

# The Hunt for Aquatic Invaders



Invasive Aquatic Plant  
Screening Survey Procedures

*Your Mission . . .*  
Rule Out Presence of Target  
Invaders



The more thorough the survey; the higher one's  
confidence in a "NO IAP DETECTED" finding




# The Challenge

It is virtually impossible to be 100% thorough in  
ones search



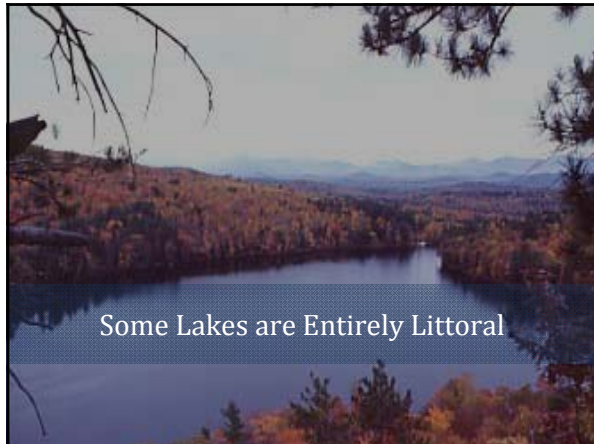
# Weather and Light Conditions Are Not Always Conducive



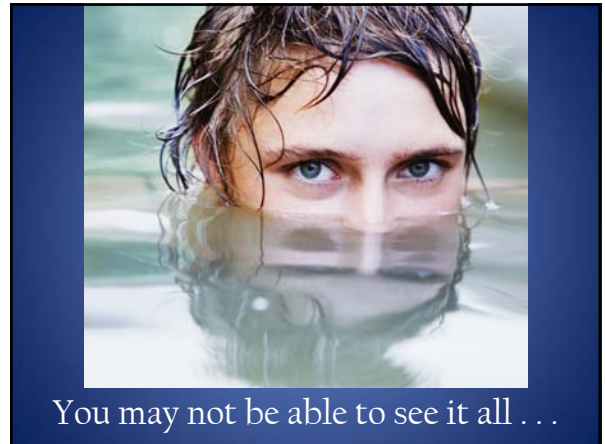
# Limits of Time and Energy



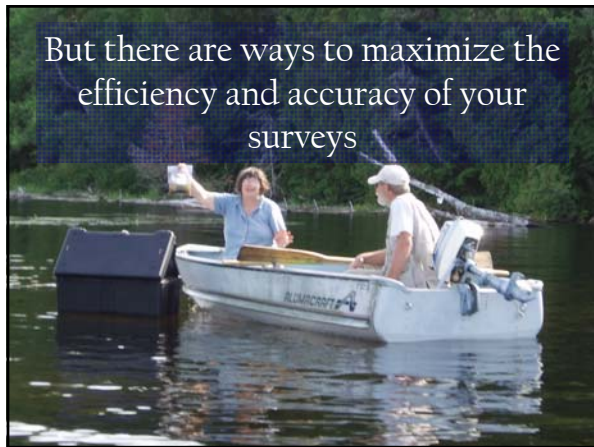
# Some Plant Communities Are Dense and Expansive



Some Lakes are Entirely Littoral



You may not be able to see it all . . .

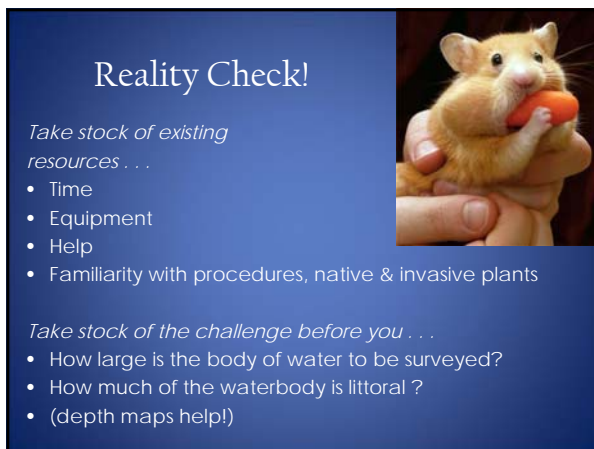


But there are ways to maximize the efficiency and accuracy of your surveys



# 1

*Get Organized,  
Develop a Plan of Action*



## Reality Check!

*Take stock of existing resources . . .*

- Time
- Equipment
- Help
- Familiarity with procedures, native & invasive plants

*Take stock of the challenge before you . . .*

- How large is the body of water to be surveyed?
- How much of the waterbody is littoral ?
- (depth maps help!)

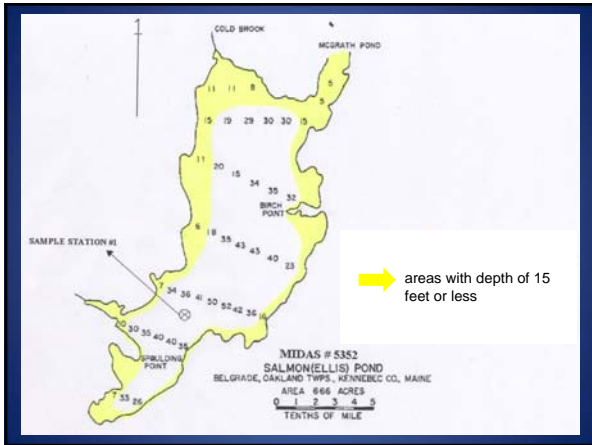
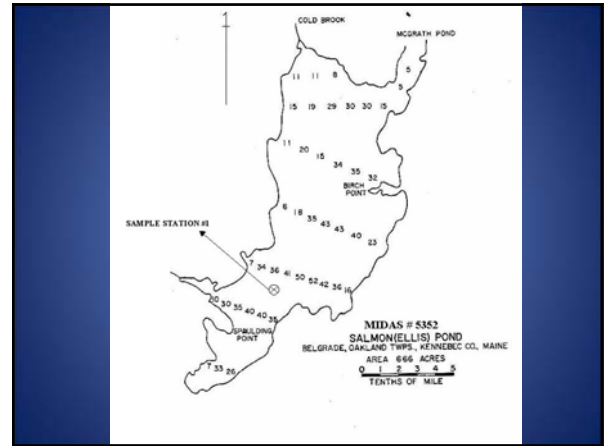
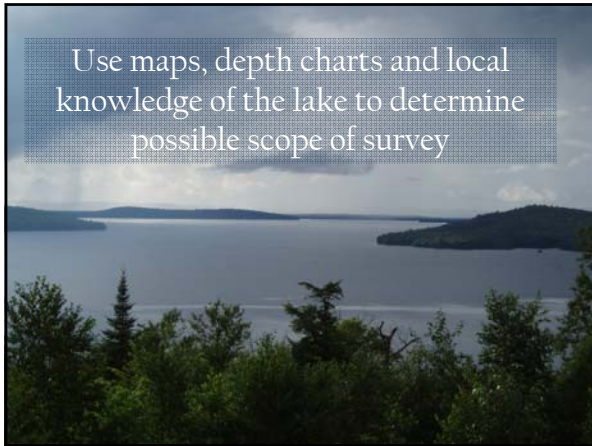


## Determine likely outside depth of littoral zone

- Area where light penetrates to the bottom, supporting rooted aquatic plants
- Water clarity is determining factor



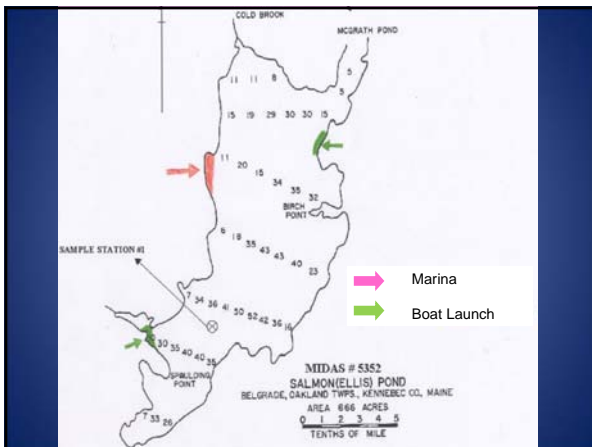
Use maps, depth charts and local knowledge of the lake to determine possible scope of survey



## LEVEL 1: High Risk Areas



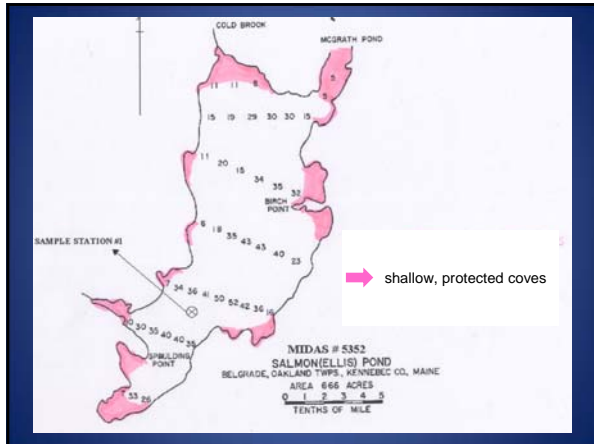
- Boat launch sites, marinas and high traffic areas
- Check a minimum of 300 feet on each side
- Extend to a depth where native plants do not grow



## LEVEL 2: Existing Aquatic Plant Communities

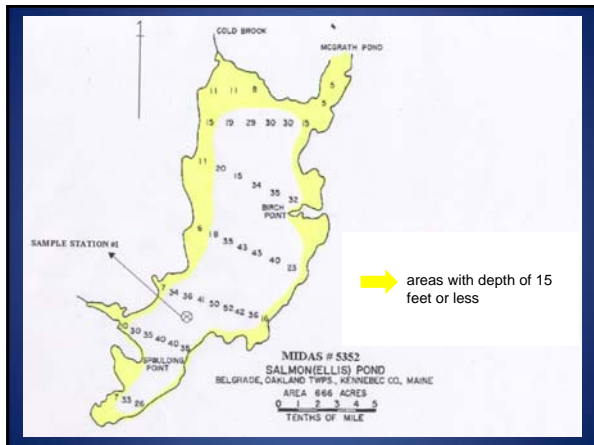


- All level 1, plus areas where *native* plant communities occur
- Typically shallow areas and sheltered coves
- Amount of potential habitat varies greatly



### LEVEL 3: Survey Entire Shoreline

- Most time consuming, but highest degree of assurance
- Entire littoral area is screened
- Some lakes are entirely littoral



### Sectors

Once you know the scope of your task you can divide the survey area into "doable" sectors

Considerations:

- plant density in each sector
- number of surveyors on your team
- proximity
- landmarks
- etc.

*Don't forget to build SAFETY into your plan*

- Never work alone!
- Always wear a PFD
- Be prepared for sudden changes in weather
- Dense plant communities can pose safety threats to swimmers & divers. Use caution!

Hold a meeting to discuss the plan, recruit volunteers, determine sector assignments, etc.

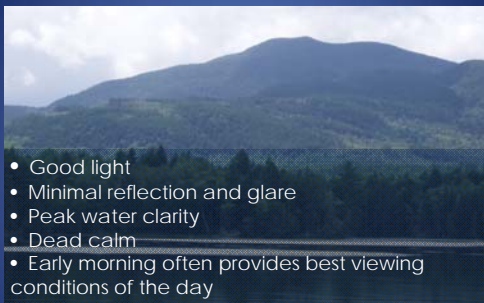
Panther Pond Invasive Plant Patrol (PIPPers!)



Team trained IPPs with novices or untrained "paddlers"

## # 2

*Go While the Going is Good*



- Good light
- Minimal reflection and glare
- Peak water clarity
- Dead calm
- Early morning often provides best viewing conditions of the day

Time your survey to coincide with the most favorable viewing conditions

### Time Survey to Coincide with Plant Maturity



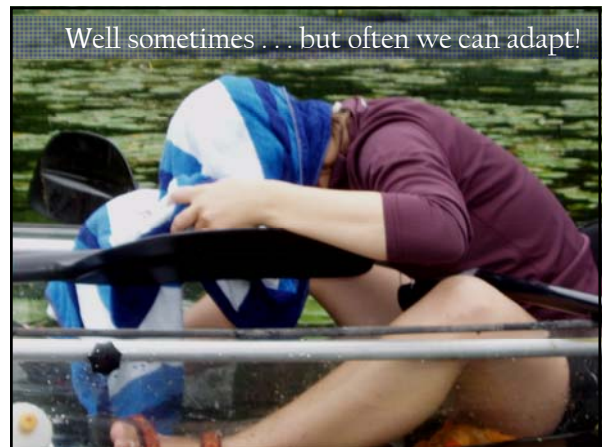
- All species but curly-leaf pondweed mature in mid-late summer
- Mid-July through September is prime survey time
- May survey as late as October, if weather permits, killing frost is delayed & plants remain intact

### Sometimes Perfect Survey Conditions Give Way to Less Than Perfect Conditions



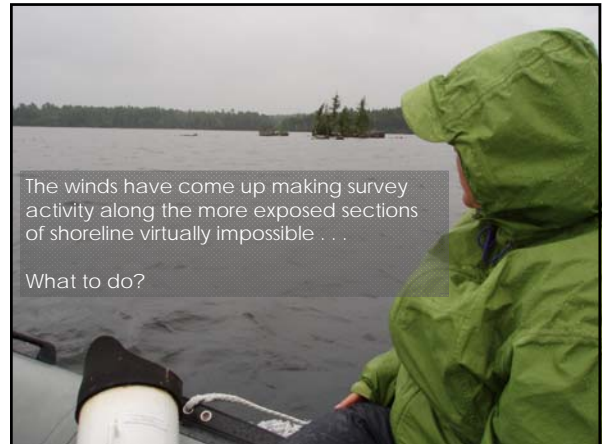
Do we throw in the towel???

Well sometimes . . . but often we can adapt!



# # 3

## *Work Arouds (Surveying Strategically)*



Change your location within the intended survey area to take advantage of the most favorable conditions available at that moment: protected coves, inlets, etc.

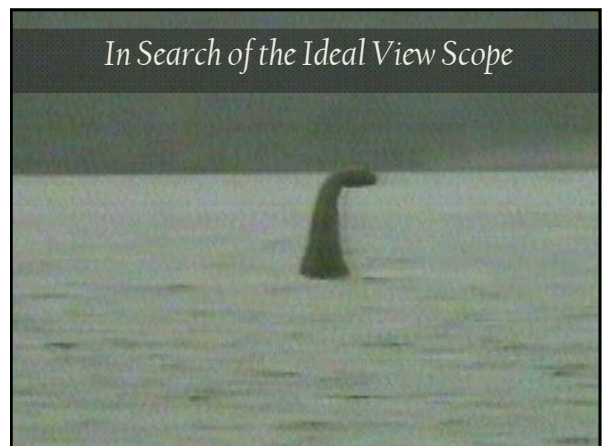


# # 4

## *Scopes*

### What Makes a Good Scope?

- easy and comfortable to use
- provides the widest possible angle of view
- constructed of opaque materials to shield out as much side and back light as possible
- being relatively cheap and easy to construct is a plus



It all started with the pickle bucket . . .



Bucket Scope with Cover



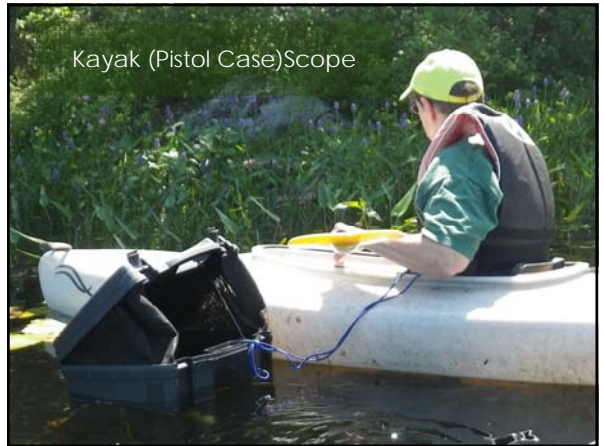
"Made With Care in Quebec"



Wide Angle View Scope



Kayak (Pistol Case) Scope



The Enright's Economical Tub Scope



Diver's Mask, Snorkel and Fins



View Canoe



Lake Annesegunticook's "Peeping Tom"



What's Next ???



VLMP offers Spring Scope Clinics!





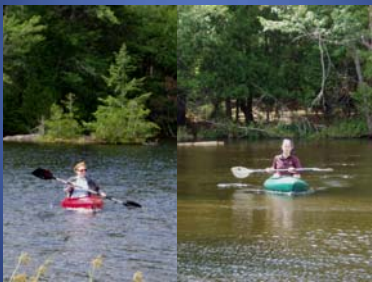
# # 5

## Teamwork

### Two-Person Survey Unit

- Safer, and better from a quality assurance standpoint
- Observations will be more thorough
- Two person canoes, row boats, skiffs, and inflatables are all well suited to the two-person survey team
- Both team members keep a keen eye out for hazards
- The division of labor between captain and lead surveyor should be fairly well defined. You can always swap roles mid-way

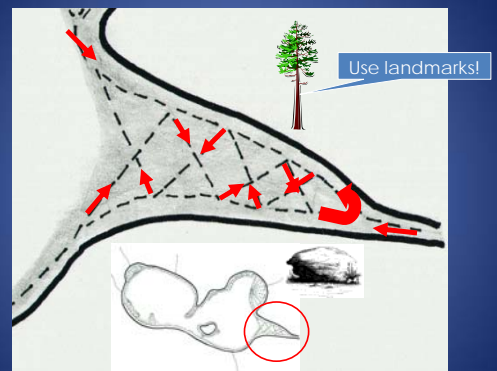
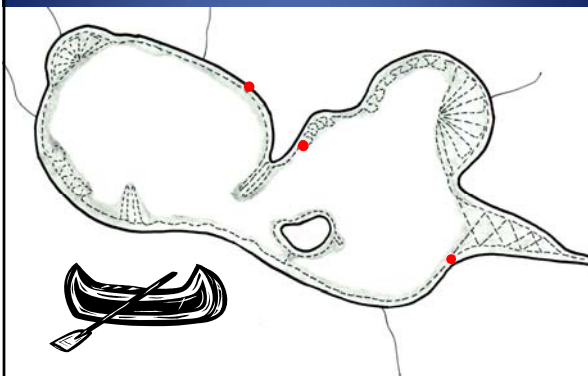
### The Multi-Kayak Unit

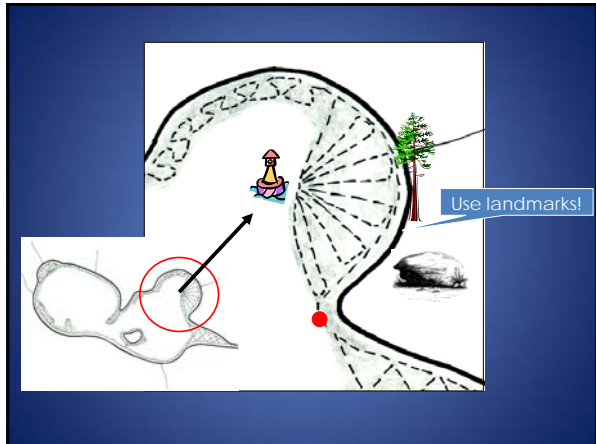


# # 6

## Charting Course

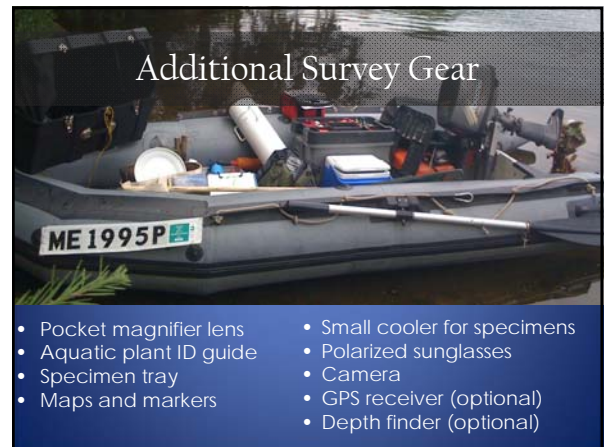
### Setting & Adjusting Course





# # 7

## Your Toolbox



# # 8

*Getting to Know the Natives*

See More *Knowledgably* as Opposed to  
Simply Seeing More . . .



Public Health Warning:  
This activity may be highly addictive

## Signs That You Are Hooked . . .

- Is your refrigerator is full of plastic bags containing samples of plants you intend to key out later?
- Do you have more photos of aquatic plants on your camera than family members?
- Do you find yourself dropping *Latin* plant names at cocktail parties?

**Welcome to the wonderful world of  
botanizing!**

*If you find a suspicious plant . . .*



## Follow These Steps



- Immediately mark the location with a buoy and on your map
- Carefully obtain a specimen
- DO NOT attempt to remove the plant
- Watch for and collect stray fragments
- Send or take the specimen to VLMP/CIAP for confirmation



## PREPARING & MAILING SPECIMENS

- Contact us!
- Plants can be kept fresh for days by storing in a container of water in the fridge
- When ready to ship, place live specimens in heavy duty Ziploc bags
- NO paper towels: remove air from the bag. Float delicate samples in water.
- Mark the bag with your name, and contact information
- Ship the specimen in a SOLID CARDBOARD BOX, with packing material
- Enclose completed "Suspicious Plant Form"

## Help us Track Your Suspicious Plant



**Maine Volunteer Lake Monitoring Program  
Suspicious Invasive Aquatic Plant Documentation Form**

Please fill in ALL information that applies and include the date with any plant specimen sent to VLM for identification. An attached map showing the location where the plant was first observed is required. For each specimen, include the date and location where the plant was first observed. Do NOT ATTEMPT TO REMOVE PLANTS FROM THE WATER. For any plant that is not a native species, please indicate the name of the plant. Please contact VLM prior to shipping or submitting. Thank you!

VLMF • 24 Maple Hill Road, Auburn, ME 04292 • (207)763-7733 • vlm@volunteerlake.org

Plant collected by: \_\_\_\_\_ Plant submitted by: \_\_\_\_\_  
 Location: \_\_\_\_\_ Date: \_\_\_\_\_  
 Name: \_\_\_\_\_ Mailing address: \_\_\_\_\_  
 Phone: \_\_\_\_\_ E-mail address: \_\_\_\_\_  
 Date of contact: \_\_\_\_\_ Name of contact: \_\_\_\_\_

Species/Photo sent:  Wetland  Openland  Emergent  Submerged  Date sent: \_\_\_\_\_  
 Check if specimen from a floating boat inspection  Check if specimen from a plant in the waterway

Boat Emerging  Boat Leaning  How the plant collected (as part of a survey)?  Yes  No  
 Date Sample ID # \_\_\_\_\_ Name of plant collector: \_\_\_\_\_  
 Name/location of boat launch: \_\_\_\_\_  
 Did you mark the location?  Yes  No  
 Description: \_\_\_\_\_  
 Map showing specimen location attached:  Yes  No

**Staff Use Only**  
 Date specimen arrived: \_\_\_\_\_ Received by: \_\_\_\_\_  
 Specimen identified by: \_\_\_\_\_ Date of ID: \_\_\_\_\_  
 Degree confidence (use only if M, W, L): \_\_\_\_\_ Invasive Aquatic Plant? (use only if Y, N, S, P)  
 Submitter completed? \_\_\_\_\_ Date: \_\_\_\_\_  
 Further actions warranted?  Yes  No Action Date: \_\_\_\_\_  
 Comments: \_\_\_\_\_

# # 9

## Become a Certified Invasive Plant Patroller!

## Certified IPP

WHAT WE ASK OF YOU . . .

- Attend one Introductory IPP Workshop
- Use VLMP standardized survey protocols and data sheets
- Make a formal commitment to submitting your screening survey data on a REGULAR basis (*Sign up today!*)
- To maintain certification you must report survey activity or attend additional training at least once every three years



## Certified IPP


WHAT YOU CAN EXPECT FROM US:

- Lifetime technical support
- Regular program updates including a personalized Spring Packet
- Free attendance to VLMP's Annual Lake Monitoring Conference and a warm welcome into the growing VLMP community
- A free bucket scope! (*Get 'em while they last!*)
- A great deal of appreciation!!!



Please document your efforts, regardless of certification & whether or not you find an aquatic invader

Your survey results will become part of a growing statewide database



**INVASIVE AQUATIC PLANT SCREENING SURVEY  
DOCUMENTATION FORM**

Please complete a separate documentation form for each distinct survey, such as a wetland, upland, or each different survey tool employed in a single geographic location. Indicate dates of each completed form by the "Date" column. Do NOT attempt to remove plants from the water.

Section 1: General Information  
 Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Lead Name: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Additional Surveyor # 1: \_\_\_\_\_  
 Additional Surveyor # 2: \_\_\_\_\_  
 Name of Lake State of (optional): \_\_\_\_\_

Section 2: Invasive Aquatic Plant Screening Survey  
 Survey Method: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Time of Day: \_\_\_\_\_  
 Weather: \_\_\_\_\_  
 Visibility: \_\_\_\_\_  
 Wind Speed: \_\_\_\_\_  
 Water Level: \_\_\_\_\_  
 Water Temperature: \_\_\_\_\_  
 Water Clarity: \_\_\_\_\_  
 Water Color: \_\_\_\_\_  
 Water pH: \_\_\_\_\_  
 Water Conductivity: \_\_\_\_\_  
 Water Dissolved Oxygen: \_\_\_\_\_  
 Water Turbidity: \_\_\_\_\_  
 Water Total Phosphorus: \_\_\_\_\_  
 Water Total Nitrogen: \_\_\_\_\_  
 Water Ammonia Nitrogen: \_\_\_\_\_  
 Water Nitrate Nitrogen: \_\_\_\_\_  
 Water Nitrite Nitrogen: \_\_\_\_\_  
 Water Total Suspended Solids: \_\_\_\_\_  
 Water Total Dissolved Solids: \_\_\_\_\_  
 Water Total Hardness: \_\_\_\_\_  
 Water Total Alkalinity: \_\_\_\_\_  
 Water Total Acidity: \_\_\_\_\_  
 Water Total Chlorophyll a: \_\_\_\_\_  
 Water Total Chlorophyll b: \_\_\_\_\_  
 Water Total Chlorophyll c: \_\_\_\_\_  
 Water Total Chlorophyll a+b+c: \_\_\_\_\_  
 Water Total Chlorophyll a+b+c+d: \_\_\_\_\_  
 Water Total Chlorophyll a+b+c+d+e: \_\_\_\_\_  
 Water Total Chlorophyll a+b+c+d+e+f: \_\_\_\_\_  
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## Role of the Lake Association



- Financially supports, helps recruit and organize the team.
- Helps outfit team members with equipment
- Funds to support the team are raised by an optional donation check off in the annual lake association dues appeal
- Appreciation and social events

VLMP has developed resources to help you build and coordinate your IPP Team



The screenshot shows the VLMP website with the following sections:

- Maine Volunteer Lake Monitoring Program**: Monitoring the health of Maine's lakes and ponds since 1971.
- Navigation Menu**: VLMP Home, Your Support, Water Quality, Aquatic Invasives, Workshops and Events, About/Contact, Publications & Resources, E-News.
- IPP Lake Leaders Page**: Includes a photo of people in kayaks and a 'Volunteer Links' section with links for Invasive Plant Patrol, Decals/Transparency Measures, Classified Organisms, and Boatline.
- News & Updates**: A section for the latest news, with a note that the workshop calendar for 2015 is still being determined.

## The IPP Plant Paddle



## What is a Plant Paddle?

- "Plant Paddles" are short (2 - 3 hour) events that take place on shore and on the water
- Fun, informal way to introduce community members to the threat of IAP and the importance of early detection
- Guided learning experiences, well suited to community events, i.e., lake days, civic group meetings, school outings, lake association meetings, etc.





# Join us on Facebook!



# VLMP Rocker Raffle

You could win this Thos. Moser "New Gloucester Rocker" for as little as \$5!



### Ticket Prices

- 1 for \$5
- 5 for \$20

Ask a VLMP Staff member about purchasing raffle tickets

Proceeds go to support VLMP programs