

LAKE ELSINORE & SAN JACINTO
WATERSHEDS AUTHORITY



City of Lake Elsinore • City of Canyon Lake • County of Riverside
Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

Strategic Plan Facilitator Consultant Services Award of Agreement

Rachel Gray, LESJWA Authority Administrator
LESJWA Board Meeting | October 19, 2023
Item No. 6.A.

Recommendation

Staff recommends that the Board of Directors:

- Accept the proposal from Water Systems Consulting for Strategic Plan Facilitation services.
- Authorize the LESJWA Authority Administrator to negotiate fee and execute an Agreement for Services with Water Systems Consulting, Inc. for Strategic Plan Facilitator Consultant Services in an amount not-to-exceed \$61,600.

Background

First LESJWA Business Plan in 2011

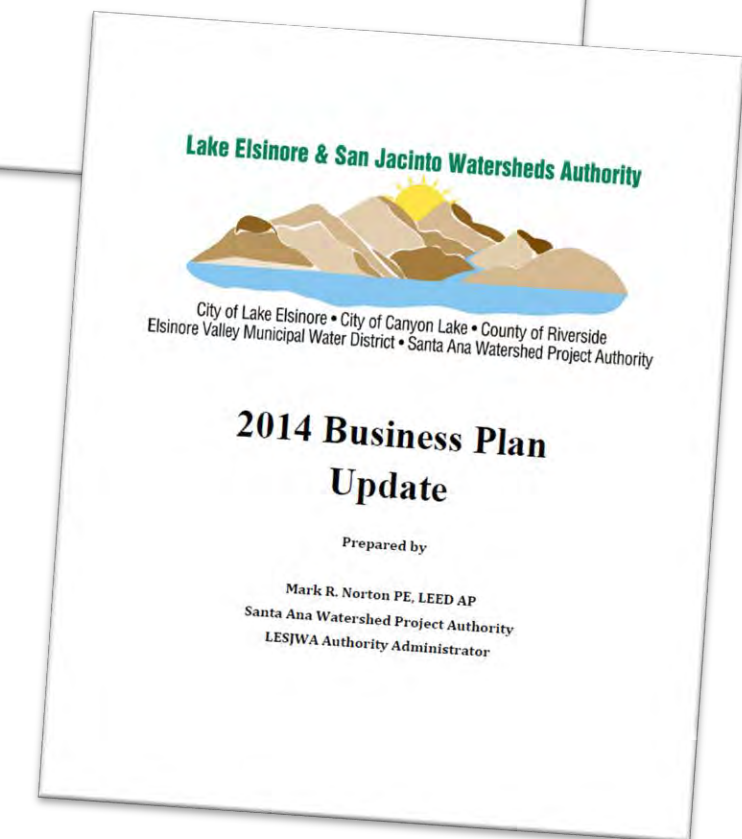
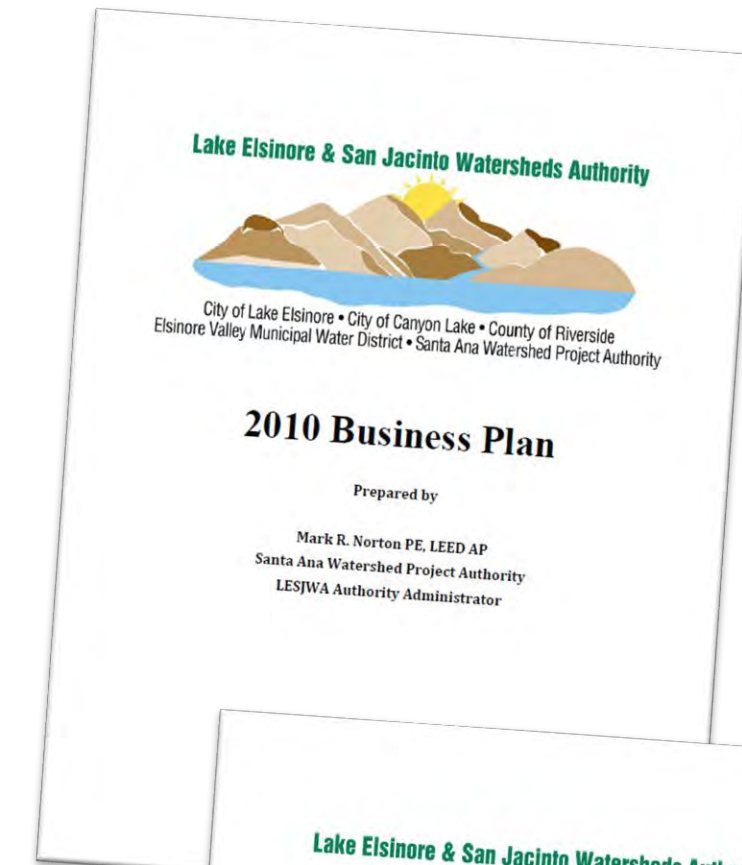
- Focus of Business Plan was on financing of organization

Business Plan was updated in 2014

- Accomplished goals of providing an approach to financially sustain LESJWA

First Strategic Plan 2023

- RFP approved on August 16, 2023



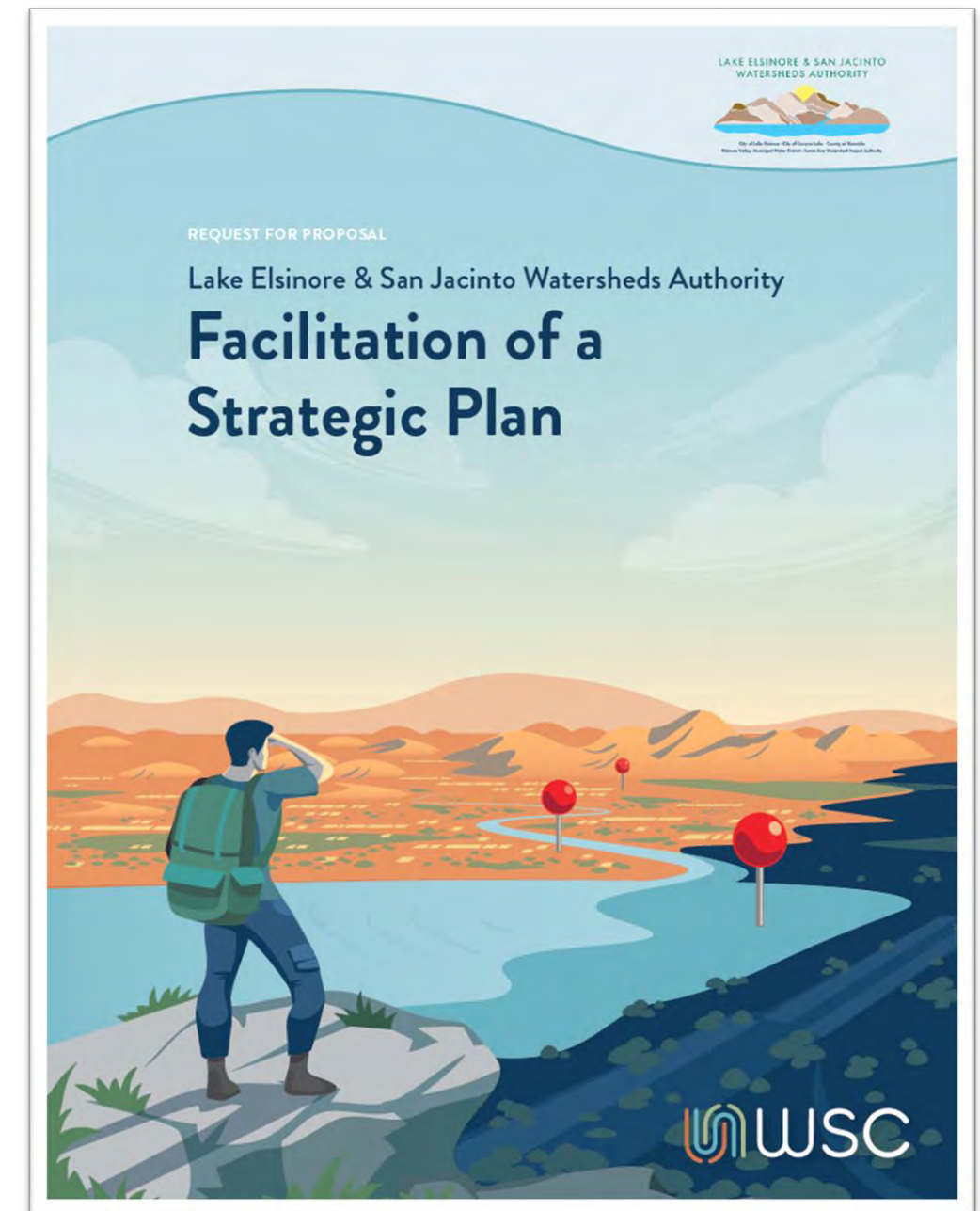
Request for Proposals (RFP)

- August 18, 2023: RFP for Strategic Plan Facilitator Consultant Services was approved the Board of Directors.
- August 21, 2023 – release of RFP
- September 29, 2023 – seven proposals were received
- Selection committee consisted of representatives from LESJWA member agencies.
- The selection committee’s results ranked Water Systems Consulting, Inc., as the most qualified and it is proposed to award a consulting agreement to this firm.

Ranking	Firm	Score	Cost
1	Water System Consulting, Inc.	87.3	\$61,600
2	GEI Consultants, Inc.	76.9	\$49,424
3	Strategy Driver, Inc.	72.9	\$98,075
4	Moss Adams LLP	63.8	\$62,000
5	KJ Peterson Consulting	61.9	\$33,720
6	Linnett Loving	53.7	\$51,000
7	Eli Patrick & Co.	45.0	\$85,050

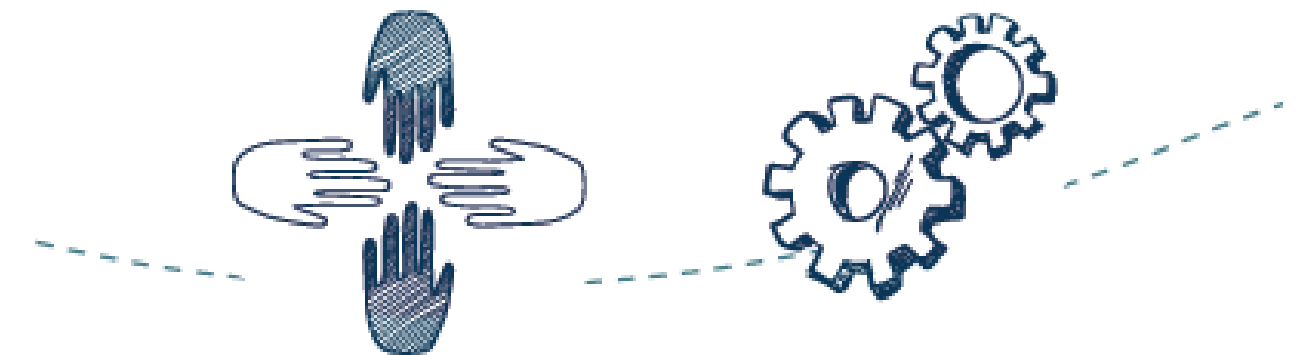
Scope of Work

- Identify and provide required information.
- Meet with LESJWA staff to develop detailed implementation plan and schedule.
- Conduct meetings and preliminary workshops with member agencies, key watershed stakeholders, and technical staff.
- Conduct listening sessions with LESJWA Board of Directors.
- Meet with key LESJWA partners.
- Conduct initial workshop with the Board of Directors.
- Draft initial strategic plan.
- Conduct second workshop with the Board of Directors.
- Finalize strategic plan.
- Present final plan to the Board of Directors.



2023 Strategic Plan – Desired Results

- Confirm the vision, values, and priorities for LESJWA to meet the present and future needs of the member agencies and watershed stakeholders.
- Seek input from key stakeholders, technical experts, member agencies, and Board of Directors to define the goals of LESJWA.
- Institute a process to set benchmarks, establish targets, and measure success.
- Target completion period of approximately eight months.



Funding

Contributing Agency	Amount
County of Riverside	\$25,000

Member Agency	Amount Requested
City of Canyon Lake	\$9,150
City of Lake Elsinore	\$9,150
Elsinore Valley Municipal Water District	\$9,150
Santa Ana Watershed Project Authority	\$9,150

Recommendation

Staff recommends that the Board of Directors:

- Accept the proposal from Water Systems Consulting for Strategic Plan Facilitation services.
- Authorize the LESJWA Authority Administrator to negotiate fee and execute an Agreement for Services with Water Systems Consulting, Inc. for Strategic Plan Facilitator Consultant Services in an amount not-to-exceed \$61,600.

Thank You

Rachel Gray
LESJWA Authority Administrator
Office (951) 354-4242 | Cell (951) 539-0261
rgray@sawpa.org





Lake Elsinore

Lake Management Plan

Lake Elsinore Background

- Lake Elsinore is a natural, freshwater lake situated at the end of the 780 square mile San Jacinto Watershed, Lake Elsinore is reliant on rainfall and watershed runoff.
- Lake Elsinore presents a highly intricate and distinct aquatic environment, characterized by a shallow bottom and rising temperatures, recent occurrences of algae blooms, and decreasing levels of dissolved oxygen.
- The lake has had fish kills in the past and in 2022 had to be shut down for an increase in toxins.





Completed Projects

- Fishery Survey and Management Plan
- Lake Elsinore Carp Removal
- Island Well Pump Station Improvements
- Stripped Bass Stocking
- Lake Elsinore Destratification and Mixing System
- Prop 1 - Round 1 Pilot Study



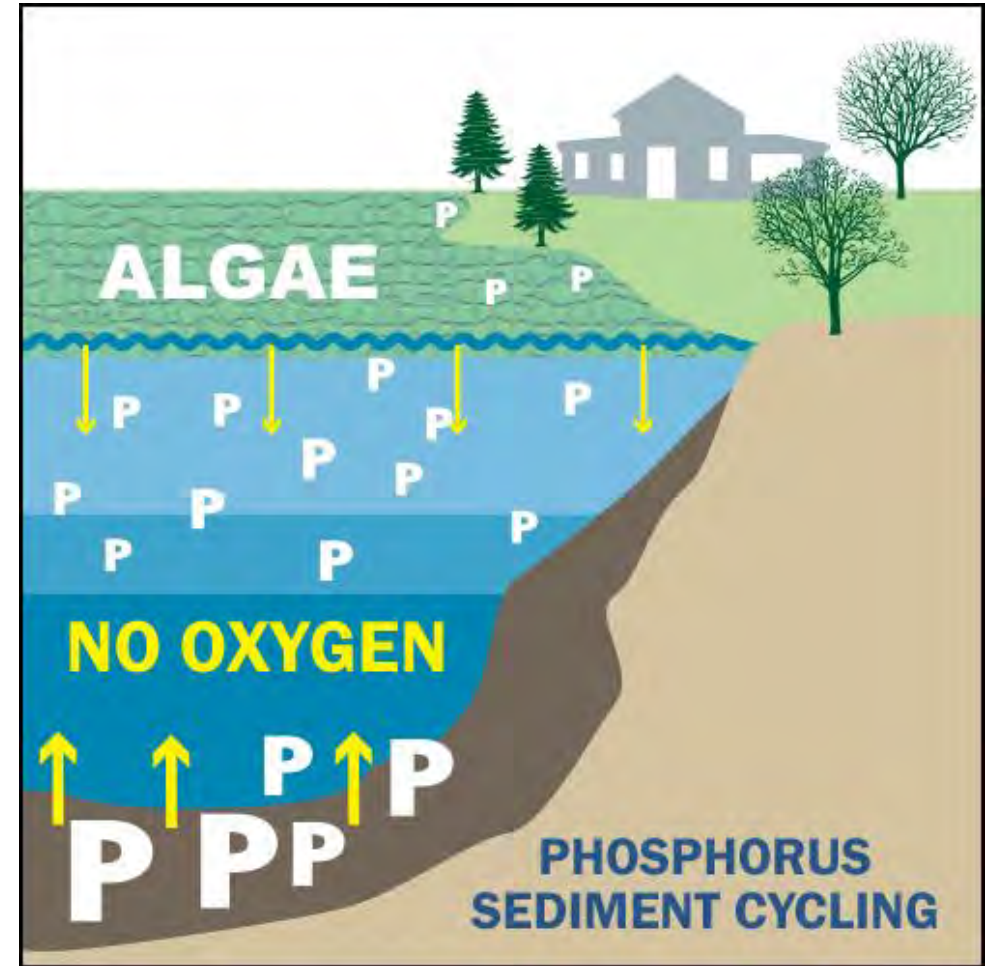
Algae Blooms

- Algae is a natural occurrence and is present in all lakes. Algae blooms are often caused by nutrient pollution, an overabundance of the essential plant nutrients nitrogen and phosphorus.
- These elements enter waterways from a variety of sources, many of which are related to human activities.
- Major sources include human and animal wastes, soil erosion, detergents, septic systems and runoff from farmland or fertilized lawns, and internal loading.



External & Internal Phosphorus Loading

- Elevated phosphorus concentrations can trigger the development of algal blooms that produce toxins harmful to the well-being of both humans and animals.
- If all external sources of Phosphorus (P) were removed, a lake would continue to grow algae. This is because (P) is recycled within the lake.



Nanobubbles

- Nanobubbles are 2500 times smaller than a single grain of salt. They can be formed using any gas and injected into the lake. Due to their size, nanobubbles exhibit unique properties that improve numerous physical, chemical, and biological processes.

What are Nanobubbles?

Nanobubbles are neutrally buoyant, nano-size bubbles, 2500x smaller than a grain of salt

Moleaer		Diffused Aeration				
10 nm	100 nm	1 μm	10 μm	100 μm	1 mm	1 cm
Nanobubble (<200nm)		Microbubble	Fine Bubble			
Invisible to the Naked Eye		White Cloudy Water	Quickly Rise to Surface			
Virus	Bacterium	Algae Cell	Plant Cell	Zooplankton		

LARGER BUBBLES
Larger bubbles rise to the surface and burst.

NANOBUBBLES
Nanobubbles are stable, neutrally buoyant, remain suspended and disperse in water.

MOLEAER
ADVANCING NANOBUBBLE TECHNOLOGY

CONFIDENTIAL | Copyright © 2022 Moleaer. All trademarks described herein are the property of their respective company. All rights reserved. This document is confidential and contains proprietary information of Moleaer Inc. Neither this document nor any of the information contained herein may be reproduced, stored, copied, downloaded, or disseminated without the express written permission of Moleaer Inc.

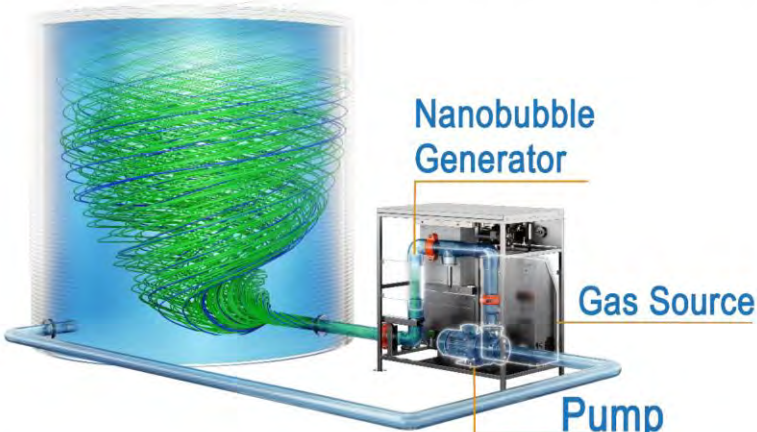
Nanobubble Treatment

MOLEAER
ADVANCING NANO-BUBBLE TECHNOLOGY

Moleaer's Patented Technology

Compressed gas is diffused into flowing water from 10-to-4500 GPM in our Nanobubble Generator forming 200M-to-1B nano-sized bubbles/ml

Patented Technology
Introduces **two forms of gas** into the water: dissolved and nanobubbles



Nanobubble Generator

Gas Source

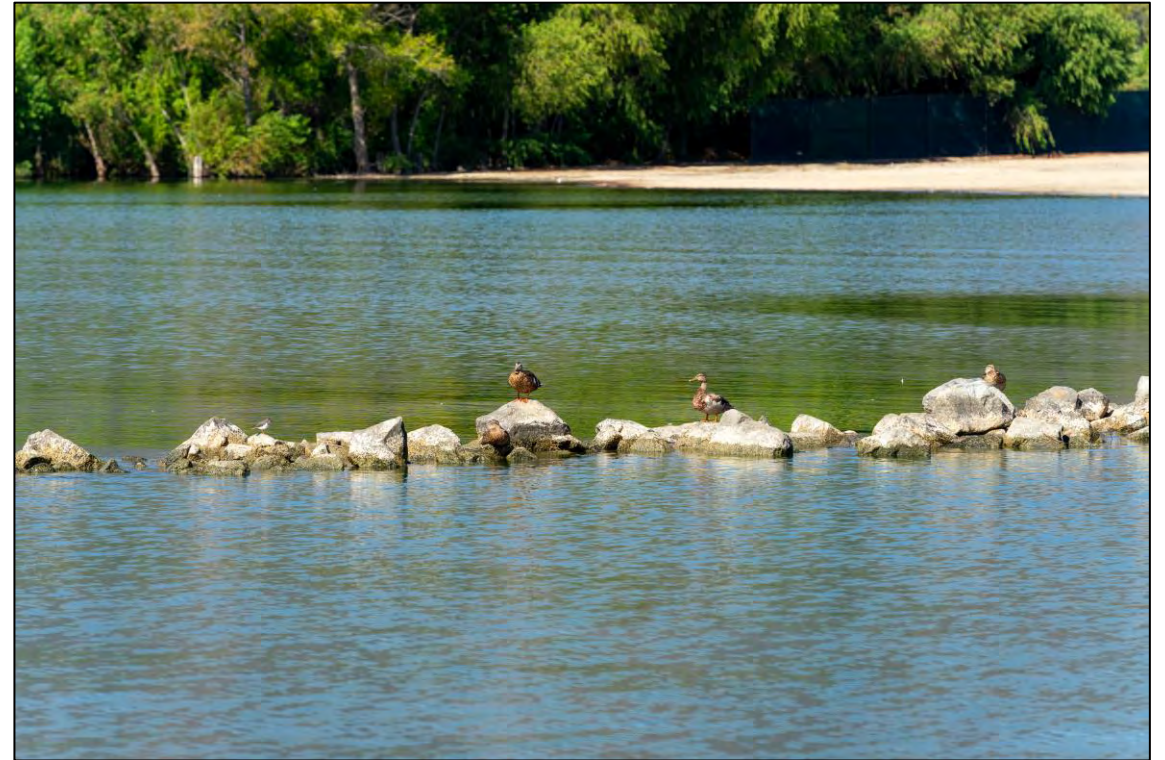
Pump

Robust, scalable, easy-to-install, technology with best-in-class over 85% oxygen transfer efficiency

- Nanobubble generators will be installed on a floating barge approximately 50 feet off the shoreline on the East side of the lake between Mohr and Davis Street.
- The project will include baseline water quality testing and hardness mapping of the lake bottom.
- The testing will allow us to track the effectiveness of the equipment and determine how many future systems are needed to treat the whole lake.
- This system will treat 7.2 million gallons a day.

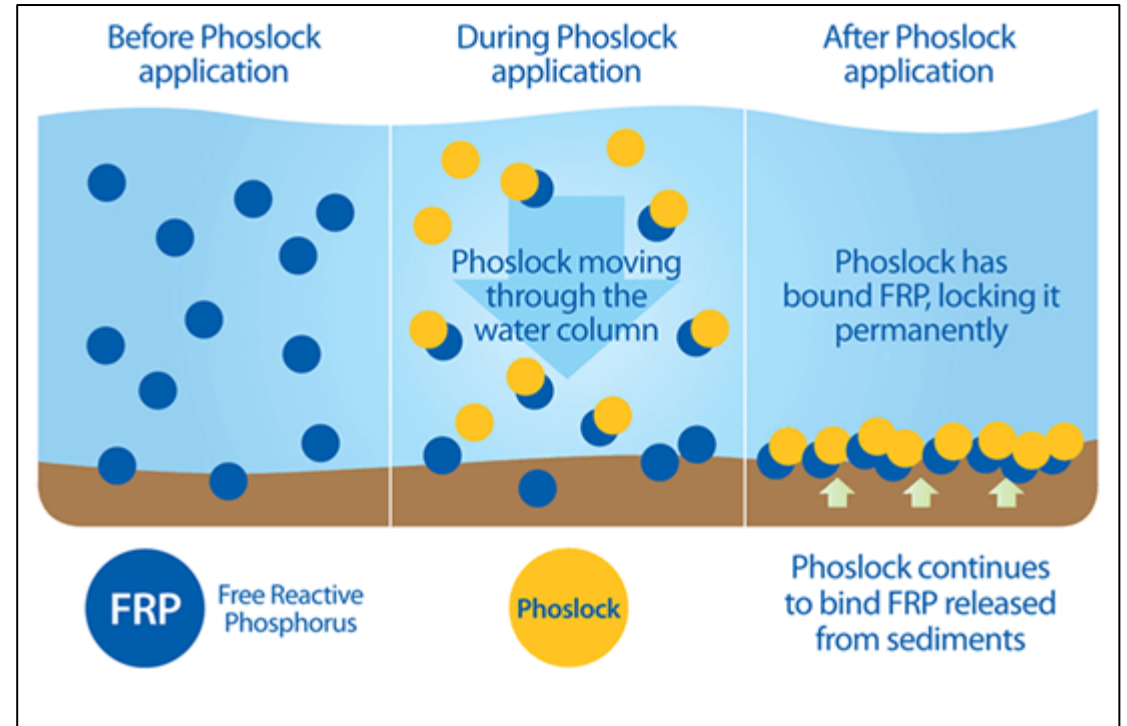
Peroxide Based Algaecide

- Hydrogen peroxide is a well-known agent for disinfection and water treatment with a strong oxidizing capability.
- Active ingredient, sodium carbonate peroxyhydrate, creates a powerful oxidation reaction that destroys algal cell membranes and chlorophyll, providing immediate control of algae.
- Fast acting, it leaves behind no harmful residues.



Phosphorus Treatment

- Lanthanum is derived from a naturally occurring mineral, which rapidly binds with and removes free reactive phosphorus (FRP) from the water column. It is also effective in locking up the phosphorus in the sediment layer.



Future Projects



- The City's roadmap approach to improving the lake includes long-term projects currently in the planning phase of development.
 - Army Corps
 - Algae Harvester
 - Lake Elsinore Aeration and Mixing System Replacement

Army Corp of Engineers Habitat Restoration



- The Army Corps is in the planning stage of a wetland restoration project that will help to filter the lake water and restore the natural habitat around the lake.
- This project is planned for the inlet channel that receives water from Canyon Lake and the outflow channel near Elm Grove Beach.

Algae Harvester

- AECOM Algae Harvester
- 1.5 million City funding
- 1.5 million Prop 1 Round 2 Grant
- Currently in the planning phase



LAKE
ELSINORE

STRONG

State of the City

LAKE ELSINORE & SAN JACINTO
WATERSHEDS AUTHORITY



City of Lake Elsinore • City of Canyon Lake • County of Riverside
Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

California Resilience Challenge

LESJWA Grant Proposal

Rachel Gray, LESJWA Authority Administrator

LESJWA Board Meeting | October 19, 2023

Item No. 7.B.



Agenda

- California Resilience Challenge Overview
- Grant Proposal Concept
- Proposed Budget
- Proposed Schedule
- Next Steps



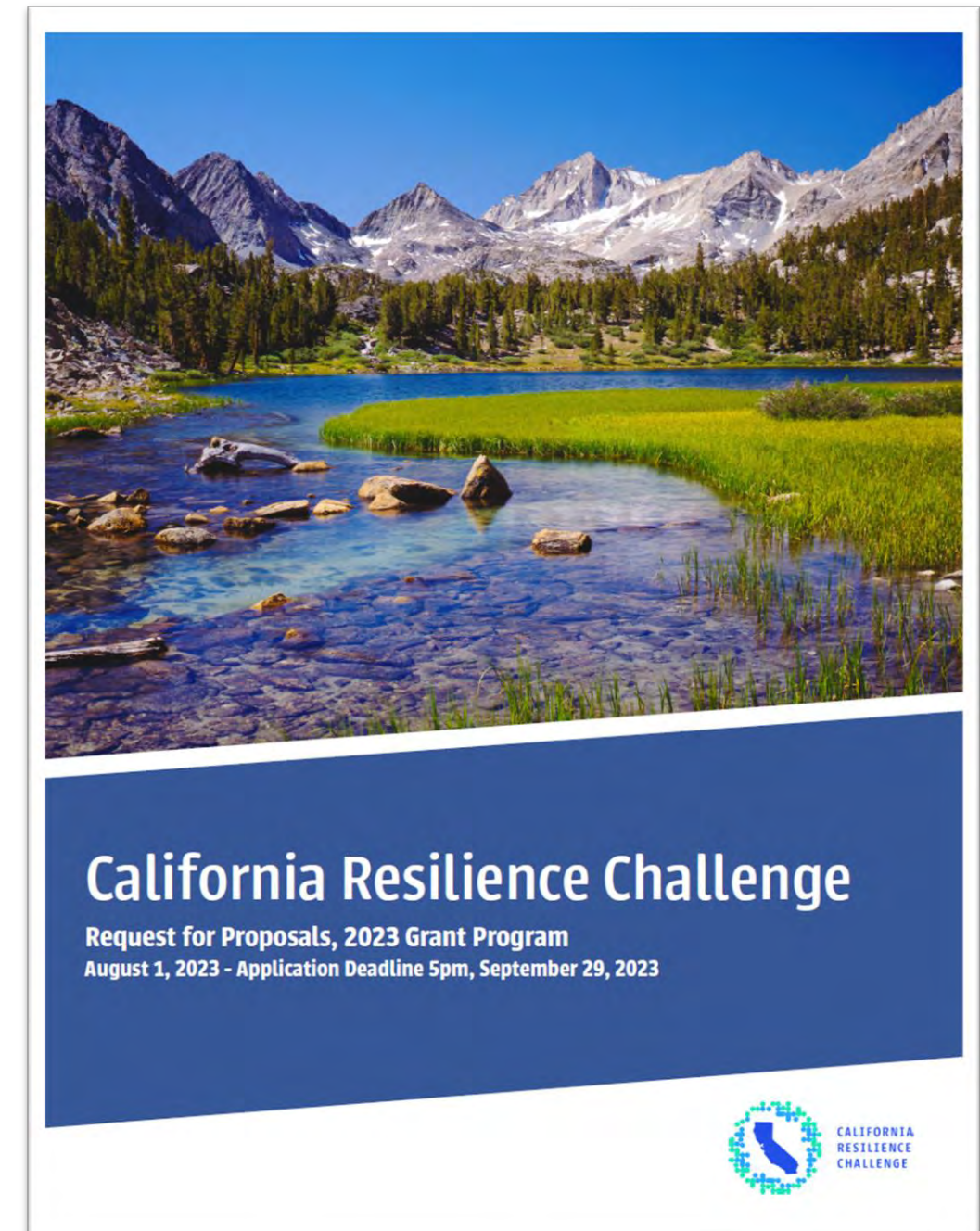
California Resilience Challenge

California Resilience Challenge is providing funding by means of its 2023 Grant Program for eligible **resiliency planning projects** aimed at **improving local resilience to climate impacts:**

- Drought
- Flooding
- Extreme Heat
- Wildfires
- Air and Water Quality

Selected plans will be **innovative and replicable** for other locations, will help **protect critical infrastructure**, and will require **broad community support**; significantly, the focus of the 2023 Grant Program will be **on projects that serve under-resourced communities.**

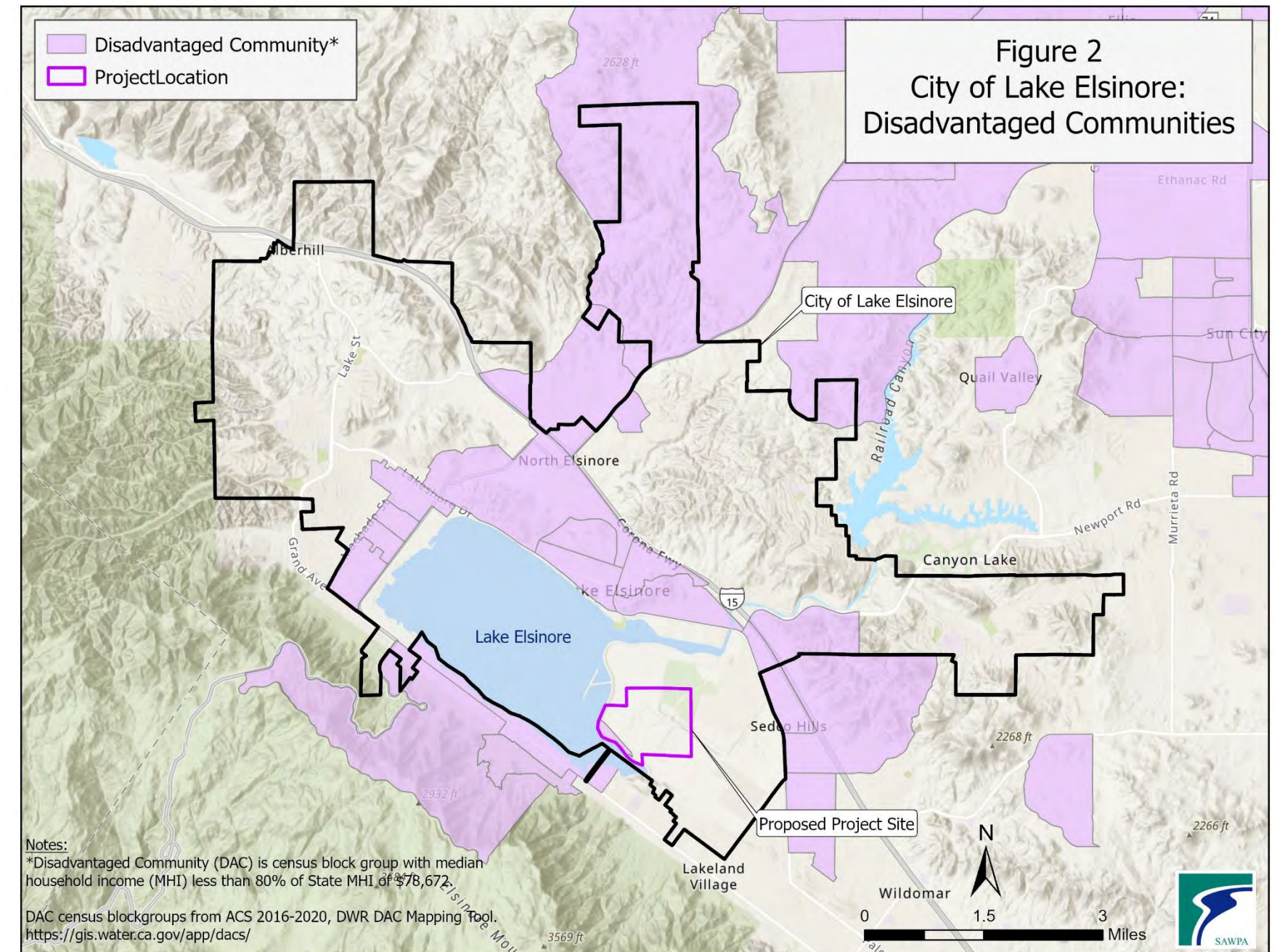
A key goal of the California Resilience Challenge is to **support a diversity of projects** in terms of scale, type, and readiness with a focus on supporting planning projects that could fast track implementation.



California Resilience Challenge

Project Evaluation Criteria:

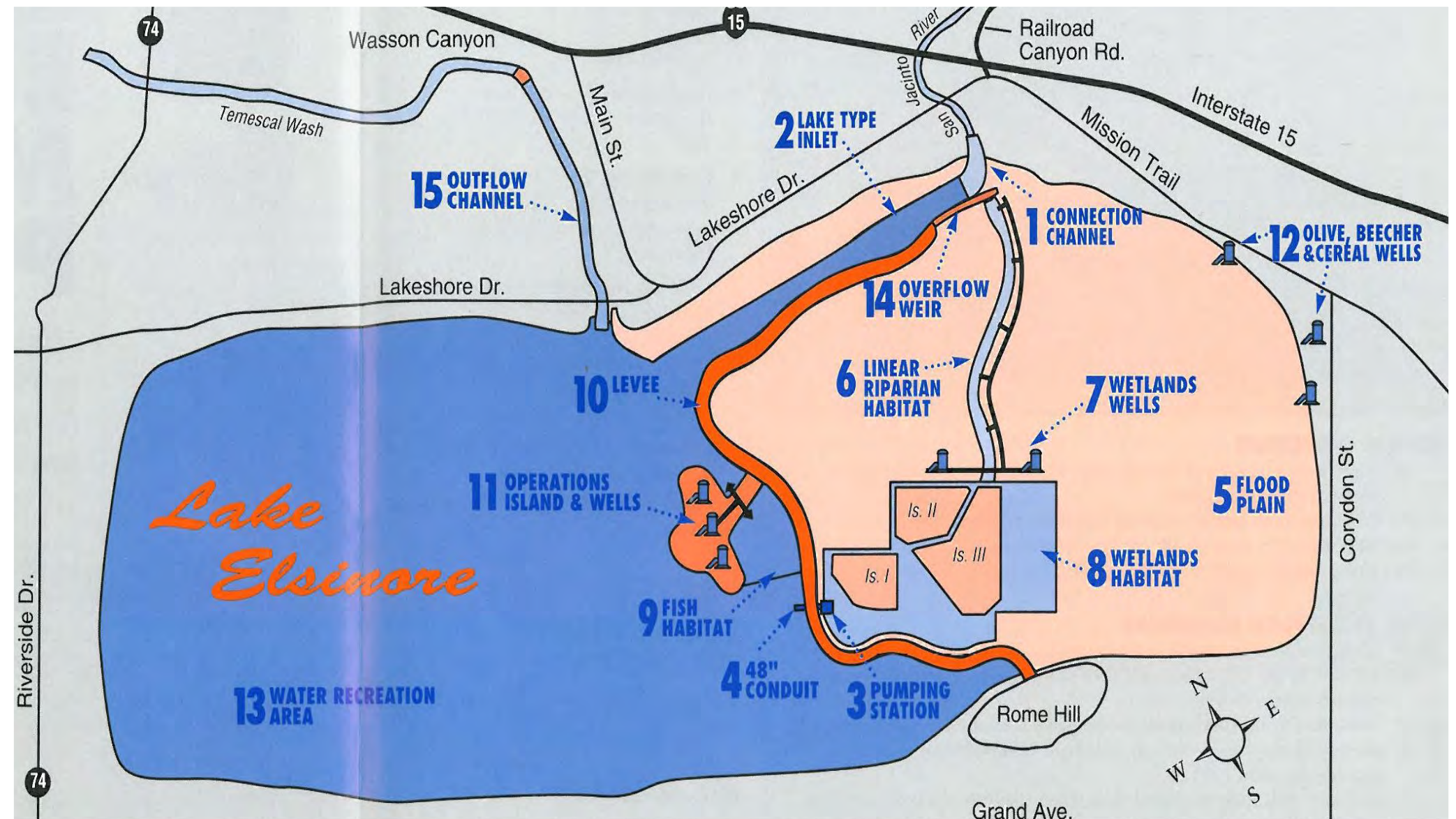
- Community Support:
 - Letters of Support:
 - Santa Ana Watershed Project Authority (SAWPA)
 - Lake Elsinore/Canyon Lake TMDL Task Force
 - Elsinore Valley Municipal Water District (EVMWD)
 - County of Riverside
 - City of Lake Elsinore
 - Eastern Municipal Water District
 - City of Canyon Lake
- Benefit Under-Resourced Communities
- Impact and Sustainability
- Collaboration
- Co-Benefits



P:\projects\Rick_Whetsell\LakeElsinoreGrant23_EJEMaps.aprx LoDAC2020 SW-3194

Grant Proposal Concept

- Feasibility analysis for a treatment wetlands located on the southeastern corner of Lake Elsinore, designed to achieve nutrient removal of both nitrogen and phosphorus (N and P) in recirculated lake water.
- Excess nutrients in the lake from watershed runoff and reclaimed water addition provides food for hazardous algal blooms (HABs) to grow and persist at levels that exceed illness risk thresholds for swimming beach notification or closure.
- LESJWA's preliminary project concept envisions repurposing the existing "Back Bay" wetlands which are currently not used to treat any inflowing runoff or recirculated lake water.
- Climate change impacts of extreme heat and extended drought cause increased air and water temperature creating conditions that favor exacerbated growth of HABs over other algae.
- Monitoring samples collected in recent years found concentrations of cyanotoxins exceeding "Danger" thresholds suggested in state guidance for recreational inland waters.
- Protecting Lake Elsinore as a water contact recreational body is important to the surrounding disadvantaged community because swimming and other activities can help individuals manage health risks associated with prolonged periods of extreme heat.
- The project would also aim to increase recreational access in the southeastern shoreline and support environmental education opportunities to schools throughout the region by incorporating features such informational trails and floating wetland treatment islands.



Proposed Budget

Cost Description	Total
Task 1: Project Management	\$14,660
Task 2: Engagement: meetings and stakeholder coordination	\$15,660
Task 3: Site Characterization	\$41,000
Task 4: Benchscale Experiment	\$65,200
Task 5: Feasibility Analysis	\$34,480
Task 6: Plan Development and Approval	\$28,900
Total	\$199,900

Proposed Schedule

Task		Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25
1	Project Management																	
1.1	Execute Agreements																	
1.2	PM																	
1.3	Invoicing					1	2	3	4	5	6	7	8	9	10	11	12	13
2	Engagement																	
3	Site Characterization						TM-1											
4	Benchscale Experiment											TM-2						
5	Feasibility Analysis														TM-3			
6	Plan Development and Approval															D-FS		F-FS

Next Steps



Thank You

Rachel Gray
LESJWA Authority Administrator
Office (951) 354-4242 | Cell (951) 539-0261
rgray@sawpa.org

