



Washington
Department of
**FISH and
WILDLIFE**

Wildlife Conservation and Management

9-12th Grade

Location:

Remote learning modification: Lesson can be taught over Zoom or Google Classrooms. The PowerPoint, brainstorming, and assessments can be done in the classroom with student computers.

Standards:

NGSS

[HS-ETS1-1 Engineering Design](#)

Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

WA OSPI

[SSS.9-12.5](#)

Integrate evidence from multiple relevant historical sources and interpretations into a reasoned argument about the past and its relationship to the present.

[Economics 4.11-12.3](#)

Evaluate how individuals and different groups affect and are affected by the distribution of resources and sustainability.

[ESE Standard 1](#)

Students develop knowledge of the interconnections and interdependency of ecological, social, and economic systems. They demonstrate understanding of how the health of these systems determines the sustainability of natural and human communities at local, regional, national, tribal, and global levels.

Modifications, Adaptations:

For COVID-19 distance learning, or other remote learning modification, look for **remote learning modifications** throughout the lesson plan.

Materials:

Introduction to American Conservation Funding, WDFW PowerPoint, Holes in the Model PDF, Holes in the Model reading question sheet, Conservation Management Final Assignment

Objectives:

Students will..

1. Describe how wildlife agencies fund fish and wildlife conservation and management.
2. Examine literature to further understand the history of conservation and its challenges for the future.
3. Evaluate proposed ideas for ways to fund conservation while balancing competing ideologies and ecological needs.
4. Design their own model of conservation management with classmates to address the global issue of biodiversity loss.

Vocabulary:

Angling/Fishing- Angling is fishing with a rod and line, Fishing can include shellfishing.

Conservation: The care, protection, or management of natural resources for perpetuity.

Consumptive recreation: Activities that involve the harvest of natural resources such as hunting, fishing, foraging, and timber harvest.

Ecosystem services: Benefits people obtain from ecosystems and wildlife.

Endangered species: A species at risk of extinction. Organisms can receive an endangered classification globally, nationally, or statewide.

Equality: Each individual or group is given the same resources or opportunities.

Equity: When a person or group has different circumstances and the allocation of exact resources and opportunities needed to achieve an equal outcome.

Extinction: A species is extinct when the last member dies, meaning the species no longer exists.

Non-consumptive recreation: Activities that do not involve the direct harvest of natural resources such as hiking, photography, and bird watching.

Population: The number of organisms of the same species that live and reproduce in a particular geographic area at the same time.

Sustainable: Avoidance of the depletion of natural resources to maintain an ecological balance and meet the needs of future generations.

Procedure:

Introduction to issues with conservation funding

At home, have students [listen \(or read the transcript\) to this eight-minute NPR broadcast](#) about how a decline in hunting may threaten traditional funding routes of conservation. Additionally, distribute the Introduction to American Conservation Funding article and questions.

Ask students to answer the questions and then write a brief paragraph summarizing what they learned in the NPR broadcast and the article. In class, have students share what they learned with a partner, then have a brief discussion as a class. In the class discussion, ask students what problems are facing wildlife conservation (or problems the students foresee) and to brainstorm other ways conservation might be funded.

Current model of management

Open the "Wildlife Management and Funding" PowerPoint. Make sure presenter notes are on as these have supplemental information on most slides, and short activity and discussion prompts. Some slides suggest using a white board, and you can also use a virtual whiteboard like [Google Jamboard](#).

Distribute the "Holes in the Model" article and question sheet as an at-home assignment. Students should answer the



following questions:

- 1) What does the author praise about the North American Model?
- 2) What things does the author criticize about the North American Model?
- 3) The author does not believe that management can be based on science. Why is this? Do you agree or disagree? Explain.
- 4) How does the author recommend we revise the Model at the end of the paper?
- 5) How might this revision change the way we fund fish and wildlife conservation?


Final Assignment

For the final project, students will be tasked with managing their own fish and wildlife agency. We recommend putting students into groups of three to four. Give students at least two to three weeks to complete the assignment. See assignment page for more details.

After students turn in their assignment, schedule a couple of days for students to present their work to the class, leaving time for questions and answers. After students have all presented, have them pair with two other people (not in their assignment group) and answer the following questions:

1. What was the most surprising thing you learned in this assignment?
2. What was the most challenging thing about this assignment?
3. Did you and your team all have the same viewpoints for wildlife conservation management?
 - a. If not, how did you find compromise?
 - b. How did your group balance the interests of community members?
4. How are economics tied into conservation?
5. Was it harder/easier to meet the needs of specific user groups? Explain.
6. What was one way that you liked how another team managed things differently than yours?

Give students about 15 minutes to answer these questions together. Come back as a class and spend another 15 minutes reflecting on these questions as an entire class.

 **Idea:** Show off your students' work! Share student projects from this lesson with WDFW.
Facebook: @WashingtonFishWildlife
Instagram: @TheWDFW
Twitter: @WDFW
#WildWashington #WildWa

Did you teach this lesson? [Give us your feedback.](#)

Additional Resources :

We encourage you to use the following resources as either a supplement to this lesson, or to share the resources with students for their project.

Supplemental lessons:

[America's Wildlife Lesson Plans](#)-Arizona Department of Fish and Game

Other Resources:

- [Washington Statewide Wildlife Action Plan](#)-WDFW
- [Paying to Play in the Great Outdoors](#)-Property and Environment Research Center
- [The American System of Conservation Funding](#)- Association of Fish and Wildlife Agencies
- [North American Model of Wildlife Conservation- Technical Review 2012](#)- USFWS
- [Paying for State Wildlife Conservation](#)- Northern Woodlands
- [North American Model of Wildlife Conservation: Empowerment and Exclusivity Hinder Advances in Wildlife Conservation](#)
- [Examples of Community Based Conservation](#)- Defenders of Wildlife
- [Conservation Policy and Indigenous Peoples](#)- Cultural Survival
- [Community Based Conservation in a Globalized World](#)- Proceedings of the National Academy of Sciences