

# Ecesis

California Society for Ecological Restoration Quarterly News Journal

## Restoration through the Eyes of our Non-profit Partners *by Geoff Smick*

Welcome to SERCAL's 1st quarter 2022 *Ecesis* issue! This issue is focused on a few nonprofits in the restoration world. While many of us associate ecological restoration work with nonprofit organizations, there are many different ways that nonprofits interact with restoration projects. Some nonprofits are land holders and land stewards that seek to restore the lands they manage. Others are partners to land owners that facilitate restoration through identifying projects and receiving grants they use to implement those projects themselves or through technical experts. Some do research and support restoration through science and experimentation or even education. Our goal in this issue is to provide the reader with a better understanding of some of the different ways that nonprofits support habitat restoration in California. The five nonprofits featured in this issue range from small, local nonprofits to much larger, national organizations. But they all have one thing in common: They have natural habitat preservation and restoration as part of their core missions.

Above: Junior Field Rangers from the San Fernando Valley conducting rapid trash assessments along Big Tujunga Creek in the Angeles National Forest (see *Partnership-Driven Post-Fire Restoration in the San Gabriel Mountains* on page 21). Photo credit: Brian Cavallero

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## Join the SERCAL 2022 Conference Mentorship Program

With a wealth of knowledge and experience to impart, and resources to share, SERCAL mentors can bridge the gap for their mentees and set them up for success in our field. Our goals are to:

- \* Provide a platform which facilitates individual growth opportunities for students, emerging professionals, and youth in environmental and STEM fields; and
- \* Ensure equity in educational opportunities and professional advancement for historically underrepresented groups.

### Mentor Expectations

- \* Become a **Mentor** at our May 2022 conference by selecting “**Volunteer as a Mentor**” when you register.
- \* At least one week before the conference, reach out to your mentee and set an appointment to meet for about 20 minutes. Make a plan to connect in at the beginning of the conference.
- \* Be available to connect with your mentee during breaks — shoot for at least one 10-minute check-in each day of the conference.
- \* You will have a special “MENTOR” nametag — some mentees may be completely new to scientific conferences and may not know what to expect — please take a moment to answer any questions.
- \* Within a week following the conference, set up a 20-minute appointment to debrief and have 1:1 time with your mentee.
- \* Participate in a 5-minute survey to provide feedback so we can improve next year’s program.

### Mentee Expectations

- \* Become a **Mentee** at our May 2022 conference by selecting “**Become a Mentee**” when you register.
- \* Meet with your mentor at least a week before the conference and *Ask questions!*
- \* At the conference, connect with your mentor and try to meet at many mentors as you can! Mentors will have special “MENTOR” nametags — *Connect with as many as you can!*
- \* Meeting with your mentor soon after the conference to debrief.
- \* Participate in a 5-minute survey to provide feedback so we can improve next year’s program.

**This is just the first step...** Watch for updates and, potentially, year-round opportunities! Please contact [Julie.sercal@gmail.com](mailto:Julie.sercal@gmail.com) if you would like to get more involved in developing our Mentorship Program.

*Inspire and Be Inspired* [sercal.org](http://sercal.org)





View of the Dwight Center for Conservation Science at Pepperwood (center) and the historic red barn that burned in the 2017 Tubbs Fire (bottom right) with Mount St. Helena in the background. Photo credit: Midstate Construction

# Pepperwood: A Living Laboratory for Climate Adaptation in California's Coast Ranges

by Lisa Micheli<sup>1</sup> and Michelle Halbur<sup>2</sup>

At Pepperwood, we are proud to have advanced our goals of integrating conservation science and stewardship on our 3,200-acre research reserve since the founding of the Dwight Center for Conservation Science on site nearly 13 years ago. Pepperwood was created as an independent nonprofit field station and community engagement hub founded by two local philanthropists, Herb and Jane Dwight, in collaboration with the California Academy of Sciences. This provides the freedom to recruit scientists and practitioners with a commitment to generating measurable watershed and ecosystem restoration outcomes on our property and throughout the California Coast Ranges region as a whole. We essentially serve as a community-driven ecology institute bringing the best scientific talent to bear on our local resilience challenges.

When we were invited to help frame a vision for launching the Dwight Center in 2009, we made sure that our founders and board of trustees were comfortable with the idea of having Pepperwood serve as a living laboratory for climate adaptation. We have since grown

our staff from 3 to 25 to realize this vision, and each member makes a unique and invaluable contribution. The Research and Preserve Management (RPM) team is a single functional unit that coordinates our ecological restoration activities with our role as a long-term monitoring Sentinel Site. Continuous and close collaboration between research and restoration objectives and staff has been critical to our success.

Our RPM team includes experts on soils and hydrology, plants, wildlife, and sensor networks—and since being hit by Northern California wildfires in 2017 and 2019, we have all had a deep immersion into applied wildfire ecology. We benefit greatly from serving as the host organization for the interdisciplinary Terrestrial Biodiversity Climate Change Collaborative (TBC3; [TBC3.org](https://www.tbc3.org)) comprised of university and agency researchers, launched originally with the support of the Gordon and Betty Moore Foundation.

TBC3's interdisciplinary senior researchers, including co-chair Dean David Ackerly of UC Berkeley, whose lab has 54 long-term forest monitoring plots on site, have continued to advise on our Sentinel Site instrumentation and applications of results to regional and

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# Pepperwood: A Living Laboratory for Climate Adaptation *continued*

statewide research and mapping projects (<https://www.pepperwoodpreserve.org/what-we-do/sentinel-site/>). TBC3 continues to convene annually at Pepperwood to advance a shared climate adaptation research agenda, now with a critical focus on drought and wildfire resilience, at the scale of California as a whole.

We also host visiting researchers from universities across the globe who find Pepperwood an ideal venue for exploring specific questions regarding Mediterranean-type ecosystem structure, function, and climate resilience. We have formal agreements with the Santa Rosa Junior College and Sonoma State University, both federally-recognized as Hispanic Serving Institutions, to craft student internship opportunities with the goal of diversifying the community of future ecological restoration practitioners. We also benefit from a Native Advisory Council and an Indigenous Education Coordinator on staff to bring indigenous perspectives and practices to bear on our land stewardship work.

There are two projects we are working on right now that illustrate the incredible opportunities and challenges of utilizing our property to both monitor climate impacts and serve as a demonstration site for how to combine Indigenous and Western science to inform resilient

land and water use practices on the ground. Our experience here is extremely relevant to the current dialogue around what is “ecologically sensitive vegetation management” and what are appropriate ecosystem targets for stewardship in our bioregion.

The first is a project funded by California Department of Fish and Wildlife (CDFW) to serve as a post-wildfire headwaters restoration site. In

addition to documenting active stewardship methods (e.g., mechanical thinning and prescribed burns), we are developing monitoring protocols designed to measure short- and long-term ecosystem response to our restoration efforts and natural

Our experience here is extremely relevant to the current dialogue around what is “ecologically sensitive vegetation management” and what are appropriate ecosystem targets for stewardship in our bioregion

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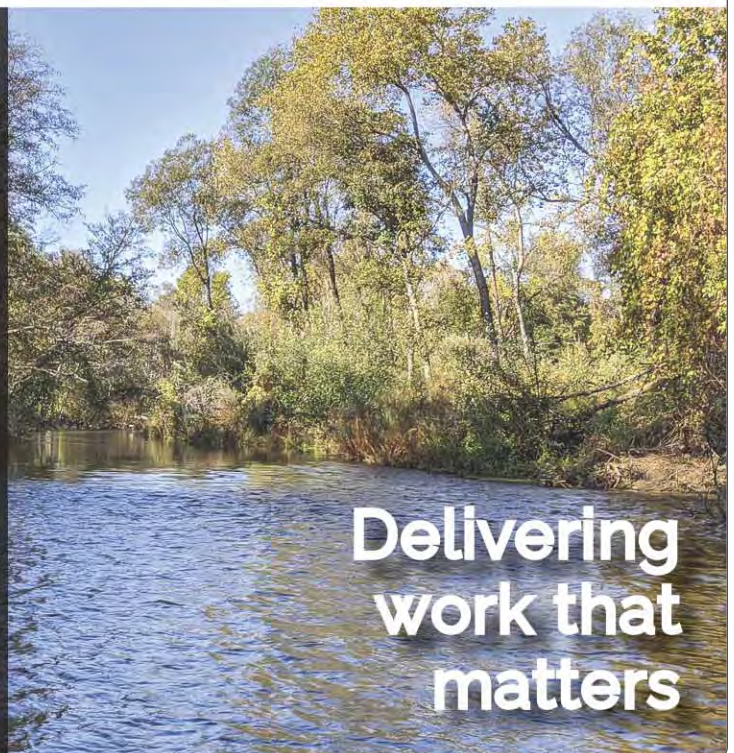


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Pepperwood experienced two wildfires in two years — the 2017 Tubbs and 2019 Kincade Fires. Here, the Kincade Fire is seen burning through mixed oak woodlands. Photo: ALERTWildfire.org camera at Pepperwood

## Pepperwood: A Living Laboratory for Climate Adaptation *continued*

disturbances like drought and wildfire. This project has given us a chance to build on our Adaptive Management Plan (<https://www.pepperwoodpreserve.org/amp/>) with a spatially explicit treatment program focused on limiting incursion of Douglas-fir into our oak woodland habitats, controlling invasive species, and removing dead-standing fuels left behind by recent wildfires.

With guidance from CDFW, National Park Service, University of California, and other partners, we have developed monitoring plots which capture changes in local climate conditions, vegetation diversity and structure, fuels, and wildlife habitat usage. In addition to vegetation and fuels surveys, each plot contains climate sensors to monitor conditions in the air and at the soil surface, a motion-activated wildlife camera to document medium to large mammals utilizing the space, and a series of plywood coverboards that are lifted to observe herpetofauna (reptiles and amphibians) and invertebrates underneath. By co-locating abiotic and biotic observations in these plots, we can closely track ecological relationships and how they are interacting and changing in response to our land stewardship and climate change over the long term.

Furthermore, the plot network provides an opportunity for expanding our monitoring to include other important indicators and taxa such as soil and light conditions, lichens, birds, butterflies, and more. We find that staff are needed to accurately measure botanical attributes and manage the technology and data, but that coverboard monitoring can be well-suited to community scientists, and that our

junior college interns are a great match for cataloging images derived from the wildlife cameras (with training and supervision). By documenting and publishing these methods and offering them to the community of practice, we hope to help shift towards more standardized ways of collecting data across wildfire-impacted regions to facilitate data synthesis and regional analyses.

The second project is a paired watershed study, supported by the Wildlife Conservation Board, to look at the impacts of forest thinning and prescribed burning on the water balance of a

headwaters catchment. This project entailed selection of two headwaters catchments of relatively similar size, morphology, and cover that are instrumented with evapotranspiration flux towers, multiple weather stations with soil moisture arrays, and hardy streamflow gauging sites to estimate peak and low flows as part of the annual hydrograph. By measuring each phase of the water cycle, we will be comparing the water balance in a treated versus untreated catchment.

The question is whether thinning overstocked forests has the potential to ultimately increase streamflow for threatened salmonids, thirsty human communities, and agricultural operations downstream.

With the goal of maximizing the ecological and watershed health of the preserve, leaving any zone as a control to permit comparison can cause the land management team members some heartburn. Meanwhile, when the cattle from our conservation grazing program get into controlled vegetation plots, the research team has to

As we start to move into publication of our case studies, we remain convinced that despite a potentially small sample size, in-depth analyses of restoration efficacy combined with place-based field knowledge can start to elucidate mechanisms of change.

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## Pepperwood: A Living Laboratory for Climate Adaptation *continued*

minimize the impacts and ensure the disturbance is recorded in the data. In the case of the paired watershed study, we are needing to step into comprehensive, spatially explicit, long-term planning to better prepare for staffing allocations needed to implement pre-and post-treatment monitoring. We also need to weigh how to retain protected or control areas for comparison and utilization for measurement of climate drivers independent of stewardship. To address this challenge, our RPM team has come together and planned out the forest treatments in a way that allows for longer pre-tinning baseline data to be collected for multiple years.

It is a not entirely tidy process. As scientists trained to understand the value of statistical significance, with the number of environmental and stewardship variables accounted for on our property, the diversity of combinations often means we have relatively small sample sizes with consistent lithology, vegetation communities, and management history. This is the real world and we do the best we can. As ecologists, we can argue that every point on the landscape is in some way unique. Then the physical scientists on the team lobby for the definition of quantitative metrics that can be applied consistently across the system. Together, we weigh the tradeoffs and come up with something that, given our resources, is practical and cost-effective.

As we start to move into publication of our case studies, we remain convinced that despite a potentially small sample size, in-depth analyses of restoration efficacy combined with place-based field knowledge can start to elucidate mechanisms of change. Even if somewhat anecdotal, we have found our results can inform and advance our practice when shared and extended to greater spatial domains. Part of what inspires us to connect with other reserves that are serving as long-term monitoring and restoration demonstration sites, is to expand these methodologies at a regional scale, thus building a more robust data set for better understanding drivers and controls on ecosystem response. As a result, we are currently chairing a new Sentinel Sites roundtable supporting the California Biodiversity Network (<https://cabiodiversitynetwork.org>) and the State's "30 by 30" initiative to create an avenue for sharing results and lessons learned.

One of the most exciting developments for our Research and Preserve Management team is integrating indigenous perspectives



and practices into our program. Presently we work very closely with our CAL FIRE colleagues on the implementation of a Vegetation Management Plan that seeks to essentially reset our overstocked forests. (We estimate we have tenfold the number of trees per acre compared to conditions pre-European contact.) Now, we are building the capacity to qualify a "burn boss" on staff to have the freedom to conduct more frequent and lower intensity burns moving forward under the guidance of our Indigenous Education Coordinator, Clint McKay. As we evolve our prescribed burning program into a model of cultural burning, we are also going to better inventory the preserve in terms of culturally significant resources to build our capacity to support indigenous food sovereignty.

We are eager to hear from other SERCAL members traveling a similar trajectory. We appreciate the support of this community of practice to move the needle on our shared climate resilience through science-based solutions.



Above: Pepperwood has over 900 acres of grassland habitat that is actively stewarded and monitored annually. Seen here are blue-eyed grass (*Sisyrinchium bellum*), California goldfields (*Lasthenia californica*), and blue-eyed Mary's (*Collinsia sparsiflora*) with Mt. Saint Helena in the background. Photo credit: Michelle Halbur





The in-person contingent at our Fall 2021 board meeting in San Rafael. From left: Cassie Pinnell, Will Spangler, Geoff Smick, Allegra Bukojemsky, Ross Taylor, Greg Andrew, Julie St John, Isaiah Thalmayer, Thor Anderson, and Junie Anderson. Not pictured: Jamie Silva.

# SERCAL Annual Update by Allegra Bukojemsky, Board President

SERCAL is proud to share with you our 2021 accomplishments and some goals for 2022. While we have been an organization for 32 years now, we have been charting new ground since reorganizing our board structure to separate presidential duties from conference organization and coordination. This separation came from the interest in expanding our outreach, ideas, and actions to support our mission of *facilitating the recovery of damaged California ecosystems through conferences, field tours, workshops, and more. These educational and networking activities empower our members to address the diverse aspects involved in restoring native California habitats.* One of the structural changes we made within our leadership included the commitment of board members and affiliates to a committee that sets both long-term and achievable annual goals. Committees can also be supported by volunteers that are not part of our leadership group. Our committees have done an amazing job over the last year and are positioned for more amazing work in 2022; here is a brief summary:

The California Society for Ecological Restoration is a non-profit membership-based organization dedicated to facilitating the recovery of damaged California ecosystems through conferences, field tours, workshops, and more. These educational and networking activities empower our members to address the diverse aspects involved in restoring native California habitats.

## Conference Committee

*Mission:* To host an annual conference that provides relevant information and networking opportunities for California’s restoration community, as well as supports the development of The Next Generation of restoration practitioners.

In 2021, the Conference Committee stayed flexible and accomplished another successful virtual conference. We had a record number of students and emerging professionals attend, in part due to the platform being more accessible, but also — in our commitment to equity and the next generation — by providing free registration for this group. The committee, in partnership with the Diversity Task Force, launched a mentorship program, which had such strong interest and support that a new committee — Mentoring & Youth Outreach — is forming to solidify and advance this initiative. The Conference Committee is currently working on a hybrid conference for 2022, allowing for both in-person and virtual

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# SERCAL Annual Update *continued*

attendance to support in-person networking while also continuing to provide access to more people.

## Communications & Marketing Committee

*Mission:* To support our members and to engage the larger restoration community and new audiences (including youth, students, and emerging professionals from under-represented communities) by broadcasting SERCAL values, events, and membership benefits through multiple communication channels.

The Communications Committee supported the quarterly production of our *Ecesis* newsletter. In collaboration with the Diversity Task Force, we published an issue specifically focused on diversity in our industry. We also grew our social media presence and set guidelines for potential social media takeover events. Finally, the committee helped schedule and organize a variety of webinars, lunch and learns, and field trips, and will continue to increase these diverse options. Recordings of some of these events are available in our website's members-only section.

## Diversity Task Force

*Purpose:* To actively research, engage and publish information on diversity and systematic racism in the industry; additionally, the Task Force may develop draft policy positions on diversity for consideration by the SERCAL Board of Directors.

The Diversity Task Force is a SERCAL committee focused on highlighting diversity issues within the California ecological restoration industry and our organization. It was launched in 2020 and consists of board members and volunteers. This committee has

made great strides and continues to help SERCAL become a safe space that welcomes and represents the diversity of humanity. The Task Force began by creating a member survey to try to help us understand who our members are and what some of the issues related to equity and inclusion might be. We gained mostly positive feedback on this survey, though responses were limited. This committee also proposed and helped the board accomplish diversity training to not only ensure leadership was aligned, but also to influence our operations in support of SERCAL's mission. In addition, this committee: 1) helped provide outreach and access to our conference for emerging and possibly underrepresented individuals; 2) organized the Summer issue of *Ecesis* focused on diversity and inclusion, and is working on guidelines to help ensure continued inclusion in all future issues; and 3) is working on commitments for ensuring a safe and accessible platform in support SERCAL's mission.

## Budget & Finance Committee

*Purpose:* To ensure the organization is being run in a fiscally responsible and sustainable way.

The Budget & Finance Committee shall be comprised of the SERCAL Treasurer in addition to at least one Board member and the SERCAL Administrator. The committee is responsible for reviewing quarterly and annual financial reports as well as assisting in preparing draft budget projections and an annual draft budget for the Board's approval. The committee is also responsible for identifying potential spending and revenue-generating opportunities to meet the Board's fiscal goals and its objectives for implementing the SERCAL's Mission.

In 2021, this committee 1) Developed a Charter and Operating Principles, 2) Vetted expenditures based on organization budget review and recommendations to Board, 3) Developed a board budget approval process, 4) Developed draft policy for annual COLA increases for administrative staff.

## Much to Be Grateful For in 2021... Much to Look Forward to in 2022

In summary, we are so thankful for the energy, time, and expertise all the board volunteers and members bring to this organization, and the sustained and growing energy to continue accomplishing goals the committees have helped us realize. If you are interested in becoming involved in any of these committees, please reach out. We are also so grateful to all of our sponsors that have helped us operate during these shifting times, and those that have specifically sponsored other individuals and groups; your support makes this all possible. We make a commitment to you, our members and the ecological restoration field, to share our accomplishments and goals with you on an annual basis.



A screenshot from our Spring 2022 Board meeting on Zoom.







Ecological Laborers and Equipment Operators restoring a mountain meadow. Photo credit: Ryan O'Halloran, Catch Creative

# The Ecological Workforce Initiative: *Building Respect and Recognition for Restoration Trade Workers*

by Sally Bolger<sup>1</sup>

## From the Classroom to the Field

It's a long way from the Conservation Corps North Bay classroom in San Rafael to working as part of the construction crew re-sculpting Butano Creek in San Mateo County, but Roldan made the journey. Roldan was one of eight CCNB corps members who participated in a specialized Ecological Workforce Training Program in June/July 2021. The Training provided an understanding of the regulatory environment within which laborers, equipment operators, and truck drivers work during restoration projects, highlighting the context for permitting restrictions and the importance of adhering to them.

After completion of the program, Roldan accepted a job with Hanford and quickly became part of the crew restoring Butano Creek for the San Mateo County Resource Conservation District.

When asked about the program, Roldan had this to say:

*Yo pienso que el entrenamiento y el programa que nos dieron fueron muy interesante e importante para mi porque ustedes están protegiendo el medio ambiente y ustedes están enfocando más sobre los animales que están en peligro.*

(I think that the training program that they gave us was very interesting and important for me because they are focusing more on the environment and the animals that are in danger.)

## Catalyzing Change

Spearheaded by Hanford and the HanfordFUND, the not-for-profit Ecological Workforce Initiative is catalyzing an effort to create a recognized and respected Ecological Workforce — the folks on the ground who directly interface with the natural resources and species of concern. The Ecological Workforce Initiative is bringing together

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# The Ecological Workforce Initiative

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public and private restoration industry partners, environmental non-profit organizations, education professionals, training and workforce development experts, resource agencies, policymakers, and others, to create an Ecological Workforce training program and certification.

It is at the ground level where the impacts to resources occur and where the regulatory requirements are implemented. Without properly trained crews, construction activities intended to restore or enhance our environment can result in habitat degradation, species mortality, and destruction of cultural artifacts instead. Trade workers on restoration projects need the skills and knowledge to work appropriately in sensitive habitats and within permitting constraints, yet these workers are not seen as any different from the folks who build our freeways and pave our roads. They deserve respect for the role they play in project success and remuneration for having an enhanced level of competency.

## Tying the Health of the Economy to the Health of the Ecology

The restoration industry is a powerful economic driver in our country. The 2015 study "Estimating the Size and Impact of the Ecological Restoration Economy" (Professor Todd Ben Dor, University of North Carolina *et al*) estimated that the Restoration industry directly employs over 126,000 people — more than Logging, Coal Mining, or Iron and Steel Mills — in jobs that are often at higher pay scale. The Ecological Workforce training will equip large segments of our communities with the skills to access to lifetime, living-wage environmental careers without the need for higher-education or high-level English Language proficiency, so that both our human and ecological communities can thrive.


## The Workforce is the Common Denominator

The Ecological Workforce is the common denominator of all restoration projects. Whether publicly or privately funded, whether the project proponent is a state or federal agency, non-profit or for-profit, the success of a project — often a decade or more in the making — all comes down to the quality of the on-the-ground trade workers actually implementing the designs and abiding by the permits. Despite the critical role they play, currently there is no standardized training for ecological trade workers. Creating a trained workforce that understand the purpose of projects, and the reason for the permit conditions under which they work, will

Trade workers on restoration projects need the skills and knowledge to work appropriately in sensitive habitats and within permitting constraints, yet these workers are not seen as any different from the folks who build our freeways and pave our roads. They deserve respect for the role they play in project success and remuneration for having an enhanced level of competency.

WORKER ENVIRONMENTAL COMPLIANCE TRAINING PROGRAM

### KEY TERMS



**TAKE**  
Hunt, HARM, HARASS, chase, shoot, injure, kill, capture, catch, collect

**HARM**  
Act that injures, significantly modifies, or degrades habitat

**HARASS**  
Act creating the likelihood of injury by significantly disrupting normal behavior patterns

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WORKER ENVIRONMENTAL COMPLIANCE TRAINING PROGRAM

### TÉRMINOS CLAVE



**DESCARGA Y CONTAMINACIÓN**

**FUENTE DE PUNTOS | POINT SOURCE**  
Las descargas son discernibles, confinadas y de una transmisión discreta, como una tubería, zanja, canal, túnel, conducto, fisura discreta o contenedor.



**FUENTE NO PUNTUAL | NON-POINT SOURCE**  
Las descargas no son discernibles y se originan en muchas fuentes difusas como drenaje, escorrentía o filtración de las precipitaciones en tierra.



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The curriculum in the Bilingual Ecological Workforce Training — developed by Jim Robins, Asha Virilouvet, and Eric Buenrostro — increases environmental compliance understanding.

promote compliance and improve project outcomes.

## The Training Program

The Ecological Workforce Training Program educates participants in the purposes of restoration, the regulatory context within which they work, the types of permits that may be encountered, and the reasons why permitting restrictions must be adhered to. The curriculum was developed by Jim Robins of Alnus Ecological in collaboration with Hanford's Asha Virilouvet and Eric Buenrostro. Although initially intended to train Hanford's own employees, Hanford CEO Mark Cederborg knows that the need for a trained workforce exists across all

restoration efforts. Hanford established the Ecological Workforce Initiative and donated the curriculum to the Initiative for use in elevating the skills of workers throughout the restoration industry.

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Members of the 2021 Ecological Workforce Training cohort getting hands-on experience. Photo credit: Ryan O'Halloran, Catch Creative

## The Ecological Workforce Initiative *continued*

The Initiative has customized the curriculum so that it can be an enhancement to a broad range of existing training programs, such as conservation corps, community colleges, and high schools, as well as used by parks and open space districts, environmental non-profits, and restoration companies, etc., as part of their employee training. The goal is to assure that workers on restoration projects, regardless of employer, are properly equipped with the knowledge they need so that species and habitats are protected, permit restrictions are adhered to, and environmental project goals are achieved.

### **Pilot Program 2021**

In June/July 2021, the pilot program was implemented — a collaboration with Workforce Alliance North Bay and Conservation Corps North Bay. The initial cohort of 8 participated in 10 hours of in-classroom training, which was applied during 8 weeks of hands-on restoration field work at worksite partners Marin County Parks, Marin Water, Napa County Flood Control, Golden Gate National Parks Conservancy, and the National Park Service. Five members of the cohort received job offers immediately following the program, with wages ranging from \$19.50 to \$32.00, and three of the cohort continued with CCNB in order to pursue their high school diploma.

Maira, one of the graduates who went on to full-time employment, commented:

*Lo que más me gusta del programa es que nos están enseñando nuevas cosas y pues para que nosotros podamos ver como cuidar el medio ambiente y protegerlo y pues así proteger a nuestras aves y peces. Después de aquí quiero seguir de lo mismo como trabajando por el medio ambiente.*

(What I like most about this program is that they are teaching us new things so that we can see how to take care of the environment, to protect it, and protect our birds and fish. After here I want to continue in the same way, working for the environment.)

### **New Programs in 2022**

Now a fiscally sponsored non-profit, the Ecological Workforce Initiative is poised to expand the reach of its training. Over the winter the second-generation curriculum was developed, incorporating both lessons learned and suggestions received from program participants and a wide range of experts, including the SERCAL Leadership Team. The Initiative will implement the new

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# The Ecological Workforce Initiative *continued*

curriculum during training programs in partnership with its existing partners as well as investigate opportunities with non-profits, resource agencies, and community colleges.

## The Long-term Vision

The Initiative's goal is to create a rigorous training and respected certificate capable of being used as a qualification metric for employment, permit issuance, or contract award. While there are qualification metrics for contracting companies, there are none for the workers themselves. Establishing a requirement that all on-the-ground workers be ecologically trained would promote better environmental outcomes and enable Cutting the Green Tape. The effort is analogous to the OSHA health and safety trainings, where everyone on a job site is required to have a minimal level of understanding of their role in creating a safe workplace. The long-term vision is to establish similar industry-wide training requirements leading to a culture of jobsite safety for the environment just as OSHA has created a culture of workplace safety for humans.

## How SERCAL Members Can Get Involved

SERCAL has been a supportive thought partner to the Initiative since its inception, and we look forward to further collaborating on public outreach and possible at-conference trainings. We also look forward to speaking with SERCAL members who are interested in incorporating the training into their operations, whether through EWI employee training or through using the "certificate as qualifications metric for contract award", and we invite members to participate in a gathering of industry sector partners anticipated for late 2022.

## The Time is Now

The Ecological Workforce Initiative has the ability to impact some of the biggest issues on California's environmental agenda — addressing climate resiliency, achieving 30x30, enabling Cutting the Green Tape, and building equity and inclusion in the environmental field. There are thousands of projects being undertaken in every corner of the State — from the Sierra, to the desert, and all along the coast. State and federal funding is expanding, and the pieces are being set in place to increase the pace and scale of restoration. We need a workforce trained to accomplish it.



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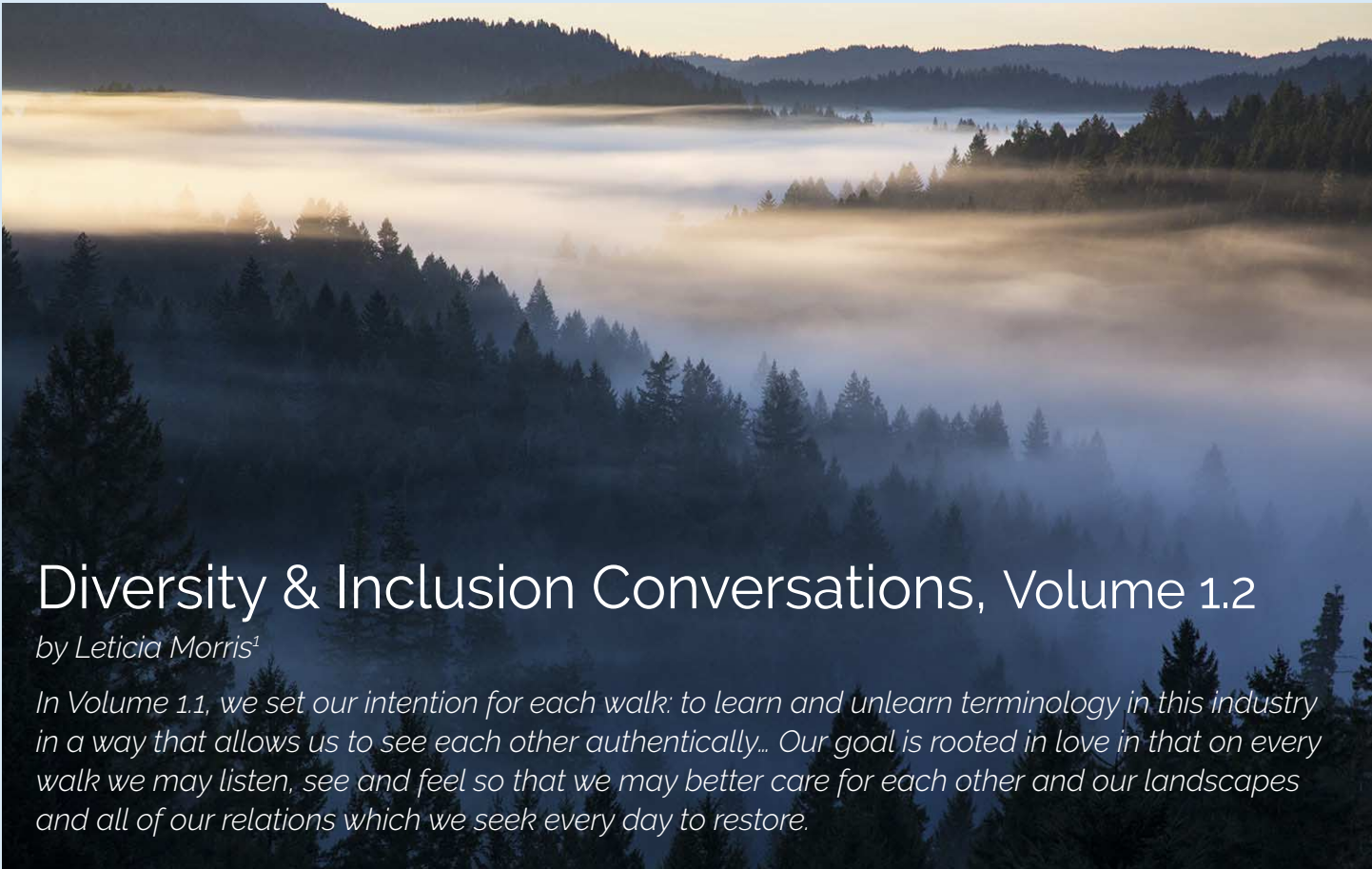
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# Diversity & Inclusion Conversations, Volume 1.2

by Leticia Morris<sup>1</sup>

*In Volume 1.1, we set our intention for each walk: to learn and unlearn terminology in this industry in a way that allows us to see each other authentically... Our goal is rooted in love in that on every walk we may listen, see and feel so that we may better care for each other and our landscapes and all of our relations which we seek every day to restore.*

Thank you for joining me again today. It's been a while since our first walk during the summer or 2021. And I'm glad you stayed tuned through the falling leaves of winter. We are now in walking ahead-each of us with our own series of little footsteps joined together forming larger paths into the forest of 2022.

Today, we have the opportunity to walk directly into a conversation led by one of you-a member of our restoration community! This conversation was voiced anonymously during the Q&A portion of the SERCAL DEI conference last September.

But before we wade into the conversation, now is the time to stop and say: the conference was Incredible! I can summarize by saying that the SERCAL conference in general, and the DEI panel and Q&A participation was wonderfully honest, well-facilitated and boldly inclusive. Many thanks to all the leadership, speakers, and participants alike! If you missed it, video-recordings are available on youtube at <https://bit.ly/3qOeMNo>. Stay tuned for the continuation at this year's SERCAL conference in 2022 held in beautiful Carmel, Monterey, CA! I hope to see you there!

Ok. Now back to the focus of today's walk. A restoration community member asked us the following question anonymously:

“When open, powerful discussions about anti-racist/anti-colonialist etc. transformations happen amongst certain cells of staff in a large organization, but messaging to others and to leadership is frequently stripped of its teeth in the name of avoiding bad PR/alienating others (read: protecting white fragility), what course do you recommend to “speak truth to power?”

No matter how awesome and how wonderful our DEI conversations will be in these spaces that we curate to provide safety, these conversations do not exist in a vacuum.

Two grounding needs immediately arise from this question. Firstly, the need to thank this individual for braving such a complex question! Thank you, brave human!

Second, the need to acknowledge that the goal in this column is not to “answer the question,” *per se*, but rather to investigate questions and answers and flow as each sparks honest conversation with liberation in mind. This means that inadvertently, not every answer and not every spark will make it

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<sup>1</sup>Ecologist, GEI Consultants. [lmorris@geiconsultants.com](mailto:lmorris@geiconsultants.com). Photos of King Range National Conservation Area courtesy Bob Wick, BLM.

## Diversity & Inclusion Conversations *continued*

into these page limits. Yes, and as we are keeping in mind that this column is centered on the uncomfortable parts and perspectives from those not often heard, the focus will intentionally not aim to protect white fragility, but rather, the focus will be to liberate us from it. Yes, that was scary for me to say. And yes, it needed to be said because the best way to get to the discussion is at the roots (we can explore the concept of white fragility and how this may shape our environmental restoration industry on future walks).

Now that we have grounded ourselves a bit, it becomes apparent that there are many layers of questions and assumptions intertwined in the above question. Maybe we can think of these layers of assumptions as big, red and white stop signs signaling us to come to a halt, or maybe as tiny breaks in canopy along a forest hike that provide us pause to hydrate. As we stop or pause to focus on each layer of our main question, let's break down our next footsteps into three main intersections:

*Footstep 1.* The assumption that anonymity plays a role in this DEI discussion in general and the larger organizational structure in particular.

*Footstep 2.* The assumption that multiple processes are occurring: a) open anti-racist/anti-colonialist discussions are both powerful and that they are happening in smaller cells of staff, b) these discussions rarely carry over outside of the smaller cells within the larger organization meaningfully, and c) that the value of "good PR" and the value of alienating current leadership is placed higher than the value of what transformations may come of open anti-racist/anti-colonialist discussions.

*Footstep 3.* The assumption that "speaking truth to power" may have a shifting course and may look different for everybody.

### **Footstep 1...**

The fact that this complex question arrived in this discussion via anonymity is something that cannot be overlooked. It speaks to so many intersections; above all, power and safety. Individuals have many reasons in many spaces to protect their identity. In general, when survey designers conduct reviews or elicit organizational feedback, more feedback is generally received by more respondents when the survey is tailored to omit unique

identifiers. It follows then that the feedback is more critical than knowing the identity of who gave the feedback. This makes sense, in general. But specific to the goals of our walk, and our SERCAL DEI panel discussion, which aim to provide a safe place for all, we are not only looking for what makes sense, but we are looking under rocks and logs on this walk in search of opportunities to understand each other better. So, when any participant responds anonymously, it may not be as simple as the participant's choice. When we look deeper, anonymity may reflect the spectrum between where we aim to be and where we are in terms of where individuals are positioned with respect to real or perceived safety to have open, powerful discussions about anti-racist/anti-colonialist etc. transformations in a public setting.

What I encourage each of us to take from this is not a need to focus on any one individual's decisions to remain anonymous,

but rather the need to be rooted in the understanding that, currently, anonymity can act as a viable method of safety. Not because we ought to see anonymity as a "choice," but rather because given that larger societal processes and impacts (barriers to advancement for historically underserved populations, discrimination, white privilege, retaliation, and consequences of speaking up etc. (both real and perceived) do exist in the larger societal and organizational structure. And in this larger, structure which has not yet undergone full transformation to a liberatory framework for safety and equity for all, anonymity is the

method that those of us with less power and less privilege wield as a tool for participation. This understanding requires of us to remain humble, to not judge another who wields this tool when they need to. The focus being that no matter how awesome and how wonderful our DEI conversations will be in these spaces that we curate to provide safety, these conversations do not exist in a vacuum.

So, as long as larger organizational structures still reflect an interest that does not provide the same power, protection, and safety to everyone, we will always have a need for anonymity as a means of protection of any individual(s) and their access to safety. And when we experience this process of how anonymity allows some more protection than others, it helps us to see that

Our accountability for continuing these conversations doesn't stop until every member of the restoration community (regardless of their experience, race, ability, gender, etc.) not only feels safe here with readers like you, but also has, more crucially, attained safety in the "real world" where safety is distributed disproportionately.

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## Diversity & Inclusion Conversations *continued*

much more clearly what our path to liberation entails at varying degrees for varying underserved populations as indicated by the individuals that brave the conversation with anonymity. This also illuminates how much farther we, as a whole, need to translate these open, anti-racist and anti-colonialist conversations into the larger societal and organizational structures.

In this way, we walk in the guiding light of sister Fannie Lou Hamer who taught us that “nobody’s free until everybody’s free.”<sup>2</sup> Our accountability for continuing these conversations doesn’t stop until every member of the restoration community (regardless of their experience, race, ability, gender, etc.) in the industry not only feels safe here with readers like you, but also has, more crucially, attained safety in the “real world” where safety is distributed disproportionately.

As long as larger organizational structures still reflect an interest that does not provide the same power, protection, and safety to everyone, we will always have a need for anonymity as a means of protection of any individual(s) and their access to safety.

### Footstep 2...

Wait! It appears we have we’ve reached the extent of page limits to continue onto the second Footstep today. But stay tuned for Volume 1.3 because we will hit the ground running right from where we are leaving off, and I’m looking forward to your perspective as we keep walking!

As always, we’d love to hear from you, so send your questions, topics stories or thoughts on where you’d like to walk to our team.

In thanks and gratitude until we walk again...



<sup>2</sup>Sister Fannie Lou Hamer delivered this speech at the Founding of the National Women’s Political Caucus, Washington, D.C., July 10, 1971. She regularly challenged core aspects of the women’s liberation movements, especially the feminists’ one-dimensional view of relations between the sexes and their stances on birth control and other aspects of reproductive rights (Brooks and Houck 2010).





Jenner Headlands, looking south to the Russian River and Pacific Ocean. Photo credit: Tim Haywood / The Wildlands Conservancy

# Restoration Overview on The Wildlands Conservancy's Sonoma Coast Preserves

by Matt Richmond<sup>1</sup>, Luke Farmer<sup>2</sup>, and Daisy Carrillo<sup>3</sup>

The Wildlands Conservancy (TWC) owns and operates California's largest nonprofit nature preserve system, and is dedicated to the conservation and restoration of each of its diverse landscapes. Conservation efforts across the preserve system include a wide array of management techniques focused on the unique needs of each landscape. Previous and current projects include landscape-scale restoration of watersheds, grasslands, and forests to benefit a multitude of native species including tule elk, California condors, and foothill yellow-legged frogs.

The Jenner Headlands Preserve and Estero Americano Coast Preserve are two of TWC's magnificent properties situated along California's Sonoma Coast. Ongoing and planned efforts on these Preserves include restoring forests, grasslands, and aquatic communities to benefit native wildlife and enhance recreational value for visitors.

## Jenner Headlands Preserve

Jenner Headlands Preserve (JHP) is a spectacular 5,630-acre mosaic of redwood and Douglas-fir forests, oak woodland, chaparral, and coastal prairie overlooking the Pacific Ocean. Many rare and endangered

species inhabit the property including the northern spotted owl, peregrine falcon, and red tree vole. Deer, bobcat, coyote, mountain lion, and steelhead trout are also found on the preserve.

The Preserve was acquired in 2009 as a result of the dedicated four-year effort by the Sonoma Land Trust (SLT) and Sonoma County Agricultural Preservation and Open Space District (OSD). Five other funding sources include the State Coastal Conservancy, California Wildlife Conservation Board (WCB), National Oceanic and Atmospheric Administration, Gordon and Betty Moore Foundation, and Forest Legacy Program. TWC loaned and guaranteed loans totaling \$10.6 million to ensure this acquisition when funding was threatened. It is the single largest nonprofit land acquisition in Sonoma County history that is open daily to the public, free of charge.

Numerous ongoing restoration efforts at Jenner Headlands Preserve are guided by an integrated resource management plan that was developed through close collaboration between TWC and SLT. Outlined efforts aim to enhance the coastal prairie, promote old-growth characteristics of redwood forest, and restore clear running streams for the recovery of endangered coho and steelhead salmonids.

## Coastal prairie

These areas are rare and only found along the Pacific coast of California and southern Oregon. These areas support a rich assemblage of native

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# Overview on The Wildlands Conservancy's Sonoma Coast Preserves *continued*

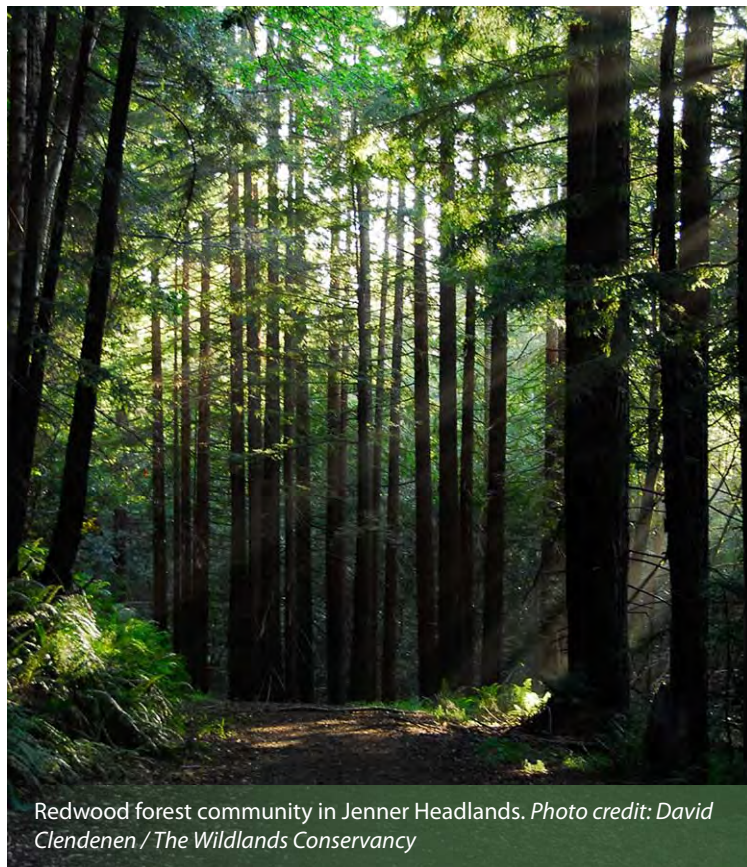
plants and are one of the most diverse types of grasslands in North America.

The restoration methods contained in JHP's integrated resource management plan were developed by considering ecological goals, existing conditions, and knowledge of cutting-edge coastal prairie management. After evaluating the suite of tools appropriate for coastal prairie management (grazing, mowing, prescribed fire, planting, etc.) and considering advice from our team of technical advisors and biological consultants, a well-managed rotational livestock grazing system was deemed the most appropriate method for managing the 1,400 acres of coastal prairie. Livestock provide disturbance as a substitute for fire to keep coastal grasslands open and reduce the dominance of non-native plants. This helps to promote the establishment of many native herbs and grasses, and reduces the risk of fire through the removal of dead leaf litter. TWC varies the intensity of grazing levels throughout the year to develop a mosaic of native plant diversity and vegetation structure, while allowing the full recovery of plant communities during an interim non-grazed period. This helps protect soils and facilitate uptake and utilization of soil nutrients.

## Restoration Forestry

Prior to TWC ownership, the forests on JHP were owned and managed as commercial timberland for over 130 years. The coniferous forests of the Headlands are now largely dominated by young, dense, 2nd- and 3rd-growth coastal redwood trees. These dense stands suppress growth, develop narrow crowns, and grow thin and tall. Only a few remnant old-growth trees remain as reminders of the giants that once dominated the landscape. TWC's management goal is to restore and enhance the forest into a mature, self-sustaining, healthy ecosystem with old-growth characteristics that are both reminiscent of the past and resilient to the ecological conditions of tomorrow. To accomplish this goal, "thin and release" was identified as the best restoration forestry technique to implement on the preserve. Studies conducted along the North Coast have shown that when young dense redwood forests are lightly and carefully thinned over the years, the growth potential of the remaining trees is released and a mature, self-sustaining, healthy forest ecosystem can develop more quickly. This forest structure provides important habitat to many imperiled species such as the northern spotted owl and marbled murrelet.

TWC's management goal is to restore and enhance the forest into a mature, self-sustaining, healthy ecosystem with old-growth characteristics that are both reminiscent of the past and resilient to the ecological conditions of tomorrow.



Redwood forest community in Jenner Headlands. Photo credit: David Clendenen / The Wildlands Conservancy

TWC has developed several partnerships to enhance and restore the forest. This includes the acquisition of grants from the State Coastal Conservancy and OSD to reduce fuel loads, JHP staff leading work crews in performing ladder and ground fuel removals, local volunteer crews performing redwood tree plantings in areas impacted by sudden oak death, and CalFire conducting prescribed burns in areas that were previously thinned. To date, over 50 acres have been burned by CalFire within JHP's 255-acre shaded fuel break.

## Riparian Resources

Many riparian (streamside) areas on Jenner Headlands Preserve were impacted by past logging practices, leaving behind altered riparian habitat and sediment-laden streams. TWC continues to protect and restore riparian plant and animal communities and water resources on JHP by increasing native streamside vegetation, removing fish passage barriers, decommissioning obsolete roads, and installing cattle exclusion fencing as needed.

TWC's restoration forestry methods will help increase the size of trees adjacent to streams, which will increase shade to aquatic habitats and increase wood that falls into the stream channel. Coarse wood, such as large trees and branches that fall into streams over time, greatly improves habitat for salmon and steelhead and other aquatic animals by creating a diversity of pools and other in-stream habitat.

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# Overview on The Wildlands Conservancy's Sonoma Coast Preserves *continued*

Since JHP's forests were once commercial timberlands, there is a dense network of logging roads, some of which are no longer needed. To date, TWC has decommissioned and revegetated more than 3 miles of road on the preserve, and many historic logging roads have naturalized. Over the coming years, TWC will continue to decommission obsolete roads and revegetate them, which will help stop sediment from entering creeks and degrading vital spawning habitat for salmon and steelhead.

Historically, cattle used to freely graze down into the main stem of the Russian Gulch. TWC established perimeter and livestock exclusion fencing across JHP shortly after its acquisition. This restricts livestock to upland areas and prevents them from using streams as a source of water, which protects streamside vegetation and overall water quality.

In 2019, TWC completed the East Branch Russian Gulch Creek Fish Passage Barrier Removal Project. This project was funded by the State Coastal Conservancy, WCB, and TWC to remove or modify six large woody debris jams in order to improve fish passage conditions for federally listed salmonids and improve overall stream function. Removal and modification of the barriers made available more than three miles of spawning and rearing habitat for anadromous fish. A fish relocation plan was implemented and a total of 49 steelhead were relocated.

## Estero Americano Coast Preserve

In 2015, through the combined efforts of the State Coastal Conservancy, OSD, Gordon and Betty Moore Foundation, and Sonoma Land Trust, TWC acquired the majestic 547-acre Estero Americano Coast Preserve (EACP) located on the border of Sonoma and Marin Counties. The property includes a one-mile stretch along the mouth of the Estero Americano Estuary, which is part of the Gulf of the Farallones National Marine Sanctuary. Due to the Preserve's diverse assemblage of wetland communities and estuarine habitats, the property is recognized by the California Department of Fish and Wildlife as one of the most significant habitats in the state.

Ongoing and planned restoration efforts at the EACP include restoring wetlands, streams, and riparian areas, altering the grazing regime to enhance coastal prairie habitat, decommissioning roads, and rehabilitating erosion gullies.

The Preserve has been used for livestock grazing (primarily cattle) and has several residential and agricultural support buildings onsite. Historic land use practices have degraded the wetland and riparian habitats through over grazing and associated soil compaction, erosion, and non-native plant introductions. The creation of building pads,

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## Restoring Ecosystems Since 1981

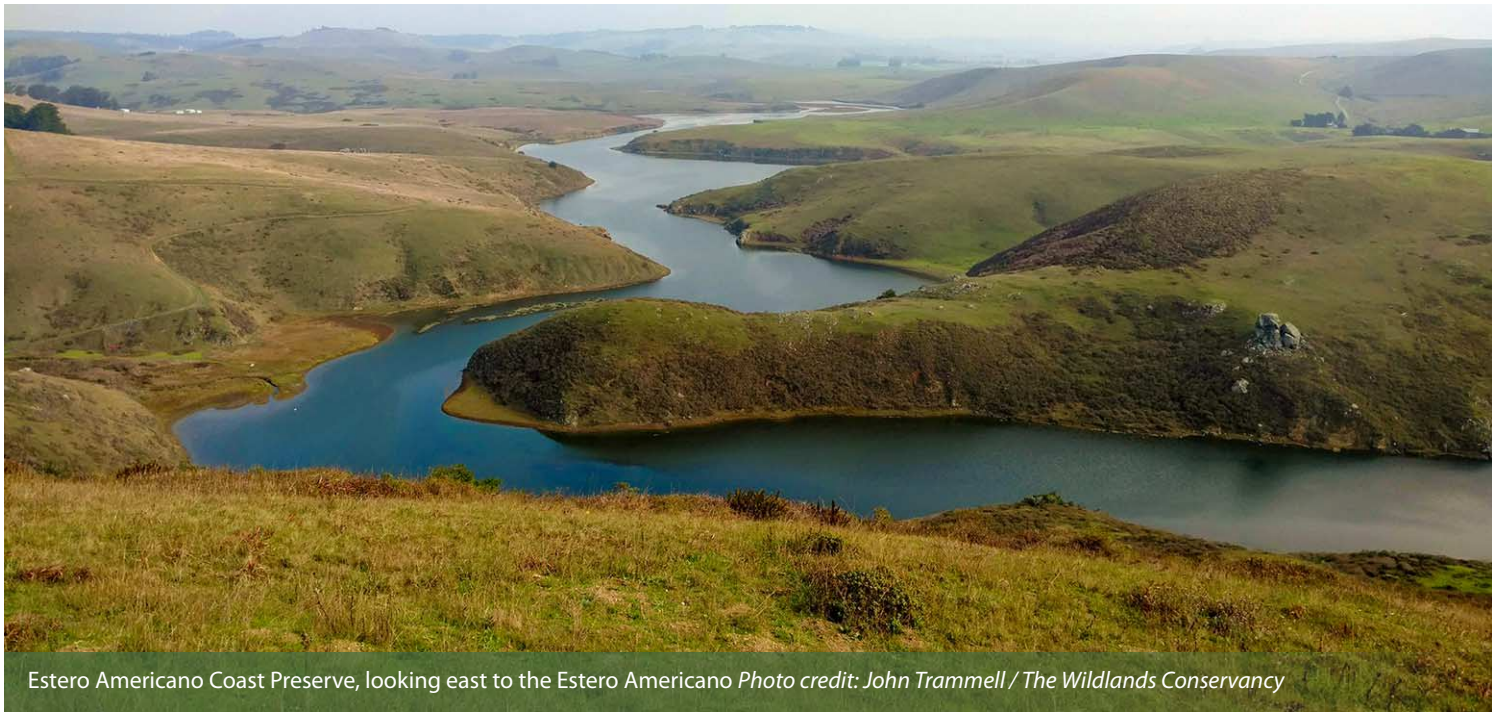
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Estero Americano Coast Preserve, looking east to the Estero Americano Photo credit: John Trammell / The Wildlands Conservancy

## Overview on The Wildlands Conservancy's Sonoma Coast Preserves *continued*

roads, and water supply infrastructure along with other direct and indirect impacts over the decades have contributed to the degradation of habitats on site. A review of historic aerial photography of the site over the past two decades indicates that erosion and degradation accelerated substantially between 2006 and 2017.

While grazing and other land use practices have been curtailed and modernized to decrease ongoing effects, natural hydrologic and geomorphic processes continue to respond to the legacy impacts, such that the swales and tributaries/drainages are unstable in many areas and have poor surface moisture-holding characteristics to sustain healthy vegetation and habitats. Sediment from erosion on site is deposited in the Estero Americano estuary and the Pacific Ocean, resulting in diminished water quality during and after high flow events. Without intervention to counteract past degradation and improve geomorphic stability, erosion processes will continue and extend the length, width, and depth of erosion along the drainages and in the wetlands.

Recognizing the need and benefit of restoring the site's degraded aquatic habitats, TWC began to explore funding avenues. In 2016, Caltrans approached TWC to gauge its interest in restoring riparian habitat on the EACP to fulfill the outstanding off-site mitigation requirements associated with a bridge replacement project on State Route 1 in Marin and Sonoma Counties. The restoration would satisfy

the remaining permanent and temporary wetland and riparian impacts to California Department of Fish and Wildlife, California Coastal Commission, and North Coast Regional Water Quality Control Board jurisdictional resources. TWC recognized this funding opportunity would not only support a primary EACP restoration goal, but would

The collaboration between non-profit, public, and private partnership helped move forward a significant part of the preserve's restoration and management goals which ultimately benefit the public.

also support a local public benefit infrastructure project. Given TWC's need for restoration planning, design, and permitting expertise, the Conservancy partnered with a local environmental consulting firm, WRA Inc., to assist them in leading the effort. The collaboration between non-profit, public, and private partnership helped move forward a significant part of the preserve's restoration and management goals which ultimately benefit the public.

The project is currently underway and includes seasonal wetland, willow riparian and stream restoration and enhancement of the degraded portions of on-site aquatic resources. Primary restoration efforts include rehabilitating a severely eroded stream gully, establishing approximately

two acres of willow riparian habitat, restoring degraded coastal wetlands, and improving wildlife habitat of the on-site pond. The restoration will also provide significant benefit to numerous special status species including California red-legged frog, western pond turtle, Myrtle's silverspot butterfly, and numerous listed fish species present in the Estero Americano estuary.

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# Overview on The Wildlands Conservancy's Sonoma Coast Preserves *continued*

## About The Wildlands Conservancy

Founded in 1995, The Wildlands Conservancy is dedicated to preserving the beauty and biodiversity of the earth and providing programs so that children may know the wonder and joy of nature.

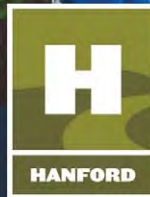
To achieve this mission, TWC works to acquire and steward landscapes while providing free outdoor recreation and education programs for the public. The Conservancy is currently comprised of 22 preserves encompassing 190,000 acres of diverse mountain, valley, desert, river, and oceanfront landscapes. These preserves are open to the public free of charge for passive recreation including camping, hiking, picnicking, birding, and more.

Successful restoration efforts across The Wildlands Conservancy's preserve system are only made possible with the help of dedicated volunteers. For more information about the Conservancy, and to get involved, please visit [wildlandsconservancy.org](http://wildlandsconservancy.org).



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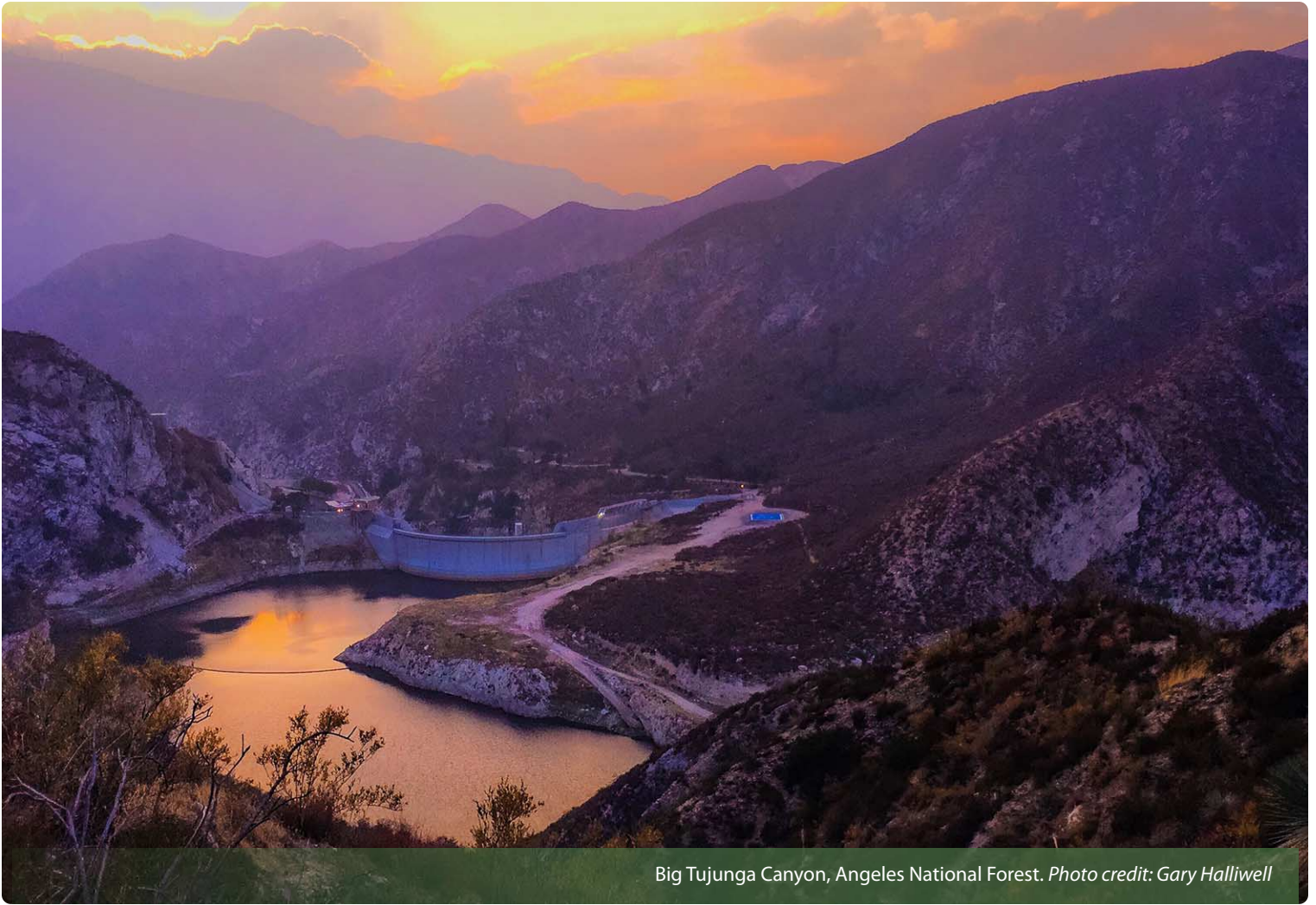
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Big Tujunga Canyon, Angeles National Forest. Photo credit: Gary Halliwell

# Partnership-Driven Post-Fire Restoration in the San Gabriel Mountains

by *Dania Gutierrez*<sup>1</sup>

In late August 2009, an arson-caused fire ignited in the Angeles National Forest for two months, just north of the City of Los Angeles. In a few days, the Station Fire grew to become the largest fire in L.A. County's history, burning more than 161,000 acres or 25 percent of the Angeles National Forest, affecting 35 local communities, and costing over \$95 million for the firefighting efforts alone.

## **Big Tujunga Canyon Watershed**

The Big Tujunga Canyon Watershed, spanning 97,000 acres or 14% of the forest, is a critical ecological, water supply, and sediment control tributary located at the heart of the Station Fire burn area. The Big Tujunga Watershed provides habitat for several important aquatic species, many of which are threatened or endangered, including Santa

Ana sucker, arroyo chub, Santa Ana speckled dace, arroyo toad, coastal rainbow trout, western pond turtle, as well as terrestrial species such as two-striped garter snake, least Bell's vireo, peregrine falcon, and southwestern willow flycatcher. The loss of this habitat and the subsequent recovery provides for an opportunity to achieve multiple goals for species and riparian habitat restoration within the forest and adjacent public lands.

Since the fire, the National Forest Foundation (NFF) and the U.S. Forest Service (Forest Service), and local community partners have been working diligently to improve conditions in the Angeles National Forest with a special focus on the Big Tujunga Canyon watershed. The NFF and its partners developed a comprehensive suite of restoration goals that focused on invasive weed removal, riparian areas, chaparral, ecologically sustainable recreation, and community engagement.

<sup>1</sup>Southern California Program Senior Manager, National Forest Foundation.  
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*Arundo donax* pre-treatment surveys in Big Tujunga Canyon in the Angeles National Forest (left) and its removal by Los Angeles Conservation Corps crew. Right: . Photo credit: National Forest Foundation

## Partnership-Driven Post-Fire Restoration in the San Gabriel Mountains *continued*

### Invasive Weed Removal

After the Station Fire, *Arundo donax*, or giant reed grass, rebounded across Big Tujunga Canyon and Little Tujunga Canyon. *Arundo donax* uses five times more water than native riparian vegetation, reduces native habitat, and creates a fire risk. In 2015, the NFF launched a 75-acre effort to remove and retreat the *Arundo* infestation across federal, city, and private lands. The NFF secured nearly \$2 million in multi-year support from the Los Angeles Department of Water and Power, the Coca-Cola Company, Miller-Coors, Anheuser Busch, the

Walt Disney Company, the California Wildlife Conservation Board, California Department of Water Resources, and Los Angeles County Flood Control. Critical implementation partners included Los Angeles Conservation Corps, California Botanic Gardens, Council for Watershed Health, and private contractors. As of Summer 2021, *Arundo* is nearly eradicated across the project area, with an average of 0.1% cover remaining. The NFF is committed to dedicating necessary resources to tackle regrowth and remaining *Arundo* over the coming years.

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Restoration out-planting led by California Botanic Garden within the Station Fire burn area in the Angeles National Forest. Photo credit: California Botanic Garden



# Meet the Contributing Author: **Dania Gutierrez**

**Occupation:** I am the Southern California Program Senior Manager at the National Forest Foundation. I oversee conservation, recreation, and outreach programming and projects across Southern California National Forests in partnership with the US Forest Service.

**County of residence or work:** We focus on Southern California region and currently have projects and programming in LA, San Bernardino, Orange, Riverside, and San Diego County.

**What is your specific discipline (or underlying education)?** I have an MS in Natural Resources and Environment, with a focus on environmental education and environmental policy, from the University of Michigan, and a BS in Wildlife Conservation from the University of Florida.

**What services do you provide for restoration in California, or what is your restoration passion?** The National Forest Foundation is the leading organization inspiring personal



and meaningful connections to our National Forests, the centerpiece of America's public lands. The NFF leads forest conservation efforts and promotes responsible recreation. The Southern California Program raises funds for and manages projects focused on post-fire restoration, forest and watershed health, and sustainable recreation.

**How did you get into the field of ecological restoration?** I was fortunate enough at a young age to get a lot of exposure to the outdoors via environmental education programming. With this foundation, I was determined to pursue a career in conservation.

**What is your favorite California native species?** California scrub jay.

**Any advice for others in the field of restoration?** Partnerships are key!

Effective restoration really does take a village. And a long-term funding strategy doesn't hurt either.

## Partnership-Driven Post-Fire Restoration in the San Gabriel Mountains *continued*

### Riparian Restoration and Youth Engagement

In 2014, the U.S. Fish and Wildlife Service documented existing barriers to migration for the federally threatened Santa Ana Sucker fish throughout its range. Of the nine barriers identified in Big Tujunga canyon, eight were temporary rock dams created by recreational users along the creek and adjacent to heavily used public sites. The NFF partnered with Pacoima Beautiful, a grassroots community group in the San Fernando Valley, to employ local Latinx youth to remove these rock dams and educate Forest visitors on the importance of responsible recreation. This effort became the Junior Field Rangers program, a yearly youth engagement program that provides opportunities for 30 youth from historically marginalized communities to learn about their local National Forests, engage in stewardship activities, and develop interpretive and public speaking skills, fostering the next generation of forest stewards. With support from Southern California Edison, Boeing, REI, Armrod Charitable Foundation, and the Alcoa Foundation, the NFF works with partners like Pacoima Beautiful to provide paid employment, as well as a California Naturalist certification to all participants at no cost to them.

### What's Next

To date, the NFF has raised more than \$5 million to help achieve the shared goals of the public and Forest Service regarding stewardship, restoration, management, as well as outreach to the community. Because the Angeles National Forest is Los Angeles' backyard forest, our work is ensuring that millions of L.A. residents have places to play. After the 2020 Bobcat Fire, the second largest wildfire in LA County, the NFF launched the Southern California Forest Fund crowd-source funding campaign to continue raising funds and awareness of the forest health and resilience needs of Southern California's National Forests. To learn more visit <https://www.nationalforests.org/regional-programs/california-program/southern-california-forest-fund>.

### About the National Forest Foundation

The National Forest Foundation is the leading organization inspiring personal and meaningful connections to our National Forests, the centerpiece of America's public lands. Working on behalf of the American public, the NFF leads forest conservation efforts and promotes responsible recreation. We believe these lands, and all they provide, are an American treasure and are vital to the health of our communities.





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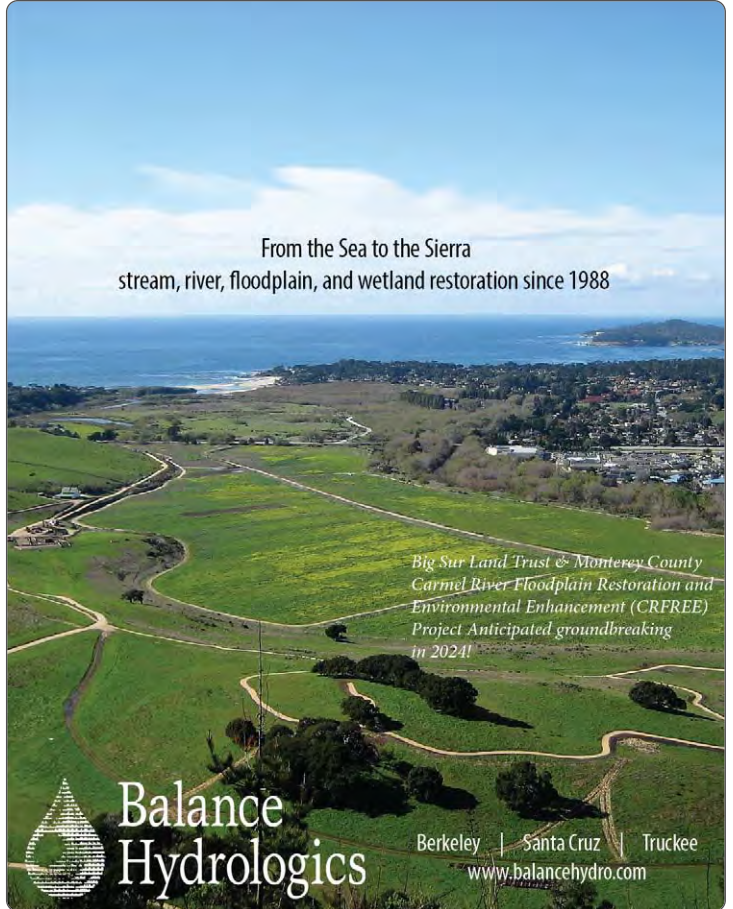



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Overview of the south end of Ocean Knoll Canyon looking west. Non-native palms can be seen mixed with willows and Torrey pines in the background, and intact Diegan coastal sage scrub in the foreground. *Photo credit: Ashley Grable, San Diego Botanic Garden*

# From Grass Roots to Native Roots — A Case Study in Urban Restoration and Community Partnership

*by Shirley Innecken<sup>1</sup> Photos courtesy of the author.*

The Cottonwood Creek Watershed Riparian Enhancement Project (Project) proposes to enhance and restore approximately 4.6 acres of riparian upland habitat at Ocean Knoll Canyon in the City of Encinitas, San Diego County. The project will have multiple benefits including restoring the natural riparian habitat conditions of the canyon, improving water quality, and improving the use of the restored area for educational opportunities. Enhancement activities will provide habitat for native plant and wildlife species (including special-status species), instill ecological resilience, decrease vulnerability to threats in the riparian vegetation and surrounding uplands, and facilitate future anticipated educational opportunities.

Project partners envision a future outdoor “eco lab” where students could engage in the fundamentals of ecological restoration while learning about the biodiversity around them.

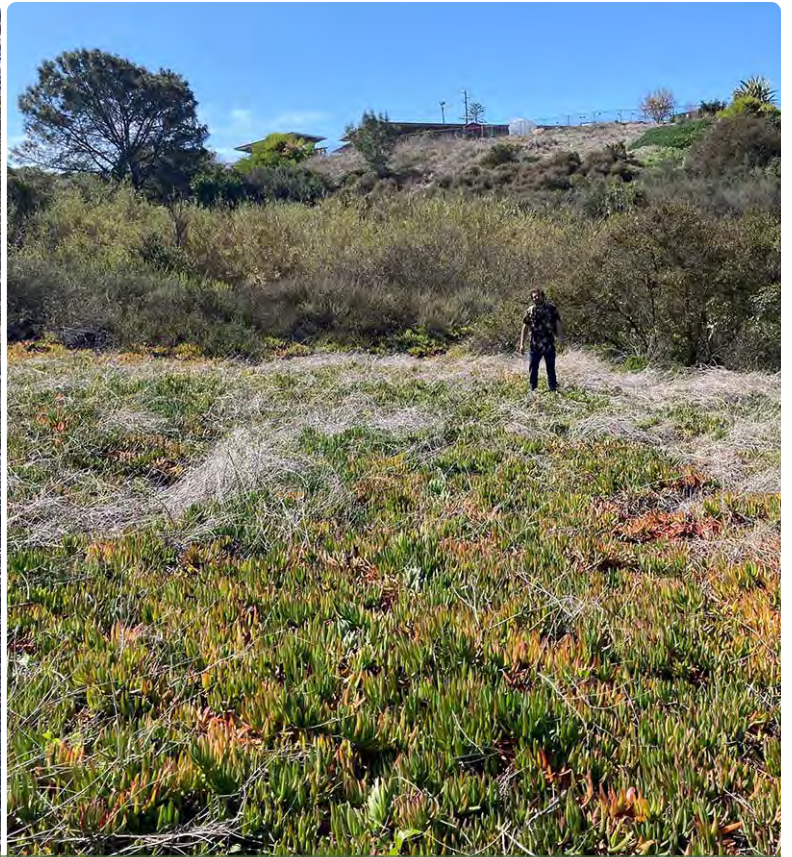
## Background

I was initially approached by the parents of the Ocean Knoll Garden Committee (OKGC) in the fall of 2018 to discuss the potential for restoration and education opportunities in the canyon adjacent to Ocean Knoll Elementary School. The OKGC had been discussing potential management of the canyon and associated habitats with Shea O’Keefe of the Natural Resource Conservation Service (NRCS), also an Ocean Knoll parent. Shea was working to secure funds to be offered as a match should additional participation and funding become available, and a non-profit partner be identified.

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Tony Gurnoe, Director of Conservation Horticulture at the San Diego Botanic Garden, in Ocean Knoll Canyon — with an individual Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*) and standing in a sea of freeway iceplant (*Carpobrotus edulis*). Photo credits: Tony Gurnoe

## From Grass Roots to Native Roots *continued*

It was clear that the Project was an opportunity to collaborate with multiple local, state and federal partners to implement a phased habitat restoration program that could ultimately serve as a learning space for students and citizen scientists. Inspired by the Encinitas Union School District (EUSD) Farm Lab — overseen by Julie Burton—the project partners envisioned a future outdoor “eco lab” where students could engage in the fundamentals of ecological restoration while learning about the biodiversity around them. I identified a potential funding resource through the State Coastal Conservancy’s Proposition 1 grant program and reached out to the San Diego Botanic Garden (SDBG), a local non-profit organization. SDBG enthusiastically agreed to lead as the non-profit conservation entity, bringing a wealth of unique botanical expertise and executive guidance to the project.

Enhancement activities will provide habitat for native plant and wildlife species (including special-status species), instill ecological resilience, decrease vulnerability to threats in the riparian vegetation and surrounding uplands, and facilitate future anticipated educational opportunities.

### Stakeholder Engagement

The State Coastal Conservancy, SDBG and SWCA coordinated with local Kumeyaay representatives to learn how the Kumeyaay would like to participate in and have representation through the Project. SDBG and EUSD led public stakeholder engagement to ensure the local community members were involved prior to implementation.

And SDBG and SWCA worked with NRCS to identify funding priorities that matched their scope of support. The OKGC — an important source of site knowledge — and was consulted throughout the proposal process.

Through stakeholder engagement it became clear that the community favored a manual, non-chemical approach to habitat enhancement and restoration in the canyon.

### Funding and Implementation

Funding for the project was secured through the State Coastal Conservancy

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## From Grass Roots to Native Roots *continued*

(SCC) in late 2021. The final Project scope identified the following objectives:

- \* Eradicate approximately 0.20 acres of pampas grass (*Cortaderia selloana*),
- \* Eradicate approximately 0.09 acres of giant reed (*Arundo donax*),
- \* Remove eucalyptus tree seedlings,
- \* Eradicate approximately four acres of ice plant (*Carpobrotus edulis*),
- \* Contain approximately 0.30 acres of panic veldt grass (*Ehrharta erecta*),
- \* Remove Brazilian pepper (*Schinus teribinthifolius*) trees,
- \* Remove western coastal wattle (*Acacia cyclops*) trees,
- \* Remove asparagus vine (*Asparagus asparagoides*),

- \* Contain approximately 0.20 acres of garden nasturtium (*Tropaeolum majus*)
- \* Deliver a preliminary framework for a Phase II community environmental education program.

With appropriate funding and support, EUSD and partners could create specific learning modules so that classes can conduct experiments over time to observe nature, formulate and test hypothesis related to relevant science questions, and utilize the natural areas to connect to reading, science and mathematics.

Project tasks include invasive species management, native plant seed collection, grow out and installation, cultural resources monitoring and archaeological surveys, biological resource monitoring, site maintenance, and project outreach.

### Adaptive Management

Habitat West, restoration contractors owned by Gigi Hurst, began invasive species removal efforts in January 2022. All biomass was removed manually and transported to a dumpster staged on school grounds. In lieu of herbicide use, “re-treatments” are conducted manually

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Habitat West crew removing giant reed (*Arundo donax*) in the Ocean Knoll Canyon drainage. Photo credit: Tony Gurnoe



Riparian zone cleared of giant reed with willow scrub in the background. Photo credit: Tony Gurnoe



# Meet the Contributing Member: Shirley Innecken

**Occupation:** I am a project manager and restoration ecologist working for SWCA Environmental Consultants.

**County/region of residence or work:** Southern California.

**How long have you been a part of the SERCAL community?** 20+ years

**What is the biggest benefit of your SERCAL membership?** SERCAL is the not only the primary source of current habitat restoration project information in California, they are also the heart and soul of our restoration community, and bring us all together annually through the conference. Through SERCAL I feel connected to a greater network of like-minded folks that I can form collaborative partnerships with, and whom I can continually learn from. Thus, SERCAL brings a sense of connectivity to the work I engage in, and supports a collection of resources so that we can all do the best work possible.

**What do you like best about the SERCAL conferences?** I love connecting with old and new friends/colleagues



and seeing what everyone is up to. I find case studies extremely helpful in informing how I approach my own projects

**What is your specific discipline (or underlying education)?** My education focused on botany, riparian ecology and land management in northern California.

**What services do you provide for restoration in California, or what is your restoration passion?** I am very excited about building resilient ecosystems along the coast and into respective watersheds

**How did you get into the field of ecological restoration?** I was mentored

early on by a professor at CSU, Chico who had a passion for riparian ecology, limnology and habitat restoration.

**What is your favorite California native species?** Oh boy, that's is tough! Maybe Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*).

**Any advice for others in the field of restoration?** Come to the SERCAL conference!

## From Grass Roots to Native Roots continued from page 27

through volunteer efforts. Integrated pest management will include frequent site visits to locate and manually remove regrowth, solarization, and possibly managed herbivory. The Project is a study in adapting to invasives removal without herbicide use.

### Special-Status Plants and Wildlife

The project site — which is composed primarily of coastal sage scrub and riparian vegetation — supports special-status plants and animals including Del Mar manzanita (*Arctostaphylos glandulosa* subsp. *crassifolia* [FE, CNPS RPR 1B.1]), Nuttall's scrub oak (*Quercus dumosa* [CNPS RPR 1B.1]), Encinitas baccharis (*Baccharis vanessae* [FT, CE, CNPS RPR 1B.1]), and coastal California gnatcatcher (*Poliophtila californica californica* [FT]).

### Vision of Phase II

Implementation of this project will result in significant benefits to both urban ecology and human-environment integrative education. Phase II of this Project will develop the eco-education framework developed in Phase I to finalize and launch education programs that

allow the Project sites to be integrated into curricular and other educational programs. The project partners intend to make the Ocean Knoll site available to all its students and teachers, spanning 9 elementary (K-6) school including the Title I schools in the district. EUSD may train teachers and invest in materials to create a 'living laboratory' in the canyon and surrounding areas. This laboratory could be leveraged by students in all grades, as appropriate to their curricular goals and Next Generation Science Standards, to learn through inquiry-based methods about ecosystems, plant and animal species, climate change, water quality, watersheds, river and ocean systems, human-environmental interface, indigenous land use, civics, and human well-being. With appropriate funding and support, EUSD and partners could create specific learning modules so that classes can conduct experiments over time to observe nature, formulate and test hypothesis related to relevant science questions, and utilize the natural areas to connect to reading, science and mathematics.







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# The Last Word: *Connections*

“Make new friends, but keep the old: one is silver and the other gold.” — *a Girl Scouts song, sung in rounds*  
“We teach best what we most need to learn.” — *Richard Bach from his novel Illusions*

The perks of being in California’s habitat restoration industry is the feeling of connection resulting from years of cross-pollination — you’re either colleagues from when you were both starting your careers at the same office, from “was it really five years ago?” when you collaborated on the same project, or perhaps from when you met two conferences ago and are now fast friends?

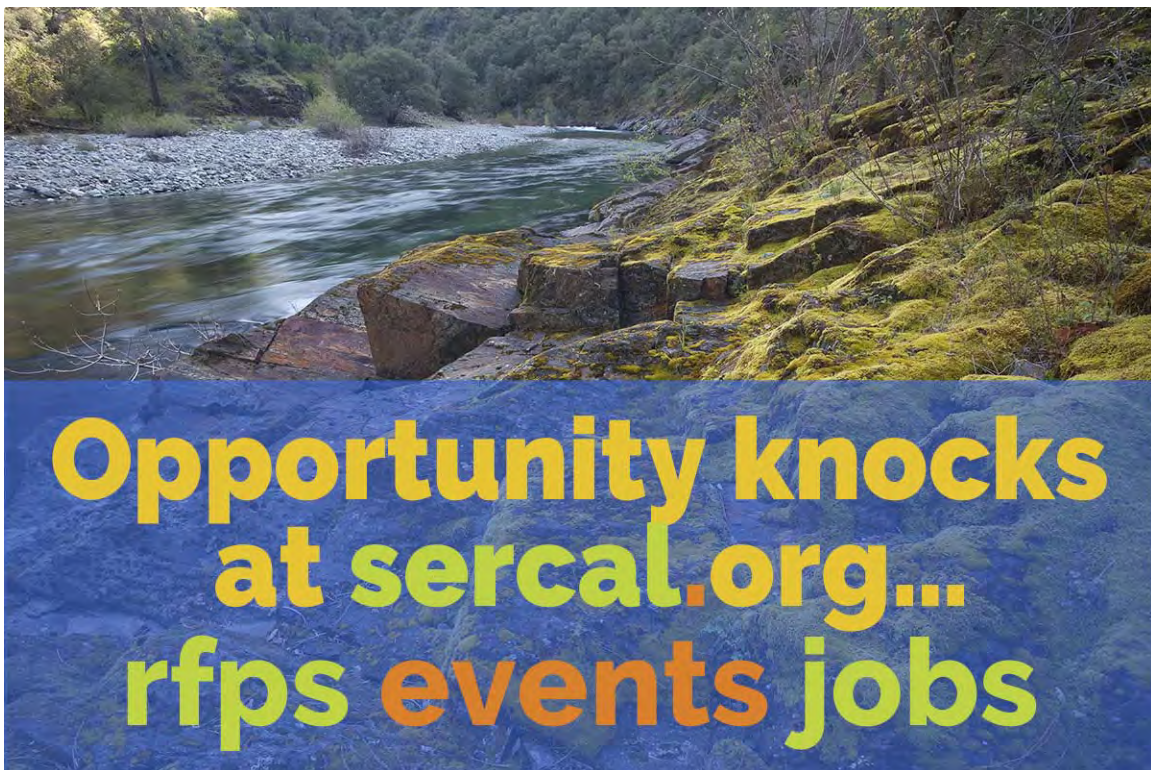
This camaraderie is why I call SERCAL conferences “Restoration’s Finest Annual Gathering.” And that’s what makes next month’s conference — our first in-person since 2019 — so darned exciting for those of us with a few conferences under our belt... but also perhaps a bit intimidating for first-timers. Do me a favor — make a point of making a connection with someone you don’t know *yet* — like the person sitting next to you in the session or standing beside you in the lunch line. We’ve got some great conversation prompts on the website — <https://sercal.org/mentorship-program-for-sercal-2022>.

Speaking of, later this month our Mentorship Program will be connecting mentors and mentees in preparation for our May

conference. I want to applaud both mentors and mentees for their initiative and to encourage YOU to sign up when you register. For this conference, we are matching in-person pairs and virtual pairs, but that’s not all:

- ✳ We will share the database of mentors and mentees with ALL participants so they can find one another through shared interests, disciplines, regions, etc.
- ✳ For in-person attendees, mentors and mentees will have special nametags identifying them as participants in the program — we hope this creates many more connections!
- ✳ During the in-person Career Panel on Wednesday, we plan to host a zoom meeting with breakout rooms for virtual mentors and mentees to connect .

Who knows how long your connections might remain vital and inform your path? When we elect to experience the world as reflected through another’s perspective, we ignite energy that builds upon itself — a potentiality that is *shimmering*. — *Julie*



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*Mentzelia micrantha*

## You are crucial to the resilience of California's native habitats

Just like our floral first responders, SERCAL members make California's ecological systems healthy and whole again. In the three decades since SERCAL was founded (let alone, the last two years) so much — almost everything — has changed. Yet one thing remains constant: *The exceptional power we have when we work together.* We are grateful for all our members and want to recognize these individuals and businesses for their generous support in 2022:

### Sustaining Individuals:

**Philip Brownsey** *Environmental Science Associates*

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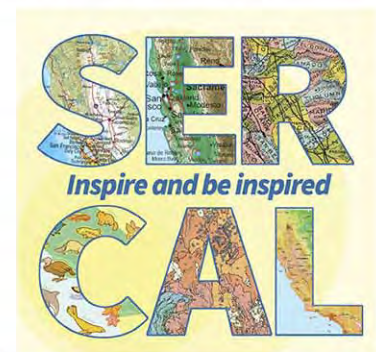
It's not too late to be an early bird and capture your registration discount!



Who Doesn't Love a SERCAL Conference? :-)

## SERCAL 2022: Think Big, Start Small, Restore Now — Planting Diversity in Our Communities

	Fiesta Room <i>Recorded / Livestream</i>	Merienda Room <i>Recorded</i>	Discovery Center <i>Recorded</i>
<b>Wed 11 May: Day 1 Hosted Breakfast &amp; Exhibitor / Poster Setup beginning at 7:30am</b>			
8:30-10:00	Welcome, Announcements, & Plenary Panel		
10:00-10:30	Hosted Coffee Break		
10:30-12:00	Restoring the Coastal Zone	Thinking Big about the Carmel River	Posters & Mentoring
12:00-1:30	Hosted Lunch		Career Panel (12:30-1:30)
1:30-3:00	Restoring the Coastal Zone	Thinking Big about the Carmel River	Posters & Mentoring
3:00-3:30	Hosted Coffee Break		
3:30-5:00	Restoring California's Grassland Ecosystems	Planning for Success	Posters & Mentoring
5:00-7:00	Poster Session & Reception		
<b>Thu 12 May: Day 2 Hosted Breakfast beginning at 7:45am</b>			
8:30-10:00	Restoring California's Grassland Ecosystems	Letting the River Flow	California Grown: Updating Nursery Practices
10:00-10:30	Hosted Coffee Break		
10:30-12:00	Planting Community	Letting the River Flow	California Grown: Updating Nursery Practices
12:00-1:30	Hosted Lunch with Awards and Raffle Drawing		
1:30-2:00	DRONE Photo (this is going to be awesome)		
2:00-3:30	Planting Community	Planning for Success	
3:30-4:00	Hosted Coffee Break		
4:00-5:00	Lightning Talks, Open Mic, & Closing Words		



Walking Tour:  
Carmel River

### Thank you, Session Chairs!

Eddie Divita, ESA: Restoring the Coastal Zone

Laura Moran & Lauren Huff, SWCA: Thinking Big about the Carmel River / Letting the River Flow

JP Marié, CNGA & UC Davis: Restoring California's Grassland Ecosystems

Joanna Tang, UCSB: Planning for Success

Wolfgang Schweigkofler, Dominican University of California: California Grown... Updating Nursery Practices

Bruce Delgado, BLM: Planting Community