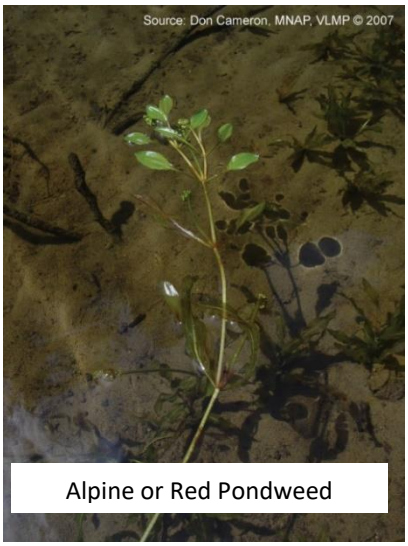
Native Maine Plants Found in Watchic Lake – 2019 Screening Day Update

On August 10, 2019, a group of 8 WLA board members and volunteers surveyed Watchic Lake for invasive plant species – none were found. As a member of the Lake Stewards of Maine Invasive Plant Patrol Program, we are asked to submit an inventory of the native plants found in the lake (this list of plants).

Most of the materials below come from the Lakes Stewards of Maine (LSM), formerly VLMP. Materials from other agencies are noted in the summary along with links to more detail.

In August 2019 water clarity was good (lots rain has led to less clarity), and plants were generally immature and sparse.

Alpine or Red Pondweed *Potamogeton alpinus*



Alpine or Red Pondweed

Red/Alpine pondweed has two distinct leaf types: submersed leaves and floating leaves. Red/Alpine pondweed is native to Maine, New England and much of the northern and western United States. Two varieties of red pondweed have been documented in the US (var. tenuifolius and subellipticus), primarily based upon the submersed leaf shape. However, since both leaf types may be observed in the same population, the distinction is rarely recognized. More from Maine Lakes Stewards of Maine here on Alpine/Red Pondweed. **Observed in 2016, 2017, 2019**

Arrowhead *Sagittaria spp*


Arrowhead

There are 5 species of Arrowhead in Maine; some erect emergents, others with floating leaves. Arrowhead is found in shallow wetlands and is sometimes known as broadleaf arrowhead, duck-potato, Indian potato, or wapato. This plant produces edible tubers that were extensively used by the Indigenous peoples of the Americas. Arrowhead forms dense colonies on very wet soils that become more open as the species mixes with other species of deeper water levels. These colonies forms long bands following the curves of rivers, ponds and lakes, well-marked by the dark green color of the leaves. The plant has strong roots and can survive through wide variations of the water level, slow currents and waves. It displays an affinity for high levels of phosphates and hard waters. More details can be found in Wikipedia Sagittaria latifolia. **Observed in 2017, 2018, 2019.**

Bladderwort, northern *Utricularia intermedia*

Northern Bladderwort is one of four commonly found Bladderworts in Maine. Tiny, lopsided sack-like bladders used for capturing invertebrate prey are either attached directly to the leaves or to specialized leafless stems. In addition to this key shared feature, all four bladderworts that are native to Maine have finely-divided, branched, submersed leaves and produce irregular snapdragon-like flowers. More details from Lakes Stewards of Maine here "Bladderworts". **Observed in 2016, 2017, 2018.**

Northern bladderwort (*U. intermedia*): submersed stems (left)
Leaves and bladders occur on separate stems (right)

Bladderwort, common *Utricularia macrorhiza*

Common Bladderwort is one of four commonly found Bladderworts in Maine. Tiny, lopsided sack-like bladders used for capturing invertebrate prey are either attached directly to the leaves or to specialized leafless stems. In addition to this key shared feature, all four bladderworts that are native to Maine have finely-divided, branched, submersed leaves and produce irregular snapdragon-like flowers. Details from Lakes Stewards of Maine here "Bladderworts". **Observed in 2016, 2017, and 2018.**

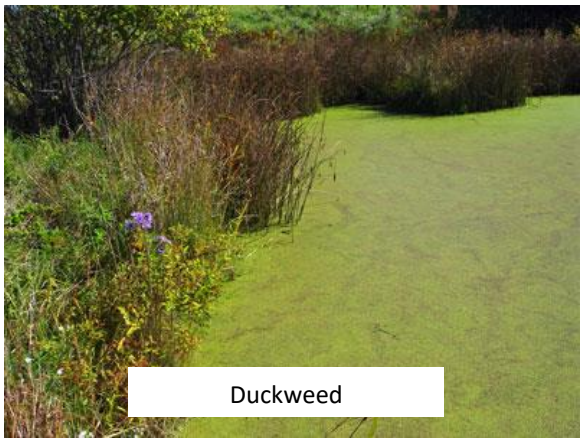
Coontail *Ceratophyllum demersum*

Both of Maine's native hornwort species are submersed aquatic plants with coarse, branching stems and no roots. The leaves of both species are fork-divided and arranged in whorls of 5 to 12 leaves. Whorls of leaves are more closely spaced towards the end of branches giving the plant a raccoon tail appearance. Hornwort leaves are relatively stiff to the touch and typically hold their shape and position when pulled from the water, unlike many other plants with finely divided leaves. A close look at the leaves is needed to distinguish between species. Coontail leaves are generally forked only once or twice, flattened,

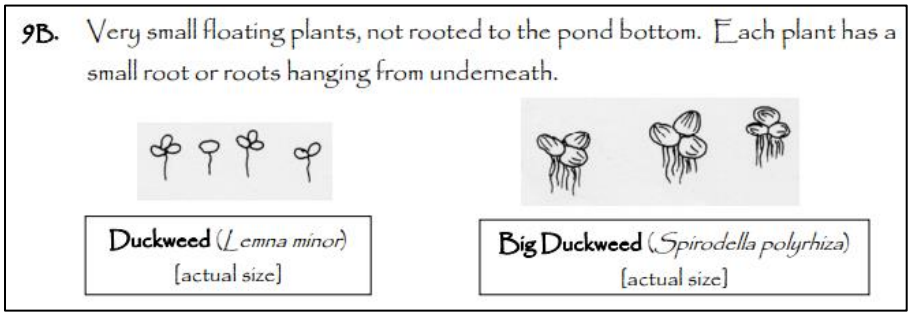
finely serrated, with tiny teeth often tipped with a sharp spine. More details from Lakes Stewards of Maine here in "Hornworts". **Observed in 2016, 2017, 2019.**

Duckweed *Lemna spp. and Spirodela spp.*

Duckweed is floating leaved plant and is common in still areas on pond surfaces. These plants have only a flat, green body called a thallus (frond). There are no true leaves or stems. The plant bodies of the Lemna variety are only about 1/16 inch in diameter, with a short root dangling in the water. Spirodela is slightly larger at 1/8 inch and has more trailing roots. Duckweed rarely flowers. The plants often cluster together in groups of three or more and reproduce quickly by division. Duckweed is an important food source for a variety of waterfowl. It is also eaten by some wildlife and fish.


Duckweed

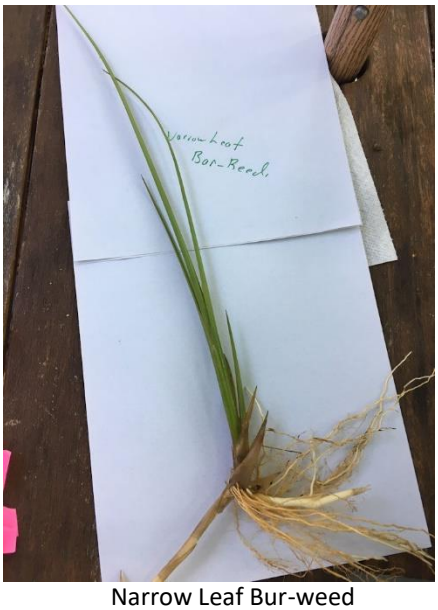
While native to Maine, duckweed can become a nuisance, as it grows quickly, When duckweed covers a pond's surface for an extended period, it can deplete oxygen levels, potentially affecting fish and other pond life. More information can found at A Field Guide to Common Aquatic Plants of Pennsylvania and Maine's Department of Agriculture, Conservation, and Forestry. **Observed in 2016, 2017, 2018, 2019.**



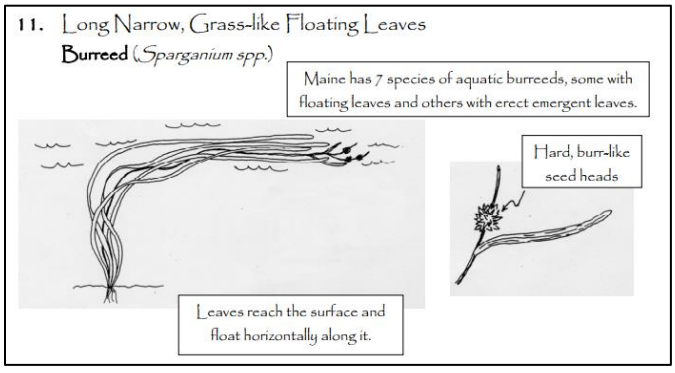
MAINE CENTER FOR AQUATIC INVASIVE PLANTS

Narrow Leaf Bur-weed *Sparganium angustifolium*

A shoreline plant with round bur-like flower heads and strap-like leaves distinguish bur-reeds. Spiny flower heads grow on the sides of flowering stems, that bend at each point of attachment giving them a zigzag appearance. Narrow leaf bur-reed is highly variable with leaves ranging from ribbon-like underwater or floating leaves to stiff emergent leaves. **Observed in 2017, 2018, 2019.**



Narrow Leaf Bur-weed sample from Watchic Lake



MAINE CENTER FOR AQUATIC INVASIVE PLANTS

Naiad, Slender *Najas flexilis*

Maine is home to three native naiad species. One species, slender naiad (N. flexilis), also called northern water-nymph, is common in Maine. The others: southern naiad (N. guadalupensis) and thread-like naiad (N. gracillima) are quite rare. Native species are found in the submersed plant community, often growing in the sandy or gravel substrates of lakes, ponds and slow-moving streams. Thread-like naiad (similar in appearance to the invasive European naiad, is not included in this report) is particularly sensitive to pollution and has disappeared in some parts of its natural range.

Slender Naiad


Slender Naiad from Watchic

Unlike most aquatic plants, naiads are true annuals, dying back completely in the fall and relying upon seeds to regenerate the following season. Seeds germinate in the spring and plants are generally visible by early summer. Vegetative reproduction may occur during the growing season. Tiny flowers, followed by seeds, are produced in the leaf axils. (Male and female flowers occur separately on the same plant.) Plants become brittle and begin to break down at the end of the growing season, fragmenting, drifting and eventually depositing their seeds on the sediments**.**

More details on slender naiad can be found in the Lakes Stewards of Maine site here Naiads and Water Nymphs. **Observed in 2018, 2019.**

Pipewort *Eriocaulon aquaticum*

Pipewort is a native Maine plant. It is a very small aquatic plant with a height of only 2 to 12 inches when on exposed shore, but stems will be longer deeper water. Despite the smallness of the plant and that sexual reproduction must occur in outside of the water, it is found growing to depths of up to 7 feet. This plant is easy to overlook, especially when only its grass-like leaves are present. Generally found growing above the water line in shallow areas of Watchic Lake starting in July. More details on Pipewort can be found here Lake and Wetland Ecosystems and here the USDA Natural Resources Conservation Services.
Observed in 2016, 2017, 2018, 2019.


Pipewort

Pondweed, floating-leaf *Potamogeton natans*

An aquatic species native to Maine often found in quiet or slow-flowing freshwater habitats. It produces both floating and submersed leaves on the same plant. The floating leaves are ovate to oblong-ovate and are dark green, leathery, opaque, with translucent longitudinal veins. They are 2 to 5 inches long, pointed at the tips, and rounded at the base. Floating-leaf pondweed are an important food source for wildlife, and in natural areas a positive component of the local ecosystem. However, they can become troublesome in drainage canals and ditches. More details can be found in Wikipedia Potamogeton natans and from University California, Davis. **Observed in 2016.**

Floating Pondweed

Pondweed, large-leaf *Potamogeton amplifolius*

Large-leaf pondweed is native to Maine, New England and much of the United States. Large-leaf pondweed is a large, stately plant, with two distinct leaf types. The submersed leaves (3 to 7 cm wide) are the broadest of any pondweed in Maine. The many veins of these supple, translucent leaves are easy to see when held to the light. The floating leaves are slightly smaller (2.5 to 5 cm wide), more oval-shaped, and not translucent. More details can be found on the Lakes Stewards of Maine website on Large-Leaf Pondweed. **Observed in 2016, 2017, 2018, 2019.**

Large-leaf Pondweed

Pondweed, Sago *Stuckenia pectinate*

This perennial plant is a submerged aquatic about 1-3' long. There is more branching of the stems above than below, creating fan-like aggregations of leaves. Sago Pondweed is generally beneficial; waterfowl extensively use and rely on it as a food source. The whole plant can be consumed, and parts are utilized by diving, dabbling, whistling ducks, many types of geese, swans, coots and the long-billed dowitchers. More info can be found at the Illinois Wildflower site and the USDA Natural Resources Conservation plant site. **Observed in 2016, 2017, and 2018.**

Sago Pondweed

Pondweed, Fern or Robbins *Potamogeton robbinsii*

Fern-leaf pondweed is a stiff, robust plant with underwater leaves only. It is usually easily recognized because its dark green, closely spaced leaves are arranged in a rigid, flattened spray, giving it a palm frond or fern-like appearance. Fern-leaf pondweed is usually a low-growing plant and only approaches the water surface when flowering. The flowering stalks have more widely spaced leaves that are less fan-like in appearance. More info can be found from State of Washington Department of Ecology and the USDA Natural Resources Conservation Services. **Observed in 2016, 2018, 2019.**


Fern Pondweed

Slender Pondweed

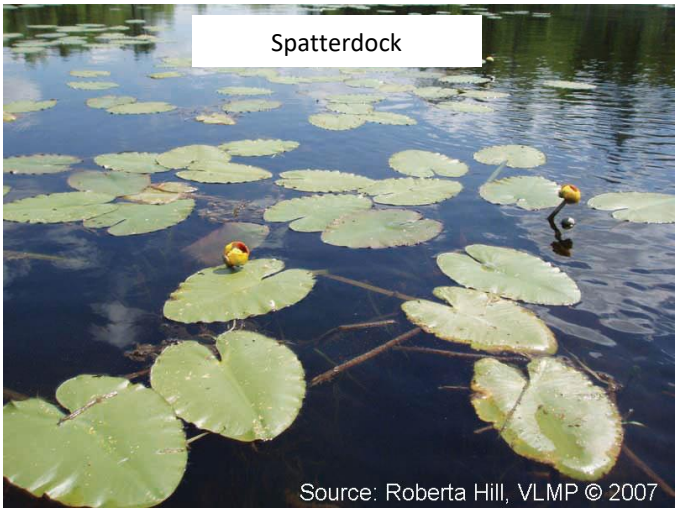
Pondweed, slender *Potamogeton pusillus*

Slender pondweeds are native to Maine and New England. They grow in the submersed plant community. They are found in soft sediments in quiet water of lakes, ponds and slow-moving streams, in depth up to three meters. These pondweeds thrive in deeper, darker water and will tolerate turbid and brackish conditions. They have submersed leaves only. Sinuous stems (up to 1.5 meters long) emerge from delicate roots. Stems may be round to slightly compressed in cross section, and often branch repeatedly near the growing tips. More details can be found at Slender Pondweeds - LSM. **Observed in 2016, 2017, 2019.**

Pondweed, variable *Potamogeton gramineus*

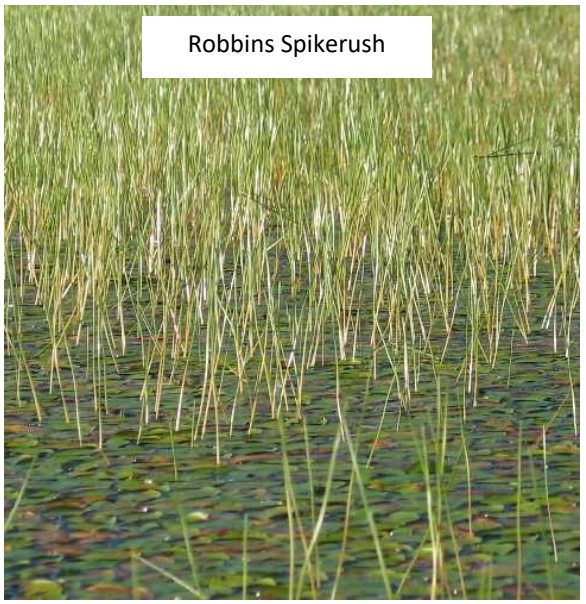
Variable pondweed is native to Maine, New England and much of the northern United States. It hybridizes freely with several other pondweed species including P. perfoliatus. Four distinct hybrids are known to occur in Maine. Slender, often profusely branching stems emerge from spreading rhizomes. As the common name implies, the habit and form of individual plants (and plant populations) can be highly variable, depending on growing conditions: some plants are compact, very bushy, with small leaves; others are sprawling, leggier, with larger leaves. More details can be found at Variable Pondweeds - LSM. **Observed in 2016, 2017, 2018, 2019.**

Variable Pondweed



Spatterdock or Cow Lily Nuphar variegate Spatterdock is one of the most common aquatic plants in New England and is widely distributed in Maine. Its range includes much of the northern United States. Spatterdock is part of the floating-leaved plant community, growing in depths up to 2 meters. It is especially abundant in still or slow moving waters with soft sediments. Spatterdock can grow in sun or shade, but flowers more readily in good light. More details can be found at Spatterdock (Cow Lily) - LSM. **Observed in 2016, 2017, 2018, 2019.**

Spikerush, Robbins' *Eleocharis robbinsii*
Robbins' Spikerush is native to Maine, New England and much of the northern United States. It grows in a variety of wetland habitats throughout its range. Robbins' Spikerush can grow in rather deep water (up to 3 ft), and often produces capillary stems when submerged. Limited information is available at the USDA site – Robbins' Spikerush. **Observed in 2016 and 2017.**



Stonewort spp. *Nitella spp.*

Stoneworts are native to Maine and New England. They occur throughout most of the United States. They are actually large upright forms of algae. They usually grow in tangled masses along the bottom. The stems and branches of nitella are generally bright green, translucent and smooth to the touch. Unlike Chara Stonewort (Muskgrass) which is brittle and coarse, Nitella gives off no skunky odor. More on Stoneworts from LSM and Texas A&M University. **Observed in 2016.**

Water hemlock, bulb-bearing *Cicuta bulbifera*

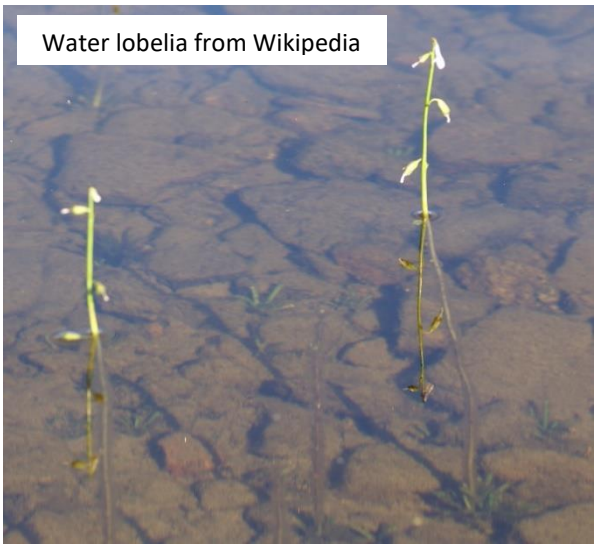
Water hemlock is native to Maine and New England. A perennial, it reproduces by its seeds and bulbils. It grows along the edges of marshes and lake margins, in bogs, wet meadows, shallow standing water and along slow-moving streams. It can also grow on hummocks and floating mats, on partially submerged rotting logs, and is even known to grow on beaver dams. This species is normally found in high-quality wetlands. Of all the plants the WLA found during our screening day, this is the one we feel there is a chance it is not properly identified (there was little Maine LSM info). Other sources with more detailed information include Wikipedia and Illinois Wildflowers. **Observed in 2016.**

Water Hemlock from Illinois Wildflowers

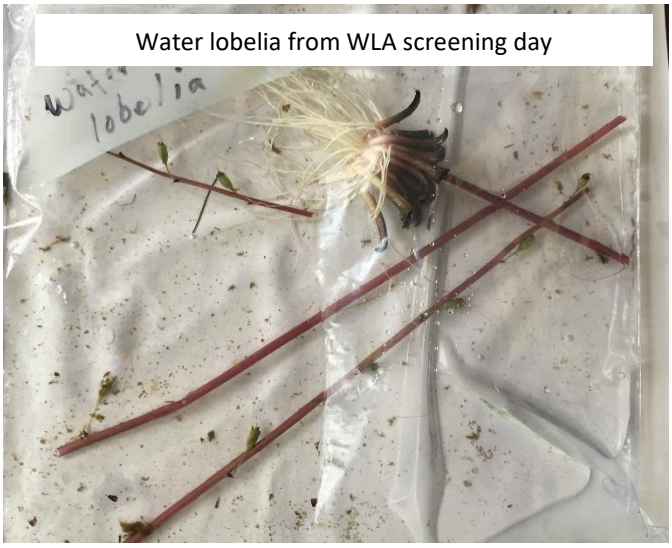
Bulb bearing water hemlock from WLA screening day

Water lobelia *Lobelia dortmanna*

Water lobelia is native to Maine. The base of plant resembles pipewort, but leaves are rounded at the tip. Flowers are white to lavender. It typically occurs in shallow water on sandy, peaty or rocky lakeshores, in pools, and in some kinds of wetlands. It is rarely found in rivers. More info on water lobelia from Lake Stewards of Maine on Common Native Plants and Wikipedia. **Observed in 2016, 2019.**



Water lobelia from Wikipedia



Water lobelia from WLA screening day

Water-milfoil, Northern *Myriophyllum sibiricum*

Northern water-milfoil is native to Maine, new England and to other parts of the United States. It has two distinct leaf types: submersed leaves and emergent leaves associated with the flowers (called bracts). The submersed leaves are finely feather-divided (1 to 5 cm long), with 5 to 14 pairs of leaflet pairs per leaf. Whorls of 4 or 5 leaves are spaced (up to 1 cm apart) along the stem. Northern milfoil produces flowers and fruits above or at the water's surface on erect (4 to 15 cm) spikes. Even when fully developed, the flowers are very small. The bracts are the same length or slightly longer than the flowers and fruits. Toward the end of the growing season, egg-shaped winter buds (or turions) comprised of small stiff leaves are formed along the submersed stems. More info on northern water-milfoil from LSM. **Observed in 2016.**

Northern water-milfoil in-situ

Watercress, true *Nasturtium officinale*

Watercress is a rapidly growing, aquatic or semi-aquatic, perennial plant native to Europe and Asia, and introduced the US years ago. It is one of the oldest known leaf vegetables consumed by humans. It is currently a member of the family Brassicaceae, botanically related to garden cress, mustard, radish and wasabi—all noteworthy for their piquant flavor. More info from the USDA Forest Service as well as Wikipedia. **Observed in 2016 and 2017.**

Watercress from Wikipedia

Watercress from WLA screening day

Waterwort, Small *Elatine minima*

The tiny "seedling-like" waterwort (Elatine minima) is a good example of a native annual. The miniature flowers and seed capsules of this plant are produced in the leaf axils (where the leaf meets the stem) during the warm summer months. The ripened seeds drop and settle onto the bottom sediments through the late summer and fall, and there they remain, in a state of dormancy, through the winter. See here for more information from on Waterwort from LSM. **Observed in 2016, 2017, 2018, 2019.**

Waterwort from Wikipedia

Watchic Lake Survey Sites August 2019