

Conservation in Action

Spring 2023



California brome, photo: Sarah Warnock

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Why studying the movements of our wild neighbors matters

I am not surprised that my scientist's heart has been captivated by the recent wanderings of a young male mountain lion (P39) through Marin and Sonoma counties in search of a hospitable territory. It's because he has passed by my house several times on his way to and from Point Reyes National Seashore. It's because I know too well the dangers ahead for him. And it's because I know the critical importance of understanding animal movements for their conservation.

Mountain lions are excellent indicators of whether there is sufficient natural connectivity for wildlife in an area. The movement data of our local lions are collected by our partner True Wild and are combined with other studies to form a current understanding of the health of California's mountain lion population.

At the coast, we are tagging and following the movements of Dunlin, Western Sandpipers, and Short-billed Dowitchers, whose populations are declining. By partnering with Canadian Wildlife Service, Point Blue Conservation Science, The Nature Conservancy, and Audubon California we hope to learn more about where they go and the challenges they face along the way.

Simply tracking and reporting is not enough, though.

While the heroic journeys animals make stir our hearts and pique our curiosities, we must use the knowledge to catalyze action. We must, for example, support policies and initiatives to build wildlife crossings on roads, steward public and private lands to ensure sufficient food and cover, and support organizations dedicated to wildlife study and conservation.



Tom Gardali, CEO

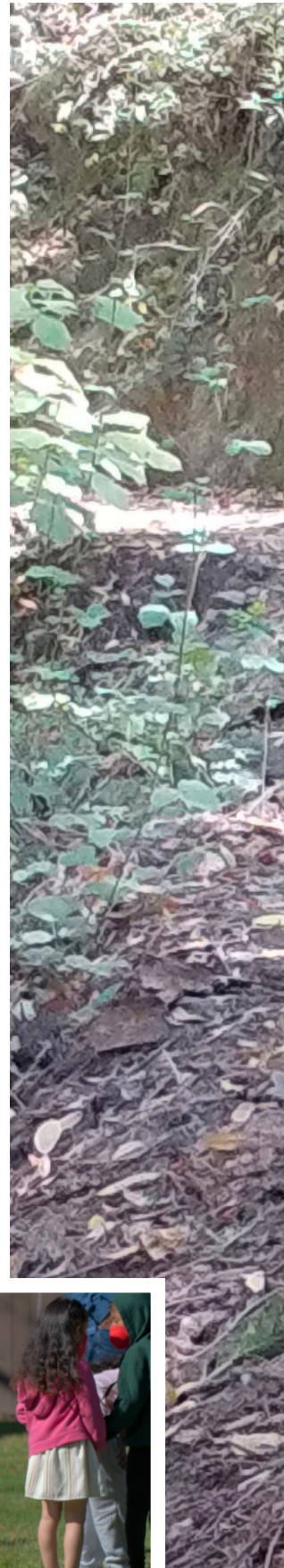
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Photo: David Lumpkin

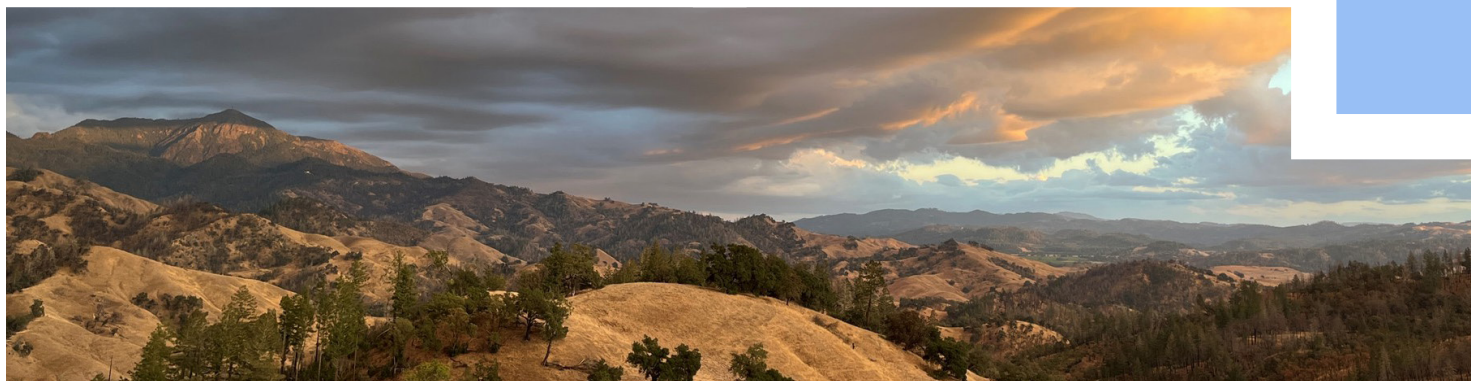




A trail camera in Sonoma County helps to estimate wildlife abundance and identify key corridors for wide-ranging mammals like mountain lions.

The solitary trek of one young mountain lion in search of a place to call his own

by Quinton Martins, True Wild, principal investigator for the Living with Lions project



Top left: P36 was collared in March 2022 near Santa Rosa; top right: creeks and riverine areas offer important corridors for mountain lions; P36's journey from his natal home took him east of Mount St. Helena, shown above left, then west again. Photos: Quinton Martins, Wendy Coy, Michelle Cooper

P36, a young male mountain lion, became the first collared lion to venture into Marin County late last year. A recent foray took him east over Highway 101 into Tiburon, where he was spotted on backyard cameras and caused local media buzz.

P36 was collared by our Living with Lions team in March 2022, in Taylor Mountain Regional Park with the support of Sonoma County Regional Parks.

Harrowing journey across private and public lands, rivers, and highways

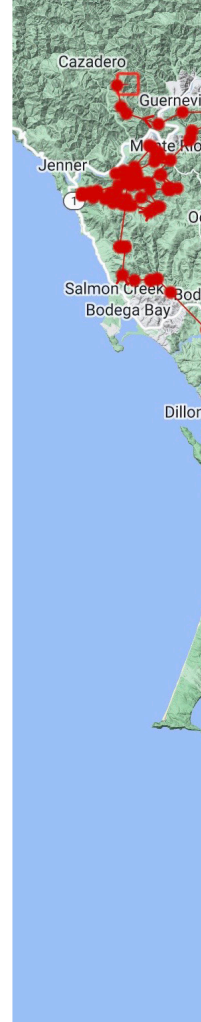
Young mountain lions, particularly males, are forced to leave their natal range somewhere between 12–18 months old. These dispersal individuals will move around for some time,

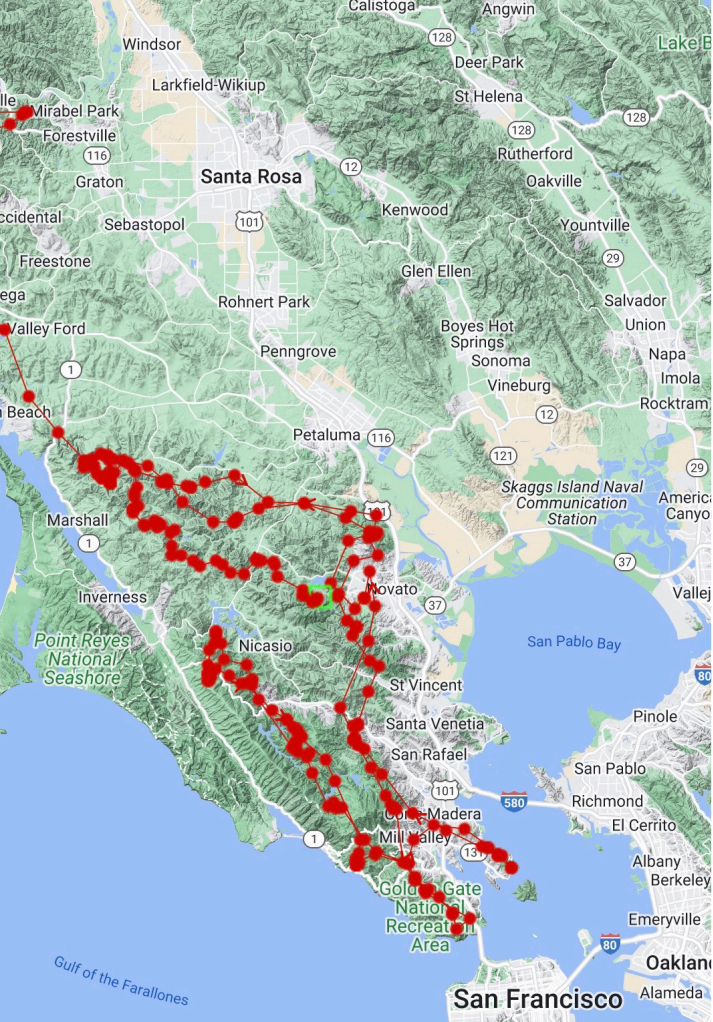
and may use sub-optimal habitat, trying to avoid conflict with older, territorial adult lions until they are mature and strong enough to challenge for a territory of their own.

P36 was no different. Setting out within days of being collared, he headed northeast into Lake County then west again, spending months in the hills of Windsor and Healdsburg and making at least eight risky crossings at Highways 128 and 101.

By November 2022, he was on the move again, this time southwest, across the Russian River, along the east shore of Bodega Bay, and through hundreds of private ranches and public lands in Marin County, including Point Reyes National Seashore and Muir Woods National Monument.

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Movements of mountain lion P36 during a 3-month period. Map by Quinton Martins

North Bay is the “end of the road” for southbound mountain lions

The North Bay is a particularly interesting area to study mountain lions as it is effectively the “end of the road” for dispersal cats moving south from northern populations. Mountain lions are unlikely to cross into the South Bay from Marin, Sonoma, and most of Napa.

By early May, P36 turned north again, skirting urban areas along the 101 corridor on his return to western Sonoma County, where he must steer clear of P31, the territorial male in the area.

While this young male’s search for home is not over, P36’s wide-ranging movements recorded over the past 14 months have provided us with some excellent data to analyze and new insights into the importance of connected habitat for North Bay mountain lions.

Humans found to be leading cause of death for California mountain lions

Despite California mountain lions being protected from hunting since 1990, a recent study found conflict with humans over livestock and collisions with vehicles to be more common than natural death.

The study looked at data from nearly 600 collared lions in 23 areas of the state including lions tracked by our program in Sonoma County, where deaths were attributed to depredation (7), health (6), car strikes (3), infanticide (3), and abandoned den (2).

While car strikes might not always be avoidable, predator-proof nighttime enclosures for pets and farms animals, like the solutions offered by Sonoma County Wildlife Rescue, are a good way to avoid conflict with our wild neighbors.

Read the article abstract at egret.org/publications →



Is California's Central Valley attractive to coastal dwellers as well?

by Scott Jennings, avian ecologist

Each year, hundreds of thousands of birds travel north and south following the seasons to find the resources they need to live their lives. Knowing where animals move is critical for protecting the habitats they rely on. Recent and ongoing studies by Audubon Canyon Ranch's conservation science team have shown that despite drought and widespread development in California's Central Valley, the remaining wetland habitat there continues to attract hungry birds as they move around the state and along the Pacific Americas Flyway.

Do Coastal California Great Egrets migrate?

In coastal California, Great Egrets are present year round and they aren't faced with winters that freeze foraging grounds and force migration, as happens elsewhere. But we still wondered if the same individual birds stayed here year round.

We found that about half of the Great Egrets we GPS-tagged on Tomales Bay depend on habitats

beyond the Bay Area where we monitor breeding.

Most migrant egrets in our study wintered in the Central Valley, and they spent a lot of their foraging time along irrigation canals and waterways near commercial and residential development and farmland.

California's Central Valley remains important habitat for shorebirds

For coastal wintering shorebirds like Dunlin, the high winds and runoff from winter storms can create difficult conditions. We know these conditions will cause Dunlin to move to the interior of California, especially to the Central Valley. But as drought and development change habitats in the Central Valley we wanted to collect more-detailed data on these movements to guide conservation efforts.

This winter, at least 7 of 30 Dunlin radio-tagged at Tomales Bay moved to wetlands and agricultural areas in the Central Valley when winter storms limited their ability to forage in coastal mudflats —

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At left: winter movements of a Great Egret recorded among the waterways and farmlands of Central California. Below: Dunlin in flight. Photo: Nils Warnock



The migrations of several Dunlin in recent weeks traveling to Alaska to their breeding habitats. Some of these coastal birds spent time in the Central Valley before heading north. Map by David Lumpkin.

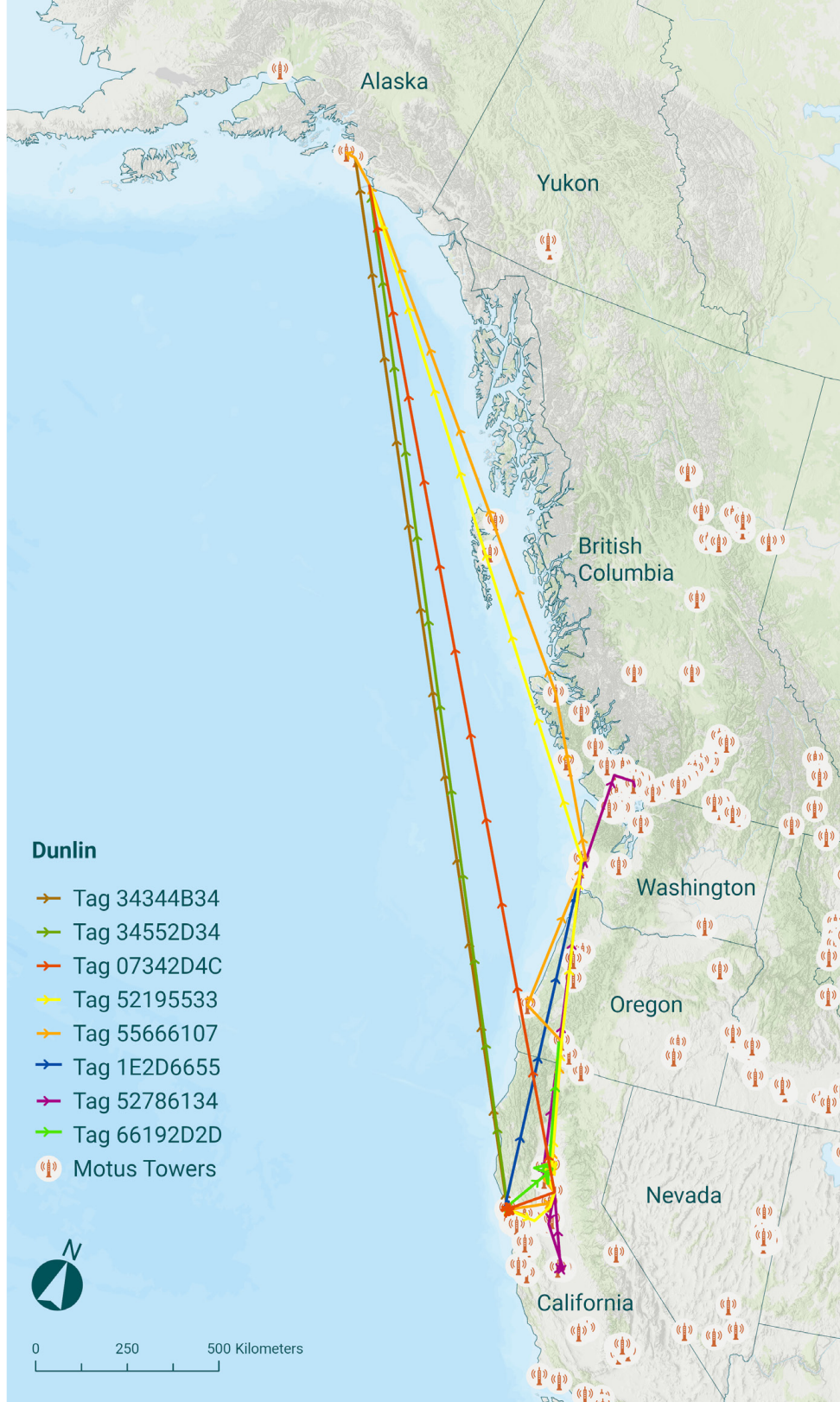
Data sources: Airbus, USGS, NGA, NASA, CGIAR, NCEAS, NLS, OS, NMA, Geodatastre and the GIS User Community, Esri, HERE, Garmin, FAO, NOAA, EPA

and also proved important for some of the birds during their migration north.

Together with our partners in this study, Point Blue Conservation Science, The Nature Conservancy, and Audubon California, we are looking at how changing water conditions in the Central Valley, both in drought and flood years, impact the population dynamics of these small Arctic breeding shorebirds whose populations are declining in California.

Birds show us habitat connections

There is extensive protected land in Marin County where these egrets and shorebirds were tagged. But our studies show these areas do not meet all the needs of these highly mobile birds. We're learning that connectivity between quality habitats along the coast and in the Central Valley, even amongst a human-altered landscape, is critical to supporting populations of these birds.



Caring for culturally and ecologically important coastal habitats

by Wendy Coy, director of communications

Audubon Canyon Ranch holds in its care more than 1,300 acres of Coast Miwok lands in western Marin County. Recently we received \$200,000 from the Federated Indians of Graton Rancheria (FIGR) for the purpose of improving coastal habitats along Tomales Bay and the Bolinas Lagoon.

The three-year grant will allow us to implement a mixture of stewardship techniques, including the use of prescribed fire and conservation grazing, on several coastal properties. This is the third grant received from FIGR to support the stewardship of Audubon Canyon Ranch preserves in Sonoma and Marin counties.

Halting coastal prairie loss, improving wetland function, and restoring fire as an ecosystem process

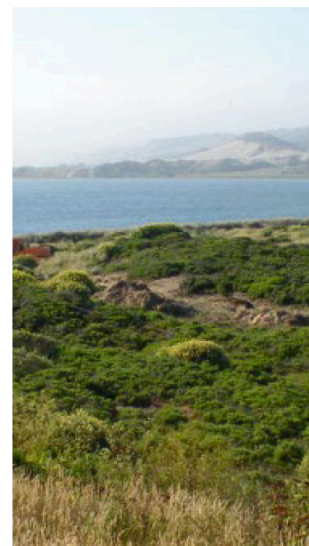
Five sites distributed across the length of Tomales Bay — Toms Point, Walker Creek Delta, Cypress Grove,

Shields Marsh, and Olema Marsh — were chosen based on shared stewardship objectives including to promote and protect plants of cultural interest including lupine, bog dogwood, salmonberry, and cattail.

The projects will benefit native plants, birds, salmonids, and other species

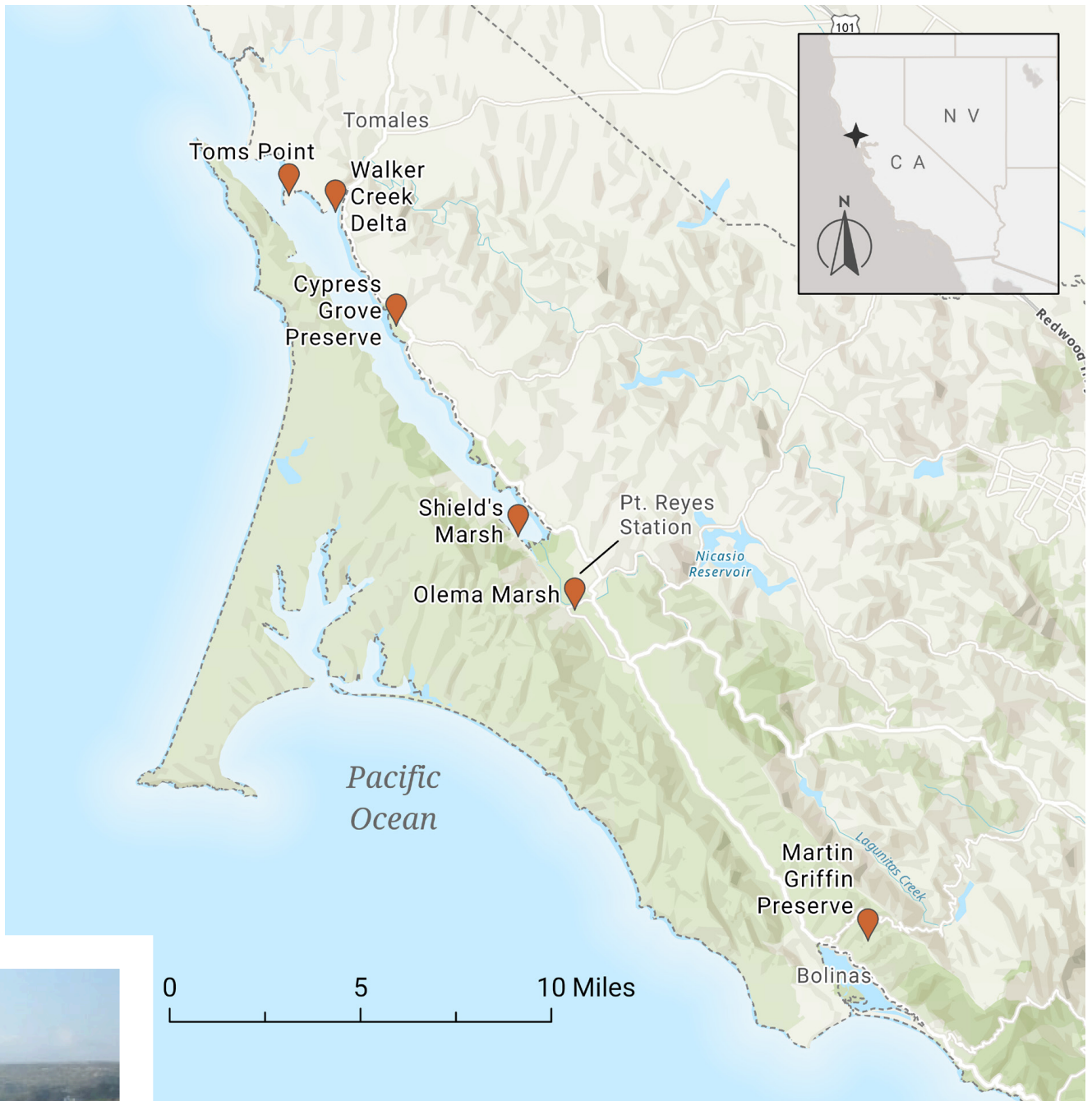
“Audubon Canyon Ranch has the privilege and responsibility of holding land within the ancestral territory of the Federated Indians of Graton Rancheria. We are grateful for their generosity in sharing time, expertise, and guidance as well as this additional round of funding to improve the health of some of California’s most diverse coastal habitats,” said Tom Gardali, CEO of Audubon Canyon Ranch. “Not only will this work contribute to regional resilience, it also contributes to California’s Pathway to 30 x 30 initiative which seeks to protect and restore biodiversity and mitigate and build resilience to climate change.”

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Left: California brome, photo: Sarah Warnock. Center: Song sparrow with California wild rose, photo: Nils Warnock. Right: Coastal scrub habitat at Toms Point, photo: Dan Gluesenkamp.

Map by T.E. Condeso. Data sources: ESRI, HERE, Garmin, USGS, EPA, FAO, NOAA, TomTom, U.S. Department of Commerce, U.S. Census Bureau, © OpenStreetMap contributors, County of Marin, and the GIS User Community.



Prescribed fire activities at Toms Point and Martin Griffin Preserve, which have been in the planning stages for months, may be implemented as early as this fall.

“We are so proud and happy to be able to support Audubon Canyon Ranch and all the good work they do to help build and maintain a sustainable future,” said Greg Sarris, chairman of Federated Indians of Graton Rancheria.

Mission alignment

Investing in people and the planet

by Katie Rogers, communications specialist

Where does your money sleep at night?

It's a question anyone who cares about the environment will want to ask themselves. It's a question we're asking at Audubon Canyon Ranch.

Money held or invested at most major U.S. banks is often used to finance fossil fuels and other activities that damage the planet and exacerbate climate change. Fortunately, environmental, social, and governance (ESG) investing is becoming an increasingly available option. The ESG strategy is to invest in companies that score highly on environmental and societal responsibility scales as determined by independent assessments.

This is the strategy at Audubon Canyon Ranch when we invest resources via our endowment, which is funded by legacy gifts. With the expertise and guidance of our partners at Graystone Consulting,

institutional consultants specializing in helping nonprofits incorporate impact investment strategies, our investment policies are rigorously aligned with our mission.

"We're walking the walk, which is important to the board, me, and the whole team," says CEO Tom Gardali. "We're taking the long view. Even if responsible investments, like renewable energy, are earning slightly less now, we are hopeful and confident they will be top performers in the future."

A strategy for the future

We began ESG investing in 2021, with clear guidelines around climate change and fossil fuels. We invest in companies making a measurable, positive difference, like those included in the Rise Fund.

Rubicon Carbon is a standout in the Rise Fund portfolio. A relatively new business, Rubicon is creating a system to standardize carbon credits and a platform to trade these credits. The current carbon credit industry is fragmented and unregulated, despite most publicly traded companies measuring carbon output and buying carbon offsets.

"The policies and strategies that are in place are so that years from now, this portfolio has the same purchasing power to do the same good work that Audubon Canyon Ranch is doing today," explains Todd Au, senior vice president at Graystone Consulting. "It will outlive all of us. We're just here for a moment in time."



Photo by Brittany Jensen

Making life better for community today — and tomorrow

Legacy giving, a gift to charity made in a donor's will or trust, is one of the highest forms of philanthropy. It allows donors to continue to support the work of organizations they care about for the benefit of future generations.

All legacy gifts to Audubon Canyon Ranch are carefully invested to grow in value over time and contribute to a financially resilient organization. They fund roughly half of the organization's operating budget each year.

Legacy Circle & Giving Match

The Clerin Zumwalt Legacy Circle honors people who have included Audubon Canyon Ranch in their will or trust.

To inspire others to create or update their estate plan, and to support Audubon Canyon Ranch with a legacy gift, an anonymous donor has extended a challenge: Audubon Canyon Ranch will receive \$500 for its general operating fund for each new member of the Clerin Zumwalt Legacy Circle, up to a total of \$20,000 (40 new members).

In helping us meet this challenge, your legacy gift and membership in the Zumwalt Legacy Circle will connect nature, people, and science today — and tomorrow.

For more information, visit egret.org/legacy-giving or contact Director of Philanthropy Jen Newman at 415-868-9244 Ext. 119 or jen.newman@egret.org.

Photos: fox: Nils Warnock; Bird Day volunteers: Emiko Condeso; Junior naturalists: Jacqueline Levy; Prescribed fire practitioners: courtesy Monan's Rill Community





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Fire adapted landscapes

A marvelous resurgence of Ceanothus

This spring, large swaths of California wild lilac (Ceanothus) have painted west-facing hillsides of the Bouverie Preserve purple. Numbering in the thousands, they are thriving after fire and rain.

Depending on the specific species, fire benefits Ceanothus seed germination by eliminating competition for resources like sun, water, and nutrients and 'cracking open' the seed coat with heat, smoke, and/char minerals.

The rare Sonoma Ceanothus is one such fire-dependent variety found on the Mayacamas Ridge between Sonoma and Napa counties.

A patch of Sonoma Ceanothus was first documented on the Bouverie Preserve in 1985, presumably established after the 1964 Nuns Canyon fire burned across the landscape.

By 2017, a search for the shrub located only 1 individual, long in the limb as it tried to reach above the surrounding chamise and manzanita. Fortunately, copious seeds were left behind in the soil among the skeletons of dead plants, patiently waiting for the next fire (October 2017) to rupture their seed coats. A spring 2023 survey of the area revealed 400 plants in full bloom.

Fresh access to resources is exactly why Sonoma, Wavy-leaf, and Parry's Ceanothus look so good right now.

Conservation in Action is published twice yearly as a benefit to our members, supporters, and volunteers.

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