

RFP-23-573 TAB 1 – EXECUTIVE SUMMARY

Executive Summary

Water resources across the globe are under severe pressure due to increasing anthropogenic impacts caused by excess nutrient loading, in particular phosphorus. Lakes and streams that were once healthy are rapidly becoming hypereutrophic with recurring harmful algal blooms (HABs). There is significant demand for accelerated restoration and the development of operationally and technically efficient technologies for sustainable and scalable water resource management. This proposal details new water resource management and nutrient-mitigation strategies for accelerated restoration of phosphorus-impaired water bodies.

Phosphorus is the limiting nutrient in most of Florida's surface waters. The mitigation of this pollution improves water quality and shifts ecosystem function to a less favorable environment for the formation of HABs. These ecosystem shifts and nutrient reductions are long-lasting (years to decades) and provide beneficial use benefits as well as reduction in primary productivity and the risk of HABs. Combining phosphorus removal technologies with best management strategies that reduce nutrient loading is a proactive cost-effective strategy for preventing and managing the conditions that lead to eutrophication and HABs. This proposal details a comprehensive sediment inactivation plan for Lake Deeson, a hypereutrophic nutrient-impaired lake in Polk County, and water column phosphorus removal from Bear Branch, an urban stream with high phosphorus loading.

The Lake Deeson Project proposes the application of a phosphorus inactivation technology (EutroSORB® G) to bind sediment phosphorus rapidly, safely, and permanently. Pre-treatment sediment samples collected at Lake Deeson provided the baseline phosphorus load that needs to be mitigated and will be compared to post-treatment samples to quantify the permanently bound phosphorus that is no longer bioavailable for nutrient enrichment and HAB formation. The project cost-effectiveness will be measured by determining the cost/lb-P mitigated in Lake Deeson and compared to costs associated with best management practice approaches.

The Bear Branch Project proposes the automated injection of a liquid phosphorus sequestration technology (EutroSORB® WC) to rapidly and safely remove soluble reactive phosphorus (SRP) from a hypereutrophic nutrient-impaired urban stream. Project performance will be determined by comparing upstream pre-treatment phosphorus concentrations (i.e., baseline data) to phosphorus levels obtained downstream of the treatment system. At the conclusion of the project, the cost/lb-P mitigated with automated injection of a phosphorus sequestration technology as a cost-effective approach to address the effects of eutrophication in impaired urban waters will be compared to a cost analyses of best management practices for nutrient mitigation.

The information obtained during the Lake Deeson and Bear Branch Projects can be used to develop a complete nutrient mitigation plan for nutrient-impaired lakes in Polk County, as well as urban streams and rivers with high phosphorus loads such as Bear Branch, Peace River, and surrounding inflows that would promote the goals of reducing nonpoint source pollution and restoring impaired urban water bodies across the state of Florida.

(Items a-c: Maximum of two (2) pages)

- a) Scott Shuler, SePRO Corporation, 11550 North Meridian Street, 317-703-9510, scotts@eutrophix.com
- b) State the number of years in business: 29 years, as the same company/consultant
- c) State the number of full-time employees: 124 full-time employees
- d) Provide documentation showing proper incorporation by the Secretary of State.

2023 FOREIGN PROFIT CORPORATION ANNUAL REPORT

DOCUMENT# F94000005231

Entity Name: SEPRO CORPORATION

Current Principal Place of Business:

11550 NORTH MERIDIAN STREET
SUITE 600
CARMEL, IN 46032

Current Mailing Address:

11550 NORTH MERIDIAN STREET
SUITE 600
CARMEL, IN 46032 US

FEI Number: 35-1902554

Certificate of Status Desired: No

Name and Address of Current Registered Agent:

REGISTERED AGENT SOLUTIONS, INC.
155 OFFICE PLAZA DR.
SUITE A
TALLAHASSEE, FL 32301 US

FILED

Apr 19, 2023

Secretary of State
7965992998CC

The above named entity submits this statement for the purpose of changing its registered office or registered agent, or both, in the State of Florida.

SIGNATURE:

Electronic Signature of Registered Agent

Date

Officer/Director Detail :

Title CEO, PRESIDENT, CHAIRMAN

Name CULPEPPER, WILLIAM H.

Address 11550 NORTH MERIDIAN STREET
SUITE 600

City-State-Zip: CARMEL IN 46032

Title CFO, TREASURER

Name PUCKETT, MICHAEL D.

Address 11550 NORTH MERIDIAN STREET
SUITE 600

City-State-Zip: CARMEL IN 46032

Title ASST. SECRETARY

Name KOSCHNICK, TYLER

Address 11550 NORTH MERIDIAN STREET
SUITE 600

City-State-Zip: CARMEL IN 46032

Title SECRETARY

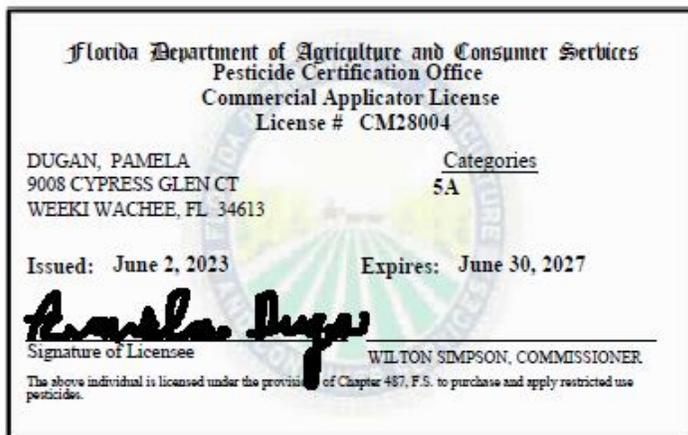
Name CULPEPPER, WILLIAM H. III

Address 11550 NORTH MERIDIAN STREET
SUITE 600

City-State-Zip: CARMEL IN 46032

- e) Provide a copy of the consultant's applicable certification(s) from the State of Florida allowing them to provide the services as outlined in the Scope of Service as well as compliance with F.S. 287.055.

Pamela Dugan, EutroPHIX Technical Specialist Florida Commercial Pesticide Applicator License:



TAB 2 –APPROACH TO PROJECT (35 POINTS) (Maximum of four (4) pages). *Provide a short narrative project approach outlining how you propose to respond to and manage this project.*

Lake Deeson Project: Lake Deeson is a 55-acre nutrient-impaired closed basin with an average depth of 6 feet. Given the current average trophic state index of 74 (a measure of biological activity) and average total phosphorus (TP) concentrations of 77 ug/L, Lake Deeson is classified as a hypereutrophic water body and was placed on the 303(d) list in 2003. Although Lake Deeson is classified as an impaired water body, there is an Alternative Restoration Plan (i.e., 4e Plan) that is in process to allow for implementation of future restoration activities to improve the water quality. In early 2022, historical data was reviewed, and additional sampling was completed. Data collected included water quality and sediment sampling from 4 locations in the lake. The water quality and sediment characterization data were used to develop a lake treatment implementation plan involving the application of EutroSORB® G, a granular lanthanum-modified bentonite clay for sediment phosphorus inactivation. Following the EutroSORB G application, the lanthanum ions sorbed to the clay matrix react rapidly and preferentially with free phosphate compounds in water forming a highly stable inert and insoluble mineral. The resulting mineral complex becomes integrated as an inert component into the natural sediments of the waterbody and is no longer bioavailable. Due to the specificity of EutroSORB G to phosphate it will continually bind new incoming phosphorus from internal and external sources until binding capacity is exhausted. During application, EutroSORB G is first mixed with water and applied as a slurry evenly over the surface of the lake. The proposed project would be implemented in Q1 2024 with the application of ~125,000 pounds of EutroSORB G to mitigate an estimated 2,500 lbs. of phosphorus in the top 4-cm of sediment.

Monitoring will be essential to track and quantify water quality improvements in Lake Deeson. Water quality samples will be collected pre-treatment, two weeks post-treatment, and then three times/month for twelve months and analyzed for TP, soluble reactive phosphorus (SRP), dissolved oxygen (DO), and temperature. In addition to the water quality monitoring program post-treatment sediment samples will be collected quarterly from 4 sites and analyzed for % solids in addition to the following phosphorus fractions as mg-P/kg: labile, reductant-soluble, metal-oxide, organic, and apatite/residual. The Lake Deeson restoration effort will address the issue of phosphorus pollution and improve Florida's ability to prevent, mitigate, and clean-up nutrient impaired waters. This in-lake management program will:

- Reduce water column and sediment phosphorus levels, resulting in significantly improved water quality that will lower primary productivity and risk of HAB production
- Demonstrate a scalable treatment approach that can be broadly applied to Florida water bodies for nutrient mitigation
- Assist regulatory agencies with meeting 4e Plans and TMDL standards and,
- Reduce negative environmental and economic impacts caused by poor water quality

The data obtained from this demonstration will help guide Florida's Adaptive Management Strategies and address the goals of the Blue-Green Algae Task Force using new scalable technologies to mitigate excess phosphorus loading in impaired HAB-prone water bodies.

Bear Branch Project: Streams, as low-lying points in the landscape, are strongly influenced by stormwater discharge, pollutant loading, and increased temperatures all of which

characterize urbanization. To be effective, urban stream restoration efforts must be integrated within broader best management practices for meaningful long-lasting results. Bear Branch is an urban stream located in Polk County approximately 1 mile upstream of the Peace River that does not meet Florida Department of Environmental Protection (FDEP) Numeric Nutrient Criteria. Phosphorus mitigation technologies that meet water resource manager's decision-making criteria for phosphorus management have not yet been evaluated at scale in urban streams. This proposal provides a novel approach using proven, integrated technologies to manage phosphorus that can be widely applied to remove phosphorus in streams, stormwater culverts, agricultural ditches, canals, and lakes. Two integrated and scalable technologies will be utilized during this demonstration project:

1. EutroSORB® WC is a liquid blend of phosphorus binding minerals proven to rapidly bind and strip soluble reactive phosphorus (SRP) from the water column. The phosphorus becomes tightly bound and forms a stable and inert insoluble compound.
2. SePRO's Automated Treatment Technology (SATT) systems are designed to provide accurate, variable-rate application of liquid technologies to aquatic environments. These systems have been developed and refined over the last twenty years, including implementation of projects in cooperation with the Army Corps of Engineers and various state agencies.

Monitoring will occur upstream of the injection station and at multiple locations downstream prior to discharge into the Peace River. The collection of pre- and post-treatment water quality samples will be conducted and analyzed for total phosphorus and SRP. This data will help guide the appropriate selection of application rates. Treatment performance will be evaluated by comparing pre-treatment phosphorus monitoring (i.e., baseline data) to phosphorus levels obtained during and after treatments. The amount of pre-treatment phosphorus in Bear Branch as well as flow data will allow for an accurate determination of the quantity of SRP and pounds of phosphorus removed during the 2-month demonstration. Improved water quality will reduce the formation of harmful algal blooms and the associated risks to human health and the environment. Flow data will be measured with a water level logger and a discharge rating curve which is generated by measuring water levels and corresponding current velocities for a cross-section of the stream. The proposed project would be implemented in Q1 of 2024 with the application of ~2,000 gallons of EutroSORB WC at a design flow of 2 cubic feet per second (CFS) to mitigate an estimated 1,700 lbs of phosphorus.

Please describe the specific abilities of the consultant/team in regard to this approach. Include any innovative approaches to providing the services, and include any additional information not directly cited in the scope of services.

The implementation of a phosphorus mitigation technology using an automated injection approach at Bear Branch represents an economical, widely applicable, and transferable water restoration and management solution that can be implemented at any scale. Since the early 2000s, SePRO Corporation has designed and deployed SATTs to conduct management of aquatic invasive plants and problematic algae. Such systems have been designed for very low flows up to 1000s of CFS and are scalable to higher flow rates depending on project needs. The goal of the SATT system is to provide accurate variable-rate treatments with confidence, built in safety mechanisms, complete system control, and real-time system monitoring.

The materials used in the Lake Deeson and Bear Branch Projects are based on lanthanum-based chemistries that have extensive laboratory, mesocosm trials, and full-scale field applications that have successfully demonstrated the effectiveness of these chemistries in binding phosphorus. The lanthanide chemistries that will be implemented during this proposed project have been widely used for decades to inactivate phosphorus.

Briefly describe quality assurance/quality control program & project schedule.

Lake Deeson: Similar to how water quality monitoring and assessment provided by the Water Quality Assessment Program is the cornerstone to FDEP’s strategy to achieve its goals, the data collected during the Lake Deeson demonstration will provide defensible data-driven evidence that in-lake phosphorus mitigation provides improved water quality and reduced risk of HAB formation. Monthly water quality monitoring and quarterly sediment core data will be used to demonstrate project performance and specifically quantifying the mass of phosphorus inactivated. The minimum mass of phosphorus targeted for inactivation is ~2,500 lbs. Table 1 summarizes the Lake Deeson monitoring plan & timeline.

Table 1. Lake Deeson Monitoring Plan

Task	Item	Timeline
Pre- and Post-Demonstration Monitoring & Project Schedule	Water Quality (3 sites, TP, SRP)	Pre-treatment, two weeks post-treatment, monthly post-treatment for 12 months. Project start-up targeted for Q1 2024.
	Sediment Sampling (4 sites, Phosphorus Fractionation)	Quarterly (4 events over 12 months).

The estimated funding amounts and proposed timeline for the Lake Deeson Project are provided in Table 2 below.

Table 2. Lake Deeson Phosphorus Mitigation Project Cost Summary & Timeline

Item	Costs (\$)	Timeline	Notes
Materials	\$356,021	May-June 2024	Assumes 55 acre EutroSORB G application
Monitoring & Analyses	\$20,016	April 2024-April 2025	Sediment (P Fractionation), Water Quality (TP, SRP)
Freight & Logistics	\$27,000	May-June 2024	Freight, forklift, material handling equipment, and safety
Project Labor (including application)	\$77,963	May-June 2024	Site preparation, equipment installation, material handling, sampling, and monitoring
Estimated Total Cost	\$481,000	Total Project Duration: 12 months	Acres treated may affect the project cost

Bear Branch: Monitoring will occur upstream of the injection station and at multiple locations downstream of the injection station prior to discharge into the Peace River. The collection of pre- and post-treatment water quality samples will be conducted and analyzed for total phosphorus

and SRP. In addition, whole effluent toxicity test analyses will be conducted on Bear Branch water prior to project startup to ensure no harm will occur to the ecosystem during the demonstration. These data will help guide the appropriate selection of application rates and the evaluation of project cost and performance data to support technology transfer and project effectiveness. The project will leverage data from the Polk County Water Atlas environmental database to supplement the project data set and enhance project analyses. Project success criteria will be defined with a quantitative evaluation of the upstream phosphorus loading coming into the treatment area compared to the reduction of phosphorus loading downstream of the SATT station prior to discharge into the Peace River. The minimum mass of phosphorus targeted for sequestration during the demonstration is ~1,700 lbs. Table 3 summarizes the Bear Branch monitoring plan.

Table 3. Bear Branch Phosphorus Monitoring Plan

Task	Item	Timeline
Monitoring & Project Schedule	Whole Effluent Toxicity Test	Pre-treatment analyses of Bear Branch water with EutroSORB WC for eco-tox evaluation
	Water Quality	Upstream and downstream samples collected over a 10-week period. Assumes a 2-month SATT injection of EutroSORB WC (2 CFS design flow). Flow rates may affect the project duration.

The estimated funding amounts and proposed timeline for the Bear Branch Project timeline are provided in Table 4 below.

Table 4. Bear Branch Phosphorus Mitigation Project Cost Summary & Timeline

Item	Costs (\$)	Notes
Materials & Equipment (Phosphorus Mitigation Technologies and SATT)	\$314,500	Assumes a 2-month SATT injection of EutroSORB WC (2 CFS design flow)
Monitoring & Analyses	\$34,500	WET Testing, Water Quality (TP, SRP)
Freight & Logistics	\$13,000	Freight, forklift, material handling equipment, and safety
Project Labor (including application)	\$27,000	Site preparation, equipment installation, material handling, sampling, and monitoring
Estimated Total Cost	\$389,000	Flow rates will affect the project duration and/or cost

TAB 3 – EXPERIENCE, EXPERTISE, PERSONNEL & TECHNICAL RESOURCES (40 POINTS)

- Provide a minimum of two (2) and a maximum of five (5) recent projects performed within the past ten (10) years as the prime consulting firm performing the engineering services for similar size and scope projects. At least one (1) of the projects should demonstrate how your consulting firm evaluated the application of phosphate binding products on lake's and/or stream's water quality and one (1) project where your consulting firm utilized automated injection systems for phosphorus mitigation in surface waters. (Limit response to one (1) page per project)
- For each project please provide:
 - a. **Name and location of the project; Lady Bird Lake, Austin, Texas (Phosphorus Inactivation in Sediments)**
 - b. Size and cost of the project; 416-acre reservoir. This is an ongoing project with total to-date spend of \$894,000
 - c. Project representative name, address, phone number, and email address.
Brent Bellinger, PhD
Environmental Scientist Senior
City of Austin - Watershed Protection Department
Work: (512) 974-2717
Email: Brent.Bellinger@austintexas.gov
 - d. Date project was completed or is anticipated to be completed; compare to the original date. Project started August 2019 and is ongoing with annual EutroSORB G applications.
 - e. The nature of the consultant's responsibility for the project. Prescription development, project design/implementation, water quality and sediment monitoring.
 - f. Identify the key staff and their role in each project; Scott Shuler EutroPHIX Project Manager, Ryan Van Goethem EutroPHIX Technical Specialist.
 - g. Identify working relationship of consultants or joint venture on project, if applicable; Partnered with City of Austin, TX, and Aquatic Features, Inc to implement the project
 - h. Provide the original budget and the final budget of the project. Explain the reason(s) for differences, such as owner requested change, consultant claim, and insufficient plans and specifications. Ongoing project with total to-date spend of \$300,000
 - i. List of any time extensions created by item h above. Not applicable.
- a. **Name and Location of the Project: Kitsap Lake, Bremerton, WA (Phosphorus Inactivation in Sediments)**
- b. Size and cost of the project; 246-acre lake. This is an ongoing project with total to-date spend of \$24,000
- c. Project representative name, address, phone number, and email address.
Chance W Berthiaume, CPMSM
Stormwater Permit Coordinator
City of Bremerton Public Works & Utilities
Phone: (360) 473-5929
Cell: (360) 536-0148
Email: Chance.Berthiaume@ci.bremerton.wa.us
- d. Date project was completed or is anticipated to be completed; compare to the original date. Project started August 2019 and is ongoing with annual EutroSORB G applications.

- e. The nature of the consultant's responsibility for the project. Prescription development, project design/implementation, water quality and sediment monitoring.
- f. Identify the key staff and their role in each project; Scott Shuler EutroPHIX Project Manager, Ryan Van Goethem EutroPHIX Technical Specialist.
- g. Identify working relationship of consultants or joint venture on project, if applicable; Partnered with City of Bremerton, WA, and Aquatic Feature, Inc. to implement the project
- h. Provide the original budget and the final budget of the project. Explain the reason(s) for differences, such as owner requested change, consultant claim, and insufficient plans and specifications. Ongoing project with current total funding of \$225,000
- i. List of any time extensions created by item h above. Not applicable.

- a. **Name and location of the project: Woodland Lake, Brighton, MI (Phosphorus Inactivation in Sediments, and EutroSORB WC application)**
- b. Size and cost of the project; 290-acre lake. This is an ongoing project with total to-date spend of \$110,000
- c. Project representative name, address, phone number, and email address.
Anita Grapentien
President Organization of Woodland Lake
Phone: 810-229-7894
Cell: 810-599-8040
Email: agrapentien@comcast.net
- d. Date project was completed or is anticipated to be completed; compare to the original date. Project started March 2023 and is ongoing with annual EutroSORB G and EutroSORB WC applications.
- e. The nature of the consultant's responsibility for the project. Prescription development, project design/implementation, water quality and sediment monitoring.
- f. Identify the key staff and their role in each project; Scott Shuler EutroPHIX Project Manager, Ashlee Haviland EutroPHIX Technical Specialist.
- g. Identify working relationship of consultants or joint venture on project, if applicable; Partnered with Organization of Woodland Lake, and Aqua-Weed Control, Inc to implement the project
- h. Provide the original budget and the final budget of the project. Explain the reason(s) for differences, such as owner requested change, consultant claim, and insufficient plans and specifications. Ongoing project with total to-date spend of \$110,000
- i. List of any time extensions created by item h above. Not applicable.

- a. **Name and location of the project: Lake Henshaw, CA (Phosphorus Inactivation in Sediments)**
- b. Size and cost of the project: 1,140 acres, \$3,384,266
- c. Project representative name, address, phone number, email address: Terry McNabb, Owner AquaTechnex, 1501 Fraser Street, Bellingham, WA, 98229, (360) 527-1271, tmcnabb@aquatechnex.com
- d. Date project was completed or is anticipated to be completed; compare to the original date.
- e. The nature of the consultant's responsibility for the project. Prescription development, project design/implementation, water quality and sediment monitoring.

- f. Identify the key staff and their role in each project: Scott Shuler EutroPHIX Project Manager, Ryan Van Goethem, Project Management, Technical Specialist,
 - g. Identify working relationship of consultants or joint venture on project, if applicable: Terry McNabb, Owner AquaTechnex, Material Applicator Sediment/Water Quality Monitoring
 - h. Provide the original budget and the final budget of the project. Explain the reason(s) for differences, such as owner requested change, consultant claim, and insufficient plans and specifications. Original and Final Budget
 - i. List of any time extensions created by item h above. Not applicable.
- Provide documentation of your knowledge of implementing EutroSORB products for whole-lake treatments. Case studies for Lady Bird Lake, TX, Kitsap Lake, WA whole-lake phosphorus treatments. In addition, projects where automated injection systems (SATTs) in surface water for water quality improvement have been conducted are highlighted below, with SATT system pictures in the Appendix at the end of this document (Figures 1-3).
 - Florida SATT Project 1:
 - Agency/company: US Army Corps of Engineers (USACE)
 - Current contact person at agency/company: Donald Morgan
 - Telephone: 229-662-2001 Email: Donald.M.Morgan@sam.usace.army.mil
 - Address of agency/company: U.S. Army Corps of Engineers, Lake Seminole, P.O. Box 96, Chattahoochee, FL 32324.
 - Name of project: SePRO Automated Injection System Hydrilla Treatments in Spring Creek, Seminole Lake, FL
 - Description: Hydrilla management utilizing low-dose injections with systemic herbicides Sonar (fluridone) or Galleon (penoxsulam) have occurred in the last 20+ years in the Spring Creek arm of Lake Seminole, FL. Treatments were implemented over several weeks or months depending on use pattern with remotely deployed, battery-powered pump systems in Spring Creek that are similar to newer pump systems being utilized today.
 - Name(s) of assigned personnel: Donald Morgan (USACE)
 - Project managers: Donald Morgan (USACE)
 - Other: Dr. Mark Heilman (SePRO)
 - Florida SATT Project 2:
 - Agency/company: US Army Corps of Engineers
 - Current contact person at agency/company: Brent Mortimer
 - Telephone: (800) 291-9405 Email: brent.mortimer@usace.army.mil
 - Address of agency/company: US Army Corps of Engineers Jacksonville District 701 San Marco Blvd, Jacksonville, FL 32207
 - Name of project: Hydrilla Management in the C-35 Canal Kissimmee River Water Management System
 - Description: 2008 Galleon (penoxsulam) injection into the C-35 canal connecting Lake Tohopekaliga and Lake Cypress in Florida as part of hydrilla management efforts. The C-35 canal is part of the broader Kissimmee River water management system operated by the Corps Jacksonville District in cooperation with the South Florida Water Management

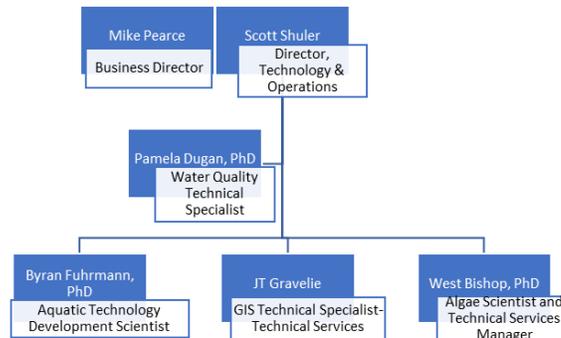
District. This injection system was the first-of-its-kind cellular-controlled aquatic treatment system that was the model for many subsequent systems collaboratively implemented by SePRO with public agency partners around the country.

Name(s) of assigned personnel: Brent Mortimer (USACE)

Project manager: Brent Mortimer

Other: Dr Mark Heilman (SePRO)

- Provide an organizational chart of the team highlighting the key individuals who will work on this contract as identified above.



- The key staff presented in the consultant’s response shall be the staff utilized on this contract. Please provide the resumes of the key staff including, but not limited to, the items in the list below (One (1) page maximum per resume) included in Appendix at the end of this document:
 - a) Name and current position held by the person: Scott Shuler, Director, Technology & Operations
 - b) Name, title, and project assignment. Scott Shuler, Director, Technology & Operations, Project Manager
 - c) Experience:
 1. Mr. Shuler has over 35 years of experience of Lake and Invasive Weed Management, and Phosphorus Mitigation
 2. Size of projects (dollar value of project): Range from several thousand dollars to several million dollars
 3. What were their specific project involvements? Project Manager
 - a) Name and current position held by the person: Mike Pearce, MBA, Business Director
 - b) Name, title, and project assignment. Mike Pearce, Business Director, Project Oversight, Communications Outreach & Management
 - c) Experience:
 1. Mr. Pearce has over 20 years of experience of Lake Management and Business Development & Management
 2. Size of projects (dollar value of project): Range from several thousand dollars to several million dollars
 3. What were their specific project involvements? Project Manager

- a) Name and current position held by the person: Pamela Dugan, PhD, Water Quality Technical Specialist: Florida
- b) Name, title, and project assignment. Pamela Dugan, PhD, Florida Water Quality Technical Specialist, Co-PI
- c) Experience:
 - 1. Dr Dugan has over 25 years of experience in surface and groundwater remediation and contaminant removal
 - 2. Size of projects (dollar value of project): Range from several thousand dollars to several million dollars
 - 3. What were their specific project involvements? Co-PI

- a) Name and current position held by the person: Byran Fuhrmann, PhD, Aquatic Technology Development Scientist
- b) Name, title, and project assignment. Byran Fuhrmann, PhD, Aquatic Technology Development Scientist, laboratory, and sediment fractionation oversight
- c) Experience:
 - 1. Dr Fuhrmann has over 8 years of experience in surface water treatment and geochemical soil analyses
 - 2. Size of projects (dollar value of project): Client support for projects ranging from several thousand dollars to several million dollars
 - 3. What were their specific project involvements? Technical oversight, product application and monitoring management

- a) Name and current position held by the person: JT Gravelie, GIS Technical Specialist and Technical Services Manager
- b) Name, title, and project assignment. JT Gravelie, GIS Technical Specialist and Technical Services Manager for SATT systems
- c) Experience:
 - 1. Mr. Gravelie has over 15 years of experience in GIS mapping and specialized equipment design and development
 - 2. Size of projects (dollar value of project): Client support for projects ranging from several thousand dollars to several million dollars
 - 3. What were their specific project involvements? GIS mapping and specialized equipment design and development for delivery of amendments to aquatic resources

- a) Name and current position held by the person: West Bishop, PhD, Algae Scientist Technical Services Manager
- b) Name, title, and project assignment. West Bishop, PhD, Algae Scientist Technical Services Manager, Laboratory and Monitoring Oversight
- c) Experience:
 - 1. Dr Bishop has over 15 years of experience in characterizing risks associated with harmful algal infestations and recommending socially acceptable, ecologically sound, and efficacious management strategies.
 - 2. Size of projects (dollar value of project): Client support for projects ranging from several thousand dollars to several million dollars

3. What were their specific project involvements? GIS mapping and specialized equipment design and development for delivery of amendments to aquatic resources

- Demonstrate each key staff's availability and office and home location to respond to the needs of the project (Two (2) pages maximum for all key staff member).
 - Pamela Dugan, Project Manager, Pamela lives and works in Spring Hill, FL and will be available and frequently onsite throughout the duration of both projects
 - Scott Shuler, Co-Project Manager, Office Carmel, Indiana. Scott will be onsite for project start-up/conclusion and intermittently throughout the duration of both projects
 - JT Gravelie, Technical Services Manager and SATT system developer. JT will be available for Bear Branch Project startup overseeing SATT implementation.
 - Byran Fuhrmann, works at the SePRO Research & Technology Campus (SRTC) in Whitakers, NC overseeing laboratory analyses and available to respond to technical issues
 - West Bishop lives and works near the SRTC managing Technical Services and available to respond to technical issues
- Identify sub consultants to be used, if any. For each sub consultant identified please provide their locations that can be utilized to expedite a deliverable if required. Applied Aquatic Management, Inc. will be the EutroSORB G material applicator for Lake Deeson (note that Applied Aquatics headquarters in Bartow, FL adjacent to the Polk County Parks & Natural Resources Division location so able to expedite a deliverable if required).
- A brief description of their experience outlining their qualifications to perform the intended services. A brief resume for each key personnel that will be assigned to perform the intended service is included in the Appendix at the end of this document.
 - For over forty years, Applied Aquatic Management, Inc., (headquarters in Bartow, FL) has provided innovative and effective water resource management services across the state of Florida. All Applied Aquatic Applicators are licensed through Florida Department of Agriculture and Consumer Services with certification in the Aquatics, Right-of-Way and/or Natural Areas categories.

APPENDIX

DOCUMENTATION OF SCIENTIFIC EXPERIENCE FOR WORK IDENTIFIED IN THE RFP

Two case studies (Kitsap Lake, WA, and Lady Bird Lake, TX) are provided below where lanthanum-modified bentonite (LMB) was used to inactivate phosphorus in sediments. The LMB material is 10% lanthanum with bentonite clay.



Accelerating Water Resource Restoration

Case Study - Kitsap Lake, WA



For over 40 years, AquaTechnex has been at the forefront of the fight to protect our water resources. They have a recognized expertise in the restoration of aquatic habitats impacted by invasive aquatic species, phosphorus pollution, and toxic algal blooms. www.aquatex.com

Kitsap Lake is a 246-acre waterbody located in Bremerton, WA. The lake is a recreational resource for the region, with two public parks and public boat launches. The surrounding community and public use the lake extensively for boating, water skiing, and recreational fishing.

Kitsap Lake has experienced annual episodes of harmful algal blooms (HABs) and the associated potential for toxin production. Cyanobacteria or blue-green algae thrive in waters that are considered eutrophic. Lake closures due to high cyanobacteria levels and resulting toxic events have been ongoing for decades. In 2011, the Kitsap County Health Department published a phosphorus reduction plan funded by the Washington Department of Ecology and local agencies.

The report from this two-year study concluded the primary cause of cyanobacteria blooms was internal recycling of phosphorus from sediments during low oxygen events.

In September of 2019, the lake was closed due to a HAB. A Police K-9 dog had to be treated for potential exposure to algal toxins when an enforcement activity forced the dog to chase a suspect into the lake. AquaTechnex was hired in the late summer of 2019 to update the assessment of lake conditions. Historical data were reviewed



June 2020

August 2021

Harmful algal bloom along the shoreline of Kitsap Lake

Continued on other side

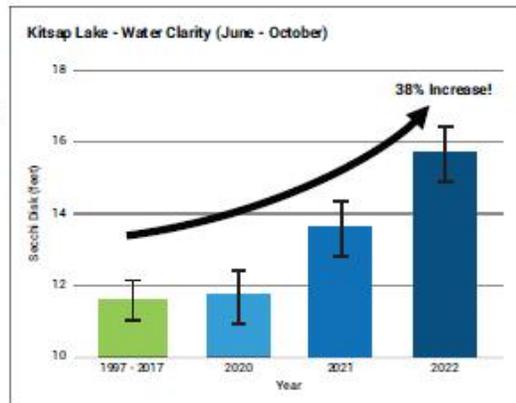
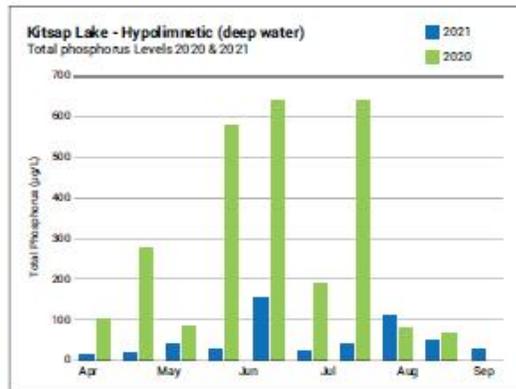


Aerial view of Kitsap Lake, August 2020

and an additional sampling was completed. Data collection included five stations with surface and bottom water samples and sediment samples collected from each location.

Scientists from EutroPHIX and AquaTechnex reviewed the data and developed an implementation plan that was presented to the City of Bremerton and other stakeholders. The project was approved, and implementation began in June of 2020. Two lanthanum-modified-bentonite clay applications have been completed each summer since 2020 as we work to mitigate legacy phosphorus with the annual budget in place.

The project has been a tremendous success. With significant improvement in water quality and aesthetics on the lake. The water clarity, as measured by secchi disc readings, indicates a 38% improvement. The applications reduced the hypolimnetic phosphorus levels by approximately 90+%. The city has committed to continued dedicated funding for this restoration project.



 **EutroPHIX™**
Accelerating Water Resource Restoration

When you are ready to get started or want to learn more about the restoration process, contact us at: **844-HAB-PHIX (844-422-7449)** or info@eutrophix.com. Visit eutrophix.com.

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Accelerating Water Resource Restoration

Case Study - Lady Bird Lake

Aquatic Features, Inc.
Established 1999

Lake Bird Lake is a 416-acre reservoir located in Austin, TX. The lake is a recreational resource at the heart of Austin and is surrounded by an extensive park and trail system. The local community uses the lake extensively for lake shore recreation with pets, non-motorized boating activities, and fishing.

Aquatic Features, Inc. has been proudly serving the greater Austin area since 1999. Their dedicated team of trained biologists and professionals work diligently to ensure that you are getting the most out of your water resources.

Lady Bird Lake has experienced recent episodes of Harmful Algal Blooms (HABs) caused by cyanobacteria production that has accumulated in various areas around the lake. In 2019, multiple dogs died while playing and swimming around the lake sparking large public concern for the safety of the lake. The City of Austin quickly responded by closing parks and putting in place monitoring and communication plans to help the public avoid further negative impacts. Investigation found cyanobacteria were producing concerning levels of the algal toxin - dihydro-anatoxin. These cyanobacteria mats were growing on the lake floor and lifting up and floating around the lake.

With this knowledge they began looking for solutions. In 2020, phosphorus mitigation in the sediment was picked as a potential effective solution to the water quality problems impacting Lady Bird Lake. The City of Austin partnered with EutroPHIX to begin inactivating phosphorus in the sediments around Red-bud Isle where the majority of the issues were occurring.

EutroPHIX worked with Aquatic Features Inc. to apply lanthanum modified bentonite (LMB) around the island across three applications during the summer of 2021. The phosphorus in the sediment was sampled and analyzed throughout the project to measure results.

Continued on other side



Enjoying Lady Bird Lake

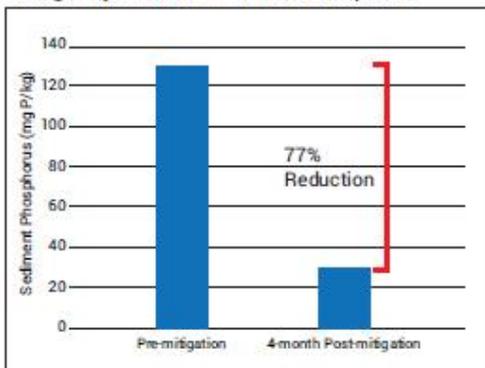


During application

Sediment phosphorus taken at the end of summer resulted in a 77% decline in labile and iron-bound phosphorus which are considered biologically accessible forms of phosphorus. There was also a drastic shift in the algal community during this time with a high abundance of cyanobacteria shifting towards non-toxic beneficial algae and Chara. Toxin levels within algae samples collected around Red-bud Isle also had much lower levels of toxins compared to 2019 and 2020.

The City of Austin and EutroPHIX will continue assessing the work performed in 2021 and proactively addressing water quality issues impacting Lady Bird Lake. Watch a short video of the Lady Bird Lake project. Scan the above QR code, or <https://vimeo.com/617232720>

Biologically Available Sediment Phosphorus



RELEVANT EXPERIENCE USING AUTOMATED DOSING SYSTEMS TO TREAT SURFACE WATERS

SePRO Automated Treatment Technology (SATT)

Since the early 2000s, SePRO has designed and deployed automated treatment systems to conduct management of aquatic invasive plants and problematic algae. Such systems have been utilized on flowing aquatic sites for both reactive management of acute weed or algae growth, or more sustained, planned management of problem populations with systemic herbicides. Examples of management supported by this custom technology include <1-day periodic treatments of algae/weed-infested irrigation canals in the west, and a myriad of low-dose herbicide injections programs around the US.

Relative to general design and functionality of current SePRO automated treatment systems, these systems have 4G-cellular or satellite-based remote communications. The communication system allows remote interface by SePRO and partners with a computer controller running custom-designed software to monitor operational status of the equipment and adjust treatment rates and other parameters to treat dynamic flowing systems efficiently and accurately. The controller is connected to several alarm systems that monitor injection rates, chemical reservoir level, security sensors, and power levels. The controller directly controls a pump system selected to match injection volume needs of the treatment (i.e., how much volume must be applied over a given time) and built with seals and other components compatible with the chemical(s) that are utilized for treatment. The systems have routinely been utilized to apply treatments to flowing systems at discharge rates up to 1000 CFS and are scalable to higher flow rates depending on project needs. Along with the ability to use either cellular or satellite communications depending on cell service availability, the systems can utilize multiple power sources depending on source availability at a project site.

Several systems have been deployed with solar panel arrays for power in remote areas. Representative photos of several automated treatment systems in operation today are shown below. For the demonstrations proposed here, SePRO would develop one customized system based on past designs to apply a nutrient inactivation technology into Bear Branch that ultimately discharges into the Peace River. The system will be capable of adjusting the dosing based on the flow and phosphorus concentrations. These systems have been developed and refined over the last twenty years, including implementation of projects in cooperation with the US Army Corps of Engineers and other State and Federal Partners. The figures below illustrate SATT systems that are in service in New York and Alaska (Figures 1-3).



Figure 1. SATT deployed at Cayuga Lake, NY



Figure 2. Solar-powered, SATT deployed at New Croton Dam, Croton River, NY



Figure 3. Solar-powered, SATT deployed at Alexander Lake, Alaska

Key Personnel Resumes

PAMELA J. DUGAN

EutroPHIX Technical Specialist: Water Quality Eastern Region
pamelad@eutrophix.com | (317) 495-5657 | [linkedin.com/in/pamela-dugan](https://www.linkedin.com/in/pamela-dugan)

EDUCATION

PhD Environmental Engineering | Colorado School of Mines
Bachelor of Geological Science, Indiana University

CORE COMPETENCIES

- Business Development and Customer Acquisition | New Product and Market Launches
- Strong Technical Service Background | Environmental Treatment Technology Development
- Build Stakeholder Consensus / M&A Pipeline Development | Excellent Verbal, Written, and Problem-Solving Skills

PROFESSIONAL EXPERIENCE

TECHNICAL SPECIALIST

EUTROPHIX – A DIVISION OF SEPRO, Spring Hill, FL | OCTOBER 2021 – PRESENT

Sales & Market Growth – Responsible for lead generation and new product sales, customer engagement, building stakeholder consensus, and the design and implementation of strategies for accelerated water resource restoration, phosphorus mitigation, and harmful algal bloom reduction.

COMMERCIAL DEVELOPMENT MANAGER

CARUS CORPORATION, PERU, IL | May 2008 – JUNE 2021

Market Expansion - Launched new water treatment product line based on rare earth technology for high performance removal of phosphorus. Developed strategic marketing materials, conducted product field trials, refined value proposition and launched product in adjacent food and beverage market.

Business Development - Demonstrated ability to develop new business and increased revenue of remediation market product lines by 60% from 2013 to 2015.

Sales Growth – Led new product launches, customer-focused technical sales support, and global market outreach with global gross margin increase from \$2.5M - \$4.5M from 2013 to 2015.

Revenue Growth - Developed new technology for odor control to gain back market share in wastewater industry (\$1M Revenue 2017-2018).

SELECT PRESENTATIONS AND PUBLICATIONS

Pamela J. Dugan, 33rd Annual Indiana Lakes Management Conference. April 7-8, 2022. "In-Lake Phosphorus Mitigation for the Restoration of Impaired Lakes and Streams", Plymouth, Indiana.

Pamela J. Dugan, Illinois Lake Management and American Fisheries Joint Conference. March 17-18, 2022. "Phosphorus Mitigation for the Restoration of Impaired Lakes and Streams", Champaign, Illinois.

Evans, P.J., Dugan, P.J., Nguyen, D., Lamar, M., Crimi, M.L. (2019). Slow-release permanganate versus unactivated persulfate for long-term in situ chemical oxidation of 1,4 dioxane and chlorinated solvents. *Chemosphere*, Volume 221, p. 802-811. <https://doi.org/10.1016/j.chemosphere.2019.01.075>

Evans, P.J., Dugan, P.J., Crimi, M.L., Ruiz, N. (2018). Sustained in situ chemical oxidation (ISCO) of 1,4 dioxane and chlorinated VOCs using slow-release chemical oxidant cylinders. [ESTCP Project ER-201324 Final Report](#), pages 576.

Dugan, P.J., Siegrist, R.L., Crimi, M.L. (2010). Coupling surfactants/cosolvent with oxidants for enhanced DNAPL removal: A review. *Remediation Journal*, Summer 2010, p. 27-49. <https://doi.org/10.1002/rem.20249>

Dugan, P.J., McCray, J.E., Thyne, G.D. (2003). Influence of a solubility-enhancing agent (cyclodextrin) on NAPL-water partition coefficients, with implications for partitioning tracer tests. *Water Resources Research*, Vol. 39, Issue 5, <https://doi.org/10.1029/2002WR001672>

Drummond, C.N, and Dugan, P.J., (1999). Self-organizing models of shallow-water carbonate accumulation. *Journal of Sedimentary Research*, Volume 69, Issue 4, p. 939-946. <https://doi.org/10.2110/jsr.69.939>

Scott W. Shuler

Director, Technology & Operations EutroPHIX – A Division of SePRO Corporation

Education: B.S. in Aquatic Biology & Fisheries from Ball State University, 1993
Graduate Research Assistant, Ball State University, 1993-1995

Certifications: Washington Commercial Pesticide Applicator License 68807, Indiana Commercial Pesticide Applicator License F32572, Certified Rescue SCUBA Diver

Affiliations: Aquatic Plant Management Society (APMS), 2000-present; Western APMS, Director 2004-2006, President 2006-2008, Secretary-Treasurer 2009; Midwest APMS, Secretary-Treasurer 1996-2002, President-Elect 2003; American Fisheries Society (AFS), 1991-present; Indiana Chapter AFS, 1990-present, President 1999-2001; North American Lakes Management Society (NALMS), 2005-present; California Lake Management Society (CALMS), Board of Directors 2005-2007; Indiana Lakes Management Society (ILMS), Board of Directors 2002-2004; Indiana Aquatic Nuisance Species Council 2002-2003

Summary: Scott Shuler began his water resource management career in the early 1990s. Over the last three decades this has led to work in water quality restoration, invasive species management, and fisheries management across a diverse array of aquatic systems. As National Manager of EutroPHIX, Scott leads a team to confront our water resources' greatest challenges: harmful algal blooms and phosphorus pollution. Our mission is to accelerate water resource restoration.

Professional Work Experience:

SePRO Corporation: January 2004-Present
Director, Technology & Operations, EutroPHIX: October 2023 - Present
National Manager, EutroPHIX Division: November 2020 – Present
Western Regional Sales Manager: September 2016 – November 2020
Portfolio Leader: July 2015 - September 2016
Specialty Market Development Manager: March 2011 – July 2015
Aquatic Technical Specialist: January 2004 – March 2011

Aquatic Control, Inc.: May 1995 – January 2004
Vice President of Lake Management Services: January 2000 – January 2004
Manager, Lake Management Services: January 1999 – January 2000
Aquatic Biologist: May 1995 – January 1999



MICHAEL W. PEARCE

mwpearce03@gmail.com / 317-552-8272
Zionsville, IN 46077

SUMMARY

A value-driven professional with demonstrated success in sales, product management, demand creation, strategic planning, business development, and environmental applications. A strong communicator with natural leadership talent and high energy. An impactful and successful individual proficient in sales and marketing while motivating personnel to new levels of performance and growth.

SKILLS

- Sales and Marketing
- Project Management
- Forecasting and Budget Planning
- Leadership and Teamwork
- Business Development
- CRM and Lead Generation
- Public Speaking
- MS Office Suite

EXPERIENCE

EutroPHIX Business Director / SePRO Corporation – Carmel, IN

10/2023 – Current

- Help provide clean, safe, and enjoyable water to the world.
- Responsible for business development activities.
- Lead technical specialist team and sales process.
- Create and execute marketing plans and strategies.
- Develop and lead strategic advocacy objectives.
- Collaborate with key stakeholders and partners.

Sr. Marketing and Strategy Manager /SePRO Corporation – Carmel, IN

07/2022 – 09/2023

- Focused on marketing, business development, and strategy.
- Planning, implementing, and overseeing marketing campaigns.
- Lead the development and release process for new products.
- Deliver on revenue and P&L objectives.
- Conduct market research, sales forecasting, and budget planning.
- Gather and analyze market data to identify new market and demand-creation opportunities.
- Contributing to strategic advocacy initiatives.
- Interview, train, and evaluate sales and marketing personnel.

Portfolio Manager / SePRO Corporation - Carmel, IN

01/2021 – 06/2022

- Lead and manage SePRO's portfolio of algae and water quality solutions.
- Focused on the development of sales, marketing, and business development strategies.
- Collaboratively work on vision, strategy, demand creation, and release process for new products.
- Interview, train, and evaluate sales and marketing personnel.
- Generate leads for business opportunities to grow company revenue and improve EBITDA
- Achieve company growth through market expansion and new product development.
- Developed sales funnel and CRM strategy to automate leads management.
- Design, organize, and execute customer events.
- Developed and launched new division of the company – EutroPHIX www.eutrophix.com

- Developed and launched new technology – EutroSORB www.eutrosorb.com

Portfolio Leader / SePRO Corporation - Carmel, IN

07/2017 - 12/2020

- Established budgets and strategic business plans for daily operations.
- Created and implemented traditional marketing campaigns.
- Devised innovative strategies to drive customer engagement.
- Applied market knowledge and customer insight analysis to drive sales through targeted promotions.
- Developed and implemented digital marketing plans to incorporate SEO, social media, and video campaigns.
- Boosted sales by developing new product marketing strategies.
- Collaborated with team to forecast based on sales and product profitability.

Technical Sales Specialist / SePRO Corporation - Kennewick, WA

04/2011 - 06/2017

- Assessed customer needs, explained complex technical information, and provided information regarding useful products and promotions.
- Identified products and services that would be best fit for customer projects.
- Participated in local and national trade shows and conferences representing and promoting our products and services.
- Hosted customer meetings to discuss problems, solutions, and budgets to reach specific objectives.
- Developed and delivered technical sales presentations to key customer, stakeholders, and decision makers.
- Communicated effectively with customers to maintain satisfaction and loyalty.
- Built strong professional relationships through identification of client needs, which increased overall sales and opportunities.
- Met or exceeded sales goals each year using consultative sales talents.

Environmental Coordinator / Kennewick Irrigation District - Kennewick, WA

04/2000 - 03/2011

- Developed and managed the district's Integrated Vegetation Management Program.
- Coordinated all aquatic and terrestrial herbicide applications while meeting compliance with the Washington State Department of Ecology's NPDES irrigation permit.
- Adhered to safety procedures and protocols when using equipment and moving hazardous chemicals to prevent mishaps and accidents.
- Worked successfully with diverse group of coworkers to accomplish goals and address issues related to our services.
- Prioritized and organized tasks to efficiently accomplish goals.
- Demonstrated leadership by making improvements to work processes and helping to train others.

EDUCATION

Washington State University - Pullman, WA
Executive MBA: Business Management and Organizational Leadership

Washington State University - Pullman, WA
Bachelor of Arts: Social Sciences, Business Administration

Columbia Basin College - Pasco, WA
Associate of Arts: Business Management

VOLUNTEER

Special Olympics
 Baseball Coach – Zionsville Little League
 Basketball Coach – YMCA

Byran Fuhrmann, Ph. D, MBA

16013 Watson Seed Farm Rd, Whitakers, NC 27891

byranf@sepro.com

805-568-4455

Aquatic Technology Development Scientist SePRO Corporation, EutroPHIX Division Whitakers, NC 27891	2020 – Present
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Leadership Positions

President	2022 - Present
President Elect	2021 - 2022
Northern California Director California Lake Management Society (CALMS)	2017 – 2021

Source Water Protection Committee Member American Water Works Association (AWWA)	2020 – Present
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Education

Environmental Systems, Ph. D. University of California, Merced	2020
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Environmental Engineering Sciences M.S. Emphasis in Water Resources, Planning and Management University of Florida	2016
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Master of Business Administration (MBA) Emphasis in Strategic Sustainability Humboldt State University	2015
--	------

Chemistry, B.S. Humboldt State University	2014
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Professional Certificates

Engineering Entrepreneurship Certificate University of Florida	2016
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Previous Professional Experience

Instructor Field Methods of Environmental Chemistry UC Merced Environmental Engineering Department Merced, CA 95340	2019 – 2020
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J.T. Gravelie

GIS Administrator | Technical Development Specialist | Alaska Technical Specialist

Experience

ReMetrix / SePRO 2008 - Present

Hired out of University of Vermont as GeoStatistical Specialist - series of added responsibilities and associated promotions over intervening five years, to current Analyst and Project Management titles and responsibilities.

Extensive training and implementation skills utilizing:

ESRI Arc Products	Arc Server	Python
3D Analyst, GeoStatistical & Spatial Analyst Extensions	iOS Developer kit	IDLE (custom tools supporting ArcServer publications)
ESRI Business Partner	SCADA Programing	ERDAS 2010
MAC and PC Proficiency	OS & iOS App Launches	Visual Studio
Microsoft Suite	Google Earth	Git Hub
SQL Server Management Studio	BioSonics (Hydro-Accoustic reader)	GPS Garmin Basecamp & MapSource (supporting mobile GPS customization)

Extensive use of ESRI GIS tool set, creating complex detailed maps of aquatic vegetation in lakes and water supply reservoirs, accumulating, analyzing and summarizing large data sets into conjunct, useful and understandable presentations. Implements treatment plans with customers and tracks effectiveness. Efficiency, cost performance and results have improved as a result of my leadership.

Leads multiple field project teams, planning and syncing assorted team members, planning associated work tasks and logistics, designing, overseeing and tracking treatment plans, accumulating and summarizing complex data sets, coordinating and briefing government, regulatory and private sector customer organizations.

Built innovative capabilities by developing custom GIS tools and applications, including web-based, mobile, and local deployments.

Experienced business traveler, accustomed to field work in challenging conditions.

AgGateway 2014 Innovative Technology Award: One of three developers that created SeMAPS, a online mapping tool used for water restoration and preservation management.

Special Recognition Award: "For Outstanding Work Ethic and Personal Commitment to Field Operations" - ReMetrix, March, 2011

GIS Research Assistant: University of Vermont: January 2005 - June 2008

Created GIS maps and analyses for City Planners, Green Spaces and run-off management.

Progressive Architecture and Engineering - Intern 2007

Supported Sustainable Design Architect team and Water Quality Studio - Surveyed 73 Michigan Lakes, identified aquatic invasive species and created GIS maps.

Glen Lake Association - Intern 2006

Collected and performed Secchi disk readings, plankton identification , harmful algae testing and mapped thermocline and oxygen supply in Lake Michigan and the Glen Lakes

On the Narrows Marina - Summers 2001 - 2006

Dock Crew and on - site

manager responsibilities

Research Experience

University of Vermont: Collected, organized, interpreted and prepared written reports in Ecology, Geology, Chemistry and Biology

University of Vermont: Designed, built and demonstrated water purification eco-machine

Designed, researched, modeled and presented vision for Burlington Vermont future - presented to City Council and city planning commission members.

Education

University of Vermont, Rubenstein School - B.S. Environmental Science/GIS (2008)

FAA UAS Certified pilot

Captain's License

Multiple Post Graduate ESRI Conferences and educational seminars

OTJ Modules

Advanced Open Water/Rescue Diver/NITROX certifications

**TELLY RYAN SMITH
APPLIED AQUATIC MANAGEMENT, INC.
PROJECT MANAGER**

CERTIFIED AQUATIC PESTICIDE APPLICATOR

EDUCATION: 1995 Graduate of Auburndale High School

PROFESSIONAL ASSOCIATIONS AND ACTIVITIES:

Florida Aquatic Plant Management Society
Board of Directors Member for FAPMS

LICENSES: Florida Pesticide Applicators License
Aquatic, Right of Way and Natural Areas Categories #CM15057

SUMMARY OF EXPERIENCE:

Mr. Smith has been in the employ of Applied Aquatic Management, Inc., since July of 2001. Mr. Smith routinely conducts aquatic plant surveys, recommends the appropriate herbicide and rates for control and maintenance of the waters surveyed. He provides supervision and direction on all projects to which he is assigned. Mr. Smith has worked on numerous aquatic vegetation management projects in the State of Florida. Specifically, he has worked on governmental projects for SFWMD, SJRWMD, FDEP and USACE. He provides aquatic plant management services to a large number of industrial and commercial clients. Mr. Smith has worked on mitigation maintenance projects for numerous industrial and private clients. Mr. Smith manages a team of technicians that service a large number of commercial and private accounts involving maintenance and eradication of exotic vegetation throughout the state of Florida.

**ARCHIE CAMPBELL
PROJECT SUPERVISOR**

CERTIFIED AQUATIC PESTICIDE APPLICATOR

EDUCATION: 1987 Graduate of Winter Haven High School

PROFESSIONAL ASSOCIATIONS AND ACTIVITIES:

Florida Aquatic Plant Management Society

LICENSES: Florida Pesticide Applicators License
Aquatic, Right of Way and Natural Areas Categories #CM19714

SUMMARY OF EXPERIENCE:

Mr. Campbell has been in the employ of Applied Aquatic Management, Inc., since 2008 and Project Supervisor since 2020. He works with Mr. Smith servicing a wide variety of routine accounts. Mr. Campbell also conducts surveys of aquatic plants and provides proposals for routine accounts. He acts as supervisor in the absence of Telly Smith. He is assigned to large scale projects when the need demands. He has worked on projects for the FDEP, USACE and mitigation maintenance and eradication projects throughout the state of Florida.

JERRY C. RENNEY, JR.

CERTIFIED AQUATIC PESTICIDE APPLICATOR

EDUCATION: 1987 Graduate of Winter Haven High School

PROFESSIONAL ASSOCIATIONS AND ACTIVITIES:

Florida Aquatic Plant Management Society
Best Applicator Paper of the Year 1994
Florida Aquatic Plant Management Society
Board Member 2007-2010
Florida Aquatic Plant Management Society President 2012

LICENSES: Florida Pesticide Applicators License
Aquatic, Natural Areas and Right of Way Categories #CM6897

SUMMARY OF EXPERIENCE:

Mr. Renney has been in the employ of Applied Aquatic Management, Inc., since May 1988. He provides supervision and direction on all projects to which he is assigned. Mr. Renney has worked on numerous aquatic vegetation management projects in the States of Florida, Alabama, Georgia and Mississippi. Specifically he has worked on projects for SFWMD, SJRWMD, FDEP, USACE, FDOT, Valencia Water Control District, Pearl River Water Supply District and several industrial and commercial clients. Mr. Renney has supervised labor crews from ground application equipment and helicopter transported crews on various exotic species eradication projects statewide. Specifically he has supervised crews in the Water Conservation Areas, Fisheating Creek, Lake Okeechobee and Save Our Rivers Lands for the South Florida Water Management District, the NPS in the BICY, Lee County and Manatee County. He has worked on numerous mitigation maintenance and exotic species eradication projects for various industrial and commercial clients.

TAB 4 – INTERACTION WITH COUNTY AND REGULATORY AGENCY STAFF (5 POINTS)

Provide documentation supporting the specialized qualifications of the proposed staff in terms of meeting this scope of service. Qualifications should highlight experience with regulatory agencies, identifying specific agencies and the items being addressed, including construction permitting, stormwater management permitting, consultation, governing regulations, and other related activities. Describe the firm's ability to work with the County's Parks and Natural Resources Division, Procurement Division, Florida Department of Environmental Protection, and County Attorney's Office staff in order to successfully fulfill the scope of service. Demonstrate the firm's knowledge of permitting process, as well as local regulatory agencies, including, but not limited to SWFWMD and FDEP. (Limit response to one (1) page).

The EutroPHIX Team has met virtually and in-person with Polk County Parks & Natural Resources staff members Tabitha Biehl, Greg Knothe, and Joseph Whyte over the last two years to develop nutrient mitigation strategies for key projects within the county. EutroPHIX has worked to assist with sediment sample collection and analyses, phosphorus mitigation design and implementation strategies, and pathways to permitting in-lake phosphorus mitigation efforts for Polk County's impaired water bodies. In addition, EutroPHIX presented a phosphorus mitigation strategy for Lake Smart (4e Plan currently in development) to the Polk County Stormwater Technical Advisory Committee in March 2023.

There have also been ongoing discussions with SWFWMD and FDEP permitting personnel regarding understanding the requirements for permitting in-lake phosphorus mitigation efforts in order to successfully fulfill the restoration scope of service for Polk County.

TAB 5 – IS THE FIRM A “CERTIFIED WOMAN OR MINORITY BUSINESS ENTERPRISE” (5 POINTS).

NOT APPLICABLE TO SEPRO CORPORATION

• Polk County Board of County Commissioners has a long-standing commitment to encouraging the utilization of Women and Minority Businesses that do business with the County as vendors. To that end we encourage all of our prime and professional services vendors to utilize W/MBE vendors where at all possible, irrespective of a company’s certification status. Please explain how the submitting firm will encourage minority participation in the project. (Limit response to one page)

• There will be a maximum of five (5) points allocated for this tab. If the Proposer is a Woman or Minority owned business then five (5) points will be allocated. If the Proposer is not a Woman or Minority owned business but is utilizing one or more sub-consultants that are a Women or Minority owned business to assist in performing the scope of work, then the Proposal will be allocated one (1) point for each sub-consultant which meets the County’s certification criteria of Women or Minority owned, up to a maximum of five (5) points. The Woman or Minority owned business sub-consultant(s) must have been identified under Tab 3, Experience, Expertise, Personnel and Technical Resources in order to qualify for point allocation.

• Proposers or sub-consultants will be allocated points if they are a certified W/MBE as evidenced by providing the documentation described below.

• If the Proposer or sub-consultant has a certified W/MBE status, provide documentation of the firms’ certified W/MBE status as defined by the Florida Small and Minority Business Act and as defined in Polk County’s Purchasing Procedures. Polk County’s Purchasing Procedures recognize the following to meet the requirement of a certified W/MBE status:

○ Valid W/MBE Certification from one of the following:

- Florida Minority Supplier Development Council
- Women Business Enterprise National Council
- The State of Florida Office of Supplier Diversity
- Florida Department of Transportation
- U. S. Small Business Administration
- Federal Aviation Authority
- Other Florida governmental agencies

Certifications from other governmental agencies will be considered on a case-by-case basis.

• In the event a Proposer lists one or more sub-consultants in Tab 5 which is a Women or Minority owned business and receives point(s) as a result, and after the Proposer is awarded the project, if successful, it is determined that the listed sub-consultant does not assist in the performance of the scope of work (and is not replaced with an alternative sub-consultant which is a Women or Minority owned business), then the Proposer acknowledges and agrees that it may be suspended or debarred by the Procurement Director for failure to comply with the conditions, specifications or terms of a proposal or contract with the County or for committing a fraud or misrepresentation in connection

with a proposal or contract with the County, in accordance with the Polk County Purchasing Ordinance and Procedures Manual.

TAB 6 – TIMELY COMPLETION OF PROJECTS (5 POINTS)

- Describe the firm's current and future projected workload. Describe specifically the firms' daily ability to handle each aspect of the scope of services described herein. (Limit response to two (2) pages maximum)

EutroPHIX recently relocated Pamela Dugan, Ph.D. (Technical Specialist) to Florida to fully focus on water restoration efforts in the state. Pamela lives less than 2 hours away from the Polk County Parks & Natural Resources Division and is able to be available at short notice for all project requirements. The EutroPHIX Team has recently expanded its personnel to ensure all projects are managed safely and with excellence in accordance with proposed schedule timelines. If EutroPHIX is selected to fulfill the scope of services described in RFP 23-573, we will work closely with Polk County personnel and selected contractors regarding scheduling of the project. Once the schedule has been accepted the project will become the primary task assigned to designated staff during the project implementation period. This project will be supported by the EutroPHIX Team and our parent corporation staff of 140+ individuals. We will be able to meet all staffing requirements for manufacturing, logistics, field implementation, monitoring, and reporting.

Survey Questionnaire – Polk County
RFP 23-573, Professional Engineering Services for Lake Deeson & Bear Branch

To: (Name of Person completing survey): Terry McNabb_
 (Name of Client Company/Consultant Aquatechnex, LLC

Phone 360-201-2612____

Email: tmcnabb@aquatechnex.com

Total Annual Budget of Entity n/a privately held company

Subject: Past Performance Survey of Similar work

Project name: Lake Henshaw Algae and Nutrient Management

Name of Vendor being surveyed: EutroPHIX

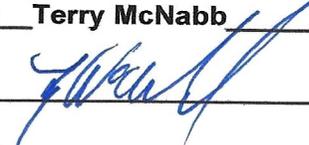
Cost of Services: Original Cost: \$3,384,266.38__ Ending Cost: same Contract

Start Date: 7 / 1 5 / 2 0 2 2 Contract End Date: 6/30/2024

Rate each of the criteria on a scale of 1 to 10, with 10 representing that you were very satisfied (and would hire the Consultant /individual again) and 1 representing that you were very unsatisfied (and would never hire the Consultant /individual again). Please rate each of the criteria to the best of your knowledge. If you do not have sufficient knowledge of past performance in a particular area, leave it blank

NO	CRITERIA	UNIT	SCORE
1	Ability to manage cost	(1-10)	10
2	Ability to maintain project schedule (complete on-time/early)	(1-10)	10
3	Quality of workmanship	(1-10)	10
4	Professionalism and ability to manage	(1-10)	10
5	Close out process	(1-10)	10
6	Ability to communicate with Client's staff	(1-10)	10
7	Ability to resolve issues promptly	(1-10)	10
8	Ability to follow protocol	(1-10)	10
9	Ability to maintain proper documentation	(1-10)	10
10	Appropriate application of technology	(1-10)	10
11	Overall, Client satisfaction and comfort level in hiring	(1-10)	10
12	Ability to offer solid recommendations	(1-10)	10
13	Ability to facilitate consensus and commitment to the plan of action among staff	(1-10)	10

Printed Name of Evaluator: Terry McNabb

Signature of Evaluator: 

Please email the completed survey to: pamelad@eutrophix.com

Survey Questionnaire – Polk County
RFP 23-573, Professional Engineering Services for Lake Deeson & Bear Branch

To: Chance Berthiaume (Name of Person completing survey)

City of Bremerton (Name of Client Company/Consultant)

Phone Number: (360) 473-5929

Email: Chance.Berthiaume@ci.bremerton.wa.us

Total Annual Budget of Entity \$ 12 mil

Subject: Past Performance Survey of Similar work:

Project name: Kitsap Lake Lab Services

Name of Vendor being surveyed: SePRO Corporation

Cost of Services: Original Cost: \$ 24,000 Ending Cost: TBD

Contract Start Date: Oct 2022 Contract End Date: Oct 2025

Rate each of the criteria on a scale of 1 to 10, with 10 representing that you were very satisfied (and would hire the Consultant /individual again) and 1 representing that you were very unsatisfied (and would never hire the Consultant /individual again). Please rate each of the criteria to the best of your knowledge. If you do not have sufficient knowledge of past performance in a particular area, leave it blank

NO	CRITERIA	UNIT	SCORE
1	Ability to manage cost	(1-10)	10
2	Ability to maintain project schedule (complete on-time/early)	(1-10)	10
3	Quality of workmanship	(1-10)	10
4	Professionalism and ability to manage	(1-10)	10
5	Close out process	(1-10)	
6	Ability to communicate with Client's staff	(1-10)	10
7	Ability to resolve issues promptly	(1-10)	10
8	Ability to follow protocol	(1-10)	10
9	Ability to maintain proper documentation	(1-10)	10
10	Appropriate application of technology	(1-10)	10
11	Overall Client satisfaction and comfort level in hiring	(1-10)	10
12	Ability to offer solid recommendations	(1-10)	10
13	Ability to facilitate consensus and commitment to the plan of action among staff	(1-10)	10

Printed Name of Evaluator: Chance Berthiaume

Signature of Evaluator: 

Please email the completed survey to: Ryan Van Goethem ryanv@eutrophix.com

Survey Questionnaire – Polk County
RFP 23-573, Professional Engineering Services for Lake Deeson & Bear Branch

To: Brent Bellinger, Ph.D (Name of Person completing survey)
City of Austin (Name of Client Company/Consultant Phone Number:
(512) 974-2717

Email: brent.bellinger@austintexas.gov Total
 Annual Budget of Entity \$5.5B

Subject: Past Performance Survey of Similar work:

Project name: Algae ATX Sediment Rehabilitation and Toxic Algal Mitigation

Name of Vendor being surveyed: SePRO Corporation

Cost of Services: Original Cost: \$296,800/yr. Ending Cost: \$296,800/yr.

Contract Start Date: 06/2021 Contract End Date: up to 2025

Rate each of the criteria on a scale of 1 to 10, with 10 representing that you were very satisfied (and would hire the Consultant /individual again) and 1 representing that you were very unsatisfied (and would never hire the Consultant /individual again). Please rate each of the criteria to the best of your knowledge. If you do not have sufficient knowledge of past performance in a particular area, leave it blank

NO	CRITERIA	UNIT	SCORE
1	Ability to manage cost	(1-10)	10
2	Ability to maintain project schedule (complete on-time/early)	(1-10)	10
3	Quality of workmanship	(1-10)	9
4	Professionalism and ability to manage	(1-10)	10
5	Close out process	(1-10)	10
6	Ability to communicate with Client's staff	(1-10)	10
7	Ability to resolve issues promptly	(1-10)	10
8	Ability to follow protocol	(1-10)	10
9	Ability to maintain proper documentation	(1-10)	10
10	Appropriate application of technology	(1-10)	10
11	Overall Client satisfaction and comfort level in hiring	(1-10)	10
12	Ability to offer solid recommendations	(1-10)	9
13	Ability to facilitate consensus and commitment to the plan of action among staff	(1-10)	10

Printed Name of Evaluator: Brent Bellinger, Ph.D.

Signature of Evaluator: *Brent Bellinger*

Please email the completed survey to: pamelad@eutrophix.com

Survey Questionnaire – Polk County
RFP 23-573, Professional Engineering Services for Lake Deeson & Bear Branch

To: Anita Grapentien (Name of Person completing survey)

Organization of Woodland Lake (Name of Client Company/Consultant)

Phone Number: 810-229-7894_____

Email:agr apentien @ com cast . net Total Annual Budget of
 Entity_____

Subject: Past Performance Survey of Similar work:

Project name: Woodland Lake In Lake phosphorus mitigation

Name of Vendor being surveyed: SePRO Corporation_____

Cost of Services: Original Cost: _____ Ending Cost: \$110,000_____ Contract

Start Date: March 2023_____ Contract End Date:ongoing_____

Rate each of the criteria on a scale of 1 to 10, with 10 representing that you were very satisfied (and would hire the Consultant /individual again) and 1 representing that you were very unsatisfied (and would never hire the Consultant /individual again). Please rate each of the criteria to the best of your knowledge. If you do not have sufficient knowledge of past performance in a particular area, leave it blank

NO	CRITERIA	UNIT	SCORE
1	Ability to manage cost	(1-10)	10
2	Ability to maintain project schedule (complete on-time/early)	(1-10)	10
3	Quality of workmanship	(1-10)	10
4	Professionalism and ability to manage	(1-10)	10
5	Close out process	(1-10)	10
6	Ability to communicate with Client's staff	(1-10)	10
7	Ability to resolve issues promptly	(1-10)	10
8	Ability to follow protocol	(1-10)	10
9	Ability to maintain proper documentation	(1-10)	10
10	Appropriate application of technology	(1-10)	10
11	Overall Client satisfaction and comfort level in hiring	(1-10)	10
12	Ability to offer solid recommendations	(1-10)	10
13	Ability to facilitate consensus and commitment to the plan of action among staff	(1-10)	10

Printed Name of Evaluator: Anita Grapentien_____

Signature of Evaluator: Anita Grapentien
Anita Grapentien (Oct 13, 2023 13:20 EDT)

Please email the completed survey to: pamelad@eutrophix.com

Lanthanum Chemistry Related Peer Reviewed Publications and Related Reports

Phoslock-specific publications

Álvarez-Manzaneda, I., Baun, A., Cruz-Pizarro, L., de Vicente, I., 2019. Ecotoxicity screening of novel phosphorus adsorbents used for lake restoration, *Chemosphere* 222 (2019), pp. 469-478. doi: <https://doi.org/10.1016/j.chemosphere.2019.01.103>

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Bishop, W.M., Richardson, R.J., 2018. Influence of Phoslock® on legacy phosphorus, nutrient ratios, and algal assemblage composition in hypereutrophic water resources. *Environmental Science and Pollution Research*, 25:4544 – 4557. <https://doi.org/10.1007/s11356-017-0832-2>

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