



# #9706

## WETLAND BIOMES: ESSENTIAL AND ENDANGERED

RAINBOW EDUCATIONAL MEDIA, 1998

Grade Levels: 4-8

27 minutes

### DESCRIPTION

Salt marshes, bogs, swamps, and freshwater marshes are examples of wetlands, each one home to wide varieties of plant and animal life. This type of biome is a complex ecosystem that benefits people and upon which humans have had destructive impact.

### ACADEMIC STANDARDS

#### Subject Area: Science – Life Sciences

- ★ Standard: Understands relationships among organisms and their physical environment
  - Benchmark: Knows that all individuals of a species that exist together at a given place and time make up a population, and all populations living together and the physical factors with which they interact compose an ecosystem (See Instructional Goals #1, 2, 3, and 4.)
  - Benchmark: Knows ways in which humans can alter the equilibrium of ecosystems, causing potentially irreversible effects (e.g., human population growth, technology, and consumption; human destruction of habitats through direct harvesting, pollution, and atmospheric changes) (See Instructional Goal #6.)
  - Benchmark: Knows how energy is transferred through food webs in an ecosystem (e.g., energy enters ecosystems as sunlight, and green plants transfer this energy into chemical energy through photosynthesis; this chemical energy is passed from organism to organism; animals get energy from oxidizing their food, releasing some of this energy as heat) (See Instructional Goal #5.)

### INSTRUCTIONAL GOALS

1. To define the characteristics of wetlands.
2. To describe the three basic types of wetlands: swamps, marshes, and bogs.
3. To give examples of animal and plant life in wetlands.
4. To describe how different plants and animals adapt to wetland conditions.
5. To describe how energy flows through wetland communities and the relationships of producers, consumers, and decomposers.
6. To describe the human impact on wetlands.

## VOCABULARY

1. aninga
2. biome
3. bladderwort
4. bog
5. bromeliad
6. canopy
7. clam worm
8. cottonmouth
9. cypress
10. decomposition
11. duckweed
12. ecosystem
13. emergents
14. epiphyte
15. floating aquatics
16. heron
17. horseshoe crab
18. ibis
19. mangrove swamp
20. marsh
21. marsh elder
22. mud snail
23. peat
24. photosynthesis
25. phragmites
26. pitcher plant
27. prop roots
28. rose pogonia
29. salt marsh
30. snipe
31. Spartina
32. sphagnum moss
33. submergents
34. sundew
35. swamp
36. wetland

## BEFORE SHOWING

1. Obtain a map of North America and locate wetland biomes. Compare the abundance of wetlands with that of other biomes.
2. Write adjectives that often describe first impressions of wetlands. (swampy, muddy, murky, mosquito-infested) Explain that the video will show wetlands from a different perspective.



## DURING SHOWING

1. View the video more than once, with one showing uninterrupted.
2. Pause after each section on swamps, marshes, and bogs. Discuss the difficulties that would be encountered when attempting to study the environments of these biomes.
3. Pause at the sections explaining about the Great Swamp, the Fakahatchee Strand, the Everglades, and Lake Okeechobee. Locate them on a map.

## AFTER SHOWING

### ► Discussion Items and Questions

1. What is a biome? What are some examples of biomes?
2. What is a wetland? What are the main types of wetlands? Describe the major characteristics of each.
3. What kind of tree grows well in the swamps in Florida?
4. What are some animals that live around the cypress swamps?

5. What are epiphytes and how do they get nourishment?
6. What special characteristics do mangrove trees have?
7. What kind of plants grow in freshwater marshes?
8. What is the difference between emergents and submergents?
9. What is an example of a floating aquatic?
10. What are some animals that live around the freshwater swamps? How are birds adapted to life in a freshwater marsh?
11. How is *Spartina* adapted to the conditions of a salt marsh? What other plants live in salt marshes? What happens when *Spartina* and other plants in a salt marsh die?
12. Why are salt marshes so productive in terms of how much plant matter they grow?
13. What are some animals that live in the salt marshes?
14. Which kind of marsh is the least productive?
15. How is peat formed in the bog marshes?
16. What are some plants that live in the bogs? How have these bog plants adapted to conditions where the water contains few nutrients and minerals?
17. What kinds of food are grown in the wetlands?
18. How do wetlands help prevent flooding? How do wetlands reduce pollution?
19. How are wetlands threatened? What is being done to protect the wetlands?



### ► Applications and Activities

1. Plan a field trip to a wetland.
  - a. Photograph the wetland at different times, showing seasonal changes.
  - b. Make an inventory of the plants and animals seen in the wetland.
2. Research and report on a wetland animal and how it is adapted to its environment.
3. Make a chart to compare a wetland's climate, landscapes, and plant and animal life to those of another biome such as a rain forest, grassland, desert, deciduous forest, or tundra.
4. Write the names of all the plants and animals mentioned in the video on separate note cards. Mix the cards up and then group them by the environment they live in. (swamp, salt marsh, freshwater marsh, bog)
5. Research and report on the concerns naturalists have about the deteriorating condition of the Everglades.
6. Make a wetland diorama.

### RELATED RESOURCES



- [Grassland Biomes: Essential and Endangered #9703](#)
- [Habitats #8747](#)
- [River Biomes: Essential and Endangered #9704](#)



## World Wide Web

The following Web sites complement the contents of this guide; they were selected by professionals who have experience in teaching deaf and hard of hearing students. Every effort was made to select accurate, educationally relevant, and "kid safe" sites. However, teachers should preview them before use. The U.S. Department of Education, the National Association of the Deaf, and the Captioned Media Program do not endorse the sites and are not responsible for their content.

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- **WETLANDS**

<http://www.epa.gov/owow/wetlands/education/>

Includes activities, curriculum guides, teaching tools, and links.



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- **TEACHER'S GUIDE TO THE GREAT SWAMP WATERSHED**



<http://www.greatswamp.org/Education/TeachersGuide/Resources.htm>

Includes web sites, workshop information, and media sources.