

## **Laboratory 15**

### **Sampling Ecosystems**

### **Student Tip Sheet**

This laboratory exercise includes a lot of textbook information about the biotic and abiotic components of an ecosystem. The laboratory exercise basically includes examining the factors in a terrestrial site and in an aquatic site and listing your results. The equipment and supplies necessary for such sampling and evaluations can be as complicated and sophisticated as your school budget will allow. Do not be stopped, however, from testing and collecting from specific ecosystems because of lack of equipment. For example:

- Use mayonnaise jars for collections. You do not have to have special “collection cups” for outdoor critters. Always put holes in the lid.
- Bug boxes can be made from oatmeal boxes with windows cut out and replaced with screen wire for observation.
- Egg cartons work well for collecting and sorting various insects or small plants. Place cotton in each compartment and use the lid for protection. Critters display well in these cartons, at least temporarily. Separate cartons can be used to separate multiple specimens from each insect order. I have to wonder about amateur insect identification beyond the level of “order” other than the most obvious distinctions. Specific insect identification can be very detailed and should be left to the professionals.
- Sweep nets can be made with hosiery stretched over a coat hanger that has been bent into a large opening. The hook can be straightened and formed into a handle.
- Similarly, a drag net for sampling pond water can be made with hosiery and a coat hanger. Connect a small bottle at the “toe” of the hose to receive the filtrate.
- A pot lid, preferably white, can be tied to a string and lowered into water to measure turbidity. Take the measurement from the surface of the water to the depth at which the lid disappears.

My favorite quick reference guide for freshwater investigations is *A Guide to the Study of Fresh-Water Biology* by Needham and Needham, published by McGraw-Hill. ISBN # is 0-07046137-6. This 100-page paperback gives multiple line drawings for comparison and bits of useful information without offering great volumes of details that can overwhelm most of us. This is a must for your home reference library.

It can be a great experience for you make simple collecting and testing devices at home and see what specimens you can collect or information you can gather at your site. This might be a fun thing to do on summer vacation in the mountains or at the lake. What about taking a closer look at a tidal pool at the beach? You will find amazing things if you will just take the time to look!