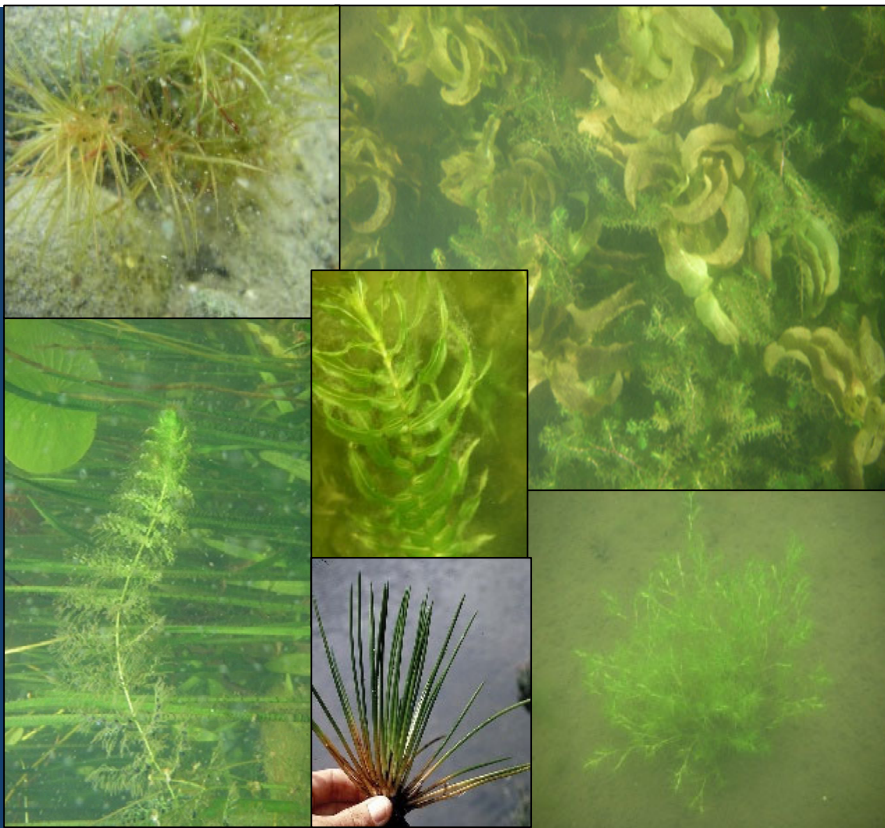




LAKE ROESIGER INVASIVE AQUATIC PLANT UPDATE

May 7, 2022

BENEFITS OF NATIVE AQUATIC PLANTS



Fit well into lake ecosystem

Good for fish - act as nursery

Filter out pollution & protect water quality

Habitat for other aquatic life – birds, turtles etc.

Have natural controls



THE PROBLEM - INVASIVE AQUATIC PLANTS



WHY ARE INVASIVE SPECIES A PROBLEM?



Creates nuisance conditions for recreation

Harms navigation

Causes filling in (mud islands)

Displaces native plants; harms lake ecology

Reduces water quality

TABLE -1 NOXIOUS WEED DESIGNATIONS

In-Lake Plants	Class	Distribution	Shoreline Plants	Class	Distribution
Eurasian watermilfoil	B	Scattered patches	Invasive Knotweed	B	11 properties
Slender arrowhead	B	39.8 acres ¹	Purple Loosestrife	B	24 properties
Fragrant waterlily	C	30.1 acres	Yellow-flag iris	C	Widespread

¹The 39.8 acres are areas of dense coverage with an additional 5.5 acres of sparse coverage

EXTENT OF PROBLEM

INITIAL CONTROL EFFORTS

Eurasian watermilfoil

- Decades of diver surveys & hand-pulling
 - County (1998 - 2017)
 - Community (2019 – present)

Invasive Lilies

- Manual Control – cutting, pulling out
- Failed Attempt for Chemical Control by Landowners (~2018/2019)
- Community Club & Individual Efforts (2019 – 2021)
 - Purchased Removal equipment
 - Bottom Barriers (including HPA permit)
 - Other creative innovations by landowners
- 2020 - Request for Snohomish County Assistance
- 2021 – Grant to develop plan

THE SOLUTION – DEVELOP A PLAN

INTEGRATED AQUATIC VEGETATION MANAGEMENT PLAN - DRAFT

Lake Roesiger



Map Invasive Species



Develop Draft Plan



Community Outreach



Vote to Finalize Plan

THE PLAN



Priority 1 - Eurasian Watermilfoil

5 Year Cost - \$110K

- **5 Year Goal:** Eradication
- **Control Method**
 - Annual diver surveys and hand-pulling
 - Chemical Treatment with Procellacor (only if density greatly increases)



Priority 2 - Fragrant water

5 Year Cost - \$136K

- **5 Year Goal:** North and South – Eradication; Middle - 40 to 50% reduction
- **Control Method**
 - Chemical control with use of imazapyr or imazamox
 - Mechanical harvesting - use as possible especially if costs decrease
 - Individual landowners - repeated lily cutting and/or bottom barriers

THE PLAN



Priority 3 – Invasive Species Prevention

5 Year Cost - \$7K

- **5 Year Goal:** Prevent spread of invasives to and from lake
- **Control Method**
 - Education campaign to lake residents
 - Volunteer outreach at boat launch



Priority 4 – Knotweed, Purple Loosestrife, Yellow-Flag Iris

5 Year Cost - \$30K

- **5 Year Goal:** Prevent further spread and reduce coverage
- **Control Method**
 - Individual landowner control
 - Workshops on plant identification and control methods
 - Outreach campaign



Priority 5 – Slender Arrowhead

5 Year Cost - \$110K

- **5 Year Goal:** Prevent further spread and reduce coverage
(**Initial Target of 20% per year that would be scaled based on funding**)
- **Control Method**
 - Diver-Assisted Suction Harvesting (DASH)
 - Continue researching control methods as they emerge

INITIAL 5 YEAR INVASIVE PLANT CONTROL COSTS

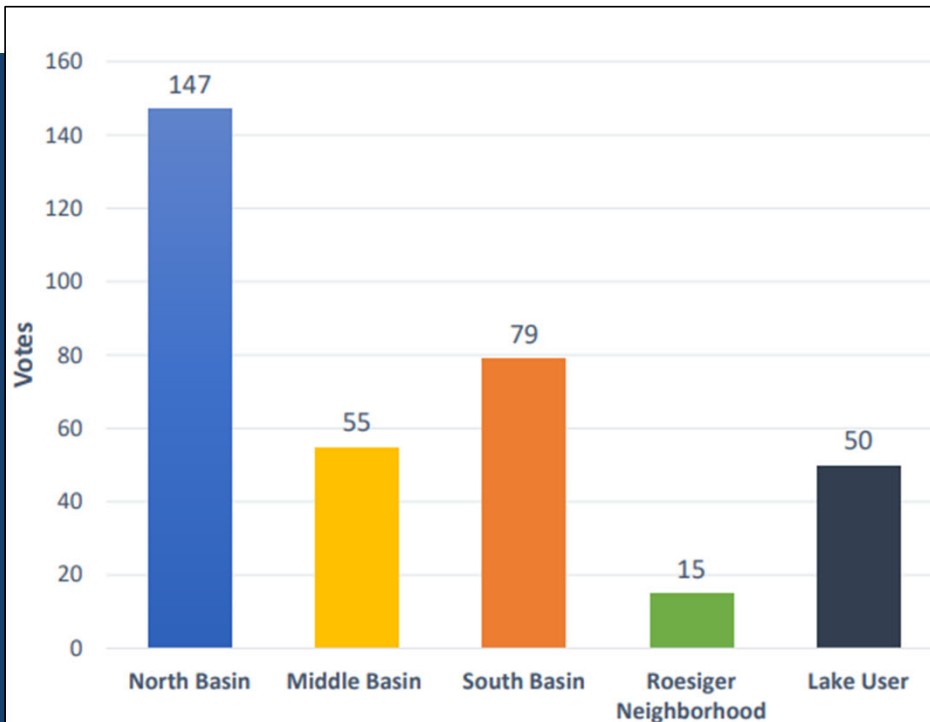
(WORK WILL EXTEND BEYOND 5 YEARS)

Approved Invasive Plant Control Methods

Target Plant	Action	Expected Outcomes	Estimated Cost for First 5 Years of Control					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
Eurasian watermilfoil	Diver hand-pulling; chemical control only if needed	Eradication within 5 years followed by annual monitoring	\$22K	\$22K	\$22K	\$22K	\$22K	\$110K
Fragrant waterlily - Middle Basin ¹	Chemical treatment (imazapyr/imazamox)	40-50% reduction in lily coverage (12-15 acres)	\$34K	\$34K	\$34K	\$17K	\$17K	\$136K
Fragrant waterlily -North & South Basin ¹	Chemical treatment (imazapyr/imazamox)	Eradication of existing patches	\$3.3K	\$3.3K	\$1.1K	\$1.1K	\$1.1K	\$9.9K
Invasive Shoreline Plants ²	Workshops & outreach on plant ID and control methods	Prevention of new areas; reduce existing areas	\$15K	\$15K	-	-	-	\$30K
Slender Arrowhead ³	Incremental removal by DASH	20% removal per year ⁴	\$22K	\$22K	\$22K	\$22K	\$22K	\$110K
Invasive Species Prevention	Outreach to lake users & residents	Lower risk of spread & intro of new invasive species	\$3.5K	\$3.5K	-	-	-	\$7K
Total			\$99.8K	\$99.8K	\$79.1K	\$62.1K	\$62.1K	\$402.9K

5 Year Total - \$402.9 K (annual average of \$80.6K)

PLAN VOTE (SEE FULL RESULTS ONLINE)



Response rates and locations

- There were 346 total valid votes
- There were 274 Roesiger shoreline votes (middle, north and south)
- Shoreline vote represents approximately 59% of the estimated 464 shoreline parcels

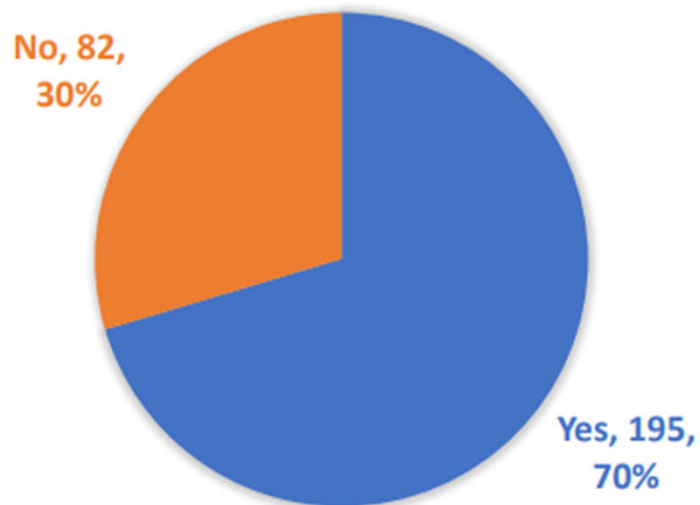
Roesiger Neighborhood = respondents that don't live on the lake shoreline but live near the lake (see previous map)

Lake User = respondents who don't live near Lake Roesiger, but use the lake for recreation

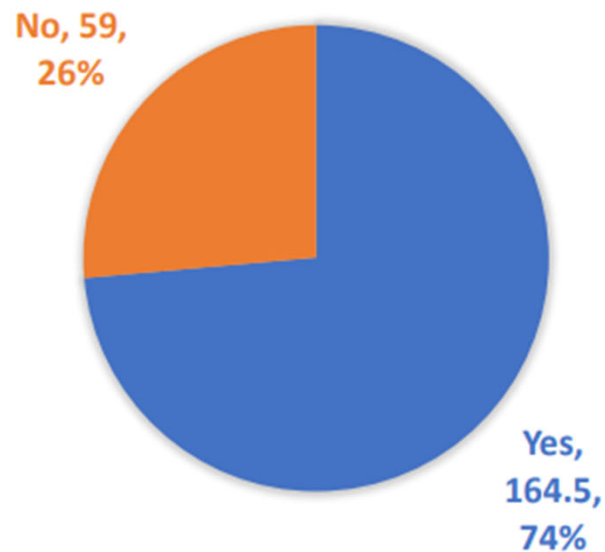
PLAN VOTE

Question 1 Results Continued: Do you approve the proposed Lake Roesiger Integrated Aquatic Vegetation Management Plan as described in the revised Lake Roesiger IAVMP Executive Summary?

2. Lake Roesiger shoreline & neighborhood residents



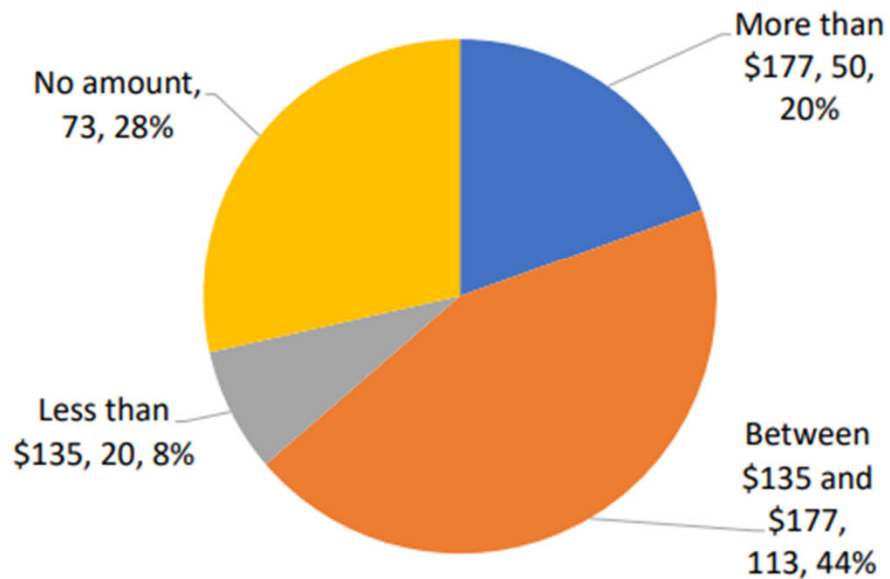
3. Lake Roesiger Community and Boat Club Members



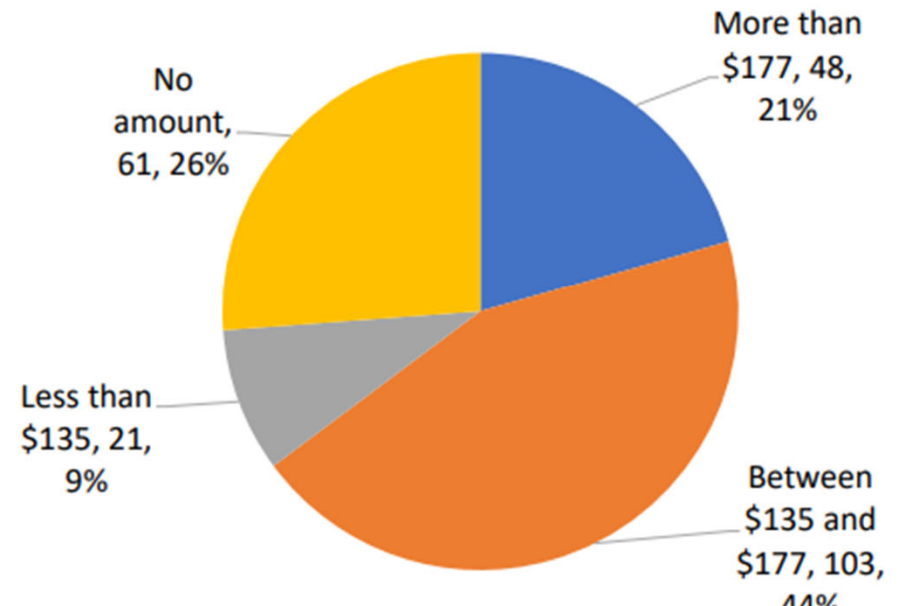
PLAN VOTE

Question 3 Results Continued – If the plan is approved, would you support the Lake Roesiger area community paying an annual fee charged on a per parcel basis to implement the final plan?*

2. Lake Roesiger Shoreline & Neighborhood Residents



3. Lake Roesiger Community and Boat Club Members



VISIT WEBSITE TO LEARN MORE

WWW.SNOHOMISHCOUNTYWA.GOV/ROESIGER



FULL PLAN



EXECUTIVE
SUMMARY



SURVEY &
VOTING RESULTS



VIDEOS OF ALL
MEETINGS



SIGN UP FOR
EMAIL UPDATES

GRANT PROJECT CONCLUDED



- Plan finalized and approved by Department of Ecology
- Plan makes community eligible to apply for state implementation grant
- Community and Boat Club 2021 Decisions
 - Decided not to pursue implementation grant for 2022
 - Chose to form a funding Committee
 - Committee goal was to find options for sustainable long-term funding and bring recommendations to the Lake Roesiger community

A photograph of a pond with large green lily pads and a white water lily flower in bloom. The text is overlaid on a dark blue horizontal band across the middle of the image.

WHERE WE ARE NOW? FUNDING COMMITTEE WORK

COMMITTEE RECOMMENDATION – APPLY FOR GRANTS



- Department of Ecology Invasive Aquatic Plant Management Grant
- Paid for by Boat Tab Fees
- \$75,000 award
 - Requires a 25% match
- 2-year project
- Applications are due in Nov/Dec
- No other known sources of grants at this time

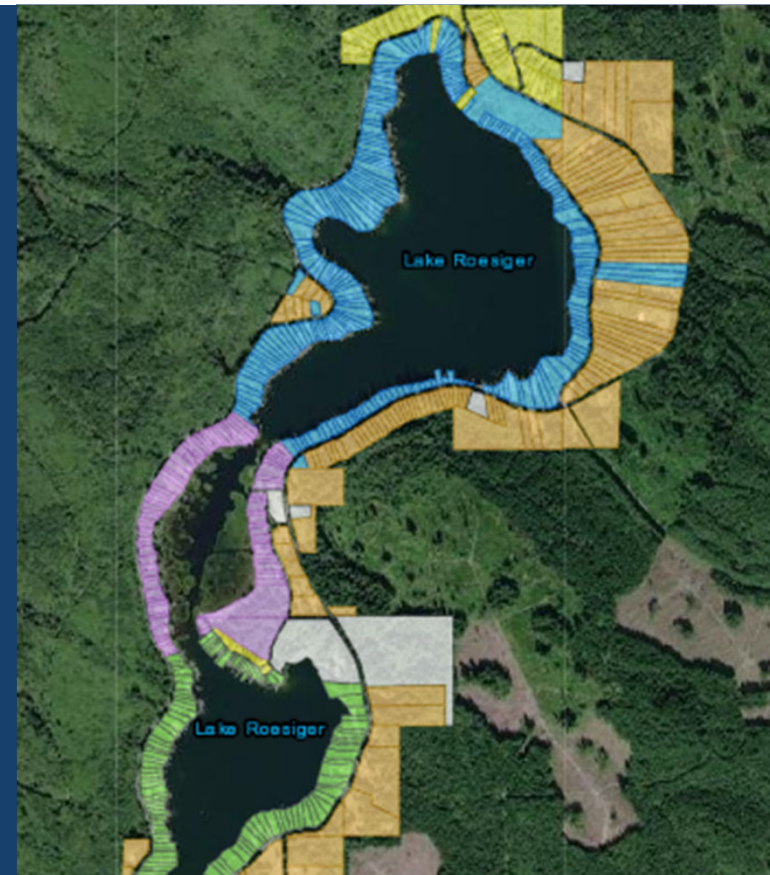
COMMITTEE RESEARCHED AND DEVELOPED OPTIONS FOR FUNDING BY COMMUNITY

Funding
Mechanisms

How much
to raise

Who to
include

Duration



COMMITTEE RECOMMENDATION: IMPLEMENT A SURFACE WATER MANAGEMENT FEE SURCHARGE

Established by County Council in Snohomish County Code - SCC 25.20

Requires renewal after 5 years

Paid via tax bill and includes exemptions for qualified seniors

Funds can only be used for Roesiger plan implementation

Work managed by county with community oversight

Estimated cost to establish is \$13K (cost absorbed by County)

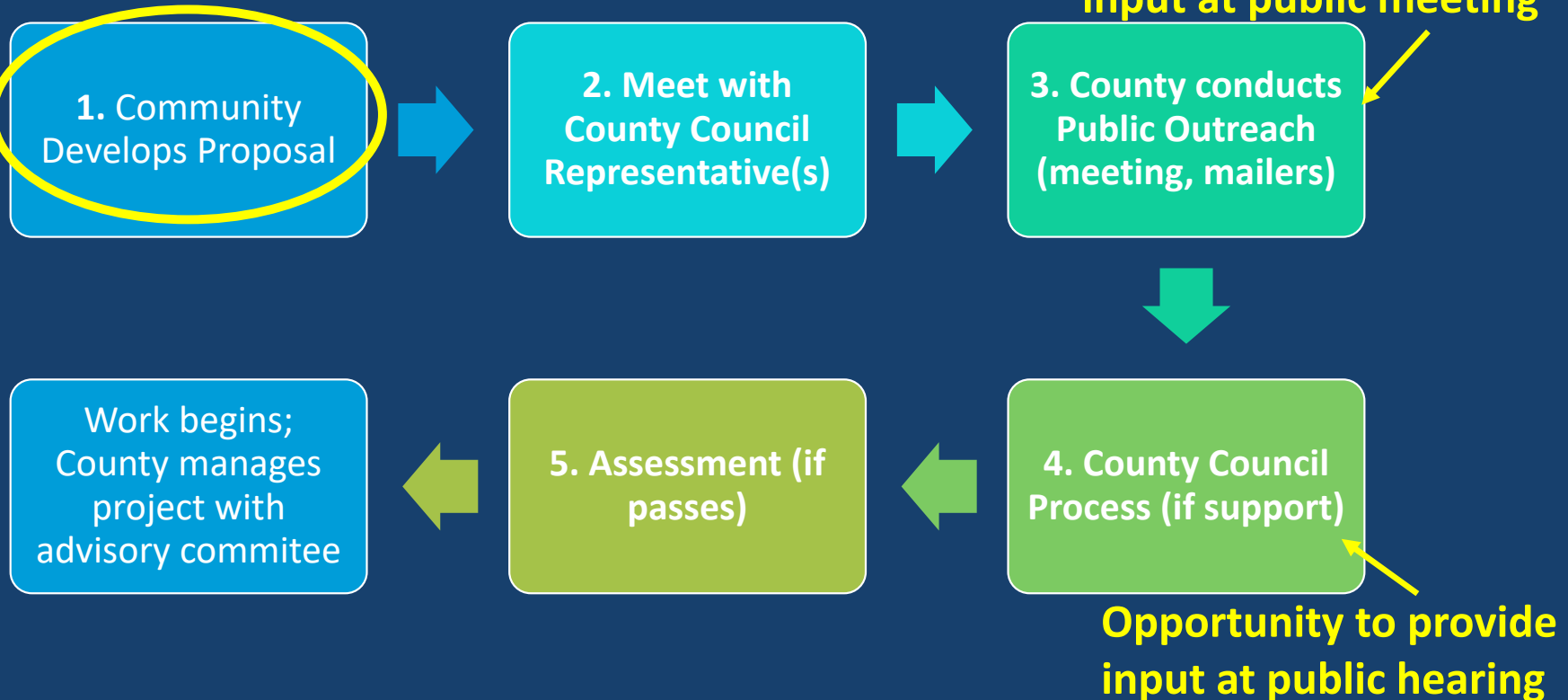
Similar charges established at four other county lakes

Committee met with Council Reps and they also support the SWM surcharge

MECHANISM - SURFACE WATER FEE SURCHARGE

Community requests Snohomish County Council to enact higher surface water charges in a defined area

We are on this step



OPTION 1 – ANNUAL CHARGE FOR SHORELINE PARCELS ONLY



Parcel Type	# of Parcels	Parcel Rate	Total
Lakefront (including split lots)	454	\$175	\$ 79,450
Lake Front Shared Interest	74	\$45	\$ 3,330
Total	528		\$ 82,780

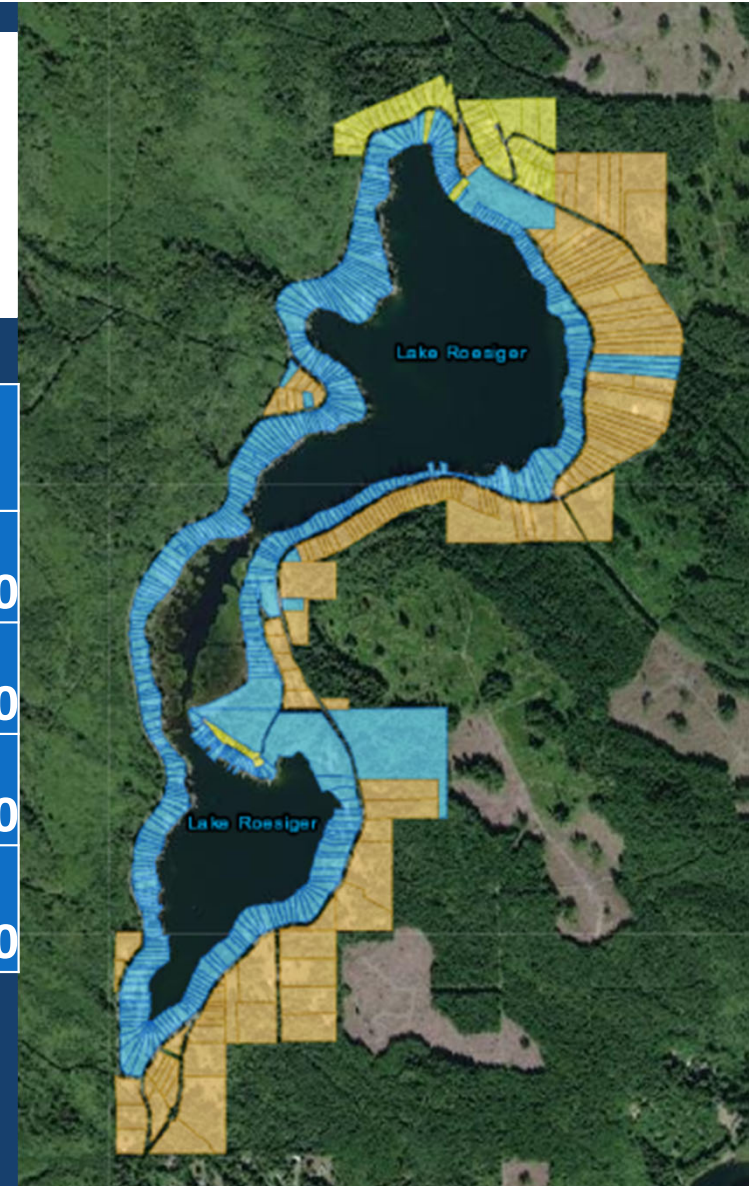
Amount needed is based on estimated plan cost assuming grant is obtained plus annual inflation

<https://snoco-gis.maps.arcgis.com/apps/webappviewer/index.html?id=694975958b624db8b36178b69385ae02>

OPTION 2 – ANNUAL CHARGE SHORELINE PARCELS & COMMUNITY PARCELS

Parcel Type	# of Parcels	Parcel Rate	Total
Lakefront (including split lots)	454	\$170	\$ 77,180
Lake Front Shared Interest	74	\$35	\$ 2,590
Off Lake	150	\$20	\$ 3,000
Total	678		\$ 82,770

<https://snoco-gis.maps.arcgis.com/apps/webappviewer/index.html?id=694975958b624db8b36178b69385ae02>



NEXT STEPS



- For 2023 implementation, funding proposal needed to Council Representatives by **June 15th.**
- Next Step?

STOP THE SPREAD OF INVASIVE SPECIES

BEFORE LEAVING, TAKE THESE STEPS ON YOUR BOAT, JET SKI OR KAYAK:



Check, remove and throw away mud, plants and aquatic life (milfoil, mussels, etc.).



Drain all water from boat, motor, bilge, ballast, wells and any compartments.



Dry everything fully before going to a different waterbody (air dry 5 days or towel dry).

Check these areas carefully.

This Photo by Unknown Author is licensed under CC BY

2022 CONTROL ACTIONS

Eurasian watermilfoil diving – Community Club

Knotweed – Free County Treatment Available

New boat launch sign coming





REPORTS OF ONGOING BROWN/ORANGE ALGAE BLOOM AT ROESIGER

- Type of golden-brown algae (Uroglenopsis/Uroglena)
- Causes lake to turn cloudy brown/orange
- As it dies it smells like dead fish
- It is not harmful (does not produce toxins)
- Very common in early spring at area lakes
- No known links between pollution & bloom
- Likely weather-related/natural seasonal cycle of algae