SKAGIT COUNTY
PUBLIC WORKS DEPARTMENT

1800 Continental Place, Mount Vernon, WA 98273-5625
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REVISION #1

Request for Proposals for Lake Algae Study

Lake Management District No. 3
(Lake Erie and Lake Campbell)

Summary
Skagit County Public Works is seeking professional services from a qualified contractor for the purpose of conducting a lake cyanobacteria study for Lake Management District No. 3 (Lakes Erie and Campbell). The contract period will be for one (1) year from July 1, 2023, to June 30, 2024. The County's needs are outlined in the following request for proposals (RFP).

Timeframe
The County will adhere to the following timeframe for selection of firm:

- Issue RFP — Wednesday, May 3, 2023
- REVISED Deadline for Proposal Submittal — Wednesday, May 24, 2023
- REVISED Selection of Firm — Wednesday, May 31, 2023

Submittal Criteria
All proposals should be labeled "RFP LMD 3 Algae Study" and sent to:

(*Preferred) Email to: leannei@co.skagit.wa.us

OR mailed /delivered to:

Skagit County Public Works
Attn: Leanne Ingman
1800 Continental Place
Mount Vernon, WA 98273-5625

All proposals must be received by 4:30 p.m. on Wednesday, May 24, 2023. Proposals will be limited to a maximum of twelve (12) pages, including cover letter and graphics. This page limit does not include the below requested copy of a Final Report.

You must be a contractor on the **MRSC Roster** to submit an RFP for this project.

Interested firms should submit the following:

- Statement of Qualifications
- Summary of approach to complete the Scope of Work (SOW)
- Cost Proposal

The proposal must contain the following information:

- The names of individuals (and the names of their respective employers) who will be conducting the study, and their areas of expertise.
- Specific experience and/or relevant certifications/licenses of all individuals relative to this proposed project.

- A proposed outline detailing tasks, team composition, methods, equipment used, products and project schedule.
- A proposed budget based on the costs associated with the tasks outlined in this RFP.
- A description of any fines or penalties issued to the firm, or any individual working on the project, concerning permit and/or regulatory violations associated with aquatic plant management activities within the past ten (10) years.
- A minimum of three (3) project references. Include project name, date(s), description of project, and a contact name/telephone number.
- An example of a lake cyanobacteria management Final Report (including maps) prepared within the last three (3) years. Report should cover a project similar in scope to the task outlined in this RFP.

Terms and Conditions

The selected firm will be required to enter into a Personal Services Agreement with Skagit County Public Works. In addition to demonstrating skills and abilities to conduct aquatic vegetation surveys and produce associated maps, the successful candidate must:

- Carry a Washington State Business License.
- Provide proof of comprehensive or commercial general liability, professional liability, and automobile liability insurance coverage in the amount of $1,000,000 for the duration of the contract. Additionally, certificate of insurance should name Skagit County as an additional insured that will be secured for the above by endorsement.

Background

Lakes Erie and Campbell are located on Fidalgo Island (Township 34 North, Range 1 East/Range 2 East, W.M.) in Skagit County. Both lakes are polymictic kettle lakes of glacial origin in the same 1471-hectare (3635 acres) watershed. The lakes receive input primarily from direct runoff and subsurface drainage, and they outlet to Similk Bay in Puget Sound. The combined watershed lies in the rain shadow of the Olympic Mountains and receive and average of 66cm of annual precipitation.

Land use along the shores of both lakes and in the watershed is mixed rural/residential and second growth forest on undeveloped lands. The shorelines consist of 120 waterfront parcels of which there are five multiple access parcels, two public boat launches, and two commercial parcels. The shores of both lakes also contain pastureland. The primary forest type in the watershed is mixed-coniferous. Both lakes have public access via Washington Department of Fish and Wildlife access areas that include boat launches.

Both Lake Erie and Lake Campbell support popular recreational activities. Both lakes are stocked with rainbow trout annually. In addition to fishing, the lakes' activities include swimming, boating, water skiing, and sightseeing.

Erie and Campbell Lakes have a history of eutrophication leading to algal blooms. The lakes were studied in 1981 and identified phosphorous (P) as the nutrient controlling algal growth. A restoration plan consisting of aluminum sulfate (alum) treatment, mechanical plant harvesting, a watershed management plan, and performance monitoring was developed. In 1985 the lakes were treated with alum. Harvesting of aquatic plants occurred with two cuttings of each lake in 1986. The treatments were successful. Whole lake total P was initially reduced by 77% and 43% in Lakes Erie and Campbell, respectively. These reductions lasted for at least eight years when total P reduction was measured as 75% in Lake Erie and 46% in Lake Campbell, compared to pre-treatment levels.

Campbell and Erie Lakes have current approved total maximum daily loads (TMDLs) for P. The TMDLs were first approved in 1997, and category 4a determinations were carried forward for both lakes in the 2018 assessment cycle. Mean summer total P levels were set by the TMDLs at 26.0 µg/L and 28.0 µg/L in Lake Erie and Lake Campbell, respectively. P has been measured in exceedance all but 4 years since 2006.

Erie and Campbell Lakes have experienced toxic algae blooms in recent years. Microcystin was detected in Lake Erie in five out of five years when samples were taken between 2010 and 2018, which is the last year

samples were collected there. The levels exceeded state guidelines for microcystin in August and October of 2015. Microcystin levels above state standards were detected in Lake Campbell in three samples in 2021 and seven samples in 2022. The toxin was also detected in 2012, 2013, and 2015 in levels that did not exceed standards. The detections in 2022 persisted from mid-August through the end of October, limiting the recreational opportunities on the lake during a prime season.

Aquatic weeds in Erie and Campbell Lakes are managed under Skagit County Lake Management District No.3 (LMD3). LMD3 was first established for a ten-year period beginning in 2001. It was subsequently reformed in 2011 and 2021, and the LMD is currently set to expire on December 31, 2030. LMD3 created an Integrated Aquatic Plant Management Plan (IAPMP) for the two lakes. The IAPMP is a comprehensive plan that identified a two-pronged strategy including herbicide treatments for initial control and grass carp for maintaining lower aquatic pant densities. Both lakes were stocked with triploid grass carp to help control aquatic weeds in 2003, 2006, and 2009.

Lake Erie
Lake Erie is the smaller and higher of the two lakes with a surface area of 45.7 hectares (113 acres) laying at 110 feet elevation. The lake has a maximum depth of 3.7 meters. Flows into Lake Erie consist of several seasonal intermittent small drainages and subsurface flow. The lake has a single outlet stream that flows to Lake Campbell about one kilometer to the southeast.

Lake Campbell
Lake Campbell sits at an elevation of 59 feet with a surface area of 148.5 hectares (367 acres). The maximum depth is 4.9 meters. Inputs to the lake include flows from Lake Erie, Whistle Lake, Trafton Lake, and intermittent streams. Lake Campbell outlets to Puget Sound via the approximately 1.7 km long Campbell Creek.

Scope of Work:
The overall goal of this project is to produce a cyanobacteria management plan for lakes Erie and Campbell. The plan will consider the full phosphorus budget of the lakes by reviewing past data and conducting monitoring to fill gaps in the nutrient budget understanding. The plan will evaluate treatment options and identify the best option to reduce the occurrence and duration of harmful algal blooms in the lakes. This project will include outreach to stakeholders who will be positioned to implement the plan to maintain and enhance the beneficial uses of the lakes to humans and wildlife.

Project Tasks
The contractor will be responsible for the following project tasks:

Task 1: Literature review and database development. Create a comprehensive database of hydrologic, geographic, water quality and biological data available for Lake Campbell and Lake Erie.

- A database of the historical hydrologic, chemical, and biological data available for Lake Campbell and Lake Erie with annotations on data quality.

Task 2: Identifying data gaps and developing a sampling plan. Development of the database in Task 2 will reveal data gaps that will need to be addressed to develop a phosphorus budget and cyanobacteria management plan for the lakes Campbell and Erie.

- A detailed sampling plan that describes the type, location, and frequency of sampling needed to develop a comprehensive cyanobacteria management plan.
- A Quality Assurance Project Plan (QAPP) that ensures complete and high-quality data is collected.

Task 3: Monitoring. Collect complete data that will fill gaps in the existing data to inform on the phosphorus budget.

- Monitoring of parameters to include but not limited to sediments, nutrients, zooplankton, phytoplankton, and other basic water quality parameters outlined in task 3 in accordance with the QAPP.
- Complete, accurate and precise data of known quality.

Task 4: Cyanobacteria management plan development. Following the Lake Cyanobacteria Management Plan (LCMP), provided by Ecology; develop an efficient strategy for reducing the frequency and duration of toxic algae blooms and maintaining access for recreation activities.

- A detailed strategy for reducing the frequency and duration of toxic algae blooms, and a description of costs and funding options for implementing the plan.

Task 5: Outreach and Stakeholder Engagement The goal of task 6 is to ensure stakeholders are well-informed and engaged in the production of a management plan to reduce toxigenic algae blooms and restore other recreational use of Lake Campbell. This goal will necessitate regular communication and solicitation of input on goals and objectives.

- Community buy-in to the final management plan as a result of regular, transparent engagement between project managers and community members.

Date	Task
July	Literature review and database development
July	Identify data gaps and develop a sampling plan
July-June	Monthly monitoring
June	Cyanobacteria management plan development
June	Annual Project Report Due
June	Community meeting to discuss results and proposed strategies

**Skagit County Public Works reserves the right to modify the annual schedule of work.*

Selection Criteria

The proposals will be evaluated by the Lake Management District No. 3 Advisory Committee and Skagit County Public Works staff based on the following criteria:

- Qualifications of firm
- Work performance
- Scope of work approach
- Cost

Project Cost Estimates

Note: For consistency, please use this format for cost estimates. Unit prices for all items, all extensions, and total amount of bid shall be shown. The total contract amount and tasks shall depend on available funding and the scope of work approved by the LMD 3 Advisory Committee. The actual treatment quantity will depend on pre-treatment survey results and available budget.

Item #	Description	Quantity	Unit	Unit Price *(including sales tax)*	Total Amount *(including sales tax)*
1	Project Cost Estimate for both Lake Campbell and Lake Erie	1		$	$
2	Project Cost Estimate for Lake Campbell	1		$	$
3	Project Cost Estimate for Lake Erie	1		$	$
TOTAL BID (*Including Washington State Sales Tax=8.6%*):					$