

Invasive Species; Spirit Lake and its watershed.

The most damaging:

What can we do:

- Eurasian watermilfoil (*Myriophyllum spicatum*)
- Since its growth is typically dense, Eurasian watermilfoil beds are poor fish spawning areas, and excessive cover may lead to populations of stunted fish. Dense surface mats can interfere with boating, fishing, swimming, and other forms of water recreation. **It will also lower the value of lakefront property.**

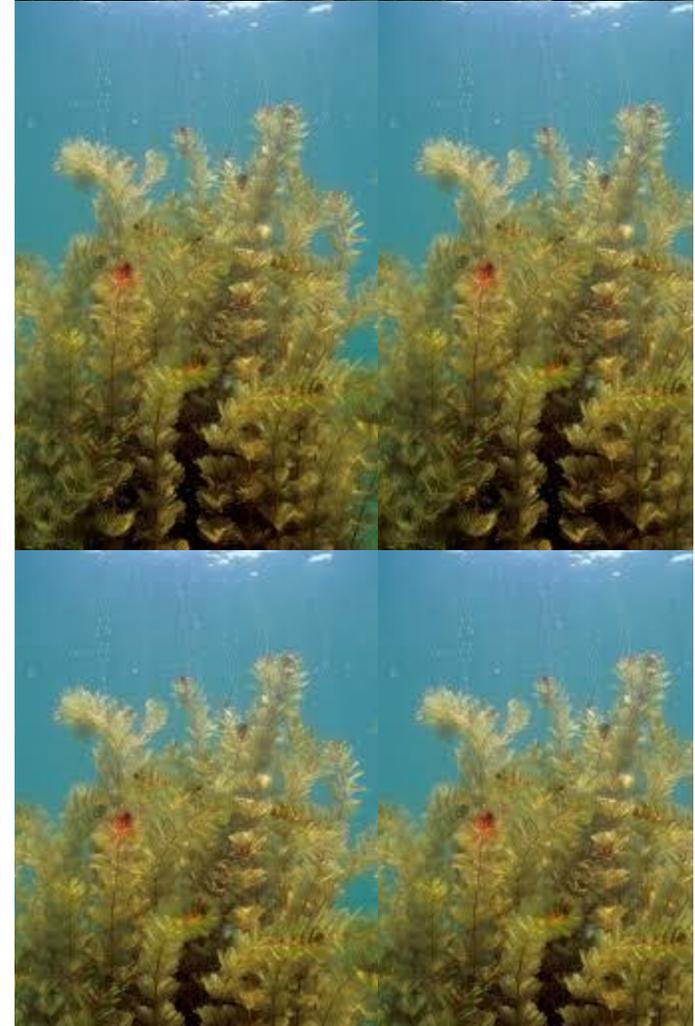
A picture of what the milfoil at the west end of the lake would look like, from a boat, if not controlled. Mid summer before matting.

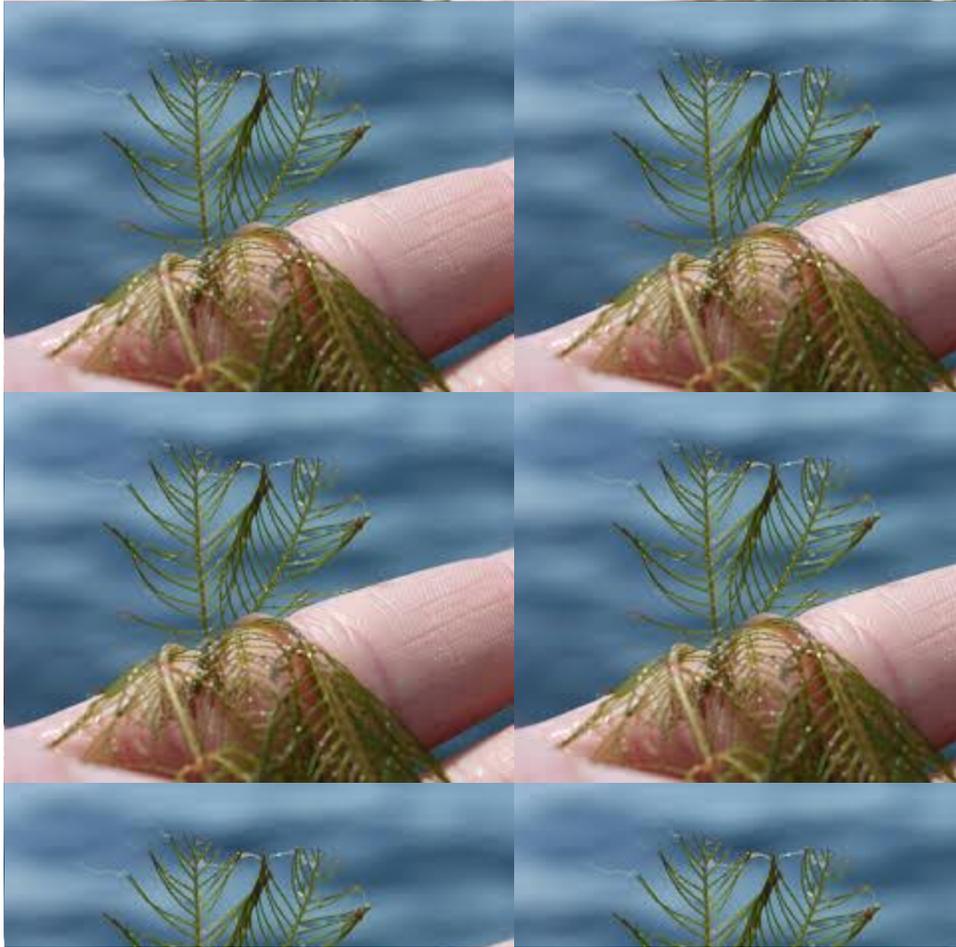




This picture could be from the Brickel Crick area, late summer, around 1995.

One plant about 6 feet tall in 8 feet of water. This is what we have in the lake now. Most of it 2 to 3 years old but just now sprouting out of the native elodea. Almost everything found recently is near Brickel Crick. We find them as individual plants and remove them immediately.





The most difficult part of controlling this plant is finding them. They spread by fragmentation or reinfestation and can show up nearly anywhere in the lake. Like 3 plants found near the public launch in 2023.



What can you do?

Learn to identify the plant, especially floating frags.

These are a telltail sign that milfoil is present in the lake.

Collect the sample of plants or fragments but be careful, do not frag the plant while collecting a sample.



Floating leaf  
pondweed  
before it  
develops its  
leaves.  
Common  
mistaken  
identity.



Curly Leaf Pondweed; we don't have it and we don't want it. Also mistaken



clasp leaf pondweed



floating leaf pondweed



curly leaf pondweed



Canadian pondweed or elodea



Eurasian Water-Milfoil  
(*Myriophyllum spicatum*)



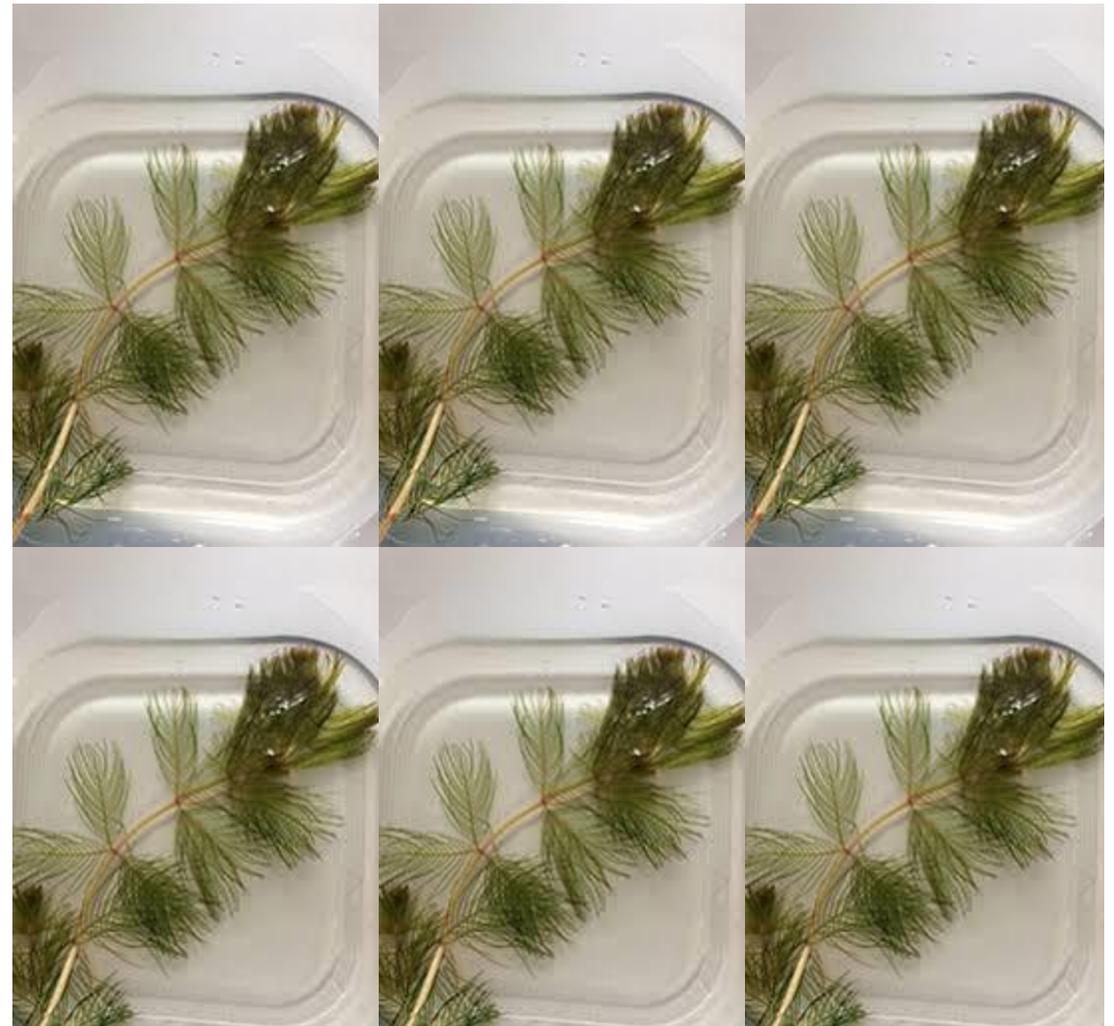
Coontail



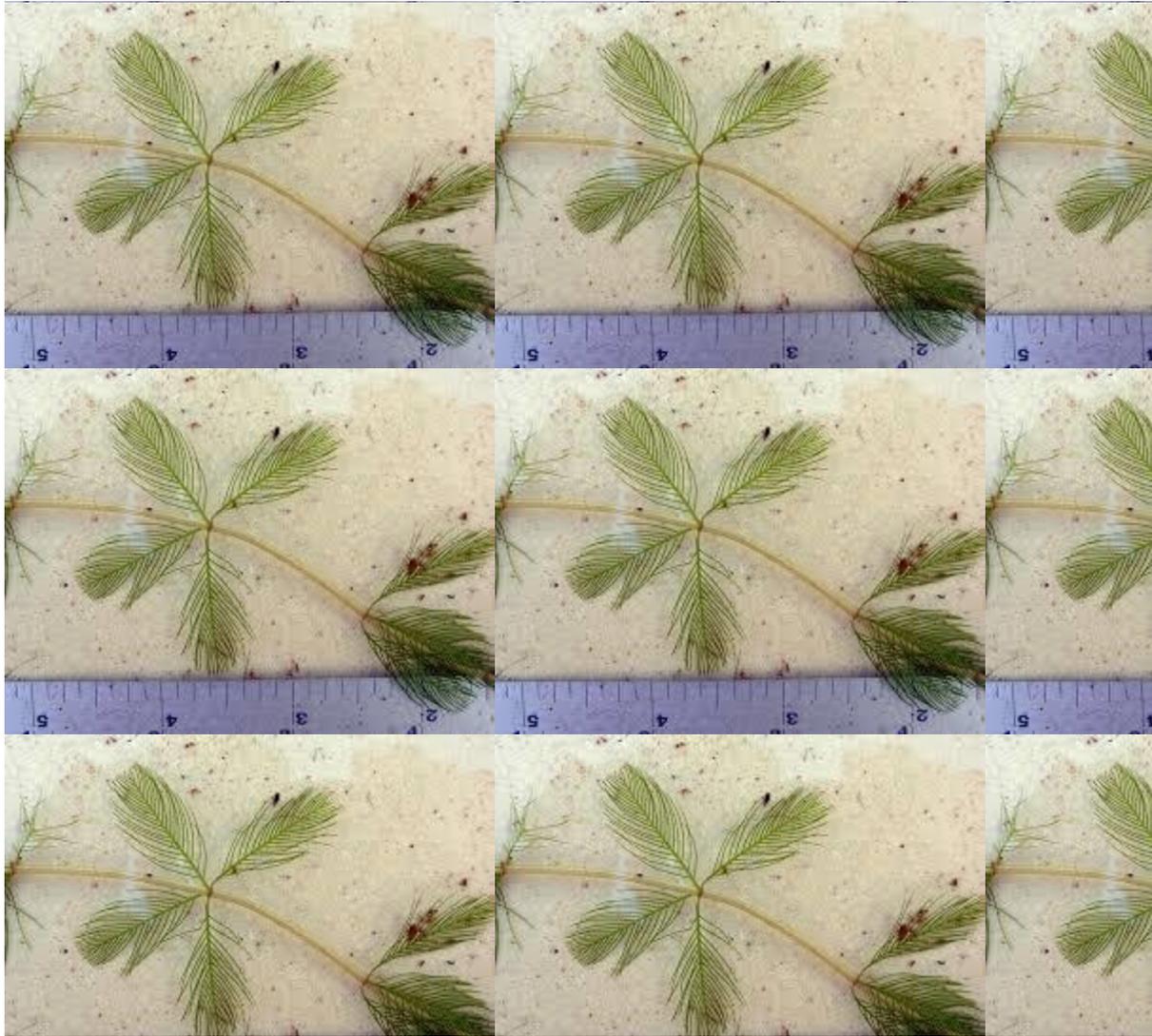
Bladderwort



Chara



Eurasian Watermilfoil  
National Invasive Species



**Eurasian Watermilfoil**



**Northern Watermilfoil**

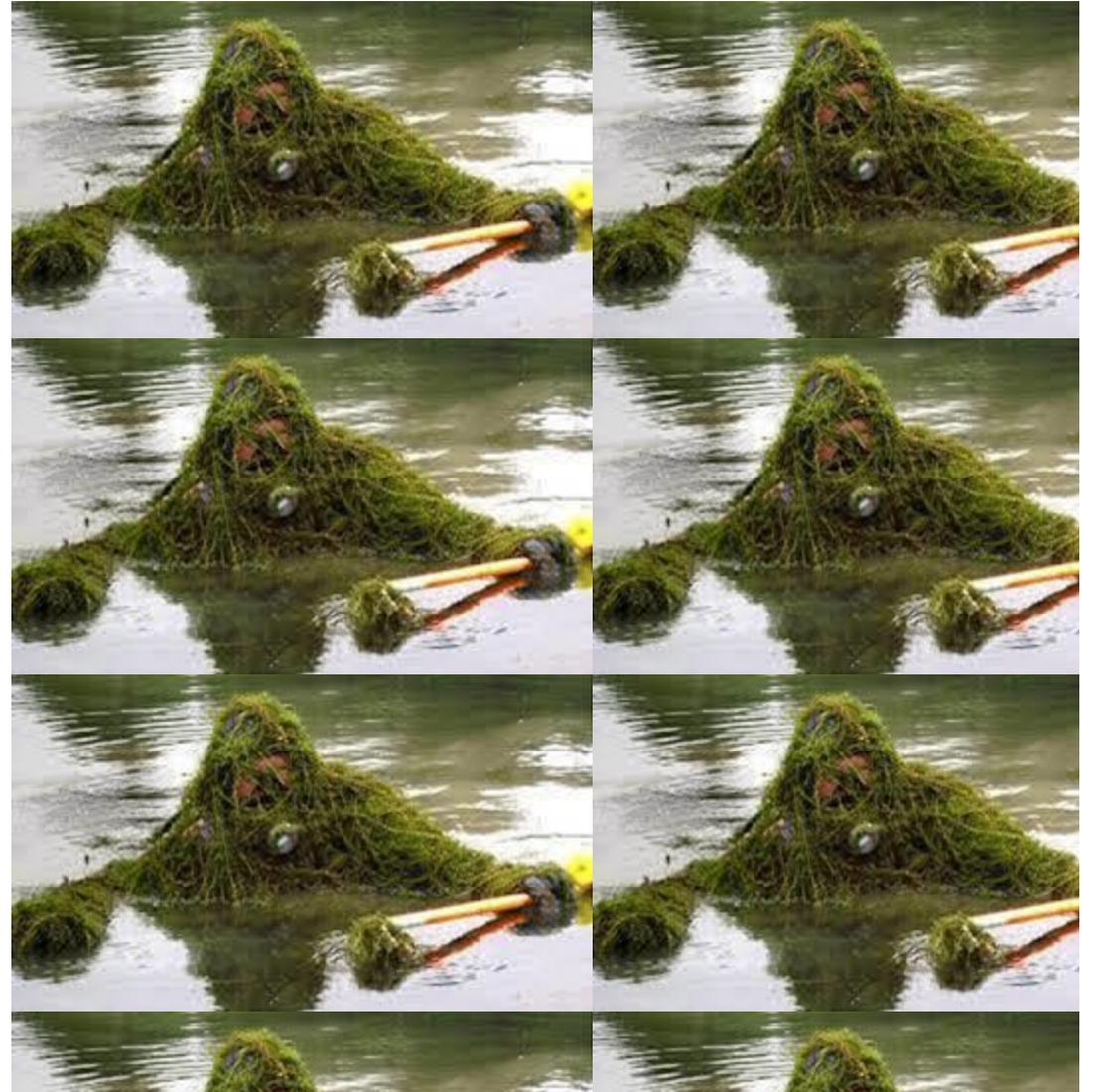
How can you help?

Notify the Property Owners Association, of possible milfoil growth or frags; [spiritlakepoa@gmail.com](mailto:spiritlakepoa@gmail.com)

Or even me personally.

Doug Freeland

208 755 0800



- Chinese Mystery Snail  
(*Cipangopaludina chinensis*)



- Dispersal Vectors: Native to eastern Asia, Chinese mystery snails were first imported to the U.S. in the late 1800s as a food item in oriental markets.
- It is believed that some people may have “seeded” these snails into local waterways for later harvest.

## Understanding the impact of the Chinese mystery snail

Chinese mystery snails compete with native snails for food and adversely affect aquatic food webs. The relatively large and thick shell may enable this species to easily evade predation, giving it an advantage over native species. They have the potential to act as a biotransfer of contaminants between polluted ecosystems and consumers. In its native range, the Chinese mystery snail was identified as a host for numerous parasites harmful to both human and animal consumers.

Chinese mystery snails can clog water-intake pipes and can die-off in large numbers, fouling beaches and shorelines.



- Diet
- What does chinese mystery snail eat
- algae (so in some ways they can be good for a lake)
- Chinese mystery snails are capable of grazing algae from surfaces and filter-feeding on suspended algae particles.

- You Tube Chinese mystery snails
- Massive die-off of Chinese mystery snails reported at Crane Prairie Reservoir
- recommendations: try to keep them in check.
- Remove them when possible especially around your personal docks

- North American river otter (*Lontra canadensis*)
- The North American river otter (*Lontra canadensis*), also known as the northern river otter and river otter, is a semiaquatic mammal that lives only on the North American continent, along its waterways and coasts. An adult North American river otter can weigh between 5.0 and 14 kg (11.0 and 30.9 lb). The river otter is protected and insulated by a thick, water-repellent coat of fur.



- River otters eat a variety of aquatic organisms, including fish, amphibians, crustaceans, birds, and small mammals:
- Fish: A favorite food, especially slow-swimming fish like suckers, sunfish, bass, carp, and shiners
- Amphibians: Frogs, salamanders, and turtles
- Crustaceans: Crayfish, crabs, and freshwater mussels and Chinese mystery snails
- Birds: Birds and bird eggs, including goose chicks and eggs
- They hunt singly or in pairs and although otters generally forage in water, they are equally at home on land, sometimes traveling between 10 and 18 miles (16 and 29 kilometers) in search of food.

- Recommendations. There is a huge amount of information on the internet. You tube has some very interesting stories and videos including How to trap River Otters. Again like other invasive species there are pros and cons to having River Otters in our lake.





This would fall into the category of a con. This woman, Jen Royce, was attacked by an otter in a river in Montana in 2023. This is very unusual and probably provoked. Maybe she got between the mother and her pups?

- In our watershed
- I am concerned about terrestrial invasives also, as is IEP. Together we are using a detect and remove management practice on some specific problems.
- Canada Thistle
- Dalmatian toadflax
- Both Orange and Yellow Hawkweed

# Canada Thistle



Canada thistle (*Cirsium arvense*) is considered a noxious weed and can be poisonous to humans, livestock, and wildlife. It can cause pain and irritation if stepped on, and can also cause skin rashes in sensitive people who come into contact with it. In addition, Canada thistle contains inulin, which can cause digestive issues in some people.

# Dalmatian toadflax    *Linaria dalmatica*



Impact; Dalmatian toadflax outcompetes desirable species to form large monocultures. Infestations in western states have reduced livestock production, land values, biodiversity, and wildlife habitat.

# Orange and Yellow Hawkweed



Yellow and orange hawkweed are two of many non-native hawkweeds. They are also the most widespread hawkweeds in the county. Hawkweeds quickly take over roadsides, fields, rangelands and pastures.

# Up and coming

## The most potentially damaging invasive species, Zebra and Quagga Mussels



- WHAT QUAGGA MUSSELS WILL DO
- Disrupt water delivery and drainage which will impact municipalities and agriculture.
- Impact power generation by increasing upkeep and repair costs.
- Damage fisheries and aquatic habitat by consuming the resources that our native species need.
- Alter water chemistry which can lead to degraded water quality and algae blooms.
- Negatively impact recreation and tourism.
- Reduce property values.
- Impair fish bypass screens reducing survival of migrating juvenile steelhead and salmon.
- Increase cost of hatchery fish production and stocking.

- My concerns;
- Quagga mussels have been detected in the mid-Snake River. Hundreds of thousands of dollars are being spent to try to control them but this has been tried many times and very difficult to do. It is only a matter of time. We need to understand the threat and respond accordingly. Learn about them through the internet. We can increase our chances of early detection. The sooner we find them the better chance we can control them. I believe we need to treat them, and all invasive species like a cancer to our lake. Early detection gives us the best chance of control.

In conclusion;  
This is not an  
invasive species  
but potentially the  
most damaging  
introduction to our  
lake. Wake boat  
waves can do  
extensive damage  
to docks and  
shorelines.



Abandon  
dock  
parts  
and logs  
near  
Maiden  
Rock



This may be the byproduct of wake boat waves.

Contact info;

Notify the Property Owners  
Association, of possible milfoil  
growth or frags;  
[spiritlakepoa@gmail.com](mailto:spiritlakepoa@gmail.com)

Or even me personally.



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