

# Surveying Animals

If the plant community in your ecosystem changes over time, it is highly likely that you also will be able to detect a change in the abundance and diversity of animals. The best way to determine if the installation of your ecosystem has made the site more beneficial to wildlife is to survey animals before, and at least every year, after installation. If more animals are detected after installation, that would indicate that more food and cover needs of wildlife have become available. See Appendix H (page 157) for lists of field guides recommended for identifying animals.

Some record of the species surveyed should be maintained. The data recording sheet should contain at least the following information (Also see Appendix I, page 163, for a data sheet you can copy).

Trap or Survey Station No.  
Type of trap (such as a bucket or a bird survey station)  
Species (or some type of identifier such as "a large black beetle")  
Date observed  
Size or weight information  
Weather the night before and today  
Age (such as adult or young) and sex if known  
Survey person's or persons' name(s)

Photographs of each species (not every individual) can be taken and kept in an album.

Pictures of birds and other species that will be difficult to photograph can be cut out of guidebooks and pasted on paper. A running tally of species surveyed on the site should be maintained with the date each new species is found using the ecosystem.

## Invertebrates, Amphibians, and Reptiles

There are about 30,000 non-aquatic invertebrates, 51 native amphibians and 88 native reptile species in Florida.

### *Drift Fence*

The most common survey technique for these animals is a two-bucket drift fence array. The materials needed for this include: a shovel, two 5-gallon plastic buckets with lids, tin snips, and one 10 foot x 2 foot waffled fiberglass roofing panel. (Other materials can be used in place of the roofing panel, but they may not last as long.) In your ecosystem area, at least 5 meters from the edge, dig a hole 0.7 meters deep (2

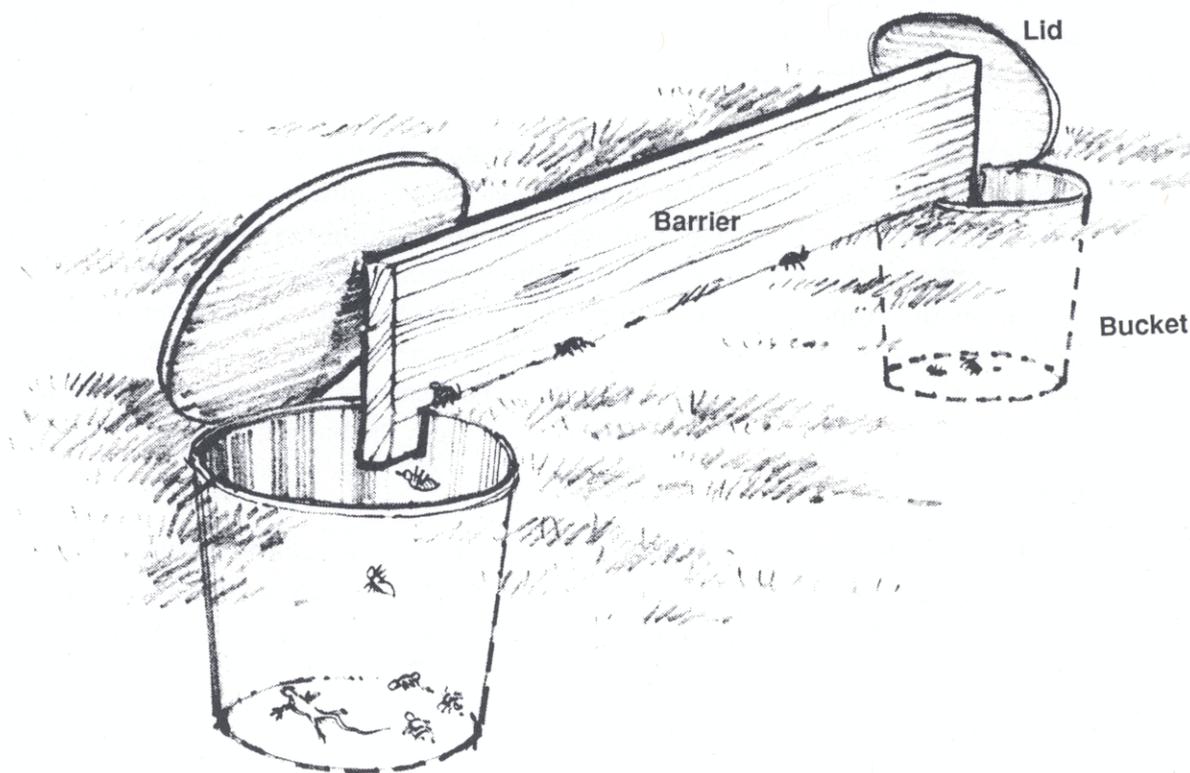


Illustration 3.5 Drift fence live-trap for invertebrates, amphibians, and reptiles.

your ecosystem area, at least 5 meters from the edge, dig a hole 0.7 meters deep (2 feet) and 0.3 meters (1 foot) wide. Make several 1/4-inch holes in the bottom of the buckets by drilling or hammering a nail or screwdriver. Place one of the 5-gallon buckets in the hole so the top edge is level with the ground surface (See Illustration 3.5). The holes in the bottom will help rain water to percolate through the bucket so caught animals will not drown. Cut a 1 centimeter slit about 10 centimeters deep in the rim of the bucket with tin snips. Dig a 3 meter long trench about 10 centimeters deep out from the slit in the bucket. Lay the roofing panel down next to the trench to determine where to dig a hole for the other bucket (about 10 cm closer to the first bucket than the length of the panel). Dig a hole for the second bucket; cut a slit in the rim; stand the panel on its side in the trench and in the slits in the two buckets; and backfill dirt against both sides. You may need to support the panel in the middle with a stake or two.

When animals walk or crawl up to this panel in your ecosystem, they will turn one way or the other and then will end up in one of the buckets. In addition to this trap array, smaller traps such as sour cream or cottage cheese containers may be used to sample invertebrates in other areas. If your ecosystem is large enough, you can use several bucket arrays placed in different microhabitats (e.g. shaded and unshaded) so you can see if different species live in different areas.

Shade each bucket with the lid or a board elevated at least 15 centimeters above the ground to allow for entry of larger animals such as box turtles. **Keep lids on buckets if you are not going to check their contents within 24 hours.** Place a damp sponge in the bottom of the buckets so captured animals won't dry out. Remove caught animals with a tropical fish net. Do not handle caught animals with your hands. Some animals, such as scorpions, can give you a serious sting or bite. After you have identified the animal, taken a picture if it is a new species, and collected all of the data you want, release it at least 3 meters away from the bucket.

### *PVC Pipe*

Plastic 1 1/2 inch PVC pipe is a useful tool for surveying treefrogs. Push a 4 foot (3.3 meter) pipe vertically into the ground about 15 centimeters until it is standing firm and will not fall over. These can be checked by merely looking down into the pipe with the aid of a flashlight.

### *Time-constrained Surveys*

Time-constrained surveys also can be conducted on each study site in an attempt to find animals (such as treefrogs and large snakes) that are less susceptible to bucket traps. This involves moving through the site turning logs, inspecting retreats, and watching for surface-active species. Record all animals observed during these surveys.

**ANIMAL SURVEY DATA SHEET**

School Name: \_\_\_\_\_ School District: \_\_\_\_\_

Observer(s): \_\_\_\_\_

Date: \_\_\_\_\_ Time (am or pm): \_\_\_\_\_

**WEATHER DATA**

- Is the sky? Mostly Clear or Moslty Cloudy (circle one)
- Temperature: \_\_\_\_\_
- Amount of rainfall during past 24 hours: \_\_\_\_\_
- Is it raining now? Yes or No (circle one)

**SURVEY DATA**

Species or Physical Description			
Survey Type [a]			
Ecosystem Type [b]			
Comments			
Sex			
<b>Physical Measurements of Captured Animals</b>			
Weight			
Total Body Length (including tail)			
Tail Length			
Photo Taken (yes/no)			

[a] Survey Type: 1) Bucket drift fence array, 2) Treefrog house (PVC pipe), 3) Track station, 4) Small mammal trap, 5) Stationary bird observation, 6) Burrow (in-ground), 7) Bird house, 8) Incidental sighting

[b] Ecosystem Type: 1) Scrub, 2) Sandhill, 3) Hardwood Hammock, 4) Flatwoods