

## Create A Seagrass Meadow Exhibit

### Objectives

Students will:

- ❖ Identify an estuary
- ❖ Identify a watershed
- ❖ Identify a habitat
- ❖ Understand the connection between your home and the health of seagrass in an estuary
- ❖ List environmental pollutants that decrease seagrass growth
- ❖ Compare and contrast landscape practices around your house that effect water quality

### Materials:

- ◆ 115 (12") green pipe cleaners, \$2.99/100
- ◆ 1,148 multi-color beads, \$3.99
- ◆ one student drawing of a 3" fish
- ◆ 12" X 12" X 1" Styrofoam Base
- ◆ wire cutter for pipe cleaners
- ◆ "Watersheds, Wetlands and Wildlife" video produced by St. Johns River Water Management District, Free

### Methods:

Have an adult cut all pipe cleaners into two uneven pieces with wire cutters. Slide 5 beads of various colors, in different locations, on each cleaner. This is time consuming if you are working alone, so have the students help with the beads.

Now you are ready to build your seagrass meadow. Start inserting two rows of pipe cleaners along the outer edges of the base. Use varying sizes to accomplish this. In the center of the square, insert the remaining pipe cleaners in a circle. This will mimic the look of a seagrass meadow.

Glue the students paper fish onto a pipe cleaner and insert the cleaner into the base so the fish has a home.

## SEAGRASS MEADOWS

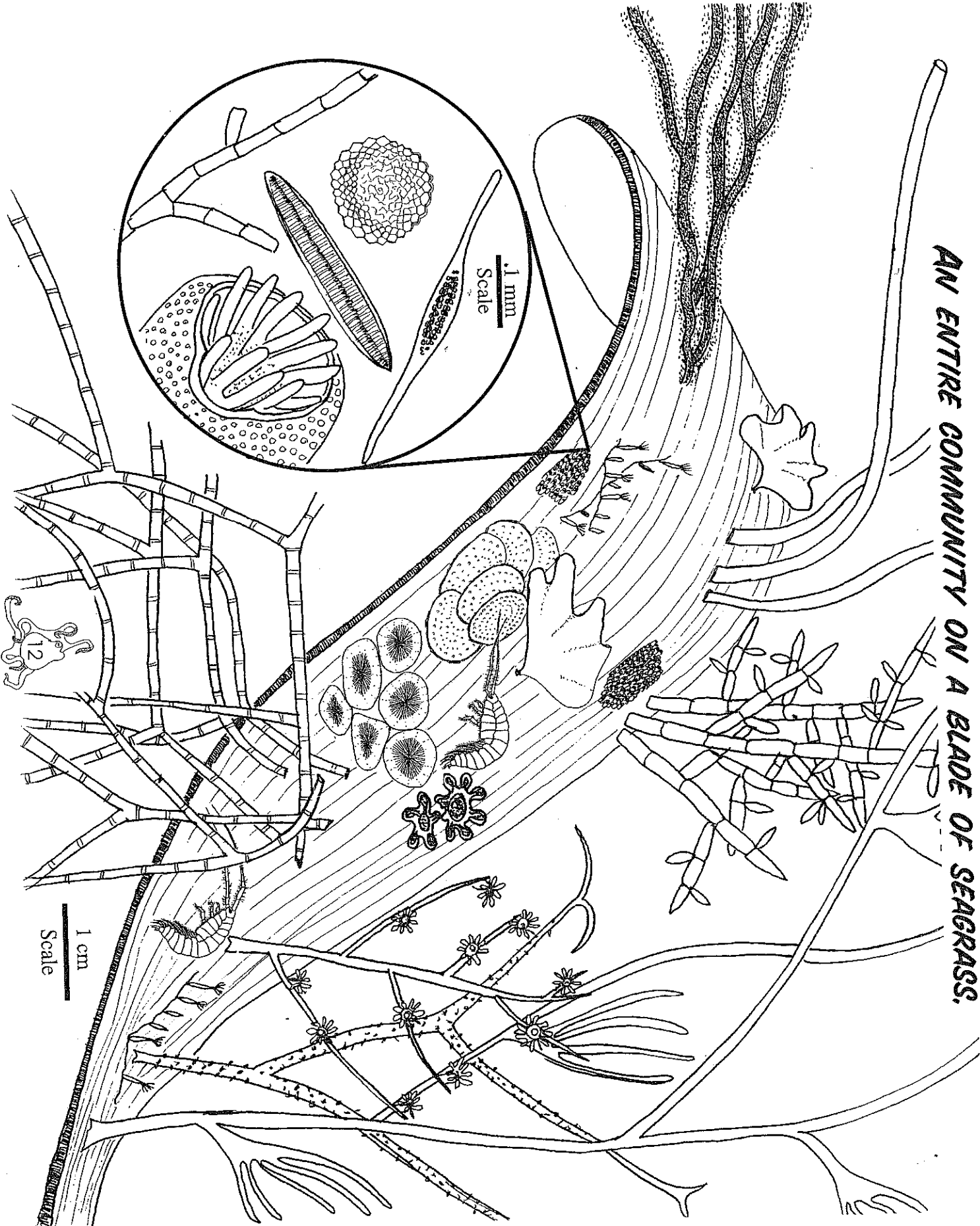
This is an example of an underwater seagrass meadow found in a Florida **estuary**. This square foot model shows the inhabitants of this vital **habitat**. The beads represent small invertebrates, such as shrimp, crabs, worms, etc.

If an acre of seagrass provides habitat for **50 million small invertebrates and 40,000 fish**, how many invertebrates and fish live in this square foot of seagrass?

(Answer at the Water Quality webpage <http://indian.ifas.ufl.edu/WATER%20QUALITY.HTM>)

Some areas of Florida estuaries have lost more than half of their seagrass meadows. Every citizen in this County can make a difference by applying **fertilizers**, pesticides and water to their landscape only when necessary. This will improve water quality and help restore seagrass meadows in a Florida estuary.

AN ENTIRE COMMUNITY ON A BLADE OF SEAGRASS.

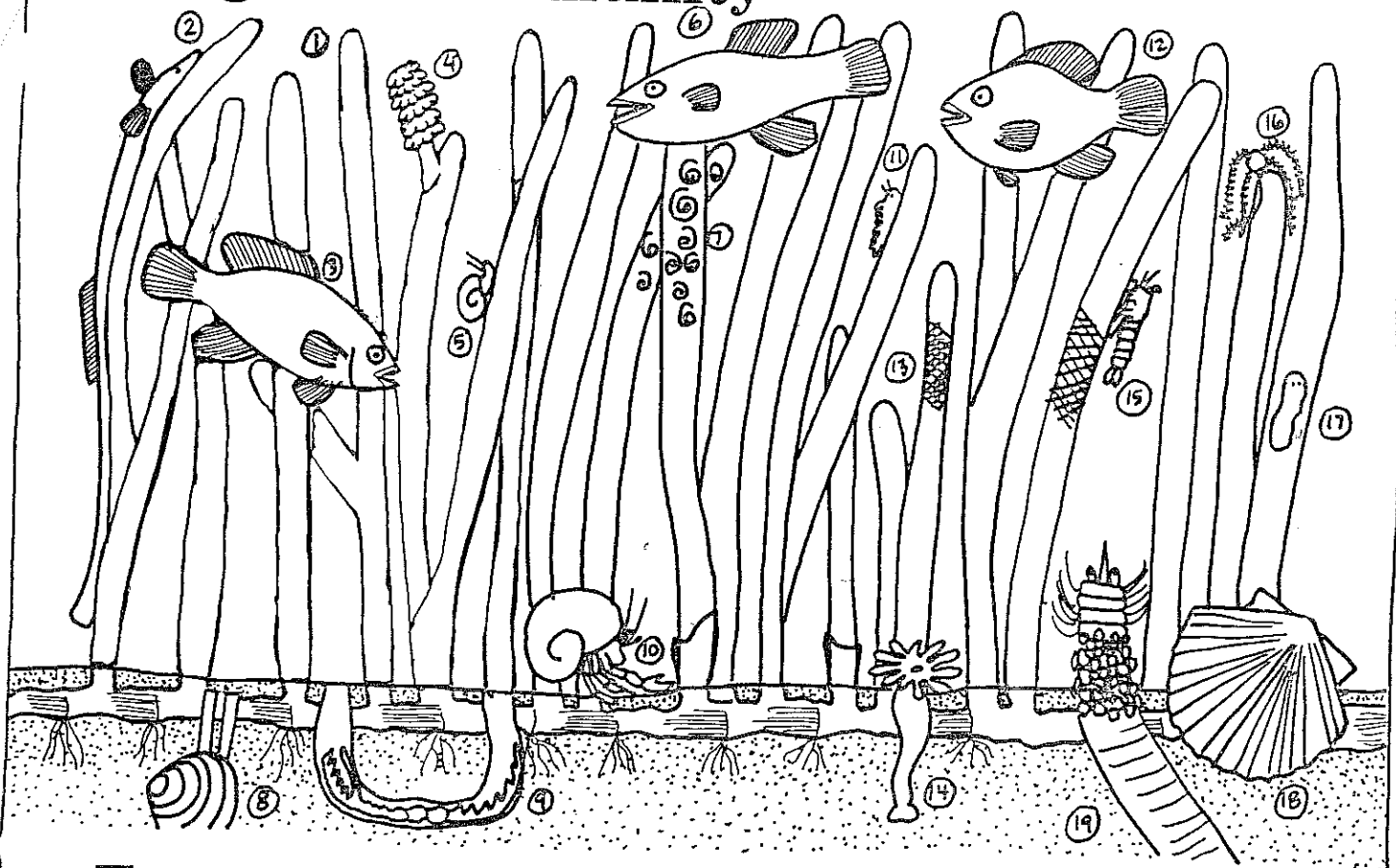


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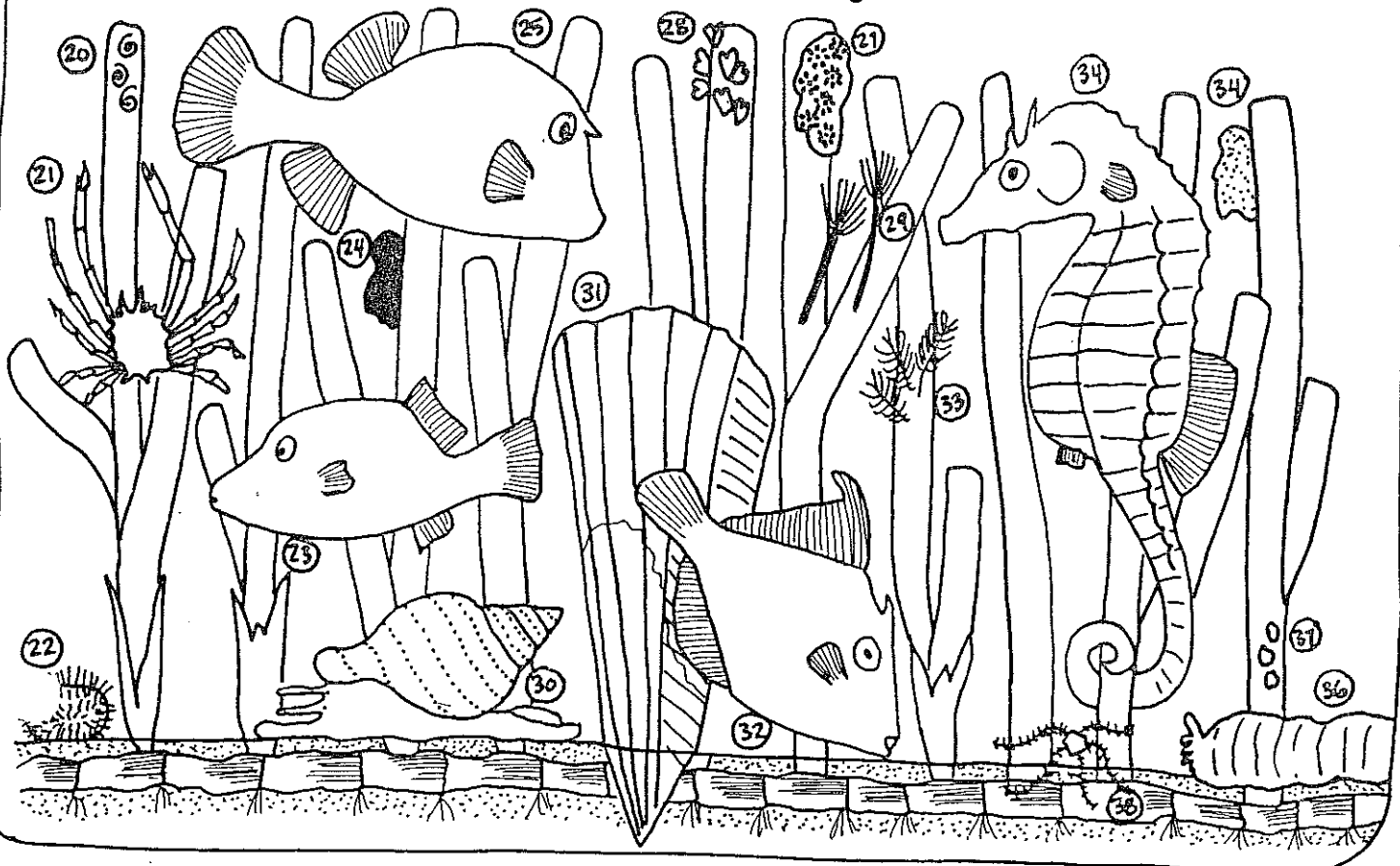
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12

# Eelgrass Community



# Turtle Grass Community



Eelgrass and Turtle grass are flowering plants adapted to relatively shallow water along the shore. The underground stems (rhizomes) of these grasses take hold in sandy bottoms. Eventually the grasses form dense beds. These grasses are valuable in many ways. The masses of rhizome hold down and stabilize the bottom sediments. When the grasses decay and are eaten by bacteria, nutrients are released into the water. Many creatures graze on the grass directly or on the organisms that grow on the grass. Dead blades that the tide washes up on the shore help stabilize and protect the shoreline. Beds of live Eelgrass and Turtle grass harbor large communities of marine organisms. These beds provide shelter, food, and sites of attachment for its inhabitants.

The following list corresponds to page 221.

- |                                |                                  |                               |                                 |
|--------------------------------|----------------------------------|-------------------------------|---------------------------------|
| 1. Eelgrass                    | <i>Zostera marina</i>            | 10. hermit crab               | <i>Pagurus</i>                  |
| 2. Pipefish                    | <i>Sygnathus fuscus</i>          | 11. nudibranch                | <i>Coryphella</i>               |
| 3. Common mummichog            | <i>Fundulus heteroclitus</i>     | 12. Sheepshead minnow         | <i>Cyprinodon variegatus</i>    |
| 4. Moon jelly (polypoid stage) | <i>Aurelia aurita</i>            | 13. encrusting bryozoan       | <i>Membranipora</i>             |
| 5. Common periwinkle           | <i>Littorina littorea</i>        | 14. Burrowing anemone         | <i>Actinothoe</i>               |
| 6. Striped killifish           | <i>Fundulus majalis</i>          | 15. Sand shrimp               | <i>Crangon septemspinosa</i>    |
| 7. Coiled tube worm            | <i>Spirorbis</i>                 | 16. Short-spined brittle star | <i>Ophioderma brevispina</i>    |
| 8. Soft-shell clam             | <i>Mya arenaria</i>              | 17. Slender flatworm          | <i>Euplana gracilis</i>         |
| 9. Parchment tube worm         | <i>Chaetopterus variopedatus</i> | 18. Bay scallop               | <i>Aequipecten irradians</i>    |
|                                |                                  | 19. Plumed worm               | <i>Diopatra cuprea</i>          |
|                                |                                  | 20. Coiled spiral worm        | <i>Spirorbis</i>                |
|                                |                                  | 21. Decorator crab            | <i>Stenocionops furcata</i>     |
|                                |                                  | 22. sea urchin                | <i>Lytechinus variegatus</i>    |
|                                |                                  | 23. Pufferfish                | <i>Sphaeroides</i>              |
|                                |                                  | 24. Chicken liver sponge      | <i>Chondrilla nucula</i>        |
|                                |                                  | 25. Cowfish                   | <i>Lactophyrus quadricornis</i> |
|                                |                                  | 26. Turtle grass              | <i>Thalassia testudinum</i>     |
|                                |                                  | 27. Star tunicate             | <i>Botryllus planus</i>         |
|                                |                                  | 28. Colonial tunicates        | <i>Ecteinascidia turbinata</i>  |
|                                |                                  | 29. Fan worms                 | <i>Sabella melanostigma</i>     |
|                                |                                  | 30. Tulip shell               | <i>Fasicolaria tulipa</i>       |
|                                |                                  | 31. Pen shell                 | <i>Atrina</i>                   |
|                                |                                  | 32. File fish                 | <i>Monocanthus</i>              |
|                                |                                  | 33. Hydroids                  | <i>Macrorynchia philippina</i>  |
|                                |                                  | 34. Seahorse                  | <i>Hippocampus</i>              |
|                                |                                  | 35. White sponge              | <i>Geodia gibberosa</i>         |
|                                |                                  | 36. Sea cucumber              | <i>Holothuria floridana</i>     |
|                                |                                  | 37. Turtle grass foram        | <i>Archaias angulatus</i>       |
|                                |                                  | 38. Brittle star              | <i>Ophiactis quinquerodia</i>   |

