



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

AGENDA

September 1, 2022, 7:00 PM

The meeting will be held both on Microsoft Teams and in person at **the Solarium Conference Room, at 1060 Emeline Avenue.**

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 see and provide access to all attendees as they arrive.

Agenda Item #	Start Time	End Time	Description
1	7:00	7:10	Call to Order
2			Roll Call
3			Approval of Minutes
4			Public comment for items not on the agenda
5	7:10	7:30	Presentation from Ed Browne with the District Attorney's office
6	7:30	8:15	Public Grant Program: <ul style="list-style-type: none">• Review following documents; RFP Options, Application forms, and budget summary• Comments on past years grant reports
7	8:15	8:30	Invasive Species: Updates from Invasive species sub-committee
8	8:30	8:40	Elections for position of Vice Chair
9	8:40	8:50	November agenda items <ul style="list-style-type: none">• Meeting format and location discussion
10	8:50	9:00	Staff Reports <ul style="list-style-type: none">• County Sustainability Update Commissioner Reports and Announcements
11		9:00	Adjourn

Items of Interest:

Fish and Game Commission regulatory announcements: [New and Proposed Regulations - 2022 \(ca.gov\)](https://www.ca.gov/)

1. [Agriculture & Resource Conservation | Sustainability Update \(arcgis.com\)](https://arcgis.com/)
2. [Pilot Project Utilizing Goats for Vegetation Control to Begin on the Santa Cruz Branch Rail Line \(sccrtc.org\)](https://sccrtc.org/)
3. [Food Safety and Environmental Groups Urge National Marine Fisheries to Cease Expansions of Industrial Fish Farms \(centerforfoodsafety.org\)](https://centerforfoodsafety.org/)

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 and Guidelines

Pursuant to AB 361 and Cal. Gov. Code section 54953, due to the ongoing COVID 19 state of emergency and upon recommendation of the County Health Officer, public meetings of the Fish and Wildlife Advisory Committee will be held both virtually and in person. Members of the public can join in person or via the Microsoft Teams link provided below.

If you have questions, please contact Sean Abbey at sean.abbey@santacruzcounty.us.

Microsoft Teams meeting

Join on your computer or mobile app

[Click here to join the meeting](#)

Meeting ID: 286 748 447 496

Passcode: MXUdkE

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

Or call in (audio only)

[+1 831-454-2222,,370512441#](#) United States, Salinas

Phone Conference ID: 370 512 441#

[Find a local number](#) | [Reset PIN](#)

Click on 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.

Commissioners are expected to have their camera on, but cameras are optional for public attendees.

Please join the meeting a few minutes BEFORE 7:00 pm so that we can start at 7:00 pm. Staff will open the video conference at 6:50 pm. Feel free to chat and say hello before 7:00 pm.

Meeting Roles and Rules:

Chris Berry, Chair, will lead the meeting. Chair Berry 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 both email and text messages 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.

During a discussion, if two or more people speak at the same time, please defer to the person who speaks first. In any moment where we have some confusion due to multiple people wanting to speak, please pause and let the Chair take the lead. The Chair will call on someone to speak.



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Meeting Minutes June 2, 2022

1. **CALL TO ORDER** – 7:01 pm
2. **ROLL CALL**

District	Commissioner	Status	Commissioner	Status
I	Chris Berry	P	VACANT	
II	Sandra Baron	P	David Somerton	P
III	Liz Alter	P	Jon Jankovitz	P
IV	Matthew Wise	E	VACANT	
V	Jenni Gomez	P	Jen Michelsen	P

P = Present E = Excused A = Absent

3. **APPROVAL OF MINUTES:**

- **Motion to Approve Minutes:** Somerton, **Second:** Baron,
- **All Ayes:** Minutes approved

4. **PUBLIC COMMENTS:**

- Sam Adelson: Candidate for vacant commissioner seat in District I. Primary background has been in environmental education and has been working with Coastal Watershed Council for 4 years, and at WOLFF school prior to that. Educated at CSUMB and studied Salmonids in the Humboldt area.

5. **ELECTIONS:**

- Position of Chair: **Motion supporting Commissioner Berry:** Gomez, **Second:** Alter,
 - **Yes:** Baron, Somerton, Jankovitz, Michelson **No:** None **Abstain:** Berry
 - **Motion Passes:** Commissioner Berry will remain Chair
- Position of Vice Chair: **Motion to delay vote:** Michelsen **Second** Jankovitz,
 - **Yes:** Berry, Baron, Somerton, Alter, Gomez **No:** None
 - **Motion Passes:** Vote for the Vice Chair position will be held at September meeting

6. **COUNTY FISH PASSAGE PRESENTATION:**

- Kristen Kittlesen gave a presentation on grants from the CDFW Fishery restoration Grant Program. Evaluated streams with road crossings o alter for fish passage quality, 27 Fish Passage projects completed from 2004-2021 by the County, RCD, and City of Watsonville. Presentation materials to be linked to online.

7. **INVASIVE SPECIES UPDATES:** The Invasive Species sub-committee met last week to discuss what items could be included in a letter to Board. Consider including a brief background on invasives and how it is related to fish and wildlife health, biodiversity, fire management, and county facility maintenance costs. Additional items being considered by the sub-committee are, contact other groups focusing on invasives for perspectives, determine the role that Ag agencies and weed management areas play, identify priority species, survey nurseries for specific invasives, and soliciting grant proposals that address invasive species. The letter could also include draft policy language to support these actions.
- Additional comments from sub-committee members:
 - Com. Somerton completed additional research using the California Invasive Plant Council which has a weed mapping program (CalWeedMapper). This program can look at specific areas and say which invasives were present and if they are expected to increase or decrease in population. The program also describes life histories and what aspects should be focused upon to best manage/remove that invasive. The program says there are four main stages of invasive species control; prevention, identification, removal, and control (once species cannot be fully removed). Com. recommends that proposed policies work within this framework. For example, a species that is in the control phase would not be as affected by a ban on the sale of that species.
 - Before creating policies that require enforcement, there should be significant communication with the agencies that would be managing it.
 - Com. Jankovitz, mentions that jumping worm is a newer species that is an emerging problem. Harmful for soil nutrients which could be a big problem for both native species and agriculture.
 - Com. Jankovitz: notes that education is a great tool but asks if there are any substantive things that can be done to remove invasives. Suggests that public grants money be used to give incentive to remove those plants.
8. **PUBLIC GRANTS PROGRAM CHANGES:** Commissioners discussed program changes that could be made to increase interest from a more diverse group of projects.
- Add a “priority issue” for the year that would give “extra credit” to applicants addressing that issue. Example: Invasive species removal projects could get 6 extra points.
 - Reaching out to groups that are known to be active around the “priority issue” to solicit proposals.
 - Increase the suggested grant amount limit to increase interest from larger projects. Currently has a suggested upper limit of \$2,000.
 - To prevent smaller projects from being outcompeted, create a 2-tiered system with different funding caps. Ex, \$2,000 available for proposals up to \$1,000 and \$14,000 for proposals up to \$7,000
9. **SEPTEMBER AGENDA ITEMS:**
- Request a report from the District Attorney office on how PGP funding, which is sourced from fines, is going in recent years and what future funding could be expected.
 - With the merging of Public Works and Planning, code compliance related to F&W could be an issue. Request a presentation showing how code compliance will be enforced once the merger is complete.

- Share Hunting aspect has been difficult to get someone to give a presentation. Still trying to get speaker. Com. Gomez could give a brief presentation of her GIS map work that was used to identify parcels that might be viable for share hunting activities.

10. STAFF AND COMMISSIONER REPORTS AND ANNOUNCEMENTS:

- **Staff Report:** NOAA and CDFW are requesting multiple actions from riparian landowners that will help protect salmonids. The California Voluntary Drought Initiative asks for landowners to; conserve water for stream flows, monitor stream flows, allow access for fish rescues and releases, and enhance floodplain inundation. In return, landowners would receive; potential financial and technical assistance for flow enhancement activities, limiting potential penalties under endangered species laws, and potential prioritization for water rights changes.
- **Move November meeting back 1 week:** Commissioners were open to holding the November meeting on the 10th instead of the 3rd.
- **Commissioner Reports:**
 - Com Gomez: Completed an analysis of county parcels that were 200 acres or more and not in a no shoot zone. There were 47 potential parcels identified that could be used for share hunts. CDFW could contract with Govt and NGOs to do a share hunt.
 - Com. Jankovitz: A fish rescue was completed in Corralitos by MBST. This was possible due to the policy change at NOAA and CDFW, which allows approved contractors to complete rescues.

**11. ADJOURN. Motion to Adjourn: Michelsen, Second: Berry
All Aye: meeting adjourned at 9:01 pm.**



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Public Grants Program Budget Discussion

August 18, 2022

This table shows the past year of revenue and expenditures for the Public Grants Program (PGP) and what has been budgeted for the current year.

Fiscal Year	Reserves at start of Fiscal Year <i>July 1</i>	Revenue	Budget Approved for PGP	Actual expenditure for PGP	Reserves at end of Fiscal Year <i>June 30</i>
2021-2022	\$55,934	\$9,905	\$18,000	\$14,648	\$51,191
2022-2023	\$51,191	TBD	\$18,000	TBD	TBD

Note: In 2020-21, a \$42,500 settlement was reached that greatly increased the available reserve funds in the Fish and Wildlife trust fund. The trust fund reserve is used when the amount of revenue collected from fines and settlements is less than the grant expenditures in that year.

Definition of terms:

Reserve - amount of funding in reserve, which carries over from year to year.

Revenue - amount received by the Fish and Game Propagation Fund from fines and judgements in each fiscal year.

- Note: The PGP budget is made early in the fiscal year, so the total revenue for the year will not be known at the time the budget is created. Because of this, it is recommended that approved budgets not exceed the total reserves available at the start of the fiscal year.

Budget approved for PGP - Amount approved for release by FWAC

Actual expenditure for PGP - In some cases, the full budgeted amount is not spent. Any approved budget that is not spent will remain in the reserve fund.

Recommendation for 2022-23

Environmental Health recommends that the Fish and Wildlife Advisory Commission continue to fund the PGP at the level of \$16,000. In addition, we recommend that \$2,000 continue to be held for expenditure on the Watershed Hallway Display, which was originally approved in 2017.



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2022-23 NOTICE OF AVAILABLE GRANT FUNDING

The Santa Cruz County Fish and Wildlife Advisory Commission (FWAC) is soliciting applications for its Public Grants Program. Grants are funded by fines and settlements collected for violations of California Fish and Game laws within Santa Cruz County.

There is a **total of \$16,000** available for this year's grants program, with a **maximum grant amount of \$7,000**.

FUNDING PRIORITIES:

- Benefits native fish and wildlife and habitats.
- Education programs for school age children related to fish and wildlife
- Support of California Fish and Game related law enforcement.

SELECTION CRITERIA: The highest consideration will be given to projects which:

- Are highly rated by Commissioner Score Sheet metrics (Appendix 1)
- Complies with [Fish and Game Code 13103](#) (Appendix 2)
- Proposals may include funding for labor costs.

SCORING PROCESS: Each proposal will be scored by all commissioners. Commissioner scores will then be added together, and the proposals will be ranked by total points scored. Starting with the highest ranked proposals, the commission will decide to fully fund, partially fund or not fund each proposal.

APPLICATION PROCESS:

1. Individuals, organizations, and agencies can find application forms on the FWAC webpage: [Fish & Wildlife Advisory Commission \(scceh.org\)](http://Fish & Wildlife Advisory Commission (scceh.org)).
 - a. Individuals should have an affiliation with a non-profit organization to receive funding.
2. Additional documentation can be included with the application forms; however, the document length should be kept to 8 pages or less. We encourage concise grant proposals, but budget information is required.
3. Proposals must be received by 3:00 PM Thursday, November 3, 2022, as an electronic file to Sean Abbey sean.abbey@santacruzcounty.us. Hardcopy applications will be accepted, but electronic applications are preferred.
4. Grant applications will be reviewed by the Commission at their November 10, 2022, FWAC meeting at 7:00 p.m. Applicants are encouraged to attend and summarize their proposal in a short presentation (not to exceed 3 minutes in length).
5. Final selection is scheduled for the December 1, 2022, FWAC meeting

Appendix 1:
Commissioner Score Sheet

PROPOSAL	TOTAL SCORE
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Benefits native local fish and wildlife species or their habitats through a project, education or enforcement: 12 points

The project provides a clear benefit to native fish and wildlife or provides education for an important fish or wildlife topic	8-12 points	
The project provides some benefits to native fish and wildlife	4-7 points	
The project provides limited benefits to native fish and wildlife	1-3 points	
The project does not benefit native fish and wildlife	0 points	
SCORE 1		

Cost Effectiveness – 3 points

This project is a good value and provides a good cost/benefit ratio	3 points	
This project provides moderate cost/benefit ratio	1-2 point	
This project has a high cost for the benefits and/or does not have funding for the complete project secured:	0 points	
SCORE 2		

Benefit to the Santa Cruz Community – 2 points

The project will benefit the Santa Cruz County community or habitat	1-2 point	
The project will not benefit the Santa Cruz community or habitat	0 points	
SCORE 3		

Expected Project Success – 3 points

The project proponent has a record of successful projects or a new project proponent presents a solid foundation for success	3 points	
The project proponent has a mixed record for success on past projects or does not provide evidence for potential success	1-2 point	
The project proponent failed to provide an update on the past year's funding or does not present a solid foundation for potential success	0 points	
SCORE 4		

Appendix 2:
FISH AND GAME CODE: SECTION 13103

Expenditures from the fish and wildlife propagation fund of any county may be made only for the following purposes:

- a) Public education relating to the scientific principles of fish and wildlife conservation, consisting of supervised formal instruction carried out pursuant to a planned curriculum and aids to education such as literature, audio and video recordings, training models, and nature study facilities.
- b) Temporary emergency treatment and care of injured or orphaned wildlife.
- c) Temporary treatment and care of wildlife confiscated by the department as evidence.
- d) Breeding, raising, purchasing, or releasing fish or wildlife which are to be released upon approval of the department pursuant to Sections [6400](#) and [6401](#) onto land or into waters of local, state, or federal agencies or onto land or into waters open to the public.
- e) Improvement of fish and wildlife habitat, including, but not limited to, construction of fish screens, weirs, and ladders; drainage or other watershed improvements; gravel and rock removal or placement; construction of irrigation and water distribution systems; earthwork and grading; fencing; planting trees and other vegetation management; and removal of barriers to the migration of fish and wildlife.
- f) Construction, maintenance, and operation of public hatchery facilities.
- g) Purchase and maintain materials, supplies, or equipment for either the department's ownership and use or the department's use in the normal performance of the department's responsibilities.
- h) Predator control actions for the benefit of fish or wildlife following certification in writing by the department that the proposed actions will significantly benefit a particular wildlife species.
- i) Scientific fish and wildlife research conducted by institutions of higher learning, qualified researchers, or governmental agencies, if approved by the department.
- j) Reasonable administrative costs, excluding the costs of audits required by [Section 13104](#), for secretarial service, travel, and postage by the county fish and wildlife commission when authorized by the county board of supervisors. For purposes of this subdivision, "reasonable cost" means an amount which does not exceed 3 percent of the average amount received by the fund during the previous three-year period, or three thousand dollars (\$3,000) annually, whichever is greater, excluding any funds carried over from a previous fiscal year.
- k) Contributions to a secret witness program for the purpose of facilitating enforcement of this code and regulations adopted pursuant to this code.
- l) Costs incurred by the district attorney or city attorney in investigating and prosecuting civil and criminal actions for violations of this code, as approved by the department.
- m) Other expenditures, approved by the department, for the purpose of protecting, conserving, propagating, and preserving fish and wildlife.



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- Education programs for school age children related to fish and wildlife
- Support of California Fish and Game related law enforcement.

SELECTION CRITERIA: The highest consideration will be given to projects which:

- Are highly rated by Commissioner Score Sheet metrics (Appendix 1)
- Complies with [Fish and Game Code 13103](#) (Appendix 2)
- Proposals may include funding for labor costs.

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**Appendix 1:
Commissioner Score Sheet**

PROPOSAL		TOTAL SCORE	
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Project provides direct benefits to native local fish and wildlife species: 8 points

The project provides a clear benefit to native fish and wildlife	6-8 points	
The project provides some benefits to native fish and wildlife	3-5 points	
The project provides limited benefits to native fish and wildlife	1-3 points	
The project does not benefit native fish and wildlife	0 points	
SCORE 1		

Project provides education on native local fish and wildlife species: 4 points

The project provides valuable education on fish or wildlife topics	3-4 points	
The project provides limited education on fish and wildlife topics	1-2 points	
The project does not provide education on fish and wildlife topics	0 points	
SCORE 2		

Cost Effectiveness: 3 points

This project provides a good cost/benefit ratio	3 points	
This project provides moderate cost/benefit ratio	1-2 point	
This project has a high cost for the benefits and/or does not have funding for the complete project secured:	0 points	
SCORE 2		

Benefit to the Santa Cruz Community: 2 points

The project will benefit a Santa Cruz County community	1-2 point	
The project will not benefit a Santa Cruz County community	0 points	
SCORE 3		

Expected Project Success: 3 points

The applicant has a record of successful projects or presents a solid foundation for success	3 points	
The applicant has a mixed record for success on past projects or does not provide evidence for potential success	1-2 point	
The applicant failed to provide an update on the past year's funding or does not present a solid foundation for potential success	0 points	
SCORE 4		

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- b) Temporary emergency treatment and care of injured or orphaned wildlife.
- c) Temporary treatment and care of wildlife confiscated by the department as evidence.
- d) Breeding, raising, purchasing, or releasing fish or wildlife which are to be released upon approval of the department pursuant to Sections [6400](#) and [6401](#) onto land or into waters of local, state, or federal agencies or onto land or into waters open to the public.
- e) Improvement of fish and wildlife habitat, including, but not limited to, construction of fish screens, weirs, and ladders; drainage or other watershed improvements; gravel and rock removal or placement; construction of irrigation and water distribution systems; earthwork and grading; fencing; planting trees and other vegetation management; and removal of barriers to the migration of fish and wildlife.
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- g) Purchase and maintain materials, supplies, or equipment for either the department's ownership and use or the department's use in the normal performance of the department's responsibilities.
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- l) Costs incurred by the district attorney or city attorney in investigating and prosecuting civil and criminal actions for violations of this code, as approved by the department.
- m) Other expenditures, approved by the department, for the purpose of protecting, conserving, propagating, and preserving fish and wildlife.



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GRANT INFORMATION: APPLICANT

*This information **will not** be included in public documents.*

Project Name: _____ Date: _____

Full Name: _____

Organization: _____
If applicable

Email Address: _____ Phone _____

Mail Address: _____
Street Address *Apartment/Unit #*

City *State* *ZIP Code*

To receive grant funds, applicants must be registered as vendors with Santa Cruz County. If you have received a grant in the past, you should have a Santa Cruz County Vendor Identification #

Vendor ID #: _____

Is your Vendor ID mail address the same as the one listed above? YES NO

If you do not have a Vendor ID, or your mailing address has changed, you will need to attach a completed W-9 form to your application. If you are unsure about your Vendor ID information, please contact County General Services at GSDSupportingDocs@santacruzcounty.us.

REPORTING REQUIREMENT: If your grant application is approved, you will be required to write a summary report stating how the funds were expended and the success of the project. The report should be roughly ½ - 1 page in length and is due by August 15th after funding is approved. If the grantee does not plan to request funding in the following year, a progress report may be completed within a year of receiving the funds.



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GRANT INFORMATION: **PROPOSAL**

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

Project Name: _____ Date: _____

Applicant name
or Organization: _____

Project Description:

Funding Requested	
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ITEMIZED BUDGET ITEMS	Requested Funds	Matching Funds	Total Amount
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.

For each section, provide a brief written response.

Background of the issue being addressed

Project Goals

Project Logistics: how will the project be completed?

Project Completion Timeline

Applicants Background.



Santa Cruz Bird Club

P.O. Box 1304
Santa Cruz, CA 95061
santacruzbirdclub.org

15 August 2022

Dear County of Santa Cruz Fish and Wildlife Advisory Committee,

I appreciate the committee's continued support of the breeding bird atlas this year. The grant awarded to this project funded the digitizing of historical bird records and the hiring of a field technician to collect data on rare and elusive breeding birds in Santa Cruz County.

This spring I hired Jonah Svensson, a standout young birder and previous volunteer with the breeding bird atlas, to digitize over 500 handwritten pages of bird records from Santa Cruz County that were compiled over 30 years ago. I created an Excel spreadsheet and project tracking documents that Jonah has been using to transcribe these records. Jonah and I have met once per week to discuss unusual records, ways of improving transcription efficiency, and how to eventually upload the records to eBird.org, an open-source bird records database, so that the records will be publicly available. At this time over 89% of the handwritten pages have been digitized, and I expect that the remaining pages will be digitized by the end of September.

This summer Jonah has also been collecting data on several rare and elusive breeding species to improve our understanding of their ecology in Santa Cruz County. Some highlights from fieldwork this summer included a new breeding colony of Purple Martins, a California Bird Species of Special Concern, and presence/absence determinations for American Kestrel, American Dipper, Cedar Waxwing, and Olive-sided Flycatcher in several places where atlas fieldwork was previously insufficient.

Thank you again for supporting the Santa Cruz Bird Club's endeavor to publish a breeding bird atlas for Santa Cruz County. The funding received this year has given the project some much-needed support in the final year of fieldwork.

Sincerely,

A handwritten signature in black ink that reads "Alex Rinkert".

Alex Rinkert
Atlas Director
Santa Cruz Bird Club



COASTAL-WATERSHED.ORG
Preserving and protecting
our coastal watersheds

County of Santa Cruz Fish and Wildlife Advisory Commission 2022 Coastal Watershed Council Project Report

With support from the County of Santa Cruz Fish and Wildlife Advisory Commission, the Coastal Watershed Council (CWC) engaged 26 students in 12-week campus- and field-based Watershed Rangers after school programs. These 13 3rd and 4th grade students at Bay View Elementary and 13 4th and 5th grade students at Gault Elementary were guided by CWC Education Coordinator Sam Adelson through a Next Generation Science Standards (NGSS) aligned service-learning model.

Students investigated what a watershed is and how it functions, the impacts of stormwater runoff on the river and salmonids, the life cycle of salmonids, the ecosystem services provided by native plants, and the connection between the San Lorenzo River and the Monterey Bay National Marine Sanctuary as the migration corridor for salmonids. Students conducted stewardship action projects which included planting native plant species at CWC's Habitat Enhancement Site along the lower San Lorenzo River between the Soquel and Laurel bridges and implementing trash cleanups at the San Lorenzo River estuary at Main Beach.

- 100% of students who completed the post-survey accurately identified at least two actions they personally had taken during the program that improved salmonid habitat. Student responses included saving water, sharing what they've learned with others, planting a plant, learning about pollution, and learning how plants keep rivers healthy.
- 100% of students who completed the post-survey expressed students express a commitment (interest, motivation, attitude) to continue to participate in stewardship activities that support the overall health of the San Lorenzo River and Monterey Bay National Marine Sanctuary following their participation in the program.





Exploring New Horizons Final Report to Fish and Wildlife Advisory Commission

Exploring New Horizons (ENH) is thankful for the Fish and Wildlife Advisory Commission's support of our work engaging San Francisco Bay Area students in outdoor education. The pandemic was an extinction event for outdoor education and thanks to the support of organizations like Fish and Wildlife, ENH reopened our overnight outdoor education programs in January of 2022 and from January through June we served 4,136 student and over 400 high school cabin leaders. Through this project, more SF Bay Area students were able to attend 3 to 5-day programs, engaging in hands-on learning in the redwood forest and coastal ecosystems. Students also pulled invasive species at Natural Bridges State Park and at Redwood Glen Salvation Army in Scotts Valley and ENH partnered with Big Basin State Park's to have over 3,000 students take the Reimagining Big Basin survey and share the data with the planners so students' voices could be included in the survey data.

ENH conducted a post survey with teachers on the last day of program and the 76 teachers surveyed agreed that students: Feel more connected to the environment (99%); Better understand the ecosystems of coastal California (99%); Express more self-esteem (96%); Better understand their role as environmental stewards (91%); More comfortable being outside (98%); Strengthened relationships with peers (100%); Work together better as a team (99%); Are more interested learning about science (97%)

When asked 'What do you see your students doing differently after coming to outdoor school,' some teacher answers included:

- Spending more time outside, hanging out with new friends, being aware of their impact on the world, asking scientific questions in daily life.
- Being more aware of their environment and how their learning in the classroom connects to the outdoors. I also observe them taking more chances academically and emotionally as well as putting effort into developing new connections with different peers.

When asked to comment on the experience, some student quotes included:

- "This was the best day of my life."
- "The creek study was amazing. We found so many critters."
- "Being without technology for the week was way better than I expected."
- "I enjoyed being outside in nature with my class. I loved the solo nature walk! I want to implement that more in my everyday life."

The \$2,000 was allocated as planned to pay for the Sempervirens Program Director salary, allowing us to focus more funding toward scholarships for lower-income students to attend our program.

Thank you for the support of our life-changing program.

Jacob Sackin

Executive Director, Exploring New Horizons

**Santa Cruz County Fish & Wildlife Advisory Commission
2021 Public Grants Program report**

**Monterey Bay Salmon & Trout Project (MBSTP)
Berry Creek Road Access Restoration**

In accordance with MBSTP's application and award of funding under the 2021 County of Santa Cruz Fish & Wildlife Advisory Commission (FWAC) Public Grants Program, below is a summary report detailing the proposal and expenditure of grant funds:

MBSTP applied to the 2021 Santa Cruz County FWAC program with a request of \$4,000 in funding to support restoration of the Berry Creek intake road access at Kingfisher Flat Conservation Hatchery (KFH) facility in northern Santa Cruz County. This road provides vehicular & staff access to a critical component of rearing infrastructure at KFH (the Berry Creek intake). This intake provides incubation and early rearing water for the hatchery, and it was completely destroyed during the CZU wildfire of 2020. Debris slides and washouts in the winter of 2020-21 blocked vehicle access to the intake, preventing necessary construction work on the intake. With this intake out of operation, the incubation of fertilized eggs has not been possible at KFH for the past two spawning seasons, seriously impacting program performance.

The \$4,000 granted to MBSTP by the SCCFWAC went directly to equipment/excavation time billed by Steve Barnes Construction for the Berry Creek Road clearing project. MBSTP provided cash and volunteer match contribution to cover the total of \$7,800 in labor and equipment rental for the road clearing work. Steve Barnes Construction used a heavy excavator and skid-steer to push back slide material and also help harden the road from future impacts. Additionally, MBSTP provided over \$20,000 in cash/materials match for the intake and conveyance line itself (screen, PVC, storage tanks). 100% of the \$4,000 in funds awarded by the FWAC were applied to equipment/contractor billing for road clearing activities.

Thanks to this road restoration, MBSTP Facilities staff have been able to completely rebuild the intake conveyance line and diversion screen at Berry Creek. The only work remaining to totally recover the Berry Creek intake is to install a 500-gallon reservoir tank below the main intake screen. This will be accomplished prior to the winter season, with ample time for a return to regular spawning activities at KFH.

MBSTP would like to extend our immense gratitude to all of the Commissioners for their ongoing and steadfast support of fisheries conservation efforts at Kingfisher Flat Hatchery. Thanks to this support, we anticipate a return to full operational capacity at the hatchery in the 2022-23 winter season.



Salmonid Restoration Federation

August 12, 2022

Fish and Wildlife Advisory Commission (FWAC) Grant Summary Report

SRF produced the 39th Annual Salmonid Restoration Conference in Santa Cruz, Ca on April 19 - 22, 2022. This four-day conference was attended by approximately 515 people including students, Watershed Stewards Program members, California Conservation Corps, Resource Conservation Districts, restoration practitioners, fisheries biologists, and state and federal agency personnel. The conference included one plenary session, four intensive workshops, six field tours, 15 concurrent sessions, SRF's annual meeting and membership dinner, an awards ceremony and banquet, and a poster session. Workshops and field tours were held during the first two days of the annual conference and brief summaries are included below.

SRF received \$2000.00 in funding for the Conference from the Country of Santa Cruz Fish and Wildlife Advisory Commission. This supported scholarships, AV support to record the Plenary session, and keynote speaker registration fees. Keynote speakers included; Brook Thompson, Yurok tribal member and restoration engineer, who spoke about the cultural and health impacts of salmonid populations on indigenous communities; Jeffrey Mount who presented on policy and practice recommendations during sustained droughts; Sean Hayes, Ph.D. addressed the rise of climate anxiety and concerns faced in restoration work; and Margaret Spring, who updated attendees on projects in California's ocean ecosystems.

Here is a link to the video recordings of the Plenary session.

<https://vimeo.com/showcase/9501722>

The Conference Proceedings and Final Agenda can be viewed online at

https://www.calsalmon.org/sites/default/files/2022_SRF_Proceedings.pdf

Dana Stolzman
Executive Director
707-923-7501
srf@calsalmon.org

Public Grants Program Projects Reporting
The County of Santa Cruz Fish and Wildlife Advisory Commission

Organization name: Santa Cruz-Monterey Bay Area Subunit of the American Fisheries Society (SCMBAS)

Contact name: Laura Goetz (lgoetz@ucsc.edu)

Project name: Classroom Aquarium Education Program (CAEP), Santa Cruz Trout in the Classroom (TIC)

Funding received: \$2,000

Summary of accomplishments:

The funding we received from the County of Santa Cruz Fish and Wildlife Advisory Commission allowed us to purchase aquarium equipment to support up to 11 new local teachers to participate in Trout in the Classroom. Purchasing equipment enables us to support teachers' participation indefinitely in the program without needing annual funding. We are incredibly thankful for the ability to make a lasting difference in our community.

Starting in winter, teachers sign up to participate in our program and attend free workshop training sessions. Teachers receive rainbow trout eggs and students watch them develop and hatch into alevin before releasing them into Loch Lomond reservoir. We also have a strong support system of volunteers who pair with local teachers to assist them through the egg hatching process. In addition to helping with teacher training, aquarium set up, and egg delivery, our volunteers also interact with students through educational lessons. Our volunteers are often undergraduate and graduate UCSC students who love engaging with their assigned classroom.

We are looking forward to supporting over ten new teachers in our program this year, and for years to come, with our new aquarium equipment.

County of Santa Cruz Fish and Wildlife Advisory Commission
Public Grant Program Project Report

Organization Name: UCCR Web of Life Field (WOLF) School

Project Name: Squid for WOLF School Camp SEA Lab Students

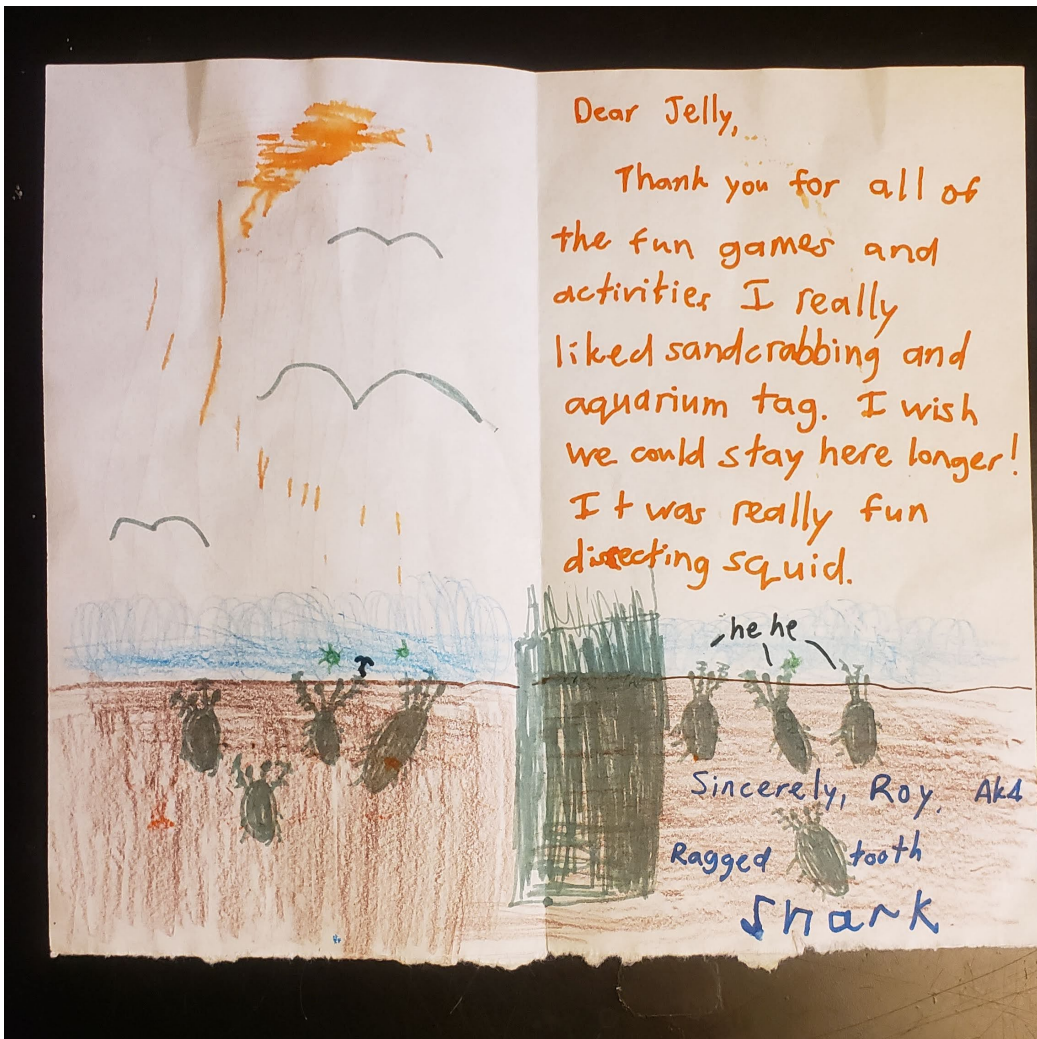
Amount Requested: \$680

Amount received: \$680

Report Date: August 10th, 2022

Receiving support from the County of Santa Cruz Fish and Wildlife Advisory Commission allowed WOLF School Camp SEA Lab to continue its mission to foster lifelong excitement, scientific understanding, and stewardship of our coasts and ocean by providing high quality marine science education programs for youth in the Monterey Bay Area. The grant funds were used to purchase squid for our squid dissection lesson, where students explore the internal and external anatomy of California Market Squid using scientific practices. As a part of the activity, they learn about the squid fishing industry and its management, and the role sustainable fisheries have in the future of our ocean's health and seafood supply. After dissecting the squid, staff cooked it and students were able to sample it. Through these activities, students also gained a deeper understanding and appreciation of these magnificent animals and the Monterey Bay. Funds were put towards purchasing squid for the spring 2022 season, which ran for 17 weeks from February 1st, 2022 through June 2nd, 2022. A majority of the weeks we conducted squid dissection on both nights of our 2-night 3-day residential Outdoor School program.

Grant support for program costs considerably helps keep our programs accessible and equitable for our local students and in particular this year, helped alleviate budget constraints due to two years of limited programming from the COVID-19 pandemic.





Memorandum

To: Riley Gerbrandt
From: Brianna Goodman
CC: Luis Mendez, Sarah Christensen

Vegetation Management Utilizing Goats on the Santa Cruz Branch Rail Line (SCBRL)

Synopsis

Generally, the pilot project went over incredibly well. The eco-friendly alternative to gas powered landscaping machinery was well received by the public and removed vegetation remarkably effectively. Vegetation removal utilizing goats was only 8% of the cost of similar work performed by humans, with the need for only 3% of RTC staff oversight needed for similar work performed by humans. However, goats do not eat some key invasive species (scotch broom, pampas grass, eucalyptus) and the grazing's effect on the efficacy of the herbicides sprayed afterwards is not yet known.

Background

Periodic preventative maintenance inspections performed by RTC staff identify areas along the Santa Cruz Branch Rail Line (SCBRL) that are in need of vegetation maintenance. Over several years of deferred maintenance since the previous railroad operator performed regular vegetation control, there was significant overgrowth preventing visibility within 10 feet of the railroad tracks. In 2020 and 2021, RTC contracted with Community Tree Service Inc., Industrial Railways Co., and DBI Services to clear vegetation, including trimming, application of herbicide close to the ground on the track bed area, and clearing/mowing of certain ditches, grassy areas, and shrubby areas with illegal activity issues.

Utilizing herds of goats to clear unwanted vegetation has potential as a viable option for the Santa Cruz Branch Rail Line. Goats are quieter, more energy efficient, require less person-power, and could reduce the need for and/or enhance the effectiveness of herbicides and are expected to reduce the overall maintenance cost of the corridor. Goats can eat poison oak, as well as many





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invasive species of plants. However, goats will not eat all plants. Some of those plants that the contractors initially indicated goats would not eat include pampas grass and scotch broom. Caltrans has recently utilized goat herds as part of their vegetation management strategy on US Highway 101 in Sonoma County, and State Highway 1 San Luis Obispo County, with effective results and a warm response from the public.

Request for Bids

Staff released a Request for Bids (RFB) seeking qualified contractors to bid on three pilot locations in which to utilize goats to control weeds and potential fire hazards, clear certain drainage ditches to prevent clogging which may damage infrastructure or neighboring properties, reduce the debris degrading the railroad ties, and to clear certain invasive growth areas which impede visibility for safe travel and for police to patrol for illegal activities.

The RFB included work covering:

1. Aptos (Doris Ave to Sandalwood Dr): MP 11.5–12.26
2. Capitola (Coronado St to Wesley St): MP 15.0–15.3
3. Live Oak (38th Ave to 17th Ave): MP 16.87–17.87

These pilot project locations represent a variety of terrains, issues, and vegetation types in order to gauge the efficacy of goat herds in a local context. Bids from two contractors were received on 12/30/21, and on 1/13/2022 RTC approved selection of the most responsive and responsible bidder, and the lowest cost bidder, Capra Environmental Services.

Project Execution

Using goats to control vegetation requires the use of electric fencing, goat herders and herding dogs to keep the goats in the designated areas and protect the goats. Capra Environmental Services has extensive experience clearing vegetation with goats on public rights-of-way as they have contracts with Caltrans to clear vegetation along state highways and roadways in various counties throughout the San Francisco Bay Area.

Initially, an employee cuts a path through the vegetation to place the fence. Existing fences can also be utilized if they are sturdy. Once the fences are placed, the goatherders, goats, and dogs remain on site 24 hours a day, until the goats have grazed down the vegetation sufficiently to be moved to the next site.



Figure 1 - Signage



Passersby are incredibly interested in the goats, and it is important to take certain measures to enhance safety and reduce potential liability. **Figure 1** shows signs RTC staff created for the consultant to post at all locations where community members might try to approach the fence.

Another key consideration for utilizing goats is water access. Capra hydrates their goats using a 100-gallon water trough, placed within the project area. Typically, they request fire hydrant access from the local water utility and run a hose from the closest hydrant to their trough for metered refilling.

However, much of the project area for this pilot project fell within the jurisdiction of the Soquel Creek Water District, which does not allow their hydrants to be opened. Community Tree Service was utilized to deliver water from the Soquel Creek Water District bulk water station in south county to project sites 1 and 2. In Live Oak the contractor was able to secure a hydrant meter from the City of Santa Cruz.

Finalized on January 29th, 2022, the contract stipulated that the job be done by March 1st, 2022. The project was completed ahead of schedule on February 24th, after a total of only 18 days of grazing. RTC had been advised in advance that goats do not eat Pampas Grass or Scotch Broom, but it was discovered during the pilot project that they do not eat Eucalyptus either, see **Figure 2**.

Analysis and Comparison

In order to provide an appropriate comparison with human-powered vegetation removal, it is appropriate to compare against other vegetation management examples where the vegetation load was both cut and removed from the SCBRL, versus those jobs which allowed the cut vegetation to remain as a fire hazard and aesthetic issue. In 2020, contracted Community Tree Service to provide similar levels of vegetation removal/disposal, in similar locations along the SCBRL. **Table 1** compares the 2022 work by Capra Environmental with the 2020 work by Community Tree Service.



Figure 2 - Goats have left the hillside at MP 15.2 bare except for 2 young Eucalyptus

Cost per square foot for Community Tree Services averaged \$0.80, after removing Task 8 as an outlier. **Cost per square foot for Capra Environmental averaged \$0.06, or roughly 8% of the cost per square foot for human powered vegetation removal.** Currently, the work of the goatherders, including fence placement and final clearing of woody stems not eaten by the goats is not subject to prevailing wage. If such work were to come under



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prevailing wage regulations in the future, the cost savings would not be quite so stark, though it would still be significant as very few human crew are needed to complete each goat grazing job.

Due to lack of a need for prevailing wage oversight, RTC staff were also able to devote fewer hours of staff time to monitoring the work in progress. For Community Tree, approximately 2 hours of RTC staff time was required per day of contractor work. For Capra Environmental, staff oversight was generally limited to visually confirming the fences were placed in the correct locations, and that all appropriate safety signage had also been placed correctly. RTC staff time per square foot for Community Tree Services averaged 0.755 hours. RTC staff time per square foot for Capra Environmental averaged 0.019 hours, or roughly 3% of the RTC staff time per square foot for human powered vegetation removal.

Site #	Cross Streets	Start MP	End MP	Approx. Square Feet	Cost	RTC Hours	Cost per Square Foot	RTC hours per 1,000 SF
CAPRA ENVIRONMENTAL								
1	Doris Ave to Highway 1	11.5	12.26	152,200	\$10,620	2	\$0.070	0.0131
2	Coronado St to Grove Ln	15	15.3	156,500	\$8,680	4	\$0.055	0.0256
3	38th Ave to 17th Ave	16.87	17.87	157,700	\$8,460	3	\$0.054	0.0190
COMMUNITY TREE								
2	Dry Creek Rd to Aptos Beach Dr	11.22	12.09	63,000	14,577.00	6	\$0.231	0.0952
3	Aptos Beach Dr to Hwy 1	12.09	12.28	15,000	12,900.00	4	\$0.860	0.2667
4	State Park Dr	13.13	13.17	4,200	4,850.00	2	\$1.155	0.4762
5	Park Ave to Grove Ln	15.05	15.29	17,100	12,900.00	4	\$0.754	0.2339
6	47th Ave to 49th Ave	16.3	16.36	3,200	3,700.00	1	\$1.156	0.3125
7	El Dorado Ave to Leona Creek	18.15	18.34	7,500	4,850.00	2	\$0.647	0.2667
8	Leona Creek	18.34	18.36	275	1,600.00	1	\$5.818	3.6364

Table 1 – Scope and cost comparison with human-powered vegetation removal



Conclusions

This pilot project sought to determine if utilizing goats to control vegetation could be a regular component of the overall maintenance of the SCBRL property. Generally, the outcome of the grazing effort was encouraging, with vegetation being effectively removed in the short term for a fraction of the cost of human power. However, the overall effectiveness of grazing as it relates to herbicide use and needs is not yet known.

Utilizing goats to clear vegetation prior to application of herbicides could potentially help to ensure greater effectiveness of herbicides. This means that less harmful pre-emergent herbicides can be used



Figure 3 - Before and after at MP 15.15

by allowing these herbicides to more effectively reach the ground. This includes the two herbicides approved previously by the RTC for use because they are not considered hazardous per Federal OSHA criteria. Follow-up spraying was implemented after the conclusion of the goat pilot project via a separate contractor, and it could be some months before it becomes clear that the grazing improved the effectiveness of the herbicide spraying.

From: [Jean Brocklebank](#)
To: [Sean Abbey](#)
Subject: Correspondence for FWAC
Date: Friday, August 26, 2022 11:20:36 AM
Attachments: [Grazing Goats for Fire Safety.pdf](#)

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

Hello Sean ~

With all of the rush to fire proof county lands, potential environmental impacts of such management actions must always be considered.

Please include the attached document as correspondence for the members of the FWAC to review before their 9/1 meeting. It is an excellent informative essay that I have credited to its author. Please also include it in the agenda packet.

Thank you,
Jean Brocklebank

Grazing Goats for Fire Safety

by Grey Hayes

August 26, 2022

One of the more common questions I'm getting these days is: what do you think about all this goat grazing for fuels reduction? I suspect the questions are coming to me because folks want to hear about my ecological perspective about goat grazing effects. There are other concerns, and I try to wrap those into this essay.

Goat Grazing Benefits

Grazing goats can produce many benefits from food and fiber production to wildfire fuels reduction, invasive species control, ecological restoration, and endangered species recovery. Goat meat is popular in many different people's cuisines, and raising goats locally reduces transportation costs and resulting greenhouse gas emissions. Many have criticized the beef industry for greenhouse gas emissions impacts, this might be a better solution for those who desire meat as part of their diet. Goat hair (angora, cashmere, etc) is a useful fiber in place of sheep's wool, and goat skins are used to create and repair drums and banjos. Is anyone doing these kinds of things with the herds of goats used for fuels reduction?

Goat herds are mainly being used for reducing the fuel loads that could make wildfires more catastrophic. Goats are useful in this way as they readily eat brush as well as grass. Sheep, cows and horses mainly eat grass, though they'll nibble at shrubs, too. Goats like to eat shrubs so much that they will get on their hind legs and pull at branches as far up as they can reach. They'll even climb trees!

Properly managed goats can help to reduce the cover and reproduction of invasive plants, including shrubby species. Goats can reduce thistle patches, mow down infestations of invasive grasses, and tear up French broom. These things qualify as ecological restoration, but goats can do more than just this...

By properly managing goats, we can help to restore evolutionary grazing disturbance regimes on which ecosystems and endangered species depend. By reducing the growth of grasses, or the thatch that grasses make, goat grazing can facilitate the germination and survival of wildflowers, which also helps restore pollinators. By grazing brush, goats can keep coastal prairies more open, conserving habitat for grassland dependent birds, such as black shouldered kite, burrowing owl, and grasshopper sparrow. When livestock reduces thatch in grasslands, grasses are less competitive and wildflowers flourish; so, endangered butterflies like Bay checkerspot which depends on wildflowers can thrive.

Cautions about Goat Grazing

Note that I've said 'properly managed' a lot. Saying 'goat grazing is good' is like saying 'weather is good' – both statements are nonsensical without details. The four variables to control with livestock grazing are seasonality, intensity, duration, and frequency. Grazing in the winter growing season can help reduce the growth of cool-wet-season grasses and so favor wildflowers (and thistles!). Putting many, many goats in an area is more intense than just a few. Putting many, many goats in an area for a long period of time is more impactful than a short period of time. Returning a herd of goats to an area more- versus less-frequently makes a difference. I just witnessed a recently goat-grazed public park area near San Rafael where there was almost no grass left and the oak and eucalyptus trees had been moderately damaged by goats gnawing through bark. Grazing goats in the early summer certainly made sense to

reduce the potential for soil compaction and erosion on the steep slopes I was visiting. But, on the ungrazed adjoining areas, native tarplants were in blossom – I'm not sure if those will come back in the goat grazed area so that pollinators will have something to visit. Small oak trees that had goat munched bark scars from the previous year were dying or dead. I questioned not only the need to graze the ground so hard as to negatively affect native trees, but I also questioned the health and welfare of the animals: was it necessary to make those animals very, very hungry to eat the grass down to near dirt and then start gnawing on tree bark?

Other cautions about goat grazing I wonder about: flies, manure, and weeds. Do communities near goat grazing areas get more flies, even biting flies? Does the manure wash off the grazed barrens and into streams and cause pollution? Are the goats transporting weed seeds onto the property from an area they grazed right before they were temporarily transported for fire control? All good cautions to ask about when reviewing the costs vs. the benefits of goat grazing.

The last caution I have is about training mountain lions to eat goats. I've heard too many folks raising goats blame the mountain lions for the loss of their animals when the fault almost certainly lies with careless livestock managers. Proper protection includes guardian dogs, electric fencing, and lion-proof night pens. When folks don't properly protect goats, mountain lions figure out a way to eat them...and then become accustomed to those easy meals. At that point, the human has effectively trained the mountain lion to eat livestock and then there's a problem.

Challenges Ahead

It seems that goat grazing is an expanding enterprise for fuels reduction, so how do we make it work better? Part of the solution is already on the table: all livestock grazing programs must be approved by a state-licensed Certified Rangeland Manager. This is a parallel program to the Registered Professional Forester who signs off on any timber production in California. A Certified Rangeland Manager has the skills to outline a plan to maximize the benefits and minimize the problems of a goat grazing operation.

Even with a good plan, there are significant challenges ahead for goat-led habitat and fuels management. For instance, given the oversight needed for each herd, how do we afford the shepherds and still affordably manage goats? Goats are escape artists, so shepherds are necessary to keep them contained and well supervised, if only to assure that areas don't get overgrazed and the goats stay healthy and safe. We need to find the right way for shepherds to have a good standard of living and decent working hours in an economy that already has a difficult time paying a living wage. If we can find and keep the labor, how do we train enough people to pay enough attention to the nuances of habitat management so that we restore habitats instead of destroy them while we seek a more fire-safe landscape?

In Conclusion

Next time you see goats arrive to do some work, I'm hoping you ask some of the questions I posed above. Only by having respectful dialogues about these issues can we hope to find the 'right' place for goat powered fuels reduction and habitat restoration. Such conversations can elevate the intelligence of all parties as we seek a better way to live on this super biologically diverse, fire prone landscape.

<https://greyhayes.net/2022/08/26/grazing-goats-for-fire-safety/>

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