

Shrimp Scampers

This activity was adapted from the activity “Turtle Hurdles” found in Project WILD Aquatic, (c)1983, 1985, 1987. Western Regional Environmental Education Council. Adapted with permission from Project WILD.

Subject: Science, Physical Education

Duration: 50 minutes

Location: Outdoors

Key Vocabulary: Estuary, brackish, conservation, migration

Related Activities: Lake Okeechobee, the Everglades, and the Rainy Season in Three Cups; We’re Sponging Off the Everglades; Who’s Killing Our Fish?; Going...Going...Gone!

Florida Sunshine State Standards: SC.4.L.17

Objectives: At the end of this activity, the students will be able to: 1) state a problem of the Florida Bay Estuary (turtle grass die-off); 2) state a potential reason for this problem (high salinity caused by fresh water being diverted from the Everglades); 3) state a potential side-effect of this problem - die off of turtle grass may lead to decreases in populations of other marine life which would also affect human lives and jobs; 4) state an action that could be taken by South Florida residents which will help ease the water conservation problem...and do it!

Method: Students will play an active game which demonstrates the decline in the shrimp population of Florida Bay and various implications to other marine life and humans.

Background: In South Florida, the life cycle of the pink shrimp begins in off-shore waters, usually from April to August, when spawning takes place. Most of the pink shrimp in the south Florida region travel to an area called the Dry Tortugas to lay their eggs. During the spring and summer, tiny young shrimp cling to a piece of floating sea grass and float to Florida Bay, a nursery with food and shelter. Feeding off organisms found on and in the sea grass, the young shrimp mature into adults. In the fall and winter, they return to the warmer waters of the Dry Tortugas to continue the cycle. In recent years there has been a large die-off of sea grass. Scientists are still unsure what is causing this, but one possible factor may be the increased salinity of the water in the estuary. A decrease in the turtle grass spells a decrease in other creatures along the food chain, like shrimp, lobsters, crabs, and ocean fish.



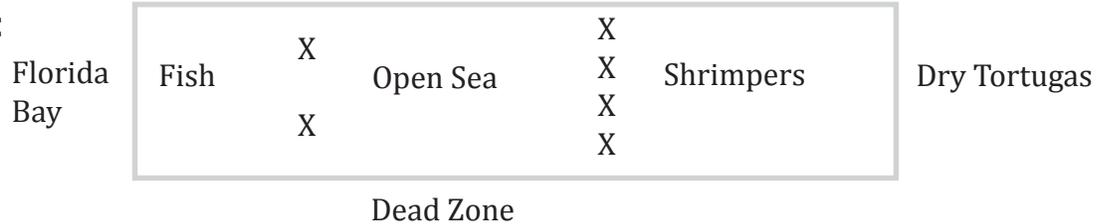
Materials

- Two life-preservers for the “fish” to wear
- Five blindfolds and headnets for the “shrimpers” to wear
- One large rubber band and one pipe cleaner for each “shrimp” to wear
- 100 - 150 poker chips as food for shrimp
- One map, showing the location of Florida Bay and the Dry Tortugas (Use the maps from the activity “Locating South Florida’s National Parks”)
- Brochure - “Estuaries - The Cradle of the Ocean” available from the Florida Department of Environmental Protection, Education and Information Dept., 100 8th Ave. SE, St. Petersburg, FL 33701.

Suggested Procedure

1. Have your students read the brochure titled, “Estuaries -The Cradle of the Ocean.”
2. Tell your students that you are going to play a game which demonstrates the life cycle of the shrimp in Florida Bay. Discuss the background of a shrimp in Florida Bay. Show the students on a map the locations of Florida Bay and the Dry Tortugas.
3. Head outside and mark off a playing field using string or chalk approximately 20-30 yards long and the width of five students, shoulder-to-shoulder, with their feet spread wide apart.

Playing Field:



4. Round 1: Instruct the young shrimp that they must float (hop on one foot) from the Dry Tortugas to Florida Bay and avoid getting eaten by the hungry fish. Once they get to the bay, they find their food (poker chips, only 5!) and wait for directions. While the shrimp are enroute, the two fish may walk into the playing square and tag them. If the shrimp are tagged, they must stop and walk with the fish to the “dead zone.” Then the fish can walk into the playing area to try to catch another shrimp. You should have set out enough poker chips so each shrimp can collect five chips in the area designated as the Florida Bay.
5. Round 2: The (now grown) adult shrimp must walk (or scamper ... but NOT RUN) from Florida Bay to the Dry Tortugas and avoid getting eaten by the fish or touched (caught) by the moving shrimp nets. The blindfolded shrimp nets are standing across the middle of the playing area, shoulder-to-shoulder, with their arms and legs spread out wide. They must continuously (and slowly) bend over and cross their arms as they reach down and touch the ground, then stand up straight. The shrimp must jump by, crawl under, or scamper past without being touched. If they are touched, they’ve been caught and must also go to the dead zone.
6. Round 3: Shrimp nets are removed (they are not interested in catching baby shrimp). Newly born shrimp in the Tortugas must hop back to Florida Bay, same as Round 1; however, in this round, all but four poker chips are taken away. When the young shrimp get to Florida Bay, they find no food. Ask them why. What happened? Explain that not enough water is entering the Gulf of Mexico from the Everglades. The water is too salty and scientists think this is killing the turtle grass. Shrimp food living on, or in, the turtle grass is also disappearing.
7. Round 4: Line up the shrimp nets and fish. Ask the group if there is a problem here. There are no shrimp left to play the game! Why?

Evaluation

Discuss with the class: What happened to Florida Bay? Why did it get sick? Where did the Everglades water go that should have gone to Florida Bay? (Ocean, cities, farms) If the shrimp die off, how would this affect humans in the area? Tourists? Do any of their parents work at a job related to shrimp? (Restaurants, hotels, shrimpers) How could the turtle grass die-off affect them? What could be done by each of us to correct this problem? Have the students list ways they can conserve water every day.