



Aquatic Plants..... Native, Nonnative or Invasive?

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Some motivating questions...

What are differences between desirable native and invasive aquatic plants?

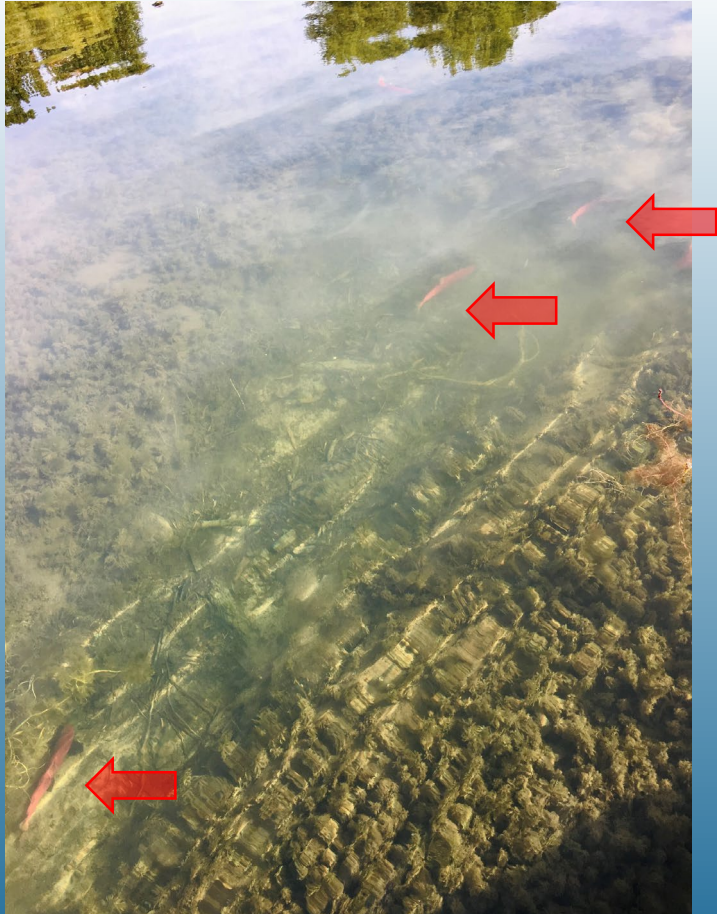


Coontail, Hayden Lake

Should all aquatic plants be treated equally?

- Weeds under docks
- Weeds in props
- Weeds at boat launches
- Weeds in swimming areas
- Weed fragments floating
- Weed fragments on shore

Benefits from aquatic (native) plants



Kokanee run, O'Rourke Bay,
Hayden Lake

- Fish and wildlife habitat
- Fish and wildlife food
- Biodiversity
- Water quality
 - Oxygen ↑
 - Clarity ↑
- Sediment stabilization
- Nutrient absorption

Damages from aquatic (invasive) plants



Invasive milfoil in prop,
Mokins Bay, Hayden Lake

- Habitat loss
 - Fish and wildlife
 - Humans
- Water flow
 - Oxygen ↓
- Hybridization
- Property value decline
- Utility and irrigation disruption

Aquatic plant invasions often linked to site disturbance



Invasive milfoil, Mokins Bay,
Hayden Lake

- Removal (or loss) of native plants
- Excess nutrients
 - Human activities
 - Weather events



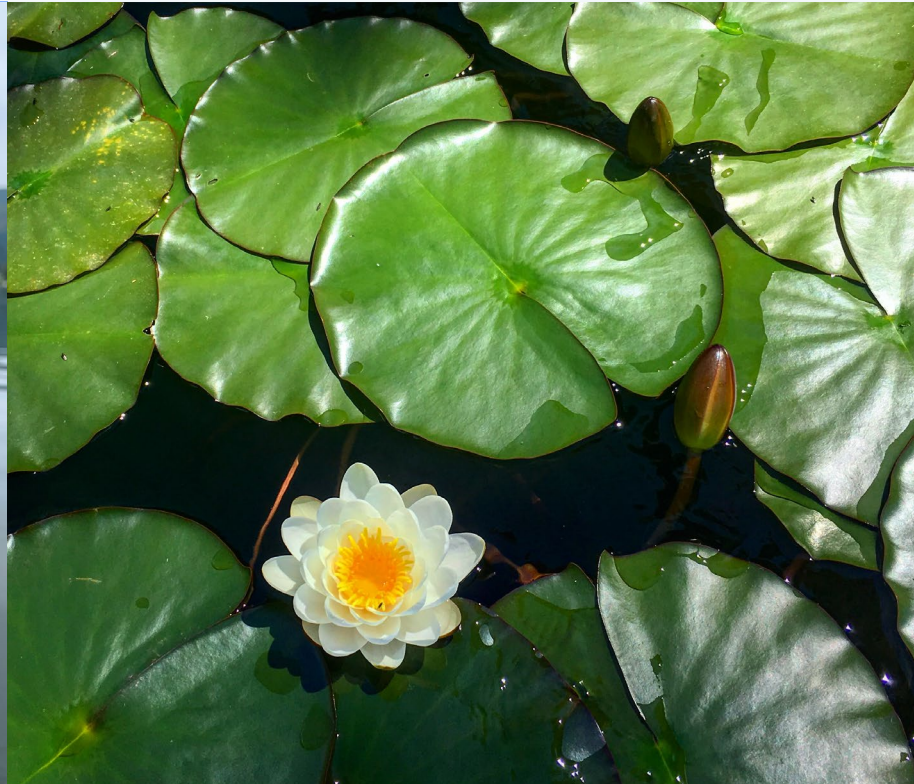


Native, nonnative or invasive?



Native

A



Nonnative

B



Invasive

C



Native, nonnative or invasive?



Invasive

A



Native

B



Native

C



Native, nonnative or invasive?



Native

A

© J. Roman



Invasive

B



Native

C

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Invasive

Curly Leaf Pondweed Eurasian Watermilfoil

Curly Leaf Pondweed
Potamogeton crispus



Lake Pend Oreille

Eurasian Watermilfoil
Myriophyllum spicatum



Lake Cocolalla

Invasive

Species Identification: Curly Leaf Pondweed



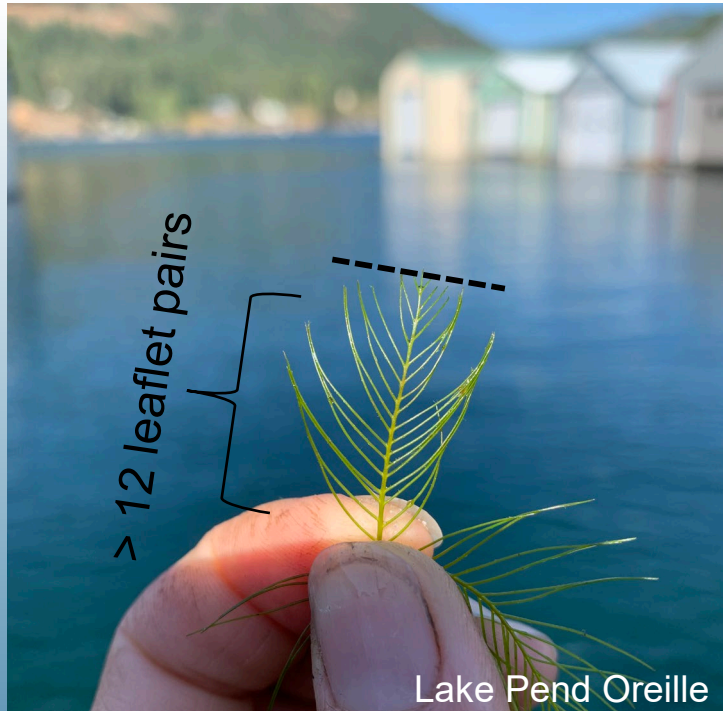
Leaves: olive-green to reddish-brown, wavy lasagna-like, semi-translucent, serrated margins, distinct mid-vein



Turions: reproductive structures like small sharp pinecones

Invasive

Species Identification: Eurasian Watermilfoil



Leaves: greenish-brown, feather-like, whorls of four

- Leaflets: pairs greater than twelve, blunt tip



Inflorescence: reddish monoecious flowering spikes

Invasive

Please Share Example Pictures



Site: Cougar Bay, Lake Coeur d'Alene

Date: October 8, 2017

Coordinates: 47.672 N 116.8195 W

Management Options

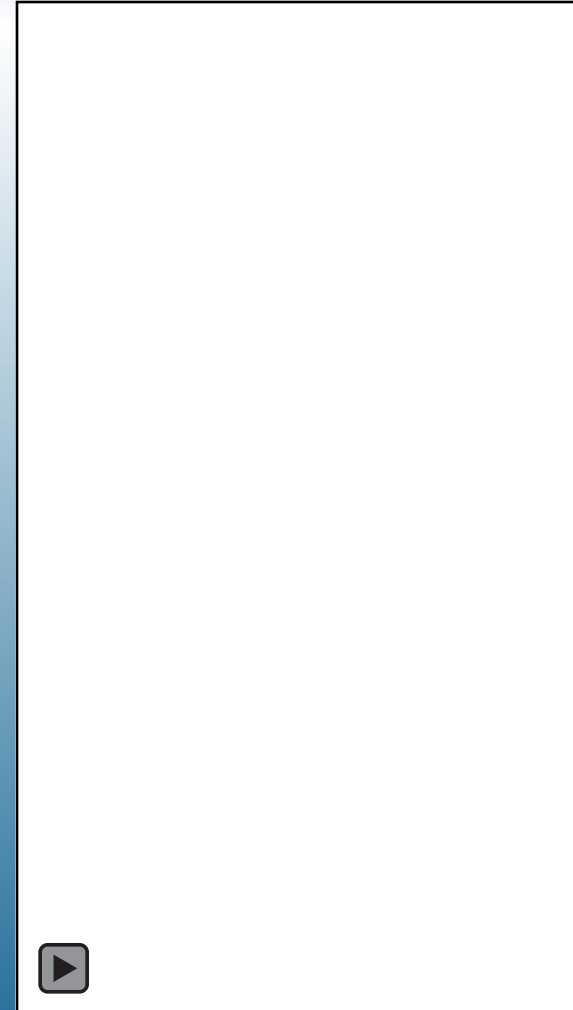
- 1. Mechanical:** physical removal (e.g. hand pulling)
- 2. Biological:** agent or biological process (e.g. herbivorous insect)
- 3. Chemical:** herbicide (e.g. diquat)
- 4. Cultural:** practice that deters (e.g. water level manipulation, barriers)



Sportsman Park, Hayden Lake

Some Mechanical Methods

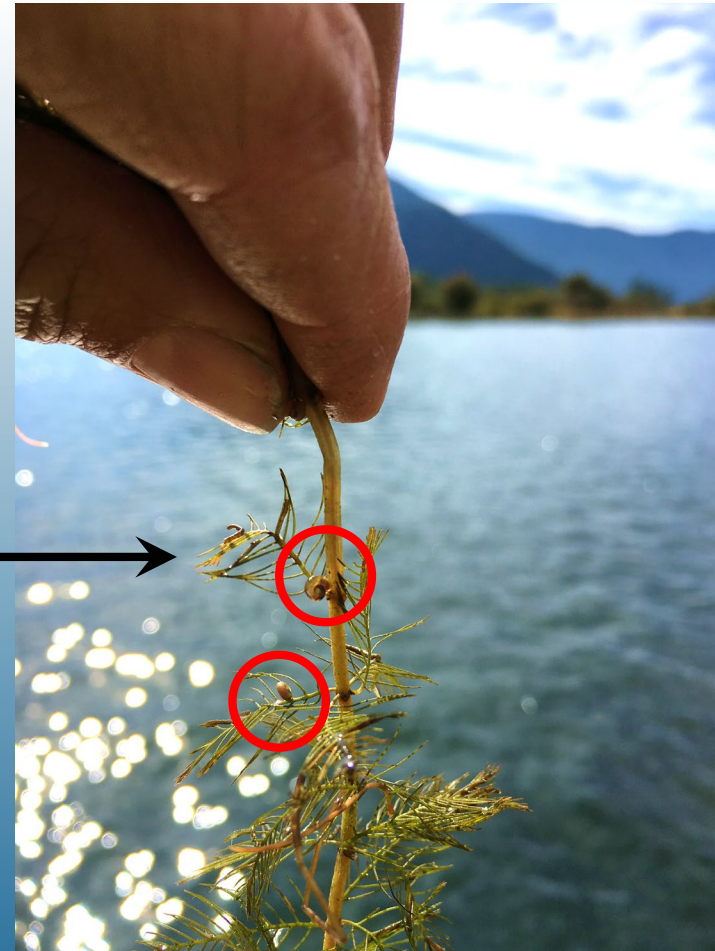
- ↑
Coarse to fine scale
- Hand Pull
 - Diver Assisted Suction Dredge (DASH)
 - Rake
 - Harvester



Biological Control?

Some generalist EWM grazers:

- Weevil
- Midge
- Caddisfly
- Moth larvae
- Snails
- Fishes
- Birds
- Other



Lake Pend Oreille

Damage is typically minor and not enough to control populations in situ

Chemical (Herbicide) Control



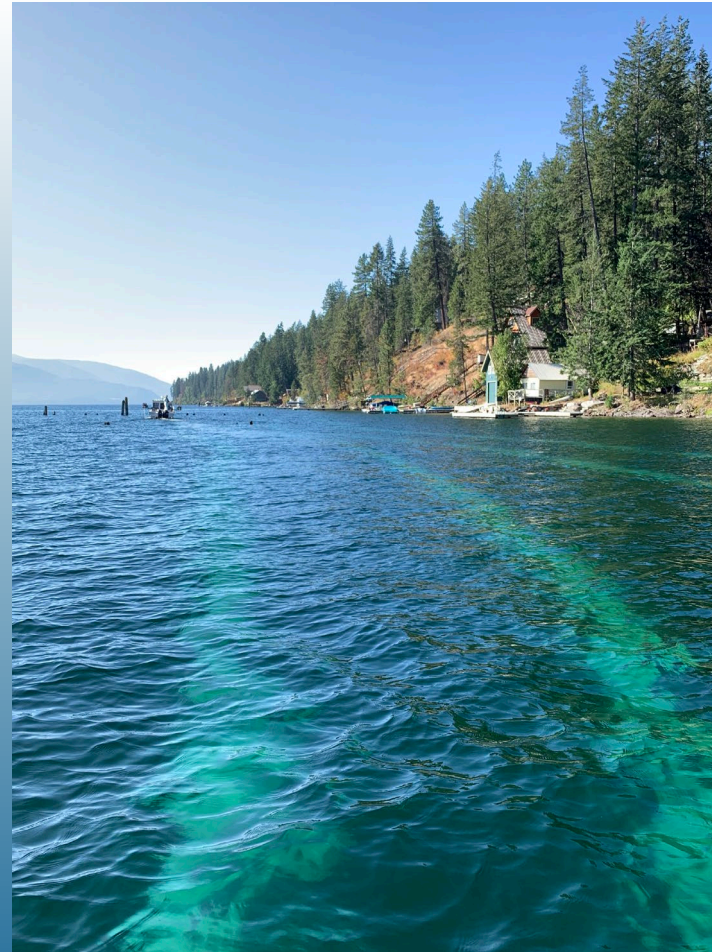
Label/License Requirements

- Chuck Hawley, Agriculture Investigator, Senior
Chuck.Hawley@isda.idaho.gov



Idaho Pollutant Discharge Elimination System (IPDES)

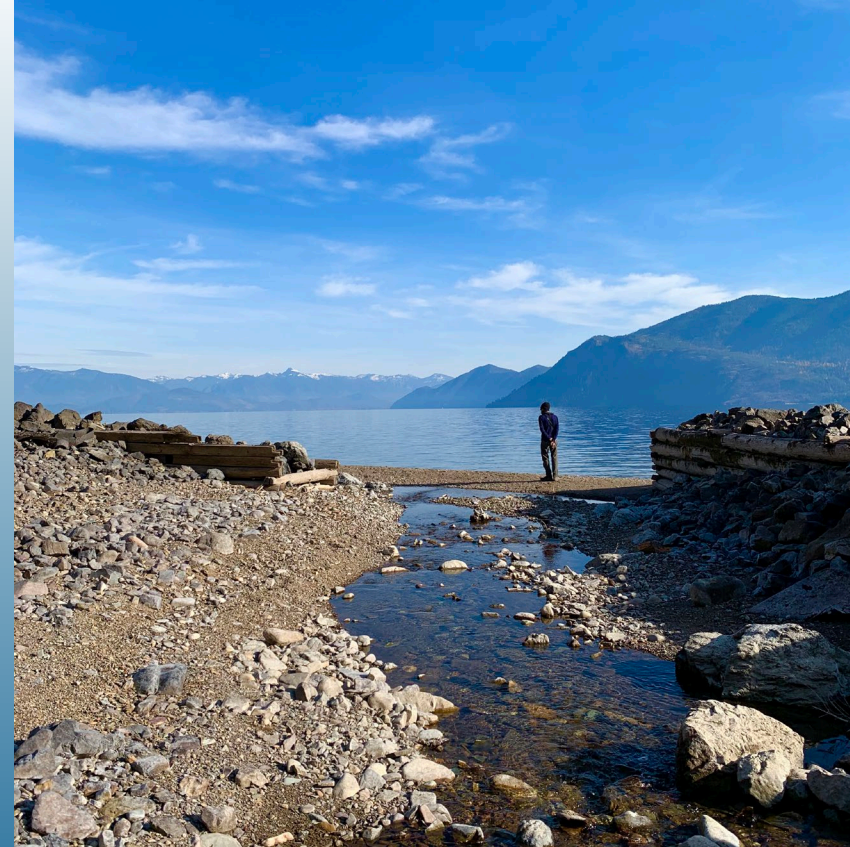
- Wes Green, IPDES Compliance Officer
Wes.Green@deq.idaho.gov



Lake Pend Oreille

Some Cultural Methods

- **Lake Level Drawdown**
- **Benthic Barriers** — *Land Use Permit required*
 - Amidy Fuson, Resource Specialist, Senior
AFuson@idl.idaho.gov



Lake Pend Oreille



How An International Investigation By The Idaho Ag Department May Have Saved The State \$1 Billion

By SAMANTHA WRIGHT • MAR 17, 2021

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Zebra mussels, smaller than a grain of rice, tried to invade the state by piggybacking on a popular aquarium product.

IDAHO STATE DEPARTMENT OF AGRICULTURE

No bigger than a grain of rice, zebra mussels are deadly intruders that traveled from the Ukraine to Idaho, threatening to poison the state's water supply. But the state Ag Department tracked down these tiny, invasive creatures before they could target Idaho's waterways.





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