onto the island. It was estimated that more than thirteen thousand pieces of trash land on the island each day. The plastic on these beaches kills at least one million seabirds a year, and these are only the ones found.

CONCLUSION

In conclusion, a global environmental issue that must be prevented is the overuse of plastic that ends up in oceans. The vast amount of plastic in the ocean is destroying the beaches and causes sea life to die or become sick. This problem of plastics in the ocean can be solved if everyone makes a change. The next time you see trash on the ground, be sure to pick it up and dispose of it properly. Also, bring a metal straw instead of using plastic ones.

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A Problem With Society and the Ocean

Have you ever wondered how much plastic is in our oceans? Unfortunately, there's no way we could tell how much there is exactly, but we can estimate. There's approximately 8 million tons of garbage making its way into our oceans annually. The bad thing about that much plastic is that whales die from it, so do turtles, some fish, and many other marine animals. Even islands and beaches are being destroyed by garbage, most of it being plastic. People must stop using plastic because it's destroying the environment.

The Plastic Problem

Plastic has been floating around in our oceans for years and nobody has been doing anything about it. People will dump plastic in the ocean or it will fall into the ocean by accident. Most of it winds up in patches near islands and certain areas of the ocean. One commonly known garbage patch is the Great Pacific Garbage Patch. Some of the most common plastics are soda bottles, plastic straws, and utensils. Plastic straws are the most popular plastic item that people think of when they think of plastic in the ocean, and it's for a good reason. Plastic straws are the most easily swallowed plastic items and can get caught in other areas of a sea creature's body. Even worse, plastic is constantly being moved and tossed around by the ocean's current. This can affect many different creatures and the ocean itself.

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Effects on marine animals. Some sea animals, such as whales, can consume dangerous amounts of plastic. One whale washed up on the shore dead because it consumed 48.5 pounds of plastic garbage, which was a new world record nobody was looking to set. Also, a turtle was on the beach and had a straw wedged in his nose. This turtle lived, but the same cannot be said for other sea turtles. One sea turtle was washed up on Henderson Island and died in an abandoned fishing net. Cinzia Centelegghe, a biologist with the University of Padova, says "It is the first time we have ever been confronted with an animal with such a huge quantity of garbage." ("Plastic in Our Oceans") If we keep wasting plastic or throwing it in the ocean, all marine life could one day go extinct. That's not something anyone wants, no matter what the situation is.

Effects on Islands and Beaches. Animals aren't the only ones suffering from this, however. Islands and beaches are being covered in trash on the daily. One of these islands that are getting engulfed by trash is Henderson Island. When some people went there back in 2015, they collected all the trash and counted up 38 million pieces of garbage, most of it being plastic. Many animals died on this island because of all the waste there. There was a turtle that died in an abandoned fishing net and a crab living in a cosmetics container. A team measured that about 13,000 pieces of garbage wash up on Henderson Island on the daily. This means that the density of trash was the highest anywhere because the island is so small yet it holds so much garbage. Marine biologist Jennifer Lavers says "The quantity of plastic on Henderson Island is truly alarming."("Island Beach Covered in Trash")

A solution? A problem solver, however, could be either recycling a lot more or just ditching plastic altogether. Starbucks announced its removal of plastic straws and will be swapping to paper straws by 2020. This is truly amazing because Starbucks gives out 1 billion plastic straws

annually to customers. If we keep using these plastic items, this problem will get worse and worse as well as harder to fix. It's time we ditch plastic for good.

CONCLUSION

Plastic has never done anyone good, other than make our lives the slightest bit easier. But it's not worth massacring the ocean's animals. It's time we stopped killing whales, turtles, fish, and destroying islands like Henderson Island. Nobody likes plastic in our oceans, which is why we are all doing as much as we can in trying to ditch plastic. Starbucks has already announced the removal of plastic straws, and it's time everyone else did.

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Brenna Bowie
ELA **Period 8**
Informative Essay

Pollution Predicament

Did you know that there are currently up to 35,000 tons of plastic alone floating in the ocean? This is only a small portion of a big problem - air, water, and land pollution. Pollution, whether from plastics or chemicals, can cause a number of environmental and health problems. The natural order of ecosystems are disturbed, and plants and animals can get sick or die. Humans can also catch a variety of diseases or develop other health problems. These 3 forms of pollution - air, water, and land - all have extremely damaging effects to our world and everything living on it.

Have you ever taken a trip to the beach, and when you get there you notice tons of waste washed up along the shoreline? This is just one effect of water pollution. Ocean pollution is when plastic and other wastes end up in the ocean, and float around forever, causing problems everywhere they go. Ocean pollution can also be from chemicals that reach bodies of water through stormwater runoff. Marine life can mistake plastics for food and sometimes eat them. This causes the animal to feel full when they actually aren't, starving themselves to death. Also, trash in the ocean can tangle around sea life and kill them. Plus, there can be chemicals that run off into the ocean, forming "dead zones", where no life can be supported. Contaminated fish can also get humans sick if they are caught and eaten. On top of that, water quality is being degraded due to all of the pollution. Kara Lavendar Law is a scientist who studies plastic pollution. In the

Achieve3000 article, The Plastic Problem, it states, "We are putting, certainly by any estimate, a large amount of a synthetic material into a natural environment," Law said. "We're fundamentally changing the composition of the ocean." (The Plastic Problem). Overall, ocean pollution is terrible for the environment. However, that's not the only form of waste that has harmful effects.

Pollution can also appear in the air. Air pollution can be in the form of smog, which is a type of chemically contaminated fog. Factories, power plants, and vehicles all contribute to smoggy air. People and animals breathe in the unhealthy air, which can cause cancer, organ failure, birth defects, and other health problems. Also, air pollution contributes a lot to climate change/ global warming. In the National Geographic article, Air Pollution, Explained, it says " Worldwide, bad outdoor air caused an estimated 4.2 million premature deaths in 2016, about 90 percent of them in low- and middle-income countries, according to the World Health Organization" (Air Pollution, Explained). In the end, air pollution is a big issue that is very hazardous to everything on Earth. There is another form of pollution that can have the same effect.

Have you ever walked down a road, glanced to your side, and noticed piles of garbage all over the ground? This is a visual aspect of land pollution, which is the waste found in and on the Earth's surface. Land pollution degrades soil quality all over the world, making plant growth almost impossible. In fact, it takes 500 years to produce 2.5 cm topsoil in ideal conditions. Also, when people come into contact with contaminated soil, they can develop serious health conditions. One toxic chemical is PCB, or polychlorinated biphenyl. In the GreenTumble article, The Main Causes of Land Pollution, it states, "Today, almost all soil has at least small amounts of PCB"(The Main Cause of Land Pollution). Our Earth is being destroyed, and humans are responsible.

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In conclusion, air, land, and water pollution all have negative effects on the environment, as well as all of us. Plants, animals, and humans alike can become sick or die all because of what we are doing to the environment. We must make a change and save our planet before it's too late!

BB

Morgan Burphy

Mrs.Jenkins

Honors Writing 8

"Sealife is Coughing up your Straws"

Each year 100,000 marine creatures are found dead due to entanglement and digestion of plastic. However those are only the ones that are found to image all sea life being killed by our plastic each hour each minute, each second. This is important because the ocean provides almost ⅙ of the animal protein we eat and with the deaths of many marine creatures that can cause over pollution and low pollution in the sea. Although this problem should have been stopped when it started I have come up with a few solutions. Firstly,similar to (I forgot what place made this law) we should slowly get rid of plastic and slowly start to purchase metal Utensils. Secondly, littering should be held to an even night standard especially near rivers, oceans and things of that nature. Sealife is slowly dying from each of our straws, plastic shopping bags and plastic wrapping even. This needs to be stopped and if could be somewhat stopped with my solutions.

PLASTIC PROBLEMS

Sea Life or Marines creatures whatever you chose to call it is in danger because of our plastic. Dying from plastic entanglement and plastic diegetison each day doing this can cause low and high pollution. It's estimated that up to 13 million tons of plastic ends up in the ocean each year that is equivalent to rubbish or garbage truck load's worth every minute. Fish, seabirds, sea turtles, and marine mammals can become entangled in or ingest plastic debris, causing

suffocation, starvation, and drowning. This leads to low pollution meaning that the fish will continue to die from plastic cause low pollution. For example with nearly 90 pounds of plastic waste in the stomach of a young caviar beakers whale that died due to the fact that it starved to death. It could no longer felt the need to disgust food since after eating the plastic is made the whale feel full messing with its insides. Another example of what plastic is doing to sea life is tenderly a baby turtle was found with 104 pieces of plastic in its belly. This turtle also died from malnutrition due to consumption of plastic. Many experts say (something an expert said). All this results to the death of marine creatures because of this plastic problem that will not be stop unless we stop it.

Solution To Plastic 1

Firstly plastic is a bad problem that has to be stopped because of all the terrible effects of it. Bangladesh was the first country to ban plastic bags in 2002. China, Israel, South Africa, the Netherlands, Morocco, Kenya, Rwanda, Mauritania, Sri Lanka, Papua New Guinea, Vanuatu, Albania and Georgia have since implemented similar bans. We should slowly get rid out plastic and slowly start to purchase metal Utensils and put out a law against it. Yes a law is something that will put an end to all use of plastic. Finding a place to dispose of all of it properly and continuing on with metal things. This law will stop people from using anything plastic and urge them to dispose of it probably or face consequences. This will better the ocean because it's less plastic going into the ocean which is better from the sea life. This law will be named say no to plastic something short and simple however the problem is stopping in nothing short and simple. This law will take a while to be put into action but it should go through every possibility to make it better. Experts say "Blue Planet II brought stunning, spellbinding and sensitive animals into

our hearts and minds. But it also showed many ways in which we are damaging our fragile yet essential marine environment. There has been a global reaction to better protect the marine world. With deeper scientific understanding we can manage the threats and find solutions that help save our seas." Blue Planet is a series about the terrible things going on in the ocean also relating to the ocean problem at hand. This law will improve the problem at hand and make it better for sea life.

Plastic problem solution 2

Secondly, littering should be held to an even night standard especially near rivers, oceans and things of that nature. This solution is the most simplest and most realistic one because it's just a new rule similar to others. Littering plastic near a river, ocean, sea and not disposing of your plastic properly will lead to a huge fine. These fines should weigh from $500 + because of the effect of the plastic. For example making this law will improve the plastic rates in the ocean or anywhere because no one wants to pay a huge fine for something they don't have to do. Experts say that this problem has to be stopped and it's out of control. Rose, who presented BBC Two's recent landmark series Oceans and is one of the UK's most experienced deep sea divers and marine experts, has said that 70% of marine litter is plastic and that the vast majority of this waste comes from the land."We are in the midst of a mad out of control plastic consumption experiment," he told HuffPost UK Monday. This is a law that will help the problem problem that we currently have.

CONCLUSION

To conclude sea-life is slowly dying from each of our straws, plastic shopping bags and plastic wrapping even and we must do something to stop it. This is such an important problem that we need help fix because it's literally the difference between life and death for our sea life. So much more sealife have died due to plastic and it's not going to stop unless someone comes up with a solution. Which in this essay I did that will help better the ocean's current status. The impact is truly terrible, one that leaves tons of sea life dead because of humans. Plastic a material consisting of any of a wide range of synthetic or semi-synthetic organic compounds that are malleable and can be molded into solid objects. Inside of marine creatures causing them to die for the digestion and entanglement. It is time to take a stand against plastic help with the current movement by purchasing metal utensils, especially metal straws. When you say no to plastic your saying no to sea life dying from it.

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ELA-Writing
Period: 8
Informative Essay

There is an epidemic going on that might not seem serious at first but is detrimental to our planet. This issue is plastic pollution in our oceans. This is an important and concerning issue because if we don't fix this now it'll continue to harm sea creatures and pollute our waters. Some easy ways to stop this is by recycling, cleaning beaches, and even reducing the amount of plastic we use. Solutions as easy as these can be used to protect one of the most important things on our planet, our oceans. Plastic Pollution can be solved by cleaning up local beaches, recycling plastic, and getting rid of plastic bags altogether.

More and more plastic is being washed up on our shores, and contaminating the ocean every day. Things like plastic straws, bags, cups, and bottles are choking hazards for sea creatures. Not only is plastic pollution killing wildlife, but it's also making the water that we have to drink dirtier, which is unhealthy for us. This is a huge problem because some of these plastics release chemicals that are dangerous to humans and wildlife if ingested. In the text it says," when plastic ends up in the ocean it can potentially be harmful to fish and other wildlife ... The total amount of floating plastic debris in the ocean is about 7,000-35,000 tons ... Scientists have long been concerned about plastic pollution" (The Plastic Problem). While this is a bad problem, thankfully there are some solutions we can use to fix it.

As introduced at the end of the last paragraph, a solution we can use to fix this predicament is cleaning our beaches and coastlines. Now, this may not sound like it will have a long term effect but if we can get enough people to do this it'll greatly improve the plastic pollution problem. To help you can look if there are any volunteer groups near you going to clean up your local beaches. In the text, it says," Over the past 26 years the annual clean up effort removed 153 million lbs of trash from beaches, coastlines, and waterways around the

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world" (Cleaning up our Waters). Overall, we can prevent plastic from getting into our waters by doing things as simple as picking up trash and recycling. Which takes me into my next topic.

Did you know that about 9 million tons of plastic end up in the ocean each year? Recycling is an easy way to solve this issue and the best part is that everyone can do it. Plastic never fully decomposes, so the best way to deal with plastic after use is by recycling or reusing it for another cause. In the text, it says," Volunteers also found 94,000 balloons, 267,000 items of clothing, and 940,000 pieces of food packaging" (Cleaning up our waters). If these items had been recycled or reused they probably wouldn't have washed up in the ocean. Not only is it wasteful but it's dangerous.

To conclude. plastic pollution can be solved by cleaning up local beaches, recycling plastic, and getting rid of plastic bags altogether. It cannot be stressed how important this issue is. Who knows how long we have before marine life dies off and water becomes unusable, and by then it'll be too late. Nobody's saying that every week you have to go out and clean beaches but even spreading awareness about this topic can encourage people to take a stand. How long do you think we'll last doing nothing before this issue takes over?

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