

LEAPES Summer Assignment

Human activities have been the source of environmental pressure and a decline of biodiversity on Earth. There are 5 major ways that humans have been impacting the environment:

- 1) **Habitat loss** causing the decline of species diversity
- 2) Movement of **exotic species** around the world
- 3) **Overharvesting** causing the decline in populations of species
- 4) **Pollution** which can have harmful health effects of species
- 5) **Climate change** which can have the potential to affect species diversity

Your assignment is to research each of these impacts and develop a plan that can mitigate or remediate the negative effects they cause. **ANSWER ALL QUESTIONS ON A SEPERATE GOOGLE DOC, THEN COPY AND PASTE YOUR FINAL ANSWERS INTO THE GOOGLE FORM “LEAPES Summer Assignment.”**

Your Action Plan- *Questions 4, 8, 11, 14, 18 ask you to develop an action plan*

The purpose of an action plan is to develop a strategy to reduce the negative human impacts on the environment. There is no one correct answer. Don't be afraid to be creative or look up ways people have been handling this problem in the real world. Your action plan can include new technologies, strategies, laws, taxes or subsidies, or any techniques that you can think of that will help reduce the human impact that you have researched. **Each action plan should be at least 2 paragraphs in length; one paragraph outlining the details of your plan, and one paragraph describing how your plan helps to combat the human impact.**

Grading

Your grade will be based on you fully answering the questions on the Google Form “LEAPES Summer Assignment.” **It will count as your first homework grade of the year.** Read the information below to help answer the questions.

Instructions

Habitat Loss

As human population increases, the demand for land also increases. Urbanization, dam construction, and agriculture are three ways that humans have encroached onto native habitat. For example, Nassau County was home to the Hempstead plains before the Industrial Revolution, a sprawling grassland that extended from the Harbor Hill moraine on the north shore to the south shore of Long Island. Today the grassland is all but paved over and built up, making room for residential neighborhoods and commercial districts. As native habitat is removed, the living things that live there are displaced, which can lead to a decline in biodiversity.

Exotic Species

An exotic species is one that is not native to an area. Species like the Zebra Mussels, European Starling, and Mute Swan are all common species found in the eastern United States

that are not native to the United States. When an exotic species is introduced into a new area and causes harm to the ecosystem, they are considered an invasive species.

The link below provides a list of invasive species found in New York state.

<http://nyis.info/species-information/>

Overharvesting

Many fisheries in the Atlantic Ocean have been nearly harvested to extinction. Species like the Atlantic Cod and Atlantic Salmon are commercial species whose populations have decreased to dangerous levels. Most species of whales were hunted to near extinction for their blubber and have since been protected by federal law, making it illegal to hunt them. Some species are overharvested unintentionally, this is called bycatch, where species that are not being targeted get caught in nets and are killed.

<https://www.seafoodwatch.org/>

<https://www.seafoodwatch.org/ocean-issues/fishing-and-farming-methods>

<https://www.seafoodwatch.org/ocean-issues/aquaculture>

<http://www.fao.org/fisheries/en/>

<https://www.fisheries.noaa.gov/>

Climate Change

As population increases, the demand for energy also increases. Most of the energy used in electricity production and transportation come from burning fossil fuels like coal, oil, and natural gas. When these fuels are burned, they release greenhouse gases such as carbon dioxide into the atmosphere, which trap infrared (heat) energy and causes the air temperature on Earth to increase. As temperatures rise, sea levels rise causing dangerous and costly impacts on coastal communities. Higher temperatures also contribute to the spread of infectious diseases to new locations. With more energy in the atmosphere, the incidence of more extreme weather has also been observed that have been connected to climate change

<https://www.ipcc.ch/>

<https://www.noaa.gov/climate>

<https://climate.nasa.gov/evidence/>

Pollution

As human population increases so does the amount of pollution generated. Water pollution include industrial chemicals discharged into rivers and bays, fertilizer runoff from agricultural and residential land, and contamination from medication and oil from humans. Air pollution comes from emissions from fossil fuel power plants, fertilizer production, and car emissions. When humans are exposed to these pollutants, there are negative health effects that are observed that include, emphysema, lung disease, and genetic disorders.

<https://www.worldwildlife.org/threats/pollution>

<https://www.niehs.nih.gov/health/topics/agents/air-pollution/index.cfm>

<https://www.nrdc.org/stories/water-pollution-everything-you-need-know>