

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 six 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 seems to be standing still, but it flows, just 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 show the transfer of energy from one 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 below listed plants and animals. 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

Live longer than any other SC tree and have knees to help them stabilize in the water and can reach heights of 6 feet.

Pitcher Plant

Carnivorous plants that can get nutrients from insects that get caught in the 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, is the official state tree of SC.

Diamondback Terrapin

Live only in a saltmarsh and when threatened by a predator will vomit to make its body lighter.

Stripped Burrfish

Small fish that can puff up when treated and also have spikes all over their body.

Great Blue Heron

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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Spartina Grass

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

Atlantic Stingray

Can reach up to 2 feet across and only use their barb (stinger) as a defense against predators.

Procedures

Pick up activity bin from Information Desk. Tour the Aquarium and when you get to the Coastal Plain Gallery and the Saltmarsh Aviary, stop and allow 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) Have them meet back up 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 #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) Take activity bin back to Information Desk when done.

“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 Mt. Pleasant, SC or online.