



TAKE CARE OF TEXAS: EDUCATOR MATERIALS

VIRTUAL FIELD TRIP HANDOUT

Texas River Biodiversity

This handout references the video "Texas River Biodiversity" that can be found at [YouTube.com/TakeCareOfTexas](https://www.youtube.com/TakeCareOfTexas). While watching the video, complete the Fill-in-the-Blank section of the handout. Once the video is finished, work in groups of 2-3 to complete the Discussion section.

Name: _____

Fill in the blank

Diversity of Texas Environments & Organisms

Texas is one of the most biodiverse states in the continental U.S. This is mainly because of our size, but also because of our many different ecosystems. Texas has over _____ habitat types that are home to tens of thousands of native plants and animal species.

Some of the most unique habitats in Texas are the many rivers that wind throughout our state. We have _____ major rivers and _____ different named streams that all have their own unique ecosystems of animals and plants that live on, in, and around the river.

These aquatic habitats include: low-gradient, murky streams with lots of submerged wood in the Piney Woods of East Texas; clear spring-fed streams of the Central Texas Hill Country and Edwards Plateau; and the shallow streams and rivers flowing through steep slopes and canyons of the High Plains.

Relationship Between River Organisms & the Environment

It's so important to monitor the health of the rivers because water is essential for all forms of life! The rivers provide a home for aquatic life, including: fish, insects, mussels, turtles, frogs, and even some mammals such as _____. The health of the river directly impacts the organisms that live in and around it. For example, when the _____ in the water change dramatically, only organisms that can tolerate low-dissolved oxygen may survive. This reduction of biodiversity has negative impacts on the ecosystems.



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This is especially important for the many endangered species that live in Texas, since they depend on their habitats staying clean and healthy. An example of this can be found in the city of Austin, a place where you might not expect to find a critically endangered species. Near the popular Barton Springs pool, you can find some shy little amphibians called the Barton Springs _____. The only place on the planet to find these little guys is in a handful of springs in the heart of Texas. They are very sensitive to any _____ that enter the springs, so runoff from construction sites and other human activity can hurt the population size. Scientists are working to restore the species by planting natural _____ and monitoring the _____.

Biodiversity & Sustainability

The more plants and animals that exist in an ecosystem, the more likely it is to _____.! Water quality is a key component of this. It is important for us, as scientists, to make sure water is protected and conserved to ensure these ecosystems, and the organisms that live there, flourish.

Conclusion

Although the State of Texas is full of a wide variety of diverse species of plants and animals, we must do our part to help keep it that way. Some ways you can help protect the biodiversity of Texas rivers are:

- 1. Dispose of your _____ properly.
- 2. Pick up _____ you see outdoors, especially near waterways.
- 3. _____ water around your home.
- 4. _____ – especially plastic which is very slow to break down in aquatic habitats.

Discussion Questions

A **watershed** is an area of land from which water drains into a body of water. Scientists examine watersheds to help determine possible sources of pollution. The map below shows an example of a topographic map of a surveyed watershed for a river in Texas. There are several buildings and facilities both inside and outside the river's watershed.

1. Describe the rivers and streams in your local area. What types of plants and animals live in and around the waterways?
2. What are some possible human activities that might affect the aquatic environments in your area?
3. Using Texas Parks & Wildlife's "Rare, Threatened, and Endangered Species List by County," locate your county and research one of the listed species. What are the main threats to the species?
(tpwd.texas.gov/gis/rtest/)
4. How can humans protect the species that you researched? You can give examples of current conservation efforts or brainstorm new ways to help the species.

Answer Key

Fill in the blank

Diversity of Texas Environments & Organisms

Texas is one of the most biodiverse states in the continental U.S. This is mainly because of our size, but also because of our many different ecosystems. Texas has over 800 habitat types that are home to tens of thousands of native plants and animal species.

Some of the most unique habitats in Texas are the many rivers that wind throughout our state. We have 15 major rivers and 3,700 different named streams that all have their own unique ecosystems of animals and plants that live on, in, and around the river.

These aquatic habitats include: low-gradient, murky streams with lots of submerged wood in the Piney Woods of East Texas; clear spring-fed streams of the Central Texas Hill Country and Edwards Plateau; and the shallow streams and rivers flowing through steep slopes and canyons of the High Plains.

Relationship Between River Organisms & the Environment

It's so important to monitor the health of the rivers because water is essential for all forms of life! The rivers provide a home for aquatic life, including: fish, insects, mussels, turtles, frogs, and even some mammals such as river otters.

The health of the river directly impacts the organisms that live in and around it. For example, when the oxygen in the water change dramatically, only organisms that can tolerate low-dissolved oxygen may survive. This reduction of biodiversity has negative impacts on the ecosystems.

This is especially important for the many endangered species that live in Texas, since they depend on their habitats staying clean and healthy. An example of this can be found in the city of Austin, a place where you might not expect to find a critically endangered species. Near the popular Barton Springs pool, you can find some shy little amphibians called the Barton Springs Salamanders. The only place on the planet to find these little guys is in a handful of springs in the heart of Texas. They are very sensitive to any chemicals that enter the springs, so runoff from construction sites and other human activity can hurt the population size. Scientists are working to restore the species by planting natural vegetation and monitoring the water quality.

Biodiversity & Sustainability

The more plants and animals that exist in an ecosystem, the more likely it is to thrive! Water quality is a key component of this. It is important for us, as scientists, to make sure water is protected and conserved to ensure these ecosystems, and the organisms that live there, flourish.

Conclusion

Although the State of Texas is full of a wide variety of diverse species of plants and animals, we must do our part to help keep it that way. Some ways you can help protect the biodiversity of Texas rivers are:

- 1. Dispose of your waste properly.
- 2. Pick up trash you see outdoors, especially near waterways.
- 3. Conserve water around your home.
- 4. Reduce, reuse, and recycle – especially plastic which is very slow to break down in aquatic habitats.