

Contra Costa County
2027 Fish and Wildlife Propagation Fund
Application Cover Page

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Project Title: SAN LEANDRO CREEK WATERSHED
EDUCATION & TROUT HABITAT STEWARDSHIP PROGRAM

Organization/Individual applying: CANYON ELEMENTARY SCHOOL

Organization type: please check one –

government

☐

non-profit

☐

school

☒

other (explain)

☐

Address: 187, PINETHURST ROAD, CANYON CA 94516

Telephone: (925) 376-4671

Email: jvaldez@canyon.k12.ca.us

Name and title of contact person: JULIE VALDEZ, SUPERINTENDENT/PRINCIPAL

One sentence summary of proposal: Canyon School requests funding to launch
a watershed education and stewardship program centered on protecting
Requested grant amount: \$9,000.00 rainbow trout habitat in San Leandro
creek.

Proposal prepared by (name & title): JULIE VALDEZ, SUPERINTENDENT/PRINCIPAL

☒ I understand that projects that qualify as “public works” under California law, such as construction, alteration, demolition, installation, or repair work done under contract and paid in whole or in part out of public funds may trigger requirements including prevailing wage, public bidding, and contractor registration. Applicants proposing such activities will be required to demonstrate full legal compliance. (For more information go to the California Department of Industrial Relations Public Works webpage: <https://www.dir.ca.gov/public-works/publicworks.html>)

Signature (Typing your name does not count as a signature. If this section is empty, your proposal will not be considered):



Date 7/19/2026

Canyon Elementary School District

San Leandro Creek Watershed Education & Trout Habitat Stewardship Program

Contra Costa County Fish & Wildlife Propagation Fund — 2027 Grant Cycle

1. Project Description

Canyon Elementary School District (CESD) requests funding to launch the foundational phase of a long-term watershed education and stewardship program centered on protecting rainbow trout (*Oncorhynchus mykiss*) habitat in San Leandro Creek. The creek runs directly alongside the Canyon school campus and is one of the East Bay's last remaining trout-bearing waterways, flowing from Upper San Leandro Reservoir to San Francisco Bay.

Benefit to the fish and wildlife of Contra Costa County. Rainbow trout are an indicator species — the condition of their habitat reflects the health of the entire watershed, from headwaters to the Bay. This project delivers direct benefit in two ways. First, students and habitat-restoration partners will improve and monitor riparian conditions along the creek, addressing erosion, sedimentation, and streambank vegetation that affect trout survival. Second, the project builds durable public awareness of trout and creek protection through student-created, multilingual interpretive signage and online resources reaching families, recreational creek users, and the wider community beyond the grant period. Native rainbow trout have been repeatedly documented in this watershed by the East Bay Municipal Utility District (EBMUD), academic researchers, and community scientists.

Eligibility under Section 13103 of the Fish & Game Code. The project satisfies subsection (a) — public education relating to the scientific principles of fish and wildlife conservation, delivered through a planned NGSS-aligned curriculum and educational aids including literature and illustration — and subsection (e) — improvement of fish and wildlife habitat, through student stewardship that addresses creekside soil erosion and sediment impacts affecting rainbow trout habitat in San Leandro Creek. Consistent with the definition of “wildlife” under Section 711.2(a), the project protects fish and the related ecological community and habitat upon which they depend.

Overall Goal. Launch the foundational phase of a long-term watershed education and stewardship program that protects rainbow trout habitat in San Leandro Creek and builds lasting environmental stewardship among all Canyon K–8 students.

Objectives:

- Protect and improve rainbow trout habitat along the on-campus reach of San Leandro Creek, where creekside soil erosion is among the concerns affecting water quality and trout habitat. Students will study changing conditions across the creek and watershed and participate in age-appropriate stewardship activities, informed by the guidance of a habitat-restoration expert from the community who is donating their time and expertise to the project — directly benefiting the creek's fish and wildlife while creating a living outdoor classroom accessible to students of all abilities.
- Deliver an integrated environmental science curriculum for all Canyon K–8 students focused on protecting and improving rainbow trout habitat and connecting inland watershed health to coastal and marine ecosystems.
- Embed age-appropriate participatory science — water-quality testing, macroinvertebrate sampling, and riparian habitat monitoring using community science tools — and share findings through public education, including student-created multilingual signage directing the public to online resources on rainbow trout and creek protection.

2. Project Schedule

The project will be completed within 18 months of the grant agreement's execution.

- **Year-Long Teaching Artist Residency:** A professional teaching artist integrates trout ecology, watershed storytelling, illustration, field sketching, and interpretive signage design across the school year.
- **NGSS-Aligned Science Instruction:** All students receive Next Generation Science Standards-aligned instruction covering trout life cycles, watershed dynamics, climate impacts, erosion, sedimentation, and riparian biodiversity.
- **Creek Investigations & Data Collection:** Students conduct creek-based investigations year-round, with deeper data collection led by upper grades (approx. 4–8) in winter and early spring when trout activity is most observable. Data is uploaded to platforms such as iNaturalist and Water Reporter.

- **Student Design & Communication Work:** Students produce vector-ready art, diagrams, signage, and QR-linked digital guides, developing accessibility-aware, ADA-informed design skills.

3. Project Budget (Itemized)

Grant funds are requested exclusively for one-time material and equipment expenses that directly support student investigation, habitat monitoring, and public education, consistent with the Committee's funding preferences. **No grant funds will be used for staff salaries, benefits, or overhead.** All personnel time — district leadership, classroom teachers, instructional support staff, school support staff, and a habitat-restoration expert from the community who is contributing guidance and expertise to the project — is contributed in-kind. The year-long teaching artist residency is separately funded through an application to the Ventures Foundation and is not charged to this Fund. The total requested is \$9,000.

Investment	Estimated Budget
Fish & Wildlife Watershed Monitoring Field Systems	\$2,600
Canyon Creek Aquatic Discovery Station	\$2,050
Fish & Wildlife Stewardship Learning Stations	\$1,800
Watershed Processes Investigation System	\$700
Fish & Wildlife Conservation Education Resources & Student Publications	\$650
Tax, Shipping, Handling & Quote Variance Buffer	\$1,200
Estimated Total	\$9,000

Investment detail. Each investment area comprises one-time equipment and materials supporting student study and stewardship of San Leandro Creek watershed habitat.

Fish & Wildlife Watershed Monitoring Field Systems

- Students study San Leandro Creek watershed conditions — cold-water habitat, dissolved oxygen, water clarity, nutrients, and macroinvertebrates — to understand what rainbow trout and stream wildlife require. Includes water-quality monitoring kits, sampling nets, collection and identification tools, binoculars, magnifiers, temperature loggers, and field equipment.

Canyon Creek Aquatic Discovery Station

- Students examine aquatic insects, trout eggs, algae, sediment, and other specimens using a shared stereo microscope with image capture, supporting classroom study and public education. Includes prepared freshwater ecology slides and station accessories.

Fish & Wildlife Stewardship Learning Stations

- Four to six permanent outdoor interpretive signs (aluminum/HPL) with student-created graphics and QR codes, turning the campus into a public education resource on watershed protection, trout habitat, creekside soil erosion, sediment, and student stewardship.

Watershed Processes Investigation System

- Students model erosion, runoff, infiltration, streamflow, and sediment transport to understand how these processes affect creek habitat and fish populations, including how creekside erosion can influence water quality and trout habitat. Includes a stream table, investigation materials, and monitoring tools.

Fish & Wildlife Conservation Education Resources & Student Publications

- Field guides (watershed, fish, macroinvertebrate, native plant), teacher instructional resources, and printing of student-created guides and brochures that build conservation literacy and support communication with families and the community.

Tax, Shipping, Handling & Quote Variance Buffer

- A dedicated cushion for sales tax, shipping, handling, and quote changes, ensuring eligible approved costs remain covered under the reimbursement model.

4. Annual Budget for the Applying Organization (Not Itemized)

Canyon Elementary School District's total annual operating budget is approximately \$1,567,940 for the current fiscal year.

5. Organization, Board of Directors, and Affiliated Organizations

Canyon Elementary School District is a small, rural public school district in the unincorporated Canyon community, in the East Bay hills between Oakland and Moraga. Established in 1918, the District operates a single K–8 school at 187 Pinehurst Road, Canyon, CA 94516, serving approximately 72 students who live

within or adjacent to the San Leandro Creek watershed. The creek is a defining feature of the community's environmental and cultural identity.

The District is governed by an elected five-member Board of Trustees and led by Principal/Superintendent Julie Valdez. It is a public local education agency under the oversight of the Contra Costa County Office of Education.

Board of Trustees: Esperanza Surls (President); Ken Hogarty (Vice President); Anne Gomez (Clerk); Tera Ajioka (Member); Ann Allen (Member).

Affiliated organizations: Contra Costa County Office of Education (oversight agency); Canyon Education Fund; and the Canyon Association to Support the School.

6. Qualifications of the Sponsoring Organization and Participating Individuals

Canyon ESD is well suited to carry out this project due to its long-standing emphasis on experiential, outdoor, and interdisciplinary learning. Environmental education, sustained creek studies, and project-based instruction are core to the school's instructional model, and the campus's location directly on San Leandro Creek enables repeated, scaffolded engagement over the full year rather than one-time field trips.

Because all programming occurs during the school day, participation does not depend on family resources, transportation, or extracurricular availability. Small class sizes and instructional support staff allow for differentiated instruction, ensuring students with disabilities, emerging academic skills, or limited prior outdoor experience are fully included.

The project will be delivered by Canyon teaching and support staff under the leadership of Principal/Superintendent Julie Valdez, with oversight from the School Board. The residency component will be led by a professional teaching artist; the District is in discussion with scientific illustrator Jane Kim of InkDwell Studios, whose work documenting species and migrations aligns closely with the project's goals.

7. Individuals Responsible for Performing and Overseeing the Project

All approximately 72 Canyon K–8 students will participate through grade-appropriate instruction, with a cohort of 8th-grade students serving as Creek Steward Leaders. Students represent a mix of income levels and racial and ethnic backgrounds, including students eligible for free/reduced-price meals and students with IEPs or 504 plans. Key personnel:

- **Superintendent/Principal (Project Director):** Overall leadership and coordination — planning, partner and agency coordination, permitting oversight as needed, budget management, and reporting.
- **Classroom Teachers (3, K–8 multi-grade):** Deliver NGSS-aligned instruction, prepare students for field studies, and guide investigations and data collection.
- **Instructional Support Staff (4):** Provide differentiated support during instruction, outdoor learning, and data collection to ensure accessibility and inclusion.
- **School Support Staff (5):** Assist with logistics, supervision, scheduling, campus coordination, and safety during field studies and public events.
- **Habitat-Restoration Expert (1, in-kind):** A habitat-restoration expert from the community who contributes guidance and technical expertise to the project, informing student stewardship activities along the creek with attention to creekside soil erosion and sediment impacts on trout habitat. Time and expertise donated in-kind.
- **Teaching Artist (1):** Supports hands-on environmental learning, creative interpretation, and development of educational materials. Funded separately via the Ventures Foundation.
- **Parent & Community Volunteers (~30):** Assist with supervision and student engagement under the direction of school staff.

8. Status of Permit Approvals

No permits are required for the project as currently planned. As the program develops, the District plans to reach out to the East Bay Municipal Utility District (EBMUD) and the East Bay Regional Park District (EBRPD) to build stronger relationships around land stewardship and creek protection.

Canyon Elementary School District

Request for Exception to the Reimbursement Process — Financial Hardship

Contra Costa County Fish & Wildlife Propagation Fund — 2027 Grant Cycle

Canyon Elementary School District (CESD) respectfully requests an exception to the standard reimbursement process, asking that 50% of the awarded grant be advanced at the start of the project. This request is made because the District's very small size and unusual funding structure make it difficult to carry project costs and await reimbursement without straining resources dedicated to student instruction.

An exceptionally small district and school

CESD is among the smallest public school districts in California. Established in 1918 (originally as Valle Vista School and renamed Canyon School in 1921), it operates a single three-room schoolhouse serving approximately 72 students in multi-grade K–8 classrooms, in the unincorporated community of Canyon in the East Bay hills. The District has no separate schools, no central office staff of any scale, and a single administrator who serves as both Principal and Superintendent. With a total annual operating budget of approximately \$1,567,940 and a very small staff, the District has no discretionary reserve from which to float the full cost of a grant-funded project for an extended period while awaiting reimbursement.

A property-tax base that rarely turns over

Canyon is a small, secluded community almost entirely surrounded by watershed land owned by the East Bay Municipal Utility District (EBMUD). Beginning in the mid-20th century, to protect the San Leandro Creek watershed and reservoir from contamination, EBMUD and Contra Costa County restricted new development in Canyon, including a long-standing moratorium tied to septic and sewer limitations. As a result, the community's housing stock is very small and tightly held: homes are nestled along narrow private roads in the redwoods, and properties change hands only rarely.

Because California property is generally reassessed only upon sale or new construction, this combination — a tiny number of parcels, a development moratorium, and infrequent turnover — means the District's local property-tax base grows very slowly and provides limited, relatively fixed revenue. The District cannot rely on rising local tax receipts or new construction to expand its resources, and it has little cushion to absorb up-front project costs. Even modest one-time expenditures represent a meaningful share of available operating funds.

Why an advance is needed

The project requires the up-front purchase of equipment and materials — field monitoring systems, a microscope station, interpretive signage, and educational resources — from vendors who require payment at the time of order. Under a full reimbursement model, the District would need to pay these costs in advance and wait for repayment, drawing down funds that are otherwise committed to day-to-day instruction for its students. For a district of Canyon's size and revenue structure, carrying these costs would place real strain on the classroom.

A 50% advance at the start of the project would allow CESD to place initial equipment and materials orders without diverting funds from core instruction, while the District completes the remaining purchases and submits invoices, receipts, and its final report for the balance in the normal way. This partial advance would make the project feasible for a very small district while keeping the great majority of grant administration within the standard reimbursement structure.

The District is grateful for the Committee's consideration of this request and is happy to provide any additional financial documentation that would assist in its review.

Contra Costa County
2027 Fish and Wildlife Propagation Fund
Application Cover Page

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Project Title: Wildcat Creek eDNA Testing and Visual Assessment

Organization/Individual applying: The Watershed Project

Organization type: please check one –

government

☐

non-profit

☒

school

☐

other (explain)

☐

Address: 1327 S. 46th Street, Bldg. 155, Richmond, CA 94804

Telephone: 510-665-3430

Email: satoko@thewatershedproject.org

Name and title of contact person: Satoko Mills, Environmental Monitoring Manager

One sentence summary of proposal: TWP proposes eDNA testing along the entire length of Wildcat Creek, paired with a visual assessment using the SWAP protocol, to identify which organisms exist in each area of the creek.

Requested grant amount:

\$ 16,123.00

Proposal prepared by (name & title): Juliana Gonzalez, Executive Director

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Signature (Typing your name does not count as a signature. If this section is empty, your proposal will not be considered):

Juliana Gonzalez

Date 7/27/26

Proposal to Contra Costa County Fish & Wildlife July 2026

Description: The Watershed Project (TWP) proposes eDNA testing along the entire length of Wildcat Creek, paired with a visual assessment using the SWAMP (Surface Water Ambient Monitoring Program) protocol. TWP has collected water quality data for nine years and, in 2026, began a fish barrier assessment with the John Muir Chapter of Trout Unlimited (JMTU) to restore steelhead and improve the waterway, including visually inspecting aquatic organisms and salmonids.

The eDNA testing will identify which organisms exist in each section of the creek and reveal how barriers interrupt migratory fish and fish communities—valuable supplemental data for the existing barrier assessment, which examines lakes, underground reaches, dams, and other obstructions affecting fish migration and aquatic life.

This project partners with the East Bay Regional Park District (EBRPD) to determine sampling sites and share data and findings. EBRPD's annual surveys, including electrofishing, cover only the upper creek, not the lower reach. Target sites include potential fish barriers such as Lake Anza, Jewel Lake, the FoodMaxx parking lot (the creek's only underground segment), the fish passage currently under re-design, and the crossing at the creek's mouth. Tributaries—critical refuges for trout escaping high winter flows and summer heat—also show some barriers to access, so eDNA testing will assess how fish communities there differ from the mainstem.

TWP will continue collecting water quality data: baseline parameters (temperature, dissolved oxygen, specific conductivity, pH, turbidity, nitrate), continuous water temperature, flow video in the lower creek, benthic macroinvertebrate data, and first-flush samples. SWAMP visual assessments will measure water depth and temperature, top bank height, tree canopy coverage, and surrounding land use at sites aligned with eDNA sampling locations—helping prioritize restoration efforts. We will collect data via iPads, combining it with GIS mapping to share with municipalities and partners.

The Watershed Project respectfully requests \$16,123 from the Contra Costa County Fish & Wildlife Committee to support Wildcat Creek eDNA testing and visual assessment. Funds will support purchasing equipment to take eDNA tests, lab analysis fees, water temperature loggers, water quality monitoring equipment, visual assessment equipment, an iPad, waders, sun protections, a GIS license, and educational materials for public events. We will measure fish species richness, native fish vs. invasive fish, rainbow trout and steelhead, and habitat concerns.

TWP will share results with EBRPD and JMTU to prioritize barrier removal or improvement, and will submit eDNA and assessment data to the California Fish Passage Assessment Database.

TWP is also involved in the lower Wildcat Creek fish passage redesign, with construction (silt excavation) running June–November 2026; we'll sample water above and below the passage to assess its function. In 2025–2026, three Water Quality Apprentices trained in water quality monitoring, BMI surveys, first-flush monitoring, and fish barrier assessment—experience transferable to early careers. eDNA testing offers hands-on learning for youth and volunteers, including nearby residents who contribute community insights through visual inspections.

Benefit to Contra Costa County Fish and Wildlife: This project will identify fish community composition, species richness, and the presence of steelhead throughout Wildcat Creek, while pinpointing current barriers to steelhead migration and habitat. This data will directly inform future fish barrier removal plans and protect this endangered species. TWP will also share findings with the community to educate residents and strengthen support for steelhead conservation.

Proposal to Contra Costa County Fish & Wildlife July 2026

Requirements of Fish and Game Code: This project directly promotes public education relating to fish and wildlife conservation as indicated in Section 13103(a) of the Fish and Game Code. It also directly improves fish and wildlife habitat as indicated in Section 13103(e).

3. and 4. Project Schedule and Budget

Project	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
eDNA Test												
Plan and Training, Sampling, Lab analysis												
HOB0 logger and WQ data collection												
BMI Survey												
Visual Assessment												
Plan and Training, Assessment Activity												
Data Sharing												
Share HOB0 data												
Upload WQ data to CEDEN, TWP website												
Report												
Report Writing												

Item	Cost
eDNA Test	
Laboratory Fee (qPCR test and Metabarcoding test, sampling training)	\$7,580
Sampling equipment (Brushless cordless drill, battery, charger, carry bag)	\$460
Decontamination sanitizer	\$90
Sample shipping fee	\$150
Visual Assessment	
Measuring stick (depth) and laser (distance)	\$250
Tree Canopy Densitometer	\$200
i-pad and water proof protection cover	\$650
GIS license	\$1,200
Cell phone plan (Location identification, photos, internet tethering)	\$288
Water Connectivity, WQ Monitoring	
Calibration standards for Wildcat Creek (pH, Conductivity, Nitrate, Turbidity)	\$1,350
Replace meters (HOB0 loggers, parts, modules), batteries, and any maintenance items	\$2,000
Permit	
CDFW Scientific Collection Permit Renewal fee for BMI survey	\$385
Lab Fees	
Price to preserve and ID 2 BMI samples	\$700
Public Education Materials	
Education materials for public events (posters, flyers, stationery, and more)	\$450
Safety Items	
Gloves	\$50

Proposal to Contra Costa County Fish & Wildlife July 2026

Waders (4)	\$250
San protection items for interns and volunteers (5)	\$70
Total Cost	\$16,123

5. Annual budget for the applying organization (not itemized). The Watershed Project's organizational budget for FY2026-2027 (July 1-June 30) is \$2,399,000.

6. Statement describing the applying organization, listing the Board of Directors and officers of the organization, and listing all affiliated organizations. TWP is based in Richmond, CA, and our mission is to inspire San Francisco Bay communities to understand, appreciate, and protect our local watersheds. TWP's goals include increasing awareness and stewardship of natural resources and building healthier habitats in the Bay Area. TWP's Board of Directors are Nahal Ghoghaie-Ipakchi, Independent Consultant on climate planning; Matteo Clark-Hurley, City of El Cerrito; Heidi Nutters, Principal Program Manager at the San Francisco Estuary Partnership; and Rei Scampavia, WRA Environmental Associates Plant Biologist. Our partners for the proposed work include East Bay Regional Park District (EBRPD).

7. Statement describing the qualifications of the sponsoring organization and participating individuals for completing the project. TWP has won many awards over the last 25 years, including a proclamation celebrating TWP 30 years in 2026 from Contra Costa County, the 2023 Outstanding Contra Costa Watershed Protection Award, the 2021 Leadership in Sustainability Award from Sustainable Contra Costa, and the 2019 Contra Costa County Watershed Leadership Award. TWP has engaged more than 32,000 community members in creek and wetlands restoration efforts, and fostered the work of over 40 grassroots community creek groups. Our actions have helped to educate thousands of community members, and helped to improve Contra Costa County water quality and to enhance habitat for native fish and wildlife.

Satoko Mills oversees TWP's creek and oyster monitoring programs. She holds a B.S. in Chemistry from Nihon University and has experience as a water quality analyst at an environmental laboratory. Mira Radosevich assists in fieldwork and data entry work for eDNA and visual assessment. She holds a B.S. in Nursing from Duke University and has worked with TWP and JMTU for 4 years on water quality monitoring and fish barrier assessment. Ed Culver, a fisheries biologist with the EBRPD, will assist with permitting and determining eDNA monitoring sites.

8. List of individuals responsible for performing the project and of individuals responsible for overseeing project.

Satoko Mills (Environmental Monitoring Manager) will coordinate the eDNA testing and all monitoring programs: purchasing equipment, volunteer coordination, data analysis, grant management, reporting, and partnership building. Anne Bremirez (Program Director) will oversee the overall program and provide supervision.

9. Statement describing the status of permit approvals necessary to perform the project (if applicable).

The Watershed Project obtained a Scientific Collection Permit from the California Department of Fish and Wildlife in 2024 for a Benthic Macroinvertebrate survey (expires on 03/20/2027). TWP will renew this permit and obtain an extension on an existing Research Permit from EBRPD to take eDNA test and visual assessment.

10. Request for an exception to the grant funding reimbursement process due to financial hardship, if applicable. N/A

Contra Costa County
2027 Fish and Wildlife Propagation Fund
Application Cover Page

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Project Title: Water Quality Analysis and Monitoring of San Pablo Creek

Organization/Individual applying: Friends of Orinda Creeks (FOC)

Organization type: please check one –

government

☐

non-profit

☒

school

☐

other (explain)

☐

Address: P.O. Box 883, Orinda, CA 94563

Telephone: (510) 919-4765 (Michael Bowen)
(925) 254-4029 (Kathleen Mead)

Email: MEBowen@sbcglobal.net
kathleenmead@comcast.net

Name and title of contact person: Michael Bowen, President

One sentence summary of proposal: To support water quality analysis and obtain monitoring equipment in order to characterize the ecological condition of the San Pablo Creek watershed for the reintroduction of

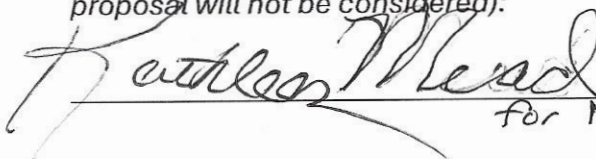
Requested grant amount: \$ 5,000.00

Rainbow Trout

Proposal prepared by (name & title): Kathleen Mead, Board Member

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Signature (Typing your name does not count as a signature. If this section is empty, your proposal will not be considered):


for Michael Bowen

Date 07/26/26

2) **Description of the project for which funding is requested.**

Friends of Orinda Creeks (FOC) requests funding for water quality analysis and monitoring equipment in order to better characterize the ecological condition of San Pablo Creek above San Pablo Reservoir, and to do so in support of our goal to reintroduce native Onchorynchus mykiss (rainbow trout) back to the San Pablo Creek watershed above San Pablo Reservoir. FOC is partnering with the Natural Resources Division of the East Bay Municipal Utility District (EBMUD) to seek authorization from California Department of Fish and Wildlife (DFW) to proceed with the reintroduction. However, before reintroduction occurs, additional information about water quality and habitat characterization is needed. Funding would be used to purchase water quality equipment, specifically a YSI Pro30 Conductivity Meter and 4m cable with Salinity, Conductivity, total dissolved solids, and temperature sensors. Any additional funding, at the level the committee deems appropriate, would support laboratory testing of water samples to analyze parameters that cannot be detected by the probe. Collection of samples would be conducted by trained FOC volunteers.

Restoring our local creeks to healthy and diverse aquatic and riparian habitats faces the challenge of a shortage of information on the parameters related to healthy stream habitats. FOC has conducted extensive testing in partnership with The Watershed Project and will continue to do so in the future. To better understand and prioritize potential problem areas to target, FOC needs to understand sources of elevated potential pollutants affecting the water quality of San Pablo Creek and to track changes in those characteristics through time. For example, although the overall water quality of middle to upper San Pablo Creek appears to be fairly good, from testing conducted by The Watershed Project and FOC, testing shows that Lauterwasser Creek, a major tributary, is a source of high specific conductivity. Preliminary testing has identified potential sources as either homeowner garden care and/or an upstream spring. To understand the source and seasonal changes in the specific conductivity, additional testing and monitoring is required on Lauterwasser Creek. This includes important parameters such as water temperature, dissolved oxygen, acidity and alkalinity, and the presence of certain pollutants.

In addition to supporting FOC's other ongoing programs, the importance of fulfilling these information needs has been highlighted in communications coordinated by FOC with technical biological staff from DFW and EBMUD. FOC has had a goal of restoring a resident population of rainbow trout to their historical habitat in San Pablo Creek upstream of San Pablo Reservoir. To be successful this program not only needs information on existing habitat quality, but also on relevant water quality parameters moving forward. These informational needs can be fulfilled by a testing and monitoring program that collects the relevant information from appropriate locations along our local creek channels at appropriate time intervals. FOC needs to acquire water quality funding to conduct further water quality analysis and equipment to use in monitoring the creek conditions and resources. FOC, using the proposed equipment and water analysis, will collect water quality information from numerous sites in the San Pablo and Lauterwasser Creek drainages. FOC intends to train student and adult volunteers in the use of monitoring equipment for field data collection. In addition to fulfilling our needs for the data to be collected, this training will provide valuable educational experience for the volunteers and increase their awareness of our urban creek issues.

o An explanation of how this project will benefit the fish and wildlife of Contra Costa County.

Protection and enhancement of the San Pablo Creek watershed is our primary goal. However, a key objective for FOC is the reintroduction of native rainbow trout to the watershed. With updated information on the status of our watershed environmental resources and issues, FOC, and the community as a whole, will be better positioned to secure DFW approval for the EBMUD-FOC reintroduction program. Reintroduction of this population will increase resilience of the species in an era of climate change by providing an additional source population within a reliably perennial creek. In addition, drawing attention to this iconic species through its reintroduction to a demonstrably healthy watershed will further increase awareness and concern for the rich fish and wildlife resources of Contra Costa County. This information put Contra Costa County in a position to prioritize problem areas for action towards the goal of preserving and restoring healthy creek environments and their associated fish and wildlife resources. We will have information to use not only for prioritizing FOC's independent activities, but also to use in discussions with the City of Orinda and other organizations such as DFW and EBMUD for protecting and restoring fish and wildlife habitats and populations.

o An explanation of how this project meets the requirements of Section 13103 of the Fish & Game Code.

Most specifically, this program meets the requirements of Subsections (a) and (e) of Section 13103 of the Fish & Game Code. Regarding Subsection (a), the monitoring and mapping program will greatly expand FOC's ongoing public education and nature study programs by involving more students, teachers and adults from the community in the collection and presentation of relevant program information and help educate them about the resource management relevance of the information collected. Program results will also aid FOC in informing government agencies, organizations, and individuals about the issues facing our stream environments, and the prioritized actions that need their support or involvement to improve the stream environments and their fish and wildlife populations.

Regarding Subsection (e), program results will be utilized to prioritize FOC's endeavors to improve in-stream and riparian habitats and resources, including those related to landowner and public drainage issues, controllable sources of pollutants, erosion control, removal of non-native riparian vegetation and cultivating and planting native vegetation, removal of debris, and removal of barriers to upstream and downstream passage of fish and wildlife, among others. Some of these require the convincing and cooperation of government agencies and other organizations or individuals for their successful implementation, an area where credible program information definitely comes into play.

3) Project schedule.

Upon receipt of funding for the needed equipment, FOC will immediately acquire the equipment and begin monitoring water quality parameters at a number of fixed sampling stations in San Pablo Creek and Lauterwasser Creek on a regular sampling schedule basis, at least quarterly. The water quality field testing equipment will be used in connection with each of the water quality sampling events, as well as in connection with mapping other stream and riparian habitat parameters (e.g., barriers, debris, pollution input sources, streambank slope and stability, biological resources, etc.). Mid-term and final reports will be submitted per Fish and Wildlife Committee requirements.

4) Project budget (itemized).

Requested funds for the habitat monitoring and mapping program will be used only for the purchase of equipment and water quality analyte analysis. All labor to conduct the program field work will be performed by volunteers without pay. All other operating costs and expenses related to the monitoring and mapping program will be covered by FOC's funds from memberships and donations. The items to be purchased include:

Water Quality Monitoring Equipment

YSI Pro30 Conductivity Meter, with Salinity, Conductivity, total dissolved solids, and temperature	\$ 842
ProSeries Conductivity Sensor with 4 Meter Cable	\$ 498
Water Quality Sampling Analysis	<u>\$3,660</u>
Total Funding Requested	\$5,000

Additional Funding Needed	<u>\$2000</u>
Total Funding for project	\$7000

5) Annual budget for the applying organization (NOT itemized).

As a volunteer organization, FOC relies on member dues and donations to fund its activities. Its annual total income and budget, for all its programs, has averaged around \$4,200 in recent years. FOC collects no fees for any of the numerous educational, clean-up, and other services it provides to the community through its various programs.

6) Statement describing the applying organization, listing the Board of Directors and officers of the organization, and listing all affiliated organizations.

FOC is a non-profit all volunteer organization with the mission to conserve, restore and help educate the public about the values of and threats to the creeks in Orinda. Since its founding, the programs that FOC has undertaken have become more complex and comprehensive. In order to continue our mission through public education and activities, FOC sponsors school educational programs regarding trout, creek clean-ups where students and adults remove trash and invasive non-native plants, planting native riparian species and supports individual projects of sponsored volunteers such as Boy and Girl Scouts, all of which helps increase awareness of creek issues in our community. We

also participate in the Fourth of July parade, have an informational booth in the park after the parade, and work closely with the educational activities of Orinda Friends of the Nature Area (previously the Wagner Ranch Nature Area) such as the annual Wagner Ranch Wildlife Festival, and sponsor informational workshops for homeowner, and submit relevant articles concerning creek issues to locally distributed newspapers, distribute the FOC brochure with information about Orinda's creeks, FOC's programs, and a membership application, distribute the very informative "Caring for our Creeks – Creekside Property Owner's Manual" booklet to Orinda residents, and maintain a FOC website at www.orindacreeks.org, and at restoresanpablocreek.org through which visitors can access more information about creek issues, how they may contribute to our mission, and how to contact us.

Members and Officers of FOC's Board of Directors are:

Michael Bowen, President
Bruce McGurk, Secretary
Reg Barrett
Maria Brandl
Bianca Garthe
David Hop, Treasurer
Tom MacKinnon

Kathleen Mead
Tom Morehouse
Bob Stoops
Suzanne Uhland
Evie Napolitan-Ito, Student
representative

Additional Resources are:

Brian Waters
Toris Jaeger
Lisa Hales
Cinda MacKinnon
Leesa Evans

Regarding affiliated organizations, within the community FOC was established under the umbrella of the Orinda Parks & Recreation Foundation. The tax ID number is 51-0172525. FOC is also affiliated with EBMUD, with whom we partner on creek enhancement efforts, The Watershed Project, who mentors and assists us in water quality monitoring, and the Urban Creeks Council, with whom we share information regarding urban creek issues, community and educational resources, programs, and related activities.

7) Statement describing the qualifications of the sponsoring organization and participating individuals for completing the project.

With its mission to conserve, restore and help educate the public about the values of and threats to the creeks in Orinda, FOC's members perform various evaluations, restoration, and community educational activities. Along with the technical leads for the monitoring program listed in 7) below, FOC's Board and membership includes many individuals with formal and informal environmental and educational training and experience, including those with expertise in biology, restoration ecology, hydrology, geology, surface water quality, native and non-native invasive plants, engineering, education, and the production and presentation of information. Additionally, for the monitoring program they will be augmented by volunteers from school groups, Boy and Girl Scouts, and volunteers from the community as a whole.

8) List of individuals responsible for performing project and of individuals responsible for overseeing project.

The principal technical leads responsible for performing and overseeing the project will be:

Michael Bowman, President
Kathleen Mead, M.S. Forest Ecology
Brian Waters, Certified Fisheries Scientist. M.S. Fisheries Biology
Reg Barrett, Certified Wildlife Biologist. Ph.D. Zoology

These Technical Leads, who each have project management experience in addition to their technical skills and experience, will be augmented in completing the program by other members of FOC with relevant experience as described in 6) above.

9) Statement describing the status of permit approvals necessary to perform project (if applicable).

No permits are required for the conduct of the activities that will be performed utilizing the monitoring equipment. Any resource management activities (e.g., capturing or planting of fish, restoration within a stream that may require a Streambed Alteration Permit, riparian vegetation management, etc.) that result from decision making utilizing program information that require permits will be conducted within all requisite permit requirements for that activity at that time.

Contra Costa County
2027 Fish and Wildlife Propagation Fund
Application Cover Page

Office Use Only

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Project Title: Wildcat Creek Steelhead and Salmon Habitat Suitability Study

Organization/Individual applying: John Muir Chapter of Trout Unlimited

Organization type: please check one –

government

☐

non-profit

☒

school

☐

other (explain)

☐

Address: 5622 OAK GROVE AVE., OAKLAND 94618

Telephone: 510 220-6898

Email: info@johnmuintu.org

Name and title of contact person: Roger Wachtler President

One sentence summary of proposal: Equipment for water monitoring and passage assessment

Requested grant amount: \$6,717.60

Proposal prepared by (name & title): Eliza Breder Conservation Coordinator

☒ I understand that projects that qualify as “public works” under California law, such as construction, alteration, demolition, installation, or repair work done under contract and paid in whole or in part out of public funds may trigger requirements including prevailing wage, public bidding, and contractor registration. Applicants proposing such activities will be required to demonstrate full legal compliance. (For more information go to the California Department of Industrial Relations Public Works webpage: <https://www.dir.ca.gov/public-works/publicworks.html>)

Signature (Typing your name does not count as a signature. If this section is empty, your proposal will not be considered):



Date 7-20-26

2027 Contra Costa County Fish and Wildlife Propagation Fund

Upper Wildcat Creek Water Quality and Fish Passage Assessment: Phase II

Project Description

The John Muir Chapter of Trout Unlimited requests funding to continue and expand the Upper Wildcat Creek Water Quality and Fish Passage Assessment, building directly on the County-funded 2026 Wildcat Creek Habitat and Fish Passage Study. The 2026 grant supported the purchase of essential monitoring and fish passage assessment equipment, , fish passage barrier identification, and continued maintenance of HOBO data loggers.. This 2027 proposal represents the next phase of that work: continued water quality monitoring, continued fish passage assessment in Upper Wildcat Creek, and continued submission of data to the California Environmental Data Exchange Network (CEDEN) and the California Fish Passage Assessment Database.

Monitoring conducted at six stations in Upper Wildcat Creek indicates that water quality is generally favorable for cold-water fish; Recent 2026 electrofishing also documented resident trout at two monitoring stations in Tilden Park, confirming that a remnant resident rainbow trout population persists in the upper watershed. We also have recently observed a native rainbow trout at the Rifle Range pool indicating that resident rainbow trout may exist in deep pools in Wildcat Canyon. The conservation issue is habitat connectivity. Although portions of Upper Wildcat Creek provide suitable cold-water habitat as demonstrated by continued monitoring, fish passage barriers restrict resident trout movement and limit access to available habitat. The resident trout population suffered severely during the 2014–2017 drought, demonstrating the importance of reconnecting shaded, cold-water refugia and tributary habitat so trout can move through the upper watershed during changing seasonal and drought conditions. This project is coordinated with The Watershed Project, which is conducting complementary work in Lower Wildcat Creek, and with the East Bay Regional Park District, which provides research authorization, site access, and stewardship coordination.

Benefit to Fish and Wildlife of Contra Costa County

The project will directly benefit fish and wildlife resources in Contra Costa County by improving the scientific basis for habitat restoration and fish passage improvements in Wildcat Creek. This project satisfies subsection 13103 (i) of Fish and Game Code Section for scientific research.

Project Goals and Objectives

The overall short-term goal is to restore a healthy, resilient population of resident rainbow trout throughout Upper Wildcat Creek. The long-term goal is to support restoration of anadromous steelhead access from San Francisco Bay into the Wildcat Creek watershed. Additionally, we are contributing our continuous Hobo logger data to a greater study on the effects of global warming on urban creeks by Lisa Hunt of the SF water quality board.

The specific objectives for the 2027 project are:

1. Continue monthly water quality monitoring at established Upper Wildcat Creek monitoring stations.
2. Maintain and calibrate HOBO dissolved oxygen and temperature loggers and related field equipment.
5. Continue fish passage assessment in Upper Wildcat Creek using established CDFW and California Fish Passage Forum methods.
7. Submit water quality data to CEDEN and fish passage barrier data to the California Fish Passage Assessment Database.

8. Coordinate methods, calibration, and data management with The Watershed Project to ensure consistency between upper and lower Wildcat Creek monitoring.
9. Prepare a final report summarizing monitoring results, fish passage assessment findings, data submissions, project outcomes, and recommended next steps for restoration prioritization.

Methods and Work Plan

The project will continue monthly water quality monitoring and fish passage assessments in Upper Wildcat Creek using the technical methods established during the 2026 grant period. Trained JMTU volunteers will collect field measurements, deploy data loggers where appropriate, document habitat conditions, and evaluate fish passage barriers using protocols consistent with state fish passage guidance. Data quality will be supported through training, equipment calibration, and review by experienced project leads, with results entered into CEDEN and the California Fish Passage Assessment Database for use by agencies, researchers, watershed partners, and restoration funders.

Project Schedule

The project will be completed within 18 months of execution of the grant agreement.

- Mar 2027–Aug 2028: Continue monthly water quality monitoring & maintain HOBO loggers
- April 2027–December 2027: Continue Upper Wildcat Creek fish passage assessment
- Semi-annually: Submit water quality data to CEDEN + Fish Passage barrier data to CPAD
- Ongoing: Coordinate results with The Watershed Project and EBRPD
- August–September 2028: Prepare final report, invoices, receipts, and project results

Project Budget

The requested funds will support one-time project materials, monitoring equipment, calibration supplies, and field equipment needed to continue water quality monitoring and fish passage assessment. The budget avoids operating costs and overhead and is focused on direct project implementation. The chapter has limited unrestricted funds and relies heavily on volunteer labor and small grants to conduct conservation work. In past grants, we have received funding for sampling equipment and sensors, including equipment used to monitoring DO and Temperature on a continuous basis (Onset DO/Temp sensor and data logger), as well as monitoring equipment used during the monthly spot sampling (eg Oakton DO/Temperature sampler). In this application the majority of equipment and materials are needed to replace expendable items (eg batteries) or supplied required for quality control (eg calibration).

Material Description and Purpose	# of Units	Unit Cost	Materials Expense
U26-001 Hobo Logger (w 12% sales tax)	1.00	\$1,696.50	\$1,696.50
Onset Hobo DO sensor caps	12.00	\$137.13	\$1,645.56
Onset Hobo DO batteries	4.00	\$319.00	\$1,276.00
Oakton fluids calibration standards	2.00	\$81.29	\$162.58
Oakton Fluids 1413 conductivity	2.00	\$50.17	\$100.34
YSI cap & membrane kits	2.00	\$101.31	\$202.62
waders	2.00	\$392.00	\$784.00
wading boots	2.00	\$275.00	\$550.00
Misc (Signage, notebooks, Uniforms, Zipties, Business cards, office supplies, printing)	1.00	\$300.00	\$300.00
Materials Total			\$6,717.60

Statement Describing Organization, Board of Directors, and Affiliated Organizations

The John Muir Chapter of Trout Unlimited is a 501(c)(3) nonprofit organization and local chapter of Trout Unlimited National and Trout Unlimited California. The chapter encompasses Alameda County, Contra Costa County, and a portion of Solano County, with approximately 900 Trout Unlimited members in the chapter area. The principal office of Trout Unlimited is 2550 9th Street, Suite 104, Berkeley, CA 94710. The John Muir Chapter Board of Directors includes Roger Wachtler, President; Richard Unger, Treasurer; Peter Mangarella, Secretary; Mira Radosevich, Conservation Chair; Mary Tealdi; Steven Cochrane; Craig Martz; Zach Spotts, and Eliza Breder. Project partners include The Watershed Project and the East Bay Regional Park District. The project also supports broader coordination with the Wildcat San Pablo Creeks Watershed Council and other watershed stakeholders.

Qualification of Individuals Responsible for Study

Roger Wachtler, President of the John Muir Chapter, leads the Wildcat Creek habitat monitoring work and is responsible for deployment and maintenance of HOBO data loggers and dissolved oxygen/temperature sensors. Mary Tealdi leads field crews conducting monthly spot measurements of dissolved oxygen, temperature, pH, and conductivity. Mira Radosevich, Chapter Conservation Chair, assists with field sampling, coordination, and consistency between upper and lower watershed monitoring methods. Craig Martz, a board member and former California Department of Fish and Wildlife staff member, leads the fish passage assessment work. Peter Mangarella, Chapter Secretary, assists with reporting and grant documentation. Eliza Breder, volunteer and board member, is a PhD Candidate at UC Berkeley in Environmental Planning and former Hydrologist. The Watershed Project provides technical assistance with training, calibration, data entry, and consistency between Upper and Lower Wildcat Creek monitoring. The East Bay Regional Park District provides research authorization, site access, stewardship coordination, and fisheries oversight.

Permit Status

All work in Upper Wildcat Creek is conducted under East Bay Regional Park District research authorization. The original EBRPD research permit was issued for the ongoing Wildcat Creek study and has been extended to support continued monitoring and assessment work. JMTU will coordinate with EBRPD to maintain necessary research authorization for all field activities during the 2027 grant period and will request a new permit for a three year period. No construction, demolition, installation, or contracted public works activities are proposed as part of this grant request. The project consists of monitoring, field assessment, data documentation, volunteer coordination, and reporting.

Request for Exception to Cost Reimbursement Due to Financial Hardship

The John Muir Chapter of Trout Unlimited requests consideration for an advance payment of 50% of the grant award due to financial hardship. The chapter is a volunteer-led nonprofit organization with limited unrestricted operating funds. Annual chapter funds must support general operations as well as conservation activities across the chapter area. Because this project requires purchase of monitoring equipment, replacement supplies, and field materials before final reimbursement, waiting until project completion for full reimbursement would create a financial burden and could delay implementation. The remaining grant funds would be requested following submission of required invoices, receipts, and the final project report.

Contra Costa County 2027 Fish and Wildlife Propagation Fund Application Cover Page

Office Use Only

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Project Title: Exploring Tidal Wetlands: Pacheco Marsh Outdoor Education

Organization/Individual applying: John Muir Land Trust

Organization type: please check one –

government

☐

non-profit

☒

school

☐

other (explain)

☐

Address: 924 Main St. Martinez, CA 94553

Telephone: (925) 228-5460

Email: amelia@jmlt.org

Name and title of contact person: Amelia Flack, Grants & Institutional Giving Manager

One sentence summary of proposal: Maintain & expand participatory conservation education at Pacheco Marsh.

Requested grant amount: \$ 7,128.99

Proposal prepared by (name & title): Amelia Flack, Grants & Institutional Giving Manager

☒ I understand that projects that qualify as “public works” under California law, such as construction, alteration, demolition, installation, or repair work done under contract and paid in whole or in part out of public funds may trigger requirements including prevailing wage, public bidding, and contractor registration. Applicants proposing such activities will be required to demonstrate full legal compliance. (For more information go to the California Department of Industrial Relations Public Works webpage: <https://www.dir.ca.gov/public-works/publicworks.html>)

Signature (Typing your name does not count as a signature. If this section is empty, your proposal will not be considered):

Amelia Flack

Date 7/27/2026

Signed by:

Amelia Flack

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7/27/2026



John Muir Land Trust: 2027 Fish and Wildlife Propagation Fund Grant Request
Exploring Tidal Wetlands: Pacheco Marsh Outdoor Education Year 2

John Muir Land Trust (JMLT) is requesting \$7,128.99 to support school field trips to Pacheco Marsh (PM), a restored tidal wetland in Contra Costa County. JMLT's PM education program provides Contra Costa kids with immersive and participatory experiences that allow them to explore one of our region's most significant wetland habitats. If awarded, these funds will be used to cover the cost of bus rental for 5 educational field trips, and the cost of a microscope, which will enhance the experience for the school-aged participants. These field trips, which are always free, connect students from Contra Costa County public schools and non-profit service organizations, including students from underserved communities, with one of the county's most ecologically significant tidal marsh habitats. These five trips will take place throughout 2027, with events concentrated in Spring and Fall. Each trip follows a planned curriculum, designed and led by JMLT's stewardship team, and is planned with care to spark curiosity, build scientific observation skills, and cultivate meaningful and lifelong appreciation for environmental stewardship.

In 2026, support from the Fish and Wildlife Propagation Fund funded bus rentals for two field trips to Pacheco marsh so far, with a third trip planned for the fall. These trips would not have been possible without this funding, and the support from CCCFW removed the financial barrier that typically prevents schools and youth-serving organizations from participating in these kinds of outdoor education opportunities. Approximately 45 students and youth participated/will participate in each event. During the first visit on May 15, 4th graders from Las Juntas Elementary School were introduced to the marsh ecosystem through guided exploration. They traveled through time as they learned how the Pacheco Marsh landscape has changed from Indigenous stewardship through the Spanish era, periods of industrial use, and today's restoration and public access efforts. As they walked, students used butterfly nets and binoculars to observe insects and birds, learned how to identify native plants, learned about endemic species like pickleweed and the harvest mouse, and explored the ecological landscape that makes tidal wetlands like that at Pacheco Marsh so important for the environmental health of our region. The experience ended with a low-stakes wildlife-themed art competition and other activities that encouraged students to reflect on what they had learned. One student commented "this was the best fieldtrip ever!". The trip on July 23, during which approximately 45 youth participants ages 6-16 associated with the Monument Crisis Center, followed a similar curriculum, with slightly less walking.

Building on the program success this year, we are again requesting support to expand the field trips to five in 2027. This will allow us to host at least 225 Contra Costa youth to participate in environmental conservation education at PM. Many participating youth come from communities with limited resources and limited access to parks, open spaces, and environmental education opportunities. We are not requesting any overhead or staff costs and any funding awarded will go directly to program costs.

The site also provides an excellent opportunity to observe firsthand the value of restored wetland systems for climate resilience. The project directly supports the long-term conservation of Contra Costa County's natural resources by fostering ecological literacy and instilling an ethic of stewardship in the next generation. By providing equitable access to hands-on environmental learning, the project offers Contra Costa County youth awareness and knowledge needed to support fish and wildlife conservation in their own communities.

In addition to transportation costs, we are requesting funding to purchase a Rechargeable Microscope with Digital Display, which will deepen the educational experience for students across all fieldtrips, beyond the grant period. Earlier this year, thanks to CCCFW, we invested in 20 binoculars and 1 spotting scope, which have become invaluable tracking tools for birdwatching and wildlife observation - the use of the binoculars greatly enhances educational experience for our youth participants and allows them to experience the marsh while developing careful observation skills. A microscope is the next natural addition to our fieldtrip toolkit. Students will be able to use it to examine insects, plant structures, feathers, seeds, and more while never leaving the marsh. The rechargeable feature is important as there is no power at PM, and the digital display means that multiple youth can interact with the microscope at any given time. By being able to explore details that otherwise cannot be seen, youth participants will be able to practice scientific conservation techniques that are commonly used in conservation and science research.

The project meets the eligibility criteria under Section 13103 (d) of the California Fish and Game Code, directly supporting public education relating to, and fostering public awareness and appreciation for, fish and wildlife conservation. The program combines scientific inquiry with hands-on exploration, which allows students to engage with the concepts they are learning rather than just observing. Through activities and real-world experiences at Pacheco Marsh, students gain a deeper understanding of local ecosystems and their role in protecting them. These field trips encourage environmental stewardship that extends beyond the outdoor classroom and into the broader community.

We can confirm that any materials developed relating to this programming during the grant period will include the specified attribution to Contra Costa County Fish and Wildlife Committee.

John Muir Land Trust (JMLT) is a nonprofit land conservation organization dedicated to permanently protecting and caring for the open spaces and natural resources of the East Bay. Since its founding in 1989, JMLT has preserved over 4,000 acres of land, ensuring that future generations have access to nature. Through stewardship, restoration, and community engagement, JMLT connects people with nature and promotes environmental education across Contra Costa County and beyond. In Spring 2025, JMLT officially opened Pacheco Marsh for public access. Located approximately 1.5 miles from Martinez, Pacheco Marsh hosts trails and an outdoor classroom where students explore and learn about the history of the region and the importance of restoring and caring for Pacheco Marsh and similar shoreline environments throughout the Bay Delta. The stunning contrast of thriving habitat surrounded by a stark industrial backdrop. The towers of oil refineries can be seen in the distance while tankers pass underneath the parallel spans of the Benicia-Martinez Bridge to the north. The entire history of the shoreline can be experienced in this one remarkable place.

JMLT's public access project ensures visitors have a variety of ways to explore this wonderful marshland while protecting the natural environment. Bird watchers and outdoor enthusiasts can enjoy 2.4 miles of trails and bridges, including a wheelchair-accessible trail, offering up-close views of nature while protecting the marsh's full-time wildlife residents. The kayak launch supports a unique 2-mile loop through the marsh, providing water lovers with an immersive, fascinating tour of the marsh and Suisun Bay.

John Muir Land Trust Board of Directors 2026

- Stephanie Becker, Chair, Stephanie Becker Consulting
- Dan R. Carl, Vice Chair, General Counsel and Secretary for Sybase Corporation (ret.)
- Karen Sakata, Secretary, former Superintendent, Contra Costa County Office of Education
- Jerald Weintraub, Treasurer, Weintraub Capital Management LP
- Arthur Bart-Williams, Immediate Past Chair, Executive Director, Grid Alternatives, Bay Area Region
- Jack Cortis, Co-Founder Family Harvest Farm
- Stephen Harvey, Residential Construction
- Anna Lisa Kronman
- Katie Hill, Sr. Director of Global Marketing, SAP
- Tim Lipman, Transportation Sustainability Research Center Co-Director, UC Berkeley
- Ted Radosevich, General Counsel for East Bay Regional Park District (ret)

Full bios at: <https://jmlt.org/about-us/board-of-directors/>

John Muir Land Trust Leadership Team 2026

- Linus Eukel - Executive Director
- Lisa Lomba - Chief Advancement Officer
- Neil Roscoe - Chief Financial Officer
- James Wilson - Stewardship Director

Full bios at: <https://jmlt.org/about-us/jmlt-staff/>

Project Team

The project will be carried out by John Muir Land Trust's Stewardship team, which is responsible for organizing and leading the field education program at Pacheco Marsh.

- Ricardo Black, Stewardship Manager
 - Project Lead. Responsible for coordinating field trip logistics, facilitating and leading on-site educational programming, and communicating with participating schools
- James Wilson, Stewardship Director
 - Project Supervisor. Provides overall oversight and support, monitors program performance

Project Schedule: calendar year 2027

Funding Activity	Timeframe
Planning including coordination with stewardship/JMLT team to prepare curriculum and finalize visit logistics, outreach to local schools and youth-serving organizations to schedule field trips, ordering and preparing teaching materials and supplies, and scheduling transportation	Planning is ongoing but will be concentrated in Winter 2027 (to prepare for Spring visits), and Summer 2027 (to prepare for Fall visits)
Programming including hosting visits at Pacheco Marsh, leading students in hands-on participatory learning about wetland conservation, wildlife, biology, and conservation, and documenting lessons learned and student participation	Programming will be scheduled for Spring and Fall 2027
Reporting including reviewing participation numbers, engagement, successes and failures, gathering notes and assess program effectiveness, and completing and submitting final report to CCCFW	Winter 2027

Project Budget

Funding Activity	Funding Required	Funding requested
<i>Transport: 1 bus serves 45 – we are requesting 1 bus for each trip (45x5) = transportation for 225 participants</i>	\$6,500	\$6,500
USB-C Rechargeable Binocular Compound Microscope 2,5000X Magnification with 7" Digital Display Camera Head	\$628.99	\$628.99
Misc, supplies for direct programming	\$1,600	\$0
Staff time – Stewardship Manager – approximately 100 hours dedicated specifically to Pacheco Marsh education programming over the grant period	\$15,000	\$0

Organization Budget: 2023* Expenses and Reductions to Assets

Program Services

Conservation Activities	\$ 28,884,765
Environmental Education & Outreach	\$ 940,519

Supporting Services

Management and General	\$ 432,536
Fundraising and Development	\$ 705,648

Photos included on this request are from 2026 Pacheco Marsh programming, made possible by the Fish and Wildlife Propagation Fund

Contra Costa County
2027 Fish and Wildlife Propagation Fund
Application Cover Page

Office Use Only

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Project Title: Assessing Water Quality Impacts from Invasive Azolla

Organization/Individual applying: Contra Costa Resource Conservation District, Ben Weise

Organization type: please check one

government



non profit



school



other (explain)



Address: 2001 Clayton Road, Suite 200, Concord, CA 94521

Telephone: 925-690-4145

Email: bweise@ccrcd.org

Name and title of contact person: Ben Weise, Agriculture Program Director

One sentence summary of proposal: CCRCD seeks funds to assess water quality impacts from invasive aquatic weeds in livestock ponds that can impact threatened and endangered species through food chain alterations and impacts to invertebrates.

Requested grant amount: \$6,800.00

Proposal prepared by (name & title): Ben Weise, Agriculture Program Director

☒ I understand that projects that qualify as “public works” under California law, such as construction, alteration, demolition, installation, or repair work done under contract and paid in whole or in part out of public funds may trigger requirements including prevailing wage, public bidding, and contractor registration. Applicants proposing such activities will be required to demonstrate full legal compliance. (For more information go to the California Department of Industrial Relations Public Works webpage: <https://www.dir.ca.gov/publicworks/publicworks.html>)

Signature (*Typing your name does not count as a signature. If this section is empty, your proposal will not be considered*):



Date 7/26/26

Description of the Project for Which Funding is Requested:

Contra Costa Resource Conservation District (CCRCD) seeks funding from the Contra Costa County Fish and Wildlife Propagation Fund to conduct water quality monitoring of selected livestock ponds in Contra Costa County rangelands to assess impacts to invertebrate species richness and associated impacts to the food chain (including amphibians) as a result of the presence of *Azolla spp.* CCRCD is partnering with the East Bay Regional Park District, East Bay Municipal Utilities District, and Dr. Pieter Johnson's lab out of the University of Colorado, Boulder to collect necessary data for this work to inform longer-term *Azolla* management in artificial stock ponds for the benefit of Contra Costa fish and wildlife.

Artificial stock ponds are among the most important freshwater habitats in Contra Costa County. Originally constructed for livestock, they now support diverse aquatic communities and provide essential breeding habitat for the federally threatened California Red-legged Frog (*Rana draytonii*, CRLF), California Tiger Salamander (*Ambystoma californiense*, CTS), and numerous other aquatic species. Maintaining the ecological health of these ponds is critical for both agriculture and freshwater biodiversity conservation.

One potentially important but understudied stressor in these wetlands is the invasive mosquito fern (*Azolla caroliniana*). Because invasive *A. caroliniana* and native *A. filiculoides* can only be distinguished genetically, this invasion has largely gone unnoticed despite *Azolla spp.* coverage increasing. Dense *Azolla spp.* mats reduce light penetration, lower dissolved oxygen, and alter water temperatures, yet their effects on nutrient availability and primary productivity remain poorly understood.

Preliminary analyses of the Johnson Lab's long-term dataset found that complete *Azolla spp.* coverage was associated with a 105% increase in chytrid fungus prevalence and a 120% increase in malformations in Pacific Chorus Frogs (*Pseudacris regilla*). Additionally, *Azolla spp.* was associated with a 43% reduction in CRLF abundance.

Through this project, CCRCD and researchers from Dr. Johnson's lab will collect water quality samples from 10 ponds in Briones Regional Park, Doolan Canyon Regional Preserve, and EBMUD properties that are both invaded and uninvaded by *Azolla spp.* During each visit, *Azolla spp.* tissue will be collected and preserved in coin envelopes containing silica gel desiccant. Samples collected during the first and last visits will undergo Sanger sequencing to distinguish invasive *Azolla caroliniana* from native *A. filiculoides*. Water samples will also be collected during every visit for analysis of total phosphorus (TP) and total nitrogen (TN). In addition, three 1-L water samples will be filtered through 0.7-µm glass fiber filters (GFFs) for chlorophyll-a analysis at the University of Colorado Boulder. Nutrient samples will be frozen in the field and shipped overnight to the analytical laboratory.

Total phosphorus (TP), total nitrogen (TN), and chlorophyll-a (Chl-a) are key indicators of nutrient availability and primary productivity and provide valuable insight into how invasive *Azolla* alters freshwater wetland ecosystems. By comparing these metrics between *Azolla*-invaded and uninvaded ponds, this project will quantify how *Azolla* is associated with changes in nutrient availability and primary productivity, improving our understanding of its effects on water quality, food-web dynamics, and overall habitat quality. These data will provide the first assessment of how *Azolla* influences nutrient cycling and primary productivity in Contra Costa County wetlands, helping land managers better understand the ecological consequences of invasion and prioritize wetlands for monitoring, restoration, and conservation of the fish and

wildlife communities that depend on them, including the listed California Red-legged Frog and California Tiger Salamander.

This project is eligible under Section 130103 of Fish and Game Code under section (i) scientific fish and wildlife research conducted by institutions of higher learning, qualified researchers, or government agencies. While this project will be research focused, the focus of the research on water quality will not require significant permits beyond already-in-hand scientific research collection permits with the partner government organizations, the East Bay Regional Park District and the East Bay Municipal Utilities District. There will be no handling of any threatened or endangered species related to this project as only water samples and invasive plant vegetation will be collected.

3. Project Schedule (2027)

	J a n	F e b	M a r	A p r	M a y	J u n	J u l	A u g	S e p	O c t	N o v	D e c
Water Quality Sampling (5 Samples)												
Plant Tissue Sampling												
Laboratory Analysis												
Data Analysis, Interpretation												
Final Fish and Wildlife Committee Billing												

4. Project Budget (Itemized)

Item	Units	Unit Cost	Total
Sampling Supplies (coin envelopes, silica gel beads, filters, pumps)	1	\$500	\$500
Laboratory Sampling (TN, TP, Sanger Sequencing)	15	\$6,000	\$6000
Priority Overnight Shipping	2	\$150	\$300
Total			\$6,800

5. Annual Budget for Applying Organization

	GEN OPS	Fund Development	Education	Program	Total
Income					
Total Income	426,812.58	14,000.00	7,500.00	2,255,505.61	2,703,818.19
Expenses					
Total Expenses	572,023.98	215,383.07	16,759.84	2,288,737.89	3,092,904.78
Net Income	(145,211.40)	(201,383.07)	(9,259.84)	(33,232.28)	(389,086.59)

(Net income due to accrual accounting and several deferred revenue projects)

6. Statement describing the applying organization:

The CCRCD is a non-regulatory special district of the state of California. The CCRCD's mission is to facilitate the conservation of natural resources in Contra Costa County. The CCRCD accomplishes this by partnering with farmers, ranchers, nonprofit organizations, private businesses, and local, state, and federal agencies. The organization works throughout Contra Costa County and has championed projects including the Pinole Fish Passage Improvement Project, livestock pond restorations, developing carbon farming plans, coordinating the Contra Costa Watershed Forum, and supporting grassroots creek/watershed groups.

CCRCD Board of Directors

Renee Fernandez-Lipp, President – Retired, Manager of Governance, Vegetation Management Program, Pacific Gas & Electric

Bethallyn Black, Vice President – Emeritus Horticulture Professor, Diablo Valley College

Walter Pease – Retired City of Pittsburg Public Works

Martin Steinpress – Instructor and retired hydrogeologist

Soumya Suresh – Biologist, environmental consultant

7. Statement describing the qualifications of the sponsoring organization

The Contra Costa Resource Conservation District (CCRCD) was first incorporated in 1941 and has a rich history of providing natural resource conservation services to farmers and ranchers. The Agriculture Conservation Program works to achieve voluntary conservation on farms, ranches, school gardens, and urban farms. CCRCD has facilitated the restoration of livestock ponds under the Voluntary Local Program since 2015, resulting in 28 restored ponds and 5 miles of livestock water pipelines installed for the benefit of livestock, ranches, and wildlife on private and public lands throughout Contra Costa county.

8. List of Individuals Responsible for performing project

Ben Weise, Agriculture Program Director, will manage the grant and contracting. Genna Fudin, Agriculture Conservation Coordinator, will work closely with the Johnson Lab to collect water samples and tissues. The Johnson Lab will perform analysis of results.

9. Statement describing the status of permit approvals necessary to perform project:

This project has been developed in partnership and with the support of East Bay Regional Park District and the East Bay Municipal Utilities District. As necessary, CCRCD Staff will negotiate with both agencies to acquire access or scientific collection permits for this work. No additional permitting is required to assess and collect small water quality samples from livestock ponds.

Contra Costa County 2027 Fish and Wildlife Propagation Fund Application Cover Page

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Project Title: Shadehouse Operation for Habitat Enhancement

Organization/Individual applying: Contra Costa Resource Conservation District

Organization type: please check one –

government

☒

non-profit

☐

school

☐

other (explain)

☐

Address: 2001 Clayton Rd, Concord CA 94520

Telephone: (908) 451 6040

Email: agelfand@ccrcd.org

Name and title of contact person: Adam Gelfand, Habitat Restoration Manager

One sentence summary of proposal: The Contra Costa Resource Conservation District requests funds to build a shade house, increasing regional capacity for growing out local ecotypes and enhancing habitat for fish and wildlife.

Requested grant amount: \$4,678.06

Proposal prepared by (name & title): Adam Gelfand, Habitat Restoration Manager

✓ ☐ I understand that projects that qualify as “public works” under California law, such as construction, alteration, demolition, installation, or repair work done under contract and paid in whole or in part out of public funds may trigger requirements including prevailing wage, public bidding, and contractor registration. Applicants proposing such activities will be required to demonstrate full legal compliance. (For more information go to the California Department of Industrial Relations Public Works webpage: <https://www.dir.ca.gov/public-works/publicworks.html>)

Signature (Typing your name does not count as a signature. If this section is empty, your proposal will not be considered):



Date 7/27/26

Project Description:

The Contra Costa Resource Conservation District (CCRCD) restores diverse ecosystems including wetlands, riparian corridors, woodlands, chaparral, and urban areas. With our expanding restoration program, increased plantings per year, and increasing scale of projects, there is a need for a CCRCD-managed propagation space. As such, the CCRCD requests funds to build a shadehouse (a structure that suspends a shade cloth, protecting young plants from 50% of the sun's radiation) for the propagation of native plants to be planted across our restoration project sites. In partnership with the Rodeo Citizens Association (RCA), this shadehouse would be installed at the Laurel Court Community Garden in Rodeo, serving the long-term restoration needs of CCRCD as well as the RCA. The RCA, as the landowner of the Laurel Court Community Garden, has agreed to allow placing a shadehouse on the property for native plant growth and community education.

Sourcing seed hyper-locally ensures plants are adapted to specific environmental conditions, supports regional wildlife, and preserves genetic diversity. Locally-adapted plants, as compared to non-local native plants, provide superior habitat for local native wildlife because they have evolved with specific environmental conditions, are more likely to survive, and thus best serve the needs and life cycles of native wildlife. Nurseries often lack or have limited offerings of Contra Costa local ecotypes. Planting non-local genetic variants of a species can weaken or dilute the gene pools of local ecotypes. Using well-adapted local stock increases outplanting success and reduces waste. The majority of extant local nurseries providing source-identified native ecotypes serve regions west of the Oakland hills. Currently, there is a lack of native nurseries east of the Oakland hills. As an entity focusing on restoring Contra Costa lands, the CCRCD is in a unique position to increase regional capacity to amplify local ecotypes, outplant them in CCRCD restoration projects, and funnel surplus plants to partners and community members free of cost. Plants grown in the shadehouse would not be sold; the goal is rather to enhance the quality of the CCRCD's restoration efforts and donate excess nursery stock to support the creation of new habitat throughout the region.

The 20' by 14' shadehouse and accompanying supplies will provide us with 280 sq ft. of growing space, supporting approximately 4,600 plants annually (two growth cycles of 2,300 plants each) for at least seven restoration sites. Plants grown will include ecologically significant species such as blue elderberry, coast live oak, and arroyo willow, for example. Blue elderberry hosts the endangered valley elderberry longhorn beetle, coast live oak provides habitat for acorn woodpeckers, and arroyo willow provides riparian shade – lowering the temperature of creeks to the benefit of Steelhead trout. Each of these species is indelibly woven into food webs that are primarily supported by robust native plant communities. Shadehouse success will be evaluated based on the percentage of germinated seedlings that survive to transplanting, with a target survival rate of at least 70%. Sites that will benefit from our shadehouse operations include the Dutch Slough Tidal Marsh, Little Franks Tract, the Laurel Court Community Garden, several mitigation sites, and various pollinator gardens and riparian woodlands throughout the county, amounting to a total of approximately 24 acres. The proposed model of shadehouse is projected to last up to 15 years before needing to replace the shade cloth.

This proposal falls under category e) “improvement of fish and wildlife habitat.” Grant funds would provide a growing space, increasing the CCRCD's capacity to plant native plants across our actively managed restoration sites. Native plants are the building blocks of healthy habitats, many of which have been disrupted by local development, pollution, and invasive species. Plant communities established as a result of this shadehouse will enhance at least 24 acres of habitat for Contra Costa's fish, wildlife, and pollinators. Preserving the connection between local plants and wildlife is essential to the persistence of Contra Costa fish and wildlife.



Example of a shadehouse structure.
Photo courtesy of [Bootstrap Farmer](#).

Project Schedule:

Winter 2027: Purchase shadehouse materials, lay weedcloth and gravel foundation

Spring 2027: Assemble shadehouse structure and build irrigation system

Summer 2027: Purchase and set up potting materials, pots, plug flat trays, substrate

Fall 2027: Collect seed, germinate in pre-existing greenhouse, transfer to shadehouse at appropriate growth stage

Winter 2028: Begin transplanting

Spring 2028: Evaluate plant survival rates, determine and address causes of mortality

Itemized Cost List:

Budget Item	Unit Cost	Quantity	Total
<i>Shadehouse Build</i>			
Shadehouse Kit	\$2,092.99	1	\$1,802.986
Gravel (cu yd)	\$112.99	3	\$338.97
Landscape fabric	\$67.98	1	\$67.98
Industrial zippers	\$10.56	2	\$21.12
Industrial thread	\$39.98	1	\$39.98
Nursery benchtops	\$24.49	10	\$244.90
Lumber (2x4) for frames	\$9.58	10	\$95.80
Cinderblocks	\$3.10	64	\$198.40
Irrigation materials	\$800.00	1	\$800.00
<i>Seed Propagation</i>			
128-cavity plug trays - 50 pack	\$114.45	1	\$114.45
D16 pots - 50 pack	\$29.99	4	\$119.96
D11 pots - 50 pack	\$27.99	4	\$111.96
SB35 bandpots - 98 pack	\$40.99	1	\$40.99
Labeling grease pencil	\$2.00	4	\$8.00
Plant stake labels	\$24.00	1	\$24.00
<i>Substrate</i>			
Perlite (8 cu ft)	\$73.98	1	\$73.98
Vermiculite (8 cu ft)	\$107.00	1	\$107.00
Coconut Coir (7.5 cu ft)	\$17.33	3	\$51.99
<i>Tax (9.75%)</i>			\$415.59
GRAND TOTAL			\$4,678.06

Annual Budget: CCRCD FY 2026-2027 Budget

	<u>Gen Ops</u>	<u>Fund Development</u>	<u>Education</u>	<u>Program</u>	<u>Total</u>
<u>Income</u>	\$426,812.58	\$14,000.00	\$7,500.00	\$2,255,505.61	\$2,703,818.19
<u>Expenses</u>	\$572,023.90	\$215,383.07	\$16,759.84	\$2,288,737.89	\$3,092,904.78
<u>Net Income</u>	(\$145,211.40)	(\$201,383.07)	(\$9,259.84)	(\$33,232.28)	(\$389,086.59)

(Net income due to accrual accounting and several deferred revenue projects.)

Statement Describing the Applying Organization:

The CCRCD is a non-regulatory special district of the state of California. Our mission is to facilitate the conservation of natural resources in Contra Costa County. The CCRCD accomplishes this by partnering with farmers, ranchers, nonprofits, businesses, and local, state, and federal agencies. The organization works throughout Contra Costa County and has championed projects including the Pinole Fish Passage Improvement Project, livestock pond restorations, the Unhoused Creek Stewards Pilot Project, the Contra Costa Watershed Forum, and supporting grassroots watershed groups.

CCRCD Board of Directors

Renee Fernandez-Lipp, President - Retired, Manager of Governance, Vegetation Management Program, Pacific Gas & Electric

Bethallyn Black, Vice President – Emeritus Horticulture Professor, Diablo Valley College

Walter Pease – Retired, City of Pittsburg Public Works

Martin Steinpress – Instructor and retired hydrogeologist

Soumya Suresh – Biologist, environmental consultant

Organization Qualifications:

The CCRCD was first incorporated in 1941 and has a rich history of providing resource conservation services to farmers, ranchers, government agencies, and the general public. The Habitat Restoration Program focuses on restoring Contra Costa's landscapes and long-term maintenance of restoration projects, ensuring that habitats remain functional and beneficial to native wildlife. Across our public and working lands, the restoration team has maintained hundreds of acres of restored habitat, executed invasive species removal, and planted thousands of native plants.

Individuals Responsible for Performing and Overseeing the Project:

Jules Mackey is a Habitat Restoration Program Coordinator at the CCRCD and has a BS in Environmental Science and Management from UC Davis. Jules has over 5 years of restoration experience and coordinates the CCRCD restoration team's work throughout the county.

Molly Clemons is a Habitat Restoration Technician at the CCRCD, where she helps steward restoration sites throughout the county. She holds a BS in Environmental Science at Sonoma State University. She has experience in garden maintenance working at St. Mary's College.

Elena Rich is a Habitat Restoration Technician at the CCRCD. Elena holds a BS in Environmental Science and Management from UC Davis. She has experience working at the UC Davis Arboretum and Public Garden nursery propagating native plants and conducting nursery maintenance.

Adam Gelfand is the Habitat Restoration Program Manager at the CCRCD. Adam holds a BA in Environmental Studies and a MA in Conservation Biology from Columbia University. In addition, Adam has four years of experience growing out plants from seed in greenhouse and shadehouse settings.

Contra Costa County
2027 Fish and Wildlife Propagation Fund
Application Cover Page

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Project Title: Marsh Creek Steelhead Trout Spawning and Breeding Habitat Enhancement Pilot

Organization/Individual applying: Contra Costa Resource Conservation District

Organization type: please check one

government



non profit



school



other (explain)



Address: 2001 Clayton Road, Suite 200, Concord, CA 94521

Telephone: 925-269-9190

Email: clim@ccrcd.org

Name and title of contact person: Chris Lim, Executive Director

One sentence summary of proposal: The Contra Costa Resource Conservation District, in partnership with the Marsh Creek Watershed Council, proposes to restore Steelhead trout spawning habitat in Marsh Creek by adding river rock, engaging volunteers, and monitoring redds.

Requested grant amount: \$19,695 (with \$14,624 in-kind match)

Proposal prepared by (name & title): Chris Lim, Executive Director

☒ I understand that projects that qualify as “public works” under California law, such as construction, alteration, demolition, installation, or repair work done under contract and paid in whole or in part out of public funds may trigger requirements including prevailing wage, public bidding, and contractor registration. Applicants proposing such activities will be required to demonstrate full legal compliance. (For more information go to the California Department of Industrial Relations Public Works webpage: <https://www.dir.ca.gov/publicworks/publicworks.html>)

Signature (*Typing your name does not count as a signature. If this section is empty, your proposal will not be considered*):



Date 7/27/26

2. Project Description: How will this project benefit the fish and wildlife of Contra Costa County?

Steelhead trout are remarkable fish that migrate from Contra Costa County's freshwater creeks to the Pacific Ocean and return to local creeks to breed and spawn. Unlike most Pacific salmon, Steelhead can repeat this life cycle multiple times. Despite once being abundant, their numbers have declined due to barriers to migration, flood control channelization, and the loss of complex riparian habitat. Currently, Steelhead utilizing the Marsh Creek watershed are federally protected as a threatened species under the Endangered Species Act, making habitat restoration efforts critical to their recovery. One key limiting factor is the availability of suitable spawning substrate, including rounded river rock that provides the structure Steelhead need to build "redds," or fish nests, for egg deposition. The Contra Costa County Department of Conservation and Development's *Lower Marsh Creek Stream Corridor Restoration Program* identifies historical flood control improvements following the 1950s floods as a primary cause of habitat degradation in Marsh Creek. Channelization eliminated much of the creek's natural riparian and floodplain habitat and reduced the channel complexity that once included pools, gravel riffles, bars, and other features important for native fish reproduction. To address these impacts, the restoration program specifically recommends installation of instream habitat features, including large woody debris, rock features, and **spawning substrate augmentation** to restore pool and riffle characteristics, improve aquatic habitat, and enhance spawning opportunities for Chinook salmon and Steelhead.

Spawning substrate augmentation is a well-established salmonid restoration practice used throughout Northern California. Studies on the Lower American and Mokelumne rivers documented increased spawning use and improvements in intergravel flow, dissolved oxygen, and other habitat conditions following placement of clean, appropriately sized river rock (Merz and Setka 2004; Zeug et al. 2014). Similar projects have been implemented and monitored on Clear Creek and the Trinity, Sacramento, American, and Stanislaus rivers (Gaeuman 2013).

The Contra Costa Resource Conservation District (CCRCD), in partnership with the Marsh Creek Watershed Council (MCWC), proposes a pilot project to restore spawning opportunities by placing rounded river rock at two demonstration sites along Marsh Creek. The sites were selected to build upon existing restoration investments, support volunteer participation and long-term monitoring, and evaluate the effectiveness of spawning substrate augmentation for future application elsewhere in the watershed.

The first site is located at Oakley Creekside Park, which lies along an important migratory corridor between the Marsh Creek watershed and the Sacramento-San Joaquin River Delta. The second site is located at Three Creeks Parkway in Brentwood, upstream of the Marsh Creek fish ladder, where it will enhance spawning habitat for returning Steelhead farther into the watershed. Steelhead have been observed spawning at both locations, demonstrating that adult fish already use these reaches for reproduction. In addition, observations by UC Davis graduate students during the past year indicate that both sites support an adequate aquatic insect supply to provide food for newly emerged fry. Together, these observations suggest that the sites already provide important elements of spawning and early rearing habitat, while the availability of suitable spawning substrate remains a condition the pilot project can improve.

Spawning river rock will be placed in targeted areas within existing riffles at an average depth of approximately six inches, where suitable flow conditions allow water to circulate through the substrate and oxygenate developing eggs. Across the two sites, this treatment will create approximately 1,000 linear feet of enhanced

spawning habitat. By improving breeding habitat at these two locations, the project will support Steelhead reproduction and contribute to the broader recovery efforts in the Marsh Creek watershed.

The project also emphasizes community engagement and education. CCRCD will host four volunteer workdays where at least 50 local residents, including youth and families, will participate in spawning substrate placement and habitat improvement. CCRCD will also seek to engage at least ten volunteers who participate in more than one workday, strengthening continued community stewardship. The outreach will rely on current email lists of the Marsh Creek Watershed Council, the Friends of Marsh Creek Watershed, and the CCRCD. Each workday will include a short educational component on Steelhead ecology, spawning habitat, the challenges they face, and the role local communities can play in recovery efforts.

Before installation, CCRCD and MCWC will document baseline site conditions through fixed photo points and observations of existing substrate. Following installation, CCRCD and the Council will conduct at least two winter monitoring days to document substrate stability and survey the enhanced reaches for Steelhead redds. Monitoring results will be used to evaluate the effectiveness of the pilot, guide future adaptive management, and help determine the feasibility of expanding gravel augmentation to other reaches of Marsh Creek with additional funding. This pilot project, if successful, will serve as an example for low-cost, community-supported Steelhead restoration efforts across Contra Costa County.

	Site 1: Oakley Creekside Park, downstream of the Laurel Road bridge		Site 2: Three Creeks Parkway, near Central Boulevard along Marsh Creek
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References:

Gaeuman, D. 2013. *Monitoring the Effectiveness of Gravel Augmentations for Salmonid Habitat Improvement Downstream from Dams*. U.S. Bureau of Reclamation.

Merz, J. E., and J. D. Setka. 2004. "Evaluation of a Spawning Habitat Enhancement Site for Chinook Salmon in a Regulated California River." *North American Journal of Fisheries Management* 24: 397–407.

Zeug, S. C., K. Sellheim, C. Watry, B. Rook, J. Hannon, J. Zimmerman, D. Cox, and J. Merz. 2014. "Gravel Augmentation Increases Spawning Utilization by Anadromous Salmonids: A Case Study from California, USA." *River Research and Applications* 30: 707–718.

How does this project meet the requirements of Section 13103? This project meets California Fish and Game Code section 13103(e) because it improves fish habitat through gravel and rock placement, an activity expressly identified in the statute.

3. Project Schedule

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
TASKS	2027												2028
Meetings													
Planning													
Gravel deliveries													
Workdays to disperse gravel													
Monitoring													
Invoicing and reporting													

4. Project Budget (itemized)

SUPPLIES	Units	Cost per unit (\$)	Total	Total match
River rock (various sizes)	2	5000	10000	
Rubber boots	6	25	150	
Work gloves	25	10	250	
5 gallon buckets	25	6	150	
Rakes	4	35	140	

OTHER				
River rock delivery	8	250	2000	
Streambed Alteration Permit	1	1882	1882	
401 permit	1	1123	1123	
Biological monitor (contractor)	2	2000	4000	

MATCH (in-kind)				
CCRCD staff	80	84.32		6746
Marsh Creek Watershed Council	168	36.14		6072
Workday volunteers	50	36.14		1807

	total supplies	10690
	total other	9005
	total match	14624
	total project	34319
total ask of Contra Costa Fish and Wildlife Committee		19695

5. Organization Budget (FY 2026 – 2027)

	GEN OPS	Fund Development	Education	Program	Total
Income					
Total Income	426,812.58	14,000.00	7,500.00	2,255,505.61	2,703,818.19
Expenses					
Total Expenses	572,023.98	215,383.07	16,759.84	2,288,737.89	3,092,904.78
Net Income	(145,211.40)	(201,383.07)	(9,259.84)	(33,232.28)	(389,086.59)

(Net income due to accrual accounting and several deferred revenue projects)

6. DESCRIBING THE APPLYING ORGANIZATION

The Contra Costa Resource Conservation District (CCRCD) is a non-regulatory special district of the State of California. Its mission is to facilitate the conservation and stewardship of Contra Costa County's natural resources.

CCRCD Board of Directors

Renee Fernandez-Lipp, President – Retired, Manager of Governance, Vegetation Management Program, Pacific Gas & Electric

Bethallyn Black, Vice President – Emeritus Horticulture Professor, Diablo Valley College

Walter Pease-Retired City of Pittsburg Public Works

Martin Steinpress – Instructor and retired hydrogeologist

Soumya Suresh – Biologist, environmental consultant

7. ORGANIZATION QUALIFICATIONS

CCRCD is well suited to oversee the project from planning through implementation and monitoring. For 85 years, CCRCD has provided natural-resource support throughout the county, primarily through

voluntary partnerships. CCRCD currently manages nearly 30 grants and contracts and maintains the systems needed to track staff time, receivables, and expenses for each project.

8. INDIVIDUALS RESPONSIBLE FOR PERFORMING AND OVERSEEING THE PROJECT

Chris Lim, Executive Director, is responsible for project oversight. Chris has more than 25 years of experience creating partnerships that restore species throughout watersheds and has worked in the nonprofit, public, and private sectors. He holds a B.A. in Integrative Biology, with an emphasis in Marine Biology and Oceanography and a minor in Geography, from the UC, Berkeley, and a Master of Nonprofit Administration from the USF.

Ivette Rivero, Watershed Conservation Coordinator, has a strong background in community outreach, project management, and environmental monitoring. She has led public engagement programs, coordinated habitat horticulture projects, and trained interns in sustainable land stewardship. Fluent in English and Spanish, Ivette connects diverse communities with vital resources and guides outreach initiatives.

David Sondergeld, Marsh Creek Watershed Council Chair, is a retired corporate executive with nearly 60 years of volunteer experience. Over a 40-year career, he organized volunteer events supporting cleanups, parks, environmental projects, people experiencing homelessness, and individuals with special needs. He has led coastal cleanups for more than 35 years, receiving recognition from the California Coastal Commission and local governments.

9. PROJECT PERMITTING

The project is anticipated to occur within reaches of Marsh Creek owned by the Contra Costa County Flood Control and Water Conservation District (CCCFCDD). CCRCD has a strong working relationship with CCCFCDD, and a CCCFCDD senior engineer serves as an associate board member of the Marsh Creek Watershed Council. CCRCD and the Council will continue coordinating with CCCFCDD regarding property access, project planning and implementation.

CCRCD anticipates obtaining a Lake and Streambed Alteration Agreement from the CDFW and water-quality authorization from the State Water Resources Control Board or appropriate Regional Water Quality Control Board. CCRCD has obtained these authorizations for other projects and is familiar with the permitting process.