



INSTRUCTIONS FOR INVASIVE AQUATIC PLANT SCREENING SURVEY OR MAPPING SURVEY DOCUMENTATION FORM (5/10/18)



Can I use last year's Screening or Mapping Survey Form?

PLEASE do not use old forms. The Screening Survey and Mapping Survey Forms are updated from year to year and old forms are missing important information.

Can I put more than one lake/pond on the same sheet?

If you sample multiple waterbodies, PLEASE use a separate sheet for each distinct waterbody.

How do I fill out my form?

NOTE: It is best to use a pencil because some inks are water-soluble.

SECTION 1: General Information – *Don't forget to indicate if you have included a survey map!*

1. Fill out the top portion of the form with the **waterbody name, town, county, state** (if other than Maine)
2. **MIDAS #:** Unique four-digit identification code for a lake (rivers do not have these codes) If unknown, contact LSM for information.
3. **Date/s:** Record the date as month, day, year.
4. **On-Water Survey Hours:** Record total number of hours spent conducting the survey on the water.
5. **X # surveyors:** Enter the total number of surveyors that completed the survey.
6. **=Total Hrs:** Multiply the previous two numbers to get the total hours spent on the survey.
7. **Sectors/Location:** Record area surveyed with enough detail for someone unfamiliar with the area to locate the site. Please use permanent reference points whenever possible.
8. **Infestation Surveillance:** Please check this box if you are surveying in an area with a known infestation and are tracking that infestation's progress. (*Not Applicable to Mapping Surveys*)
9. **Lead Surveyor:**
 - a. **Name:** Record first and last name. Please use name listed on certification card.
 - b. **IPP Training:** If you are not certified but have attended an IPP workshop by the LSM, please mark **Y**.
 - c. **IPP Certification #:** Record IPP certification number if applicable (if unknown contact LSM)
 - d. **Plant ID Proficiency Cert:** If you have taken and passed the Plant Proficiency Test at the LSM's Advanced Plant ID class, please mark **Y**.
 - e. **Phone # and/or Email Address:** Recording both email and phone is preferred
 - f. **Regional Affiliation:** Record lake association, agency, etc. that you are affiliated with if applicable
 - g. **Name of Lake Team (if applicable):** If you are conducting this survey as part of a larger team effort, please put the name of your lake team here.
 - h. **For Multi-Year Surveys: Year ___ OF ___:** For "By Sector" surveys being conducted over multiple years, list which year of the survey you are on, and the estimated number of years to finish the survey (ex. Year 2 OF 3).
 - i. **Surveyor Type:**
 - IPP Volunteer** – Invasive Plant Patrol trained volunteer
 - Agency** – Staff from various agencies that conduct surveys, e.g. Auburn Water District, Maine DEP, Maine Department of Conservation Natural Areas Program
 - Research/Ed. Institute** – Students and/or faculty of a research institution (such as college or university)
 - Professional** – Trained professional, usually hired by the lake association and / or stakeholders
 - Other (explain)** – anyone who does not fit into the above categories

10. Additional Surveyors:

- a. **Name:** Record first and last name
- b. **IPP Certification #:** Record IPP certification number if applicable (if unknown contact LSM)
- c. **IPP Training:** If you are not certified but have attended an IPP workshop by the LSM, please mark **Y**.

11. Mapping Survey Primary Target(s): Record target plant(s) of the mapping survey. This is the known invader. (*Not Applicable to Screening Surveys*)

12. Survey Level: Record the scope of the survey conducted. The following abbreviations are used to indicate the survey level:

Limited: The thorough survey of a particular portion of the littoral zone (an area that would not typically be done in a level 1 survey).

Level 1: The points of public access and areas of concentrated boat traffic (e.g. marinas and narrow navigation channels) are surveyed. Survey areas extend horizontally along shoreline at least 100 meters (~300 feet) on either side of the high-risk zone, and outward along the entire length to the depth at which the bottom is no longer visible (typically between 9 and 13 feet).

Level 2: The Level 1 areas were surveyed, plus the areas of the shoreline that are likely to provide suitable habitat for aquatic plants, such as shallow, sheltered coves.

Level 3: Survey covers the entire shoreline area and littoral zone. (The littoral zone includes all regions of the waterbody where sunlight reaches the bottom and rooted aquatic plants are present.)

- a. **Survey Level – By Sector or Entire:** Any survey (except Limited) should have one of these options checked.

By Sector: Surveys are often done by teams of surveyors. Checking **By Sector** indicates that the survey being recorded covers one portion (or sector) of the survey area. Surveyor/s may take up to 3 years to complete the survey. A description of the sector boundaries (e.g. from the Rt. 3 public boat landing to the Birch View Camps) should be included in Section 1: General Information (see item 6 above). Applies to survey levels 1, 2, & 3 only.

Entire: Indicates that the survey was completed by one surveyor or one group of surveyors. Applies to survey levels 1, 2 & 3 only.

13. **Screening Method/s:** Record method employed to survey waterbody, may include more than one

OPTIONAL: Abbreviations can be used to indicate methods used in a particular area on survey map

VISUAL METHODS

VR: Visual Random Points - visual spot-check of areas on the waterbody

VP: Visual Plot Points – visual check of discrete points at regular intervals along a transect or grid

VT: Visual Transect – follow a predetermined continuous line between two points looking on both sides of the watercraft as far as the eye can see.

VC: Visual Complete Coverage – surveyed every area in the littoral zone.

GRAB SAMPLE METHODS

GR: Grab Sample Random Points – Sampling random points of the waterbody with grab sample tool

GT: Grab Sample Target Points – Sampling specific points of concern in the waterbody with the grab sample tool

GP: Grab Sample Plot Points - Sampling of discrete points at regular intervals along a transect or grid

14. **Relative Water Level:** Darkened stain, occurring in bands that run horizontally along stony sections of the shoreline (most noticeable on large boulders) marks the “**Normal High**” water level for the waterbody. Check ‘**Above**’ for levels above these markers and ‘**Below**’ for levels lower than these markers.
15. **Maximum Depth of Plants Observed:** The maximum depth that plants were observed during the screening survey. Use a depth finder or marked, weighted line to determine depth.
16. **Screening Target/s:** Record target plant(s) of the screening survey whether all 11 invaders or a particular subset. If a subset, indicate the species targeted. (*Not Applicable to Mapping Surveys*)
17. **Additional Survey Goals:** Record additional survey goals, e.g. inventory of dominant native plants by sector or by waterbody OR complete inventory of native plants including rare and endangered species.
18. **Grab Sample Tool:** Record the appropriate type of grab tool used to conduct the screening survey, checking all that are used during the survey.
19. **Water Clarity:** Check the descriptors that best characterizes the general visibility encountered during your survey.
20. **Light Conditions:** Record all light conditions that occur during the screening survey.
Bright: you can see distinct shadows, the sky is clear
Cloudy Bright: the day is bright but there are clouds in the sky
Overcast: the day is gray and there is predominately cloud cover in the sky
21. **Surface Conditions:** Record all lake surface conditions that occur during the survey.
22. **Plant Conditions:** Check the descriptor that best characterizes the general condition of the majority of the plants observed during your survey.
23. **Viewing Methods:** Record the appropriate viewing area of scope(s) used to conduct the screening survey, checking all that are used during the survey.
4” diameter Tube Scope 4” diameter tube scopes
6” diameter Tube Scope 6” diameter tube scopes.
Bucket Scope or equivalent include bucket scopes, kayak-size trunk case view scopes, and view canoes
Trunk Scope or equivalent include large-sized trunk case scopes, storage bin scopes, and clear kayaks
Facemask or equivalent include the use of facemask for snorkeling or SCUBA
Polarized Lenses Polarized Lenses help reduce glare and make seeing plants from the surface easier
Naked Eye On calm days, using your naked eye can increase your visual range from the surface
Other: Please describe any scope that does not fit into one of the above categories
24. **Additional tools or methods used:** List any tools or methods used during the survey not listed above.

SCREENING SURVEY FORM: SPECIFIC INSTRUCTIONS

The information in the following section pertains to Sections 2 – 4 of the IAP Screening Survey Documentation Form.

SECTION 2: Invasive Aquatic Plant Screening Survey

1. **Suspected IAP?** Were any of the target invasive aquatic plants observed during the survey? Circle Yes or No.
PLEASE BE SURE TO FILL THIS OUT!

FILL OUT THE REMAINDER OF THIS SECTION ONLY IF YOU ANSWERED YES TO #1 ABOVE

2. **Suspicious Plant Submitted?** Check Yes or No, indicate where the plant was sent and on what date
3. **IAP Code:** Invasive species are abbreviated as follows

BE – Brazilian Elodea (<i>Egeria densa</i>)	CP – Curly-leaf Pondweed (<i>Potamogeton crispus</i>)
EM – Eurasian Watermilfoil (<i>Myriophyllum spicatum</i>)	EF – European Frogbit (<i>Hydrocharis morsus-ranae</i>)
EN – European Naiad (<i>Najas minor</i>)	F – Fanwort (<i>Cabomba caroliniana</i>)
PF – Parrot Feather (<i>Myriophyllum aquaticum</i>)	YH – Yellow Floating Heart (<i>Nymphoides peltata</i>)
VM – Variable Leaf Watermilfoil (<i>Myriophyllum heterophyllum</i>)	
VMh – Hybrid Variable Leaf Watermilfoil (<i>M. heterophyllum</i> x <i>M. laxum</i>)	
WC – Water Chestnut (<i>Trapa natans</i>)	H – Hydrilla (<i>Hydrilla verticillata</i>)
4. **Sector/Location:** Record area surveyed with enough detail for someone unfamiliar with the area to locate the site. Please use permanent landmarks whenever possible.
5. **GPS Lat/Long:** Set of coordinates identifying location on survey map; usually longitude & latitude
6. **Buoy Code:** Record code on buoy marking the location of the potential invader.
7. **NOTES:** Record any additional observations or points of interest.

SECTION 3: Native Plant Inventory

1. **Common Native Plant Checklist:** The checklist is confined to common native plants only, and is not comprehensive. Space is provided at bottom to list additional plants. If taking inventory of plants in multiple discrete areas, please provide a label for each area in the space at the top of the columns to the right of the list in the area marked “Sector.”
2. **Inventory Symbol Key:** Located at the top of the back page this key identifies the type of abundance for the species observed.
✓ = presence
D = dominant
U = uncommon
3. **Notes:** This column is for any additional information pertaining to the native plant inventory.

SECTION 4: Observed Species of Concern

1. **Species of Concern Observed:** Examples of some species of concern are
Chinese Mystery Snail (*Cipangopaludina chinensis*)
Common Reed (*Phragmites australis*)
Gleotrichia (*Gleotrichia echinulata*)
Northern Pike (*Esox lucius*)
Purple Loosestrife (*Lythrum salicaria*)
Rusty Crayfish (*Orconectes rusticus*)
Zebra mussel (*Creissena polymorpha*)
2. **Sector/Location:** Record area surveyed with enough detail for someone unfamiliar with the area to locate the site. Please use permanent landmarks whenever possible.
3. **GPS Waypoint:** Set of coordinates identifying location on survey map; usually longitude & latitude
4. **Buoy Code:** Record code on buoy marking the location of the species of concern.
5. **NOTES:** Record any additional observations or points of interest.

MAPPING SURVEY FORM: SPECIFIC INSTRUCTIONS

The information in the following section pertains to Sections 2 – 4 of the IAP Mapping Survey Documentation Form.

SECTION 2: Additional Species of Concern

1. **Additional Species of Concern Observed:** Examples of some additional species of concern are
Chinese Mystery Snail (*Cipangopaludina chinensis*)
Common Reed (*Phragmites australis*)
Gleotrichia (*Gleotrichia echinulata*)
Northern Pike (*Esox lucius*)
Purple Loosestrife (*Lythrum salicaria*)
Rusty Crayfish (*Orconectes rusticus*)

Zebra mussel (*Creissena polymorpha*)

6. **Sector/Location:** Record area surveyed with enough detail for someone unfamiliar with the area to locate the site. Please use permanent landmarks whenever possible.
7. **GPS Waypoint:** Set of coordinates identifying location on survey map; usually longitude & latitude
8. **Buoy Code:** Record code on buoy marking the location of the species of concern.
9. **NOTES:** Record any additional observations or points of interest.

SECTION 3: Invasive Aquatic Plant Mapping Survey

8. **Map Point:** Numbered point on survey map that identifies location of IAP
9. **IAP Code:** Invasive species are abbreviated as follows
 - BE – Brazilian Elodea (*Egeria densa*)
 - CP – Curly-leaf Pondweed (*Potamogeton crispus*)
 - EM – Eurasian Watermilfoil (*Myriophyllum spicatum*)
 - EF – European Frogbit (*Hydrocharis morsus-ranae*)
 - EN – European Naiad (*Najas minor*)
 - F – Fanwort (*Cabomba caroliniana*)
 - PF – Parrot Feather (*Myriophyllum aquaticum*)
 - YH – Yellow Floating Heart (*Nymphoides peltata*)
 - VM – Variable Leaf Watermilfoil (*Myriophyllum heterophyllum*)
 - VMh – Hybrid Variable Leaf Watermilfoil (*M. heterophyllum* x *M. laxum*)
 - WC – Water Chestnut (*Trapa natans*)
 - H – Hydrilla (*Hydrilla verticillata*)
10. **Sector/Location:** Record area surveyed with enough detail for someone unfamiliar with the area to locate the site. Please use permanent landmarks whenever possible.
11. **GPS Lat/Long:** Set of coordinates identifying location on survey map; usually longitude & latitude
12. **Buoy Code:** Record code on buoy marking the location of the potential invader.
13. **Characterization Code:** Use the code(s) listed below that best describes the marked infested area.
 - IN: Individual IAP
 - SDP: Small Dense Patch of IAP; primarily single species stands covering an area less than 100 square feet
 - MDP: Medium-sized Dense Patch of IAP; primarily single species stands covering an area 100 to 500 square feet
 - LDP: Large Dense Patch of IAP; primarily single species stands covering an area over 500 square feet (Provide an estimate of the area coverage for LDP if possible)
 - SIA: Sparsely Infested Area; plants and plant clusters sparsely distributed over a wide area, too numerous to mark individually (Shade SIA on the map &/or mark outer boundaries with series of GPS points)
 - MIA: Moderately Infested Area; plants and plant clusters moderately distributed over a wide area, too numerous to mark individually (Shade MIA on the map &/or mark outer boundaries with series of GPS points)
 - HIA: Heavily Infested Area: Plants and plant clusters are heavily distributed over a wide area, too numerous to mark individually (Shade HIA on map &/or mark outer boundaries with a series of GPS waypoints)
14. **MXN:** Check if the IAP infestation was mixed in with a significant stand of native plants (Use to modify any characterization code.)

EXAMPLES OF SCREENING SURVEY/MAPPING SURVEY MAPS

