



Clear Lake Blue Ribbon Committee

Enhancing Implementation of a Natural Shoreline Stewards Program in Clear Lake, CA

January 14, 2023

Project Title: Enhancing Implementation of a Natural Shoreline Stewards Program in Clear Lake, CA

Agency: Lake County Watershed Protection District

Project Description:

This project will continue an established Natural Shoreline Stewards Program on the shores of Clear Lake, CA. In 2022, Lake County Watershed Protection District was awarded a Department of Pesticide Regulation grant to establish a Natural Shoreline Stewards program paired with and shoreline property owner incentive program. Both projects aim to convert high-impact private and commercial shoreline property into natural shorelines through incentive and educational-based solutions.

The proposed project to the Blue Ribbon Committee will continue and enhance this project by continuing project coordination by experienced district staff (Task 1.0), build upon the education of staff and partners in hiring and training (Task 2.0), Continue and expand the Natural shoreline Incentive Program, whereas invasive species such as creeping primrose are removed and restored with native plants such as tules (Task 3.0) and continue the community Outreach and Education Program (Task 4.0). In addition, this project will include the creation of several public land natural shoreline projects as demonstrations for the community (Task 5.0 – 7.0).

The proposed project will plan for and permit at least two public shorelines (Task 5.0), create and install at least two natural shorelines on public properties (task 6.0), and maintain these shorelines for the duration of the grant period (task 7.0) which includes the control and removal of invasive primrose and management of native plant species such as Tules (*Schonoplectus acutus*), aquatic smart weed (*Polygonium aquaticum*), spikesedge (*Eleocharis spp.*), water plantain (*Alisma spp.*), alders (*Alnus spp.*) and other native and beneficial wetland species like willows (*Salix spp.*), sedges (*Carex spp.*) and others.

The majority of this project will revolve around the education/outreach and incentive program for individual and commercial shoreline property owners (Task 3.0, and Task 4.0). Task 3 will provide incentives for private/commercial property owners to take advantage of Integrated Pest Management (IPM) methods, in addition to traditional methods, among parcels around the shorelines of Clear Lake. However, current local capacity limits the success of this task at around a maximum total acre a year of shoreline area. Therefore, this proposed project also includes a local capacity building task (2.0) that will not only train and certify local agency and organizational staff, but recruit local contractors to become skilled and certified in Natural Shoreline restoration techniques. This task mimics those conducted by other well-known and successful programs such as Michigan's Natural Shoreline Partnership and Vermont's Natural Shoreline Erosion Control Certification Program.

Task 3.0 will not be limited in geographic scope and can be implemented to any interested property owner. Success will be when interest and participation in the program meets or exceeds available grant funds. Success will also be measured through the total accumulated area of shoreline that is maintained as natural and/or converted from invasive plants, or built hardscape, to natural shoreline. At each qualifying and participating site, the District, and project partners, will conduct photo monitoring pre and post project, and provide maintenance support as grant funds allow.

In addition to incentives, Task 4.0 will provide educational and training opportunities for individuals to improve shorelines on their own. Educational units will include reducing invasive plant and animal species and encouraging natural shoreline infrastructure –both built and natural- to encourage more wildlife use, and improve water quality while reducing shoreline erosion and degradation. This task, the implementation of Natural Shoreline Stewards Program, will provide the public (private and commercial property owners) the educational tools needed to implement their own resilient and native shorelines, which are more equipped at preventing future invasions. This task will also include the creation, distribution, and instruction needed to improve shoreline resilience, to the communities around Clear Lake including shoreline property owners, regional schools, non-profit organization, tribes, work groups, and agencies. This task is direct implementation of an outreach and education program, from an existing plan.

The geographic scope of task 4.0 extends beyond that shoreline and has the potential to be implemented indefinitely, as part of a holistic component for all wetland and aquatic invasive plant species management, lake management, and watershed management plans. This program can be expanded across the lake and be taught in schools as part of any environmental studies units. It is also constructed and intended to be adopted by local agencies, cities, tribes, and others who are connected and rely on Clear Lake. This task will be measured by the number of educational and outreach products produced and distributed, training sessions attended, number of participants in program, and the response rate to online participation / evaluation surveys and social media ads and promotions.

The last tasks of this proposed project will be to provide a living example, case study, to accompany all the other tasks. In order for property owners to be incentivized, and for teaching to be holistic and comprehensive, a natural shoreline demonstration area would be an extremely valuable tool. Task 5.0 – 7.0 include the tasks needed to plan, permit, construct, and maintain at least two natural shoreline area locations, located on public property on shorelines of Clear Lake. These demos will not only provide property owners exemplars to model and motivate their efforts, but the demo space will be ideal locations for staff, partner, and certified contractors to get hands-on experience and skills in creating natural shorelines.

Task 5.0 will include planning and permitting subtasks, with task 6.0 including the actual demonstration garden installation and creation, and task 7.0 will include the maintenance and post-installation management. Success will be realized when at least two demonstration natural shorelines are created and used in an outreach, teaching and training capacity. Before and after photos and lessons learned will be products of these tasks.

Together the objectives and tasks of the proposed project, Enhancing Implementation of a Natural Shoreline Stewards Program in Clear Lake, CA, will create a sustainable program that supports and promotes community buy-in, participation, incentives, motivation, education, and local capacity building for a common goal – Improving natural shoreline communities on Clear Lake. The conversion of shorelines from natural to developed is one of the most significant contributors to poor water quality in the Lake, and this program will provide the resources needed to reverse that contribution and start and sustain the long process for recovering Clear Lake's lost wetlands and natural shoreline communities.

Project Timeline:

Task	Start	End
Task 1. Project Coordination	Fall 2024	Fall 2028
Task 2. Hiring and Training	Spring – Summer 2025	Spring 2028
Task 3. Resident Incentive Program (Continuation of existing program) Invasive species removal & Tule planting	Fall 2024	Fall 2028
Task 4. Outreach and Education Program (Continuation of existing program)	Fall 2024	Fall 2028
Task 5. Demonstration Natural Shorelines Permitting & Planning	Spring 2025	Winter 2026
Task 6. Demonstration Shorelines Installation	Winter 2026	Spring 2027
Task 7. Natural Shorelines Maintenance (Continuation - primrose removal and management)	Spring 2025	Fall 2028

Projected Budget:

Provide overall budget request and breakdown by task (as needed). Example:

Overall budget request: \$755,091

County Contribution: \$147,040

Total project Budget: \$902,131

Task	Grant Request	County Contribution
Task 1. Project Coordination	\$ 82,591	\$ 41,290
Task 2. Hiring and Training	\$ 77,000	\$ 21,000
Task 3. Resident Incentive Program (Continuation of existing program) Invasive species removal & Tule planting	\$ 150,000	\$ 10,000
Task 4. Outreach and Education Program (Continuation of existing program)	\$ 150,000	\$ 45,000
Task 5. Demonstration Natural Shorelines Permitting & Planning	\$ 18,500	\$ 3,250
Task 6. Demonstration Shorelines Installation	\$ 262,500	\$ 22,500
Task 7. Natural Shorelines Maintenance (Continuation - primrose removal and management)	\$ 14,500	\$ 4,000

Project Grand Total	\$902,131
Total Requested from CNRA	\$755,091
Project Contribution / Match from Lake County	\$147,040

Contact Information:

Angela De Palma-Dow, Lake County Watershed Protection District, (707) 263-2344,
Angela.DePalma-Dow@lakecountyca.gov

Project Partners & Collaborators

- Active Alliance Team Members
 - Tribal EcoRestoration Alliance - TERA
 - Bullfrog Underwater Services
 - Robinson Rancheria
 - Big Valley Rancheria
 - Lake County Vector Control District
 - Lake County RCD
 - CA Department of Food & Agriculture (CDFA)
 - CA State Parks
 - AmeriCorps Civic Spark (CivicWell)
- Partners
 - Citizens! Clear Lake Shoreline Property Owners
 - County Parks (Public Services)
 - CA Dept Fish & Wildlife
 - County Department of Agriculture



Tribal EcoRestoration Alliance
19 August at 10:00 · 📍

Go Team TERA! The crew is working with Lake County Water Resources team to remove invasive water primrose from the shores of Clark's Island ... we'll be back in the fall to replant the area with tule, stay tuned!



Research in progress please do not disturb!

The Water Resources Department with partners at the Eco Tribal Alliance and Department of Agriculture are testing a method to move nuisance invasive plant species, creeping water primrose. Please do not disturb the channel area around Clark's Island.

If you have questions or want to report a disturbance to the research area please call (707)263-2344



Thank you for helping us restore Clear Lake