

# Wetland Producer or Consumer?



Students will identify animals and plants in the Coastal Plain and Saltmarsh exhibits to identify whether they are producers or consumers.

## OBJECTIVES

- Students will be able to define the terms producer and consumer.
- Students will be able to identify animals and plants to determine if they are producers or consumers.
- Students will familiarize themselves with wetland habitats (saltmarsh, swamp, Carolina bay).

## SOUTH CAROLINA SCIENCE STANDARDS

3.L.5A.1, 3.L.5A.2, 5.L.4B.1

## MATERIALS IN BIN

- Copy of "Wetland Producer or Consumer" activity
- Aquarium map (with activity habitats circled)
- 10 copies of the Coastal Plain and Saltmarsh Cards (front and back)
- 10 dry-erase markers
- Eraser
- "A Day in a Forested Wetland" by Kevin Kurtz
- "A Day in the Saltmarsh" by Kevin Kurtz

## BACKGROUND

Wetlands are areas of land that are regularly covered with shallow water. The water in these areas fluctuates in depth throughout the year, sometimes even drying out. If water exceeds 6 feet in depth, it is not a wetland. Wetlands are often found at the edges of other aquatic habitats, such as rivers, lakes and the ocean, where water floods the land. They are also found in low-lying areas where the water table (the top of the groundwater) is high enough to be above ground. The water in a wetland looks like it's standing still, but it's actually flowing at a pace much slower than nearby rivers and streams.

Wetlands have unique wildlife communities. They contain plants that are adapted to flooding but can also survive in drier conditions. Animals that live there must also be adapted to wet and dry conditions. Wetlands are home to a variety of amphibians (frogs, toads and salamanders), reptiles (alligators, turtles and snakes), birds (herons, egret and ducks) and mammals (river otters, rabbits and raccoons) that can make the transition from water to land.

There are many different types of wetlands including swamps, marshes and bogs.

- A **swamp** is a flooded forest (a wetland with trees). Swamps are covered with freshwater and get their dark color from the red clay sediment (brownwater swamp) or the tannins from the leaves (blackwater swamp).
- A **marsh** is a flooded grassland (a wetland with grasses). Marshes can be either freshwater or saltwater depending on the water source.
- A **bog** is a poorly drained wetland where organic material does not decompose quickly. Only plants adapted to nutrient poor soil, such as carnivorous plants, can survive there. A Carolina bay is an example of a bog.

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A food chain is a series of organisms that shows the transfer of energy from one organism to the next. Most food chains on earth get their energy from the sun. Plants use the sun's energy to make their own "food" and are called producers in the food chain. Animals eat other organisms to get energy and are called consumers in the food chain. A decomposer is a special type of consumer that gets their energy from consuming dead plants and animals.

During this activity, students will find the plants and animals listed below. Here are a few fun facts you can share with the students throughout the activity.

## **COASTAL PLAIN CARD**

### **Alligator**

The largest land reptile in the United States, growing to an average size of 12 feet.

### **Longnose Gar**

A very primitive fish that can take a gulp of air to help it breathe as well as use their gills.

### **Bald Cypress Tree**

A tree that lives longer than any other South Carolina tree and has knees to help them stabilize in the water; it can reach heights of 6 feet.

### **Pitcher Plant**

Carnivorous plants that derive nutrients from insects that get caught in its vase-like leaf structure.

### **Chicken Turtle**

Aquatic turtle with webbed feet for fast swimming and a long neck for reaching out of the water for air.

### **Sunfish**

Freshwater fish that love slow-moving water and hiding out from predators near vegetation (plants).

## **SALTMARSH CARD**

### **Palmetto Tree**

A type of palm tree, also called a Sabal palmetto, and the official state tree of South Carolina.

### **Diamondback Terrapin**

An aquatic turtle that lives only in a saltmarsh. When threatened by a predator, it will vomit to make its body lighter.

### **Stripped Burrfish**

A small, spiky fish that can puff up when threatened.

### **White Ibis**

Large, wading bird that uses its long neck and beak to reach into the water for prey, and its long toes to keep from sinking in the pluff mud.

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## **Sporobolus Grass**

Adapted for living in saltwater due to its special glands, which are able to excrete salt from holes in the leaves.

## **Atlantic Stingray**

A marine animal that can reach up to 2 feet across; they only use their barb (stinger) as a defense against predators.

## **PROCEDURES**

Pick up the activity bin from the Information Desk. Tour the Aquarium — when you get to the Coastal Plain Gallery and the Saltmarsh Aviary, stop and allow the kids to complete the activity.

- 1) Review the following with your students at your first stop.
  - a. What is a wetland? What is this wetland called?
  - b. What is a food chain? What is a producer? What is a consumer?
- 2) Give each student the Coastal Plain or Saltmarsh card and a dry-erase marker.
- 3) Tell them to find each organism in the gallery, and mark on each picture whether it is a producer or a consumer.
- 4) Ask the students to gather and discuss their answers.
- 5) You can supplement the discussion by giving them some fun facts about the plants and animals.
- 6) Have students use the eraser to erase their answers.
- 7) Repeat steps 1–6 in the second gallery.
- 8) If time allows, read “A Day in the Salt Marsh” by Kevin Kurtz and/or “A Day in a Forested Wetland” by Kevin Kurtz
- 9) Return the activity bin to the Information Desk when you're finished.

“A Day in the Salt Marsh” and “A Day in a Forested Wetland” by Kevin Kurtz can be purchased from the local publisher, Arbordale Publishing, in Mount Pleasant, South Carolina or online.