

## Preparing and Stocking the Feeding Basin

*This is lesson #3 in a series of 3 lessons developed by 1000 Herons 501(c)(3) and adapted for use with the Maine heron tracking project.*

### Overview

Recently, it has become possible to trap adult members of the Ardeidae (herons and egrets) on their foraging grounds. This provides the opportunity to capture birds without disturbing their nests and risk abandonment. The purpose of this exercise is to give learners the opportunity to feed and observe great blue herons.

### Grade

7-12th

### Objectives

Learners will:

- Prepare a feeding basin for deployment
- Properly position the basin in an aquatic setting
- Catch or purchase fish (the leader may do the latter)
- Count and measure some of the fish
- Place the fish in the basin
- Make observations on a daily basis (of birds and/or fish loss from the basin)

### Materials

Data sheet  
Safety glasses (1 pair per student)  
Plastic cement mixing basin (70cm X 63cm X 16cm)  
Awl or power drill (with a 3-4 mm bit and a 6 mm bit)  
Cinder blocks (3)  
5 mm Nylon rope (20')  
Masking tape  
White, waterproof spray paint  
5 gal. bucket with top  
Aquarium fish net  
Fish measuring block  
Thermometer for air and water temperature  
Waders or hip boots (depending on number of students)

### Group size

Two students are required for making the basin. Once in the field more people can help stock the basin.

### Background

Herons hunt in shallow water and most often feed upon prey they can swallow. These include fish, crustaceans, amphibians, snakes, and sometimes mammals. We know much about the identity and size of their prey items, and how much activity they spend while foraging (hunting). Until recently, little was known about the movements of individual heron. A heron may be seen at the same spot from day to

day, but there is no way of knowing if it was the same heron, or different individuals (since they look alike). We have developed trapping methods that allow the capture of herons on their foraging grounds. We also harness them with GPS/GSM transmitters (tags) so their movements can be tracked. The technology used in the tags is the same as is found in a smart phone, but first the herons must be attracted to a trapping site.

## Activities

### Day 1

1. Your leader will provide a plastic bin for you to prepare.
2. With either the awl or drill, put holes in the bottom and sides of the basin. You should put in as many holes as possible, but keep each hole separate. You should have at least 700 holes each along the long sides of the basin, 350 holes each along the short sides, and 500 holes in the bottom.
3. Use a 6 mm diameter drill bit to drill two holes in the short side at the bottom about 8 cm from the corners. These holes will be used for the ropes that will secure the bin to the cinder blocks.
4. Once the holes are done, stick masking tape along the bottom, inside of the bin. Make a striped pattern with the masking tape.
5. Now spray paint the bottom of the bin with the white paint.
6. Allow this to dry and pull up the masking tape. The bottom inside of the bin should now appear striped with alternating white and black stripes (Figure 1). As fish swim above the light stripes, they become more visible to the birds.



**Figure 1.** This bin also has a second set of ropes that run perpendicular to the ropes that are strung through the cinder block holes. Extra fastenings or weight should be used in wave-prone areas.

## Day 2

1. Take the bin, rope and cinder blocks to the place heron(s) were seen most often.
2. Position the two cinder blocks in such a way so that 8-10 cm of water will be in the bin when it is placed on the cinder blocks. The holes in the cinder blocks should run parallel to the long dimension of the basin.
3. Place the bin on the cinder blocks and run rope through the large holes and pass them through the cinder block holes. Tie the ends of the rope together so the bin is secured to the cinder block. If cinder blocks are not available you may simply place the bin on the bottom and place a rock in it to keep it from floating away (Figures 2 and 3).

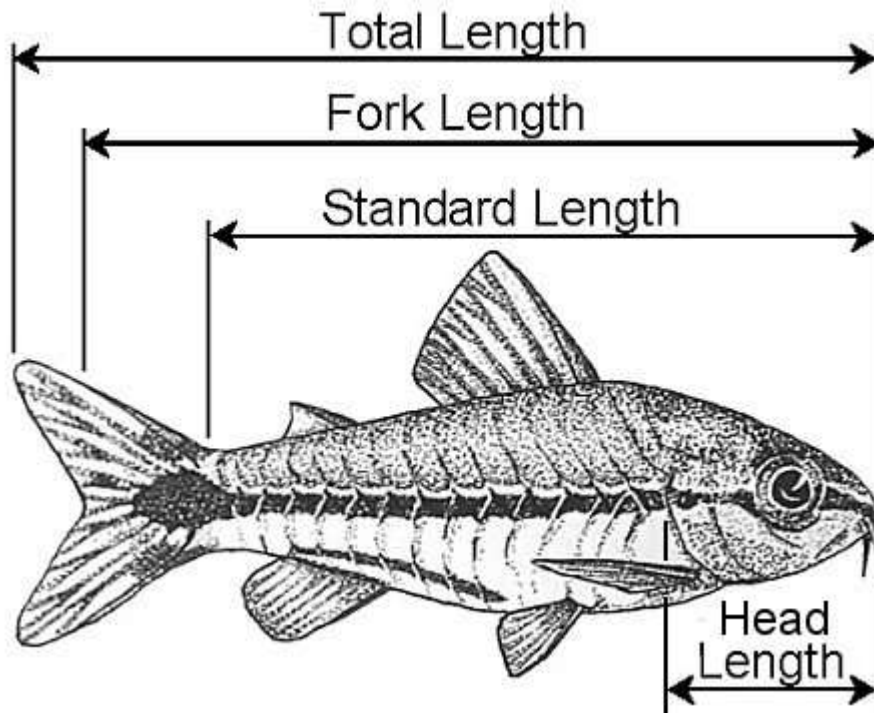


**Figure 2.** Bin with rocks for weight and not placed on cinderblocks.



**Figure 3.** Two bins with a  $\frac{1}{2}$  cinderblock placed near the bins so birds would step down in a certain place. Only one bin is necessary.

4. Begin scooping out fish with the fish net. One person should scoop the fish and pass each one to the other person, who will measure the total length of each fish on the fish measuring board before placing it in the bin. Measure the total length of 50 fish (to the nearest mm) that represent the size range of the fish you have (Figure 4). Do you have different species of fish? If so, keep a separate record of the lengths of the different kinds. Add the remaining fish, one-by-one, so you have a total count of the number of fish in the basin. If any fish have died, lay them on a rock or other item near the bin (within 1-2 m of the bin). Herons are sometimes attracted to dead fish.



**Figure 4.** Measurement landmarks on a fish.

5. Be sure to record the time of day and the date the basin was put out. Also record the water temperature (at the basin location, at the same depth as the fish). Record the number and identity of the people in your group.

**For additional information:**

“An Inexpensive Technique for Capturing Gregarious Wading Birds on their Foraging Grounds”

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