



County of Santa Cruz

Health Services Agency - Environmental Health



Fish and Wildlife Advisory Commission

(831) 454-2022 TDD/TTY - Call 711 <http://www.scceh.org>

AGENDA

November 7, 2024, 6:30 PM

Agenda Item #	Start Time	End Time	Description
1	6:30	6:40	Call to Order
2			Roll Call
3			Approval of Consent Items:
4			1. September Meeting Minutes
			Public Comment for Items Not on The Agenda
5	6:40	7:50	Presentations by Grant Applicants
6	7:50	8:20	Status Update and Request for Research Topics Related to Boulder Creek Sewer Project
7	8:20	8:30	Staff Reports Commissioner Reports and Announcements
8		8:30	Adjourn

Public Comment

- Becky Steinbruner: Significant Tree Ordinance and Planning Commission Review
- Jean Brocklebank: (re)connecting salmon to the productive capacity of their watersheds

Items of Interest:

- [Mission Hill Middle School students conduct Invasive Species Symposium – Santa Cruz Sentinel](#)
- [Land Trust Santa Cruz County: HWY 17 Wildlife Crossing First Year Impacts – Rio Theatre](#)
- [California law boosts wildlife protections and connectivity - Los Angeles Times](#)
- [DOC-2024-807: Approve "Ordinance making violations of the Bureau of Land Management \(BLM\) Supplementary Rules for the Cotoni-Coast Dairies Unit also violations of the County Code.](#)

The County of Santa Cruz does not discriminate on the basis of disability, and no person shall, by reason of a disability, be denied the benefits of its services, programs, or activities. This online meeting is available to anyone with a telephone. If you are a person with a disability and require special assistance in order to participate in the meeting, please contact Sean Abbey at (831) 454-2386 or TDD number (454-2123) at least 72 hours in advance of the meeting in order to make arrangements. Persons with disabilities may request a copy of the agenda in an alternative format. As a courtesy to those affected, please attend the meeting smoke and scent free.

Commissioner and Public Participation Information

Commissioners meet in person at the **Solarium Conference Room, 1060 Emeline Avenue**. Members of the public can join in person but are encouraged to join virtually using the link below. PLEASE NOTE: The meeting room is on the second floor, above the Water Quality Lab entrance. The door must remain locked after hours, but staff will be able to provide access to all attendees as they arrive.

Commissioner Somerton will attend remotely from 75-6100 Ali'i Dr, Kailua-Kona, HI 96740

Microsoft Teams meeting

Join on your computer, mobile app or room device

[Click here to join the meeting](#)

Meeting ID: 252 750 528 160

Passcode: qohzpl

[Download Teams](#) | [Join on the web](#)

Click the “Click here to join the meeting” link above. If you are asked to join Teams with an application, click on “No thanks” and open in the browser. You should not need to download the application to join the meeting.

Please join the meeting a few minutes BEFORE 6:30 pm so that we can start at 6:30 pm. Staff will open the video conference at 6:25 pm. Cameras are optional for members of the public.

If you have questions, please contact Sean Abbey at sean.abbey@santacruzcountyca.gov.

Meeting Roles and Rules:

Jon Jankovitz, Chair, will lead the meeting. Chair Jankovitz will announce each agenda item, identify who will be leading an item and introduce discussion and public comment periods.

Sean Abbey, staff, will assist with roll call, note taking, and tracking who wants to speak. Please allow time for staff to make notes about any decisions. Sean will monitor email during the meeting.

There will be a public comment period for each item and the Chair will invite the public to participate at the appropriate time.



County of Santa Cruz

Health Services Agency - Environmental Health



Fish and Wildlife Advisory Commission

(831) 454-2022 TDD/TTY - Call 711 <http://www.scceh.org>

Meeting Minutes September 5, 2024

- 1. **CALL TO ORDER** – 6:33 pm
- 2. **ROLL CALL**

District	Commissioner	Status	Commissioner	Status
I	Chris Berry	P	Samuel Adelson	P
II	Warren Barry	A	David Somerton	P
III	Liz Alter	R	Jon Jankovitz	P
IV	Brooke Sampson	P	Daniela Suarez	P
V	Jenni Gomez	P	Jen Michelsen	A

P = Present R = Remote E = Excused A = Absent

3. APPROVAL OF CONSENT ITEMS:

- o **Motion to Approve Consent Items:** Berry, **Second:** Sampson,
- o **All Ayes:** Consent Items approved

4. PUBLIC COMMENTS:

- o **Steve Kennedy:** Producer of Cannonball express. Will be applying for a grant to partially fund creation of an educational movie. Would like to have the grant process allow for a production of a movie.
- o **Gary Ringfort;** Producer of Cannonball Express. Producing an educational file about fire safety that is being told through a younger person’s perspective and will be targeted to Santa Cruz County.

5. PRESENTATION ON TOBACCO WASTE INITIATIVE AND DISCUSSION: Commissioners received a presentation on tobacco waste that summarized both the ubiquity and environmental harm of tobacco waste, which is most commonly the filtered end of cigarettes. The Tobacco Waste Initiative is working with all Santa Cruz County jurisdictions to create a local ban on the sale of filtered cigarettes. Multiple local environmental organizations are writing in support of the ban and the Commission was asked to write a letter supporting the ban of filtered cigarette products.

- **Com Somerton:** Would banning the filters really stop cigarettes butts from being littered?
 - This will not ban cigarettes, so cigarette butts will still be a major source of litter. However, the filters themselves are toxic and a source of microplastics in the ocean.
- **Com Somerton:** How much microplastics can be attributed back to cigarette filters.
 - Cigarette filters are identified as a significant source of microplastic pollution in the NOAA [Interagency Marine Debris Coordinating Committee Report on Microfiber Pollution](#).
- **Com Berry:** Have you investigated how the tobacco industry will respond?
 - It is likely that tobacco companies will sue, but we believe there is good legal standing for a ban. This doesn't prevent filtered cigarettes from being made, but they could not be sold in Santa Cruz County.
- **Com Suarez:** Have any counties done this before?
 - No counties have done this before, but we are likely to set a precedent for both other counties and the state.
- **Com Jankovitz:** Can you still order these products online?
 - For now, yes. However, there is legislation at the state level that bans shipping products to jurisdictions that have a ban on that product.
- **Com Jankovitz:** Is it an equity issue to target tobacco if it is more commonly used by disadvantaged communities?
 - It is important to consider that this will impact disadvantaged communities to a higher degree. However, this is because these communities have been more aggressively targeted by the tobacco industry.
- **Motion:** create a subcommittee (Gomez, Adelson, Suarez) to write a letter supporting a ban on the sale of filtered cigarettes in Santa Cruz County. The letter will be approved in concept to be presented at the October Board meeting.
- **Motion:** Berry, **Second:** Gomez
 - **Ayes:** Berry, Adelson, Alter, Jankovitz, Sampson, Suarez, Gomez
 - **Abstain:** Somerton
- **Motion Approved**

6. PRESENTATION ON FRENCH BROOM REMOVAL WORK BY JODI MCGRAW CONSULTING:

An update report was provided on a French Broom removal project that was funded by the FWAC grant. The project was in the Bracken Brae region, which hosts a stand of Santa Cruz Cypress. The stand was overrun with French broom, which was

crowding out new cypress sprouts. The project was hugely successful and removed almost all the broom in the area, including all of the broom within the Cypress stand area. After seeing the work being done, the property owner is considering establishing a 75-acre environmental easement for the area.

- **Com Gomez:** How long before the seedlings will produce offspring?
 - 7-8 years in literature, found local evidence of 3-year-old trees that has cones. May be related to higher nutrients available after a fire
- **Com Jankovitz:** Would the 3-year report be available for the commission?
 - Yes, will be provided to the commission when it is ready

7. CONSIDER SENDING REVISED SIGNIFICANT TREE ORDINANCE LETTER TO THE BOARD:

Commissioners were supportive of the letter and offered no edits.

- **Public Comment:**
 - **Jean Brockelbank:** Approves of the letter being sent to the Board and suggests not worrying about how the Supervisors will respond.
- **Motion:** Send the letter to the board (with date and signature) and disband the STO letter sub-committee.
- **Motion:** Berry, **Second:** Somerton,
- **All Ayes:** Letter approved

8. APPROVE PUBLIC GRANTS PROGRAM REQUEST FOR PROPOSALS: Commissioners

approved of the RFP and discussed minor edits.

- **Motion:** Approve the RFP with a 5-minute presentation time and a year focus on riparian conservation.
- **Motion:** Gomez, **Second:** Berry,
- **All Ayes:** RFP approved

9. STAFF AND COMMISSIONER REPORTS AND ANNOUNCEMENTS:

- **Staff Reports:**
 - We received a public comment, which was provided to you before this meeting, asking for discussion on whether Santa Cruz County has a conservation plan that would impact projects like the Highway 1 axillary lanes. Staff will notify the member of the public that the comment was received and recommend sending the comment to the planning commission.
 - The BOS approved the new Bylaws on 8/13/2024. The new Bylaws have now replaced the version from 1998 and will govern all meetings going forward. The new Bylaws can be found on the [FWAC webpage](#).

- Water Resources is in the process of amending the code governing the installation of water wells. This code section had not been updated since 2009 and did not fully reflect changes in protection standards for public trust resources, particularly groundwater contribution to flows in fish-bearing streams. Given that the primary intent of the code update is fish habitat protection, the Water Resources Dept would be interested in the FWAC providing a letter of support to the Board. More information can be found here: [Well Ordinance Update \(scceh.org\)](http://scceh.org), but some key amendments include new requirements for wells near a stream, such as:
 - Small wells will require increased seal depths when located within 1000 feet of a stream,
 - Replacement larger wells, with no increase in usage, require both increased seal depths and larger stream setbacks when located within 2000 feet of a stream.
 - New Larger wells that will create new usages under 50 AFY, will be required to calculate whether the well would reduce flow of a critical stream significantly enough to impact salmonids based on an allowable depletion table the County compiled.
 - Very large wells will be required to complete a CEQA review
- **Commissioner Reports:**
 - **Com Jankovitz:** Reached out to State Parks on Arundo management on their property. They believe it is largely off park property and does not seem to be an issue. However, they do have funding to do removal work if needed. Commissioner Gomez could create a map showing overlap with state park property.
 - **Com Berry:** Summer and fall fish surveys found Steelhead in San Lorenzo and Coho in Laguna Creek. The San Lorenzo lagoon control project is operational, but still being fine-tuned.
 - **Com Gomez:** RCD assisted with removal of invasive species at Lompico Pond and provided a list of native replacement plants.

10. ADJOURN. Motion to Adjourn: Somerton, **Second:** Berry
All Aye: meeting adjourned at 8:26 pm.

From:



Subject:

CORRESPONDENCE FOR FISH & WILDLIFE COMMISSION re: Significant Tree Ordinance and Planning Commission Review

Date:

Wednesday, September 18, 2024 8:09:53 AM

******CAUTION:**This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.****

Dear Fish & Wildlife Commission,

I am aware that your Commission sent a letter to the County Board of Supervisors recently requesting changes to the Santa Cruz County Significant Tree Ordinance. I saw your letter listed in Board Correspondence, but noted that the Supervisors did not address it publicly.

Therefore, I want to bring to your attention a discovery I made this week while researching another project.

On June 26, 2024, the County Planning Commission held a Study Session (no action required) regarding the County Significant Tree Ordinance.

<https://www2.santacruzcountyca.gov/planning/plnmeetings/ASP/Display/ASPX/DisplayAgenda.aspx?MeetingDate=6/26/2024&MeetingType=1>

While unable to attend the meeting at the time, I am disappointed to read now that Planner Matt Johnston only proposed Ordinance changes regarding instituting an in-lieu fee the County could collect when significant trees are removed. The proposed changes acknowledge that it would affect only the coastal zone where the Significant Tree Protection Ordinance is applied.

The June 26, 2024 Minutes show the Planning Commission took no action:

<https://www2.santacruzcountyca.gov/planning/plnmeetings/ASP/Display/ASPX/DisplayMinutes.aspx?MeetingDate=6/26/2024&MeetingType=1>

The audio recording of that meeting, including the Item #7 Study Session is here:

https://www2.santacruzcountyca.gov/planning/plnmeetings/ASP/Display/SCCB_Meeting_Frame.asp?Type=Agenda&Date=20240626&MeetingType=1&ItemNumber=0

I respectfully request that your Commission send a copy of the excellent letter provided to the Board of Supervisors. The contact information for the Planning Commission correspondence is Mr. Nicholas Brown<nicholas.brown@santacruzcountyca.gov> 831-454-5317

The Commission Chairman is Ms. Allyson Violante<allyson.violante@santacruzcountyca.gov> Ms. Violante is also an Analyst for Second District County Supervisor Zach Friend.

The next Planning Commission meeting is September 25 at which the issue of widespread re-zoning on 32 parcels countywide will be considered.

<https://www2.santacruzcountyca.gov/planning/plnmeetings/ASP/Display/ASPX/DisplayAgenda.aspx?MeetingDate=9/25/2024&MeetingType=1>

Thank you for your good work.

Sincerely,
Becky Steinbruner

From:

Subject:

Date:

The foodscape – (re) connecting salmon to the productive capacity of their watersheds

Sunday, October 6, 2024 10:11:04 AM

******CAUTION:**This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.****

Hello Sean ~

I found this short article from [CaliforniaWaterBlog.com](https://californiawaterblog.com) interesting and think members of the FWAC would also. Please pass it along to them.

<https://californiawaterblog.com/2024/10/06/the-foodscape-re-connecting-salmon-to-the-productive-capacity-of-their-watersheds/>

Its authors are impressive:

***Gabriel J. Rossi, Stephanie M. Carlson, and Theodore E. Grantham** are affiliated with the [Berkeley Freshwater group](#) in the Department of Environmental Science, Policy, and Management, and **Mary E. Power** (senior author) is an emeritus faculty member in the Department of Integrative Biology at the University of California, Berkeley. **J. Ryan Bellmore** is affiliated with the Forest Service Pacific Northwest Research Station in Juneau, Alaska. **Jonathan B. Armstrong** and **Seth White** are affiliated with the Department of Fisheries, Wildlife, and Conservation Sciences, and **Seth White** is also associated with the Oregon Hatchery Research Center at Oregon State University in Corvallis, Oregon. **Carson Jeffres** is affiliated with the University of California, Davis, Center for Watershed Sciences. **Sean M. Naman** is affiliated with the Freshwater Ecosystems Section for Fisheries and Oceans Canada in Cultus Lake, British Columbia. **Jacob Katz** is affiliated with the non-profit California Trout in Woodland, California. **Matthew J. Kaylor** is also associated with the Columbia River Inter-Tribal Fish Commission in Portland, Oregon.*

"The central question of foodscape restoration is: how have the multi-scale processes affecting food abundance, food accessibility, and physiological environment for foraging been degraded? And how can these same processes be recovered? More focused questions follow, such as: are there important trophic pathways (pathways that transform a photon of light to a calorie of salmon!) that have been impaired and can restored or replicated?"

<https://californiawaterblog.com/2024/10/06/the-foodscape-re-connecting-salmon-to-the-productive-capacity-of-their-watersheds/>

Best regards,
Jean Brocklebank



County of Santa Cruz

Health Services Agency ♦ Environmental Health




Fish and Wildlife Advisory Commission

701 Ocean Street, Room 312, Santa Cruz, CA 95060
(831) 454-3154 TDD/TTY -Call 711 www.scceh.com
EnvironmentalHealth@santacruzcounty.us

GRANT INFORMATION: **PROPOSAL**

*This information **will** be included in public documents*

Project Name: Resolving Human-Wildlife Conflicts in Santa C  Date: 09/17/24

Applicant name or Organization: International Bird Rescue

Project Description:

We respectfully request renewed support for a small portion of the costs of necessary, clinic and medical supplies, and veterinary care costs to provide temporary emergency treatment for ~300 native, wild, aquatic birds (many that live in riparian habitats) rescued from Santa Cruz County and transferred to us by local organizations for care.

Funding Requested	7500
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ITEMIZED BUDGET ITEMS	Requested Funds	Matching Funds	Total Amount
Veterinary & rehabilitaton staff salaries/wages	4500	75361	79861
Clinical and Medical Supplies, incl. food	1000	13914	14914
Utilities for stable clinic & rehab environment	2000	19250	21250
Depreciation and insurance		7441	7441
Travel and transit		3451	3451
Facilities, vehicles, and equipment		6392	6392
Outside services (lab work), general expenses		565	565
TOTAL AMOUNTS	7500	126374	133864

Each item description should be sufficient to clearly define the full item. In addition to funds being requested, note any matching funds committed to the proposed project.

For each section, provide a brief written response.

Background of the issue being addressed

Experts agree that birds are in a global crisis of survival. Threats include Human-Wildlife Conflicts from habitat disruption/loss, starvation, cruelty, pollution (incl. plastics, oil, chemicals), fishing, and deadly Highly Pathogenic Avian Influenza virus. Our area is especially important to hundreds of species of aquatic birds because of our central location on the Pacific Flyway migratory route. Negative impact here has concentrated effects in regional and global biodiversity.

Project Goals

1: Addresses multiple elements of CA Fish and Game Code. 2: Provide residents and wildlife with immediate, effective, ethical, and free-to-the-public solutions to the problem of native aquatic birds harmed by human impacts. 3: Maintain peak readiness to respond to unpredictable-yet-inevitable crises, such as the 2024 Pelican Crisis. 4: Act as the regional “referral hospital,” annually treating 100 species and ~1,750 cases (~300 from Santa Cruz County) that are beyond the capacity or skills of others.

Project Logistics: how will the project be completed?

We efficiently and effectively rescue so many wild birds because of our world-class protocols, developed through 53 years of direct, hands-on, professional experience:

1. Rescue: transport by volunteers, citizens, and other rescue agencies to our Center
2. Triage Assessment: by professional vet staff (vital signs, blood work, treatment plan)
3. Medical Intervention: after the first 24 hrs in care so that initial capture trauma abates
4. Recovery: treated birds go to recovery area where their progress is closely monitored
5. Rehabilitation: birds heal wounds & gain strength in predator-proof aviary enclosures
6. Release: back into the wild at species-appropriate locations

Project Completion Timeline

This project is annual and ongoing. Our fiscal year begins October 1 and runs through Se

Applicants Background.

We are a regional and global conservation organization, founded in 1971 right here in the Bay Area in response to a massive oil spill that covered 50 miles of coastline on all sides of San Francisco Bay, effecting between 7,000 and 15,000 birds. Since then, we have become a global leader in addressing man-made disasters affecting marine wildlife, such as oil spills and debris, and have pioneered life-saving techniques to address ongoing, daily, human impacts on aquatic birds. See attached for more detail.



**Application to the
Santa Cruz County Fish and Wildlife Advisory Commission:
*Resolving Human-Wildlife Conflicts in Santa Cruz County***

1. Funding Request and Project Description

International Bird Rescue respectfully requests renewed support of \$7,500 from the Santa Cruz County Fish and Wildlife Advisory Commission. The goals of this project are to:

1. Addresses multiple elements of CA Fish and Game Code (13103 b, c, and i)
2. Provide residents and wildlife with immediate, effective, ethical, and free-to-the-public solutions to the problem of native aquatic birds harmed by human impacts.
3. Maintain peak readiness to respond to unpredictable-yet-inevitable crises, such as the 2024 Pelican Crisis which the Commission generously supported with a special \$6,350 grant.
4. Act as the regional "referral hospital," annually treating 100 species and ~1,750 cases (~300 from Santa Cruz County) that are beyond the capacity or skills of others.

As the "referral hospital" for over a dozen Northern California Counties, we treat the most challenging cases that are beyond the capacity or skills of other regional wildlife centers and clinics, and receive hundreds of birds from other local rescues and rehabilitation centers and from the general public for treatment at our Wildlife Center, including from our trusted partners at Native Animal Rescue of Santa Cruz County *as described in the attached news story, and also on this KPIX5-TV SF news story* describing the 2024 Pelican Crisis *which shouts out Santa Cruz*: <https://www.youtube.com/watch?v=6mIHkISgv5M>

Our San Francisco Bay-Delta Wildlife Center admits ~1,750 local, native aquatic birds annually, and releases them back into the wild once they are successfully rehabilitated. We typically received ~300 birds annually from Santa Cruz County (**second only to Los Angeles County**). Locations of rescue include Santa Cruz, Aptos, Capitola, Watsonville, Pajaro Dunes, Davenport, Ben Lomond, and Soquel.

We treat over 100 different species of aquatic birds such as Common Murres, Snowy and Great Egrets, Green and Great Blue Herons, Brown Pelicans, and endangered and near-threatened species such as Western Snowy Plovers. Common causes of injury include orphaned, starvation from loss of habitat, fishing hook and line entanglements, and blunt force traumas from human cruelty or hit by vehicles.

The patients we treat are critical to riparian conservation. They are the living, natural, native resources that habitat conservation and other activities seeks to support. Our scientific data provides strong evidence that the aquatic birds that we successfully rehabilitate lead lives that are long and productive, participating in normal species behavior such as producing and rearing offspring, and propagating future generations. Each of these outcomes is an important component of a balanced ecosystem.

2. Meeting the Requirements of Section 13103 of the Fish & Game Code

Our work addresses **multiple elements** of California Fish and Wildlife Code Section 13103. **The proposed project is a direct expression of 13103(b): "Temporary emergency treatment and care of injured or orphaned wildlife."** The individual animals we return to the wild propagate future generations. When we work with Animal Control Officers and Game Wardens, we also address element **13103(c):** "Temporary treatment and care of wildlife confiscated by the department as evidence."

Our Avian Rehabilitation and Research, and our Wildlife Emergency Preparedness and Response programs protect and restore local wildlife populations, especially when human impact has negatively affected those populations and individual animals. Research leads to innovations and new standards in wild animal care (**13103(i)**). In addition, our public education and outreach efforts reach over 100,000 people annually through numerous social media channels and real-time events (**13103(a)**).

3. Project Need

Birds are sensitive indicators of changes in our environment, and their health is failing. Experts around the world agree that aquatic birds are in crisis:

- *"Since the 1970's, [North America] has lost **3 billion birds**" (Science, 2019)*
- *"H5N1 high pathogenicity avian influenza (HPAI) is currently causing **unparalleled mortality of wild birds** and mammals worldwide with threats to population levels for some species already under multiple anthropogenic [human-caused] pressures. [The current and evolving variants are] expected to continue to spread and cause further negative conservation impacts. Notably, important breeding colonies on oceanic islands are at risk" (The United Nations-led [Scientific Task Force on Avian Influenza and Wild Birds](#), 2023).*

Negative human impacts include injury from fishing (hooks, nets, and lines), human cruelty, illegal shootings, habitat disruption and loss, starvation, pollution (including plastics, chemicals, and oil spills), and **climate change induced hazards such as drought, algae bloom toxicity, and the [accelerated spread of infectious diseases](#)**.

California is especially important to hundreds of species of aquatic birds (many that are endangered or threatened) because of its central location on the Pacific Flyway: a major North-South migratory route along the coasts of North and South America. Immediate impact here has concentrated, long-term effects on the global wildlife population.

Despite these challenges, intervention can make a difference. It is why International Bird Rescue is a first-line responder in the crisis facing birds at the local, regional, and international level.

4. Organizational Qualifications and Mission

Most people know us from our decades of responding to the world's worst oil spills: Exxon Valdez in 1989, Deepwater Horizon in the Gulf of Mexico in 2010, and the Treasure Spill in South Africa in 2000 (which affected over 20,000 lives). **We also provide daily rescue and rehabilitation** to birds harmed by human impact, and have given second chances to over 160,000 avian lives. Today, we research best practices at our crisis response hospitals and share them worldwide, **and have pioneered life-saving techniques to address ongoing human impacts on aquatic birds.**

Our mission is to inspire people to act towards balance with the natural world by rescuing waterbirds in crisis. Our goals are to:

- A) Minimize and mitigate human and industrial impact on wildlife
- B) Conserve local, regional, and global biological diversity
- C) Inspire environmental stewardship

We are a founding partner in the State of California's Oiled Wildlife Care Network (OWCN), as well as a member of the Global Oiled Wildlife Response System (GOWRS), a consortium of leading experts trying to solve the challenges of oiled wildlife. Other partners include local, state and federal Fish and Wildlife departments, multiple Audubon Society chapters, and local Animal Control agencies.

5. Project Budget and Funding

Our \$7,500 request is based on Santa Cruz County community demand for our services, and the need for financial support to keep our work sustainable. Commission funds will partially offset the cost of service we provide *for free* to the people and wildlife of the County, and represents a reasonable and very modest portion of the project's annual costs of over \$100,000 in FY25, which are matched by others. Last year, we successfully managed two grants from the Commission, and completed all reporting.

We have strict financial controls that ensure that any invoice submitted to one funding agency is not submitted to any other agency. Our financial records are audited annually, and we consistently achieve "clean" audit opinions. While it is difficult to say in advance during the granting process with exact certainty what each future invoice will contain, examples of some typical food and supplies (and their costs) include:

- Enroquin tablets, 68mg x 250: \$286.12/bottle
- Clavacillin tablets (Clavamox), 62.5mg x 210: \$75.30/bottle
- Nitrile exam gloves, 100: \$19.41/box
- Meloxidyl, 1.5mg/ml x 200ml: \$95.15/bottle
- Clindamycin, 100mg quad tabs x 100, \$50.75/bottle
- Peruvian Smelt, 30lbs/case x \$1.54/lb: \$46.20/case X 60 cases/typical order = \$2772.00
- Night Smelt, 40lbs/case x \$1.96/lb: \$78.40/case X 20 cases/typical order = \$1568.00

Since 2019, Fish and Game commissions in the counties of Alameda, Contra Costa, Napa, Solano, Sonoma, Marin, Monterey, Santa Clara, Los Angeles, San Diego, and Santa Barbara provided modest financial support of between \$2,500 and \$16,000 annually to help ensure that our ability to be an effective, efficient, regional resource is sustainable. Without such support, we will be unable to continue to conserve vulnerable, natural aquatic/riparian resources, and unable to maintain our readiness to respond to unpredictable-yet-sadly-inevitable environmental crises like oil spills and **species crashes**.

6. Permits Status

We are one of the few organizations that possess the federal permit to band birds. Throughout a bird's time with us, from their initial triage assessment to their release, we record data and track their progress using RaptorMed software. In addition, treated birds are banded so that other scientists, volunteers, and enthusiasts can track them in the wild, and in case a treated bird returns to us for further care. The data generated by the banding effort, as well as our internal data, is analyzed by our veterinary care team as part of ongoing research, and the results shared at professional conferences and with our partners in the Global Oiled Wildlife Response System, a consortium of leading experts solving the challenges of oiled wildlife globally.

7. Contact Info

Phil Kohlmetz, Grants Coordinator
International Bird Rescue

Direct: 707-704-0350
Office: 707-207-0380

Email: grants@birdrescue.org
<https://www.birdrescue.org>

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Native Animal Rescue of Santa Cruz County recently rescued this pelican entangled in fishing line in the Santa Cruz Harbor. (Via Connie Maschian)

OPINION FROM COMMUNITY VOICES

I have worked for Native Animal Rescue for seven years — calls have exploded since 2021

BY AMY RED FEATHER

Source: Lookout Santa Cruz



Native Animal Rescue of Santa Cruz County makes close to 3,000 rescues a year — nearly double what it did as little as two years ago. Here, Amy Red Feather, the agency's wildlife supervisor, makes a plea to humans to be more careful of other species. She also takes us through the recent rescue of a Seabright pelican who got her foot hooked and tangled in a fishing line.

OCT 8, 2023 | 5:00 AM

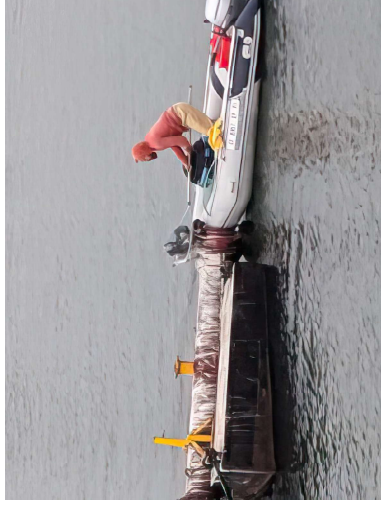


Have something to say? Lookout welcomes letters to the editor, within our policies, from readers. Guidelines [here](#).

The injured pelican sat immobile on a piece of pipe at the Santa Cruz Harbor, near Seabright Slate Beach.

Its foot was bloody and it was tethered to rocks 20 feet away by a long piece of fishing line. Miraculously it had managed to swim to the rampart pipe and had stationed itself there, staring out at the water.

Maria Yiveros, a Native Animal Rescue (NAR) volunteer, had noticed the pelican and called me via the NAR hotline to see if there was anything we could do. I immediately contacted our rescuer, Connie Maschian, to get eyes on it, then Greg Cotten, who hopped into his dinghy right away and went over to Seabright.



Native Animal Rescue volunteer Greg Cotten was able to corral this pelican entangled in fishing line. (Via Connie Maschian)

I have worked for Native Animal Rescue for seven years, first as a volunteer and now as wildlife supervisor. When I first signed on with the organization as a volunteer, it was during the spring baby season, and it was mainly to help with the feeding of the baby songbirds, which I was proficient at since acquiring a wildlife degree in college some 20 years ago.

Most wildlife rehabilitation facilities cater to one type of animal, birds or mammals, seabirds or carnivores, but I realized quickly that Native Animal Rescue catered to absolutely everything. Seabirds, songbirds, raptors, all mammals (excepting mountain lions), even our beloved dusky-footed woodrat, are welcome here.

Unfortunately, stories like this poor pelican's happen regularly.



From 2016 to 2021, we rescued around 1,500 animals a year. In the past two years, those numbers have doubled to about 3,000 a year.

Native Animal Rescue has been around 44 years, and most of the animals come because of human conflict or contact. That could be a car strike, a fishing entanglement, or a cat-caught songbird. Often, wild creatures — raccoons, rabbits, skunks, pelicans — have ingested or become entangled in plastic.

Too many situations that could be avoided.



A container full of fishing hooks and line Native Animal Rescue has pulled out so far in 2023.
(Via Connie Hochstetler)

That's why NAR, a community based nonprofit, is open every single day of the year. Wildlife doesn't take holidays, so neither do we. We rescue, rehabilitate and release back to the wild the injured, orphaned or entangled wildlife. **We partner with International Bird Rescue to ensure the best veterinary care for our seabirds and the Exotic Pet Clinic of Santa Cruz for our other birds, mammals and reptiles.**

We train rehabilitators and volunteers, who go out into the community to rescue the wildlife that cannot be brought to us, an invaluable service in a place like Santa Cruz, which is a city, but is still a very, very wild place.

We recently helped a gray fox who had a tight piece of plastic around her neck. A group of neighbors spotted and captured her. We removed the plastic, rehabilitated her for several weeks, then returned her to her home and to her mate. The entire neighborhood came out (and hid at a distance) to watch her bolt out of the kennel and head to her den and family.

Many times we receive dozens of calls a day about birds with fishing hooks in their mouths or bodies that people can't capture or help. I've been on numerous daring rescues myself, particularly in those first few years, which I will always remember. Many times, pelicans would be hobbled on the beach in Davenport, and I would be overjoyed to help.

bird and snipped the fishing line that attached her to the rocks. He then brought her to us, where we worked to remove two hooks and the line.

She weighed about 6.9 pounds and stayed with us for two days **before being transported to International Bird Rescue. The hooks and line caused damage to her legs, but the prognosis is good, and we are all hopeful.**

Without help, the pelican surely would have perished.

When I hear stories like this, I'm still as amazed as I was that first day I walked in here. Watching the animals, some in very bad shape upon arrival, thriving under this roof makes the work worthwhile.



Amy Red Feather is the wildlife supervisor at Native Animal Rescue of Santa Cruz County.
(Via Amy Red Feather)

We can't keep all wildlife safe. But we can be careful. I understand, fishing lines can often be irretrievable. But, if you do lose a line, please make an effort to find it. And clean up your discarded line when possible. If you do happen to snag a seabird, please don't tear the hook out, as this can cause irreparable harm. Call us. We will help.

Living in such a wild place, it is inevitable that most people will run into wildlife at some point. Knowing what to do when that happens can not only help our wildlife thrive, but can help prevent wildlife/human conflicts from becoming an issue.

If you see an injured creature, call us. We would be happy to come and help.

Amy Red Feather is the wildlife supervisor at Native Animal Rescue of Santa Cruz County. The NAR hotline is 831-462-0726.

More from Lookout's Community Voices opinion section

Let's hold our state accountable for pesticide regulations: Type Co. Newsroom to sign 18.652





County of Santa Cruz

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GRANT INFORMATION: PROPOSAL

This information will be included in public documents

Project Name: Wildlife Rehabilitation & Educational Program

Date: 10-4-2024

Applicant name
or Organization: Native Animal Rescue

Project Description:

We are an organization of expert rehabilitators who receive orphaned, sick and/or injured wildlife in our facility from concerned citizens. We care for wildlife with the goal of releasing healthy animals back into the wild. Costs continue to rise on food as well as medical and general supplies. In this past year we have expanded more educational programs in our community. We have presented at local schools, the SPCA kids camps, KOA campgrounds and city sponsored summer camps and are working to grow our reach more. Several interactive activities and displays have been purchased to support this effort but we lack certain items that would create a more robust program.

Funding Requested **\$3,000**

ITEMIZED BUDGET ITEMS	Requested Funds	Matching Funds	Total Amount
Food costs for wildlife	2,380	21,420	23,800
Medication & Vet services	370	3,330	3,700
Educational Program	250	2,250	2,500
TOTAL AMOUNTS	\$3,000	\$27,000	\$30,000

Each item description should be sufficient to clearly define the full item. In addition to funds being requested, note any matching funds committed to the proposed project.

For each section, provide a brief written response.

Background of the issue being addressed

Native Animal Rescue is applying for this grant to help care for the distressed animals we receive and also to help build our educational program. This year, we have rescued and cared for 2,607 animals already.

Our educational program has expanded over this year and we are working to grow it more and create a more expansive program with a variety of subjects offered. We have covered topics such as migration, the Brown Pelican crisis and how rodenticide effects surrounding wildlife via the food chain, soil, waterways and riparian habitats.

The grant from FWAC will financially assist us in caring for wildlife as well as being able to create more activities and interactive displays for our educational program by purchasing larger items like a microscope, binoculars and a portable overhead projector.

Project Goals

This year alone we have received 75 raptors, nearly double previous year's numbers. We also received a record number of sea birds this year. We expect these numbers to continue to grow due to factors such as climate change. Although our busy time of year is in the spring and summer we receive animals year round and some mammals have two birthing seasons, keeping us busy into October. One of our major needs is funding to continue to care for these animals in distress.

We had a successful year with our educational program. We would like to acquire things such as a microscope to view butterfly wings, binoculars to view migrating birds and other supplies that will engage children, enrich their experience and encourage them to be excited about wildlife.

Project Logistics: how will the project be completed?

The welfare of wildlife is our priority at Native Animal Rescue, we are constantly seeking adequate funds to help us. Although we partner with a local vet, Dr. Hilary Stern, to examine animals pro bono we do have to pay for any other care provided such as surgeries & medications. We apply for grants from the city of Santa Cruz, the CA Dept of Fish & Wildlife, participate in the Envirotokens programs at local grocers and reach out to donors via newsletters and social media. We provide 24/7 care, hotline assistance & an informative website for our community.

Our educational program participates with local events like the Migration Festival and programs for school age children to offer presentations to them without a fee. We create an enriching program by creating displays, interactive activities and crafts that will ensure a memorable experience for the children. Our presenters cover a variety of topics, which creates a need for more displays & activities for the children.

Project Completion Timeline

Both the rescue and rehabilitation of wildlife and our educational program are year-round & on-going

Applicants Background.

Native Animal Rescue was formed in 1979 and became as 501(c)(3) in 1980. It moved to it's current location in 1993. We are the only organization licensed in Santa Cruz county by both the Federal and state of California Department of Fish & Wildlife. Our intake center receives animals 365 days a year from residents of the county of Santa Cruz, businesses, Animal Services, Police Departments, Lifeguards and State Parks. Our volunteers and small staff rescue animals, care for them in our center and keep things running smoothly. We also have a network of experienced volunteers who provide rehabilitation on their property. We celebrate the successful release of every animal we care for.



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GRANT INFORMATION: PROPOSAL

This information will be included in public documents

Project Name: Connecting UCSC to Its Watershed Date: 21 Oct 2024

Applicant name or Organization: Amanda M. Smith, Associate Professor of Literature, UC Santa Cruz

Project Description:

"Connecting UC Santa Cruz to Its Watershed" is a proposal for funding to pilot an undergraduate course called "Reading with/as Bodies of Water: The San Lorenzo Watershed as Archive, Literature, and Ecology." The aim of this community-engaged, experiential-learning course is to get UC Santa Cruz students thinking about and articulating their relationship with the watershed while studying in Santa Cruz, to learn its cultural history, to understand their responsibility to it, and to conceive of approaches from the interdisciplinary field of the Environmental Humanities as critical tools for addressing, imagining, and enacting mutually beneficial relationships between humans and the more-than-human world. This funding will allow me to pilot the course so that I can apply for future funding.

Funding Requested	\$3,416.00
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ITEMIZED BUDGET ITEMS	Requested Funds	Matching Funds	Total Amount
Honorarium: Coastal Watershed Councilperson guest lecture about downtown river initiatives.	\$300.00	NA	\$300.00
Honorarium: Guest lecture on Indigenous histories by Stan Rushworth	\$300.00	NA	\$300.00
Honorarium: Kristen Kittleson on the history of the river	\$300.00	NA	\$300.00
Transportation to downtown San Lorenzo for River Health Day (chartered bus with driver)	\$504.00	NA	\$504.00
Transportation to Henry Cowell for mapping activities (chartered bus with driver)	\$504.00	NA	\$504.00
Transportation to San Lorenzo Valley site of interest (TBD)	\$504.00	NA	\$504.00
Transportation to downtown San Lorenzo for CWC tour & talk (chartered bus with driver)	\$504.00	NA	\$504.00
Supplies for student final project: public art/literary interventions in the downtown river	\$500.00	NA	\$500.00
TOTAL AMOUNTS	\$3,416.00	NA	\$3,416.00

Each item description should be sufficient to clearly define the full item. In addition to funds being requested, note any matching funds committed to the proposed project.

For each section, provide a brief written response.

Background of the issue being addressed

UC Santa Cruz undergraduates spend two to five+ years in Santa Cruz living with and benefiting from the watershed, but few classes challenge them to think critically about their relationship to and with it. The courses that do are generally in the natural sciences, neglecting perhaps affective subject-to-subject relationships so central to local and Indigenous thought. The relatively recent field of the Environmental Humanities and its subfield of the Hydrohumanities offer interdisciplinary approaches to think about humans as bodies of water in porous relationship with other bodies of water. With these tools, this course will interrogate past, present, and future relationships between the culture that we produce (images, films, stories) about the river and the environment.

Project Goals

The main goal is to connect UCSC students to their watershed with tools from the humanities. Specifically, they will study the cultural history of the river through the UCSC Special Collections. They will theorize their relationships with the watershed at site-specific classes with activities such as free-writing and counter-mapping. Students will also analyze cultural production about the San Lorenzo. Using what we learn about the past and present, they will design and enact care plans for the watershed that any UCSC student can carry out while living on campus. Preparation for this project will include participating in a River Health Day with the Coastal Watershed Council which they have offered to facilitate for us. Finally, students will design a final project to be published on the CWC website or otherwise promoted by them to share their learning with the broader community.

Project Logistics: how will the project be completed?

My plan is to pilot this course during the 2025-2026 academic year and then offer it annually. The class will take place between UCSC Special Collections and various river sites to tie culture and history to the materiality of the watershed. The course will be divided into small groups of twenty in order to meet the limitations of Special Collections and reduce environmental impact at the river. Students will read and analyze in frequent iterative assignments hydrocritical theory (humanistic thinking on water), histories of the San Lorenzo, cultural production of the San Lorenzo, and maps of the San Lorenzo. They will also work with the CWC to learn forms of caring for the watershed and will participate in a River Health Day. At least three community guest speakers will speak about Indigenous histories and current relationships with the watershed, the economic and natural history of the river, and efforts to restore and create relationships with the downtown section of the river.

Project Completion Timeline

Taught during the 2025-2026 academic year, quarter to be determined. Offered each year thereafter.

Applicants Background.

I am an Associate Professor in the Dept of Literature at UCSC, specializing in Latin American literature & culture through the lens of the Environmental Humanities. I have published extensively on the relationship between culture & environmental crisis in Latin America & am writing a book on rivers' experiences of the armed conflict in Colombia. I have lived in Santa Cruz for nine years, the longest I have lived anywhere & am eager to use the tools from my research to learn about my local watershed along with my students & create a high-impact learning experience. My next research project will be a public-facing cultural history of the San Lorenzo watershed for which this class will be preparation. <https://tinyurl.com/smithUCSC>



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GRANT INFORMATION: **PROPOSAL**

*This information **will** be included in public documents*

Project Name: California Newt Upland Migration Movement Study

Date: 23 Oct. 2024

Applicant name
or Organization: Chrissie Klinkowski, M.S.

Project Description:

This request for funds is for a California Newt (*Taricha torosa*) upland migration movement study in Santa Cruz County, California. This study will obtain baseline ecological, abundance, and movement information about an unlisted population of California Newts in Boulder Creek, Santa Cruz County, CA, mainly by performing two studies: an upland drift fence and pitfall trapping study and a passive integrated transponder tag (PIT- tag) study. Two low-cost wildlife crossing options will also be evaluated for newts. Upland movement information will be used to assess the specific needs of this population, to address barriers to fish and wildlife migration, and to inform the feasibility of installing wildlife crossing structures to address newt road mortality on this road.

Funding Requested	\$18,442.00
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ITEMIZED BUDGET ITEMS	Requested Funds	Matching Funds	Total Amount
Drift Fence and Pit-Fall Trap Study: Materials & Installation	\$5,825.00	\$1,200.00	\$7,025.00
BioMark PIT-Tag Equipment/Materials	\$3,252.00	-	\$3,252.00
Amphibian disease (chytrid) testing	\$382.00	-	\$382.00
TRAFx Vehicle Counter	\$1,375.00	-	\$1,375.00
ArcGIS FieldMaps Data Collection Software	\$500.00	-	\$500.00
501(c)3 Overhead Processing Fee (6%); Biologist Labor	\$1,044.00	\$38,000.00	\$ 39,020.00
HALT-2 break beam camera; Replacement Newt X-ing Signs	\$2,200.00	-	\$2,200.00
2- 15' crossing structures	\$3,864.00	-	\$3,864.00
TOTAL AMOUNTS	\$18,442.00	\$39,200.00	\$57,642.00

Each item description should be sufficient to clearly define the full item. In addition to funds being requested, note any matching funds committed to the proposed project.

For each section, provide a brief written response.

Background of the issue being addressed

Amphibians are declining in numbers throughout the world and newts are often the first species to disappear in an ecosystem. Newts are declining throughout their range due to many factors, including habitat loss and death from vehicular traffic. Newts crossing Mitchell Drive in Boulder Creek, Santa Cruz County are declining in numbers due to road mortality. Understanding newt population movement patterns and habitat requirements is critical before installing crossing structures to address road mortality. Mitchell Drive is being listed as a "California Department of Fish and Wildlife Movement Barriers Priority Location" as a "road that needs more study." The project will: 1) obtain information in an upper watershed riparian corridor to improve fish and wildlife habitat in Santa Cruz County and 2) investigate several identified barriers to the migration of fish and wildlife on this road.

Project Goals

These studies will identify amphibian movement and road mortality patterns for a population of California newts on Mitchell Drive in Santa Cruz County and assess two low cost wildlife crossing options. The goals of this study are to identify or determine: (a) newt crossing locations and seasonal movement patterns; (b) the numbers of and locations where individual newts cross the road through the use of an upland drift fence and pitfall trapping study and implanting individual newts with PIT tags; (c) the number of vehicles using the road when newts are crossing the road, to calculate roadkill risk; (d) if disease factors are affecting the population, by sampling amphibians for chytrid fungus, and (f) evaluate newt use of a low-cost "off-the-shelf" wildlife crossing structure by monitoring newt movement with a break beam wildlife camera. See supplemental information.

Project Logistics: how will the project be completed?

Drift fence traplines and paired pit-fall traps will be installed alongside Mitchell Drive. Individual newts will be captured using drift fence with pit-fall traps, humanely anesthetized and PIT-tagged, and released on site by wildlife biologists. Skin swab samples will be taken and sent in to a lab for chytrid fungus testing. The number of vehicles on the road will also be assessed to calculate roadkill risk. This work will be carried out under my Scientific Collection Permit with CDFW.

Wildlife crossing structures are being installed to address amphibian road mortality issues. I have observed dozens of newts on Mitchell Drive enter a 3-in. wide opening to travel to their breeding pond. I propose testing two low-cost "off-the-shelf" potential wildlife crossing structures for newts and using a HALT break beam camera to monitor the narrow passageway and the potential crossing structures.

Wildlife biologist labor has been donated to the project. See supplemental information.

Project Completion Timeline

December 2024 - May 2025. Materials will be ordered immediately after funding is received.

Applicants Background.

Chrissie Klinkowski is a Senior Wildlife Biologist with over 20 years of experience throughout the State of California (CA). I have an M.S. degree in Conservation Biology and am a published author. I live in Boulder Creek, CA, the location of the proposed study. I have over a decade of documented experience handling threatened and endangered herpetofauna in CA. I have experience installing and checking pit-fall traps for threatened CA tiger salamanders (CTS; Central Valley DPS) during protocol upland habitat surveys. I also have experience handling, anesthetizing, and PIT tagging rough-skinned newts (*Taricha granulosa*). All studies will be performed under my Scientific Collection Permit with CDFW. I also have an affiliation with the organization Biological Field Studies Association.

California Newt Upland Migration Movement Study

Chrissie Klinkowski, MS

Overview: Statement of Purpose

This request for funds is for a California newt (*Taricha torosa*) upland migration movement study in Santa Cruz County, California. I am requesting funding for materials and labor to obtain baseline ecological, abundance, and movement information for an unlisted population of California newts in Boulder Creek, Santa Cruz County, California. I will perform an upland drift fence and pitfall trapping study and implant individuals with unique identifier tags (passive integrated transponder tags (PIT-tags)). Two low-cost wildlife crossing options will also be evaluated for newts. Upland movement information will be used to: 1) assess the specific needs of this population to evaluate barriers to fish and wildlife migration which appear to be causing an increased incidence of newt road mortality, and 2) ultimately inform the feasibility of installing wildlife crossing structures at this location to reduce or eliminate newt road mortality.

This request for funds (Attachment 1) complies with Fish and Game Code: Section 13103. The project will obtain information required to improve fish and wildlife habitat on Mitchell Drive in Boulder Creek, as well as obtain necessary information about several barriers to the migration of fish and wildlife that have been identified on this road. The first barrier is the road itself, Mitchell Drive, which is not an actual barrier, but something that functions as a barrier to the newts that are killed by cars while crossing the road. The other barrier is a roadside ditch located in the upper watershed riparian corridor section of Mitchell Drive, which in general is passable by newts; however, during heavy rain events, this ditch becomes a barrier to newt movement due to high water flows. Because of these barriers, Mitchell Drive is being listed in the upcoming 2024/2025 California Department of Fish and Wildlife (CDFW) Wildlife Barriers Report as a “CDFW Movement Barriers Priority Location” as a “road that needs more study” (S. Estrella, CDFW, pers. comm.), due primarily to the newt road mortality and barriers to movement that have been identified by Wildlife Biologist, Chrissie Klinkowski.

Background of the issue being addressed

Newts, a type of salamander, are a group of amphibians. Amphibians are declining in numbers throughout the world with 40.7% of species of amphibians being ranked as globally threatened (Luedtke, 2023). Newts are often the first species to disappear in an ecosystem (Brehme et al 2018; Gibbs 1998), and newts are declining throughout the range due to many factors, including habitat loss and death from vehicular traffic (AmphibiaWeb 2023). Populations of Coast Range newts (*Taricha torosa torosa*) found in Monterey County and other California counties to the south are classified in California as State Species of Special Concern by CDFW (Thomson et al. 2016). Northern populations of Coast Range newt, which includes the study area in Santa Cruz County as well as neighboring Santa Clara County and other California counties to the north, have no regulatory protections. And while Santa Clara County newts have no protections, this has not stopped Local and State Agencies from seeking \$28 million in funding for an elevated road segment with undercrossing structures to address the problem of unlisted California and rough-skinned newts (*Taricha granulosa*) being hit and killed by drivers on Alma Bridge Road (AECOM 2023; Wilkinson & Romansic 2022; MidPen. 2023). CDFW also awarded a \$77,000 grant to the Chileno Valley Newt Brigade, for a wildlife crossing feasibility study for newts in Marin County (Chileno Valley 2023).

Very little is currently known about California newt populations in the Santa Cruz Mountains in Santa Cruz County, California. However, anecdotal stories and some preliminary evidence exists for one population of newts breeding at a pond located next to Mitchell Drive in Boulder Creek, California. According to residents who live on the road, newts have been migrating annually during the rainy season to and from the Mitchell breeding pond for at least 50 years. And, preliminary evidence shows that this population of newts near Mitchell Drive has been declining over the years and, without intervention, will continue to decline.

For the last 50 years, neighbors on Mitchell Drive have told stories about how, in previous years, newts were so abundant during the rainy season, the newt breeding season (Petranka 1998), that newts used to “blanket

the road” and that it was not possible “to walk on the road without stepping on a newt.” Unfortunately, the number of amphibians has significantly declined at this location such that you can now walk down Mitchell Drive during winter rain events without sometimes even seeing a newt (Klinkowski, unpublished data).

I, Ms. Klinkowski, am a wildlife biologist who lives in Boulder Creek and have been going out at night during rain events, when possible, to move newts and other amphibians off the road, so they do not become roadkill. In 2021, I started putting up signs to alert my neighbors and visitors to the neighborhood of migrating newts on the road and physically moving newts off of the road to keep them from becoming roadkill. Between 2023 and 2024, I informally conducted walking transects along Mitchell Drive during rain events occurring during commute hours and observed newts over 400 times. I moved live newts off the road to safety, but 85 of the observed newts were hit and killed by cars (approximately 20% of the observed). Two things are important to note. The first is that among the > 400 encounters with newts that I moved, most of the newts would have been otherwise killed by oncoming cars if I did not move them (Photo 1). The second is that no population estimates of the number of newts on Mitchell Drive are available as individual newts are not marked, so multiple handles of the same newt (recaptures) are likely. Some of the newt encounters I had over part of the 2023-24 newt breeding season are documented in an iNaturalist project, available online (Mitchell Drive Newt Patrol, 2024).



Photo 1. Impact of a single car driving down Mitchell Drive during newt migration at one location in late February, 2023. Photo shows two road-killed newts and one live newt shown in a “unken reflex” defensive posture against predators (Petranka 1998; Riemer 1958; Brodie 1977). Unfortunately, the defensive posture, while helpful for predator defense, does not work on vehicles.

Physically moving newts out of the way of cars may solve an immediate issue for individuals, but it is not a long-term solution to what is a population level problem, as numbers of amphibians at this location have continued to decline since 2021 (Klinkowski, unpublished data). At this time, it is unknown if the amphibian decline is due to climate change, drought, roadkill, or disease (Chanson et al. 2023), but road mortality seems to be at least a part of the issue since newts move at the same time as the morning and evening commute traffic.

I observed that during their annual migration to and from their breeding pond that the Mitchell population of newts must cross several barriers to get there, affecting mortality rates. The first barrier is a permanent barrier, and the second one is an intermittent one. The first barrier is the road itself, Mitchell Drive, which is not an actual barrier, but something that functions as a barrier to the newts that are killed by cars while crossing the road (Photo 2).



Photo 2. Newt barriers to movement: road barrier. Mitchell Drive is a single lane, paved road into a Boulder Creek neighborhood with one way in and out. The road is located between a documented newt breeding pond and the uplands where newts go during the summer months. In the winter months, I regularly observe newts slowly moving across the road migrating to their pond during the morning and evening commute hours, resulting in a conflict where newts often get run over and killed by drivers.

The other barrier is a roadside ditch located on part of Mitchell Drive, which in general is passable by newts; however, during heavy rain events, this ditch becomes

a barrier to newt movement due to high water flows (Photo 3). The specific area where the studies will take place is in an upper watershed riparian corridor in the Santa Cruz Mountains where rainfall in 2022-2023 totaled 71.02-inches (SLVWD 2024). During rain events, drainage from the neighborhood results in fast flowing water that flows down Mitchell Drive via a roadside ditch which connects to a vegetated ditch and then to a culvert that goes under Highway 9, ultimately draining into the San Lorenzo River. This ditch often becomes a barrier to newt crossing during high water flows, resulting in newts sometimes making three or more attempts to cross this road during a breeding season.



Photo 3. Newt barriers to movement: water barrier. An adult newt attempting to cross Mitchell Drive on its way back from its breeding pond in late February 2024. This female California newt was crossing the road after breeding but was unable to cross the fast-flowing water in the roadside drainage located between it and its upland habitat. This newt, like many others that I have observed, was unable or unwilling to cross this drainage; this newt turned around and headed back to the breeding pond another time. Presumably, the newt would have made another attempt to cross the road at a later time when the drainage was passable. Instead, I picked it up before a vehicle traveling down the road could hit it.

Goals of Study

Hopkins et al. (2019) found no studies reporting on amphibian mortality and movement patterns before and after wildlife crossing installation (Aresco 2005b, Baxter-Gilbert et al. 2015), and so the proposed study will obtain crucial movement and mortality information about this population of newts before attempting to install wildlife crossing structures to reduce amphibian mortality. Due to observed newt road mortality, this study will identify amphibian movement and mortality patterns for California newts on Mitchell Drive and also assess two low-cost wildlife crossing options and assess two barriers to newt migration. Because little is known about the number or location of newts crossing the road outside of informal transect survey and commuting times, I propose to do a drift fence and pit-fall trapline study and passive integrated transponder (PIT) tag study and evaluate two potential newt crossing structures. I will:

- Determine the locations and numbers of newts crossing Mitchell Drive during a breeding season and identify seasonal movement patterns.
- Identify if individual newts are using the same location to go to and from the pond.
- Identify if there are areas on Mitchell Drive where more California newts attempt to cross the road (successfully or unsuccessfully) than other locations. If found, identify if the areas used by newts to cross the road going to and from the pond are different throughout the year.
- Determine if disease factors are present in the amphibian populations near Mitchell Drive by swabbing individuals for chytrid fungus using skin swabs and sending samples to a lab for processing.
- Obtain the number of vehicles using the road when newts are crossing the road, to calculate roadkill risk (the number of newts crossing in an hour against the number of vehicles) (Wilkinson & Romansic 2022).
- Evaluate newt use of a 3.5-in. gap between two private property fencelines to travel to the breeding pond using a HALT camera.
- Evaluate if newts will use two different types of potential wildlife crossings, Elasco© Heavy-Duty Hose Bridges. Newts will be guided to the hose bridge entry using drift fence and observed using a HALT camera to see if they will enter into a 3-in. or a 7.5-in. hose bridge opening of any length.

Population movement and abundance: Trapping Summary

Before installing permanent crossing structures at a location in an to attempt to address road mortality occurring on a road, population movement patterns need to be assessed and the needs of the population need to be researched to insure effectiveness of crossing structures (Schmidt and Zumbach 2008). Population

movement patterns need to be assessed along Mitchell Drive prior to installing crossing structures to mitigate road mortality. Specific details of the trapping study are per the Study submitted to CDFW under my Scientific Collection Permit (SCP). California newts (northern populations of Coast newt) are not listed by CDFW or U.S. Fish and Wildlife (USFWS), and so no trapping protocol exists for California newt. Instead, trapline specifics follow existing trapping guidance provided by US Fish and Wildlife for a listed salamander, the California tiger salamander (USFWS 2003; Fisher et al. 2008; Cooper and Shaffer 2023) as was recently done in Santa Clara County (Wilkinson and Romansic 2022).

Twelve drift fence sections will each be a minimum length of 30-ft. (Cooper and Shaffer 2023) and 45-ft. (Fisher et al 2008) long. Fencing will be trenched in underground using pickaxes or other methods and it will be buried at least 3-in. underground (USFWS 2003) and be at least 12-in. high. In this study, 24-inch tall nylon shade cloth (USFWS 2003; Cooper and Shaffer 2023) will be used and buried 3-in. to 6-in. deep. Wooden stakes will be installed in the ground along the length of the fence (Cooper and Shaffer 2023; Fisher et al, 2008). Traplines will be installed in dirt and non-native grassland road shoulders and arranged, in general, off of the paved road, Mitchell Drive, in the area between the road and property line fences. Siting of traplines will not be random; fence will be placed where the highest concentrations of newts has been identified, and where permission has been obtained adjacent to Mitchell Drive along the road shoulder in upland areas, away from areas of flooding, or underground utilities. Drift fence will also be placed preferentially alongside Mitchell Drive at the roadside drainage barrier to determine the percentage of newts attempting to cross the road at this location and the impact of this barrier on newts.

Six sets of paired pitfall traps will be installed per trapline. Traps will be placed on either side of the fence to identify animals going “to the pond” or “from the pond” and will be installed between 22.5-ft. and 33-ft. apart (Fisher et al. 2008; USFWS 2003, Cooper and Shaffer 2023). Per USFWS (2003), all pitfall traps will have a rigid lid that closes securely such that when not in use, traps will be closed to prevent animal entrapment. Each pitfall trap will be marked with the name, telephone number, and Department permit number. In addition, to minimize mortality of small mammals that may become trapped during surveys, each pitfall trap will also incorporate either jute twine, as described in Karraker (2001), or a rodent safe-house as described in Padgett-Flohr and Jennings (2001). Whenever possible, traps will be opened just before dark and checked and closed the following morning. When not in use, the drift fence and pitfall traps will be inspected weekly. Repairs to fences will be completed prior to the next night of sampling. Once trapping is completed, traps will be emptied and removed, fence will be removed, and holes in the ground will be filled in.

Captured Animals

Per the study design, all animals found in traps will be enumerated, tagged and safely relocated in the direction they were traveling. Non-target species will be counted and released. Captured newts will be processed, PIT-tagged (see below), photographed, and released as near as possible to the point of capture in a manner that maximizes their survival. Newts will be watched after release to ensure that they are not susceptible to increased predation risk. Data will be recorded in ESRI© ArcGIS® Field Maps as well as on paper data sheets.

Passive Integrated Transponder Tag (PIT Tag) Study

Little is known about the newts on Mitchell Drive outside of transect surveys I perform during commute hours. Because information is needed about the number of newts present, how and where newts travel on Mitchell Drive, and where they go during the non-breeding season, I am proposing to do a pit-fall trap study and Passive integrated transponder (PIT) tag study. Passive integrated transponder (PIT) tags have been widely used in amphibians and have been demonstrated to be non-invasive in newts (Jehle and Pits 1998; Perret and Joly 2002; Testud et al 2019). Once non-tagged California newts are moved from pit-fall traps into decontaminated buckets, they will be anesthetized (Medler 2019), processed, and I will place a Biomark© Mini HPT8 passive integrated transponder tag (Perret 2002) in the newt, behind the cloacal opening and

ventral-laterally on the tail and as per the study design submitted to CDFW.

Disease Monitoring

The pathogenic chytrid fungus *Batrachochytrium dendrobatidis* (*Bd*) is considered responsible for population declines and extinctions of hundreds of amphibian species worldwide (Raffel et al 2010). Currently in California, most outbreaks of chytrid fungus in amphibians have been associated with the fungal pathogen *Bd* (Padgett-Flohr 2008). To date, the Amphibian Disease Portal currently states that 27 *Taricha* sp. submitted have tested positive for *Bd* (AmphibiaWeb 2023). To determine if the Mitchell newt population is affected by this fungus, I will follow the chytrid protocol outlined by Boyle et al. (2004) and take skin swab samples from the amphibians confirmed to be breeding in the pond at Mitchell Drive: California newts (n=10) and Pacific chorus frogs (n=10; *Pseudacris regilla*) (Klinkowski, unpublished data). Samples per species will be sent to Pisces Molecular Lab for analysis to identify if *Bd* is present in this population, and if present, what levels are present. Results will be submitted to the Amphibian Disease Portal.

Evaluate Two Low-Cost “Off-the-Shelf” Wildlife Crossings for Newts on Mitchell Drive

Additional research into terrestrial habitat uses and movement is critical for understanding habitat requirements and potential corridors of movement for Coast range newts (Thomson et al 2016). Expensive elevated road segments and amphibian undercrossings with directional fencing are being built for amphibians with various types of structures found to be effective (Langton and Clevenger 2020). Preference for entrance size, sky exposure, and line-of-sight (Hopkins et al 2019; Woltz et al. 2008) are all considerations given for amphibian wildlife crossings with a general consensus in the literature being that these are the required elements of successful amphibian crossing structures (Hopkins et al 2019; Wilson 2001; Woltz et al. 2008); however, differences between species do exist and while Hopkins et al (2019) found red spotted newts preferred a full sky crossing, they did not find a significant difference between newt tunnel use and sky exposure. Regardless, any crossing structure being installed on Mitchell Drive to address newt mortality should be researched and tested before installing it (Schmidt and Zumbach 2008) to ensure the crossing is installed works for that population.

Many crossing structures are being installed for amphibians to address road mortality issues; however there are very few long-term studies documenting successful and continued use of crossings by amphibians after installation (Alvarez, pers. comm; Langton et al. 2017). Something as simple as a modified cattle guard could potentially be installed in Mitchell Drive (C. Brehme, pers. comm) to address newt roadkill, but this needs to be tested for the newts on Mitchell Drive ahead of obtaining funding to install the structure.

Many different pathways exist for newts to travel over Mitchell Drive to get to their breeding pond; however, during evening transects I have observed a number of newts on Mitchell Drive make a beeline movement to a specific area of the road in order to enter a 3.5-inch wide gap between two private property fences (Photo 4). The newts do not appear to enter the gap between the fences and then turn around. Instead, newts appear to preferentially head for the opening between the two fences and then continue down the passageway. It is presumed, but not known, that they continue to travel down this corridor for approximately 30-ft. to access a drainage that directly connects to the breeding pond. Given the 3.5-inch gap that newts are already traveling through, it is also entirely plausible that newts on this street would also enter a narrow wildlife crossing, if given the opportunity. So, given preliminary information about newts on Mitchell Drive using a narrow passageway to travel to their breeding pond, I propose testing two low-cost “off-the-shelf” wildlife crossing structures on Mitchell Drive.

Elasco© Heavy-Duty Hose Bridges (hose bridges) are portable, lightweight (40-lbs/section) interconnectable sections of polyurethane that are placed on top of roads passageways. Hose bridges come in multiple or single channel (tunnel) options and most have an open bottom. They are typically used to protect hoses or a large electrical conductor from being driven over on construction sites. Like the goal of most wildlife crossing structures (Langton and Clevenger 2020), in general, these structures have a method of getting something across a road without being run over.

After looking at amphibian crossing specifications (Langton and Clevenger, 2021) and also appreciating that newts have been observed to enter a 3.5-in. wide gap, I selected two designs of Elasco© Heavy-Duty Hose Bridges to test. One hose bridge will be 15-ft. lengths of a single 3-in. wide x 3-in. tall channel and the other will be 15-ft. lengths of a single 7.75-in. wide x 1.75-in. tall channel (Figure 3). Sections of drift fence will be used to simulate directional barrier fencing (Langton and Clevenger 2021), guiding newts to the hose bridge openings to see if they will enter it (Hopkins et al. 2019). I will test if newts will enter the hose bridge and, if so, if newts will walk through different lengths of the material, up to 15-ft. in length.

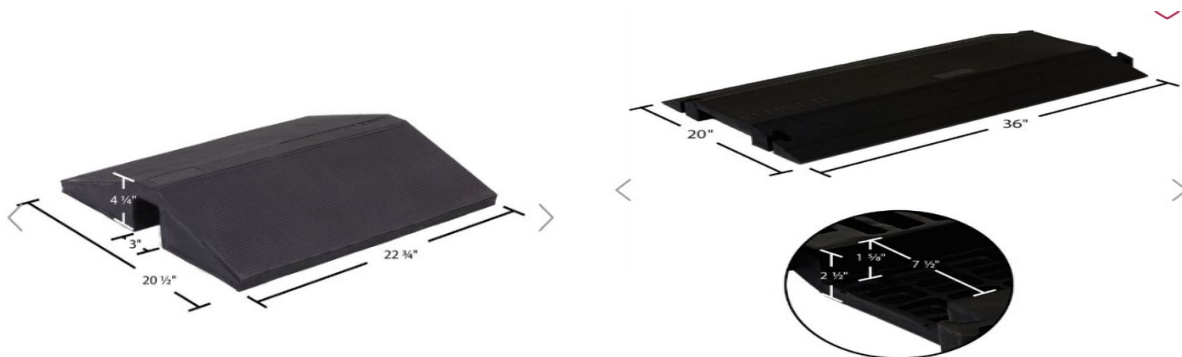


Photo 4. The narrow, dark opening between two private property fences newts use to access a drainage that connects to a breeding pond.

I will use a Hobbs Active Light Trigger (HALT) camera (Hobbs and Brehme 2017) to observe: 1) frequency of newts traveling through a 3.5” gap between two private property fencelines 2) if newts will enter a 3-in or a 7.5-in hose bridge opening and 3) if newts will travel through a 15-ft length of 3-in or 7.5-in hose bridges. Using the HALT camera to monitor newt crossings will allow me to monitor newt movements without human interference risk, something that could lead them to changing their behavior or movements due to the presence of humans (Hopkins et al 2019). A HALT camera has successfully been used to monitor Yosemite Toads (*Anaxyrus canorus*), as well as other amphibians, on an elevated road segment (Barnes, pers. comm).

If newts travel through hose bridges, we will have a workable solution which, after analyzing movement data, could ultimately reduce newt mortality Mitchell Drive. If newts do not go into the hose bridge crossing structures this will provide additional information about the crossing needs of newts at this location. Either way, more wildlife crossing information will be obtained about this population of newts in Santa Cruz County and what will ultimately help reduce newt road mortality and address the barriers to their movement.

Figure 3. Two types of polyurethane Elasco© Heavy-Duty Hose Bridges will be presented to newts. One section of each type (3-in and 7.5-in) is shown.



Vehicle Use of Road

Mazerolle (2004) found subtle variations in traffic intensity can increase road mortality for certain amphibian species. To determine the number of vehicles using the road when newts are crossing the road and calculate roadkill risk a TRAFx traffic counter (Wilkinson and Romansic 2022) will be installed to count vehicles.

Signs

Large, reflective metal signs alerting drivers on Mitchell Drive to the presence of newts have been run over

and damaged. Funds for replacements of metal reflective signs are requested.

Project Completion Timeline

Materials will be ordered as soon as possible following funding and traplines will be installed as soon as possible. Sampling is planned to occur on rainy nights during the 2024-2025 breeding season, as described in the trapping protocol (December, 2024 to May, 2025).

Applicant's Background

I, Chrissie Klinkowski, am a wildlife biologist who has a M.S. degree in Organismal, Ecology and Conservation Biology (San Jose State University). I have decades of extensive experience in California, particularly with listed and unlisted herpetofauna. I hold a Recovery permit from USFWS for CA Red-Legged Frog (*Rana draytonii*) and a SCP from CDFW. I also have an affiliation with the non-profit organization Biological Field Studies Association (EIN 94-6108377) based out of Sacramento, California.

I live in Boulder Creek where the study is taking place, and I have documented handling experience of over 700 *Taricha* sp. throughout the state of California. I have prior experience installing traplines and checking pit-fall traps for a listed salamander under USFWS (2003) protocol. While employed as a wildlife technician at Sycamore and Associates during a two-year upland protocol trapping study for California tiger salamanders (*Ambystoma californiense*; CTS) in 2003-2004, I checked pit-fall traps and repaired fence, releasing non-target species. I installed and checked drift fence traplines while employed for two-years by Karen Swaim at Swaim Biological Inc. (2007-2008) and recently under the supervision of Jeff Alvarez at an upland habitat CTS training in Santa Rosa where we also visited several CTS undercrossing projects. Finally, I have verifiable experience handling, anaesthetizing, and inserting Biomark© PIT tags in rough-skinned newts under the direct supervision of herpetologist Jeff Wilcox and received a letter of recommendation documenting my proficiency to PIT-tag newts.

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Attachment 1: Detailed Budget – Materials and Labor.

Itemized Budget Items	Requested Funds	Matching Funds
Drift Fence and Pit-Fall Trap and Newt Processing Materials		
Isopropyl alcohol (95%, 2 bottles)- surgical equipment; Bleach- 1 bottle- field gear	\$35.00	-
Labor: Fence Installation/USA Marking (\$30.00 x 40-hours Paid and \$30.00 x 40-hours- Donated)	\$1,200.00	\$1,200.00
Shade cloth (45' lengths (n=15: 12 for traplines and 3 lengths for wildlife crossing trial)	\$3,140.00	-
Wooden Stakes-for fence and for trap lids; 12 stakes per n=15 drift fence \$1.39/stake	\$250.00	-
Materials for inside traps: sphagnum moss, non-cellulose sponges, rope, PVC retreats	\$35.00	-
Bricks to weigh down lids to close traps (\$.90/brick x 75 bricks + tax)	\$75.00	-
5-gallon buckets with lids (\$10/each x 72 (6 x 12 traplines + 3 for wildlife crossing))	\$750.00	-
Pesola Micro Spring Scale Set (10-g, 30-g, 60-g, 100-g) ; Ziploc bags (large and small, 1 case)	\$340.00	-
PIT-Tag, Processing, Anesthesia, and Recovery Tank Materials		
Biomark© (MK165 tag implanter, tag reader, 16g needles, 700-Mini HPT8 PIT tags; shipping; tax)	\$2,432.00	-
Syncaïne Fish Anesthetics (MS-222). Tricaine methanesulfonate (1 bottle 100g)	\$260.00	-
2 pairs of 4-inch Dissecting scissors (\$156.40; shipping; tax)	\$207.00	-
WPI© Vessel cannulation forceps (for inserting RFID tag into syringe)	\$73.00	-
Recovery tank with haul out; Air stone; ZooMed ReptiSafe Water Conditioner; Spring water	\$280.00	-
Additional Equipment, Materials, and Labor		
Replacement newt crossing signage- large 24"x36" metal reflective signs	\$400.00	-
Chytrid swab testing at Pisces Molecular (collection swabs and vials donated by G. Padgett-Flohr)	\$382.00	-
TRAFx© Vehicle Counter (\$1,375) and ESRI ArcGIS© Field Maps for field data collection (\$500)	\$1,875.00	-
Elasco© Brand- 2-15' Hose Bridges (15' x 1 3/4"x7 3/4" & 15' x 3"x3" channel includes shipping)	\$3,864.00	-
Hobbs HALT-2© Camera- amphibian break beam camera	\$1,800.00	-
Biological Field Studies Association, 501(c)3 Overhead Processing Fee (6%)	\$1,044.00	-
Labor: Senior Biologist: Trap checking; Data Entry, PIT-tagging, Reporting (\$100/hr. x 280 ¹ hrs.)	\$0.00	\$28,000.00
Labor: Herpetologists: Trap checking, etc. (\$100/hr.x100hrs donated by Karen Swaim. Additional hours donated by professional herpetologists- only 100 hours included due to space constraints).	\$0.00	\$10,000.00
TOTAL AMOUNT OF STUDY	\$57,642.00	
TOTAL AMOUNT OF MATCHING FUNDS		\$39,200.00
TOTAL AMOUNT REQUESTED IN PROPOSAL	\$18,442.00	

¹ Calculated based on assumed 70 days of rain at 4/hrs. per rain day (inclusive of data entry) to account for Klinkowski to perform trap checks. [Boulder Creek Climate, Weather by Month, Average Temperature \(California, United States\) - Weather Spark](#)



County of Santa Cruz

Health Services Agency ♦ Environmental Health



Fish and Wildlife Advisory Commission

701 Ocean Street, Room 312, Santa Cruz, CA 95060
(831) 454-3154 TDD/TTY -Call 711 www.scceh.com
EnvironmentalHealth@santacruzcounty.us

GRANT INFORMATION: PROPOSAL

This information will be included in public documents

Project Name: River Stewards Date: 10/24/24

Applicant name or Organization: Coastal Watershed Council

Project Description:

The River Stewards program provides direct benefit to native fish and wildlife habitat along the lower San Lorenzo River through the removal of 1,000 sq ft of highly invasive species and seeding of native plant species, while educating 25 unique individuals experiencing homelessness about riparian stewardship through a unique program in partnership between the Coastal Watershed Council (CWC) and Downtown Streets Team (DST).

Funding Requested	\$5,000
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ITEMIZED BUDGET ITEMS	Requested Funds	Matching Funds	Total Amount
Personnel (staff salaries and related expenses for CWC and DST)	\$4,500	\$48,108	\$52,608
Materials & Supplies (tools, gloves, native seeds, mulch, snacks, etc.)	\$500	\$2,032	\$2,532
Participant Basic Need Stipends (\$20 gift card provided to volunteers)	\$0	\$7,360	\$7,360
CWC and DST are collectively pursuing matching grant funding from Fox Factory,			
the California Coastal Commission Whale Tail Grant Program and community donations			
TOTAL AMOUNTS	\$5,000	\$57,500	\$62,500

Each item description should be sufficient to clearly define the full item. In addition to funds being requested, note any matching funds committed to the proposed project.

For each section, provide a brief written response.

Background of the issue being addressed

Starting from spring-fed headwaters in the Santa Cruz Mountains, the 29-mile long San Lorenzo River drains a 138-square mile watershed to the Monterey Bay National Marine Sanctuary. In its final 2.5-mile stretch, the river is channelized by a levee constructed in the 1950s that straightened and narrowed the river, drastically impaired the coastal estuary and left poor, compacted soils along its banks where invasive species have thrived. The loss of native riparian habitat compounded with the impacts of people experiencing homelessness living along the river corridor today challenge the riparian ecosystem in this watershed. Although people experiencing homelessness are often referenced when citing environmental challenges, including destruction of native flora and pollution, they have rarely been able or invited to participate in environmental education and stewardship.

Project Goals

First launched as a pilot with the support of this Fish and Wildlife Advisory Commission in 2022, the River Stewards Program has demonstrated its success in educating people experiencing homelessness about riparian stewardship while making a direct impact on the San Lorenzo River ecosystem. From July 2023 to June 2024, CWC and DST engaged 39 unique individuals experiencing homelessness for 532 hours of river stewardship, removing 1,102 square feet of highly invasive ice plant, Himalayan Blackberry and English Ivy, and seeded native species. The River Stewards program aims to build on the success of this past year, educating 25 unique individuals experiencing homelessness, removing over 1,000 square feet of highly invasive species and seeding additional native plants.

Project Logistics: how will the project be completed?

Once weekly, on Tuesday afternoons, participants gather at the lower San Lorenzo River. CWC provides lunch and accepts a maximum of 8 participants per weekly session on a first come first serve basis to ensure high quality education and instruction. Participants then complete two hours of active hands-on education and stewardship. The educational topics and specific habitat enhancement activities vary throughout the year in order to address the greatest educational and/or ecological need present at that time. At the end of each session, staff measure daily outcomes including square footage of invasive species removed and pounds of trash/debris collected as well as gives each participant a stipend. Program results are celebrated each Thursday during the DST's regular 'Success Meetings' where the River Stewards program is highlighted to all current DST members and new members are encouraged to join upcoming River Stewards sessions.

Project Completion Timeline

While an ongoing program, the goals and budget in this proposal span from July 2024 to June 2025

Applicants Background.

In its 29-year history, the Coastal Watershed Council has engaged thousands of volunteers, including those experiencing homelessness, to enhance habitat and implement best management practices for a cleaner, healthier San Lorenzo River. The Downtown Streets Team has a demonstrated track record of success in Santa Cruz County since 2017 with litter abatement programs that reduce non-point source pollution to the San Lorenzo River while helping to end homelessness through the dignity of work. Since launching this River Stewards program pilot in 2022, CWC and DST have honed this environmental education and stewardship program model through iterative improvements based on stewardship needs and feedback from program participants to develop this successful model.

County of Santa Cruz
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GRANT APPLICATION – Version I

GRANT INFORMATION: PROPOSAL

This information will be included in public documents

Project Name. The Santa Cruz County, California- Elementary School Version of The Cannonball Express
 Date 10/24/2024

Applicant Names. Gary Rinfret, Steven P. Kennedy and Nicole Suter

Project Description:

A half hour educational video about the scientific principles of conservation, designed for formal, supervised curriculum in grades 5 and 6.

Funding Requested \$2,000

Item	Funds Requested	Match Contribution	Total Amount
Pre-Production (including 10% of County grant and 10% of all Match Contributions for our fiscal agent’s administrative fee)	\$500	\$700	\$1,200
Equipment Rental	\$300	\$900	\$1,200
Camera Operator (labor)	\$600	\$600	\$1,200
Drone Operation (labor)	\$100	\$600	\$700
Editing & Titling (labor)	\$250	\$600	\$850
Music (scoring)	\$50	\$500	\$550
Archival Rights	\$100	\$300	\$400
Insurance	\$100	\$900	\$1,000
TOTAL AMOUNTS	\$2,000	\$5,200	\$7,200

The author of this proposal will provide matching funds if contributions are insufficient or late.

TOTAL AMOUNTS.

Each item description should be sufficient to clearly define the full item. In addition to funds being requested, note any matching funds committed to the proposed project.

Page 1 of 2

FWAC _Grant _Proposal_06/2022

For each section, provide a brief written response.

Background of the issue being addressed

(From Measure Q The Water and Wildlife Protection Act)

“WHEREAS, the 2020 CZU Lightning Complex Fire was the most destructive wildfire in Santa Cruz County in over a century and caused extensive physical and financial damage to the County’s communities, water resources, and natural resources, destroyed over 900 homes in the County, and caused an estimated \$340 million in total damage. With such extensive damage, recovery and rebuilding efforts are still underway three years later.”

WHEREAS.... the author’s PreProduction investment exceeds \$100,000.

Work began on this video production in 1993.

The STUDENT version of the video script was created in 2018.

The ADULT-HOMEOWNER version of the project was denied funding in 2000, 2003 and 2009. PG&E denied funding in 2008 for the ADULT - HOMEOWNER version with no comments or criticisms.

The STUDENT version of the project was denied funding in 2019.

The deadly, devastating and environmentally damaging CZU Fire of 2020 makes this project timely and relevant.

If matching funds don’t come through then the author will provide these sums.

Again, the author has put over \$100,000 into project development over the last 31 years.

Project Goals

To provide education to elementary school students on the scientific principles of conservation, especially those related to riparian corridors.

e.g. A cat disease, toxoplasmosis, being fatally transmitted to other species, in this case sea otters, affecting sea urchins, kelp beds, greater steelhead predation and weaker

spawning runs in the same creek beds that cats use as litter boxes, effecting fish and wildlife in the whole watershed.

This principle is brought home to students as “Ingrid” (and her sheep “Dolly”) walk home along the creek and Ingrid is mentored by “Muriel” the housewife, in “The Kitchen Scene - Scene III”.

There are other conservation issues raised in this scene as Ingrid and Muriel walk home along this suburban creek.

Project Logistics: how will the project be completed?

Project Completion Timeline

The work of our video production team will be divided into three parts....

PreProduction
Production
Post Production.

When green lighted by the County Supervisors we will begin Production....

We will interview and hire a Director by the end of that month.

The Director will have complete creative control including casting, editing and music. No Director “worth his salt” will come aboard until we have a green light from the County.

The Director will turn the script into a screenplay and the screenplay into a storyboard, by the end of week 5. The storyboard is the blue print for each shot. It kinda looks like a comic book with jargon about camera angles etc.

The Executive Producer (Steve Kennedy) will apply to PG&E, the Santa Cruz Community Foundation’s donor advised funds and crowd based sources for matching funds, by the end of week 6.

Our Producer (Gary Rinfret) will continuously support the work of the Director through location scouting, securing film permits, filming B roll and providing props and wrangling the animal. The Producer will “make it happen” from County Supervisor’s approval, through the end of Post-Production and distribution.

We will film outdoors as weather allows. There could be weather delays.
With good weather...

The Director (TBA) will audition and hire talent by the end of week 6.

The Director will roll cameras by the end of week 8.

Nicole Suter, a nurse, will attend to the health and well being of all cast and crew.

The film editor (TBA) will complete editing by the end of week 10.

We will present this rough cut version to the Commission at the next scheduled F&W meeting.

We will, at your suggestion, modify the script/screenplay and reshoot dialogue as necessary.

The film editor will complete editing, then add music and titling by the end of week 12. This step completes the Production phase of the project.

We will present the completed video to the F&W Commission at the next scheduled meeting.

We will provide the video on DVD to the County Office of Education, PG&E and the Community Foundation.

We will enter the video into Film Festivals

We will provide the video on DVD to community access cable TV stations for cable casting.

We will post the video to YouTube through the author's web site at www.canonbal.org

We will provide a summary report to the Commission including a full accounting of expenditures within one year of green lighting, with estimated viewership and feedback from educators, donors and PG&E.

This step will conclude Post-Production.

Applicants Background

Gary Rinfret, our Producer has lived in the S.F. Bay Area since 1977

He has lived in Santa Cruz (now at 125 Marnell) since 2014.

Gary worked at the cable TV station KSAR at West Valley College in 1996 and was involved in the production of several student videos.

Nicole Sutter, is a registered nurse at Community Hospital of the Monterrey Peninsula. She has been nominated for the "Daisy Award" for excellent nursing. She will ensure the health

and safety of our child actors and talent. She will also serve as a Production Assistant. Nicole travels to exotic places around the world when not working at CHMP Hospital.

Steve Kennedy is a retired electrician and former firefighter. Multiple resumes, a project “Chronology” and demo reels are posted to www.canonbal.org

Page 2 of 2

FWAC_Grant_Proposal_06/2022

_____ (End of Proposal) _____



County of Santa Cruz

Health Services Agency ♦ Environmental Health



Fish and Wildlife Advisory Commission

701 Ocean Street, Room 312, Santa Cruz, CA 95060
(831) 454-3154 TDD/TTY -Call 711 www.sceeh.com
EnvironmentalHealth@santacruzcounty.us

GRANT INFORMATION: **PROPOSAL**

*This information **will** be included in public documents*

Project Name: Branciforte Fish Tracking Project

Date: 10/23/2024

Applicant name
or Organization: California Trout, Inc. (CalTrout)

Project Description:

CalTrout launched the Branciforte Fish Tracking Project in 2023 to promote riparian conservation by informing population recovery efforts for endangered coho salmon and threatened steelhead trout in the San Lorenzo River Watershed. Since March 2024, we have operated a Passive Integrated Transponder (PIT) tag antenna to count salmonids swimming above the Branciforte Flood Control Channel. We are collecting baseline data on fish passage before barriers are addressed, investigating if salmonids from other Santa Cruz Mountain streams stray into Branciforte Creek, and engaging the public by sharing how we monitor fish movements and what we find.

Funding Requested	\$3,000
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ITEMIZED BUDGET ITEMS	Requested Funds	Matching Funds	Total Amount
staff time: fieldwork, data analysis, outreach, & reporting	\$2500	\$2500	\$5000
travel: mileage for field work & State of the San Lorenzo River Symposium	\$500	\$0	\$500
equipment: PIT antenna & field supplies	\$0	\$2500	\$2500
TOTAL AMOUNTS	\$3000	\$5000	\$8000

Each item description should be sufficient to clearly define the full item. In addition to funds being requested, note any matching funds committed to the proposed project.

For each section, provide a brief written response.

Background of the issue being addressed

Conservation organizations are working to bring coho salmon back to Branciforte Creek after they were extirpated from the San Lorenzo River Watershed in 1976. This stream still supports spawning steelhead that make it to natural habitat above the 1-mile-long Branciforte Flood Control Channel. The City of Santa Cruz intends to improve fish passage through the concrete channel. However, no one has used PIT technology to monitor fish passage before and after barrier removals on the stream, and no one has investigated if coho salmon and steelhead stray into Branciforte Creek from other streams.

Project Goals

The project goal is to document migrations of steelhead in Branciforte Creek.

This will inform riparian habitat restoration plans and engage the public on how fish indicate the health of riparian areas that supply their drinking water. There is also potential for our project to document straying of endangered coho salmon from other watersheds into Branciforte Creek, which could potentially inform stocking practices from a local conservation hatchery in the future.

Project Logistics: how will the project be completed?

We are using generous Commission and match funds to complete our project with six objectives:

- (1) expand network of PIT sites in the Santa Cruz Mountains (completed spring 2024)
- (2) compare results in Branciforte Creek to the San Lorenzo River (planned in summer 2025)
- (3) compare results in Branciforte Creek & the San Lorenzo River to other PIT sites (planned in summer 2025)
- (4) show if salmonids swim between Branciforte Creek & other PIT sites (planned in summer 2025)
- (5) garner support for extended PIT study in Branciforte Creek (completed in fall 2024), and
- (6) engage County community members and the public in riparian conservation (ongoing since March 2023).

Project Completion Timeline

collect data & do outreach (spring 2024 - summer 2025), analyze data (summer 2025), & share results (fall 2025)

Applicants Background.

CalTrout's Bay Area Region has a record of successful fish tracking pilot projects in Pescadero Creek (San Mateo Co.) and Walker Creek (Marin Co.). Our work has complemented salmonid monitoring by resource agencies, catalyzed coho salmon releases from conservation hatcheries in key watersheds, informed restoration efficacy post-barrier removal, and initiated iterative discussions about results and public outreach.



County of Santa Cruz

Health Services Agency ♦ Environmental Health



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GRANT INFORMATION: PROPOSAL

This information will be included in public documents

Project Name: Pogonip Creek Watershed Working Group Date: 10/24/2024

Applicant name or Organization: Resource Conservation District of Santa Cruz County

Project Description:

In recent years, Pogonip Creek has come to be the focus of various competing uses and forces, and subject to a piecemeal assortment of management efforts and regulatory actions. Key public and private stakeholders are willing to continue the exchange of information to optimize long-term stewardship of this small, but important watershed. The Pogonip Creek Working Group aims to resume activities that had ceased in early 2023 due to lack of funding and will facilitate a series of meetings and gather information on past and present management and research efforts. All products of these meetings can then be used to guide future watershed planning, research and restoration to protect and enhance the riparian corridor for the native wildlife that depends on it.

Funding Requested	\$9,677.00
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ITEMIZED BUDGET ITEMS	Requested Funds	Matching Funds	Total Amount
Task 1. Convene Quarterly Working Group Meetings	\$5,938.00	\$6,500.00	\$12,438.00
Task 2. Project Management/ Administration	\$2,152.00	\$0	\$2,152.00
Indirect Costs	\$1,587.00	\$0	\$1,587.00
TOTAL AMOUNTS	\$9,677.00	\$6,500.00	\$16,177.00

Each item description should be sufficient to clearly define the full item. In addition to funds being requested, note any matching funds committed to the proposed project.

For each section, provide a brief written response.

Background of the issue being addressed

Pogonip Creek is an important and heavily impacted waterbody in the lower portion of the San Lorenzo River Watershed. Pogonip Creek provides clean, clear flow to the lower San Lorenzo River even in drought years due to its origins in karst terrain. In drought years, it can contribute up to 10% of base river flow. Given that the San Lorenzo River is listed under the Clean Water Act 303(d) water bodies list as impaired by temperature and is fully-appropriated during the dry season, effective water resource management is in special need of support at this time.

Project Goals

Stakeholder exchange will be designed to promote an integrated and holistic approach for the stewardship of the Pogonip Creek Watershed by both private and public landowners. Improved management of the watershed will provide tangible benefits for the riparian corridor that our endemic species by addressing known resource issues, ie. flooding, habitat loss, and water quality degradation. Species that will benefit include steelhead, recently observed at the confluence of Pogonip Creek with the San Lorenzo River, and the western pond turtle, known to occur in the watershed and expected to be listed under the Endangered Species Act in 2025. In addition to the benefits for native species, this effort will ultimately also benefit the human community of Santa Cruz County, given that the majority of the Pogonip watershed is held by the City and UCSC and therefore accessible to the public.

Project Logistics: how will the project be completed?

Initial action will be the coordination of gathering of materials to a central server accessible to all working group members. Four (4) quarterly meetings will be convened in 2025 to 1) Identify new resource issues and opportunities within the watershed, 2) Prioritize resource management issues of greatest concern and identify funding sources to address them, 3) identify internship studies and opportunities for student involvement with UC Santa Cruz, and 4) Identify funding sources to fund meetings after 2025. City Water Department staff and CDFW will each provide a minimum of 20 hours a year of staff time in support of this effort. For the former, this includes temperature data collection at the confluence of Pogonip Creek and the San Lorenzo River. The estimates of agency time that will be spent on the working group are conservative, but even so the ratio of benefit to the cost of this grant is highly favorable.

Project Completion Timeline

February 1, 2025 - February 1, 2026

Applicants Background.

The RCD has a proven track record of successfully administering funding from local (including the Fish and Game Commission), state, federal and private funders, in achieving stated goals and deliverables, and in convening watershed working groups to develop watershed plans, and to identify and implement high priority projects in Santa Cruz County. In the Pogonip Watershed specifically, we have successfully partnered with CDFW and other agencies to launch this working group and have the resources, capacity and commitment to continuing the work proposed in this application. Serge Glushkoff is a Senior Environmental Scientist in the Habitat Conservation unit of CDFW Region III, with many years of experience studying impacts on and protecting riparian zones in this region.

Project Background (additional information):

The small watershed (approximately 0.5 sq. miles) has a small number of landowners. This provides the working group with a manageable “slate” to work with towards the overall integration of management interests and needs.

This valuable natural asset, mostly on public but some on private property within the City of Santa Cruz, has required the attention of resource planners and regulators in recent years. In 2018, the City of Santa Cruz and the California Department of Fish and Wildlife (CDFW) began taking actions to address land use impacts to the riparian corridor between the City (Parks) property and the railroad crossing. This has included flood control, channel realignment, neighbor disputes, legal and permitting issues related to stream diversion and construction within city and state jurisdictional areas.

In 2019, in association with the construction of the water level control structure at the San Lorenzo Lagoon, and efforts to conserve listed anadromous species within the San Lorenzo watershed, the City entered into a forbearance agreement with the RCD to voluntarily forebear (for 20 years) a total of ~0.5 cfs of instream flows in Pogonip Creek during the low flow season and to monitor instream flows associated with the instream dedication. In doing so, there has been a renewed focus on other diversions and water use within the watershed. In 2021, City Planning and CDFW staff developed a working group to resolve a water diversion violation on private property along Pogonip Creek..

Building on this momentum and to avoid a continuation of previous years of patchwork and piecemealed fixes to small reaches within the watershed, a more integrated and holistic approach became possible. In 2022, the RCD and CDFW convened the first Pogonip Working Group meeting with the City of Santa Cruz (Planning, Public Works, and Parks), County of Santa Cruz (District Attorney), and UC Santa Cruz to begin discussions of integrated watershed planning. During this meeting, the group shared their nexus with the Pogonip Watershed, interest, and issues. Subsequent meetings led to interest in a more expansive possibility to evaluate current management options for the riparian zone of the entire creek, from the UCSC headwaters to the confluence with the San Lorenzo River.

Most recently, the Santa Cruz County District Attorney obtained a Stipulated Judgment from violations in Pogonip Creek that resulted in fines made payable to entities responsible for fish and wildlife resource stewardship. As such, the use of some of those monies to support planning in the Pogonip watershed is logical. Unfortunately, the state’s economic condition cut earlier Working Group efforts short, and both RCD and City initiatives that had been planned to overlap with Pogonip planning have been delayed.

BOULDER CREEK WATER QUALITY & RECOVERY PROJECT

November 7, 2024
Presentation to the Fish and Wildlife
Advisory Commission (FWAG)

DAVE REID, OR3 DIRECTOR
CLARE PEABODY, EMERGENCY SERVICES ANALYST



SANTA CRUZ COUNTY OFFICE OF
RESPONSE, RECOVERY & RESILIENCE

Agenda & Purpose

Meeting Purpose: (Re)introduce the Boulder Creek Water Quality & Recovery Project, provide overview of EPA Community Grants Program & solicit project feedback / ideas



Meeting Outcome: FWAC and public will better understand the Boulder Creek Water Quality & Recovery Project, OR3 will leverage subject matter expertise to inform project design and scope

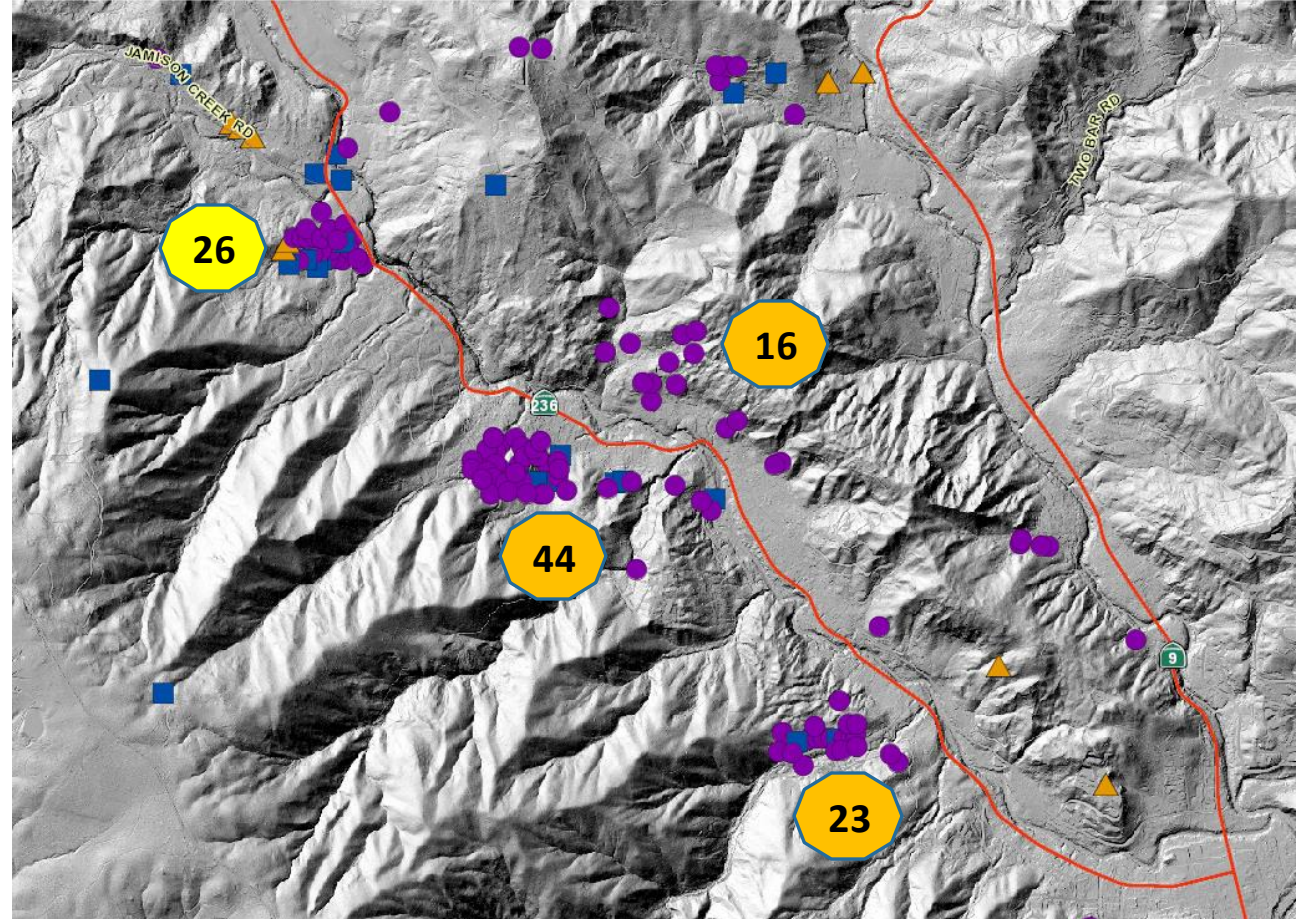
SLV's Sewer History

- San Lorenzo River Watershed
 - Water supply for 95,000
 - Designated **impaired** due to:
 - Onsite Water Treatment Systems (OWTS)
 - High Nitrate & Pathogens
- 15,200 OWTS total
 - 85% predate current codes
 - Majority of Systems over 40+ years old
- 1 – Acre Minimum Development Standard



2020 CZU Fire

- 911 Homes Destroyed Total
- 75+ Homes on OWTS along 236 Corridor
- High Cost of Rebuild
- Environmental Health – LAMP Standards
 - Enhanced Treatment Systems
 - \$70-100,000 Cost
- **5-year Grace Period**



Boulder Creek – Sewer History

1960s

- Boulder Creek Country Club Estates – County Service Area 7 – Sanitation District
- Fallen Leaf Neighborhood – Big Basin Sewer

1994 San Lorenzo Valley Community Wastewater Feasibility Studies (Questa)

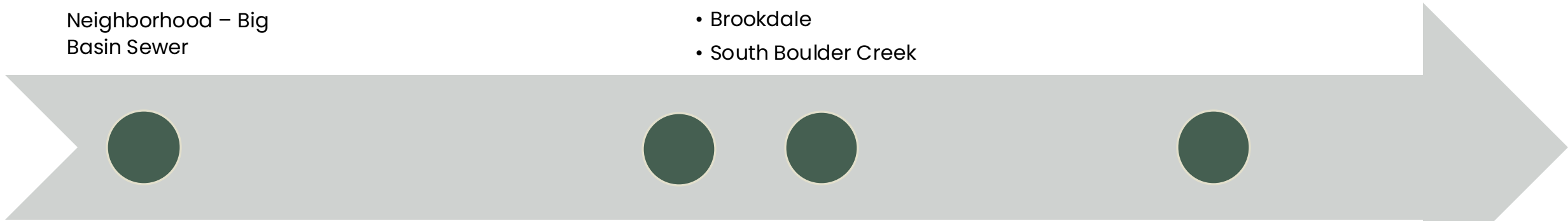
- Felton
- El Solyo Heights
- Glen Arbor
- Ben Lomond
- Brookdale
- South Boulder Creek

1991 Boulder Creek Wastewater Feasibility Study (Questa)

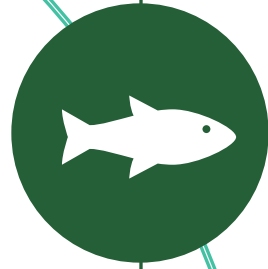
- Downtown Boulder Creek

2022 Boulder Creek Wastewater Feasibility Study (Questa)

- Downtown Boulder Creek + Residential 236 Corridor



Preliminary Benefits



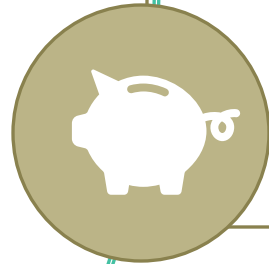
Environmental Protection

- Water Quality
- Reduction of Surface Water Use (Golf Course)
- Habitat Improvement



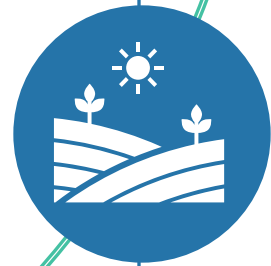
Disaster Recovery

- Reduced Cost of Septic System for CZU Rebuilds
- Property Adaptive Capacity



Economic Recovery

- Gateway to Big Basin Redwoods State Park
- Business Expansion / Use Opportunity



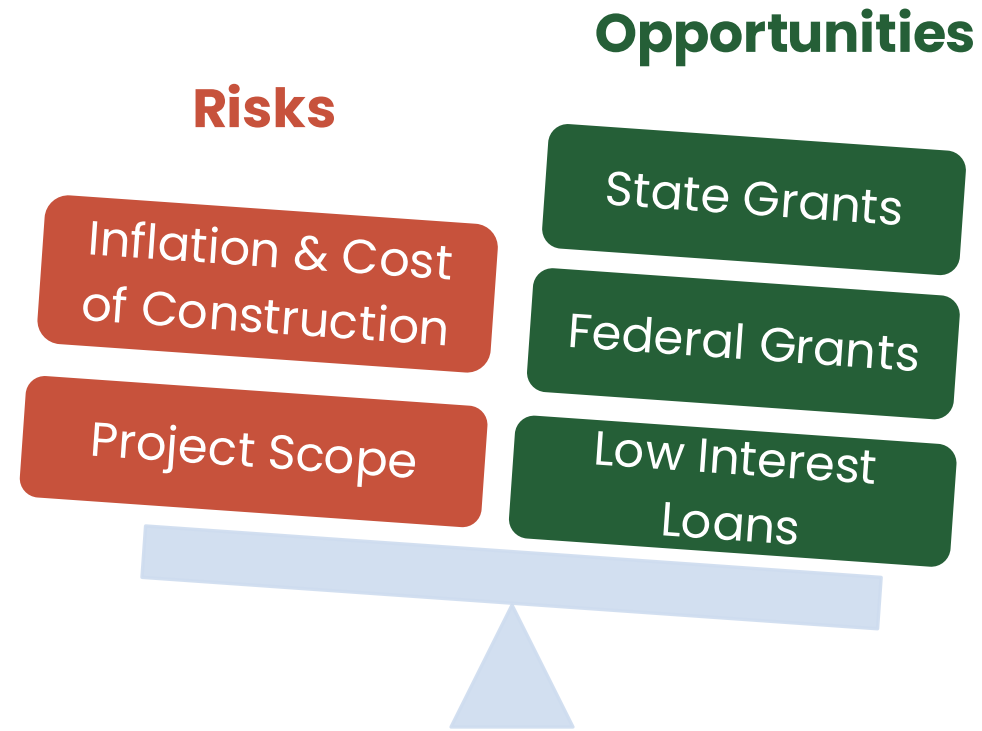
Climate Change Resilience

- Recycled Water
- Potential Groundwater Recharge Source
- Fire Suppression

Preliminary Cost Estimates: **\$60–100 Million**











- **Capital costs** (design, permitting, environmental mitigations, property acquisition, encroachments, and system construction)
- Annual **maintenance and operations** (M&O) costs
- One-time individual **site improvement/connection** costs

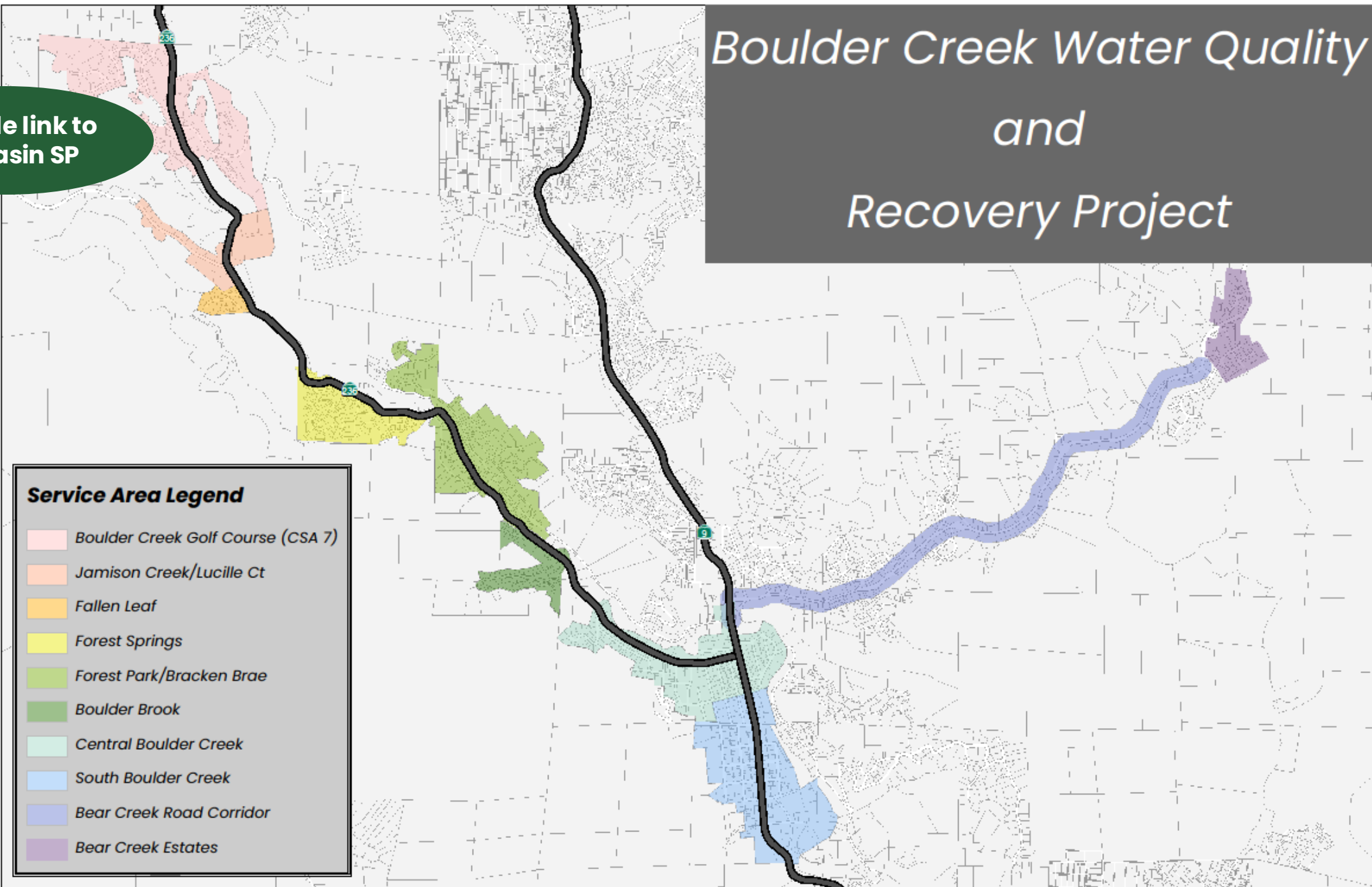
Preliminary Cost Estimates: **\$60–100 Million**



Boulder Creek Water Quality and Recovery Project

Possible link to
Big Basin SP

Service Area Legend	
	Boulder Creek Golf Course (CSA 7)
	Jamison Creek/Lucille Ct
	Fallen Leaf
	Forest Springs
	Forest Park/Bracken Brae
	Boulder Brook
	Central Boulder Creek
	South Boulder Creek
	Bear Creek Road Corridor
	Bear Creek Estates



Boulder Creek Water Quality
and
Recovery Project

Preliminary Project Scope & Scale

1,285
Anticipated
Additional
Connections

8 miles of
gravity & 12
miles of
pressure **sewer
main**

200-250 sewer
manholes

15-20 sewer **lift
stations**

**CSA-7
Treatment
facility
UPGRADE** to
accommodate
225,000
gallons/day of
wastewater flow

**Improved
treatment** to
tertiary quality
to allow for
water
reclamation.

935 Residential

350 Commercial

- Boulder Creek Golf Course
- Jamison Creek/Lucille Ct
- Allen L
- rest S
- rest F
- Boulder Brook
- Central Boulder Creek
- South Boulder Creek
- Bear Creek Road Corridor
- Bear Creek Estates

Preliminary Next Steps

- Community Outreach & Education – To Solidify Community Support
- Project Scoping & Engineering Report – To Refine project costs
- Grant Writing – To Reduce financial impact
- Design, Permitting, Property Acquisition – To further progress on project



EPA Community Grants Program



Congresswoman Anna G. Eshoo
California's 16th Congressional District

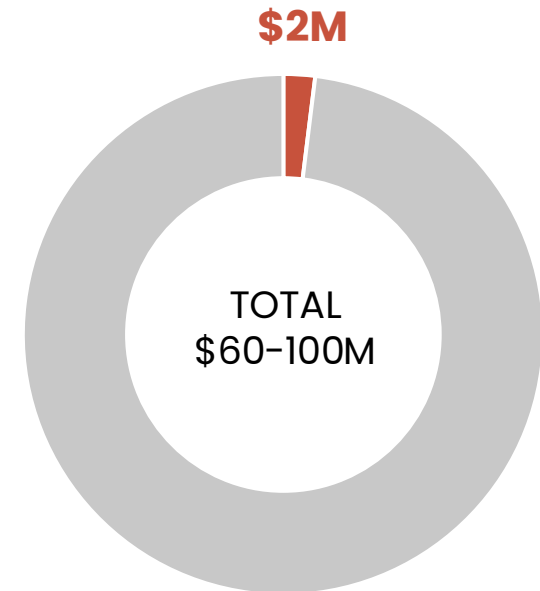
- December 2022 – **\$2,000,000** for County of Santa Cruz Boulder Creek Sanitation District Expansion Project
- Congressional earmark secured by Congresswoman Anna Eshoo and signed into law by President Biden as a part of FY2023 Consolidated Appropriations Act (P.L. 177-2328)
- Administered through **EPA Community Grants Program** – designated for planning, design, and construction of drinking water, wastewater, and stormwater infrastructure and water quality protection
- 5-year performance period (2029 closeout)
- Managed by OR3 in collaboration with Environmental Health, CDI Sanitation

Local Match: \$400,000 *(likely combo staff time/cash contributions from agency/CBO partners)*

EPA Community Grants Program

\$2M – Insufficient to cover full engineering, design, permitting, or construction phases of the project

...nevertheless, other opportunities to conduct advance studies, outreach and education to secure community support/approval



Workplan Focus Areas (we want to hear from you!)

Hydrologic or Biological Studies

- Base flow reduction
- Water quality monitoring / expansion of existing testing sites
- Biologic Study Opportunities?

Demographic Analysis

- High-resolution HH income surveys to supplement state/national datasets used to determine cost share eligibility for grants

Economic & Cost Analysis

- Impacts to commercial/downtown core
- State Park overnight accommodations

Outreach and Education

- Community education campaign to secure business and resident support/approval



BOULDER CREEK WATER QUALITY & RECOVERY PROJECT

Thank you!

Questions?

CLARE.PEABODY@SANTACRUZCOUNTYCA.GOV