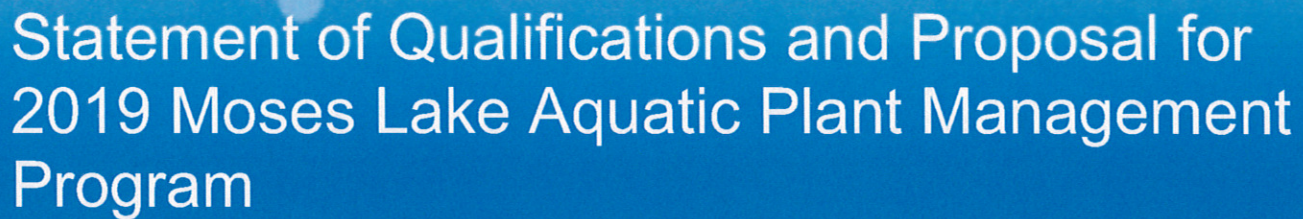


The logo for AquaTechnex features the company name in a bold, blue, sans-serif font. To the right of the text is a stylized, curved graphic element in a golden-yellow color, resembling a swoosh or a partial arc.

AquaTechnex

The title is centered in a white, sans-serif font against a dark blue background. The background of the entire page is a photograph of a lake at dusk or dawn, with a colorful sky and reflections on the water.

Statement of Qualifications and Proposal for
2019 Moses Lake Aquatic Plant Management
Program

Prepared for
Moses Lake Irrigation and
Rehabilitation District

AquaTechnex,
LLC

www.aquatechnex.com

HEADQUARTERS
Bellingham, WA 98228
Local Offices
Lynnwood, WA
Centralia, WA
Medical Lake, WA

Introduction

Aquatechnex, LLC has been providing lake and aquatic plant management services for five decades. The company operates in the Western United States and has a recognized expertise in the management of invasive aquatic species and the mitigation of Harmful Algal Blooms (HAB). The company also has an excellent reputation for managing HOA and Golf Community Lake systems.

Aquatechnex, LLC is a Washington limited liability company. The firm operates from the following locations:

- Bellingham, WA Headquarters and services the northwest Washington/British Columbia/Alberta Canada client base including significant HAB mitigation programs and support for our contract with the US Army Corps of Engineers Aquatic Plant Control Research Program.
- Lynnwood, WA Services metro Seattle region and several accounts in Eastern Washington including communities on 22,000 acre Lake Washington for Eurasian Milfoil and other noxious aquatic weeds
- Centralia, WA Services Southwest Washington and Oregon accounts including golf communities in Sunriver/Bend Oregon such as Pronghorn, Crosswater and Sunriver.
- Sandpoint, ID Services Northern Idaho including the management of the \$250,000.00 Idaho State Department of Agriculture Statewide Noxious Aquatic Weed Treatment Contract for treatments on Lake Pend Oreille, Hayden Lake, Lake Coeur d'Alene and others.
- Meridian, ID Services metro Boise, southern Idaho and northern Nevada clients including HOA and Golf Communities and support for our Idaho State Department of Agriculture invasive aquatic plant management work in southern Idaho
- Pleasant Hill, CA Services the Bay Area (California) including the East Bay Regional Parks Department HAB mitigation program
- Santa Ana, CA Services Southern California including the Orange County Parks Lake Management Program, a \$650,000.00 annual contract yearly since 2010 and potable water reservoir treatments for the California Department of Water Resources to combat toxic algae blooms in the SoCal water supply
- Palm Desert, CA Services the golf communities in the Coachella Valley including The Hideaway, the Madison Club and Andalusia Country Club.

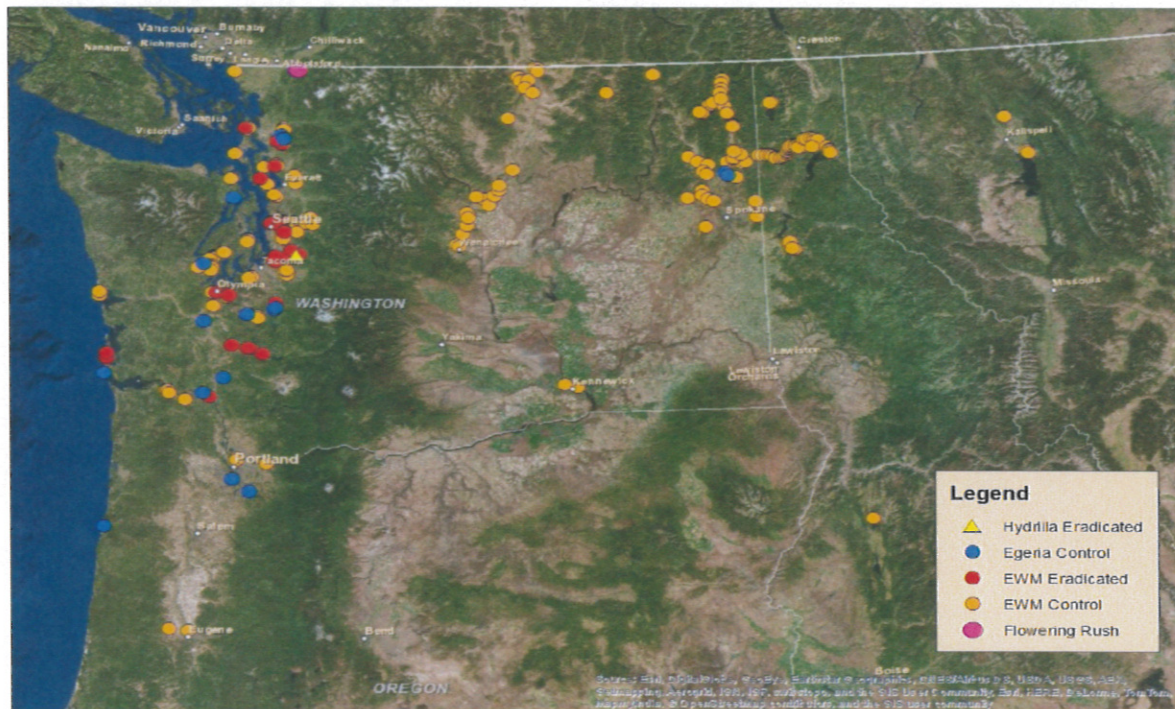
Our offices support each other in terms of manpower and equipment needs. We have over 20 well trained college degreed scientists and lake management technical support staff. We draw on that expertise when unique problems present themselves where ever we work. We have three employees that have achieved the Certified Lake Manager (CLM) designation from the North American Lake Management Society.

To better serve our client base and insure our scientists are at the top of our game, we support and participate in several scientific societies focused on this work. We have been sustaining members of the international Aquatic Plant Management Society since 1979 (www.apms.org) and our members have served as elected offices including President of the organization. We are members of their regional chapter, the Western Aquatic Plant Management Society (www.wapms.org) and our employees have served as elected members including as president twice. We are corporate members of the North American Lake Management Society (www.nalms.org). Again, our employees have served this group as

Moses Lake Aquatic Plant Management Program Proposal

volunteers, funding the student scholarship activities and have served elective office including as President of the organization. We also are members of the various regional chapters including the California Lake Management Society, the Washington State Lakes Protective Association and the Oregon Lakes Association. Through annual meeting attendance, we maintain currency in our field.

Our employees are recognized experts in these subjects and are regularly asked to participate in continuing education program. Terry McNabb, our principal, taught the Lake and Aquatic Plant Management seminar for the Golf Course Superintendents Association of America (GCSAA) from 1996 through 2009. He is on the faculty of the University of California-Davis Aquatic Weed School that is taught every two years including this September. He provided expert testimony on the NPDES permit program for several national organizations when case law focused on the need for this program.



Major Invasive Aquatic Plant Control Projects

Our team has been working for three decades targeting Eurasian Milfoil and other invasive aquatic weeds throughout the Pacific Northwest. This map highlights our major projects focusing on these species.

Aeration is a key lake management tool. Aquatechnex is a distributor for the AquaMaster Line of Fountain and diffuser lake aeration technologies. We have worked with several different suppliers of these systems over the decades we have been in business. We find AquaMaster to have superior equipment and support. As these units run almost continually throughout the year, over time they require maintenance to protect this investment. Our staff have been through AquaMaster's factory service school and we are a Service Center in the states we operate in.



Aquatechnex biologists performing phosphorus mitigation project on Canyon Lake, CA. This 500 acre reservoir is a potable water supply for the Elsinore Valley Municipal Water District and serves the Canyon Lake Property Owners Association. This lake was placed on the US EPA and State Impaired Waters list in 2010, we have worked with them since 2013 and have largely removed the toxic algae blooms that regularly occurred there.

Our company is also a SePRO Pro Certified Steward of Water. This program is operated by SePRO Corporation. They are a leading developer of aquatic plant and algae control technologies. They have several new US EPA registered reduced risk herbicides that require this certification to purchase and apply them as part of this US EPA effort.



Aquatechnex has qualified as Pro Certified to use a number of new technologies under the US EPA's reduced risk classification where this training is required to purchase and apply these new herbicides and coming soon algae management technologies. The first of these is www.procellacor.com a technology that will remove Eurasian Milfoil from impacted waterways. A number of other technologies are in the registration pipeline at US EPA

Aquatechnex is the only Pro Certified applicator west of the Rocky Mountains. ProcellaCOR herbicide is the first new technology to come from this program and it is thought to be the best Eurasian Milfoil treatment technology that has ever been developed. They also are developing several algae management technologies to replace copper algaecides.

Phoslock is a technology that our company brought into the United States from Australia in 2010 for our Orange County California lake management contract where many of their lakes receive reclaimed water very rich in the nutrients that drive problem algae growth. We retain the best cost position of any company in the United States with respect to this technology. We are also expert in the use of other phosphorus mitigation strategies that lakes will need as they age.

We partner with other national suppliers as well. Natural Lake BioSciences (<https://naturalake.com/>) provides us with a number of solutions to enhance the HOA and Golf Course Lakes we work on.

We feel we are a leading provider of these services in the Western United States. We strive to meet the goals and objectives of our clients daily. We are set up to support our employees with excellent technology, equipment, continuing education and training so they can serve our client base effectively.

Our web site is www.aquatechnex.com. There are links there to our Facebook and twitter accounts where we provide more frequent updates. We have references available on request.

Thank you for considering our company. We would like the opportunity to serve you.

Experience in Washington State Managing Aquatic Plants

Aquatechnex was a well-established lake and aquatic plant management firm in California in the early 1980's. In the spring of 1984, the Washington Department of Ecology requested that our team travel to the state for the first major Eurasian Milfoil herbicide application performed by the state and federal government. We mobilized our team to Lake Osoyoos and applied 2,4-D to over 400 acres of this invasive aquatic weed. This treatment program was a joint effort of the DOE and the US Army Corps of Engineers Aquatic Plant Control Research Team. The application was very successful. At that point, we had a good working relationship with the Corps National Research Program and had supported many of their major treatment programs including the Sacramento River Delta Water Hyacinth and Potomac River Hydrilla Control Program in Washington DC. That relationship led to Ecology asking for our assistance on this important milestone for the State.



Aquatechnex performing Eurasian Milfoil herbicide application on Lake Coeur d'Alene, ID. This program targeted approximately 900 acres with both granular and liquid formulations

That winter Seattle METRO (a regional pollution control agency) contacted us. They had been conducting an aquatic plant harvesting program on Lake Washington focused on Eurasian Milfoil, but their equipment had been degraded by seasonal employees and no functioning maintenance program. At that point our company was building aquatic plant harvesting equipment. METRO requested that we take over the Lake Washington program which we did. We mobilized a number of aquatic plant harvesting systems to the region and conducted operations that summer. At the end of the summer, they renewed this contract for a number of years and we moved staff and equipment to Washington State. Over time we migrated our headquarters and management to our Bellingham office. Our team performed this work for over a decade until METRO was absorbed by King County.

1986 was our first year of full-time lake and aquatic plant management work in Washington State. In the 34 years since our company has grown to the point of being one of the largest aquatic plant management groups in the Western United States. We have performed numerous aquatic herbicide treatments for private, local, state and federal agencies. Work has included the \$1.8 million USD Lake Pend Oreille Eurasian Milfoil program where we targeted 4,300 acres of this invasive weed over 90 miles of shoreline with excellent results.

In 1988, the US Army Corps of Engineers Aquatic Plant Control Research team based in Vicksburg, MS came to us and teamed with us to start operationalizing techniques and herbicide they were developing in smaller scale laboratory and pond trials. With them, we developed a dye application and measurement system to simulate aquatic herbicide treatment to determine water exchange dynamics. We did the field research on large scale research trials to support US EPA registration of three new aquatic herbicides. This work was conducted on

the Pend Oreille and Columbia River systems. We worked with them to develop controlled release herbicide technologies for flowing water treatments. We have more recently been involved in their work units focusing on Flowering Rush in the Columbia River system at a number of different sites. This experience has allowed us to use several herbicides operationally and understand the results before they are available to the marketplace. This work has been ongoing annually from 1988 through this coming summer when we will be working with them on Bubble Curtain technology to maintain herbicide levels around target vegetation in the Columbia River.



Aquatechnex biologists working with the Corps of Engineers Aquatic Plant Control Research Program to develop herbicide contact exposure time relationships on Lake Coeur d'Alene, ID. Barrier curtains were used to isolate a number of treatment plots. Similar technology could be used at Moses Lake Parks to allow treatment of problem algae at an economical rate.

Currently Aquatechnex is the largest commercial aquatic application business in the State in terms of acres treated and dollar volume. Since the Washington Department of Ecology Freshwater Aquatic Weed Fund started issuing grants for local and state government to hire applicators in 1993, our team has won over 80% of the competitive RFP's to perform control work funded by that program.

Aquatechnex and its team have extensive experience surveying and mapping aquatic plants across very large lake and river systems in the State. Our company was the first in the nation to utilize DGPS technologies to map aquatic vegetation when the US Commerce Department allowed civilian use of the Global Positioning System in the early 1990's. We have been using Geographic Information System (GIS) technologies since 1994 and updated these software systems ever since. Our work has included mapping invasive aquatic weeds for over 200 miles on the Columbia River for the Chelan Noxious Weed Board and the Grant County PUD. We have mapped Eurasian Milfoil in all the north Idaho lakes using a combination of aerial survey, boat survey and hydro-acoustic survey. This past season we started using underwater drone systems to survey lake and river systems.

We have extensive experience operating an effective program on Moses Lake. Our teams have for the past three years performed this project. Our people know the lake, the current level and state of infestations present, underwater obstacles that would impede work efforts, irrigation intake locations and special needs for public notification and how to manage workflow to minimize impact on the public.

Our team can deploy several treatment boats including airboats if necessary, to get the project done effectively in a short period of time to minimize impact on the public.

Aluminum Sulfate may be applied as part of this project this summer. There are only three companies in the United States that have experience and are equipped to apply Alum effectively and one of them is Aquatechnex. We perform four major annual Alum applications in the Western United States and have several additional less than annual project work. Two of these projects are in Washington State, Lake Stevens and Lake Ketchum in Snohomish County are annual treatments. Lake Stevens is a 1,100 acre alum application that is conducted annually. None of the other commercial pesticide applicators in the Western United States have any experience with alum treatments larger than a few acres.



Aquatechnex is the only Aluminum Sulfate treatment firm in the Western United States. We have a number of annual contracts to maintain water quality

Proposed work flow and timelines

The first two steps necessary to effectively complete this work would be the pre treatment survey and the public notification process.

We would deploy a survey team to the lake in late May when plants have started actively growing. We would focus on the developed portions of the lake where treatment will benefit rate payers of the District much as we have the last two seasons. We will use a combination of aerial drone survey, boat hydro-acoustic survey and sampling rake technique specified by the Washington Department of Ecology. The mapping team will be supported by Trimble DGPS data loggers and mapping software to create very accurate map of the vegetation in the lake

and noxious aquatic weeds on the shoreline. This data will be imported to ArcGIS software and a treatment plan will be created for review and approval by the District.

The public notification requirements of the Washington Department of Ecology permit program will be followed. This required a at least 10 day notice be delivered to all shoreline residents adjacent to a treatment area and within a quarter mile of a treatment area. We will use the treatment maps in ArcGIS to generate a buffer showing this distance and those affected properties will receive notification.

We realize there are a few significant water intake points on the lake where water is delivered to community members that are well away from the lake. We will expand the deliver of notices to those people. We will also contact and meet with the leaders of those areas prior to treatment to insure they understand what we are doing and any potential water use restrictions.

We would primarily recommend the tank mix of Diquat and Aquathol K liquid for the major nuisance aquatic plant growth areas in the lake. This is a cost-effective approach to this that has delivered excellent results in the past few years.

We would also suggest that the two primary areas where water intakes deliver water to homes and gardens not on the lake and who's residents might not see day of treatment postings on the shoreline be treated with Aquathol alone. Aquathol K is a bit more expensive to use on a per acre basis, but it has no irrigation restrictions on the label. That way if a resident does not see day of treatment signs and waters, no possible damage would occur anyway. If we treated plant beds within a quarter mile of these two or three intake sites with Aquathol is will not financially burden the program but will provide effective safety if irrigation does occur.

This first major application can be performed in June.

Eurasian Milfoil has been a major problem for Moses Lake in the past. All the waters upstream from Moses Lake that are source water are also heavily infested. In the past couple of years, Eurasian Milfoil plant fragments have been observed in the lake, but no major plant beds have been present. This could easily change, especially if this contract is renewed for future years.

ProcellaCOR is a new herbicide that has exceptional activity against Eurasian Milfoil, even in high water exchange environments. US EPA has registered it under a new category they have of reduced risk herbicides because of its excellent environmental characteristics. It has the fastest uptake of any aquatic herbicide available and it is systemic and will selectively kill the entire milfoil plant. It is now the Best Available Technology (BAT) for Eurasian Milfoil and several other invasive aquatic weeds. In order to purchase and apply ProcellaCOR, the applicator must be Pro Certified by SePRO Corporation and Aquatechnex has met that requirement. A list of Pro Certified Applicators can be viewed at www.procellacor.sepro.com/find-specialist/.

<http://procellacor.sepro.com/find-specialist/>. This should be the go to choice for any Eurasian

Milfoil work necessary in 2019 and beyond. This work will be performed as Milfoil beds are discovered in the lake.



Morton Slough
Lake Pend Oreille
Bonner County, ID

EWM (possible HWM)
3.5A acres (11 ft avg)
treated Aug 13, 2018
with ProcellaCOR EC @
5 PDU/A-ft

USDA SePRO IDAHO STATE DEPARTMENT OF AGRICULTURE NC STATE UNIVERSITY AquaTechnex

Aquatechnex is a key member of this team performing research applications with ProcellaCOR to support federal registration in Canada in the coming years. This site was treated in 2018 and monitoring is on going

Our team would plan to do a follow up survey in July to note efficacy of the first treatment, detect any noxious aquatic weed growth that had emerged since treatment. If necessary, follow up treatment planning will be provided to the District for approval and implemented.

We have had a successful shoreline emergent noxious weed control program each year. We would recommend continuing that effort using a combination of herbicides and surfactants.

If Aluminum Sulfate treatments are desired, we would develop a treatment plan and dosing rate for those portions of the lake designated for that approach, mobilize our treatment barges to the lake, schedule delivery of the Alum to the lake and make those applications. Additional notification and shoreline signage would be necessary.

Suggested timeline

- Sign contract in May if selected
- Mobilize mapping team to the lake in late May, survey and deliver report with treatment maps
- First major submerged weed treatment in early June

Moses Lake Aquatic Plant Management Program Proposal

- Alum treatments as requested by the District
- July follow up survey, if problems detected, map and submit plan to the District, and treat
- August/September emergent vegetation control for listed noxious species.
- September deliver final report.

References and Examples of Work

Jeremy Varley, Noxious Weed Coordinator for the Idaho State Department of Agriculture. 208-332-8667 or jeremy.varley@isda.idaho.gov. Aquatechnex won the statewide noxious aquatic weed herbicide applicator RFP in 2017. This \$250,000.00 annual contract is a five year contract and we are completing our second fiscal year of work for them. We have developed treatment plans and deployed to Hayden Lake, Cocolalla Lake, Lake Pend Oreille and the Pend Oreille River and treated well in excess of 1,000 acres for Jeremy's program

Dr. Kurt Getsinger, US Army Corps of Engineers Aquatic Plant Control Research Program, Vicksburg MS 601-634-2498 or kurt.d.getsinger@erdc.usace.army.mil. Our team has worked for Kurt's federal aquatic plant control research program every year since 1988 through the coming season. We have performed extensive mapping, survey and technical herbicide application on a number of lake and river systems throughout the United States. This work has included demonstration of aerial aquatic plant mapping technologies developed by our company, treatments and data collection to support the registration of a number of aquatic herbicides via the US EPA and use of innovative technologies to improve aquatic herbicide efficacy. We are also in the second year of ProcellaCOR treatment evaluation on the Pend Oreille River.

Lee Evans, Chair of the Loon Lake (WA) Lake Management District. 509-233-0179 or lgevans@spocom.com Loon Lake is a 1,250-acre system north of Spokane. Our firm was brought in to assist their group targeting what they thought was Eurasian Milfoil after a competitor's traditional herbicide work was failing. We discovered that the remaining milfoil in the system was a hybrid form of milfoil and more resistant to 2,4-D. We instituted a treatment program to deal with the growth present and we assisted them in obtaining a grant from the Washington Department of Ecology to develop methods and techniques to treat hybrid milfoil infested lakes. This involved DNA analysis, mapping of plant communities, sending plants to North Carolina State University for herbicide trials for the major herbicides, selection of a the best treatment approach and implementation of the treatment.

Leah Everett, City of Lake Stevens, 425-212-3312 or leverett@lakestevenswa.gov Our company has been selected via RFP process to manage their Eurasian Milfoil Control program and to target phosphorus through an annual alum treatment of the 1,100 acre lake.

Marisa Burghdoff, Snohomish County Public Works, 425-388-3204. We have been selected via RFP process to manage the Alum treatment program for Lake Ketchum, formally considered one of the most phosphorus impaired waterbodies in Washington State. Our annual Alum/Sodium Aluminate application program has significantly reduced phosphorus levels and the lake has been in excellent shape since implementing this program.

Sharon Sorby, Pend Oreille County Noxious Weed Coordinator 509-447-2402 or ssorby@pendoreille.org We have performed noxious aquatic weed control for her department for a number of decades. The latest effort we have had was the last two years of airboat mapping Flowering Rush along with treatment on over 80 miles of the Pend Oreille River in Northeast Washington

Cost Proposal

If we are the successful respondent to this RFP we would suggest the following cost structure for the scope of work presented.

Task or Material	Units	Cost per Unit
Public notification 10 day prior Permit requirement	Lump Sum	\$1,550.00
Survey prior to treatment including travel, equipment mapping and treatment plan generation	Lump Sum	\$3,000.00
DOE annual permit fee	Lump Sum	\$650.00 (estimate, DOE actual charge is set by them when they invoice us, we will bill Ecology fee with no markup)
Web site maintenance with interactive treatment maps	Lump Sum	\$250.00
Cost per acre for herbicide application	\$ per acre	\$145.00
Cost per acre for Alum application	\$ per acre	\$110.00
Diquat herbicide	Gallon	\$53.00
Aquathol K herbicide	Gallon	\$73.75
ProcellaCOR herbicide	PDU (prescription dose unit)	\$38.00
Alum delivered	Gallon	\$1.25
Year end report	Lump sum	\$500.00
Mobilization herbicide treatment	Lump sum	No charge
Mobilization Alum Treatment	Lump Sum	\$1,500.00
Treatment of emergent noxious weeds including travel, labor, equipment and herbicide	Lump Sum per day	\$1,750.00



This is the terminal reservoir for the California Aqueduct above the Los Angeles Basin. From here, the water goes to the Metropolitan Water District of Southern California. Aquatechnex was called on to perform an emergency algae treatment because of toxic algae levels in the reservoir were exceeding drinking water standards and the District had to halt delivery to over 5 million customers. Our treatment team mobilized within 24 hours and applied PAK 27 to 980 Acres, algae levels dropped rapidly within 24 hours and water delivery was restored.

