Project Title: Lake Roesiger Integrated Aquatic Vegetation Management Plan

Project Short Description: The Lake Roesiger IAVMP will provide the community with a road map to control the invasive aquatic plants affecting the lake’s health and recreational suitability. The plan will focus on Eurasian watermilfoil and fragrant water lily but will also address slender arrowhead, purple loosestrife and yellow flag iris. It will be developed with extensive community engagement. The community is highly invested in long-term control as evidenced by their past efforts and their project match contribution.

Project Long Description: The Lake Roesiger IAVAMP will be a community-driven effort to identify and select the best options to control and prevent the spread of invasive aquatic plants. The lake suffers from infestations of five noxious weeds. Three are class B noxious weeds: Eurasian watermilfoil (EWM), slender arrowhead, and purple loosestrife. Two are class C weeds: fragrant waterlily and yellow flag iris. Collectively, these plants threaten the recreational use and the ecological health of Roesiger and...
present high risk of spread to nearby lakes. Roesiger is a significant regional resource as it a destination for fishing, swimming, boating, water skiing and aesthetic enjoyment. Located 7 miles east of Lake Stevens, the lake is 348 acres, the 3rd largest lake in the county. Two of the three lake basins are open to water skiing, tubing and other powerboat activities from May through October. Roesiger is only one of five local lakes that allows motorized boats. Roesiger has two public access points, the Washington Department of Fish and Wildlife (WDFW) boat launch and Snohomish County’s Lake Roesiger Park. The park offers one of the few public swim beaches in the County. Lake Roesiger also has 454 residential lake shoreline parcels. Roesiger supports a robust ecological community. WDFW stocks the lake annually with kokanee and rainbow trout. It is also has popular fishing species of largemouth bass, black crappie, bluegill and yellow perch. No threatened or endangered salmon species are found in the lake, but further downstream, Woods Creek supports salmonids.
Volunteer monitoring records indicate the presence of osprey, blue herons, bald eagles, hawks, Canada geese and several duck species, otters, muskrats, beavers and a variety of amphibians. The lake's popularity means there is a high risk for spread of invasive species to other lakes. Within 7 miles, there are 6 other waterbodies with public access lakes. Nearby Flowing Lake is open to motorized watercraft and is the most threatened including Storm and Panther which connect to Flowing. Lake Bosworth and Lake Chaplain (drinking water reservoir) are also large lakes in close proximity. Lake Stevens also allows powerboats. While Stevens already has milfoil, it is threatened by the spread of the slender leaf arrowhead. EWM poses the largest risk to the health of Roesiger. EWM mats can render large areas of the lake unusable for recreation. The plants have long tendrils which can form surface mats that entangle swimmers, boat motors, and fishing lines. EWM has the potential to shift the littoral ecology because it can out-compete native plants.
and can colonize even sandy or rocky areas that currently do not support native plants. The overgrown plant beds limit colonization by aquatic invertebrates and make it difficult for fish to move freely. In addition, dissolved oxygen concentrations within dense EWM beds can approach zero, severely limiting the habitat and changing the water quality of the area. If allowed to spread, EWM will severely impact the beneficial uses of Roesiger.

Snohomish County has worked since 1998 to control EWM with diver hand pulling funded by an early infestation grant. At its peak, the plant covered approximately 40 acres and had the potential to spread further to much of the lake’s littoral zone. The plant was contained to three small areas as of 2017 (map A). Control efforts were ceased in 2017 due to County budget cuts and have not been restored. The plant began to re-spread across the lake. In 2019, the lake community worked to hire divers for a one-time treatment. However, funding for future efforts is limited. The community needs a long-term strategy including sustained funding
to ensure the milfoil does not continue to spread and re-emerge as a significant threat to the lake and other neighboring lakes. In addition to EWM, the large-scale infestation of fragrant waterlily is currently causing the largest impact to lake health. Fragrant water lilies cover at least 28 acres of the lake primarily in the middle lake basin (map B). These estimates are based on aerial photos, however, there are likely additional unmapped patches in the north and south basins. The middle basin is nearly a complete monoculture of fragrant waterlily, with a few small patches of Nuphar polysepala and areas of slender-leaf arrowhead. Lack of native vegetation reduces the desirable habitat for animals and fish. The large mats prevent mixing of the water causing extensive areas of low dissolved oxygen in summer months. The annual growth and decay of the lilies cause large nutrient pulses in the fall. Over time, the lilies have also changed the nature of the lake bottom with severe sedimentation and several feet of organic matter build up. The fragrant water lily growth is so dense, it is nearly impossible for
middle basin residents to access the lake. The deep muck layer and floating mud islands caused from decaying lilies make swimming or wading in the middle basin impossible. If remained unchecked, the lily growth threatens to make the channel between the lake un navigable cutting off boat access to the north basin which has no boat launch. There have been piecemeal attempts to conduct lily control. A small planned herbicide treatment failed due to the contractor’s notification error causing community discord. The lake community has since led efforts to help individual owners mechanically control lilies through bottom barriers and hand-pulling. However, the infestation is so large that a wholistic plan is needed. Given the history, an effective long-term plan needs to be developed through a transparent process with strong communication to reach a community consensus. The proposed IAVMP will help meet this need through a strong focus on public outreach. The Class B noxious weed, Sagittaria graminea or slender arrowhead is found in Roesiger and is only one of five lakes in the state.
with known populations. Since it's detection in 1994, it has increased in distribution from scattered patches to cover large areas of the north and south basins with near monocultures. The plant has not been mapped, so the exact acreage is unknown. The ecological impacts of this plant are not as well studied. However, native plant populations have been displaced with arrowhead stands likely disrupting the natural food chain. The plant can be a nuisance for swimming and wading. The largest risk presented by this plant is the spread to other area lakes – particularly Flowing and Stevens.

Finally, Roesiger has two shoreline emergent invasive plants - yellow flag iris and purple loosestrife. The plants form dense stands and can spread rapidly through rhizomes and prolific seed production. The mats exclude the normally diverse native emergent populations such as rushes and sedges and do not provide the same habitat for nesting birds, amphibians, mammals and aquatic life. Also, most landowners are not aware that these attractive plants are noxious weeds which prevents them from
controlling the plant or reduce its spread. If funded, the project will accomplish three main objectives. First, it will characterize the extent of the infestation for each of the target species by conducting a plant survey. Next, with the help of limnological experts, a plan will be developed which includes a thorough review of alternatives to control and prevent the spread of invasive plants along with detailed cost estimates and permitting requirements of selected alternatives. Finally, the plan will be developed with extensive community involvement to bring the lake community together. A steering committee will guide the development of goals, alternatives, and recommendations. The whole community will have an opportunity to provide feedback through an online presentation and survey and a final meeting. The IAVMP will lay the foundation to successfully fund and implement the plan resulting in long-term improvements in lake recreation and health.

Total Cost $44,476.00*  Total Eligible Cost $37,500.00*
Effective Date 2/1/2021  Expiration Date 12/31/2021
Ecology Program Water Quality*
Project Category* Early Infestation

- Integrated Aquatic Vegetation Management Plan
- Aquatic Invasive Plant Project
- Research Project

Will Environmental Monitoring Data be collected? Yes

Overall Goal

The overall goal for Lake Roesiger is to dramatically reduce the populations of invasive aquatic plants with a focus on EWM and fragrant water lily. These actions will help to restore beneficial uses of the lake, improve habitat for fish and aquatic life and maintain the lake’s good water quality. Secondary goals are to have an educated community of lake residents and users to prevent the spread of aquatic invasives to and from Lake Roesiger. The IAVMP will be a roadmap for the County and the community to implement long-term control activities benefiting lake health. The activities of plant mapping, researching control methods, and identifying appropriate recommendations will ensure an effective plan. Extensive community input including a steering committee, community survey, and frequent outreach will ensure the
plan is accepted by the community for long-term implementation.
Project Themes
Select a primary and secondary theme that best describes the work to be achieved during this project.

Primary Theme: Aquatic Invasive Plant
Secondary Theme(s): Integrated Aquatic Vegetation
Management Plan

Project Website
If your project has a website, please enter the web address below. After entering a website and saving, another blank row will appear. Up to three websites may be provided.

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<tr>
<td><strong>Project Manager</strong></td>
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<tr>
<td>Jennifer Oden</td>
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<td><strong>Contact Information</strong></td>
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<tr>
<td>Jennifer Oden</td>
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<tr>
<td>Water Quality Specialist</td>
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<tr>
<td>3000 Rockefeller Ave MS 607</td>
<td></td>
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<tr>
<td>Everett, Washington 98201</td>
<td></td>
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<tr>
<td>(425) 262-2601</td>
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<tr>
<td><a href="mailto:jennifer.oden@snoco.org">jennifer.oden@snoco.org</a></td>
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<td>Kelly Snyder</td>
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<tr>
<td><strong>Contact Information</strong></td>
</tr>
<tr>
<td>Kelly Snyder</td>
</tr>
<tr>
<td>Department Director</td>
</tr>
<tr>
<td>3000 Rockefeller Ave.</td>
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<tr>
<td>Everett, Washington 98201</td>
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<tr>
<td>(425) 388-6652</td>
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<tr>
<td>(425) 388-6455</td>
</tr>
<tr>
<td><a href="mailto:kelly.snyder@co.snohomish.wa.us">kelly.snyder@co.snohomish.wa.us</a></td>
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<td>Michele Anton</td>
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<td><strong>Contact Information</strong></td>
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<tr>
<td>Michele Anton</td>
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<tr>
<td>Grants Analyst</td>
</tr>
<tr>
<td>3000 Rockefeller Ave.</td>
</tr>
<tr>
<td>Everett, Washington 98201</td>
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<tr>
<td>(425) 388-3253</td>
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WATER QUALITY AQUATIC INVASIVE PLANT FUNDING

Organization: Snohomish County - Public Works Department

Recipient Contacts

(425) 388-6455
michele.anton@snoco.org

Other recipient signatures on printed agreement

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<thead>
<tr>
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<th>Title</th>
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### Task Number
1

### Task Title
Project Administration/Management  
**Task Cost** $3,900.00

### Task Description
A. The RECIPIENT shall carry out all work necessary to meet ECOLOGY grant or loan administration requirements. Responsibilities include, but are not limited to: maintenance of project records; submittal of requests for reimbursement and corresponding backup documentation; progress reports; and a recipient closeout report (including photos).

B. The RECIPIENT shall maintain documentation demonstrating compliance with applicable procurement, contracting, and interlocal agreement requirements; application for, receipt of, and compliance with all required permits, licenses, easements, or property rights necessary for the project; and submittal of required performance items.

C. The RECIPIENT shall manage the project. Efforts include, but are not limited to: conducting, coordinating, and scheduling project activities and assuring quality control. Every effort will be made to maintain effective communication with the RECIPIENT's designees; ECOLOGY; all affected local, state, or federal jurisdictions; and any interested individuals or groups. The RECIPIENT shall carry out this project in accordance with any completion dates outlined in this agreement.

### Task Goal Statement
Properly managed and fully documented project that meets ECOLOGY’s grant or loan administrative requirements.

### Task Expected Outcomes
* Timely and complete submittal of requests for reimbursement, quarterly progress reports, and RECIPIENT closeout report.
* Properly maintained project documentation

### Recipient Task Coordinator
Jennifer Oden

### Deliverables

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<th>Description</th>
<th>Due Date</th>
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12/10/2020
1.1 Quarterly Progress Reports
1.2 Recipient Closeout Report
1.3 Project Outcome Summary Report
## Task Number
2

## Task Title
Aquatic Plant Survey

## Task Description
Snohomish County will conduct an aquatic plant survey to identify the native and invasive aquatic plant species in the lake. The survey will be conducted per Ecology’s Aquatic Plant Sampling Protocols (Parsons, 2001). In addition, the locations and level of infestation will be recorded for invasive aquatic species of concern including Myriophyllum spicatum, Nymphaea odorata, Saggitaria graminea, Iris pseudacrus and Lythrum salicaria. Plant survey findings will be summarized in the IAVAMP and will include the following elements: 1) a description of the survey methods used 2) a table of all aquatic plants found during the survey and 3) maps showing the invasive species of concern.

## Task Goal Statement
The goal of this task is to document the current status of the aquatic plant community in Lake Roesiger. Specifically, the survey will provide 1) a comprehensive list of all plant species found in the lake 2) the location and level of infestation of invasive plants of interest and 3) the identification of any rare plant species that have previously been undetected. The survey results will be instrumental to develop an effective IAVMP and will aid in communicating the extent and location of the problem to the Roesiger community.

## Task Expected Outcomes
The survey findings will provide several outcomes essential to the completion and implementation of the IAVMP. The expected outcomes include:
- Levels of infestation and locations that will drive the selection of the most effective and appropriate control methods
- Maps which provide visual depictions to communicate the current extent of the infestation.
- Baseline data from which to assess the effectiveness of future implementation.
- Identification of threatened or endangered species which, if present, must be considered when selecting treatment options (note: none have been found in previous surveys)
- Submission of data to Ecology EIM, making the data accessible to the public and other agencies.

## Recipient Task Coordinator
Jennifer Oden

## Deliverables
AQUATIC INVASIVE PLANT FUNDING

Scope of Work - Additional Tasks: 2 - Aquatic Plant Survey

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<tr>
<td>Task Cost</td>
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**Task Description**

Snohomish County, with input from the Lake Roesiger community and interested stakeholders, will develop an Integrated Aquatic Vegetation Management Plan (IAVMP) for Lake Roesiger. The plan will be developed according to and include all necessary elements identified in Ecology’s A Citizens Manual for Developing Integrated Vegetation Management Plans.

- Background information including but not limited to watershed and water body characteristics; fish and wildlife communities including threatened or endangered species; beneficial and recreational uses of the water body and surrounding areas including a map of water rights; a summary of the water quality status of the lake; and a history of control efforts by Snohomish County and lake community.

- Summarize all known background information on the lake including but not limited to watershed and water body characteristics; fish and wildlife communities including threatened or endangered species; beneficial and recreational uses of the water body and surrounding areas including water rights; a summary of the water quality status of the lake; and a history of control efforts by the County and lake community.

- Describe the problem statement & management goals based on input and feedback from the lake community are outlined in Task 4.

- Research and summarize the various aquatic plant control techniques for controlling the invasive species of concern including the advantages and disadvantages, the necessary permits, cost estimates, and appropriateness for each strategy at Lake Roesiger.

- Summary of aquatic plant control techniques using the most current research, there will be a summary of the techniques for the prevention and control of invasive aquatic plant species. Descriptions for all technologies will include the advantages and disadvantages, basic permitting and cost information, and appropriateness for each strategy at Lake Roesiger. Detailed permitting requirement and cost estimates shall be included for the most viable options the steering committee wishes to pursue.

- Recommendations – here will be a recommended draft suite of techniques that will be the most appropriate,
effective, and affordable methods to achieve the project goals. The recommendation will include a detailed description of next steps for implementation. The recommendations will be revised and finalized based on community input.

- Community input – A summary of the process used to obtain community input including the results of a lake-wide community survey as described in Task 4.

The County will use the services of their contracted professional limnological consultant to assist with the development of the IAVMP. The County will be responsible for writing the background information lake history as well as review and editing of the plan. The consultant will be tasked with researching and the current control technologies and drafting the main body of the plan.

Task Goal Statement

The goal of this task is to produce a final Integrated Aquatic Vegetation Management Plan that is approved by the lake community and will serve as the basis for all future implementation actions.

Task Expected Outcomes

The final Lake Roesiger IVAMP will provide:
- Characterization of the lake history and current status
- Research on the most up-to-date methods for the prevention and control of invasive aquatic plants.
- Detailed costs and permitting needs for the preferred technologies
- Draft recommendations for the best combination of methods that will be effective at Lake Roesiger for long-term control and prevention of invasive plants
- A final approved plan that to guide future implementation

Recipient Task Coordinator

Jennifer Oden

Deliverables

<table>
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<tr>
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Vegetation Management Plan submitted to ECOLOGY for approval

3.2 Final Lake Roesiger Integrated Aquatic Vegetation Management Plan
### Scope of Work - Additional Tasks: 4 - Community Engagement

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<th>Task Number</th>
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<td>4</td>
<td>Community Engagement</td>
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**Task Description**

COMMUNITY ENGAGEMENT tasks will support community involvement during the development of the IAVMP. There will be a strong focus on community engagement to provide for a transparent process where all residents can provide input into the plan with the goal of reaching a community consensus. The three elements of community engagement are as follows:

- **General project outreach** – The County will provide regular communication to ensure that the community is aware of the project and is kept up to date on project progress. First, the County will develop a project website that will include a description and timeline of the project. The website will be used to share the aquatic plant survey maps, the draft IAVMP as well as announcements for meetings. The County will also provide regular updates via the Lake Roesiger email distribution list and/or via NextDoor. These updates will communicate updates on the plan and also educate community members on the value of native plants and the identification and problems associated with invasive plants.

- **Steering Committee** - A Steering committee will be appointed by the Lake Roesiger Community Club. The committee shall include members from each of the lake basins. Snohomish County Parks and local fishing clubs will also be invited to be a member of the steering committee. The committee will be the core group working. They will help to 1) identify the project goals and preferred alternatives; 2) review the draft plan and initial selection of alternatives; and 3) assist with the planning of the community meeting and survey. They will also report progress to the Lake Roesiger Community Club board members.

- **Community Meeting and Survey** – Upon completion of the IAVMP, input from the entire lake community will be solicited. The draft IAVMP plan will be shared through a live or online presentation. Feedback will be obtained
via a community survey. The feedback will be used to finalize the plan. Snohomish County will advertise the
presentation and the survey via a mailer to all lake shore residents as well as electronic notifications via the
Roesiger community email list and/or NextDoor posts.

Task Goal Statement
The primary goal is to engage the Lake Roesiger community in all stages of the IAVMP development to ensure
the plan meets the needs and is approved by the community to allow for effective implementation of the plan.

Task Expected Outcomes
The outcomes of community engagement tasks will include:
- Community-wide awareness of the project and its progress
- Steering committee meetings with broad representation that can provide input and recommendations that
  are reflective of the entire lake community
- Community-wide input into a draft plan that will guide revisions
- A final IAVMP that is broadly supported by the community

Recipient Task Coordinator
Jennifer Oden

Deliverables

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<td>Steering Committee Meeting Minutes - Attendance list and summary of key</td>
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decisions from Steering committee meetings.

4.3 Community Mailer - Electronic copy of mailer sent to lake shoreline residents advertising the draft IAVMP presentation.

4.4 Community IAVMP Survey - Copy of community survey for draft IAVMP and summary of survey results. These deliverables will be included in the IAVMP.
### Scope of Work Summary

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**Total Eligible Costs**  
(from the General Information Form)  
$37,500.00
Estimate your proposal's total budget needs by task for each Fiscal Year.

Fiscal Years run from July 1 to June 30.

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Total Eligible Costs (from General Information form)

$37,500.00
*1 - Project Area (Lake, Waterbody)
Lake Roesiger

To add another species of concern (up to 5);
Enter the scientific and common name then click Save.
After Save, a new row will appear.
To delete a row
Delete the text in scientific and common name then click Save.
After Save, the row will be deleted.

*2 - Species of Concern:

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<tr>
<td>Nymphaea odorata</td>
<td>fragrant waterlily</td>
</tr>
<tr>
<td>Sagittaria Graminea</td>
<td>slender arrowhead</td>
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<td>Iris pseudacorus</td>
<td>yellow flag iris</td>
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<tr>
<td>Lythrum salicaria</td>
<td>purple loosestrife</td>
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*3 - State Classified Noxious Weed
Class B

*4 - County Noxious Weed list
Class B

*5 - List the key people who will make this project a success.
The effort will be led by Marisa Burghdoff (Lake Program Lead), Jen Oden and Katie Ruthenberg (Water Quality Specialists). The lakes team has a combined experience of 38 years with a strong track record of grant implementation (toxic algae grants) and milfoil eradication (Lake Serene) and control (Goodwin and Shoecraft). Our limnological consultant, Tetra Tech (Toni Pennington, Shannon Brattebo, and Harry Gibbons), is also highly experience and recently completed the IAVMP for Lake Ballinger.

*6 - What type of decontamination measures will you put in place for your equipment (boats, trailers, waders, etc.) while working on this project?
SWM implements the “Clean, Drain and Dry” approach when working in lakes with
known infestations of invasive aquatic plants. SWM routinely cleans all monitoring equipment, PPE, waders, shoes, boats and boat trailers by removing all visible native and non-native plants, algae or mud and drain any water before leaving the boat ramp. All removed materials are placed into a garbage bag for disposal. SWM also plans lake monitoring activities to go from low to high risk lakes.
1 - Is the goal of this project to develop a new Integrated Vegetation Management Plan (IAVMP) for this project area/waterbody, or to update an IAVMP?
   New
   If you chose "Update", provide the date of the original IAVMP:

2 - Is there a qualifying boat ramp for this waterbody? Yes

3 - Please list all known aquatic and emergent invasive plants known in the project area.
   EWM, fragrant waterlily, slender arrowhead, yellow flag iris, purple loosestrife, Reed canary grass

4 - What is the level of infestation?
   Moderate (locally abundant in patches along the shoreline, total acreage greater than 3 acres)

5 - Is the project in a waterbody with an ESA listed species or critical or depressed salmon stocks? No
   If yes, provide the ESA listed species or critical species:

6 - Does this invasive plant(s) pose a threat to other nearby waterbodies? Yes
   If yes, explain:
   Roesiger’s popularity poses a high risk for spread of invasive species to other lakes. There are 6 lakes within 7 miles with public access lakes. Nearby Flowing Lake is open to motorized watercraft and is the most threatened including Storm and Panther which connect to Flowing. Lake Bosworth and Lake Chaplain (drinking water reservoir) are also large lakes in close proximity. Lake Stevens also allows powerboats. Stevens already has EWM, but threatened by the spread of slender leaf arrowhead.

7 - What impacts will this invasive plant have on water quality and habitat?
   Invasive aquatics plants can choke out native plant populations and form dense stands that are a nuisance to humans and aquatic life. If uncontrolled, they can form monospecific stands that persist during the growing season, reducing native habitat. They can inhibit water circulation, increase biochemical oxygen demand, decrease dissolved oxygen in the water, raise water temperatures and increase sedimentation of the lake.

8 - What impacts will this invasive plant have on public use and recreation?
Invasive aquatic plant infestations can restrict lakefront access and create unsafe environment for swimming, paddle boarding, boating, and other recreational activity. They form dense monocultures that displace native plant communities disrupting the natural food chain. Large infestations harm water quality by reducing oxygen, increasing sedimentation and emit large nutrient pulses. Invasive plants in this also lake pose a threat of infestation to other nearby waterbodies.

9 - What decontamination measures will you implement to keep from spreading invasive species?
SWM implements the “Clean, Drain and Dry” approach when working in lakes with known infestations of invasive aquatic plants. SWM routinely cleans all monitoring equipment, PPE, waders, shoes, boats and boat trailers by removing all visible native and non-native plants, algae or mud and drain any water before leaving the boat ramp. All removed materials are placed into a garbage bag for disposal. SWM also plans lake monitoring activities to go from low to high risk lakes.

10 - What environmental and/or economic damage may be caused by not eradicating/containing the invasive plant?
Unchecked, EWM can spread to the entire littoral zone. Waterlilies have already enveloped the middle basin and are spreading to other areas. Both plants have high potential for damage as they form dense monocultures, disrupt the native communities, harm water quality, reduce fishing and swimming and decrease property values. The lilies already make the middle basin inaccessible to residents and if not controlled will cut off navigation to the north lake, severely limiting lake recreation.

11 - How committed are you to continue working on the control/eradication portion of this project after the completion of this IAVMP?
Snohomish County is committing staff and financial resources to this project with the intention of using the plan to then help the community secure implementation funds. The County also remains committed to working with the Lake Roesiger community to secure funding for implementation of the IAVMP. The community has demonstrated their commitment by providing $7,500 in match in addition to their ongoing efforts for manual control of lilies.

12 - Do you have local citizen support for this project?
The Lake Roesiger community is in strong support of this project as demonstrated by their letter of support. The community has been working hard to fight back the fragrant waterlily and milfoil over the last three years. They have formally requested assistance from the County leadership to create an IAVMP. They have been very responsive to questions from the county and have indicated they are willing to provide all or a portion of the grant match.

13 - Is Public Education a part of this project? Yes
If yes, what means will you use to educate the public on the invasive plant issue that this waterbody is facing?
SWM will create a webpage, use NextDoor, email, mailers and public meetings to communicate IAVMP updates and educate the
community. Messages will include invasive ID, their impacts and the plans control options as well as the importance of natives.

14 - What are the overall goals for the waterbody?
The overall goal for Lake Roesiger is to dramatically reduce the populations of invasive aquatic plants with a focus on EWM and fragrant water lily. These actions will help to restore beneficial uses of the lake, improve habitat for fish and aquatic life and maintain the lake's good water quality. Secondary goals are to have an educated community of lake residents and users to prevent the spread of aquatic invasives to and from Lake Roesiger.

15 - How does this project meet those goals?
The IAVMP will be a roadmap for the County and the community to implement long-term control activities benefiting lake health. The activities of plant mapping, researching control methods, and identifying appropriate recommendations will ensure an effective plan. Extensive community input including a steering committee, community survey, and frequent outreach will ensure the plan is accepted by the community for long-term implementation.

16 - Please include a map of the project area along with documentation of the infestation size.
<table>
<thead>
<tr>
<th>Description</th>
<th>Attachments</th>
</tr>
</thead>
</table>
Lake Roesiger
2017 Eurasian Watermilfoil Locations

All maps, data, and information set forth herein ("Data"), are for illustrative purposes only and are not to be considered an official citation to, or representation of, the Snohomish County Code. Amendments and updates to the Data, together with other applicable County Code provisions, may apply which are not depicted herein. Snohomish County makes no representation or warranty concerning the content, accuracy, currency, completeness or quality of the Data contained herein and expressly disclaims any warranty of merchantability or fitness for any particular purpose. All persons accessing or otherwise using this Data assume all responsibility for use thereof and agree to hold Snohomish County harmless from and against any damages, loss, claim or liability arising out of any error, defect or omission contained within said Data. Washington State Law, Ch. 42.56 REW, prohibits state and local agencies from providing access to lists of individuals intended for use for commercial purposes and, thus, no commercial use may be made of any Data comprising lists of individuals contained herein.
Snohomish County
PUBLIC WORKS
SURFACE WATER MANAGEMENT
(425) 388-3464

Legend

Fragrant waterlily locations

Lake Roesiger
Approximate Fragrant Waterlily Locations

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Lake Roesiger Watershed Map

Legend

- Public Access
- Roesiger Creek (stream)
- Roesiger Watershed

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Water Quality Program

Department of Ecology

P.O. Box 47600

Olympia, WA  98504-7600

RE:          LAKE ROESIGER IAVMP GRANT APPLICATION

Dear Grant Reviewers:

Please accept this letter of support from the Lake Roesiger Community Boat Club for Snohomish County’s “Lake Roesiger Integrated Aquatic Vegetation Management Plan (IAVMP)” grant application. The Lake Roesiger Community is made up of approximately 467 lake front property owners (plus approximately 231 upland parcels on the roads surrounding Lake Roesiger). We support this grant project as it will provide the critical first step to the long-term management of invasive aquatic plants in Lake Roesiger.

Lake Roesiger has suffered from the spread of several invasive species that harm the lake’s health and impact the recreation and enjoyment of the lake for residents and visitors. The two plants that are the most harmful are the Eurasian watermilfoil and fragrant water lily.

The south and middle basins struggle with Eurasian Watermilfoil that is continually reintroduced yearly around the boat launch brought in most likely by many visiting day users. It is unclear to what extent milfoil may be spreading to the north basin. The County had been previously working to control milfoil through diver hand-pulling, but discontinued this service due to budget cuts. As soon as we became aware of the situation, faced with the threat of milfoil spread, the community club voted to allocate funds from our limited coffers to hire a contractor to hand-pull milfoil in the summer of 2019. This threat of re-infestation in other areas is imminent without further action.
The other most concerning invasive species, fragrant water lilies, are harming the ecosystem as well as interfering with recreational use of the lake. The heaviest infestation of fragrant water lilies is covering an estimated 26 acres of the 44-acre middle basin alone and is spreading along the shoreline into both the south and north basins. This impacts recreational use of the water for lake visitors and property owners and is encroaching on the boat path between south and middle basins. Furthermore, this non-native invasive species is prematurely and rapidly aging the lake, negatively affecting its health, particularly in the middle basin, as it depletes oxygen, and year after year the vegetation die-off adds to the existing sediment build-up.

The community has expressed much concern over the state of the lake, and has formed a Lake Health Committee which has investigated options for lily pad control, and secured DNR and WDFW (HPA) permits to install bottom barriers in the channel where navigation has been most impacted. Property owners have been encouraged to hand remove lily pads. Although some barriers were installed this past summer, some by community volunteers, and others by a private contractor hired by individual property owners, these efforts fall well below what will be needed to effect long-term effective comprehensive management of invasive water lilies. We feel overwhelmed by the size and scope of the task. Additionally, being able to benefit from a professional consulting firm would be a powerful asset to the pursuit of lake health, providing credibility and expertise beyond what can be offered by untrained community volunteers.

Our community has already taken significant physical steps towards the control of invasive aquatic plants. However, the lilies are a bigger problem than individuals can handle on their own. The development of the IAVAMP will provide us with a lake wide plan and steps to implement and fund the plan. Finally, we are showing our strong commitment to this plan by working to secure funds to cover the required 25% grant match.

As a community, we want a healthy lake that allows for recreation and enjoyment. We are dedicated to the future of Lake Roesiger and are eager to work with Snohomish County to develop and implement a plan for the control of invasive aquatic plants. Please approve funding for this project.

On behalf of the Lake Roesiger Community Boat Club, thank you for your consideration,

Ed Dahl

President Lake Roesiger Community Boat Club

Cell 206-419-0170

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