

# How to Conduct an Aquatic Plant Survey

## Purpose:

Surveying of a lake or pond to document aquatic plant growth serves several purposes:

- Provides objective baseline data to more accurately attain a long-term perspective
- May identify unique lake or pond resources and ensure protection
- If conducted regularly, these surveys may document or track rare or endangered plant species, or detect newly introduced invasive exotic plants

## Recommended Methods:

### **Essential tools for conducting a successful plant survey:**

- boat
- plant key or guide
- paper/writing utensil
- map of waterbody
- plastic zip-lock bags

### **Optional gear:**

- rake to pull up plants
- snorkel gear
- view scope
- polarized sunglasses



Aquatic plant survey crew with view scope (VTDEC)

### **Conducting a survey:**

- Surveys are best conducted with at least one other person; one person steers the boat while the other can look for aquatic plants.
- Choose a calm day for best visibility.
- Boat around the shoreline of the lake and out to as deep as plants are growing (approximately the 15 foot depth) and note the plant species and their density.
- Pay special attention to boat access areas, inlets and outlets, shallow bays, and any flow-restricting structures such as dams.
- Notes about shoreline vegetation, development, or any other factors that may affect the quality of the water are also valuable.
- If there is any question regarding identification, pull one of the plants out of the water for further examination. If you are still unsure or may suspect it is an exotic invasive species, place a representative piece in a wet paper towel and a plastic ziplock bag, include your name and contact information, date and the name of the water body the sample was collected from and mail the sample to the address below:



Water Quality Division  
103 South Main Street, 10 North  
Waterbury, VT 05671-0408  
ATTN: Plant sample ID

## Aquatic Plant Identification Guides:

*Aquatic and Wetland Plants of Northeastern North America*/ Crow & Hellquist, 2 volumes  
*Lake and Pond Plants* (booklet)/ S. Warren, VT DEC, Water Quality Division

# Stangel Scope Construction Details

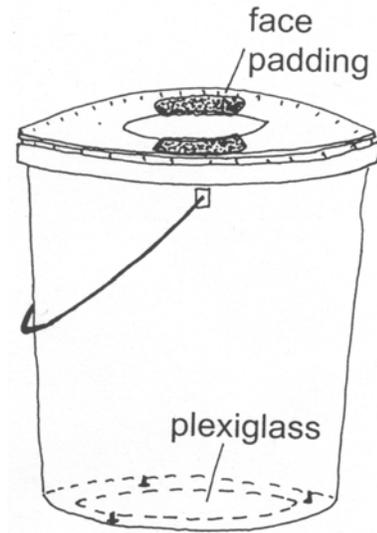
## How to Make an Aquatic Plant View Scope

### Materials for Single Scope:

- Perfect for use from a kayak or canoe
  - clean 5 gallon bucket with lid
  - 1 can of flat black spray paint
  - clear, water-proof silicone
  - 1/8" plexiglass
  - 3/16" screws ( 1/2" long) with nuts
  - 6 washers
  - foam padding (optional)

### Single Scope Instructions:

1. Make a template of the inside of the bucket: a circle approximately 10 3/8 inch in diameter:
  - mark three places for holes to be drilled (hole size is 3/16 inch)
  - have plexiglass cut to your template
2. Cut out the bottom of the bucket, leaving a one inch lip all the way around.
  - drill three holes (that match your template locations) in the lip.
3. Cut a hole in the lid that is half the size of the bottom hole (face hole).
4. Paint the inside of the bucket and lid black.
5. Fit the plexiglass in the bucket and attach with screws with the nuts on the outside.
6. Seal plexiglass and screws with silicone.
7. Place lid on and add foam around face hole to make more comfortable to use (optional).



### Materials for Double Scope:

- Perfect for use from a motorboat or dock
  - The same materials are required except the number of screws, nuts, and washers needs to be doubled as well as obtaining a second identical bucket.

### Double Scope Instructions:

1. Follow the same instructions for the single scope for producing the viewing bucket.
2. Cut a hole in the second bucket that is half the size of the hole in the other bucket (face hole).
3. Place the buckets together with the handles on opposite sides so that you will have a way to hold the scope.
4. Drill three holes in each upper lip of the buckets making sure they are properly aligned in order to screw them together.

