Milfoil Control at Yarrow Point
My Qualifications

- Master of Science Degree in Aquatic Ecology.
- 20 years experience as statewide aquatic plant expert for WA Dept. of Ecology
  - Project management
  - Scientific research
  - State Weed Board
  - Aquatic herbicide/invasive species permitting
Focus of Talk

• Talk will focus on milfoil management & methods suitable for Yarrow Point.

• Be Aware: Any milfoil removal in Lake Washington is short-term because unmanaged milfoil will fragment and recolonize managed areas.

• All methods require permits.
Lake Washington Issues

- Range of plant control options limited for Lake Washington
  - Multiple jurisdictions – no lake-wide approach to weed management
  - Salmon – ESA issues
  - Divided opinions of residents about control methods
Hand Removal Methods
Hand Pulling

- Hand pulling is like underwater weeding.
- Deeper water needs SCUBA
- Remove fleshy root crown for best control

- Drawbacks include:
  - Fragment creation
  - Labor intensive
  - Stirs up the water making it hard to see
Cutting

- Commercial weed cutters available
- Attached to a rope and thrown into the water
- As cutter is pulled along the lake bottom, it cuts the plants

- Drawbacks include:
  - Fragment creation
  - Cut plants need to be removed from water
Bottom Screens

- Laid like underwater blankets on the lake bottom
- Block light, and compress plants
- Commercial fabrics available
Raking

- A rope can be attached to a study rake.
- The rake is thrown into the water and pulled towards shore.
- Many plants are pulled up by roots.

- **Drawbacks include:**
  - Fragment creation
  - Labor intensive
  - Turbid water
Diver Dredging (Disposal)

- Divers use small dredges to assist in transporting plants to the surface
- Plants are retained and disposed of
- Water discharged to water body
Bottom Screens

- Drawbacks include:
  - Maintenance
  - WDFW requires removal after 2 years
  - Not suitable for some sites
  - Can be swimming or navigation hazard
  - May harm bottom organisms
Sediment Agitation

- Analogous to wearing a path
- Devices placed on lake bottom and move around a central point or dock.
- This detaches plants and keeps the area free of new plant growth
Sediment Agitation

- Drawbacks include:
  - Initial expense
  - May create depression in sediment
  - Eliminates all plants
Mechanical Cutting

• Drawbacks include:
  – Cut plants need to be removed from the water
  – Several cuts per season
  – Creates fragments
  – Maneuverability around docks
Mechanical Harvesting
Mechanical Harvesting

- Drawbacks include:
  - Similar to lawn mowing
  - Machines expensive, not maneuverable
  - Fish/critters also collected and killed
  - Off loading sites needed
Aquatic Herbicides

- Chemicals registered by EPA that kill or burn back plants
- Also registered by WA Agriculture
- Only state-licensed applicators can apply aquatic herbicides

- Ecology conducts independent risk assessment/EIS for each chemical
- Must have NPDES permit from Ecology
Aquatic Herbicides

- **Drawbacks:**
  - Often controversial
  - Non targeted plants may be killed
  - Low oxygen conditions may develop
  - Use restrictions, particularly for irrigation
  - Need adequate contact time to achieve good control
Lake Washington

- Herbicides more regulated in Lake Washington than other lakes
- Any projects at Yarrow Point are control projects – Permit allows
  - 100 percent treatment using any herbicide in high use areas
  - 100 percent treatment using selective herbicides (2,4-D or triclopyr) in non high-use areas
It's Your Choice

- Aquatic plant management methods are a local decision.
- Ecology's role is to provide information about all methods.
- If you choose herbicides, Ecology will issue permit coverage and may inspect the application site for compliance.
- Other methods under Fish and Wildlife jurisdiction.
For Further Information

- All this information and more is available at Ecology’s web site
- Go to Water Quality, select Aquatic Plants and Lakes, and select Aquatic Plant Management Methods
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