



Wetlands Taste Test!

Wetlands have many different ecosystems. An **ecosystem** is a community of plants, animals, and other organisms that interact with their physical environment in a geographic area. Some examples of different wetland ecosystems are **swamps** and **marshes**. One of the things that determines a wetland ecosystem is the type of water. Because wetlands can be found all over, their water can be fresh, salty, or somewhere in between!

Many of Louisiana's wetland ecosystems are defined by their salinity. **Salinity** is the amount of salt found in a body of water. Salinity is measured in **parts per thousand (ppt)**. For example, if a water sample contained 10 parts of salt for every 1000 parts of water the salinity for that water sample would be 10 ppt. The salinity of the water can determine what types of plants will grow in that wetland and what kinds of animals will live there.

The salinities for wetland ecosystems fall into four ranges – freshwater, intermediate, brackish, and saltwater. In this activity, you can observe the different ranges using your sense of taste!

Vocabulary: Brackish, Ecosystem, Estuary, Freshwater, Herbaceous, Intermediate, Salinity, and Saltwater

What You Need:

- Salt
- Water
- Measuring cups and spoons (1 fluid cup, ¼ teaspoon, and 1 teaspoon)
- Four cups or containers that can hold at least 16 ounces of liquid
 - **Tip:** Lidded containers such as bottles and jars work great!
- Tape
- Marker

What To Do:

1. Use pieces of tape to label each of your cups/containers and then write on each piece of tape either Fresh, Intermediate, Brackish, and Salt.
 - a. **Tip for Parents:** Without showing the kids, label the containers 1, 2, 3, and 4. Then, make a key where you assign a water type to each number and do Step 2 and 3. Then, kids can guess the water type based on taste!
2. Fill each container with 16 fluid ounces of water.



Program Sponsored By:



3. Next, use the chart below to add salt to the intermediate, brackish, and salt containers.

Type	Amount of Salt to Add	Amount of Water
Freshwater	None	16 fluid ounces or 473 mL
Intermediate	½ teaspoon	16 fluid ounces or 473 mL
Brackish	1 teaspoon	16 fluid ounces or 473 mL
Salt	1 ¾ teaspoons	16 fluid ounces or 473 mL

4. Taste a sample of each water type. **Do not swallow the water.** Just taste it and then spit it out.
- a. **Parents:** *If you have the containers labeled 1, 2, 3, and 4, ask your kids to guess what water type they think each sample is after they have tasted all of them, and write in those guesses on the table below.*
5. Use the Wetland Ecosystems descriptions to determine which type of wetland ecosystems match each water type. Then, write in some of the plants and animals you can find in those ecosystems on the chart below.

Water Sample	Wetland Ecosystem(s)	Plants and Animals Found in this Salinity Range
1.		
2.		
3.		
4.		

Did You Know?

An **estuary** is where freshwater mixes with saltwater, usually found where a river meets the sea. Estuaries are some of the most productive ecosystems in the world! Many animals rely on estuaries for food, habitat, nurseries, and migration stopovers. For example, shrimp rely on estuaries to provide a habitat with plenty of food and shelter to their developing young. The saltwater marshes and brackish marshes found in and around estuaries provide valuable habitat to estuary-dependent wildlife as well.

Program Sponsored By:



WETLAND ECOSYSTEMS

SWAMP

Salinity = 0 ppt

Any place holding water and that has woody vegetation. Common plants in Louisiana's swamps are Bald cypress trees, Tupelo gum trees, Lizard's tail, and Buttonbush. Common animals found in swamps are swamp rabbits, alligator snapping turtles, bald eagles, and beavers.

FRESHWATER MARSH

Salinity = 0-2 ppt

Freshwater areas that have no woody vegetation but have a wide variety of herbaceous plants like grasses, water lilies, pickerelweed, and alligatorweed. Some animals you can find in freshwater marshes are whooping cranes, minks, nutria, herons, ducks, otters, bass, and turtles.

INTERMEDIATE MARSH

Salinity = 2-10 ppt

A transitional zone between freshwater and brackish marsh. Contains several types of plants found in both freshwater and brackish marshes including cattails, wire grass, and water lilies. Animals found in this marsh type include alligators, ducks, nutria, snakes, and muskrats.

BRACKISH MARSH

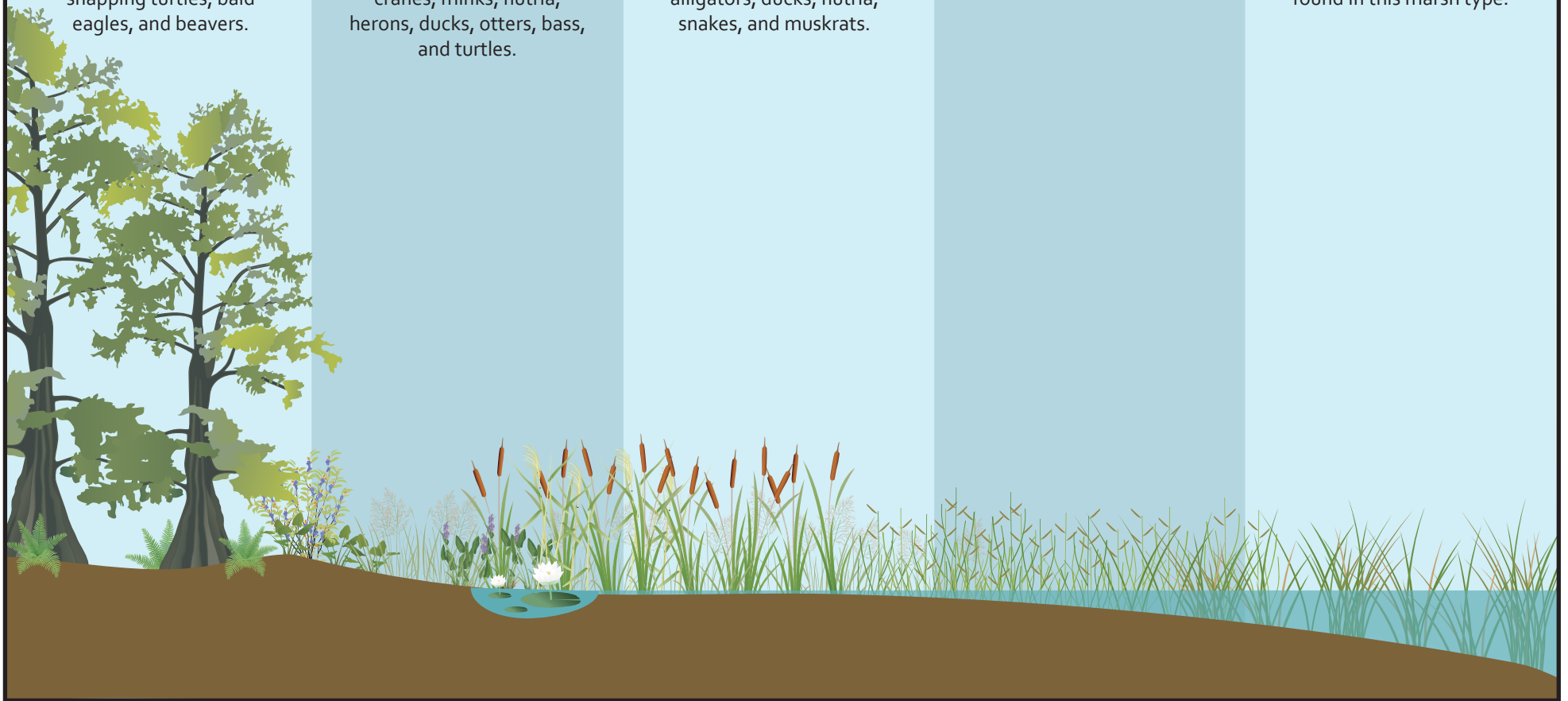
Salinity = 10-20 ppt

A marsh that contains mostly wire grass. This is one of the best habitats for blue crabs, redfish, and speckled trout.

SALTWATER MARSH

Salinity = more than 20 ppt

A marsh flooded daily with saltwater tides. Specialized plants have adapted to living here because of the high amount of salt in the water like smooth cordgrass. Fiddler crabs, oysters, shrimp, and wading birds are common animals found in this marsh type.



Attributions: Bald Cypress, Common Reed, Green Arrow Alum, Cinnamon Fern, Saltmeadow Cordgrass, Spartina spp., and Bulrush. Tracey Saxby. Integration and Application Network. University of Maryland Center for Environmental Science (ian.umces.edu/imagelibrary/). Water Lily Flower and Water Lily Pad. Alexandra Fries/ Integration and Application Network. University of Maryland Center for Environmental Science (ian.umces.edu/imagelibrary/). Wax Myrtle. Jane Hawkey. Integration and Application Network. University of Maryland Center for Environmental Science (ian.umces.edu/imagelibrary/). Switchgrass. Kim Kraeer and Lucy Van Essen Fishman. Integration and Application Network. University of Maryland Center for Environmental Science (ian.umces.edu/imagelibrary/).

