

Conservation in Action

Spring 2026



*"Ultimately, we will always
choose Earth, we will
always choose each other."*

— Christina Koch, NASA
astronaut, Artemis II

NASA

**Issue
74**

The power of connection
Partnerships are creating
access to land, new experiences,
and a sense of belonging

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and most active prescribed burn
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Shorebird populations show modest
increase while waterbirds see
continued decline

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Considering “home” from every angle

The spectacular images of Earth and Moon from the Artemis II mission had me thinking of all the ways our own mission revolves around the healing promise of home. Tracking the ranges of mountain lions, watching for the return of wintering waterbirds and shorebirds, using good fire to help native plants and animals thrive – each are examples of our work to safeguard and bolster what home means for all living things.

While the work is grounded in science and sweat, curiosity, and critical thinking, it is also deeply joyful. Just ask the California Naturalist trainee who came across the grasshopper at right!

A recent partnership with Community Land Trust Association of West Marin (CLAM) allowed us to consider home from another angle. Could we both steward the 1,000-acre Martin Griffin Preserve in ways that build resiliency within a critical coastal watershed and help mitigate the affordable housing crisis among our neighbors? Under a novel agreement with CLAM, an under-utilized house on the preserve will become an affordable home for a ranching family recently displaced. We believe that caring for people is inseparable from caring for the planet, and we are grateful for CLAM’s forward-thinking collaboration on this topic.

Ultimately, home is not just where we land, but where we learn to be in relationship with our surroundings, with wild neighbors, and with each other.

See you in the neighborhood,



Tom Gardali, CEO

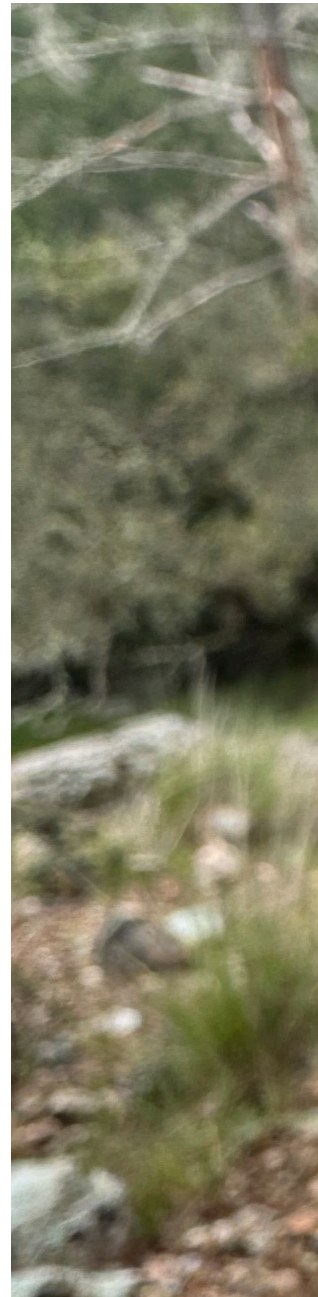
Let’s get outside!

Join us this summer and fall for family-friendly hikes, walks, and talks.

allhandsecology.org →



Photo: Andrea Salazar





A grasshopper casts a gaze toward a California Naturalist, Mount Tamalpais State Park. Photo: Vini Souza

A Partner's Reflection

“It’s the power of connection”

by Anne C. Mitchell, communications specialist and Juan Avila-Perez, programs manager, Circuit Rider Community Services



Photographer Daniel Dietrich, left, guides a youth on a wildlife photography workshop while Andrea Salazar, above right, welcomes Raíces a Cumbre families to Bouverie Preserve, Glen Ellen. Photos: Andrea Salazar, Circuit Rider Community Services

Andrea Salazar, bilingual environmental education specialist, is a bridge. Together with the education team, she works across communities and generations, listening to what the community needs and creating programs at the preserves we steward.

Since 2025, Salazar has been forging a partnership with Circuit Rider Community Services, addressing the needs of Sonoma County youth impacted by the justice system, at-risk teens, and families.

Salazar has worked closely with Juan Avila-Perez, Circuit Rider program manager, on outings at Bouverie Preserve for Vista Academy, a program for youth who are under the authority of the juvenile justice system, and Raíces a Cumbre, a program that connects Latinx families with the outdoors.

Our thanks to Avila-Perez, who shared this beautiful reflection.

“The partnership with All Hands Ecology has been deeply meaningful for our youth and families because it creates access – to land, to new experiences, and to a sense of belonging.

Youth are given the opportunity to step outside of their daily environments and engage in spaces that invite reflection, curiosity, and growth.

Being in a space that feels protected and somewhat removed from the broader public allows our youth to let their guard down. In the context of the current social and political climate, that sense of safety is critical. It gives them room to relax, be themselves, and truly connect with the land and with one another. For many of our Vista Academy youth, these experiences become rare moments of calm and genuine connection.

For many of the young people we serve, daily life is shaped by stress, system involvement, and limited access



“Being in a space that feels protected and somewhat removed from the broader public allows our youth to let their guard down.”

– Juan Avila-Perez, Circuit Rider Community Services

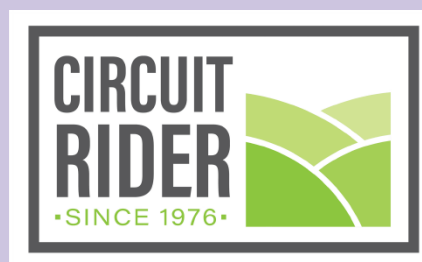
Young men from the Vista Academy take in creekside views while participating in a nature photography workshop at Bouverie Preserve. Photo by Andrea Salazar.

to safe, open spaces. When they step onto the land, there is a noticeable shift. We see increased openness, improved mood, and a greater willingness to connect with peers and mentors. These experiences support emotional regulation and reflection – critical to our work.

For Raíces a Cumbre families, the partnership creates shared experiences for families, strengthening relationships and building positive memories together. The welcoming and culturally responsive approach from the All Hands Ecology team helps families feel seen, comfortable, and included. Ultimately, it’s more than educational experiences. The sense of belonging is what makes the learning meaningful and lasting.

This partnership has helped make the outdoors feel accessible, safe, and meaningful. It’s not just about visiting a place, it’s about creating lasting connections that support healing, identity, and a deeper sense of belonging. It feels

like the beginning of something lasting, rooted not only in shared goals, but in a shared belief in the power of connection – to the land, and to each other.



About Circuit Rider Community Services

Founded in Sonoma County in 1976, Circuit Rider Community Services empowers individuals from all backgrounds to improve their own lives, the lives of others, and the environment they share.

Learn more at circuitridercs.org →

Good Fire Alliance: From wildfire recovery to community resilience

by Erika Lutz, prescribed fire information coordinator

In 2017, field biologist and environmental planner Anne Crealock had been thinking a lot about fire. Crealock lives in Bennett Valley, an area of Santa Rosa affected by the 2017 Tubbs Fire and flagged by CAL FIRE for severe wildfire risk over the next 30 years. At work, she and her team grappled with developing a climate adaptation plan for Sonoma County Water Agency.

“The climate is changing and increasing the frequency of high severity wildfire. I asked myself how to steward landscapes from a water standpoint, and I kept coming back to fire. We were just so deficient in trained people to help with this monumental task back then,” recalls Crealock.

Crealock heard about a coalition of organizations, including All Hands Ecology, UC Agriculture and Natural Resources, and Sonoma County Resource Conservation District, forming a community-based prescribed burn association (PBA) with the purpose of training volunteers and others employed in land stewardship to safely use good fire. “I was floored that I could get trained in prescribed burning, too.”

Mitigating the next firestorm and supporting neighborhoods already hard hit

Crealock joined Sonoma County’s PBA, the Good Fire Alliance, and attended a basic firefighter course in 2019. Since then, she has become certified in a range of

skills and regularly participates in prescribed burns across North Bay landscapes in recovery after high-severity

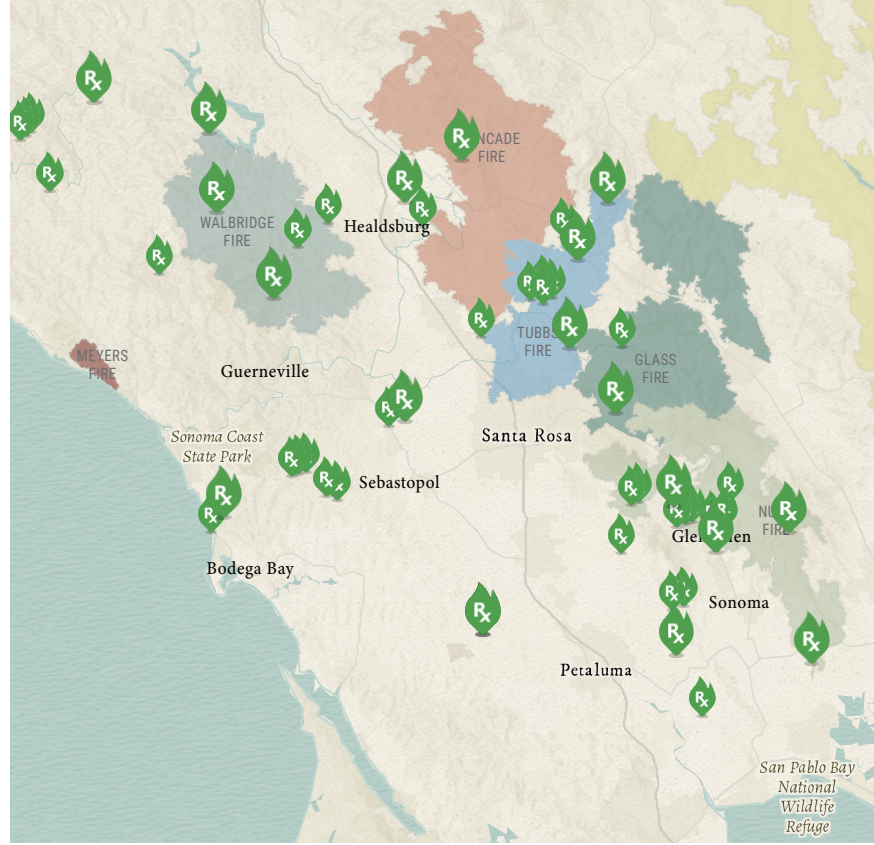


Left: Good Fire Alliance member Anne Crealock pauses during a prescribed burn at Monan’s Rill, a community affected by the 2020 Glass fire. Below: a group of fire practioners, including GFA members, gather at the conclusion of a prescribed burn in the Mill Creek area of Healdsburg. Photos by Erika Lutz.



Sonoma County's major wildfires between 2017–2020 are shown in the shaded areas; pins show locations of more than three dozen community-based broadcast burns conducted in 2024 and 2025.

Map: Wendy Coy. Data sources: City of Santa Rosa, California State Parks, CAL FIRE, CA Community-Based Beneficial-Fire Dashboard. Pin by Watch Duty.



wildfire and at-risk parcels that haven't benefitted from fire for more than a century.

"I've seen the GFA bring people together with very different backgrounds – I've met everyone from stay-at-home moms to scientists to ranchers during prescribed burns," she says.

Mutual aid leads to super-sized stewardship

In 2021, as the Good Fire Alliance was gaining members and momentum, California set state-wide goals to expand the use of prescribed fire to 50,000 acres each year. "After a series of conflagration fires it was clear we needed to work together and put more focus on proactive pre-fire work," recalls Ben Nicholls, former CAL FIRE LNU Division Chief.

Today, the GFA has grown to over 1,000 members – community volunteers, landowners, and staff from dozens of agencies and organizations – more than 800 of whom are fireline trained, including 17 certified California prescribed fire burn bosses.

This increase in people power, supported by a cache of shared tools, packs, drip torches, and other resources, has enabled local organizations and agencies to partner with GFA members on hundreds of prescribed burns.

"The partnership between all of the prescribed fire practitioners in Sonoma County has been recognized as a successful model to implement good fire at the scale and pace needed to re-establish healthy and wildfire resilient landscapes," says Nicholls, who now heads Fire Safe Sonoma.

For Crealock, prescribed fire continues to inform her work, now as the planning and program manager at the Marin Wildfire Prevention Authority.

Get involved: Join the GFA email listserve to learn about upcoming trainings at calpba.org/good-fire-alliance →



State of the birds on Tomales Bay

by Scott Jennings, quantitative ecologist

All Hands Ecology has counted birds on Tomales Bay every winter since 1989. These counts help us understand the health of the bay – recognized as an important nutrient rich wetland for birds migrating from arctic and boreal breeding grounds. In two published papers from 2021 and 2024, we noted striking declines in shorebirds and mixed trends – increases and decreases – in waterbirds. We've recently updated our trend estimates with new data.

What the numbers say

Shorebird numbers have increased since 2021, but they still aren't as high as 30 years ago. Four of the most numerous shorebird species we count are part of the group of small species affectionately called "peeps." Recently, their numbers have either increased or their negative trends have leveled off.

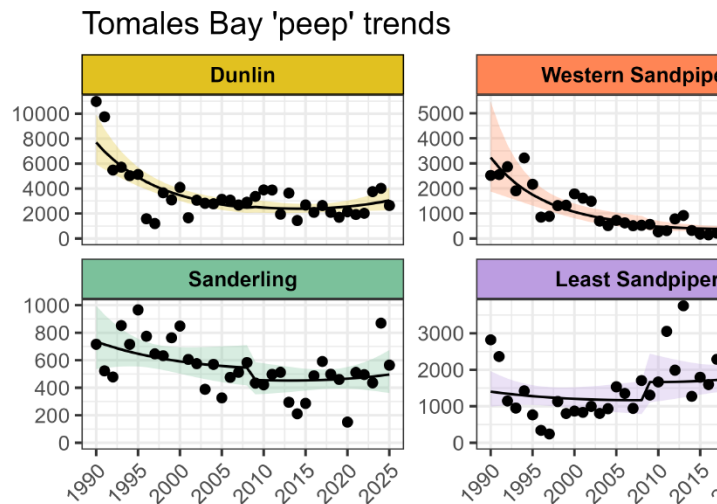
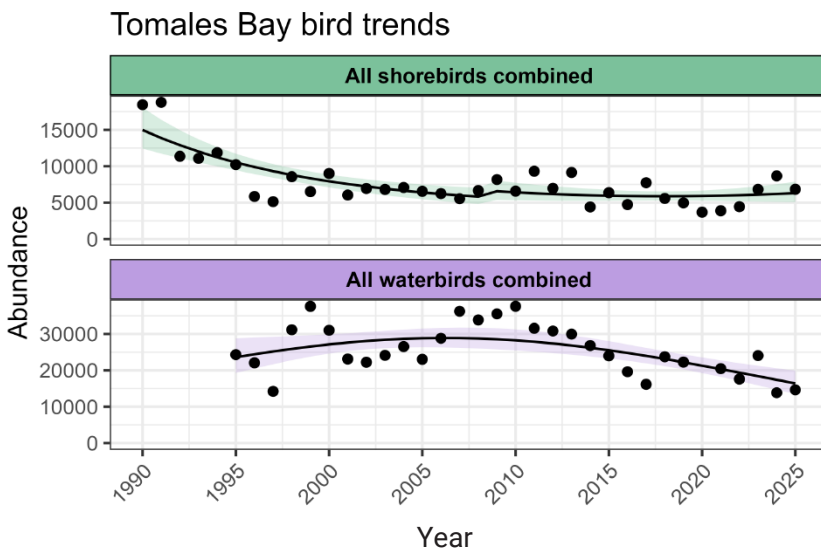
Unfortunately, waterbirds have continued the decline that was just appearing in our 2024 analysis. Several waterbird species were stable or increasing until 2005–2010 but have

been declining steadily since then to the lowest numbers we've ever counted.

Searching for the reasons

Migratory bird declines are likely due to habitat loss and degradation all along their migratory pathways. On Tomales Bay, bird numbers increased following the Giacomini Wetland restoration and pulses of important food sources like herring. But human use of the bay can counteract these positive impacts. Converting intertidal wetlands for shellfish aquaculture can reduce foraging opportunities (as we found for Great Egrets), and human recreation can disrupt important resting periods for these long-distance travelers.

Conservation is a collaboration between people and place, and we believe it is important to research these impacts so that we can guide policies to establish the right balance of human use and habitat protection to sustain local food producing economies, the cultural values of outdoor recreation, and wildlife populations.





Over the last five years we have taken a closer look at the movements of Dunlin, a small species of shorebird. With small radio tags and automated receiving stations that are part of the Motus network, we have been following these birds' journeys around California during winter and up and down the Pacific Flyway during their migrations. We're collaborating with Point Blue Conservation Science and

The Nature Conservancy to publish the results of this analysis now. We're also looking to study recreation and other human uses of the bay.

The counts continue

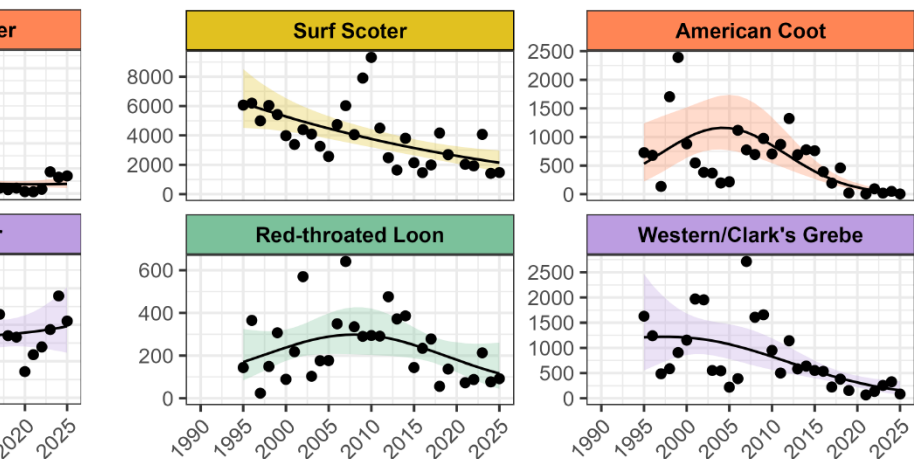
We will continue counting waterbirds and shorebirds on Tomales Bay, bearing witness to the changes to this unique ecosystem and collecting data to guide its protection.



READING THE GRAPHS: Points show the count data, the line is the estimated trend in the raw data, and the colored area represents confidence in that estimated trend. Graphs: Scott Jennings

Above: Waterbird counts are done four times per winter via boat sweeps of the bay, where skilled birders identify and tally every bird. Photo by Jim Jensen.

Tomales Bay select waterbirds trends



Career Milestones

Our thanks to Nils Warnock, director of conservation science

It's with heartfelt appreciation that we wish Nils Warnock farewell, as he prepares to retire on June 30, 2026.

A career of service to science and conservation

Over the past 40 years, Nils's career as a conservation scientist and shorebird ecologist has been dedicated to studying migratory birds, wetlands, and coastal ecosystems across the Pacific Flyway, from New Zealand to Alaska. He has been recognized for building partnerships that connect data-driven science to real-world conservation decisions.

As a leader, Nils was co-director of the Wetlands Division at Point Blue Conservation Science and served as the executive director of Audubon Alaska. For the past eight years, we have been fortunate to have Nils's thoughtful expertise as the

director of conservation science and as our interim executive director for eight months.

A prolific author with real impact

Nils has a doctorate in ecology and is a fellow of the American Ornithological Society. He has contributed to more than 150 peer-reviewed publications, book chapters, technical reports, and atlases. The collaborative nature of his research and writing has contributed to the scientific foundation of understanding migratory bird populations along the Pacific Flyway.

The impact of Nils's field-based research has actionable, on-the-ground conservation implications, informing the protection, management, and restoration of key habitats and landscapes that migratory birds rely on.

Leadership at All Hands Ecology

Under Nils's guidance, the All Hands Ecology science team has produced research with global as well as local significance. A selection of notable highlights includes multi-partner research on the movements of shorebirds, documentation of waterbird and shorebird trends on

Nils Warnock, right, leads a talk about Tomales Bay shorebird populations from the edge of Cypress Grove Preserve, 2024. Photo by Sarah Warnock.





Photo: Nils Warnock

Tomales Bay, measurement of the effectiveness of the Giacomini Wetland Restoration Project on waterbird populations, and important perspectives on the impact of mariculture on waterbirds on Tomales Bay.

Reminiscing about Nils

Heartfelt anecdotes from Nils's colleagues abound. From knowing where every Allen's hummingbird has attempted to nest at Cypress Grove Preserve, to alerting staff when newts are crossing the road, to making sure the well-being of staff was paramount during winter storms, Nils's generous presence will be missed.

What's next?

In his retirement, Nils will continue to pursue his passion for conservation. He'll be writing, including updating the status and trends of North American shorebirds. His enjoyment for photographing birds and butterflies will continue, along with his love for spending time in Alaska.



A Western Sandpiper is released after being fitted with a lightweight Motus radio transmitter. Photo by Sarah Warnock.

Tom Gardali, CEO, will serve as interim director of conservation science while the organization considers the qualities and qualifications needed in the next leader.

Publication highlights 2021–2026

Journal of Avian Biology 2026 | Three decades of western sandpiper stopover dynamics during northward migration on the Pacific Coast of North America, 1992–2022

Molecular Ecology 2024 | High dispersal ability versus migratory traditions: Fine-scale population structure and post-glacial colonisation in bar-tailed godwits

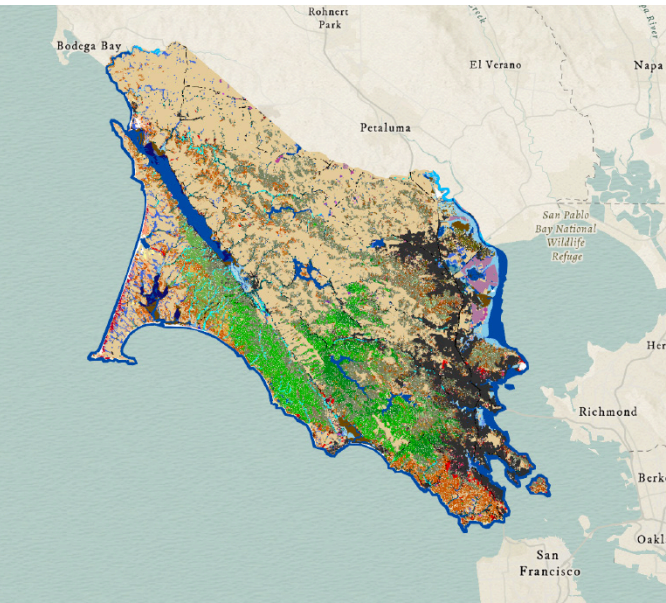
San Francisco Estuary and Watershed Science 2024 | Do ocean productivity and freshwater inflow affect decadal trends of wintering waterbirds at a California estuary?

Ornithological Applications 2021 | Declining wintering shorebird populations at a temperate estuary in California: A 30-year perspective



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Above: Broad swaths of taupe represent narrowly defined grasslands in this fine scale vegetation map of Marin County.
Explore the map: <https://bit.ly/4svPiRX>

Take another look

Effort underway to map in finer detail the plants that make up Marin grasslands

From above, Marin County looks like a mosaic – open spaces adjacent to pockets of human development, the rocky coast and deep bays forming edges and inlets. To make informed decisions about stewarding the region, planners rely on a valuable tool: the Marin Fine Scale Vegetation Web Map. This interactive map shows an aerial view of more than 80 distinct plant communities across Marin County. Though spectacularly specific, there are glaring data gaps in one of the state’s most endangered ecosystems: grasslands.

We are working with regional partners on a pilot project to fill in these gaps, laying the groundwork for grassland stewardship in Marin – and throughout the state – for years to come.

Online: A bold step for Marin’s grasslands →

Benefit of membership

Conservation in Action, published twice yearly as a benefit to our members, supporters, and volunteers – features our latest stories through captivating imagery, personal reflection, and the science that informs our mission. **Not yet a member? Join here →** allhandsecology.org/membership



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