Presentation to Gardom Lake Planning Committee

March 9th, 2015

Natalie Stafl, Program Coordinator

Presentation Outline

1. *Introduce CSISS*
2. *Why are invasive species important?*
3. *Aquatic Invasive Species Profiles*
4. *What you can do to help*
5. *What support CSISS can Provide*
6. *Further Resources*

Who we are

The Columbia Shuswap Invasive Species Society is a **network of partners** who facilitate the prevention, reduction and management of invasive species through collaboration, engagement and education.

Established in **April 2013** after consultation with land and resource managers throughout the region.

Purposes:

- To **educate** and **engage** public, private landowners, land and aquatic managers, first nations and others about invasive species and their impacts.

- To **establish** and **operate** invasive species management programs.

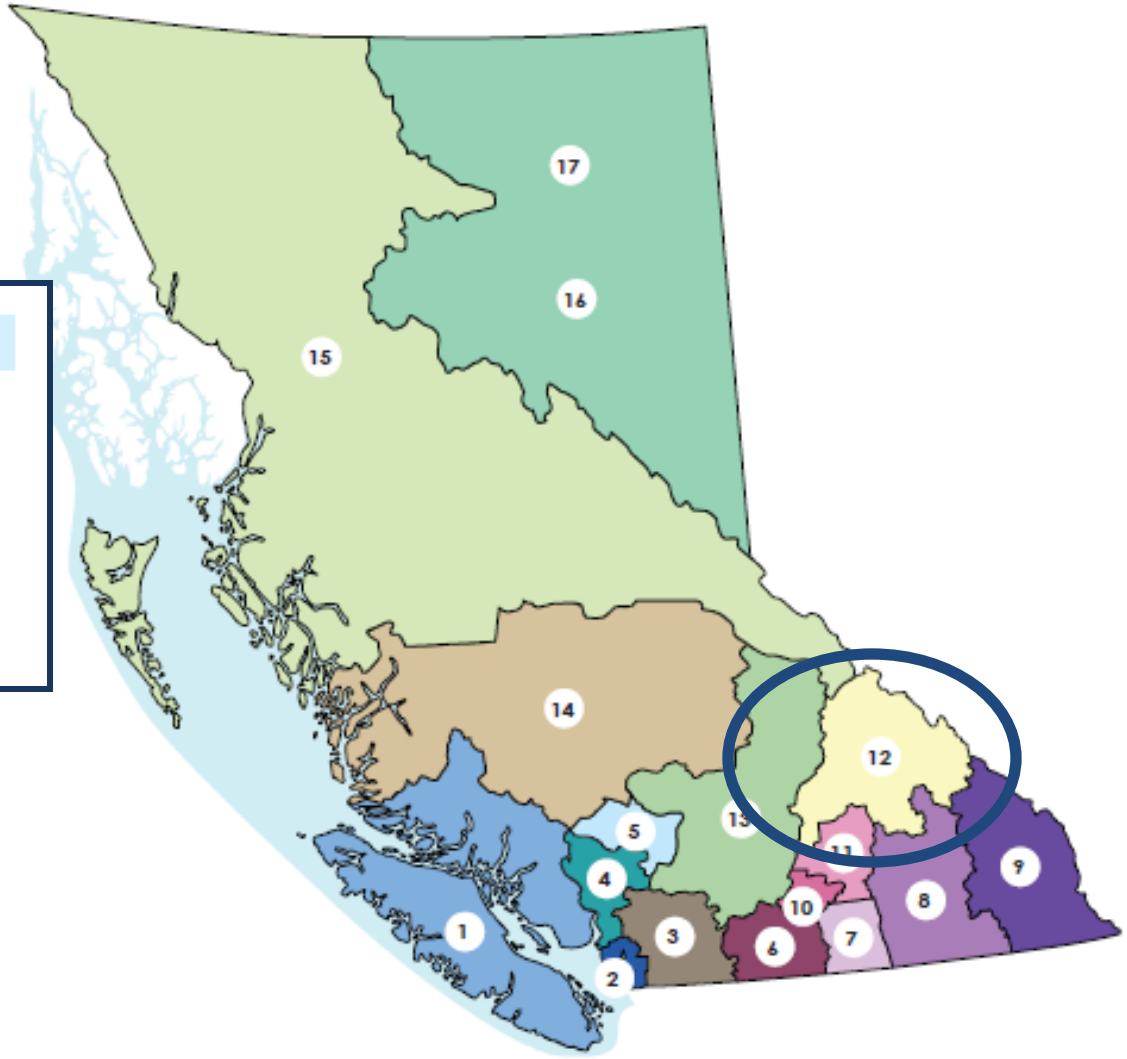
Invasive Species Organizations of BC

Regional Organizations

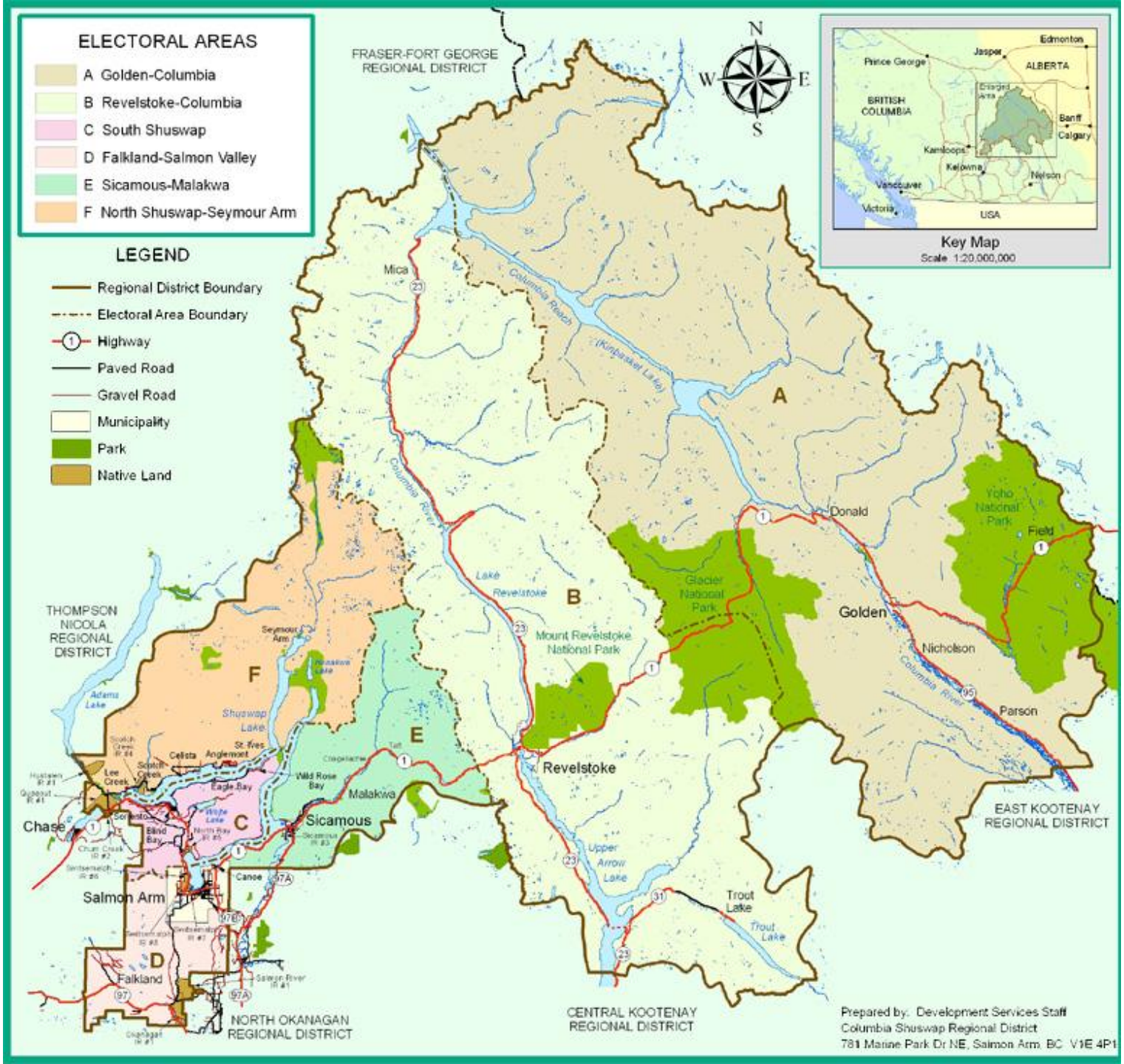
12. Columbia-Shuswap

Columbia Shuswap Invasive Species Society
Ph: 1-855-PUL-WEED (1-855-785-9333)
www.columbiashuswapinvasives.org
Email: csinvasives@gmail.com
PO Box 2853, Revelstoke, BC, V0E 2S0

Columbia-Shuswap Regional District (CSRD)
Ph: 250-832-8194 • www.csrd.bc.ca



COLUMBIA SHUSWAP INVASIVE SPECIES SOCIETY



COLUMBIA SHUSWAP INVASIVE SPECIES SOCIETY

Why are invasive species important?

- Environmental Impacts
- Social Impacts
- Economic Impacts

Environmental Impacts

"Second greatest threat to global biodiversity after habitat loss"

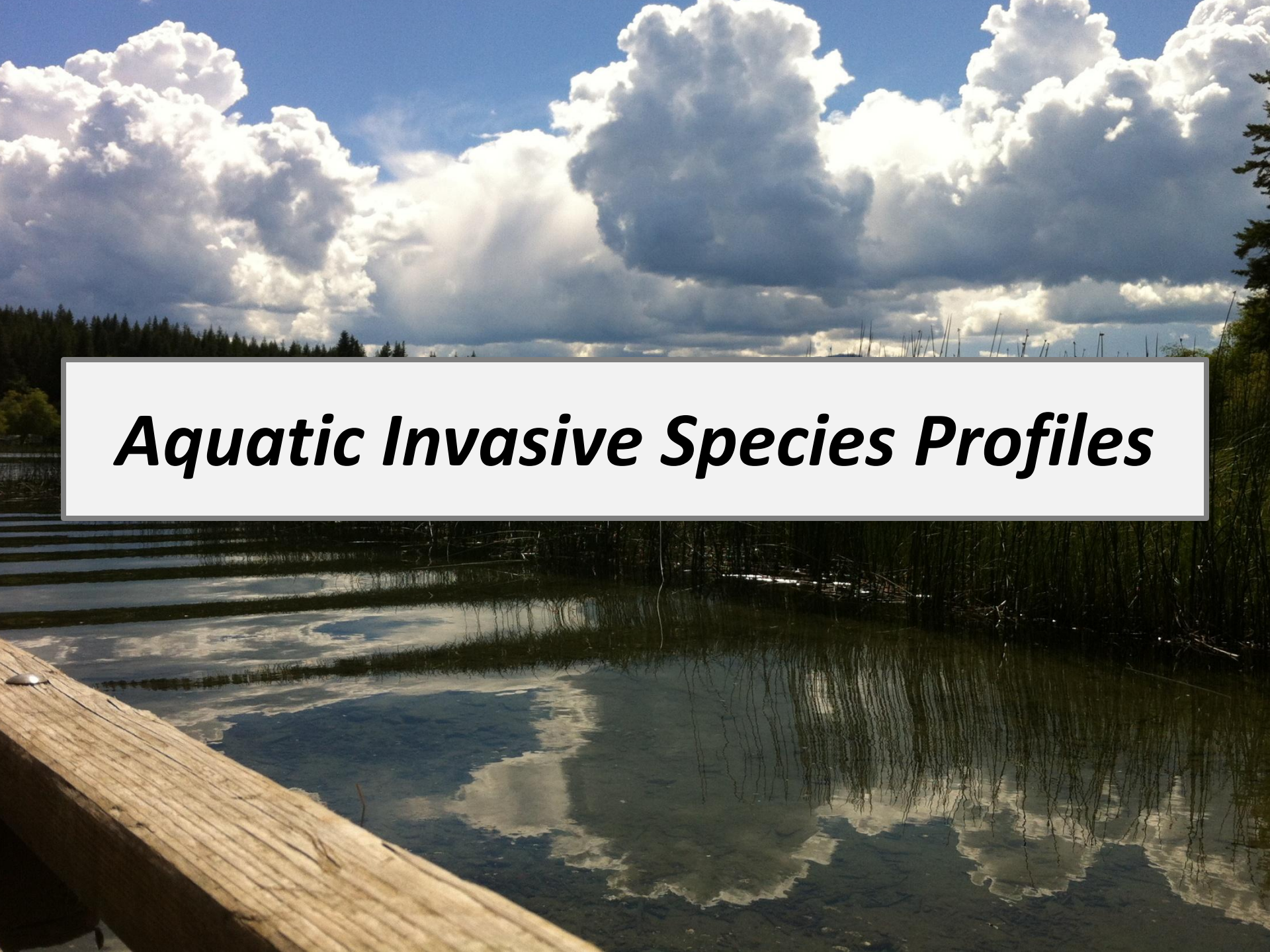
Winter

Spring

Social Impacts

Health

Economic Impacts

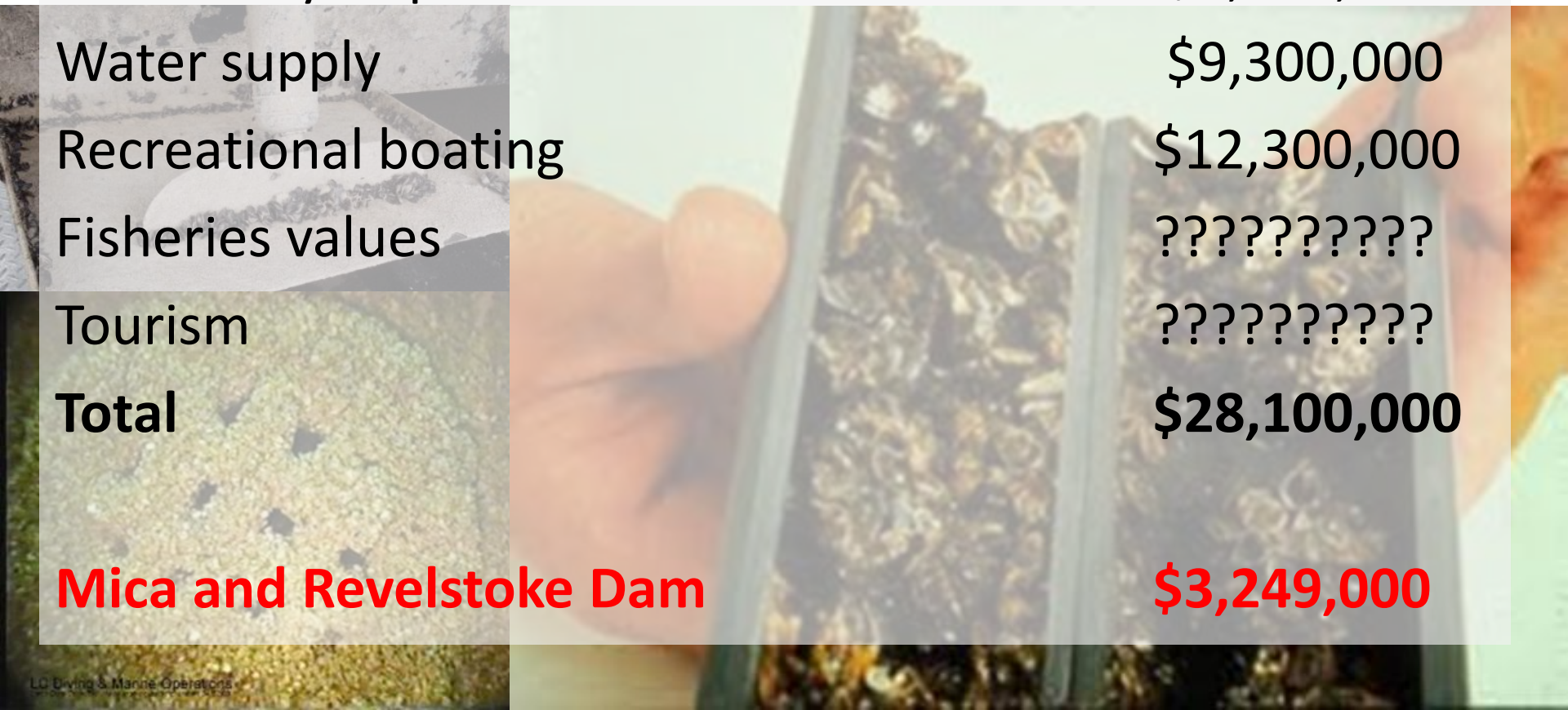

Aquatic Invasive Species Profiles

Zebra and Quagga Mussels

Zebra and Quagga Mussels

ANNUAL ESTIMATED DAMAGES IN BC

Costs to hydropower	$6,500,000
Water supply	$9,300,000
Recreational boating	$12,300,000
Fisheries values	??????????
Tourism	??????????
Total	**$28,100,000**
Mica and Revelstoke Dam	**$3,249,000**



Zebra and Quagga Mussels

Social Impacts

CSISS
COLUMBIA SHUSWAP INVASIVE SPECIES SOCIETY

CSISS is working with multiple organizations to establish a ***Canadian Columbia Basin Aquatic Invasive Species Strategy***

Yellow Flag Iris

Yellow Flag Iris

- *Alters riparian habitat*
- *Affects waterfowl and painted turtle habitat*
- *Outcompetes native riparian plants which provide food for native fauna*

Current Control Options

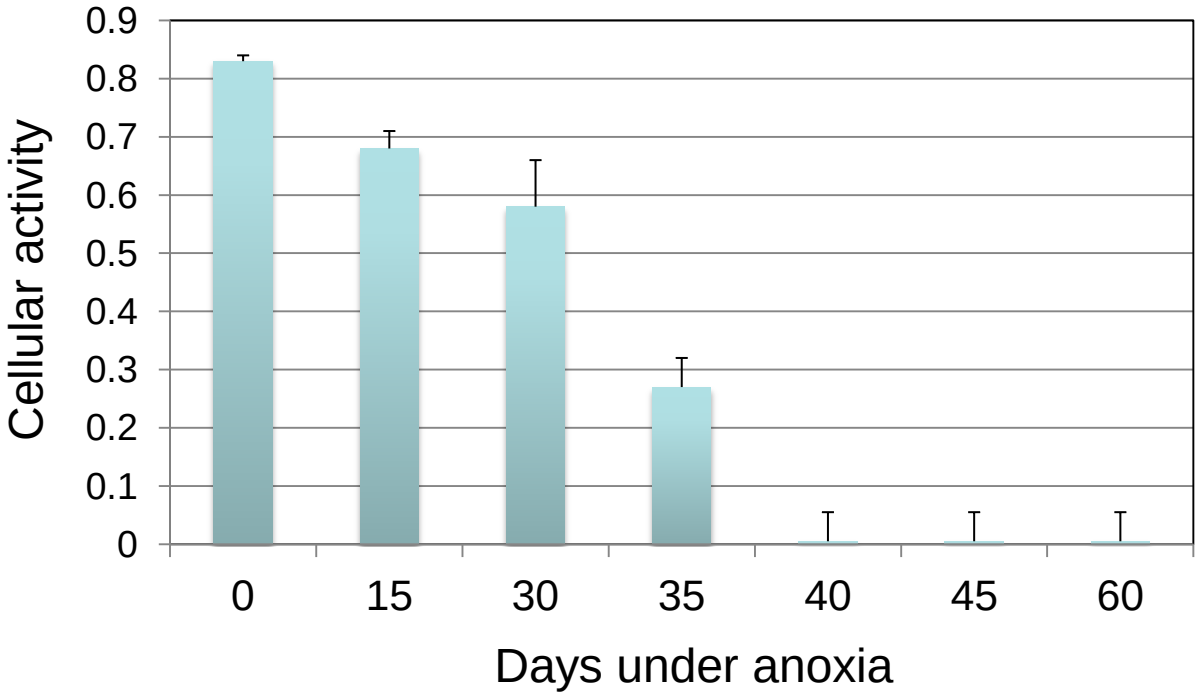
- Rhizome removal
- Seed-head cutting

- 100% of seed heads floating after 1 week
- 25% floating after 1 year

The Achilles' heel

In 2015, **Catherine Tarasoff** from TRU hopes to replicate those conditions in the field.

Experiment by Hanhijarvi and Fagerstedt conducted in the lab found YFI could not survive for long in the absence of oxygen



Cell activity of yellow flag iris rhizome tissue incubated under anoxic conditions at 20C in the dark. Cell activity was calculated as (ATP+0.5ADP)/(ATP+ADP+AMP). The results are means ± SE

Recreated from: Hanhijärvi and Fagerstedt, 1994

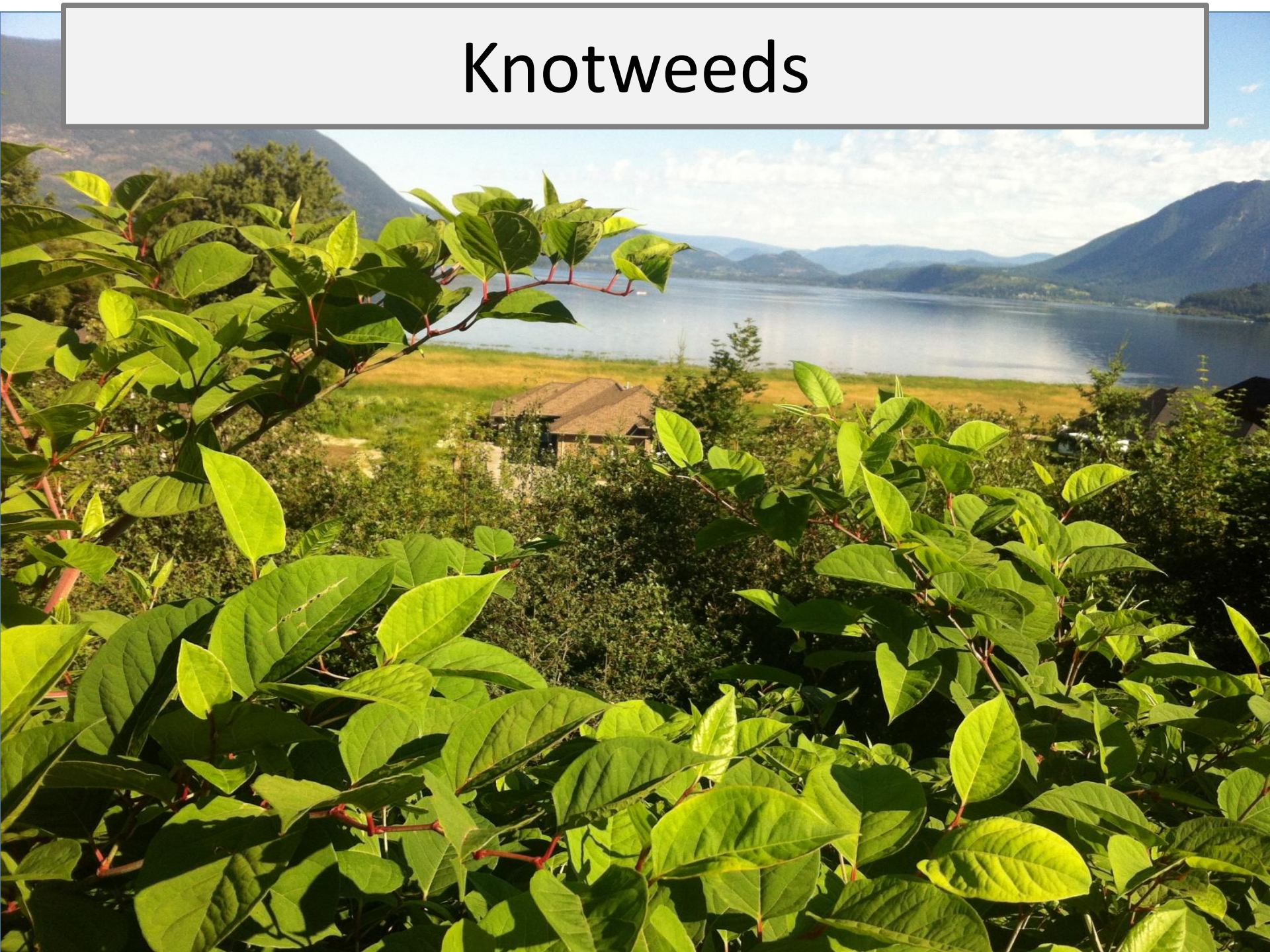
The Treatment

1) Remove above ground vegetation
2) Install conveyor belt material

Monitor dissolved oxygen under the barriers

Sample every 2 weeks for rhizome vigor and macro-invertabrate community

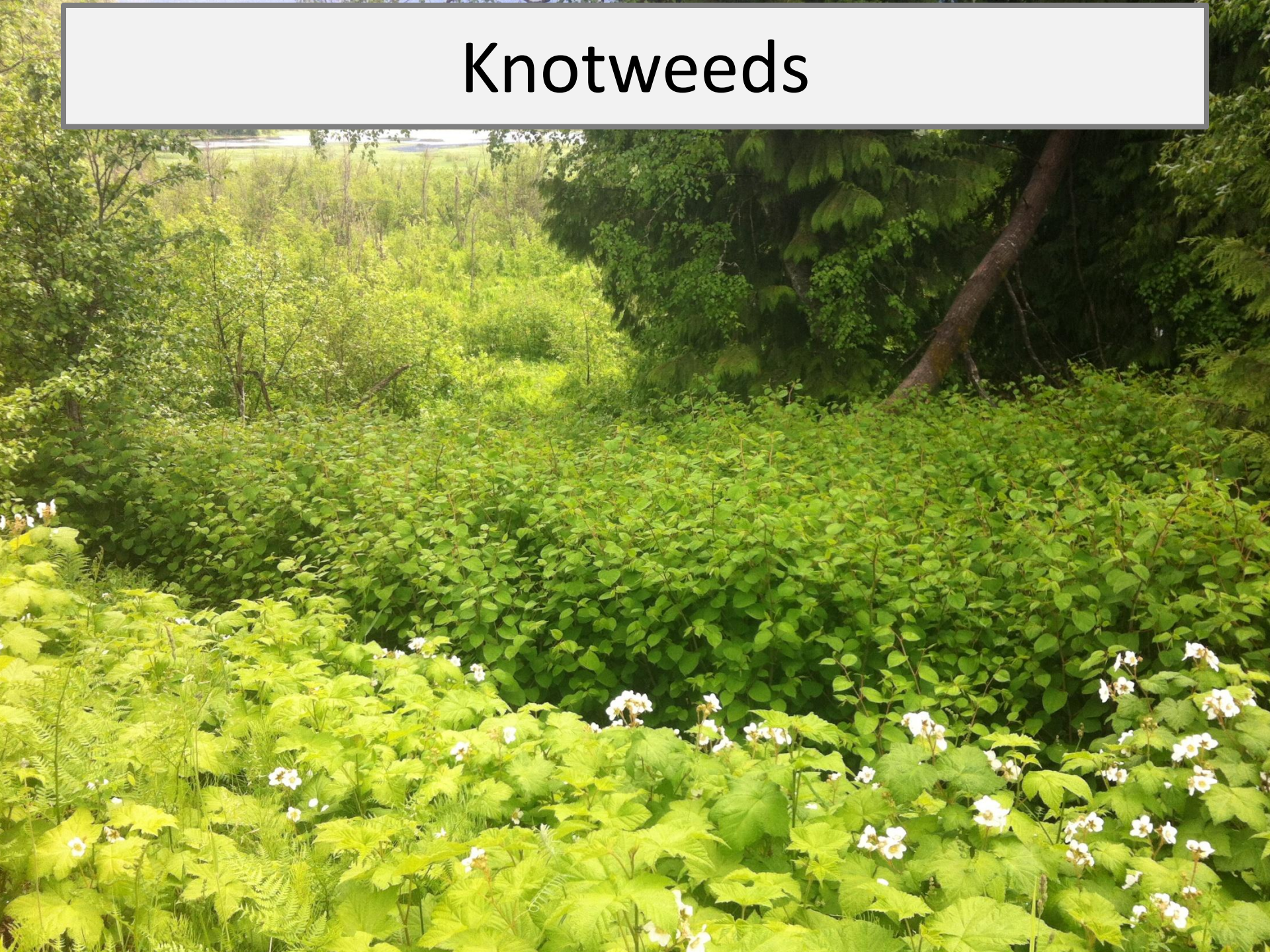
Knotweeds



Knotweeds

- *Also known as False Bamboo*
- *Extremely fast growing*
- *Four varieties in BC:*
  - *Bohemian knotweed*
  - *Giant knotweed*
  - *Japanese knotweed*
  - *Himalayan knotweed*

Knotweeds



Knotweeds

- *Take over riparian areas*
- *Impact wetland habitats*
- *Cause soil erosion*
- *Difficult to eradicate*

Purple Loostrife

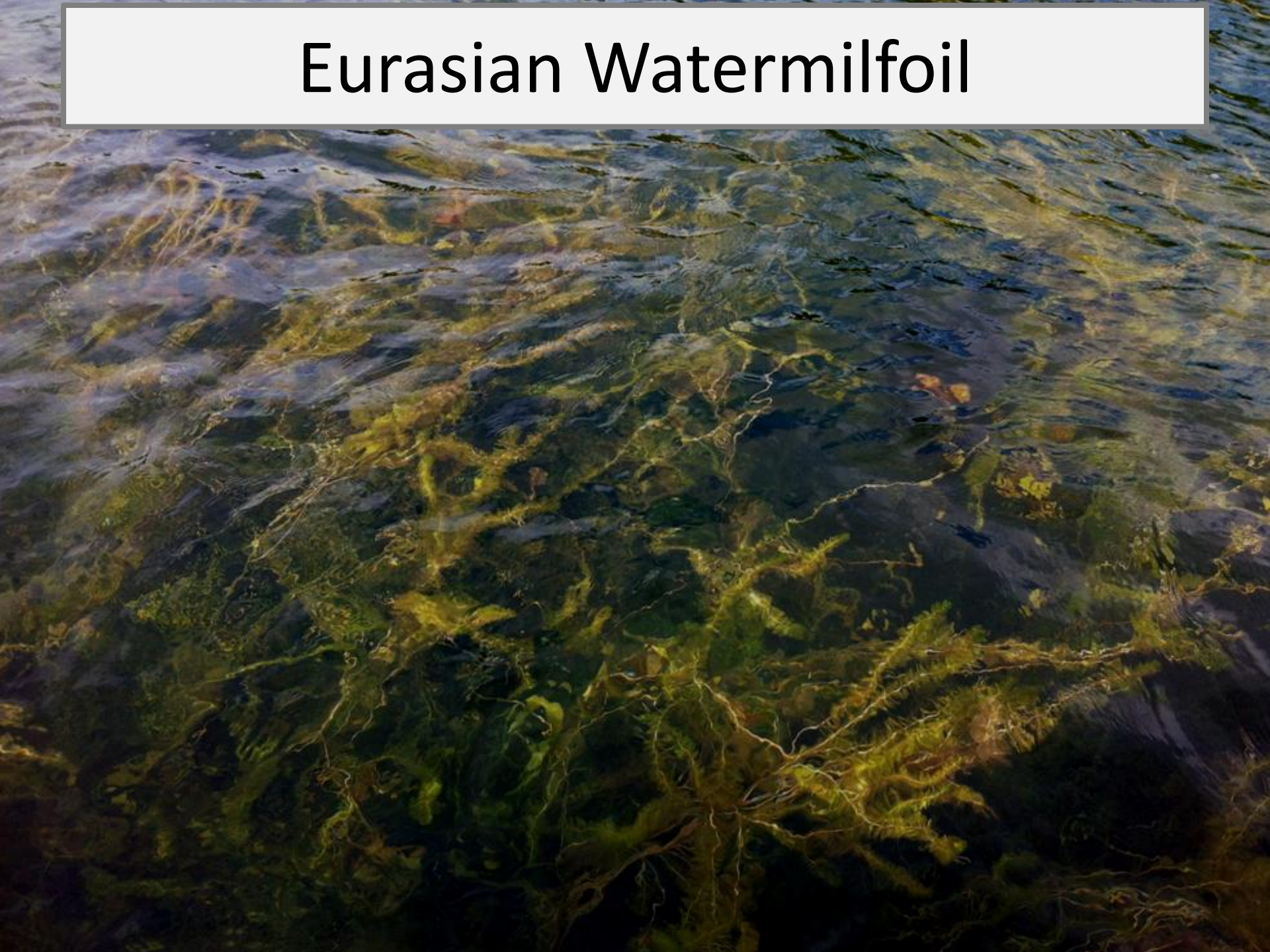
Himalayan Balsam

Eurasian Watermilfoil

- First found in Shuswap lake in 1981

- Little Shuswap Lake
- Mara Lake
- Shuswap River

Eurasian Watermilfoil



Eurasian Watermilfoil

COLUMBIA SHUSWAP INVASIVE SPECIES SOCIETY

Why are invasive species important?

- Loss of enjoyment on your lakes and rivers
- Increased maintenance costs
- The collapse of your local aquatic ecosystems and fisheries

CSISS
COLUMBIA SHUSWAP INVASIVE SPECIES SOCIETY

How can you help?

- Spread the word
- Adopt **CLEAN, DRAIN, DRY** behaviours
- Learn to identify invasive species
- Get involved in local monitoring efforts

CSISS

COLUMBIA SHUSWAP INVASIVE SPECIES SOCIETY

COLUMBIA SHUSWAP INVASIVE SPECIES SOCIETY

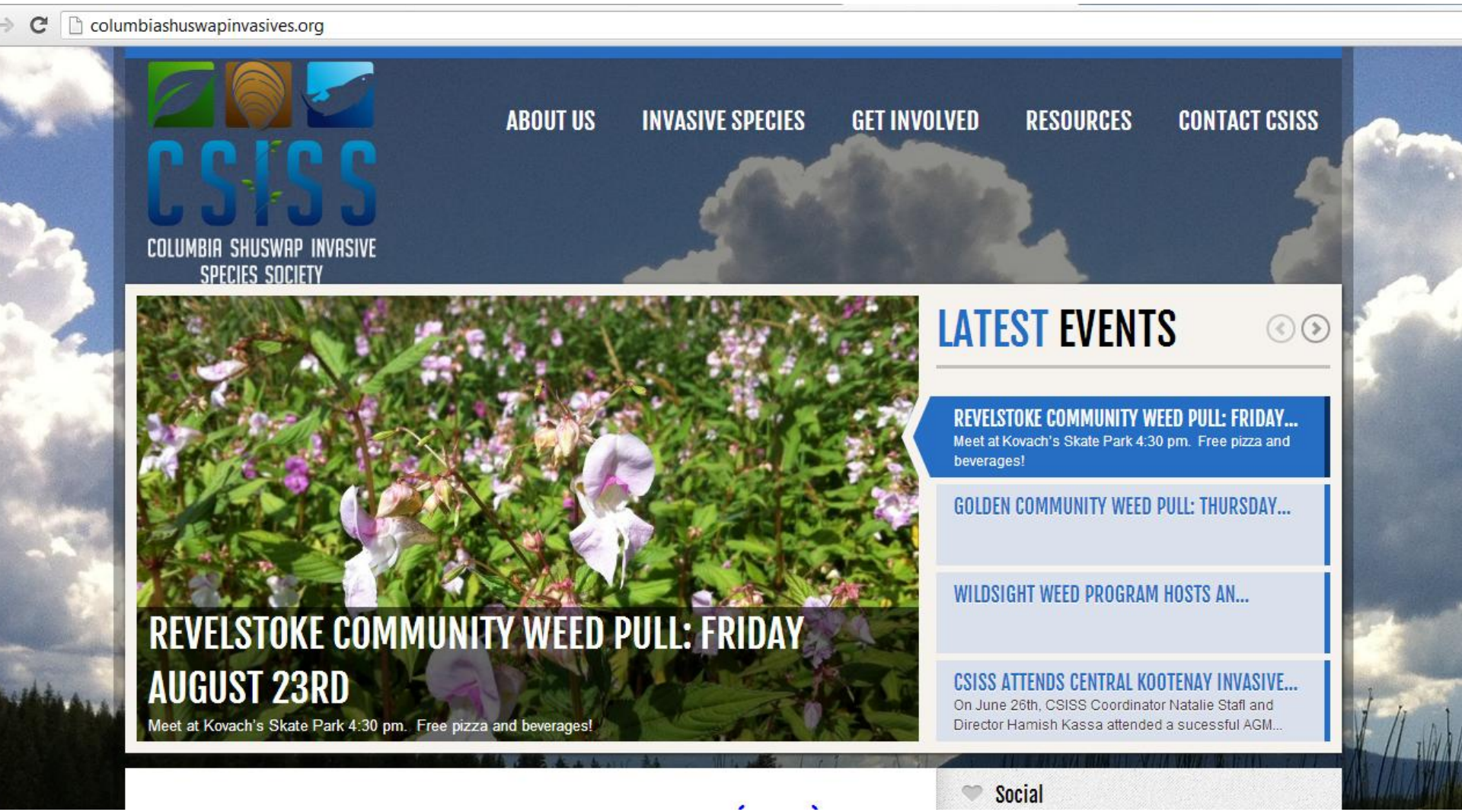
Support community weed pulls

Provide youth programs

ID workshops

Landowner extension

Columbiashuswapinvasives.org



Social media

Thank you!