

AUDUBON CANYON RANCH



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Conservation in Action

News from our programs and preserves | Number 66 | Spring 2022

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*"The survival of this
California pipevine
swallowtail reflects both
the struggle and the hope
we feel as we get more
good fire on the land."*

-Sasha Berleman, Director, Fire Forward

SPRING 2022

Stewarding Five Thousand Acres

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On the cover: A Californian pipevine swallowtail picked up within the Walbridge Fire perimeter during a firefighting assignment, August 2020. Program updates from the Fire Forward program begin on page 6.

Photo: Sasha Berleman

As I get to know the land and people at ACR, I have been visiting most of our preserves—totaling about 5,000 acres in Marin and Sonoma counties. Besides the immense beauty I took in during my visits, I also had feelings of great responsibility—the responsibility ACR has to be the best caretakers of these lands and waters we are so privileged to steward.

Stewardship at ACR acknowledges our collective responsibility to retain and restore the quality, functioning, and abundance of our natural world. We know that stewardship is a journey, one that does not have an endpoint, and we are committed to that journey.

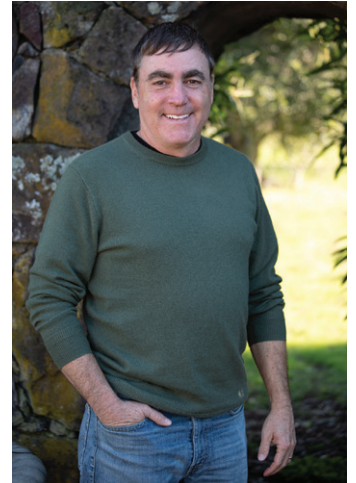
We do this stewardship work, like all work, in community. Building community occurs with our volunteer Monday Stewards at Bouverie Preserve when they plant native grasses. It occurs in-step with volunteers from the Good Fire Alliance leading prescribed burns that restore coastal prairies at Martin Griffin Preserve. More recently, working in community occurs in partnership with the county of Marin on an exciting Living Shorelines concept to mitigate the effects of sea level rise on Tomales Bay and to create benefits, like native oyster restoration.

As we celebrate our sixtieth year of preservation and stewardship, we look forward to increasing our impact by expanding and deepening our partnerships and focusing on the needs of our communities.

Your support is critical to our success, and we thank you for all you do to carry our mission forward, on behalf of ACR's people, places, and partnerships.



Tom Gardali
Chief Executive Officer



Chief Executive Officer
Tom Gardali



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"My first feeling for the mountain lion we tagged as P1 as reverence."

—Quinton Martins
Living with Lions



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"We plan to do a complete survey of Tomales Bay for hybrid Spartina and densiflora at least once every three to four years."

—Tripp McCandlish
Invasive Spartina Project

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We were delighted to add four new species to our preserve plant lists in 2020 and 2021.



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"It's going to take a few days to feel normal again."

—Josh Cohen, grand prize winner
M.F.K. Fisher Last House
Writing Contest





“This is such a hard time to be a teacher—seeing organizations like yours model learning in such a positive and creative way was refreshing. Thanks for the boost!”

—Beth Shepard, teacher

EDUCATION BRIEFS

Nature Takes Center Stage During Virtual Visits

When Covid-19 put a damper on school field trips, ACR education staff responded by designing a virtual visit experience where students are able to engage with our education team in the field through guided exercises, Q&A, and post-visit lessons.

Since 2020 we have welcomed more than 4,600 students from 56 Bay Area schools on virtual visits to Bouverie Preserve in Glen Ellen and Martin Griffin Preserve in Stinson Beach.

At Bouverie Preserve, we are helping students use their observation skills to compare similarities and differences of two trees and look for signs of animals using the trees for food and shelter. At Martin Griffin Preserve, we explore pond communities, zooming in on the ever-popular rough-skinned newts, water striders, and damselflies. We hope the students will apply what they learn on the preserve to places in their daily lives.

This spring we are excited to welcome back on the land a small group of classes who are helping us pilot new methods and materials that will inform our school programs in the future. ■

Science Seminar Series Returns this Spring

Now in its fourth season, the Science Seminar Series offers enlightening lectures from local experts in the field. This spring, join Christian Schwarz on a trip through fungi of Northern California, learn from Dr. Emily Fairfax about how beavers could help mitigate the effects of climate change, and join Modini Preserve resource ecologist Julianne Bradbury for a seriously nerdy look at how wildfire impacts reptiles and amphibians of Sonoma County. \$15 per lecture; \$10 for ACR members. ■

Purchase tickets: eventbrite.com/e/science-seminar-series-spring-2022-edition-tickets-258104165507



photo: Nils Warnock



photo: Liz Martins





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LIVING WITH LIONS

A Remarkable Lion and Her Family

by Quinton Martins, Ph.D., *True Wild*
Principal Investigator, *Living with Lions*

My first feeling for the mountain lion we tagged as P1 was reverence. She was absolutely calm in the cage when we approached.

We began *Living with Lions*, the GPS tracking of mountain lions in San Francisco's North Bay, with the capture of P1, a nine-year-old female, in October 2016. She didn't even snarl when the immobilizing dart hit her rump and discharged. A truly composed and regal cat.

As we tracked her movements, we soon realized she had two rather large sub-adult cubs, a male and female, in tow. A month later we managed to catch and collar her year-old daughter, P2. We never saw the male again and are yet to determine his fate.

For another month we watched as P1 and daughter traversed her 50-square-mile range in Sonoma Valley. Then, late in December, the two suddenly parted ways.

What caused this rift? It became evident three months later, in early April. I found that P1 had a litter of three 10-day old kittens in a thick clump of pampas grass less than 150 yards from a Glen Ellen home.

A genuine pleasure

It has been so rewarding to track and learn more about the mountain lions in our study area. P1 has been captivating, a real SuperMama, who with grace and calmness, weathered my obstinate efforts to keep her collared and investigate her day-to-day activities.

Woven into the invaluable scientific data we collected on P1's movements is a six-year journey overflowing with excitement, amazement, sadness, frustration, and sometimes, absolute futility.



Top: Mountain lion P1 passes by a backyard trail camera near Glen Ellen, June 2021. Above: P1 moves one of her kittens from a 2018 litter from one denning site to another. Photo: Quinton Martins

Four months after I found her 2017 den, we found one of her three kittens (P7) killed by another predator. Her second kitten died of unknown causes at seven to eight months old. In December 2017, a common depredation event resulted in her first litter kitten, P2, being killed for attacking two unprotected sheep.

Survival rates are low

Only one of three kittens remained from P1's second litter. P1 managed to ensure the survival of this kitten, P6, to dispersal age. Having collared P6 at the end of February 2018, we documented this young female's dispersal from her mom in mid-April.

By the third week of July 2018 I located another P1 den with two kittens in Glen Ellen. However, this exciting event was soon overshadowed by death of P6, the last cub of P1's second litter, due to her depredation of a goat in Kenwood.

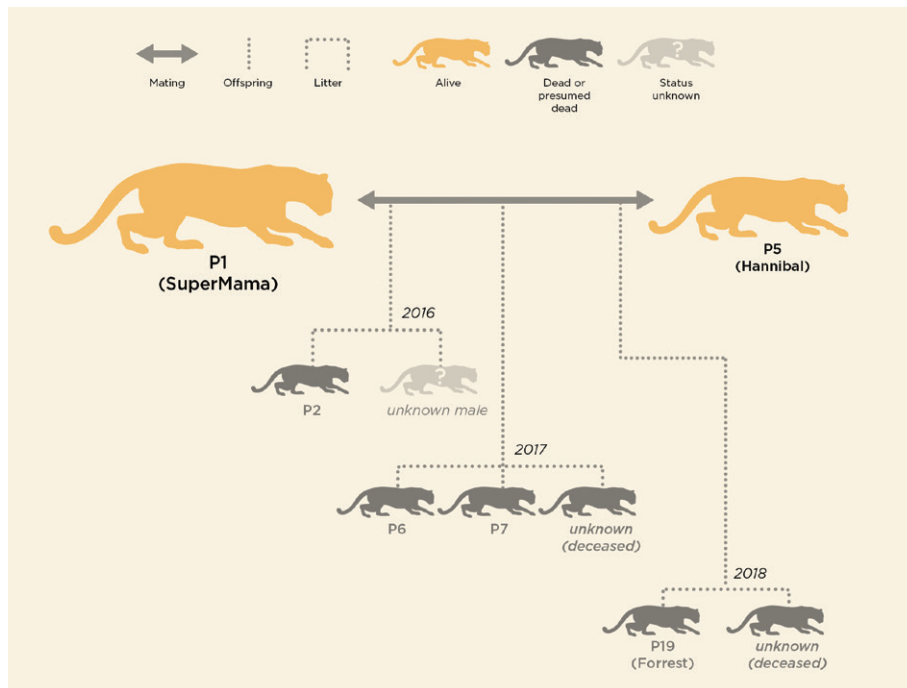
Starting over again, with no evident success, P1 began rearing the third litter of kittens we were able to monitor. Within the first year, she had only one cub left, conforming to the general lion survival rate of 50% in the wild within the first year. The remaining offspring, a male (P19), was collared and tracked hanging out with his mom till he was 18 months old. Finally, in late February 2020, the lumbering teenager headed out solo to find his own place.

End of the road

P19 was the first male lion we documented dispersing from his natal range. It's known that male lions disperse long distances, even as far as 2,000 miles. We were excited to see where P19 would end up. We also knew that his chances of survival would be small in the two years before he became sexually mature.

Threats to P19 would include conflict with humans due to killing pets or livestock, car strike, lack of habitat connectivity due to human development, and poisoning from rodenticides, as well as natural dangers such as conflict with territorial lions and starvation due to lack of hunting experience.

We tracked P19 leaving his natal range in Sonoma, crossing Napa, Solano, and Yolo Counties on his mission. He crossed



Since collaring P1 in October 2016, we've watched her raise three litters of kittens with varying outcomes. Three died or are presumed dead before they reached 12 months old, two were killed after depredating livestock, and one succumbed to feline leukemia after fledging from his natal range. Below: Quinton Martins and veterinarian Winston Vickers examine P1 in 2016; a 30-day sample of her movements on Sonoma Mountain; P1 resting with kitten, 2018.

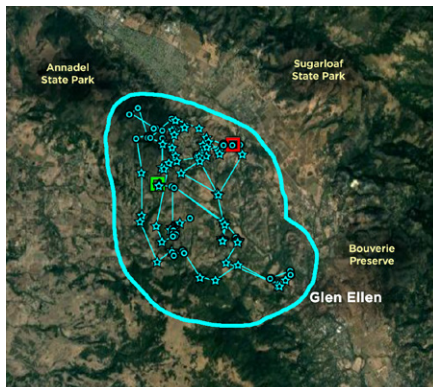
Interstate 80 twice, visited UC Davis, scoped the Lake Berryessa region, and explored the Winters/Putah Creek area for a while.

Unfortunately, a combination of factors led to his early demise on August 1, 2020 near Vacaville.

A full necropsy revealed that he had contracted feline leukemia virus. Because of his compromised immune system, a combination of bacterial infections, including salmonella poisoning, led to his death.

Lessons from Sonoma's "Super Puma"

My most recent interaction with P1, now a 15-year-old, was in July 2021 when we replaced a battery in her collar. This formidable lion was still as calm as ever and I have to think that even though her offspring since 2016 have not survived to full maturity, she has learned how to navigate the risks and opportunities of our fragmented landscapes. I hope that by sharing her story, we can minimize the risks to these animals and ensure their future survival. ■





Devyn



Michael



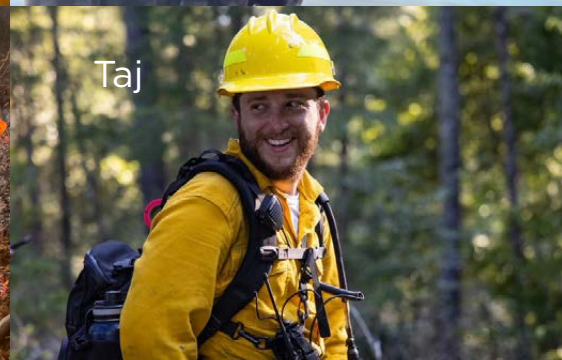
Kōgen



Jacob



Ryan



Taj



Peter



Asa



Amy

photos: Sashwa Burrous and Sasha Berleman

FIRE FORWARD: BUILDING A FIRE-ADAPTED COMMUNITY

Fire Forward Fellows Gain Practical Experience Toward Career and Leadership Goals

by Sasha Berleman, Ph.D., Director, Fire Forward

ACR is excited to be working with ten prescribed fire community members who make up our first class of Fire Forward Fellows. Over the past couple of years as volunteer fire-lighters, these Fellows have engaged in prescribed burns, land stewardship, community building, and even wildfire assignments for some.

Building fireline leadership skills

Each Fellow arrived with basic wildland firefighter training and some on-the-ground experience. Now already half way through the fellowship, these ten have engaged in more than 150 hours of professional development. The capstone for the year-long program is to plan and implement ecologically-driven controlled burns, with preparation including landowner outreach, a written burn plan, unit preparation, and implementation.

Properties in Sonoma, Marin, and Mendocino counties have been identified for the Fellows-planned controlled burns, including Pepperwood Preserve, Occidental Arts and Ecology Center, Green Gulch Farm, Mailliard Ranch in southern Mendocino County, and ACR's Cypress Grove Preserve.

Additional trainings and workshops throughout the year are helping Fellows complete the requirements for Squad Boss and California State Burn Boss certifications. ■

The application period for the next class of Fire Forward Fellows is March 1–April 15. Details at fireforward.org.

"We are invited to share skillsets and gain confidence in leadership, while doing watershed-scale restoration. The learning never ends, which is something I will forever be grateful for."

– Annie Madden,
Restoration Field Supervisor,
Laguna de Santa Rosa Foundation



Annie

Putting Good Fire on the Land: Why Thea Maria Carlson Chose Nature

by Allie Rigby, Communications Specialist

*This article is part of our **Choose Nature** series, where community members explore a central question: why did “choosing nature” feel like the fulfilling and right thing to do? Footage and interviews conducted by Kate Remsen.*

Meet Thea Maria Carlson: earth steward and intentional community member

Farmer. Facilitator. Leader. Earth Steward. Thea is also part of an intergenerational intentional community called Monan’s Rill, which resides on Wappo land in Eastern Sonoma County. Back in the summer of 2019, the Fire Forward team partnered with residents and other volunteers on a six-acre prescribed burn of understory vegetation in mixed Douglas fir and tan oak woodland. The burn followed eight years of understory clearing and tree thinning done by hand on a weekly basis by Rick Kavinoky, another resident of the “Rill.” Rick recognized early on the need to reintroduce frequent low intensity fires to the land.

One year later, in September of 2020, the Glass Fire burned almost all of the land and buildings of Monan’s Rill—with the exception of that six-acre area where the prescribed burn happened.

Seeing how the prescribed burn unit fared so well in the wildfire was a defining moment for Thea. “I just knew I needed to pursue putting more good fire on the land. So, I signed up—a week after the wildfire—for the Wildland Firefighter and Firelighter Training through Fire Forward.”

Since completing the training in March 2021, Thea has participated in several prescribed burns at Audubon Canyon Ranch and on other lands throughout Sonoma County with the Good Fire Alliance, building skills and relationships, and contributing to ecosystem restoration and community safety.

Stewarding with fire: how prescribed burns help protect the land from larger, hotter fires

As a member of Monan’s Rill, Thea co-stewards 414 acres. Prior to 2020, much of that land was dense with manzanita.



photo: Kate Remsen

Above: Thea Maria Carlson, photographed at Monan’s Rill, Santa Rosa.

Below: a low-intensity prescribed burn of understory in a Douglas fir and tan oak woodland in 2019 offered resilience against a wind-driven wildfire in 2020 that consumed homes and mature trees in other areas of the property.

With the lens of fire stewardship, Thea’s approach to land stewardship has shifted, especially as it relates to controlled burns.

“In a lot of our oak woodlands, we had overgrowth in manzanita,” Thea explains. “Manzanita burned very hot in the Glass fire and it killed a lot of oaks.”

Carlson is quite busy these days

“Now we are cutting, piling, and burning the dead manzanita and other dead trees so that they are not fuel for the next wildfire.” This transition to remove burned trees with a chainsaw was not an easy one for Thea but additional training through our Wildland Fire Chainsaws course gave her the confidence to begin felling trees and cutting brush at Monan’s Rill.

“One of the first trees I cut down when I came back to the land here, actually the first tree I cut during the training, also, had a heart shape when I cut it down,” Thea says with a soft smile. “It felt like a message from the land that this was something that is important to do, and it is an act of love.”

With guidance and support from Fire Forward, Thea and other members of Monan’s Rill also plan to conduct periodic broadcast prescribed burns on most of the 414 acres they co-steward moving forward, to support ecological health and protect the community from future wildfires. ■



photo: Brian Peterson



photo: Wendy Coy



STEWARDSHIP

Four Native Plant Species Added to ACR Preserve Lists

During wildflower season 2020 and 2021, we were excited to add four native plants to ACR's preserve species lists.

Most likely, we discovered them for two reasons. Their growth was encouraged by the disturbance, increased nutrients, and sunlight after wildfire and controlled burns. And secondly, we're now able to observe areas previously covered by dense vegetation.

On the Modini Preserve near Healdsburg, resident land steward Kyle Doron identified Kellogg's monkeyflower (*Diplacus kelloggii*, pictured top left), sweet scented phacelia (*Phacelia suaveolens*, center), and western wall flower (*Erysimum capitatum*, below) in areas hard-hit by the Kincade Fire.

Kellogg's monkeyflower is an annual herb native to California and Oregon. According to Calflora.org, an early sighting of Kellogg's monkeyflower was documented near Mount Saint Helena in 1915. More recently it was found in Sonoma County's Pepperwood Preserve and Sugarloaf Ridge State Park.

An annual found only in California, sweet scented phacelia grows in disturbed chaparral and closed-

cone pine forests, often following fire. Other post-fire observations of this native were recorded in the Franz Valley in 1965 (Hanly Fire, 1964).

On Bouverie Preserve in Glen Ellen, former land steward Jared Jacobs found his first pine violet (*Viola lobata*, pictured top right). Also called moose horn violet or yellow violet, this perennial herb is native to California but also found in other parts of the West. Observational records note sightings throughout the Sonoma Valley as early as 1862.

Beneficial native plants weren't the only newcomers, though. Modini Preserve manager and resident biologist Michelle Cooper identified, mapped, and removed a new invasive species for the preserve, skeleton weed or hogbite (*Chondrilla juncea*).

We're curious to watch for the return of these wildflowers this spring. Will they persist or fade as the fire-impacted communities recover? ■

PRO TIP: Use the map tool at [Calflora.org](https://www.calflora.org) to learn about the California native wildflowers found in your neighborhood.



CONSERVATION SCIENCE

Yellow Starthistle Depresses Native Species Richness, but Removal Does Little to Restore it

by Scott Jennings, Avian Ecologist

Invasive plants crowd beneficial native flora, disrupt wildlife habitat, and damage ecosystem services, such as natural flood and fire controls. But it's not clear how removing invasives affects these impacts.

Yellow starthistle (*Centaurea solstitialis*) is a particularly troublesome invasive in many Western states. First appearing in California during the Gold Rush, it has now spread to over 14 million acres across the state.

Responding to a lack of data

Although there are several methods for controlling yellow starthistle, relatively little research tells us whether persistent control efforts lead to native plant recovery. Former Modini Preserve biologist Sherry Adams set out in 2011 to shed some light on this lack of information.

Because starthistle continues growing and setting seed later in the spring than many natives, Adams hypothesized that late spring rains would increase starthistle cover and that treatment methods would effectively reduce starthistle cover. She wanted to test whether a reduction in invasive cover would produce an increase in native plant species richness.

Sherry established 40 experimental plots in two starthistle-invaded areas of Modini Preserve. She randomly assigned 20 to receive annual treatment with hand pulling and targeted herbicide (glyphosate) application, while the remaining 20 were untreated.

She established a further 20 plots outside the starthistle areas to serve as uninvaded controls. Each spring from 2011 to 2017, Sherry measured starthistle cover and the number of native species in each plot, then either hand pulled or sprayed every starthistle plant in the treated plots.

What we learned

As expected, we found that native plant richness was lower in invaded than in non-invaded plots. And as Adams predicted, more late spring rainfall resulted in greater yellow starthistle cover the following year. But this happened only in untreated plots—treatment appeared to break the cycle of new starthistle seed production and germination.

However, although native species richness was slightly higher in treated than in untreated control plots, the number of native species remained extremely low in all plots. So we were unable to establish with certainty whether treatment alone increased native richness.

Action recommendations

Overall, our results show that persistent treatment of yellow starthistle is effective at reducing the cover of this invasive. Land managers who cannot treat starthistle every year may want to prioritize treatment in years with above average late spring rain.

We also showed that removal alone seems insufficient to recover native plant species richness. You will likely need to plant supplemental native species to boost recovery.

The results of this study have been published in a paper co-authored with ACR avian ecologist Scott Jennings and director of conservation science Nils Warnock in the October 2020 issue of the journal *Plant Ecology & Diversity*. ■

Access the article abstract and download options at [Taylor & Francis Online](#)

Yellow starthistle (below) was the subject of study in 40 experimental plots established on the Modini Preserve by former preserve biologist Sherry Adams. The invasive thistle thrives in disturbed and poor soil conditions such as roadsides and serpentine outcroppings on the preserve (bottom), and can suppress native plant richness.





POST-FIRE STEWARDSHIP

Reducing California Bays in Disease-prone Oak Woodlands

by Jennifer Potts, Bouverie Preserve Resource Ecologist

Thirteen acres of oak woodlands on a southern hillslope of Bouverie Preserve have been under study by Sonoma State University and North Carolina State University for the last 15 years as a part of their Sudden Oak Death research project.

The SOD unit, as we call it, hosts beautiful old oaks and immense Douglas firs. But after a century of very little management, these heritage trees were being crowded by a dense thicket of understory California bays and spindly Douglas firs that made conditions favorable for the spread of SOD.

When the Nuns Fire moved through in 2017, these crowded woodlands experienced high plant mortality. Fortunately, some large overstory trees survived, but we knew that we had to bring back long-term ecological health and promote wildfire resiliency going forward.

Thanks to a generous grant from Rotary District 5130's Fire Recovery Fund, ACR was able to take action. We hired a forester and professional tree thinning crew to remove standing dead ladder fuels and prune back the flammable resprouting shrubs. As soon as the dense understory was cleared, new plant life emerged that was not found before the fire, including elderberry, coffeeberry, and toyon.

With the help of Great Tree Tenders, volunteers, and staff, we built and burned 700 tiny bundles of dead material. Fuel loads were brought down to safer levels and space was opened for a new generation of oak seedlings.

Looking forward, we will continue managing the SOD unit for optimum health using our toolbox of fire, thinning, and resting cycles. ■



Top: More than 700 bundles of downed vegetation were readied for pile burning. Bottom: Bouverie Preserve volunteer stewards with land steward Amanda Botsford.



Second CAL FIRE Grant Will Fund Fuels Thinning on 90 Acres

The Sonoma Valley Wildlands Collaborative, of which ACR is a member, was awarded a second CAL FIRE Fire Prevention grant in the amount of \$934,000. Of this money, ACR will receive \$220,000 to continue thinning fuels at Bouverie Preserve, including 45 newly targeted acres along the Wildland Urban Interface.

The Collaborative came together in the wake of the 2017 Nuns Fire and is working closely with CAL FIRE to develop a long-term strategy at a landscape, or regional, scale.

By managing our own lands for ecological health and resilience, we are doing our part to help protect the communities of the Sonoma Valley in the event of future wildfires. ■

Left: Three acres of oak woodland undergo a prescribed burn to reduce surface fuels, minimize live oak mortality, and maintain snag density. Photo: Jennifer Potts.



A FOCUS ON PHILANTHROPY

Community Spirit at the Heart of New Bridge Construction at Martin Griffin Preserve

by Jen Newman, Director of Philanthropy

The pandemic has forced many ACR programs to 'go virtual' over the past couple of years, but preserve stewardship is an in-person and on-the-land endeavor.

Seeing a need to replace two bridges that were old and no longer safe for the many hikers, volunteers, and school groups who visit Martin Griffin Preserve, Justin Dierkhising, owner of Justin Dierkhising Construction Management Services of Petaluma and an ACR Business Partner, drew up a plan.

In partnership with preserve staff and with a team of hardworking volunteers, Justin envisioned, designed, and built the two new creek crossings on remote trails that wind through the preserve's tranquil redwood forest.

Community spirit was at the heart of Justin's project. "I knew my friend's son Peter Canale was looking for an Eagle Scout project. He did a great job, as did his troop," said Justin regarding Troop 74 Petaluma.

Over eight consecutive weekends, Justin, Peter, and friends and family (adhering to COVID-19 safety protocols) hauled in materials and constructed the two new bridges on-site and by hand.

The timing couldn't have been better: just a week after the bridges' final completion in mid-October, the preserve—like much of the Bay Area—witnessed substantial rainfall. "They survived the Atmospheric River!" exclaimed Land Steward Steve Trivelpiece upon visiting the bridges after the storm.

Our many thanks to Justin and his energetic volunteers. ■

Learn more about the benefits of partnership at egret.org/business_partnerships

Above from left: Justin and Jen Dierkhising measure the span; volunteer Mike Jayne adds the top rail; Justin and volunteer Peter Canale admire one of the finished bridges.
Photos by Jen Newman.

"I just wanted to build a trail bridge...something in nature. Something my family and I could walk over and visit many times in the future."

*—Justin Dierkhising
ACR Business Partner*

Business Partnerships are Vital to the Success of our Mission

ACR is thrilled to honor Justin Dierkhising Construction Management Services among its Business Partners.

California Deer Association
Disney Conservation Fund
Federated Indians of Graton Rancheria
Hanford ARC Fund of Community
Foundation Sonoma County
Keysight Technologies

Patagonia
Rotary District 5130
Sonoma County Vintners Foundation
Sonoma County Antiques
Summit State Bank
Wine Snob*

Providing in-kind goods and services:
Cooley LLP
Mystery Ranch
Rappitup Solutions



CONSERVATION SCIENCE

Teaming Up to Protect Tomales Bay Wetlands

by Emiko Condeso, Ecologist / GIS Specialist

Since 2001, ACR has collaborated with the Invasive Spartina Project (ISP) to monitor and remove the non-native, invasive cordgrass, *Spartina densiflora*, from Tomales Bay.

A lesser-known invasive *Spartina* that impacts San Francisco Bay and the nearby coast, *S. densiflora*, grows in expanding clumps that threaten wetlands by eliminating open areas used for foraging, particularly by birds. These dense clusters of cordgrass can alter marsh elevation, especially along the edges of channels and sloughs, by slowing water flow and trapping sediments.

Toms Point, an early *Spartina* hotspot

ACR's Toms Point preserve, at the north end of Tomales Bay, was one of the first *Spartina* hotspots identified along the outer coast. Tomales Bay is an important wintering location for shorebirds, supporting roughly 20,000 in the early winter months. Toms Point is just north of one of the most significant winter foraging areas on the bay. The other—the recently restored Giacomini Wetlands—is only 20 km to the south.

What could have been a disastrous *Spartina densiflora* invasion on Tomales Bay, instead became an example of the value of early and concerted action. Working together, ISP and ACR stopped the cordgrass's spread at Toms Point, its historic outbreak site, through annual monitoring and removal.



In 2001, invasive cordgrass like the specimen below was first identified in three locations in Tomales Bay, including on ACR's Toms Point preserve (above) near the mouth of the bay.

Anticipating a win

This June, amid the dreary COVID-19 atmosphere, we were encouraged that no *S. densiflora* plants were detected on the marsh. While exciting for invasive plant managers, the news was doubly heartening because it followed a consistent pattern of declining numbers at this site. The survey marked the third in a row where five or fewer small plants were detected and removed.

As there are no nearby sources of *S. densiflora* to bring new seed into the bay, it's likely that the seedbank at Toms Point is being steadily exhausted. We're optimistic about the eventual eradication of this invader.

Staying the course

Tripp McCandlish, ISP's Field Operations Manager, reports that ISP will continue to plan for "bi-annual surveys for *densiflora* at the historical infestations until we achieve five straight years of zero detections." After the celebration (!), ISP will then transfer the job of monitoring to ACR's staff and volunteers.

It may be difficult, however, to keep the ISP crew away. Their field biologists consider a visit to Tomales Bay and Toms Point a treat. According to Tripp, even after several years of zero detections, "we plan to do a complete survey of Tomales Bay for hybrid *Spartina* and *densiflora* at least once every three to four years—as a reward to our staff and also as a preventative survey."

ACR is grateful for the decades-long partnership with the Invasive Spartina Project to protect not only our sanctuaries, but also the whole of Tomales Bay. ISP's open, collaborative approach greatly simplifies the difficulties of managing a species that ignores property boundaries and can be widely dispersed. ■

Learn more about the work of the Invasive Spartina Project at spartina.org.



CONSERVATION SCIENCE

Great Egrets Recovering from Injuries Tagged for ACR Movement Study

by David Lumpkin, Avian Ecologist

If you want to study the individual movements and foraging preferences of Great Egrets, you've got to capture them first and it turns out that capturing these graceful watershed sentinels in the wild is very difficult! Since our study began in 2017, we've successfully tagged 11 birds in the wild and returned from the field many more days with no captures.

Looking to increase the number of egrets enlisted for our study, and to better understand habits of young egrets (since most that end up in rehabilitation are recently hatched), we reached out to the International Bird Rescue (IBR) to partner on tagging an additional 11 egrets that were rehabilitating at IBR's San Francisco Bay-Delta Wildlife Center near Cordelia.

Of the birds tagged this year, two have died near roadways while the others have remained in the North Bay, foraging in local waterways and vineyards.

Tracking data from all egrets in the study illustrate a wide range of individual differences in movement and landscape use. Coastal individuals have displayed fascinating habits timed with tidal patterns, sometimes remaining inland for multiple consecutive days when high low tides preclude access to eelgrass beds, and returning to the coast as low tides drop to reveal their favored foraging habitat. Migratory behavior varies by bird, sometimes changing year to year. ■

Explore the paths of the tagged egrets at Movebank: <https://bit.ly/3kMvUA7>

ACR avian ecologists David Lumpkin and Scott Jennings (above left) place a solar-powered GPS backpack on a Great Egret given the green light by IBR to resume normal activity; GREG18, released near Sebastopol, has worked its way east of Sonoma, and has been foraging in vineyards in the hills (above right). GREG 21 (below), released near Martinez, moved into the Central Valley and started following the San Joaquin River south before dying at the side of a road near Crows Landing. Photos: Cheryl Reynolds, International Bird Rescue.

Map: Movebank



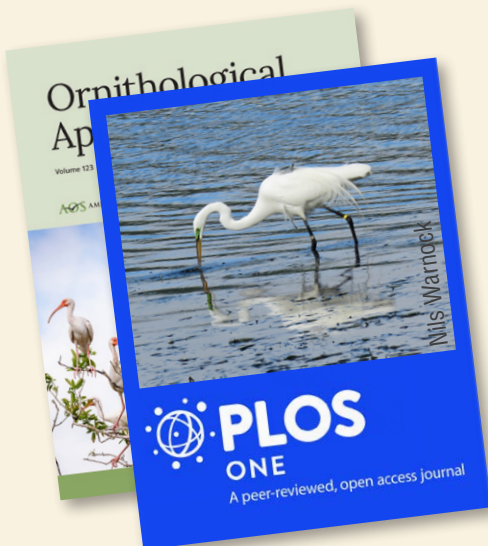
SCIENTIFIC CONTRIBUTIONS

Do local factors contribute to shorebird decline on Tomales Bay?

ACR ecologists published a paper in *Condor, Ornithological Applications*, reporting trends of Tomales Bay shorebird populations, which have declined a whopping 66 percent in the last 30 years. The biggest losers were Dunlin and Western Sandpipers. Access the abstract at academic.oup.com/condor/issue/123/1.

Do shellfish aquaculture and natural tidal wetlands both provide foraging habitat?

Between 2017 and 2019, ACR avian ecologists placed small GPS backpacks on ten egrets to measure whether they chose natural wetlands more often than shellfish areas to forage for their diet of fish and aquatic invertebrates. Three tagged egrets essentially avoided foraging in shellfish areas. The remaining seven used shellfish areas, but only when they were right at the tidal water level. Read the published research at <https://doi.org/10.1371/journal.pone.0261963>.





M.F.K. FISHER LAST HOUSE

Friends Gather to Discuss New Film About M.F.K. Fisher

by Susie Allen, Last House Program Coordinator

Last fall, friends and fans of M.F.K. Fisher and film gathered (adhering to City of San Francisco COVID-19 recommendations) for a magical afternoon at famed Foreign Cinema to benefit the restoration, repair, and maintenance of M.F.K. Fisher's Last House and the completion of filmmaker Gregory Bezat's latest project, *The Art of Eating: The Life of M.F.K. Fisher*. Generous supporters raised nearly \$15,000.

Mouth-watering small bites by Foreign Cinema were accompanied by M.F.K. Fisher's signature cocktail, the '1-2-3' Negroni, and the yummy unpretentious wines of Wine Snob* winery in Glen Ellen.

The panel—moderated by Clark Wolf and including people who knew Fisher and who are featured in the film—

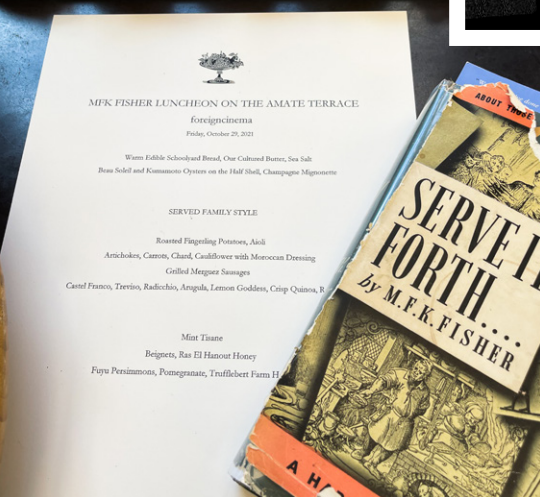
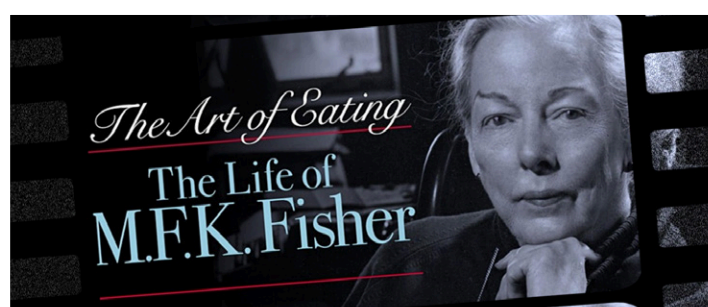
discussed Fisher's life, her work, her contribution to contemporary food ideas, and why her unique lens on life remains so relevant today.

Special thanks to our esteemed panelists—filmmaker Gregory Bezat, educator and Fisher's daughter Kennedy Golden, food writer and Grand Dame de Escoffier Jerry Di Vecchio, and chef, restaurateur, and author Alice Waters—as well as to moderator Clark Wolf, Foreign Cinema, Wine Snob*, and our generous supporters.

Attendees received a copy of the beautiful Foreign Cinema cookbook autographed by the chefs/owners Gayle Pirie and John Clark.

For more exciting events like this one, check the calendar at egret.org/calendar. ■

Pictured clockwise from top left: Sue Conley and Peggy Smith in the foreground; panel moderator Clark Wolf with panelists Alice Waters, Gregory Bezat, Kennedy Golden, and Jerry Di Vecchio; Eileen Spitalny, Tanya Holland, Kennedy Golden; Alice Waters and Gregory Bezat; Foreign Cinema venue, event menu



M.F.K. FISHER LAST HOUSE

Emerging Writers Explore Culture of Conservation & Power of Survival Skills

by Susie Allen, Last House Program Coordinator

We are so pleased to introduce the winners of the M.F.K. Fisher Last House Writing Contest, launched in summer 2020, and held again last year. The contest resulted in more than three dozen essays submitted in child, youth and adult categories by writers from as far-afield as Los Angeles, Detroit, and Copenhagen.

Nature, gardening, wild animals, and cooking during the pandemic were themes for many writers. Others explored the joy of sharing food and new cooking adventures with loved ones.

The panel of judges, coordinated by food and wine consultant Clark Wolf, has included some of the most accomplished writers, chefs, and naturalists working today: John Ash, Elizabeth Fishel, Kennedy Golden, Kathleen Thompson Hill, Tanya Holland, Traci Des Jardins, Jerry Di Vecchio, Michele Anna Jordan, Jonathan London, Harold McGee, Dr. Marion Nestle, Ruth Reichl, Celia Sack, Mayukh Sen, Leena Trivedi-Grenier, and Alice Waters.

Learning his essay had won both first place in the children's category and the 2020 grand prize, fifth-grader Josh Cohen told his dad it would "take a few days to feel normal again."

After tallying the 2021 contest results, the panel was delighted to learn that the Grand Prize and Youth winning entries were penned by a Sacramento mother and daughter, Emma Rosa and Leah Burch.

"This family has shown us how to be fed by nature, and by love. I suspect M.F.K. would have been delighted and moved," said Wolf. ■

Entries for the Third Annual Last House Writing Contest will be accepted April 1–May 31, 2022; check egret.org/calendar for contest details.



Winning Essays*

2021

Grand Prize: *Fed by Nature* by Emma Rose

Adults: First place (tie):

Fed by Nature by Emma Rose

Letter to My California Son by Nick Heitkamp

Youth: *Just Breathe* by Leah Burch

2020

Grand Prize: *Rain* by Josh Cohen

Adults: *Love Letter to an Empty Lot* by Rachel Reed

Youth: *Local Eats* by Natalie Sandoval

Children: *Rain* by Josh Cohen

*All award winning essays listed online at egret.org/blog

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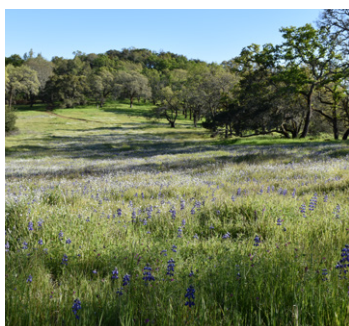
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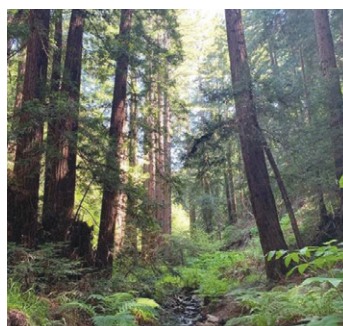
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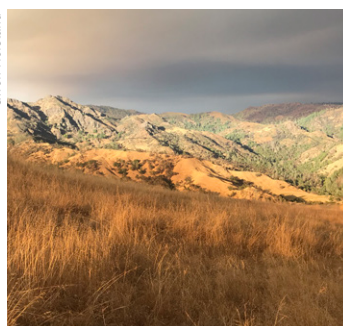
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Once you join, we'll send you a beautiful gift—five note cards by a local artist that feature plants and animals of the California landscape that we all hold dear.

Questions or ideas? Contact director of philanthropy Jen Newman at jennifer.newman@egret.org or 415-868-9244 ext 119.

To become a Sustainer, please visit www.egret.org/give, enter your preferred monthly gift in the Other amount field, and choose *Make this a recurring gift*.

We'll love you for it.

