



Lesson D1–1

EXAMINING THE ROLE OF HUMANS IN WILDLIFE MANAGEMENT

Unit D. Humans and Wildlife Management

Problem Area 1. Citizen Responsibilities in Wildlife Management

National Academic Standard. NS.9-12.1 — Science as Inquiry — As a result of activities in grades 9-12, all students should develop abilities necessary to do scientific inquiry understandings about scientific inquiry.

Student Learning Objectives. Instruction in this lesson should result in students achieving the following objectives:

- 1** Explain the importance of wildlife management.
- 2** Discuss the role of research of wildlife.
- 3** Identify the policies that impact wildlife.

List of Resources.

The following resources may be useful in teaching this lesson:

Department of Natural Resources Publications

Internet

Porter, Lynn, Jasper S. Lee, Diana L. Turner, and Malcolm J. Hillan. *Environmental Science and Technology*, 2nd ed. Danville, IL: Interstate Publishers, Inc., 2003.

Project Wild and Project Wild Aquatic Activity Books

Stutzenbaker, Charles D., Brenda J. Scheil, Michael K. Swan, Jasper S. Lee, and Jeri Mattics Omerik. *Wildlife Management: Science & Technology*, 2nd ed. Upper Saddle River, NJ: Prentice Hall Interstate, 2003.

List of Equipment, Tools, Supplies, and Facilities

- ✓ Writing surface
- ✓ Overhead projector
- ✓ Transparencies from attached masters
- ✓ Copies of student lab sheet

Terms.

The following terms are presented in this lesson (shown in bold italics):

- ▶ Experiment stations
- ▶ Forest Service
- ▶ Game wardens
- ▶ Lacey Act
- ▶ Migratory Bird Act of 1929
- ▶ Migratory Bird Hunting Stamp Act
- ▶ National Park Service
- ▶ Scientific method
- ▶ Wildlife management
- ▶ Wildlife research

Interest Approach. Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

Ask students to name three wildlife species that can be hunted and three that cannot be hunted in your state. Discuss why some are hunted and some are not.

SUMMARY OF CONTENT AND TEACHING STRATEGIES

Objective 1: Explain the importance of wildlife management.

Anticipated Problem: Why is wildlife management important?

- I. Wildlife management is important because it encourages education about wildlife and calls attention to the need for law enforcement regarding wildlife populations and the responsible management of wildlife.
 - A. Education is important to wildlife conservation because it keeps the public informed about general knowledge of wildlife. Education is provided to the public through schools; organizations like the Boy Scouts, 4-H, and FFA; and newspapers and television. The Department of Natural Resources and other agencies have educational material available also.
 - B. Many laws have been created throughout the years to protect wildlife. Law enforcement is set up to ensure that the laws are followed. Even though the most common form of law enforcement is the reduction of hunting regulations, law enforcement also includes research, education, and use of wildlife.
 - C. **Wildlife management** is the ability to manipulate a wildlife system to achieve a goal that benefits the system. Management of wildlife enhances wildlife populations. Intensive farming, hunting, and harvesting of timber have eliminated many species and greatly reduced others. Wildlife management seeks to decrease habitat destruction by putting land into preservation and providing landowners with the information they need to improve the habitats on their property. Management can entail something as easy as putting up bird nesting boxes and something as difficult as creating entire wetland areas. There have been several successful management programs. For example, the wood duck was close to extinction in 1915, but after hunting regulations were monitored, the wood duck is now prospering. The bald eagle is another wildlife species that required intense management. After the regulation of hunting and the use of chemicals like DDT, bald eagles are no longer in danger of extinction. Hunter education classes are required in most states. These classes help hunters identify species and learn hunting ethics.

■ Use TM–A to discuss what wildlife management includes. ■

Objective 2: Discuss the role of research of wildlife.

Anticipated Problem: What is the role of research?

- II. **Wildlife research** is how wildlife problems are investigated to benefit the well-being of the animals.
- A. The research of populations in trouble has a great impact on wildlife recovery. Scientists assess habitats, diseases, and reproduction and population trends of wildlife. The information is put together to develop a management program that provides correct modifications.
 - B. The **scientific method** is an organized way of identifying a problem and experimenting to reach a conclusion about the problem. Scientists can add steps or skip steps, depending on their specific needs.
 - C. Research is carried out by private groups, state agencies, and federal agencies. Land-grant universities and experiment stations conduct research to help solve wildlife problems. **Experiment stations** are places set up as part of the land-grant colleges in each state to research various agricultural problems.
 - D. The research done on wildlife is used to benefit the wildlife habitat; increase the nutrition the animals are receiving; monitor and treat diseases; decide what, if any, species introduction would benefit the population; monitor population trends; identify what habitat or species need protection; and modify regulation of hunting, fishing, and trapping in relation to current population numbers.

■ Use TM-B to discuss wildlife research. Use TM-C to discuss the scientific method. ■

Objective 3: Identify the policies that impact wildlife.

Anticipated Problem: What are the policies that impact wildlife?

- III. Wildlife policies are made by local, state, and federal governments to regulate conservation and management of wildlife. Many laws and organizations ensure the survival of wildlife species.
- A. **Game wardens** are the law enforcement officers who deal with fish and game. They check licenses, issue tickets, and arrest those who break the laws. They also help to manage the health and populations of species.
 - B. In the late 1800s, the federal government recognized the need for wildlife management. Land was set aside to protect wildlife and later became national parks. The **National Park Service** was established in 1916 and now has 330 protected areas across the country. In addition to managing protected wildlife areas, the National Park Service also cares for monuments and parkways.

- C. The United States Congress has passed many laws to protect animals. The **Lacey Act** was passed in 1900 to regulate the transporting of animals killed illegally and the trade of protected wildlife. The **Migratory Bird Act** of 1929 was the first law to protect migratory birds. The **Migratory Bird Hunting Stamp Act**, passed in 1934, added a stamp cost to the hunting license fee, and funds generated have been used for management of migratory birds. In 1966, the Pittman-Robertson Act was passed to tax hunting ammunition and equipment. These and other laws have been used as wildlife management tools to aid the federal government.
- D. In addition to laws, the federal government also set up organizations to manage wildlife. The **Forest Service** is a part of the United States Department of Agriculture; it manages 156 forests, protecting timber and water.
- E. State actions started in the mid 1800s with the requirement of hunting licenses and the enforcement of hunting laws. In addition to the national parks, state parks are organized to increase wildlife populations and provide people with a place to go and enjoy nature.
- F. Local governments work with both state and federal governments to enforce wildlife conservation. Local agencies set up parks or zoos to provide people with recreational activities.

Use TM-D and TM-E to discuss policies that impact wildlife. Use LS-A to research wildlife laws. Use TM-E as a handout for students to choose the wildlife policy they want to research.

Review/Summary. Review this lesson by discussing the information on the overheads with the students. Emphasize the information that will be on the test. Make sure the students understand the information presented before moving onto the lab or taking the test.

Application. Use LS-A to complete the application portion of this lesson.

Evaluation. Use the success on the lab sheet and test to evaluate students' understanding of objectives.

Answers to Test:

Part One: Matching

- 1. d
- 2. e
- 3. c
- 4. a
- 5. b
- 6. f

Part Two: Completion

1. Lacey Act
2. Migratory Bird Act
3. Migratory Bird Hunting Stamp Act
4. National Park Service

Part Three: Short Answer

local, state, and federal



Test

Name _____

EXAMINING THE ROLE OF HUMANS IN WILDLIFE MANAGEMENT

► Part One: Matching

Instructions: Match the term with the correct response. Write the letter of the term by the definition.

- | | |
|------------------------|----------------------|
| a. Scientific method | d. Wildlife research |
| b. Wildlife management | e. Game wardens |
| c. Experiment stations | f. Forest Service |

- _____ 1. How wildlife problems are investigated to benefit the well-being of the animals
- _____ 2. The law enforcement officers who deal with fish and game
- _____ 3. Places set up as part of the land-grant colleges in each state to research various agricultural problems
- _____ 4. An organized way of identifying a problem and experimenting to reach a conclusion about the problem
- _____ 5. The ability to manipulate a wildlife system to achieve a goal that benefits the system
- _____ 6. The part of the United States Department of Agriculture that manages 156 forests where it protects timber and water

► Part Two: Completion

Instructions: Provide the word or words to complete the following statements.

1. The _____ was passed in 1900 to regulate the transporting of animals killed illegally and the trade of protected wildlife.
2. The _____ of 1929 was the first act to protect migratory birds.
3. The _____, passed in 1934, added a stamp cost to the hunting license fee, and the funds generated have been used for management of migratory birds.
4. In addition to management of protected wildlife areas, the _____ also makes cares for monuments and parkways.

► Part Three: Short Answer

Instructions: Provide information to complete the following statement.

Name the three levels of government that make wildlife policies.

IMPORTANCE OF WILDLIFE MANAGEMENT

- ◆ Wildlife management is important because it encourages education about wildlife and calls attention to the need for law enforcement regarding wildlife populations and the responsible management of wildlife
- ◆ Education is important to wildlife conservation because it keeps the public informed about general knowledge of wildlife
- ◆ Many laws have been created throughout the years to protect wildlife
- ◆ Law enforcement is set up to ensure that the laws are followed
- ◆ Wildlife management—the ability to manipulate a wildlife system to achieve a goal that benefits the system



WILDLIFE RESEARCH

- ◆ Wildlife research—how wildlife problems are investigated to benefit the well-being of the animals
- ◆ The research of populations in trouble has a great impact on wildlife recovery
- ◆ Scientific method—an organized way of identifying a problem and experimenting to reach a conclusion about the problem
- ◆ Research is carried out by private groups, state agencies, and federal agencies
- ◆ The research done on wildlife is used to benefit the wildlife habitat; increase the nutrition the animals are receiving; monitor and treat diseases; decide what, if any, species introduction would benefit the population; monitor population trends; identify what habitat or species need protection; and modify regulation of hunting, fishing, and trapping in relation to current population numbers



THE SCIENTIFIC METHOD

Procedures*	Meaning
1. Identify the problem	Researcher must know the problem that is to be investigated; avoid researching symptoms of problems. Example: death of deer is a symptom; the cause of death is the problem to be researched
2. Gather information	Background reading and interviewing informed people helps get needed information to design a good research project.
3. Suggest an answer	A suggested answer is often stated as a hypothesis; a hypothesis is a statement that can be tested. Example: feeding newly-hatched fish in a hatchery each hour will result in faster growth than with twice daily feedings
4. Experiment	Trial or tests are used to determine if the hypothesis is accepted or rejected; the procedures used must control "things" that could make research invalid; careful measurements are needed to have good data for analysis
5. Reach a conclusion	Once an experiment has been completed, a judgement of the findings is needed; data are studied and inferences are made

*Five procedures are listed here. Some scientists include other steps, such as preparing a report on the findings. The sequence in doing the procedures may vary somewhat.

POLICIES THAT IMPACT WILDLIFE

- ◆ Wildlife policies are made by local, state, and federal governments to regulate conservation and management of wildlife
- ◆ Many laws and organizations ensure the survival of wildlife species
- ◆ Game wardens—law enforcement officers who deal with fish and game
 - ➔ They check licenses, issue tickets, and arrest those who break the laws
 - ➔ They also help to manage the health and populations of species



SUMMARY OF FEDERAL ACTIONS TO PROTECT WILDLIFE

1872	President Grant set aside land that would later become Yellowstone National Park; helped protect wildlife
1900	Lacey Act (Game and Wild Bird Preservation Act): prohibited transporting killed game across state lines and required permits to have exotic animals
1903	Pelican Island Refuge established in Florida; first wildlife refuge
1913	Weeks-McClean Act: protected migratory waterfowl and song birds from being hunted during closed season
1918	Federal Migratory Bird Treaty Act: initiated federal involvement in wildlife management, including internationally with Canada (extended to Mexico in 1936)
1934	Duck Stamp Act: raised monies for wetland habitats
1937	Pittman-Robertson Act (Federal Aid in Wildlife and Sportfish Restoration Act): initiated sales tax on sporting guns and ammunition to fund wildlife management projects
1940	Bald Eagle Act: protected bald eagle
1940	Fish and Wildlife Service formed: consolidated efforts in wildlife conservation
1950	Federal Aid in Fish Restoration Act: tax added to fishing tackle to fund research
1964	The Land and Water Conservation Act: created a fund to buy land and water having scenic and recreational value and to protect endangered species

(Continued)

SUMMARY OF FEDERAL ACTIONS TO PROTECT WILDLIFE

1964	The Wilderness Act: set up a wilderness preservation system to keep some areas untarnished
1966	Endangered Species Act: set up effort to protect endangered species
1971	Wild Free-Roaming Horse and Burro Act: protected burros and horses on publicly owned land
1972	Marine Mammal Protection Act: limited killing dolphins to 112,000 a year
1973	Endangered Species Act: provided a comprehensive plan to protect endangered and threatened species
1985	Conservation Reserve Program established: provided for areas of wildlife habitat on farms near crops
1997	President Clinton initiated a plan to protect wildlife and the environment at Lake Tahoe and other areas in the United States



BENEFITS TO WILDLIFE

► Purpose:

Research federal actions that have benefitted wildlife

► Materials:

- ✓ Internet
- ✓ Library
- ✓ Paper
- ✓ Writing utensil

► Procedure:

1. Pick one federal action that impacts wildlife.
2. Research the action and write a one-page report on how the federal action has benefitted wildlife.
3. Answer the questions:

What could have happened if the law had not been passed?

How many different species have benefitted from the law?

Who was the main person responsible for passage of the law?

Did the law benefit humans as well as animals?