



San Diego Audubon Society
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Sketches

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SAN DIEGO AUDUBON



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Sketches SAN DIEGO AUDUBON

SKETCHES is published quarterly. For details on submissions and deadlines, please contact: LaTresa Pearson at lens.pearson@sbcglobal.net

The office is open to visitors. Please call in advance to confirm someone will be present.

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(Emails might be more effective than calling.)

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Together we defend our region's birds, unique biodiversity, and threatened habitats through advocacy, education, and restoration.



Protecting San Diego's Unique
BIODIVERSITY

Protecting San Diego's Unique Biodiversity

Our California Floristic Province is one of only 36 globally designated biodiversity hotspots

by LaTresa Pearson, Sketches Editor

As I watch cars stop at the traffic light at the corner of Black Mountain Road and Hillery Drive in Mira Mesa, I wonder how many of their occupants know they are driving by one of the rarest and most endangered habitats on Earth. It seems an unlikely place. This 12-acre fenced preserve, located on the northwest corner of the Miramar Community College campus, is surrounded by a Home Depot, an apartment complex, Mira Mesa Market Center, Highway 15, and a large transit center. Inside the preserve, a trail system leads visitors to a series of vernal pools, which were restored by the San Diego Community College District and opened to the public in 2016. It's been a wet year, so the pools are full as I walk the trails. A series of interpretive signs tell the story of this rare wetland environment and the mysterious creatures that call it home, including the highly adapted and endangered San Diego Fairy Shrimp, the San Diego Mesa Mint, and the Western Spadefoot Toad [See "Vernal Pools," page 6].

While this area has been restored, the land across the way, where the Legacy apartment complex and Mira Mesa Market Center now sit, wasn't so lucky. Before it was developed, the site contained 67 vernal pools that were supposed to be protected under the City of

"There are very few places on the entire planet that are as biologically rich as San Diego or as California. I think all of us have something to contribute as part of the stewardship we have for this incredibly important place."

Barbara Kus, Research Ecologist with the U.S. Geological Survey's Western Ecological Research Center

San Diego's Multiple Species Conservation Program (MSCP). At the time, the MCSP was a brand-new habitat conservation plan designed to protect endangered species and habitats while allowing development to continue. "The very first project that came forward under the MSCP that had vernal pools on the property was the Mira Mesa Market Center," says David Hogan, Director of the Chaparral Lands Conservancy. According to Hogan, who was working for the Center for Biological Diversity at the time, the developer argued that only 1 of the 67 vernal pools on the property could be saved, and the City Council approved the project anyway. "This is a classic example of how the San Diego MSCP wasn't strong enough and didn't have enough detail to protect the resources that it claimed it was going to protect," says Hogan.

Today, 97% of the county's vernal pools are gone. Not only do developers love to build on the flat mesas where the pools are found, but also the pools' value has often been overlooked because much of the year, and sometimes for multiple years, the pools look like nothing more than bare dirt. But looks are deceiving. Andrew Wiese, Professor of Urban and Environmental History at San Diego State

University, describes the experience of seeing vernal pools filled with water after a long dry period. "All of a sudden, these pools are not only filled with water, but they are filled with life—swimming aquatic creatures—in what a month before, and for the last three years, had literally been a hard, clay, bricklike, sunbaked environment," he says. He marvels at the idea that San Diego Fairy Shrimp can survive years of drought as a hard cyst and then burst into life and go through their entire life cycle from the time the pool fills with rain until it dries out. He is equally astounded by Spadefoot Toads, which bury themselves underground for nine months out of the year, and then dig their way out when it rains, to breed and lay eggs. "We're all moved by Yosemite and the mountains, but this is Dr. Seuss," he says with awe. "It's like this environmental miracle on the head of a pin. And that's captured my imagination as a metaphor for all the little microclimates and ecosystems that we have here."

All of the little microclimates and ecosystems are a product of San Diego County's Mediterranean climate, topography, geography, and geology, which together make our county the most biodiverse county in the contiguous U.S. That means we have a tremendous variety of living things, particularly plants, that can't be found anywhere else on Earth. Our biodiversity is also among the most globally important and most threatened. In 1996, Conservation International designated the California Floristic Province a global biodiversity hotspot, adding it to a list that now includes just 36 locations on the entire planet. "We have not only regional, we have global significance as a biodiversity hotspot," says Barbara Kus, a Research Ecologist with the U.S. Geological Survey's (USGS's) Western Ecological Research Center. Kus, who works out of the San Diego Field Station, says, "It's a privilege that we live here, but it's a big responsibility. It's not just about us and our local surroundings. There are very few places on the entire planet that are as rich as San Diego or as California," she says, adding, "I think all of us have something to contribute as part of the stewardship we have for this incredibly important place."

To qualify under Conservation International's definition of a biodiversity hotspot, a region must meet two criteria: It must have at least 1,500 endemic vascular plants—a high percentage of plant life found nowhere else on the planet—and it must have lost 70% or more of its original natural vegetation, meaning it must also be threatened. While the habitats of these 36 hotspots represent just 2.5% of Earth's land surface, they support more than half of the world's plant species as endemics and nearly 43% of bird, mammal, reptile, and amphibian species as endemics. "I think that at every level, we need to shout from the hilltops and do a better job of making it clear that, in many forms, this is America's Amazon," Wiese says. "We don't have to go to the Amazon to save a species or contribute to extinction. You can ride a mountain bike off a trail at Carmel Mountain and contribute to the global extinction crisis, or you can walk to the end of your block, look out into a canyon and be looking at an endangered habitat that is among the rarest on Earth, with species that exist only here."

In addition to losing 97% of our vernal pools and endangering the unique species that inhabit them, our county has also lost about 90% of its coastal wetlands due to development, endangering species such as the Light-footed Ridgway's Rail and the Belding's Savannah Sparrow. We have lost more than 80% of our coastal sage scrub habitat to housing and agriculture, endangering species such as the Coastal California Gnatcatcher and Coastal Cactus Wren. Across

the state, we have lost 90–95% of riparian habitat due to dams and water diversion, endangering species such as the Least Bell's Vireo and the Southwestern Willow Flycatcher. Encroachment and recreation along our beaches and dunes have endangered the California Least Tern and the Western Snowy Plover. The loss of freshwater marshland and open foraging habitat has led to the precipitous decline of the Tricolored Blackbird, which is now listed as threatened under the California Endangered Species Act. And the list goes on.

Globally, biodiversity is declining at a catastrophic rate, with more than a million species of plants and animals known to be at risk of extinction. To put that into perspective, scientists estimate that there are about 8.7 million species of plants and animals on Earth, but they've identified and described only about 1.2 million of them, most of which are insects. We depend on Earth's biodiversity for everything we need to survive, from the air we breathe, the food we eat, the water we drink, the raw materials we use to make things, the medicines we use to treat and cure disease, and, of course, our own physical and mental well-being. As we face increasing impacts from climate

the United States was unable to sign the COP15 agreement, President Biden established a national goal to conserve at least 30% of U.S. lands and freshwater and 30% of U.S. ocean areas by 2030 through an executive order shortly after taking office in 2021. Governor Gavin Newsom issued an executive order in October 2020, making California the first state in the nation to pledge to conserve 30% of its land and coastal water by 2030.

Locally, the San Diego County Board of Supervisors adopted a resolution in November that supports a countywide biodiversity vision with four key goals. The vision statement reads, "All San Diego residents and visitors are able to connect with our local biodiversity and rich ecosystems daily and participate in ecological stewardship of the County's natural heritage. San Diego County's biodiversity is maintained and conserved in a way that ensures that its local communities remain climate resilient and natural space is integrated within the built environment." The four goals focus on protecting, maintaining, and restoring ecosystems; providing equitable access to natural spaces; empowering community partnerships for ecological

(continued on page 4)



TOP ROW: Snowy Plover
by Bruno Enrique Struck
Short-leaf Stonecrop by Margaret Fillius
California Gnatcatcher by Karen Straus



BOTTOM ROW: Quino Checkerspot
Pacific Pocket Mouse
by Joanna Gilkeson/USFWS
(below) California Least Tern
by Bruno Enrique Struck

change, preserving and restoring the world's biodiversity is even more critical. Ecosystems with high levels of biodiversity are more resistant to environmental change and human impacts, so protecting biodiversity builds resilience to climate change.

Scientists in both the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and the Intergovernmental Panel on Climate Change (IPCC) say that effective conservation of 30–50% of global lands and waters could preserve nature's ability to sustain people and the planet. Worldwide, initiatives to conserve or protect 30% of global lands and waters by 2030, known as 30x30 initiatives, are gaining momentum. In December, representatives from 196 nations gathered at the United Nations Biodiversity Conference (COP15) and pledged to protect 30% of land and oceans by 2030. Although



(continued from page 3)

stewardship; and prioritizing landscaping that supports native species. “The vision centers biodiversity for everything we do from land use to food production, to health and economic policy, to energy and transportation” says Supervisor Terra Lawson-Remer, who proposed the resolution. Conservation advocates such as Hogan are counting on just that. “Going forward, anytime there’s a particular issue implicating biodiversity, we can refer back to the County recognizing the importance of biodiversity. If we want a stronger MSCP or we want the County to not approve a development project that’s going to impact biodiversity, we can point to that proclamation as a statement of the County’s intent to do less harm and more good for biodiversity.”

To understand what these initiatives will mean for protecting biodiversity in San Diego County, it’s important to understand some of the key mechanisms involved in how we protect species. At the federal level, the Endangered Species Act (ESA), which was passed in 1973, allows individuals and organizations to petition to have a species listed as endangered or threatened. These listing petitions undergo scientific evaluation and public review before a final decision is made on whether a species should be protected.

The law requires protection for critical habitat areas and the development and implementation of recovery plans for listed species. Another important facet of the law is that it requires coordination among federal, state, tribal, and local officials on efforts to prevent extinction. Federal agencies are also required to avoid jeopardizing protected species or damaging their habitat in all actions they fund, permit, or carry out. For most species, the U.S. Fish & Wildlife Service is the lead agency in charge of implementing the ESA, but the National Oceanic and Atmospheric Administration (NOAA) is responsible for protecting whales, dolphins, porpoises, seals, and sea lions.

To allow development projects to continue, the ESA includes a provision for issuing “incidental take permits.” Before a developer begins a project that could impact listed species and/or their critical habitat, they must apply for one of these permits. Under the ESA, “take” means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” “Incidental take” means that the harm caused to the listed species is unintentional, but not unexpected. As part of the permit process, an applicant must create a Habitat Conservation Plan (HCP). HCPs describe the anticipated effects of the proposed “taking,” how those impacts will be minimized or mitigated, and how the conservation measures included in the plan will be funded. California also has its own Endangered Species Act (CESA), which provides species protection at the state level and is implemented through the California Department of Fish and Wildlife.

In 1993, the Coastal California Gnatcatcher was added to the Endangered Species List after Hogan filed an ESA petition. Protecting the Gnatcatcher and its habitat threatened to grind development to a halt across San Diego, so the City of San Diego began working on a regional plan called the Multiple Species Conservation Program (MSCP). Approved in 1998, the MSCP transfers the permitting process from the state and federal government to the City of San Diego. (There is also a San Diego County MSCP.) “The real reason the plan was prepared was because

these endangered species listings were coming down, and the City wanted to reduce the so-called burden on developers for having to conserve habitat and endangered species,” says Hogan. “It’s important to recognize this was a practical effort to grease the skids for development as San Diego has a very long history of doing. We can’t deny that it also resulted in significant conservation benefits, so it was good and bad.” According to Hogan, the MSCP lacks the detail and funding needed to adequately protect species and habitats, but it has also provided a key benefit. “Millions and millions of dollars of state and federal funding has flowed to San Diego, particularly for acquisition of sensitive properties, because there are these regional plans in place,” he says.

For Kus, the funding to acquire land is a critical first step. “I think the first step has to be protecting the land because without that, then we don’t have anything,” she says. “These plans definitely, through acquisition and other sorts of agreements, protect the land, but that’s not enough. It can’t end with just thinking we’ve secured the land; everything will be fine. How do we secure ecological processes? How

has really reversed the decline of that species, and it’s now on the upswing and expanding its distribution.” In addition to setting aside habitat for the vireos, Kus says removing exotic vegetation from local rivers has proven to be an effective management tool. “Giant Reed is a bamboo-like plant that can literally crowd out all of the native vegetation in a drainage, and it has next to no value to wildlife, to birds in particular,” she says. There’s been a concerted effort to remove this invasive plant in drainage areas around the county to allow native vegetation to recover. “That’s been a great way to increase habitat available for Least Bell’s Vireo,” she says.

Kus’s group has also had success increasing habitat for the Coastal Cactus Wren. “That’s a species that has a really narrow distribution in the county because our cactus habitat has always been pretty limited,” Kus says. That habitat has become even more limited and fragmented with development, and the remaining cactus can become swallowed up by the surrounding tall and dense coastal sage scrub. “There’s been a lot of experimentation to thin shrubs and keep

them away from the cactus, and that’s been really successful,” says Kus. “Learning about ways to just enhance what habitat is left has been a great way to essentially create more suitable habitat for these birds that they can then use and nest successfully and build their populations.”

One lesson we can take from these two examples is that species can recover when we devote the resources necessary to protect, restore, maintain, and monitor them properly. And that may be the most important outcome from the 30x30 initiatives at both the federal and state level. California’s Pathways to 30x30 states, “It should be noted that designating an area as conserved is only the beginning of effective conservation. Protected areas require ongoing stewardship and monitoring. Sufficient funding and personnel are needed to ensure conservation objectives are met. The 30x30 initiative provides a pivotal opportunity to improve current restoration practices and strengthen long-term stewardship to ensure effective conservation into the future.”



TOP ROW: Cactus Wren, Gerry Tietjie, Harlequin Bug on Bladderpod, Ed Henry Baja (Pacific) Tree Frog, Karen Straus

BOTTOM ROW: Fishhook Cactus, D. Stump Mountain Bluebird, Gerry Tietjie Five-lined Sphinx Moth, Gerry Tietjie

do we reduce the threats that are undermining these systems, so we have functional ecosystems long term?” In her role at USGS, Kus conducts research to help provide answers to questions such as these to the agencies responsible for protecting threatened and endangered species. “The goal in all of that research is to provide science-based information that tracks progress toward recovery of sensitive species and that evaluates and identifies threats and responds through management to reduce those threats,” she explains.

Good management practices are making a difference for some of the County’s most endangered birds, Kus says. “In terms of Least Bell’s Vireo, the combination of management and habitat protection

HELP SDAS PROTECT LOCAL BIODIVERSITY

• **Support ReWild Mission Bay.** The City of San Diego has released its draft Environmental Impact Report (EIR) for its De Anza Natural Plan to restore wetlands in the northeast corner of Mission Bay. Public Comment on the draft EIR ends April 20. Let the City know we need to restore the maximum number of acres possible to ensure resilience to projected sea-level rise and to protect the highly adapted species that rely on our coastal wetlands for survival.

• **Help Endangered California Least Terns by becoming a Dune Defender or Ternwatcher.** Dune Defenders restore coastal dune habitat by removing invasive plants and conducting other land management activities at nesting sites in Mission Bay. Ternwatchers monitor nesting sites in Mission Bay for predators to help increase survivability rates. Volunteers participate in a one-evening training session and then conduct two- to four-hour monitoring shifts according to their own schedule. Training sessions are held from mid-April through late May, and the program concludes at the end of September. To find out more about these programs, email Conservation Manager Cristina Santa Maria at santamaria@sandiegoaudubon.org.

• **Wander the Wetlands and Help Restore Habitat at Kendall-Frost Marsh.** Build nesting platforms for endangered Ridgway’s Rails, remove invasive species, plant natives, and conduct land management activities in this partnership project with the UC Natural Reserve System. If you’d like to participate, email nrs@ucsd.edu. To become a Wander the Wetlands docent, email Director of Conservation Andrew Meyer at meyer@sandiegoaudubon.org.

• **Join a Habitat Restoration Event.** Remove invasive species, plant natives, and conduct land management activities at various locations throughout the county. Check our online calendar for events.

• **Start a Native Seed Library.** Bring native plants, and the birds and insects they support, into your neighborhood by building a native seed library. To request a starter kit, which includes seeds, envelopes, labels, brochures, posters, and instructions to help you start and maintain the library, fill out the “Native Seed Library Request Form” on our website.

• **Join our Conservation Committee.** Take action on local, state, and federal issues that affect our wildlife communities, including wetland restoration, climate change, wind energy, stormwater, and urban habitat protection. Committee members write comment letters, speak at hearings, provide advice and support on policy issues, and more. The group meets via Zoom on the fourth Tuesday of the month from 6:30 to 8:30 P.M. Meetings are open to the public. For more information and to get the Zoom link, email conservation@sandiegoaudubon.org.

• **Become an Audubon Advocate.** Learn skills needed to advocate for birds, other wildlife, and their habitats. Six free training sessions cover topics such as reviewing environmental documents, understanding the legal mechanisms involved in local conservation, and engaging with elected officials. We assemble a diverse group of 20 people who can commit the time, learn from each other, and teach us what issues are important to their communities. Applications open in early April, and the program starts in May. For more information, email conservation@sandiegoaudubon.org.

Vernal Pools

This ephemeral ecosystem hosts a wide range of species, including some found nowhere else.

Six inches of water for 60 days. That's the reality for species that depend on vernal pools for their survival. More than 97% of our coastal region's vernal pools have been lost as the mesas so desirable for tract homes and commercial development have been transformed over the past 70 years or so. Airfields that require both flat land and a lot of buffer space provide some of the remaining pockets of vernal pool habitat, along with Otay Mesa and a few other locations. These temporary ponds, some not much larger than big puddles, do not survive in isolation but are integral to the larger mesa ecosystem (as distinct from canyons) and its much longer list of species. As illustrated here, even temporary wetlands make a difference for our region's biodiversity.

Vernal pools are found in similar terrain in other parts of the U.S. and the world, each with their own species. The plant and animal species found only in our county's vernal pools (*shown by the blue circle with "U" for unique to our region*) have lived in relative isolation for many thousands of years, and their survival adaptations reflect the uniqueness of San Diego's natural environment.



San Diego Button Celery by USFW



Blue Dasher Dragonfly



Say's Phoebe



Anna's Hummingbird, scooping up gnats



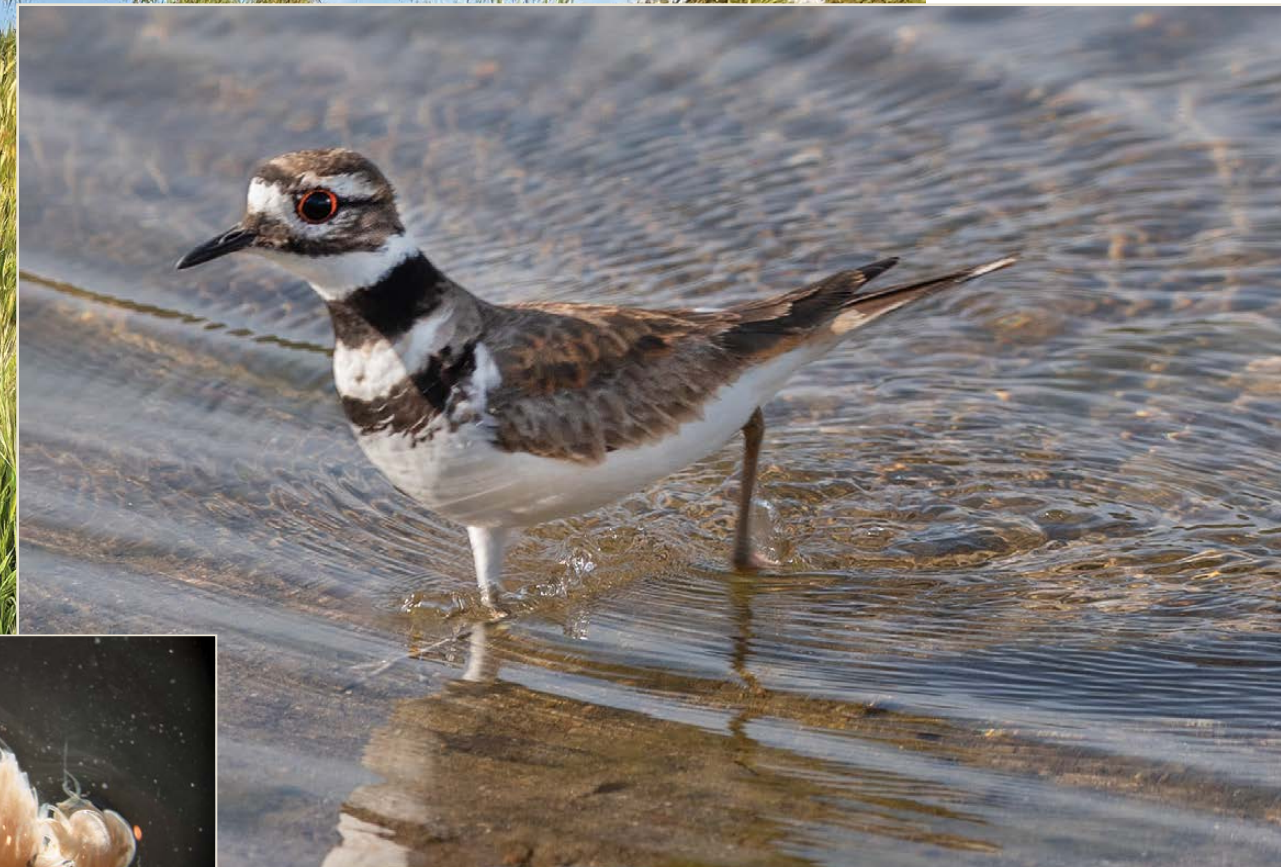
Western Spadefoot Toad
by Chris Brown, USGS



Western Spadefoot Toad tadpole
by Karen Straus



San Diego Fairy Shrimp
by Amy George, USGS



Killdeer



San Diego Mesa Mint by Keir Morse, keiriosity.com



Common Raven



Spotted Sandpiper
Uncredited photos by DS

Key Staff Positions Now Filled

Giving San Diego Audubon a Major Infusion of Energy and Talent

Esther Tsai Director of Philanthropy

Esther is a nature lover. She is passionate about protecting wildlife and preserving natural habitats for future generations. Most importantly, Esther envisions a healthy environment for all. She has more than 30 years of experience in organizational leadership in nonprofit, private sectors and board development. She comes to us from Fred Wells Tennis & Education Center where she served as the executive director for six years. She was responsible for managing all aspects of the organization, including leading the organization in the strategic planning process and a successful capital campaign. She also specializes in strategic sales and marketing management during her time in the private sector where she held the position of regional vice president overseeing the Asia-Pacific markets. Esther served on numerous nonprofit boards, including the Twin Cities Habitat for Humanity, Dodge Nature Center, Tennis & Education, Visitation School. She is also an advisory board member of the Gustavus College TLC.



Rebecca Kennedy Communications Manager

An artist and storyteller by nature, Rebecca has helped a number of nonprofits reach the hearts of their audiences through beautiful visual assets and collaborative communications. Rebecca is a San Diego native, deeply connected to the landscape and wildlife of the region. She spent time living in Costa Rica where one of her favorite moments was sitting by a river with a toucan watching her from a nearby rock. More recently she lived in the Pacific Northwest, in awe of her frequent Bald Eagle sightings. She is always up for an adventure — traveling to new places, learning new things, and now helping San Diego Audubon Society as we enter our exciting next chapter.



Cristina Santa Maria Conservation Manager

Cristina is passionate about habitat restoration, avian conservation planning, environmental advocacy, and inspiring the same passion within the community. Cristina holds a degree in wildlife biology with an emphasis in management and conservation from Cal Poly Humboldt. She advocates for the environment on several committees and has



experience working for the San Diego Zoo and the U.S. Geological Survey Western Ecological Research Center assisting in conservation research and monitoring locally endangered shorebird and riparian species. In her free time she enjoys time outdoors with her family and her garden, which sparked her love of native plants.

Brandon Weber Conservation Advocacy Coordinator



Brandon is the Conservation Advocacy Coordinator for San Diego Audubon Society. He obtained a B.A. in political science with a minor in sociology from San Diego State University. Much of Brandon's experience is political, working closely with candidates who strive to conserve and preserve our environment. As a San Diego native, he is dedicated to building a more equitable and sustainable future for our region.

Brandon firmly believes that we can all live longer, healthier lives when we protect and preserve native plant and animal species through conservation and education efforts. Outside of work, Brandon loves spending time with his cat and dog, and hiking with his partner.

Nick Thorpe Philanthropy Coordinator

Nick Thorpe is SDAS's new Philanthropy Coordinator, responsible for managing grants and the donor database, while supporting membership and fund raising outreach efforts. Nick has a degree in Mechanical Engineering from UCSD and worked as a Program Manager and proposal writer for six years in the aerospace industry before coming to SDAS. During his time in the private sector, he proposed, won, and managed several multi-million dollar programs for both governmental and commercial customers. Nick is a kindred heart for SDAS's conservation mission, having volunteered with us any way he could since moving to San Diego. Above all, he wants to improve the lives of both birds and people through his work. Nick also has a terminal case of the birding bug, and spends his free time scouring the county for rarities when he's not at home with his wife and two cats.



Coral Weaver Conservation Coordinator

Coral has a degree in Anthropology and Sustainability from SDSU. After finishing her studies, she studied monkeys and apes across Indonesia, Argentina and Kenya. She has recently returned to San Diego with a renewed interest in protecting and preserving our local species. Coral is deeply interested in the creation and connection of wildlife corridors for the preservation of biodiversity.



Conservation: Imagining the Possible

Let's Create a New Normal for Biodiversity in Our Region

by Andrew Meyer, Director of Conservation

How we think about biodiversity is deeply rooted in our memories of the natural world. These memories help us create what we think of as “normal,” but what is seen as normal changes from generation to generation. That generational change is almost always a decline, such as in what we think of as the normal number of Brant Geese in Mission Bay, the normal number of Acorn Woodpeckers in the Laguna Mountains, or the normal level of winter rainfall. We call this generational change “shifting baseline syndrome.” This disheartening shift affects all kinds of natural resources—our parents actually caught bigger fish, and our grandparents actually saw more grassland birds moving through the country. Furthermore, this syndrome has huge implications for how much we will fight to restore and to invest in the biodiversity and natural resources in our communities.

For individual birds, it's hard to fight for a bird that we don't recall seeing, or that we have seen only as a much-diminished species. The Bachman's Warbler is mentioned recently in the two-person play *Bird Songs of North America* by Anna Ouyang Moensch. It was once the seventh most common migratory warbler, but it has not been seen since the 1960s. The seven Ridgway's Rails that we identified in February with UC San Diego Kendall-Frost Marsh managers, seem like a “normal” number to have in Mission Bay. But the scrub-thicket grassland habitats of Bachman's Warblers and the coastal wetland habitats of Ridgway's Rails have diminished dramatically in recent history.

In the early 1900s, field biologist Brooke Meanley saw and photographed a sky blackened with 20 million birds in one day in Arkansas grasslands. Similarly, the southeast corner of Mission Bay was called Duckville on early 1900s maps because of the prevalence of waterfowl there.

Our Kumeyaay partners are helping to shift our view of what is normal in what we now call Mission Bay. At our most recent “Love Your Wetlands Day,” Kumeyaay friends and partners, including

Stan Rodriguez, President of Kumeyaay Community College, and Priscilla Ortiz, this year's Miss Kumeyaay Nation, shared how to build boats out of tule rush (*Schoenoplectus acutus*) that was harvested from the freshwater pond at our own Anstine-Audubon Nature Preserve in Vista. Kumeyaay have launched tule boats into the bay since time immemorial, and the more Priscilla, Stan, and others share this precious connection with us, the more that memory becomes normal for Native Americans and for all other San Diegans. With renewed connections to our history, we'll fight for our restored habitats to become and to stay normal.

We are fighting for a restored bay, for the birds, for Kumeyaay reconnection, and for all of us. Annie Proulx's book, *Fen, Bog & Swamp*, includes this ReWild-relevant, uplifting passage: “It is easy to think of the vast wetland losses as a tragedy and to believe with hopeless conviction that the past cannot be retrieved—tragic and part of our climate crisis anguish. But as we see how valuable wetlands can soften the shocks of change, and how eagerly nature responds to concerted care, the public is beginning to regard the natural world in a different way.”



National Audubon Votes to Retain Name

On Wednesday, March 15, 2023, the National Audubon Society revealed its decision to retain its name. Audubon California has confirmed that they will also be retaining the Audubon name because, unlike chapters which are independent organizations, Audubon California is a state office of the National Audubon Society and cannot change its name.

The legacy of John James Audubon has been well established, and we acknowledge the issues surrounding the use of his name. We will be carefully weighing National Audubon's rationale as we identify the best path forward for our chapter.

San Diego Audubon is committed to fulfilling our mission. We are following a careful process that will evaluate whether our current name best supports that mission and vision — to defend our region's birds, unique biodiversity, and threatened habitats through advocacy, education, and restoration.

Please reach out to Communications Manager Rebecca Kennedy with any questions or comments by emailing kennedy@sandiegoaudubon.org.

Executive Committee and Board of Directors Welcome New Members

San Diego Audubon Executive Committee

Eowyn Bates, *President*
Lesley Handa, *Vice President*
Conny Jamison, *Treasurer*
Lisa Chaddock, *Secretary*
David Stump, *Recent Past President*

SDAS Board of Directors (Includes Executive Committee)

Vickie Church
Jim Peugh
Sandeep Dhar (*new*)
Sally Kaufman (*new*)
Robert Nickel (*new*)
Muriel Spooner (*new*)

The San Diego Audubon Board of Directors is excited to receive four new members representing a range of professional backgrounds and skills. The new board convened in January, six months earlier than is normally done.

The Executive Committee, reflecting the updated bylaws and looking to refine the processes of board governance, has two new members. Eowyn Bates is our new Board President, with Lesley Handa now serving as Vice President. **We encourage you to visit www.sandiegoaudubon.org, “About Us” and check out “Board and Staff.”**

Silverwood Scene *Nurturing Biodiversity at Silverwood Wildlife Sanctuary*

by Phillip Lambert, Resident Manager

The great diversity of wildlife at Silverwood Wildlife Sanctuary derives from its size (as a 785-acre preserve), its proximity to 3,000 acres of San Diego County and U.S. Forest Service open space to the south and east, and its diversity of natural habitats. These very productive habitats include chaparral, riparian oak woodlands with seasonal streams, and riparian woodlands of oak, sycamore, willow, and cottonwood trees. Chaparral is the most dominant habitat on the sanctuary, and there are two types. The most common is mixed chaparral, which generally occurs below 5,000 feet on north-facing slopes; and the other is coastal chaparral, which is found at elevations of 1,500 feet in drier south-facing sloped areas. Silverwood also features two important microhabitats: *ciénagas*, or seasonal wetlands that look like small meadows, and *successional "islands"* of unique flora on open rock slabs. *Ciénagas* form in heavy rainy seasons when the saturated soil causes root rot in chaparral shrub, leaving the site open for native flowering annuals. *Successional islands* consist of a thin layer of soil built upon exposed igneous rock slabs and are occupied by species of pioneer plants which in both appearance and function bear similarities to the plant communities of arctic tundra.

Silverwood's resident managers began making records of the sanctuary's wildlife and behaviors starting in the 1960s with Frank Gander, our first resident naturalist. Actual sightings, as well as indirect evidence including tracks, scat, and nests, have been well documented. From these observations, we've learned much about how every plant, insect, and animal at Silverwood plays an important role in the ecological systems that have evolved here. These systems include interdependencies such as food chains.

For example, here at Silverwood, we observe that the offspring from two amphibians, Western Toads (*Bufo boreas*) and Pacific Treefrogs (*Hyla regilla*), are sustained by the green algae and other aquatic

predators such as raccoons, ringtails, and skunks. Snakes can become prey to the raccoons, ringtails, Coastal Grey Fox, hawks, and coyotes, and all small mammals may fall prey to the coyote. This illustrates the nature of the complex food chains at Silverwood. The elimination of any one native species from this cycle can result in the deterioration or loss of other living creatures that are dependent upon it as a food source, and also possibly produce a population explosion in other species that now lack their normal predator.

Of the 379 species of plants here, 80 species are nonnative, and many are considered invasive, especially annuals including Black Mustard, Star Thistle, and annual grasses such as Foxtail Chess (*Bromus. Rubens*) and Rat-tail Fescue (*Festuca myuros*), flash fuels that help to spread fire rapidly through the habitats they invade. With the help of volunteers and Silverwood staff over the past 20 years, we have worked to eradicate these invasives to reduce their fuel loads during fire season.



As a result of these eradication efforts, we have been recording native annual and perennial species never recorded here before because they can now thrive within the habitats. Every year since 2003, we have added newly recorded species to the original plant species list compiled by Frank Gander in the early 1970s.

Silverwood offers protection to 299 native species of plants, 38 species of amphibians and reptiles, 26 species of mammals, 123 recorded species of birds, and an unrecorded but large number of invertebrates. Some of these species are declining in numbers due to adverse human activities, but many of these same species contribute to our existence. The San Diego Audubon Society, by means of your support, has been able to successfully protect the remarkable biodiversity that exists within our Silverwood Wildlife Sanctuary. Thank you for the important role that you, our members, play!



Coyotes and Red-tailed Hawks are near the top of the food chain at Silverwood, and play important roles in maintaining the balance among its hundreds of species, including the recently rediscovered lichen shown above. Photos by Phil Lambert.

Silverwood Calendar for April-June, 2023

Silverwood Wildlife Sanctuary in Lakeside is free and open to the public on Sundays from 9 A.M. to 4 P.M. **Registration required.** To sign up for a visit RSVP at www.sandiegoaudubon.org/what-we-do/silverwood.

Silverwood is also open on Wednesdays, 8 A.M. to 12 P.M. for SDAS Friends members only. Please call a week in advance of the day of your visit at (619) 443-2998. See our web page for all updates.



vegetation growing in the intermittent streams where they're conceived. The tadpoles themselves are food for the naiads of the Common Green Darner Dragonfly (*Anax junius*) that waits, hidden beneath submerged debris, to ambush an unwary tadpole.

When the tadpoles metamorphose into young frogs and toads and emerge onto land, they begin to feed on small insects such as ants, flies, mosquitoes, and spiders. They themselves become a food source for many other animals, from reptiles such as the Night Snake, Garter Snake, Lyre Snake, and Striped Racers to other

Anstine Ambles *Small in Size, but Big in Biodiversity*

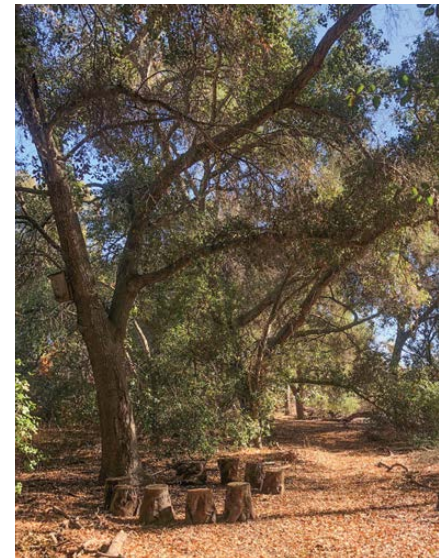
by Rebekah Angona, Anstine-Audubon Nature Preserve Resident Manager

The Anstine-Audubon Nature Preserve may be only 11.6 acres, but what we lack in size, we make up for in biodiversity. Within the confines of its boundaries, Anstine offers wildlife and guests four distinct habitats: coastal sage scrub, oak woodland, mixed riparian, and a freshwater pond. In the time it takes to walk through our two miles of trails, visitors may encounter a wide variety of bird species, including Phainopepla, Hooded Mergansers, Belted Kingfishers, Red-tailed or Red-shouldered Hawks, Greater Roadrunners, and Mountain Chickadees—sometimes all in one visit.

Even the same kinds of habitats showcase unique qualities, depending on where they are found on the property. The coastal sage scrub located adjacent to our parking area is dominated by White and Cleveland Sages, Lemonade Berry and Elderberry bushes, Coastal Goldenbush, and Narrowleaf Milkweed, while the sun-drenched, hillside coastal sage scrub habitat in the north portion of the preserve is filled with Black Sage, Sagebrush, Prickly Pear Cactus, Cholla, and Fuchsia Flowered Gooseberry. The mixed riparian habitat transforms throughout the year from willows and elderberry to a blanket of wild grapes in the summer. The small, tart grapes are a sure sign that the Western Bluebirds will be filling our trees, darting from limbs to grapevines in search of the tasty fruit. The freshwater pond hosts a wide variety of waterfowl, shorebirds, and songbirds, including Mallards, Wood Ducks, Great and Snowy Egrets, Green Herons, Soras, and Red-winged Blackbirds. The old-growth trees of the oak woodland provide excellent feeding grounds for Cooper's Hawks, Acorn Woodpeckers, and Great Horned Owls.

Anstine is a wonderful reminder that even a small parcel of land can be invaluable habitat for wildlife. It certainly seems that the more than 100 species of birds and numerous mammals, insects, and reptiles are grateful for this small but mighty nature space.

A large oak shelters a teaching circle along the Anstine trail. By Rebekah Angona.



Green Heron by Margaret Elman



Narrowleaf Milkweed by R. Angona

Teaching Moments

SDAS Partners with Barona Band of Mission Indians for New Education Programs

by Rebekah Angona, Director of Education



Jorge Ayón guides Barona students at Mariner's Point

San Diego Audubon's education programs have always strived to reach a wide variety of communities throughout our county. Students visit the San Diego Bay National Wildlife Refuge and Otay River Valley Regional Park in South Bay, explore Mariner's Point and Kendall-Frost Marsh in Mission Bay, and hike the trails at our Anstine-Audubon Nature Preserve and Silverwood Wildlife Sanctuary. We love being able to connect our students with the natural spaces in their communities. This year, we are excited to expand our reach even farther through a new partnership with the Barona Band of Mission Indians.

Working closely with the Barona Cultural Center and Museum, our staff participated in professional development workshops to learn about the history of the Kumeyaay people and their connection to the plants, animals, and habitats of what are now San Diego and Baja California. With the assistance of museum staff, the Silverwood Science Discovery program has been enhanced to include indigenous connections to our native wildlife, including ethnobotany and the role that animals in our region play in Kumeyaay culture. Our students will be learning about the native chaparral plants and animals through a research project designed by the museum staff. We look forward to sharing the Kumeyaay culture with our students.

Additionally, San Diego Audubon hosted the Barona Indian Charter School's third- and fourth-grade students, taking them to Mariner's Point to participate in our Sharing Our Shores: Mission Bay program. The students and staff learned about dune habitats and the threat to the endangered California Least Tern through in-class lessons, then we headed out to Mariner's Point to prepare the nesting site for the terns' arrival. Next school year, these same students will participate in our Sharing Our Shores: Kendall-Frost program, learning about the marshland habitats of Ridgway's Rails and visiting the Kendall-Frost Marsh Reserve to restore native habitat for wildlife. We are excited about this expanded partnership and look forward to learning from one another and protecting wildlife together.

