

Conservation in Action:

Chincoteague National Wildlife Refuge

Lesson Plan

Purpose:

To introduce students to the work of Rachel Carson and the resource management activities of Chincoteague National Wildlife Refuge.

Grade Level

High School

Subject Areas

Science, English/Literature

Virginia Standards of Learning**Life Science**

LS.7; LS.8; LS.9; LS.10; LS.11;
LS.12

Reading Analysis

9.4

Research

9.8; 9.9; 10.11

Materials

Required:

- Copies of *Conservation in Action, Chincoteague: A National Wildlife Refuge* by Rachel Carson
- Rachel Carson Fact Sheet

Recommended:

- Copies of books written by Rachel Carson (*Silent Spring, Under the Sea Wind, The Sea Around Us*).

Duration

Required: 1-3 class periods for reading and research

Recommended: Field trip to Chincoteague National Wildlife Refuge or an in-class visit by refuge staff

Method**I. Discussion**

Lead a discussion about the environment and wildlife conservation. Sample discussion questions include:

- How do you define environmental protection?
- How important is environmental protection to you?
- What experiences have you had in the outdoors? Hiking? Camping? Canoeing? Beachcombing?
- How would you describe the state of our environment? Is it well protected from pollution? Not protected enough? Too protected?
- Do you believe that protection of wildlife and wildlife habitat is important? Why or why not?
- Which animal and plant species need the most protection? Which ecosystems need the most protection?
- Are wild animals and plants too protected? Why or why not?

II. Rachel Carson

Students will read books by Rachel Carson, an early leader in the environmental conservation movement, research her work, and answer the following questions:

- In a short paragraph, describe who Rachel Carson was. Include where she spent her childhood, her educational background and her career.
- List some of her life achievements.
- What is Rachel Carson's most famous work? What was it about?
- Who inspired her life-long love of nature?
- Why is Rachel Carson an important figure in the conservation world?
- What has she done to set the stage for the future of conservation?
- What does the quote below mean to you? How does this quote relate to wildlife conservation?
"The more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction." – Rachel Carson 1954.

III. Conservation in Action: Chincoteague

- A. Through a class field trip to Chincoteague National Wildlife Refuge, an in-class visit from refuge staff, or through internet research, students will learn the main purposes of a national wildlife refuge, and more specifically the Chincoteague National Wildlife Refuge. Questions to consider include:
- What is a national wildlife refuge?
 - National wildlife refuges are managed by which federal agency?
 - Which Department does this agency fall under?
 - What are the main functions of national wildlife refuges?
 - Name three refuges that can be found in Virginia. Identify where they are located and their primary purposes.
 - Where is the Chincoteague National Wildlife Refuge? How does its primary purpose compare to the other refuges in Virginia?
- B. Students will read the pamphlet entitled “Conservation in Action, Chincoteague: A National Wildlife Refuge” written by Rachel Carson and answer the following questions:
1. When was the article written?
 2. In the article, why was Chincoteague considered an important refuge?
 3. Summarize the status of waterfowl as described in the article and resource management and hunting programs at Chincoteague.
 4. How has the status of waterfowl changed over the years and what impact has that had on the management/hunting at Chincoteague?
 5. Compare Chincoteague’s bird banding program then and now. Does bird banding still take place? If so, how does it compare to the banding described in the article? Has the purpose for banding changed?
 6. How are the marshes at Chincoteague managed? As a result of over 60 years of management, what changes have been recorded in the variety and populations of wildlife?
 7. What is the status of shell-fishing on the refuge? How does that compare to the article’s description?
 8. How has management of the ponies changed over time?
 9. How has recreational management changed over time?

Supplemental Lessons from the Project Wild and Project Wild Aquatic Activity Guides:

- 1) *Enviro-Ethics* from Project Wild
- 2) *What’s in the Water?* from Project Wild Aquatic
- 3) *Can Do!* from Project Wild
- 4) *Living Research: Aquatic Heroes and Heroines* from Project Wild Aquatic
- 5) *Hazardous Links, Possible Solutions* from Project Wild