

A close-up photograph of a snail with a yellow, spiraled shell moving across a large, vibrant purple flower petal. The snail's body is a brownish-grey color, and its two long eye stalks are extended forward. The background is a soft-focus green, suggesting other foliage.

Will Rodden

NONFICTION
RESOURCES

RESOURCE CONTENTS

- 10 Informational Texts
 - Variety of Text Features
 - A & B Response Formats
- 2 Pre-Reading Activities
- 7 Ecosystem PowerPoint Presentations
 - Guided Notes Handouts
- Final Endangered Species Project
- Final Creative Assessment – Interview a Screecher
- Google Slides™ Links for Student Pages
- Answer Keys for Applicable Activities!

INFORMATIONAL TEXTS

HUMAN DISTURBANCES

Informational Text 5

Name:

➤ 10 Nonfiction Readings

➤ Educational Text Features

➤ Glossary of Key Vocabulary

➤ 2 Pages Per Reading

Ecosystems across the globe are interconnected in ways big and small. Some of these connections are easy to see while others are much more mysterious. In all cases, those innumerable¹ links mean the Earth's ecosystems are fragile and susceptible² to change. Change can take the form of natural occurrences, such as hurricanes, drought, and fire. Change can also be caused by human activity. There are several major human activities that have and continue to disrupt ecosystems, changing the way they behave and at times, altering them entirely.

The Biggest Disturbance

Population is the primary factor driving human activity that leads to disruption within and across the planet's ecosystems. As the human population grows, so does the need for resources to support that population. We know the human population has grown exponentially. Typically, a species has a maximum population before it runs out of resources to support that growth. Through scientific advances, humans have developed ways to sustain the Earth's growing population. However, these developments have come at an ecological³ cost.

A Variety of Activities

Population growth is the main driver human activities that disturb ecosystems. Its growth requires land and resources. As a result, humans alter or destroy landscapes to make way for farming, development, housing, mining, and more. Changing the land displaces species of plants and animals and reduces the overall availability of food sources and habitats to them. **Pollution** from all this activity also contributes to ecological disturbances. Chemicals, waste, noise, and even light alter ecosystems and force its inhabitants to adapt, leave, or suffer from the consequences. Humans have also exploited⁵ certain resources, such as cutting trees for lumber or overfishing.

Wildfires & Prevention



For decades, wildfire suppression⁴ methods have been used to prevent and control wildfires. Yet, research now shows these methods have had some *negative* consequences – adding more fuel for fires to burn, more intense fires, and decreased water availability. Evidence supports that wildfire management makes forests more resilient to wildfires.

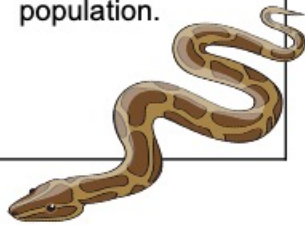
INFORMATIONAL TEXTS

BURMESE PYTHON

The Burmese Python was brought to Florida as exotic pets. However, their size (up to 20-feet long) caused many owners to release them into the wild. Then, in 1992, Hurricane Andrew destroyed a python breeding facility, releasing countless more pythons into the wild.

Now, the pythons have taken over the Everglades. As a result, the mammal population has dramatically decreased. Racoons have declined 99.3%, opossums 98.9%, and bobcats 87.5%. Some species of rabbits and foxes have all but disappeared.

Now, Florida has created incentives to hunt and kill pythons in an effort to reduce the population.



Just as ecosystems across the globe are interconnected so too are humans. Therefore, humans – both purposefully and accidentally – have introduced new species to ecosystems. These **invasive**⁶ species oftentimes greatly disturb ecosystems. For instance, the emerald ash bore hitchhiked a ride on wood from Asia to the United States. Now, the insect is feasting on ash trees throughout North America because the trees do not have natural defenses against the insect. The declining health of those trees then causes change to the larger ecosystem where they live.

Disturbances from human activity have not only impacted ecosystems across the globe but also accelerated impacts on other key resources we depend on. Poorer air quality, water scarcity,⁷ soil erosion, and climate change are all effects of human-driven activities. Fortunately, like humans using science and **innovation**⁸ to support an ever-growing population, people across the globe are working more and more to apply science and innovation in a way that help ecosystems recover from the negative effects of earlier activity. As scientists and researchers continue to discover the connections between ecosystems and humans' relationship with them, efforts to protect these fragile links have made a growing impact. Conservation work has become a powerful tool to reduce and limit the negative effects of human activity on an aging planet.

GLOSSARY OF TERMS

¹ **Innumerable**: too many to be counted

² **Susceptible**: likely or liable to be influenced or harmed by a particular thing

³ **Ecological**: the relationships between living things and their environment

⁴ **Suppression**: the action of stopping something such as an activity

⁵ **Exploited**: make full use of and derive benefit from (a resource)

⁶ **Invasive**: (especially of plants or a disease) tending to spread prolifically and undesirably or harmfully

⁷ **Scarcity**: the state of being in short supply

⁸ **Innovation**: a new method, idea, product, etc.

➤ Appropriate Spacing for Easier Reading

➤ Common Core-Aligned – Informational Texts

➤ Ecosystems & Human Impacts

➤ Critical Thinking Opportunities

INFORMATIONAL TEXTS

Nonfiction Text Analysis A

Name: _____

HUMAN DISTURBANCES

NONFICTION TEXT FEATURES Directions: Fill out the following organizer, identifying the key features of the informational text.

Feature 1: Wildfire & Prevention	Feature 2: Burmese Python
What is it? Name/describe the feature.	What is it? Name/describe the feature.
How does this feature contribute to your understanding of the whole article?	How does this feature contribute to your understanding of the whole article?

KEY TERMS & VOCABULARY Directions: Define the key terms below by using context clues from the text.

Population growth	
Pollution	
Invasive species	

MAIN IDEA & KEY DETAILS Directions: Fill out the graphic organizer below in order to determine the main idea of the text.

Title:		
Key Detail 1:	Key Detail 2:	Key Detail 3:
Main Idea: What is the article mostly about?		

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➤ Comprehension & Analysis Questions

➤ Format A – Text Features, Main Idea

➤ Format B – Analysis Questions

➤ Depth of Knowledge Prompts

INFORMATIONAL TEXTS

Nonfiction Text Analysis B

Name: _____

HUMAN DISTURBANCES

➤ 2 Formats to Allow for Differentiation

➤ Use for Centers or Rotation Model

➤ Pair with Novel – Cross-text Connections

➤ Answer Key & Google Slides™ Links

1. What is the biggest cause of human disturbance to ecosystems? How have humans been able to overcome the challenge they face despite nature having a “maximum”? Support with textual evidence.

2. What other human activities disturb ecosystems? What are the effects of these activities on ecosystems? Support with evidence from the text.

3. How does the “Wildfire & Prevention” text feature deepen your understanding of human activity and its impact on ecosystems? Explain and support with evidence from the text.

4. How does the author support the generalization that ecosystems and humans are interconnected across the globe? Explain and support with evidence from the text.

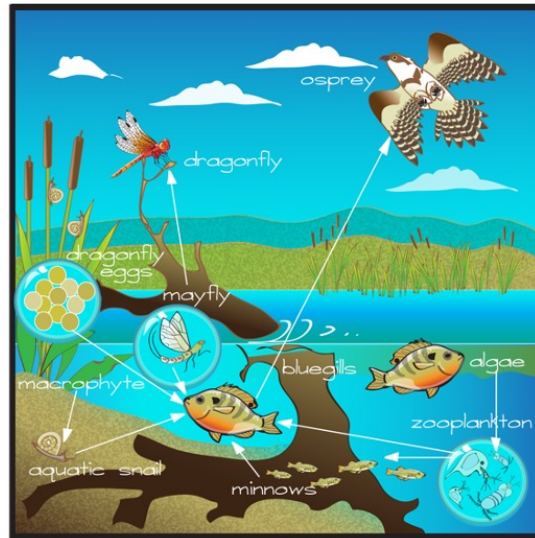
5. Even as humans use innovation to support a growing population, do you think they are doing enough to minimize disturbances to ecosystems? Why or why not? Support with evidence.

6. Based on the article, how would you characterize humans' relationship with nature? How would you summarize humans' attitude toward the environment? Why? Support with details from the text.

PRESENTATION RESOURCES

Key Elements of an Ecosystem Overview

- An ecosystem is the interaction between living and nonliving things in a particular environment
- Biotic factors and abiotic factors shape the ecosystem
- Defined by the flow of energy and nutrients in the system



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- 7 PowerPoint OR Google Slides Presentations - Ecosystems

- Animated Features to Engage Students

Key Elements of an Ecosystem Overview



- A pathway energy and nutrients take in an ecosystem is called a food chain
- A food web is a system of interdependent food chains

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- Editable – Allows for Modifications

- Build Foundational Knowledge

PRESENTATION RESOURCES

Interesting Information



DID YOU KNOW?

- Redwood trees can be 2,000 years old
- Fog accounts for 40% of redwoods' moisture intake
- Forests act as a “carbon sink” and soak up the world’s carbon dioxide and other greenhouse gases
- Family of Five – Five major forests still untouched wilderness
- The North American Boreal forest is one of the last to remain relatively intact and untouched by human activity

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➤ Create Connections with the Novel

➤ Guided Notes to Accompany Presentations

A Forest Ecosystem

- First, go to the following website and locate the map that shows the Family of Five
- <https://www.borealbirds.org/boreal-forest>
- Then, use this interactive forest map that shows change in tree cover. Explain the differences you see.
- <https://www.globalforestwatch.org/map/>



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➤ Includes Travel Brochure Activity for Each Ecosystem

➤ Use for Whole Class Instruction or Small Groups

PRE-READING ACTIVITIES

WHAT WOULD YOU DO?

Ecosystem Activity 1

Name: _____

Directions: Read the scenario below. Carefully consider the situation described. After reading the scenario, circle the option that best describes what action you would take.

SCENARIO

An area of the United States has just been identified as a place yet to be seen or used by modern people. It is pristine and still in its natural state. It contains unique features that cannot be found anywhere else in the entire world. At the same time, the area is home to a resource with enormous value that could potentially help communities in the surrounding area and its people.

YOU have to decide what to do with the land. Read the options below. Then select the best course of action.

- **Not Share at All** – The land remains completely untouched and inaccessible to people.
- **Conserve** – The land remains generally untouched and becomes a place for people to visit and enjoy the scenery.
- **Utilize** – The valuable resource is extracted from land. Extraction would mean the destruction of the land's unique, beautiful features.
- **Conserve & Utilize** – The land is opened to visitors and adventurers, but the valuable resource is also extracted. Some unique, beautiful features would be destroyed, and the resource's value would be lower because it would be harder to extract.

NOT SHARE AT ALL

CONSERVE FOR VISITORS

UTILIZE FOR RESOURCE

CONSERVE & UTILIZE

Directions: Explain the course of action you selected above. Why would you take this action? What would you hope to accomplish? Explain your stance with examples.

- Conservation Scenario – Discussion Resource
- Students Engage with a Debatable Question
- Engagement with Novel's Themes Prior to Reading
- Research & Study Keystone Species

FINAL PROJECT & ASSESSMENT

ENDANGERED SPECIES

Project Overview

Name: _____

For this project, you will research an endangered species, create a scientific report, and compose a commercial advocating for your species. The project will be completed in 5 parts, with each part building on the last and connecting to the others. These steps are described below.

Step	Description & Action Items	Due Date
Part I – Building Background Knowledge	<ul style="list-style-type: none"> To start the project, you will learn about key terms: species, endangered, threat levels, and more. Complete the guided notes handout to use as a resource for vocabulary and key terms. 	
Part II – Species Selection & Research	<ul style="list-style-type: none"> Select the endangered species you will study for the rest of the project. Conduct research on your endangered species and complete the research notes organizer. 	
Part III – Scientific Report	<ul style="list-style-type: none"> Organize and analyze your research to create a scientific report. Create a report that details the endangered species ecosystem, its daily life, threats, and more. 	
Part IV – Advocacy Commercial	<ul style="list-style-type: none"> Brainstorm and draft a commercial to advocate for your endangered species and encourage others to take action. Record a commercial. 	
Part V – Project Viewing & Reflection	<ul style="list-style-type: none"> Learn about other endangered species through the commercials. Reflect on your project experience. 	

➤ 5-Part Endangered Species Research Project

➤ Students Create a Commercial

➤ Make Connections Between Texts

➤ Interview a Screecher Final Assessment

BUNDLE & SAVE!

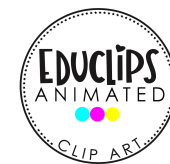
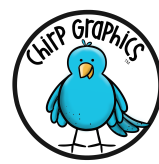
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