Aquatic plants present in Bell and Fraser lakes

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Overview

The following is a list of aquatic plants observed in Bell and Fraser lakes. It is by no means an exhaustive list and interestingly some plants have been found in one but not both lakes.

Disclaimer

I am an engineer and by no means a botanist and have made liberal use of Wikipedia and other sources in this little compendium. Most photos are my own but some descriptions have been lifted from the web.

Native plants

White Water Lily (Nymphaea odorata)
https://en.wikipedia.org/wiki/Nymphaea_odorata

This seems to be the most prolific water lily in our lakes especially near the discharge of Fraser lake and Bell lake (close to the highway). It is native to North America although some varieties have been introduced historically. The leaves are subject to tearing by water and waves, they are round with a waxy upper coating that is water-repellent. The flowers also float. They are radially symmetric with prominent yellow stamens and many white petals. The flowers open each day and close again each night and are very fragrant. Once the flowers are pollinated, the developing fruit is pulled back under water for maturation.

Bullhead (or Yellow) pond-lily (Nuphar variegata)
https://en.wikipedia.org/wiki/Nuphar_variegata

This is the second variety of water lily in our lakes with many found near the western-most end of Fraser lake and the northern end of Bell lake (near the beaver pond upstream of the lake). These are native plants with the distinct, yellow flower rising above the surface of the water.

Big-leaved pondweed (Potamogeton amplifolius)
https://en.wikipedia.org/wiki/Potamogeton_amplifolius

This is another plant that is quite prolific in our lakes especially in the shallower areas on Fraser lake. It is native to North America and quite common

Broadleaf Arrowhead (Sagittaria latifolia)
https://en.wikipedia.org/wiki/Sagittaria_latifolia

Observed in both lakes, this plant is also known as “Indian potato” and is easily recognised by its large, arrowhead shaped leaf. This plant produces edible tubers that have traditionally been extensively used by Native Americans. The whole plant is also consumed by beavers and muskrats.

American Eelgrass (Vallisneria Americana)
https://en.wikipedia.org/wiki/Vallisneria_americana

Observed in Fraser lake, it is also known as “tape-grass” or “water celery” though it doesn’t really resemble what we know as celery. It is easily recognised by its long, curly stem and a single, tiny, three-lobed flower at its tip.

Beds of this grass provide a rich abundance of food and is a refuge for many species, and also acts as a nursery for fish.

Water Knotweed (persicaria amphibia)
https://en.wikipedia.org/wiki/Persicaria_amphibia

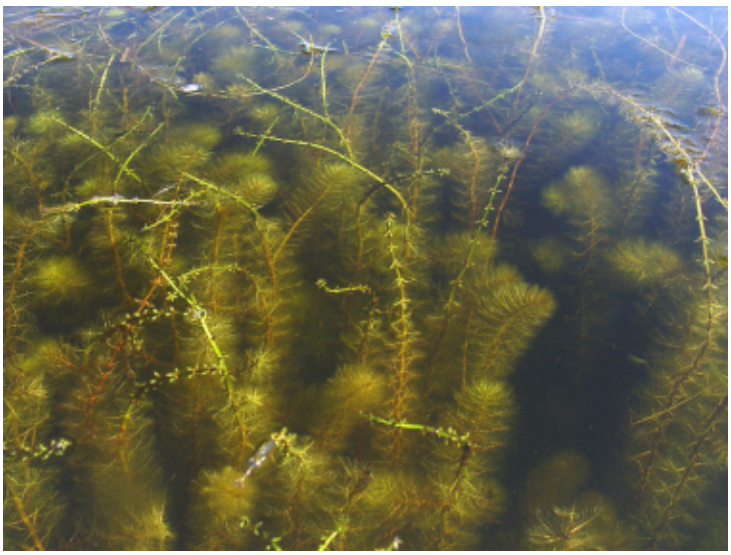
Also known as “smartweed” this plant can be identified by its lovely pinkish, brush-shaped flower. It spreads via rhizomes and can sometimes grow on dry land as well as in standing water.

Pickerelweed (pontederia cordata)
https://en.wikipedia.org/wiki/Pontederia_cordata

This plant was observed in Bell lake (at the “beach”) but not in Fraser lake. Easily identified by its heart-shaped leaf and mauve-coloured flower. It grows in a variety of wetlands, including pond and lake margins across an extremely large range from eastern Canada south to Argentina.

Water Marigold (Bidens beckii)
https://en.wikipedia.org/wiki/Bidens_beckii

This plant is one that is often confused with Eurasian watermilfoil as it has a definite milfoil look underwater but transitions into a more traditional looking plant with leaves and yellow flowers above the surface. The underwater portion differs from Eurasian milfoil as its “leaves” look like branches that split in many directions whereas Eaurasian milfoil’s leaves look more like a feather with a central spine and individual “quills” that do not branch out. (See section on Invasive plants and algae towards the bottom of this document for a better description)



White Turtlehead ***(Chelone glabra)***
https://en.wikipedia.org/wiki/Chelone_glabra

This plant is native to North America and it ranges from Georgia to Newfoundland and Labrador and from Mississippi to Manitoba. Its common name comes from the appearance of its flower petals, which resemble the head of a tortoise. In fact, in Greek, chelone means "tortoise" and was the name of a nymph who refused to attend the wedding of Zeus and was turned into a turtle as punishment. It's been observed in Fraser lake and is likely found in Bell lake too. It is eaten by deer and is related to the plantain.

Joe-Pye Weed (Eutrochium)
https://en.wikipedia.org/wiki/Eutrochium

More of a shore plant rather than an aquatic plant but interesting nonetheless and present in our lake environment. They are native to North America and are also cultivated as an ornamental plant.

Joe Pye weeds have traditionally been ascribed with medicinal powers. A peer-reviewed study suggests that Joe Pye of plant fame was a Mohican sachem named Schauquethqueat who lived in the mission town of Stockbridge, Massachusetts from c. 1740 to c. 1785 and who took as his Christian name, Joseph Pye.

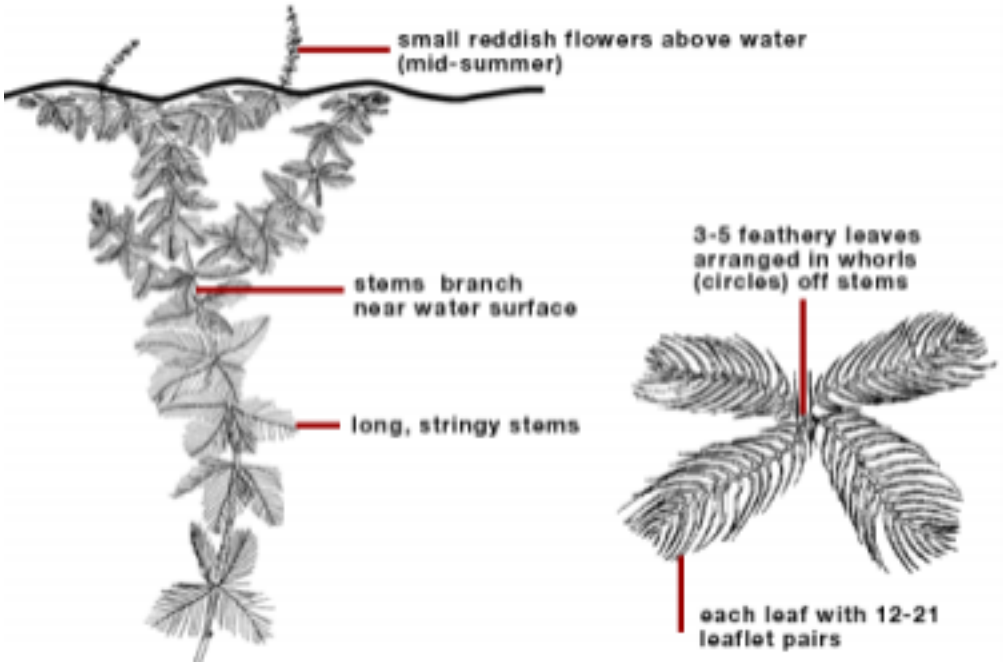
Cattails (Bullrush or Typha)
https://en.wikipedia.org/wiki/Typha

These can be seen closer to the shoreline in both lakes and are not exceedingly prolific. They are native to North America but can be quite aggressive in very shallow water. The tubers are edible.

Invasive plants and algae

***Eurasian Water-milfoil** (Myriophyllum spicatum)*
https://en.wikipedia.org/wiki/Myriophyllum_spicatum

Eurasian Water Milfoil is, as noted, a very invasive plant and can pose a big problem in our lakes if present. It should not be confused with other forms of indigenous milfoil (Water marigoldl for instance) and fortunately, they can be differentiated fairly easily. The plant lives in relatively shallow water and is composed of a number of flat, feathery “leaves” arranged in a whorl around the main stem (see drawing and photo below). The “feathers” are composed of 12 or more leaflet pairs. Indigenous milfoil has fewer than 12 pairs (5-11). No observed Eurasian milfoil was observed in either of our lakes.



Eurasian Water Milfoil

Purple loosestrife (Lythrum salicaria)
https://en.wikipedia.org/wiki/Lythrum_salicaria

This plant is invasive and aggressive and is often seen growing in roadside ditches. It has no known natural enemies and can easily displace other endemic plant varieties. It produces an abundance of seeds which are dispersed by wind and water and has a strong root system that allows the plant to regrow should the aboveground portion be damaged. It is a shoreline plant and does not grow in deeper water. It is best to remove the plant before it flowers by digging deep to remove as much root material as possible. I have had some success in removing the plant even after it flowers by covering it with a plastic bag before attempting to remove it. We should monitor its propagation around our lakes and remove any that are found.

Conclusions

There exists a good variety of plant life in our lakes which provides a healthy ecosystem for local fauna and maintains both lakes in a happy state. Luckily, all varieties found (except Purple Loosestrife) seem to be native to our area and no invasive species have been observed (as of Aug 2023). Water levels have been high this season and temperatures, comparatively low. This may have helped reduce the overabundance of plant growth observed in previous seasons. For example, the usual heavy growth of pond weed at the north end of Fraser lake did not manifest itself this season. Maintaining low levels of nutrients in our lakes is crucial to keeping plant growth in check as well as keeping oxygen demand low. This keeps our fish and other aquatic life happy and healthy.

No Blue-green algae (cyanobacteria) blooms were observed, thankfully. Growth of this algae is directly related to phosphorus levels in the water and not at all related to temperature. Surprisingly, a recent study actually observed cyanobacteria blooms under a surface ice layer.

Limited removal of aquatic plants in front of your property is possible but there may be strict guidelines to contend with. Best to do some research before attempting to remove any such plants.

There are a number of resources online available regarding the management of plants. The following is a good example.

Algae and Aquatic Plant Educational Manual
https://www.rvca.ca/rvca-publications/resources/algae-and-aquatic-plant-educational-manual?highli ght=WyJhbGdhZSIsImFxdWF0aWMiLCJwbGFudCIsInBsYW50J3MiXQ==

Feel free to contact me if you have any questions or concerns.

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