

Estuary Web of Life

by Theolonius Wolfgang Dutton,

adapted from *Sharing Nature With Children*, by Joseph Cornell

Objective: To involve every child in a display of the interconnections among animal and plant life, habitats, and human activity.

Material: Ball of string.

Prepare students with an age-appropriate foundation of how an estuary works. For example, with older children, how soil erosion in Pennsylvania can increase the amount of nutrients in the Chesapeake Bay, causing increased algae resulting in more decomposition and lower oxygen and fewer underwater plants because of less penetration by sunlight. How might this affect fish or the bald eagles that eat them?

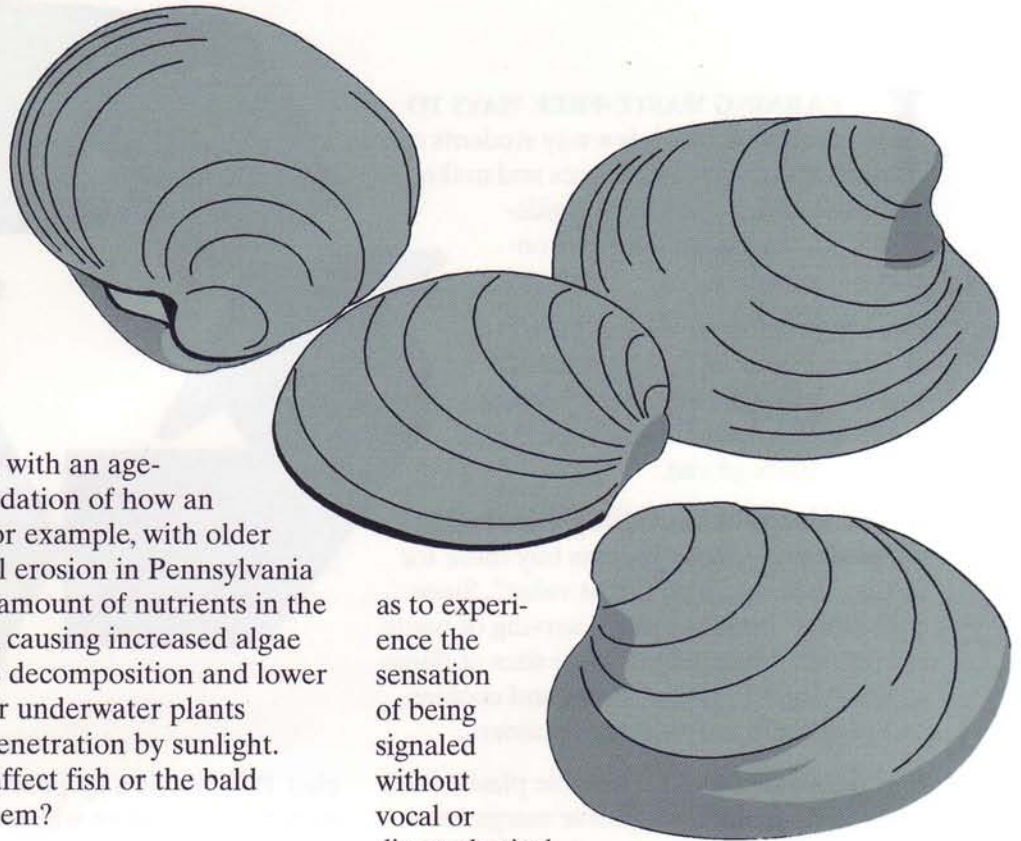
Have all the students sit down in a circle facing each other. The first student is handed the string and picks an animal from the list below. The student wraps one end of the string around a finger. Ask the class "Who can name something that eats or is eaten by this animal?" Pass the string to the student who names the second item.

As each student picks an item from the list, s/he wraps the string around a finger. The string should be taut but not tight. For younger children, limit items from the list to a simple food chain. With older children, introduce other elements such as human activity, tributaries, and sunlight. After the last person gets the ball of string, it goes back to the start. Now everyone is linked within the Estuary Web of Life. Students should be silent at the start of the game so

as to experience the sensation of being signaled without vocal or direct physical contact. Begin by introducing a situation that impacts directly on one of the items on the list. For younger children, this could be filling in a marsh to build condos.

An example for older children could be increased erosion. The student representing erosion gives a single tug on the string. Those who feel the pull wait ten seconds and then pull on their strings. Those who feel the second pull wait ten seconds, then pull their strings, and so on, until everyone feels the impact.

Ask students what caused the person connected to them to pull the string. Discuss the interrelationships among roles. Explore such ideas as a population explosion or decline of one species or large scale development in the watershed. Add or subtract items, or create new lists of relationships as necessary.



Water Quality Testing

- | | | | |
|---------------------|------------------|--------------|---------------|
| A. | B. | C. | D. |
| oyster | erosion | farmers | sewage |
| eagle | rain | watermen | exhaust |
| white perch | runoff | oil drilling | pesticides |
| blue crab | tributary | shipping | acid rain |
| catfish | pond | development | fertilizer |
| striped bass | wetland | electricity | landfills |
| algae | dissolved oxygen | highways | air quality |
| bacteria | sunlight | parking lots | water quality |
| zooplankton | nutrients | cities | garbage |
| SAV | carbon dioxide | malls | incineration |
| menhaden | stream | littering | coal |
| clam | decomposition | | |
| reedgrass | marsh | | |
| herring gull | | | |
| saltmarsh cordgrass | | | |

