

West Harbor Pond, (MIDAS # 5372*)
Invasive Aquatic Plant Watch, 2020
Elin Haugen, WHPWA



I understand that we have new members and new shorefront owners on the Pond this year and oh what a year! Welcome to all of you, from Lake Stewards of Maine also.

The West Harbor Pond Watershed Association has made a dedicated stewardship effort over the years 2007-2020 for our pond. This includes keeping an eye on water quality by:

- Secchi disc (water clarity)
- Monthly monitoring of water chemistry
- Measuring water levels
- Educating shorefront owners about erosion problems via the *LakeSmart Program*
- Identifying native aquatic plants, while searching for invasive species.

I have been the primary plant patroller for West Harbor Pond for these 13 years. Fortunately my kayak is a good outdoor platform for social distancing, so lake work was especially welcome this year.

I became certified to look for invasive plants in 2007, and in 2009 it became critical to carefully check our pond waters every year when an infestation of hydrilla (a common freshwater aquarium plant) was discovered on Damariscotta Lake, on the next peninsula. Their Lake Association made a massive effort to check the sunlit waters for patches of this plant to identify areas needing plant eradication by DEP over a number of years. By 2017, their Lake was determined to be hydrilla-free. It became obvious that the sooner an invasive plant is discovered, the more likely it can be nipped in the bud! Yes, these infestations can become nasty strangling mats of vegetation that crowd out native vegetation, putrefy waters upon decay, as well as destroy animal habitat and shorefront value.

Southern Maine lakes are in a constant battle against invasive plants that can cost big money for removal over the years. The Courtesy Boat Inspection services at public boat launches are their first line of defense against hitch-hiking plants that can arrive from other infested lakes in New England, southern Maine and now Canada. We have no public boat launch site, but please be aware that all watercraft and floatplanes can transport these unwanted invasive plants and animals. If you RENT your cottage, notify your renters that all kayaks, canoes and boats need to be inspected for plants, washed, rinsed with vinegar or dilute bleach and sundried a number of hours to kill microscopic larval stages. This includes fish gear and fish wells in boats. Props of motorboats also present a particularly high risk of transporting invasive species. I see most places have an array of kayaks and watercraft that reside permanently on our lake, and this is GOOD!

Despite the ills of the world, our West Harbor Pond has received a clean bill of health this season for all invasive aquatic plants including milfoils and hydrilla are concerned. I spent close to 10 hours on the pond looking for patches of new, unusual plant growth and any changes of note to the shoreline. I tend to spread this search out for the growing season from mid July through September, just to be sure there are no late bloomers.

This year I received multiple inquiries about fuzzy green “clouds” or bottom green coverings of algal masses collected (by prevailing winds) at the North end of the pond and in a few shallow sites on the pond. We call this multi species grouping “metaphyton”; mostly microscopic cells and fine filaments that form clouds in the water. Yes, a lot more this year, but true in most Southern Maine lakes that are getting higher temperatures in summers - felt to be another symptom of population pressure and climate change. Additionally the long drought seems to favor the microscopic cyanobacteria (what we used to call blue green algae) that can be toxic to dogs and humans. We have had some southern Maine lake alerts and concerns, but so far no check by DEP for us, since it does require expert microscope ID. We might seek help in future years, since elevated phosphorus can initiate harmful warm weather blooms which I have not seen so far. However, this only emphasizes the need to keep waterfront property free of the usual sources of phosphorus – lawn fertilizer and stormwater runoff from yards and roads leading to land erosion.

During my 13 years of plant surveys, our circa 20 native species has changed very little , while quantities have waxed and waned as weather conditions change each year, just like your home garden. We have 4-5 dominant plants:

- Long stringy pondweeds
- Pink and white water lilies
- Pretty purple pickerel weeds
- Cattails.

Ten more species are common and usually 4 or 5 are somewhat rare, but found in predictable spots around the pond.

Our beaver families can also change the look of our shoreline, by clipping brush, eating cattail and plant tubers, felling trees to build lodges. My thought is that as they stir the sediment they sometimes unearth seeds of change, plants I may not have seen before that bloom briefly if conditions are right. And we all know what birds and ducks do - spread things all around! I do check with neighboring lakes in a season to see if they have similar changes, and it is typically confirmed.

Just a reminder, it is illegal to remove in-lake vegetation in front of your camp, without a DEP permit for any more than a 10 foot wide access to deeper water. This is not new; a law was enacted back in the 1970’s to protect Maine lakes as important wildlife habitat. Surprised? I bet. This is what STEWARDSHIP is about.

Please see the Lake Stewards of Maine's website for more background on this important organization that relies on widespread volunteer participation to help monitor a wide range of indicators of water quality, assess watershed health and function, and screen lakes for invasive aquatic plants and animals. <https://www.lakestewardsofmaine.org/>

Besides the wealth of lake data (by MIDAS number) and information on many important lake topics on this website, they now have several training webinars on Vimeo that can lead to an Invasive Plant Certification (see the outline below).

Please check this out this winter, because I could use some new blood for surveys in West Harbor Pond and if you have the lust to see Maine by kayak with great people, there are opportunities to help with other lakes that have problems.

This is a great way to be in touch and aware of your special environment that you love. I am always available to mentor anyone who has a real interest!

Elin Haugen, IPP (Invasive Plant Patrol)
ehaugen2@myfairpoint.net

IPP 101 Webinar Series

Invasive Plant Patrol 101 (Lake Stewards of Maine's IPP certification course) is comprised of three parts:

- **Part 1 provides a general introduction to the threat of aquatic invaders;**
- **Part 2 provides guidance for conducting an invasive plant screening survey, including discussion of tools and techniques;**
- **Part 3 takes a deep dive into Aquatic Plant ID with a focus on the eleven invasive aquatic plants considered to be most imminent threats to our state, and their native look-alikes.**

Participants who wish to become LSM Certified Invasive Plant Patrollers must pass a short online quiz at the conclusion of each course section. The quiz is optional for all others.

In the final stage of certification, participants are asked to collect several aquatic plants on their own, and then attend one of LSM's regularly scheduled Plant ID Zoom Sessions for feedback on tentative ID's and/or guided identification.

Links to these training recordings and quizzes are posted on the website so they can be done anytime while at home. Please contact LSM directly for any updated information about the certification process especially in view of the current Covid 19 environment.

The link below is a 2020 case study of a lake infestation that illustrates all the principles that the LSM program promotes to help keep our ponds and lakes free of invasive plants. I highly recommend this video ! <https://vimeo.com/462718636/1eca008e23>

*MIDAS – *MIDAS numbers are unique identification numbers assigned to Maine lakes and ponds and managed by Maine state agencies. See this link for historical data for West Harbor Pond* <https://www.lakesofmaine.org/lake-overview.html?m=5372>



Maine Volunteer Lake Monitoring Program

If you find a "suspected invasive" plant please mark the location with a weighted buoy and carefully collect a sample for species confirmation. Place the specimen in a zip-lock bag 1/3 full of water and store in a cool place. **Do not attempt to remove the entire plant!** Alert the Maine Volunteer Lake Monitoring Program immediately, at 207-783-7733 or vlmp@mainevlmp.org. You will be provided with important shipping instructions.

QUICK KEY

to Ruling Out
Maine's Eleven Most unwanted
Invasive Aquatic Plants

(because sometimes knowing what it isn't
is more important than knowing what it is!)

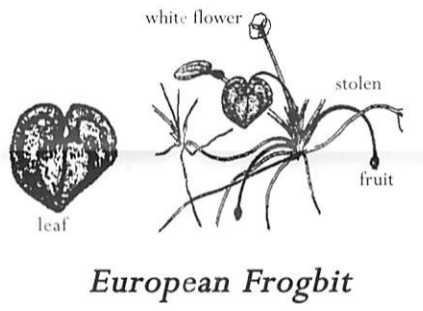
PLANT TYPE CATEGORIES FOR RULING OUT INVADERS

All eleven invaders have characteristics that place them in one of the following five categories. If the plant in question does not fit into at least one of these, you may rule out all eleven invaders!

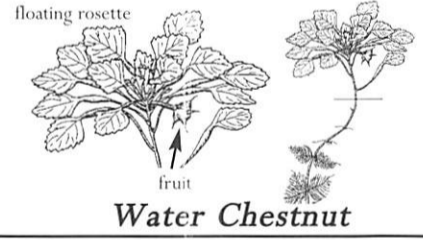
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Floating-leaf plants		Submersed plants with whorls of small lance-shaped leaves (leaves approx 1" or less)		Submersed plants with pairs or clusters of small narrow leaves		Submersed plants with long, flat, alternately-arranged leaves		Submersed plants with finely-divided leaves	

1. FLOATING-LEAF PLANTS

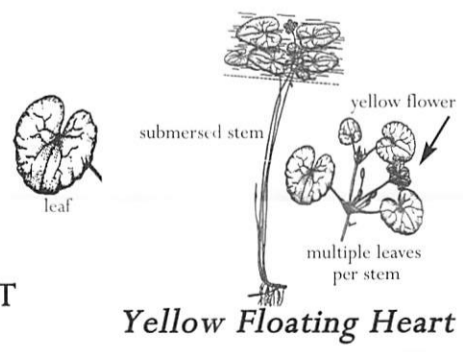
- a) Is the plant attached to the sediment by a stem?
- ◆ If yes, rule out **European Frogbit**; go to (b)
 - ◆ If no, are the leaves heart shaped, and growing in a clump, often connected to nearby plants with stem-like runners (stolons)?
 - ◆ **IF YES, SUSPECT EUROPEAN FROGBIT**
 - ◆ If no, rule out **European Frogbit**; go to (b)



- b) Does the floating part of the plant consist of a rosette of conspicuously toothed triangular shaped leaves?
- ◆ **IF YES, SUSPECT WATER CHESTNUT**
 - ◆ If no, rule out **Water Chestnut**; go to (c)



- c) Is the leaf heart shaped, and notched almost to the center?
- ◆ If no, rule out **Yellow Floating Heart**
 - ◆ If yes, is the leaf margin wavy or rippled, with multiple leaves per stem?
 - ◆ If no, rule out **Yellow Floating Heart**
 - ◆ **IF YES, SUSPECT YELLOW FLOATING HEART**



2. SUBMERSED PLANTS WITH WHORLS OF SMALL LANCE-SHAPED LEAVES (APPROX 1" OR LESS)

- a) Snip the stems several times at intervals along the stem. Count the number of leaves per whorl. Are there consistently three leaves per whorl?
- ◆ If yes, rule out **Brazilian Elodea and Hydrilla**
 - ◆ If there are generally four leaves or more per whorl, are the leaves finely but conspicuously toothed? (Can you see the serrations without magnification?)
 - ◆ **IF NO, SUSPECT BRAZILIAN ELODEA**
 - ◆ **IF YES, SUSPECT HYDRILLA**

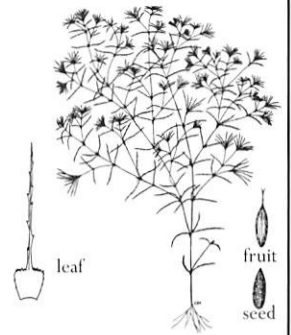


3. SUBMERSED PLANTS WITH PAIRS OR CLUSTERS OF SMALL NARROW LEAVES

a) Are the leaves finely but conspicuously serrated or “toothed”?
(Can you see the serrations easily with, and sometimes without, a hand lens?)

- ◆ If no, rule out **European Naiad**
- ◆ If yes, pull a leaf away from the stem. Are the leaf bases serrated and bulging out in a blocky way (as opposed to gently flaring out)?

◆ **IF YES, SUSPECT EUROPEAN NAIAD**



European Naiad

4. SUBMERSED PLANTS WITH LONG, FLAT, ALTERNATELY-ARRANGED LEAVES

a) Is there more than one leaf type associated with this plant?

- ◆ If yes, rule out **CURLY LEAF PONDWEED**
- ◆ If no, are the leaves finely but conspicuously serrated and distinctly wavy (like a lasagna noodle) in appearance?

- ◆ If no, rule out **Curly Leaf Pondweed**
- ◆ **IF YES, SUSPECT CURLY LEAF PONDWEED**



Curly Leaf Pondweed

5. SUBMERSED PLANTS WITH FINELY-DIVIDED LEAVES

Forked



Branched



Feathered

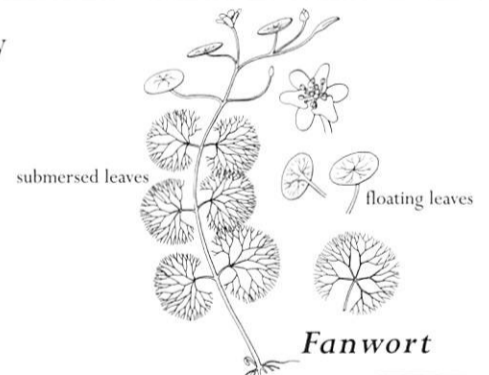


a) Are the leaves fork or branch divided (as opposed to feather divided?)

- ◆ If yes, rule out all three invasive milfoils on Maine’s watch list: **Eurasian Watermilfoil**, **Variable Watermilfoil** and **Parrot Feather**; go to (b)

b) Are the branched leaves oppositely arranged and held to the stem by long slender leaf stems?

- ◆ If no, rule out **Fanwort**
- ◆ **IF YES, SUSPECT FANWORT**

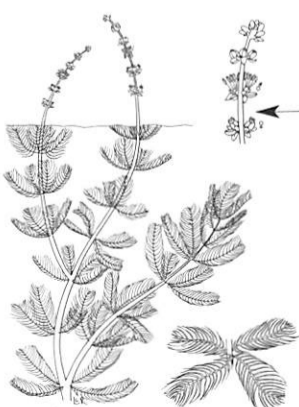


Fanwort

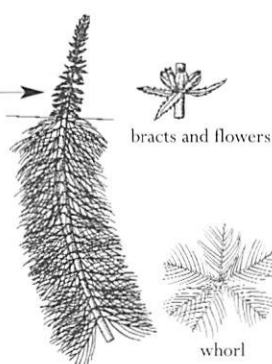
c) Are the leaves feather divided?

- ◆ **IF YES, SUSPECT ONE OF THE THREE INVASIVE MILFOILS ON THE WATCH LIST: EURASIAN WATERMILFOIL, VARIABLE WATERMILFOIL and PARROT FEATHER.**

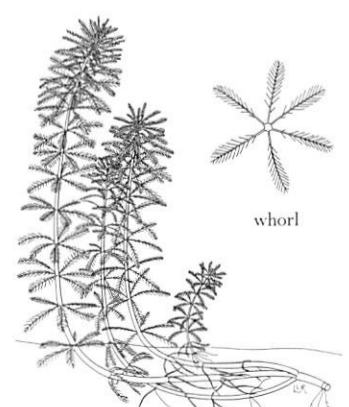
But remember, there are five native milfoil species as well as some feather divided non-milfoils.



Eurasian Watermilfoil



Variable Watermilfoil



Parrot Feather