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Sketches SAN DIEGO AUDUBON

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Sketches SAN DIEGO AUDUBON

APRIL 2022 • VOLUME 73 • NUMBER 3

Reservoir Birds

Oases of water in an arid land, our reservoirs are both boon and bane for wild birds

Western Grebes in courting "rush"
Krisztina Scheeff / KS Nature Photography

The Grebes of Lake Hodges *and Their Complicated Quest to Nest*

by LaTresa Pearson, Sketches Editor

Pair bonding rituals are an important stage. By Krisztina Scheeff/KS Nature Photography

I sit quietly along the bank of Lake Hodges gazing across Bernardo Bay. Frog-like sounds fill the air. *Cree creet. Cree creet*. The source, however, is avian not amphibian. It is the advertising call of Western Grebes, elegant black-and-white waterbirds with piercing red eyes. Dozens of grebes swim and bob on the stretch of water before me, and the advertising calls seem to come from every direction. This call is the first step in the grebes' rushing display, one of the most elaborate courtship ceremonies in the bird world. I spot a single grebe swimming purposefully toward another. *Cree creet, cree creet, cree creet*. The other grebe returns the call and begins swimming toward the first. As they draw near, they flatten their bodies against the water, their long, swan-like necks arching forward with their heads just above the surface. Their crests raise and their red eyes lock, their bills inches from one another.

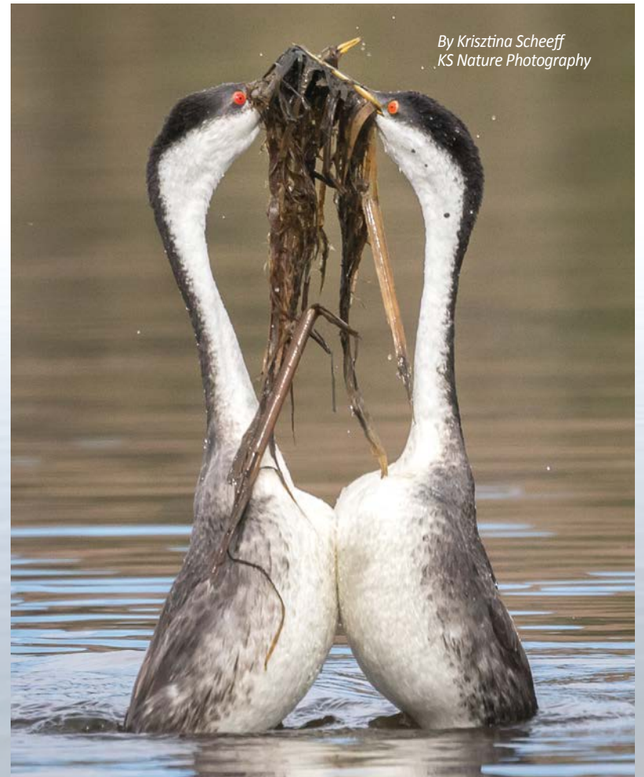
The call changes to a harsh clicking like the sound made by a ratchet wrench, giving the second step in the display its name, *ratchet-pointing*. They dip their bills in the water and shake their heads back and forth for a few seconds (not surprisingly called *dip-shaking*), and then, turning so they are side by side, they use their large, lobed feet to propel their bodies out of the water and begin running across the surface. They are fully upright, necks elongated, bills pointed slightly upward, wings lifted but not extended, feet clearly visible above the water, stepping in synch. The water splashes in waves behind them, and the sound of their feet slapping against the surface reverberates across the bay. I watch transfixed until their long necks begin to lurch forward, their bodies separating as they end with a head-first dive. The whole spectacular display is over in a matter of seconds.

Traveling at a rate of up to 20 steps per second, Western and Clark's Grebes can cover up to 60 feet during a rushing display, making them not only the bird with the fastest documented stride frequency, but also the largest known vertebrates capable of running on water. According to a study published in the *Journal of Experimental Biology* in April 2015, "Grebes must accelerate their body out of the water and against water resistance, requiring the production of hydrodynamic forces greater than their body weight, without the use of their wings." The authors conclude that three mechanisms enable them to run on water: their stride frequency, the velocity and force created by their lobate toes when they slap against the water, and their ability to retract their feet to reduce downward drag.

Until the 1950s, Western and Clark's Grebes would visit San Diego County only in the winter, but the proliferation of humanmade reservoirs stocked with fish—the grebes' primary food source—proved inviting, leading them to become full-time residents. The two species, which live in mixed colonies, look and act so much alike they were thought to be variations of the same species until testing in 1985 revealed substantially different DNA. The easiest way to differentiate the two is to look at their eyes and bills. The eyes of Western Grebes are set within their black caps, and they have greenish-yellow bills. The eyes of Clark's Grebes are set in the white feathers just below their black caps, and their bills are orange. According to the *San Diego County Bird Atlas*, Lake Hodges, nestled within the communities of Rancho Bernardo and Escondido, is home to the largest colony of Western Grebes in the county, with more than 400, as well as about 100 Clark's Grebes.

In recent years, however, the colony has experienced devastating nesting losses, particularly in 2019 and 2020, when the entire nesting colony collapsed, alarming many in the community and pushing the City of San Diego, which owns and operates Hodges Reservoir, to find ways to better balance the nesting needs of its popular residents with the drinking water and energy needs of the people for whom the reservoir was created.

From the small parking lot across from Hernandez Hideaway off Del Dios Highway, I make my way through the oak trees to the Coast-to-Crest trail in the San Dieguito River Park. My destination is Hodges Dam, a few miles south. Before the dam comes into view,



By Krisztina Scheeff KS Nature Photography

Very uncommonly, a Western and Clark's Grebe will rush as a pair. By Krisztina Scheeff/KS Nature Photography

I see a small nondescript structure to the right, surrounded by fencing topped with barbed wire. This is the Lake Hodges Pump Station, and its operation is central to the grebe nesting issue. Owned and operated by the San Diego County Water Authority (SDCWA), the station extends 10 stories underground and houses two 28,000-horsepower pump turbines. An inlet–outlet structure located below the surface of Hodges Reservoir links to the pump station through a tunnel and moves water between the reservoir and the pump station, while an underground pipeline runs from Hodges Reservoir uphill to the Olivenhain Reservoir. Water pumped between the two reservoirs generates power that is transmitted to SDG&E.

As part of SDCWA's Emergency & Carryover Storage Project, the primary purpose of the Pump Storage Facility is to ensure that the county has up to a six-month water supply in the event an earthquake, drought, or some other disaster interrupts the delivery of imported water. It is also designed to prevent water losses due to spillover during heavy rains by allowing water to be pumped out of Hodges Reservoir to other parts of the water system. According to the SDCWA's website, the hydroelectric component of the station helps manage temporary peak electricity demands or unplanned outages, while also bringing in revenue to help offset operating costs. The hydroelectric facility is permitted to change the water level of Lake Hodges up to 0.61 feet per day—up or down—but by midnight each Sunday, "the balance must be returned to the starting elevation of the previous Monday," Summer Adleberg, Senior Water Resources Specialist with SDCWA, told me in an email.

"We call them the tides of Lake Hodges," says Krisztina Scheeff of KS Nature Photography, who leads workshops at Lake Hodges to teach participants about grebe behavior and techniques for photographing their rushing ceremony. Scheeff joined San Diego Audubon's Conservation Committee after the 2019 nesting losses and has been heavily involved in monitoring the nesting birds and communicating with the City to help curb future losses.

After checking out the pump station, I continue down the trail to Hodges Dam. Built between 1917 and 1919, the structure is remarkably unchanged from the historic photos I've seen, but that is likely to change over the next several years. In 2019, an assessment by the California Department of Water Resources Division of Safety of Dams (DSOD) determined that Lake Hodges Dam and appurtenant structures are in poor condition and need substantial repairs. As a result, the state mandated a maximum water level of 295 feet, which will remain in place for the reservoir until the dam is repaired or replaced, and additional restrictions could be imposed by the state.

"Hodges has a number of repairs that have been identified by DSOD," explains Megan Hickey, Principal Water Resources Specialist at the City of San Diego Public Utilities Department. Short-term repairs include concrete patching and repairs on some of the leaking areas within the dam structure, as well as filling an undermined portion of the dam spillway. Although the DSOD has mandated the short-term repairs be completed by December, Hickey says, "The City is currently doing its best to meet that date, but we have significant environmental constraints and challenges. We're reevaluating that schedule as the project is being designed."

In the long term, one of the design proposals is to build a new dam downstream of the current structure. "There will be a very thorough environmental review process before any decision is made to approve or disapprove a project of that magnitude," says Keli Balo, Assistant Deputy Director at the City of San Diego Public Utilities Department, adding that the CEQA (California Environmental Quality Act) and NEPA (National Environmental Policy Act) requirements alone for a large dam replacement will require a minimum of three to five years to complete.

That means the DSOD's mandated maximum water level of 295 feet is likely to remain in place at Hodges Reservoir for several years. At the same time, SDCWA requires a minimum water level of 290 feet to operate the pump storage facility. "That's actually one of the major variables in restricting how we operate the reservoir today," Balo explains. "The state has mandated a maximum water level and the County Water Authority has a minimum water level, and we have to sit in that range, and it's a very narrow range."

It is especially difficult to keep the reservoir within its minimum and maximum elevation range when it rains, says Balo, because the San Dieguito watershed, which drains into Hodges Reservoir, extends about 300 square miles. "When it rains, there are significant inputs into Hodges Reservoir," she says. Since the watershed begins in the Volcan Mountains, runoff into the reservoir can continue for days after the rains end. "We have to practically plan when we see a rain event coming how to manage water levels in that range," she says.

The City works with SDCWA, as well as the San Dieguito Water District and Santa Fe Irrigation District, the primary users of the water from Hodges Reservoir, to move the water within the water delivery system. "The capacity of the watershed and Mother Nature are much greater than the capacity of our pumps and pipeline, so it can take weeks to move large amounts of water in and out of the

(Continued on page 4)

(Continued from page 3)

reservoir," says Balo. The problem is they don't have weeks, due to the dam's safety issues. According to the City's operations plan for Hodges Reservoir, the DSOD will allow the water level to infrequently go up to a maximum of 297 feet for no more than 10 days to allow the City to lower the reservoir through its water delivery system. After that, the City's only choice is to dump the water downstream. "And that we don't want to do," says Balo. "Water is very precious to us. We want to be able to capture and use as much as we can."

In San Diego, the rainy season coincides with the peak months of the grebes' nesting season, creating a conflict between the City's need to manage the lake's water levels and the grebes' instinct to nest when desirable conditions present themselves. And it is this conflict that led to the nesting collapses in 2019 and 2020.

It's about 6 a.m. and still dark when I meet Scheeff at Rancho Bernardo Community Park. We strap on our backpacks and head across the street to the trail that leads to the east side of Lake Hodges. Scheeff leads me up a hill, and as we approach the top, the darkness gives way to the soft gray light of the cloud-covered morning sky. The 990-foot-long pedestrian bridge is below to the east, and the 15 freeway is just beyond. The lake's waters end to the west of us, far short of the bridge. "A few years ago, there would be grebes nesting past the pedestrian bridge," says Scheeff.

At Lake Hodges, this northeast corner of the lake has been the hotspot for nesting activity. They also nest in smaller numbers in the southeast corner of the lake. Both areas provide the conditions the grebes prefer—shallow areas of water with emergent vegetation, such as cattails or weeds, which they use to construct floating nests that are anchored to willow snags or vegetation below the surface of the water. The grebes' rear-positioned legs and lobed feet, which enable them to swim swiftly and to run on water, make them clumsy and awkward on land, so the floating nests allow them to move from nest to water with ease. They also enable the newly hatched chicks to climb onto their parents' backs, where they spend most of their time until they can swim on their own.

During our visit, the area below the bridge and well west of it is dry, but Scheeff explains the grebes at Lake Hodges have proven themselves to be unusually opportunistic nesters. If the vegetation greens up and enough water infiltrates the areas where they prefer to nest, due either to rain or to water being pumped into the lake, they will quickly take advantage of the conditions and begin constructing nests and laying eggs, even if the area fills with water outside of their "normal" nesting season. In addition, grebes nest as a colony, so once a few begin building nests, others quickly follow. "In three days, they build the nest and mate," says Scheeff. "Within a week, they lay eggs." Because grebes nest in shallow water, usually less than a foot deep, their nests are vulnerable to even small fluctuations in water levels. If water levels don't remain high enough for the nests to stay afloat throughout the 23- to 25-day incubation cycle, the grebes will abandon their nests, which is what occurred in 2019 and 2020 when water was transferred from the reservoir after spring rains raised the water level well above the 295-foot mandated level. This stranded more than 200 nests above the water, causing the grebes to abandon hundreds of eggs, many of which were close to hatching.

The 2020 nest abandonment hit Scheeff particularly hard because she and David Hekel, a ranger with the San Dieguito River Park, had been communicating with Cheryl Jenkins, an environmental biologist with the City, who was brought in to monitor the grebes after the 2019 abandonment occurred. Jenkins's first order of

Western Grebe raft nest. By Krisztina Scheeff/KS Nature Photography

business was to develop a survey protocol to gather data on the grebes to aid the City in forming a management plan. "During the non-nesting season, which I know for grebes is a little fuzzy, I am generally out there about every other week doing a full survey of the areas where the grebes tend to congregate," says Jenkins. "During peak nesting season, I'm there once a week, and then during active nesting, I was out there daily making observations of the grebe behavior and reporting that information back to our staff and water system operators and the County Water Authority, as well," she says.

In 2020, the City was able to manage the water levels of the lake until storms in late April dumped several inches of rain. Although the City and SDCWA began moving water out of the reservoir in anticipation of the predicted storms, the amount of rainfall exceeded expectations, and they were not able to move the water quickly enough, Jenkins says. She adds that water was being released downstream of the dam as well as being pumped to Olivenhain. The grebe colony began moving in within 24 hours of the storm. Scheeff says the colony went from 50 to 150 nests within a week, and some already had eggs. By the second week, the colony jumped to more than 200 nests, but the water level continued to drop. Due to the state mandate, the City had to bring the water level down to 295 feet within 10 days. They didn't have the 23 to 25 days needed to get the grebes through the incubation cycle. As the water level dropped, stranding the nests above the surface, the grebes abandoned their eggs. "We just watched the mass exodus of 400 grebes. It was heartbreaking," Scheeff says, admitting to shedding tears when she gazed out at the hundreds of eggs left exposed to the sun.

To help avoid devastating situations like this in the future, Balo says the City has become a member of the Center of Western Weather

A Western Grebe carrying its chick. By Krisztina Scheeff/KS Nature Photography

Extremes with Scripps Institute of Oceanography and has also formed an agreement with the Bureau of Reclamation. Both have Forecast Informed Reservoir Operations (FIRO) programs, focusing on the study of *atmospheric rivers*—long columns of water vapor in the sky, which are responsible for up to half of the precipitation on the West Coast. The goal of these programs is to provide reservoir operators with enhanced monitoring and forecasting abilities, so they can better manage the amount of water retained or released from reservoirs. "What we want to try to avoid in these upcoming seasons is having the water levels go up and having ideal habitat created, and then us being in a position where we have to lower the water level," says Balo. "Finding ways to better forecast these events to drop the water in anticipation of them means we can avoid some of these large water-level changes in seasons that are more sensitive."

Another key area the City has been working to improve is communication between the agencies. Jenkins says both city and county water operators now check in with her before any planned changes in operations to see if there are environmental considerations. She also lets them know when she observes nesting or other sensitive behaviors, so they can adjust their operations. "It's an ongoing process," she says. "We're changing and evolving, but there's very tight communication." In addition, Jenkins says the City will be contracting with additional biologists to aid in monitoring.

In 2021, the grebes threw everyone a curve ball when they decided to nest in late July and early August. Because no suitable nesting habitat or nesting behaviors were observed in the reservoir at that time, the City approved a request by SDCWA to transfer water into Lake Hodges to do some repairs, says Jenkins. This raised the water level to 294 feet for about two weeks in mid-July, which allowed some vegetation to grow in the northeast and southeast coves, stimulating the grebes to nest. "The nesting caught us by surprise so late in the season," says Balo. "If we can schedule activities outside of those critical life-stage periods, then that's what we've been advising to our teams for years, for multiple species. That is exactly what is done here, but it may not always work because of the unique grebe behavior."

Scheeff, who had been leading a photography tour in Scotland, was pleasantly surprised to return to Lake Hodges and the sight of nesting grebes. She and Hekel conducted a survey of the nesting grebes by boat and land for San Diego Audubon, finding about 70 nests with 40 pairs of grebes with chicks. More than half had one chick, while 12 had two chicks, and 5 had three to four chicks. All in all, the surprise 2021 nesting season had a 57% success rate.

Although the results of the 2021 nesting season were significantly better than 2019 and 2020, nesting for the grebes at Lake Hodges is likely to remain complicated until the dam is repaired or replaced, due to the 295-foot maximum water level mandate. While the City is taking several steps to improve the situation, Balo says they are open to help and suggestions from the community. But, she cautions, it's important that community members not take matters into their own hands by putting nesting platforms or other structures on the lake, which occurred in late 2021. "I think we need more information on the science and the data to show us that type of option would be appropriate for the species and our location," says Balo. Jim Peugh, Chair of San Diego Audubon's Conservation Committee, supports experimenting with nesting platforms, but he agrees more research is warranted. "We would not be in support of a program to just stick them out there and hope for the best," says Peugh. "We would want to see something with some controls and some understanding of the upsides and downsides."

Balo says the best way for people to help is to be part of the data-gathering process. "We can't always be out there, but there are people who live in the community who are really passionate about Hodges and are there all the time," she says. "We would love to be able to utilize that information and those observations." One of the reasons Jenkins developed the City's monitoring protocol was to engage the community in helping to monitor the grebes in a way that is protective of the birds. She encourages those familiar with the grebes and interested in helping to email her at cljenkins@sandiego.gov, and she will provide a copy of the protocol.

Andrew Meyer, Director of Conservation for San Diego Audubon, believes helping to monitor the grebes and gather data for the City is an important role for members to play. "We want to show that we're useful for surveying and having eyes on the ground, and we're trustworthy," he says, "so that the City will then listen to us as one of the advisors on how to manage this and avoid these bad outcomes."

I sit quietly along the bank of Lake Hodges once again gazing across Bernardo Bay. Through my binoculars, I examine the pairs of elegant black and white birds swimming in the water before me, hoping to catch a glimpse of something small, gray, and fluffy. At last, my patience is rewarded by the sight of a tiny grebe chick riding on the back of one of its parents. The other parent approaches carrying a small fish in its bill. The chick stretches its already long neck toward the approaching bird and opens its bill to receive its meal with a quick swallow. It's a precious moment I hope to witness for many seasons to come.

Now Accepting Applications for Audubon Advocates

Our Audubon Advocates program provides free training and support for community members who want to make a difference for birds, other wildlife, and their habitats. This year's program runs from May through November and includes opportunities to learn about how to review environmental documents, run a winning environmental campaign, advocate to elected officials, and more.

Applications will be accepted until May 2, 2022, and can be found at **https://bit.ly/3M0eWKJ**.

Reservoir Birds–A Baker's Dozen

Here is a handful out of the scores of species that you may see at one of our county's reservoirs. There are more, of course, to observe than the waterfowl and fishing birds in this spread—birds that inhabit the sage and other habitats that may line the shores. But the waterbirds are the main attraction, in all their variety. Some only winter here; others are naturally resident. A few, like the Canada Goose, thrive in a quasi-tame comfort zone of safety and free food. They each, with varying degrees of success, need to adapt to sharing these bodies of water with humans and their purposes.

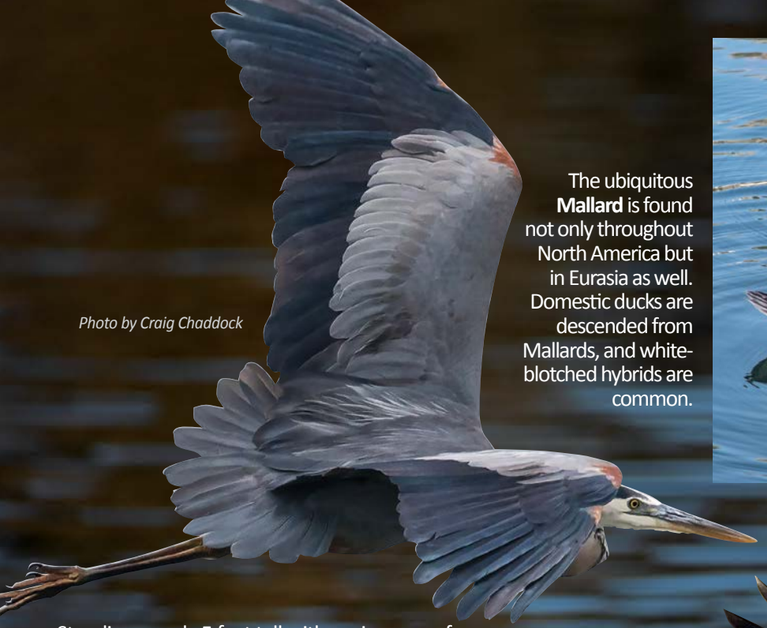


Photo by Craig Chaddock

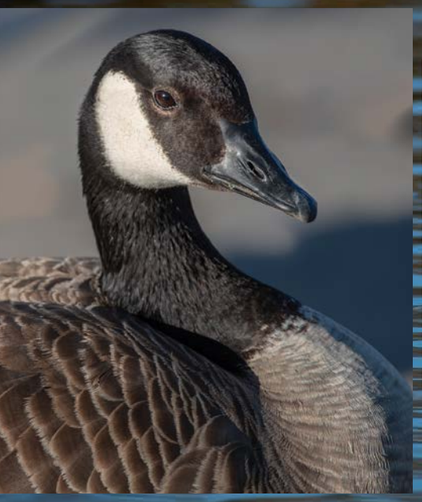
Standing nearly 5 feet tall with a wingspan of up to 6 feet., the **Great Blue Heron** has the adaptability and boldness needed to hold its own in local freshwater habitats.

The ubiquitous **Mallard** is found not only throughout North America but in Eurasia as well. Domestic ducks are descended from Mallards, and white-blotched hybrids are common.

Lesser Scaup prefer fresh water over salt and winter here in strong numbers. The iridescence on the male may appear green or violet.

The **Snowy Egret** can be quite the showboat. As it stalks knee-deep near the shore , it will wriggle one of its yellowish feet to stir up small crustaceans or other prey.

The **Belted Kingfisher** *(below)* is one of the few birds where the female is more colorful than the male. They will perch or perhaps hover several feet above the water, watching patiently for a careless fish.



The **Canada Goose** is a strong flyer with a migratory route of thousands of miles, but some settle here permanently. They find, as with the Mallards, free room and board at dammed reservoirs, raising their goslings and increasing their numbers.

The **American Coot** is perhaps the most ignored water bird in America. Their soft clucking and mind-numbing flock-walks may invite yawns, but who can argue with their success?

Photo by Krisztina Scheeff/KS Nature Photography

Photo by Karen Straus

When you see a cormorant in a local reservoir, you are almost certainly looking at a **Double-crested Cormorant.** Their spiky "crests" are prominent during the breeding season.

Ring-billed Gulls are the gull species most likely encountered at reservoirs but are often joined by California Gulls, Western Gulls, and others.

The **Pied-billed Grebe**, like all grebes, is a strong diver, searching out small (nonnative) crayfish and stocked fish. They rely on reed beds along the shore for nesting material and nest seclusion.

Uncredited photos by author David Stump

American Wigeons *(below)* are perhaps the most widespread duck locally other than the Mallard and have a fondness for golf courses.

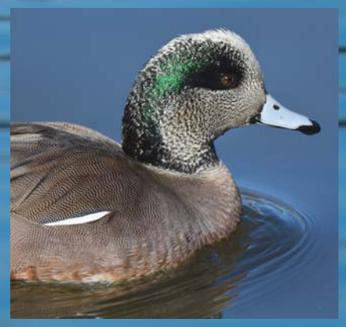


Photo by Timothy Stump

Like the Bald Eagle and the Peregrine Falcon, the **Osprey** has made a strong recovery after the banning of DDT. Several local reservoirs provide adequate fishing and nesting space for a mated pair and their huge nests.

Osprey and Kingfisher photos by Ed Henry

The **White Pelican** is the larger of our two pelican species, and the one you will see in fresh water. They are normally found in small groups that will fish together, synchronizing their movements to maximize their catch.

Reservoirs In a Land Without Natural Lakes

by LaTresa Pearson, Sketches Editor

Prior to the late nineteenth century, the plants, birds, and other wildlife in San Diego County depended on water from seasonal rains and runoff. Rivers, including the Santa Margarita, San Luis Rey, San Dieguito, San Diego, Otay, Sweetwater, and Tijuana, flowed from the mountains to the coast. Streams branched out from the rivers, and coastal areas included saltwater and freshwater wetlands. The Kumeyaay and Luiseño people lived along the rivers and streams, using them for drinking water, irrigation, food, and transportation. Early white settlers relied on springs and groundwater wells, but as the population grew, they began constructing dams across the rivers and streams to create reservoirs. While the dams and reservoirs enabled the region to grow, it "dramatically and permanently" altered the county's natural ecosystems, says Phil Unitt, Curator of Birds and Mammals at the San Diego Natural History Museum.

Bald Eagle by LaTresa Pearson; Least Bell's Vireo by Ed Henry.

"The massive importation of water has brought permanent water to places that under primitive conditions have it only seasonally," he says. "This favors organisms that are adapted to year-round water and, in many cases, disfavors those who were adapted to seasonal water only." The result has been that many invasive species are thriving, while many native species are threatened. He cites the American Bullfrog as an example of an invasive species that is thriving at the expense of the native Arroyo Toad, which is now endangered. "The whole question of reservoirs is intimately tied up with the whole question of invasive species, whether it's a Red-eared Slider Turtle or all the fish that are brought in," he says.

In addition, dams alter the downstream flow of water, impacting riparian habitat and threatening the species that use that habitat. Two bird species that have been hard hit by the reduction of riparian habitat in San Diego County are the Southwestern Willow Flycatcher and the Least Bell's Vireo, both of which are endangered and continue to be threatened by reservoir operations. "The important remaining colony of the Willow Flycatcher is along the San Luis Rey River downstream of Lake Henshaw," says Unitt, who has conducted surveys of the birds in the area. The Lake Henshaw reservoir is owned and operated by the Vista Irrigation District, which supplies water to much of the North County, so it is subject to fluctuating water levels like most drinking-water reservoirs. "The water level draws down, and all this dense willow growth colonizes at the upper end, which is good habitat for the Bell's Vireo, Willow Flycatcher, Yellow-breasted Chat, all these riparian birds, and then the water level raises up and they get flooded out," he says. "We've seen that on multiple occasions."

The county's reservoirs, however, also provide important habitat to birds and other wildlife. Many of the reservoirs provide a refuge for winter migrating waterbirds. Because of its location, Lake Henshaw is also often used as a stopover during storms as birds, such as Surf Scoters, Brants, and Common Loons, migrate back up to Alaska in the spring. "They come down on Lake Henshaw and sit it out, and then move on," says Unitt. "That's been seen a number of times, sometimes with flocks of hundreds of them." The lake's substantial mud shoreline provides habitat for migrating freshwater shorebirds, as well. "That's the best place in San Diego County for Baird's and Pectoral Sandpipers during migration," he says. In compiling data for the *San Diego County Bird Atlas*, Unitt adds that 44 waterbirds extended their breeding grounds southward, and reservoirs played a significant part in that movement.

Fishing birds have also benefitted from the county's reservoirs. "The fish-eating birds like the Osprey and the Bald Eagle have benefitted greatly," says Phil Pryde, Professor Emeritus of Geography at San Diego State University, and former Board President of San Diego Audubon. He says the only Bald Eagles in the county in the 1980s were the few that would winter at Lake Henshaw. "There were no breeding Bald Eagles at that time, and everyone got hugely excited when they first discovered a Bald Eagle nest in the county. Now we know several places where there are Bald Eagle nests." Bald Eagles can be observed at many reservoirs in the county, including Lake Henshaw, Lake Hodges, Lake Jennings, Lake Wohlford, and Lake Cuyamaca.

Although the county's reservoirs have dramatically altered the region's natural ecosystems, they also provide rewarding opportunities to observe many species of birds and other wildlife that we may not otherwise have. In addition, coalitions of government, tribal groups, nonprofit organizations (including San Diego Audubon), and citizens are working together to restore, revitalize, and conserve the important habitat along the county's watersheds.

Protecting Our Riparian Habitat and Its Wildlife

Escondido Creek Conservancy works to preserve and restore the Escondido Creek Watershed, which extends from above Lake Wohlford down to the San Elijo Lagoon. **www.escondidocreek.org**

Friends of Los Peñasquitos Canyon Preserve is dedicated to the preservation, restoration, and management of the Los Peñasquitos Canyon Preserve and adjacent open spaces. **www.penasquitos.org**

Friends of Rose Creek does habitat restoration and other work to preserve Rose Creek. Their goal is to create Lower Rose Creek Park, extending to Mission Bay. **www.saverosecreek.org**

Groundwork San Diego-Chollas Creek works to restore wetlands and uplands, create wildlife corridors, and enable creeks and streams to flow in the Chollas Creek Watershed **www.groundworksandiego.org**

San Diego River Park Foundation/San Diego River Conservancy/San Diego River Coalition work to conserve and restore the local environment along the San Diego River and its tributaries along the entire San Diego River Watershed, from Julian to the Bay. **www.sandiegoriver.org**

San Dieguito River Park is an independent local government agency responsible for creating and managing a natural open space park in the San Dieguito River Valley. SDRP is creating the Coast to Crest Trail that will extend 70 miles from Del Mar to Volcan Mountain, while preserving cultural and natural resources. **www.sdrp.org**

Hundreds Turn Out to Love Their Wetlands

by Megan Flaherty, Conservation Manager, and Andrew Meyer, Director of Conservation

The 17th annual Love Your Wetlands Day celebration took place on Saturday, February 5th and it was a smashing success! More than 600 community members came out to Kendall-Frost Marsh to experience, learn, help restore, and connect to this remnant habitat. This was our best-attended Love Your Wetlands Day ever, and it shows the growing appreciation for how important our coastal wetlands are, and how much we need to prioritize their restoration.

Organized by UC San Diego Natural Reserve System and San Diego Audubon Society, with impressive help from the Mission Bay Park Rangers, we and our partners organized a broad array of activities, including guided tours, opportunities to repair nesting rafts for the endangered Ridgway's Rail, trash clean ups, kayak clean ups, and much more. We were also honored to be joined by several Kumeyaay partners, who shared the making and interpretation of Ha Kwaiyo, traditional tule boats. Thank you to Stan Rodriguez of the Iipay Nation of Santa Ysabel; Cody Martinez, Chair of the Sycuan Tribal Council; and Maya Vicaldo from the Barona Band of Mission Indians, who shared their remarks and experience. Increasing access for the Indigenous communities whose ancestors lived in Mission Bay is a key component of our work to ReWild Mission Bay, made clear in the ReWild Coalition's 2020 equity statement, and this event was a great opportunity to strengthen those connections.

Thank you, as well, to the 25 partner organizations in this year's event, and to all of the elected officials who visited the marsh. In addition to our Kumeyaay partners, our speakers included Cori Peek-Asa, PhD, Vice Chancellor for Research and Kit Pogliano, PhD, Dean of Biological Sciences from UC San Diego; Mayor Todd Gloria; Assemblymember Tasha Boerner Horvath; County Supervisor Terra Lawson-Remer; Councilmembers Jen Campbell and Joe LaCava; and Judith Muñoz, Chair of the Mission Bay Park Committee.

Love Your Wetlands Day highlights how exciting it is right now to champion our wetlands—we need our ReWilders now more than ever! The ReWild Coalition is gaining strength and support every day with new partners representing human health interests, local businesses, and Native American organizations that broaden our advocacy and increase our power. The City of San Diego released a new land-use plan for the ReWild area in January; it's a big improvement over the 2018 land-use plan, and for the first time ever, it includes wetlands restoration in De Anza Cove, recognizing the great water-quality improvement value that is needed in this corner of our Bay. Our advocacy to ReWild Mission Bay has borne fruit—but we're not ready to harvest, yet. The city's De Anza Natural proposal restores more wetlands, but it still doesn't prioritize wetland restoration along our shared shoreline and is not ready for sea-level rise. We need to push the City to create contiguous restored wetlands that are resilient to what the sea level will be in 2100. There's a way to restore habitat, be resilient to sea-level rise, provide low-cost accommodation, ensure improved open access to the land, and improve water quality. It's our Wildest plan. Find out more at www.rewildmissionbay.org.

Kumeyaay tule Ha Kwaiyo canoes were built on site. Photo by Megan Flaherty.

In Memory of Two Larger-Than-Life Naturalists

By Megan Flaherty, Conservation Manager

In late 2021, the conservation world lost two greats. E.O. Wilson and Thomas Lovejoy died only a day apart as the second year of the pandemic came to a close. Each left his mark on the world of natural sciences, carrying out pioneering research and calling for the preservation of wild places.

E.O. Wilson grew up in rural Alabama, where a childhood injury to his right eye forced him to focus on slower and easier-to-spot organisms, kicking off a career in *myrmecology*, the study of ants. He went on to discover and describe more than 400 species of ants and was the first to study the chemical processes by which they communicate the location of food and danger. He created the Half Earth Project, found at https://www.half-earthproject.org, which calls for the protection of half of the planet's land and waters to mitigate the impacts of the sixth mass extinction, which is currently in progress. This project inspired similar movements, such as the "30 by 30" campaign now underway in California and around the nation. Supported by the United Nations, this campaign seeks to protect 30% of the planet's wild lands by 2030. Wilson's dedication to conservation has left a lasting impression, as have his numerous published works, which explore the interactions among species, as well as *biophilia*, the inherent love of nature held by humans.

Thomas Lovejoy is considered one of the founding fathers of the field of conservation biology. His time spent studying the vast diversity of the Amazon rainforest resulted in the creation of the term "biodiversity" in the mid-1970s, and he spent the following five decades advocating for its protection. His work quantifying the impacts of habitat fragmentation (also called "habitat islands") has informed conservation science ever since. One of the earliest employees of the World Wildlife Fund, Lovejoy created the concept of the "debt-for-nature-swap," an important tool for protecting natural resources in developing countries. Unfortunately many of his projections surrounding habitat loss and species extinction have come to pass, yet he remained optimistic about the potential for human innovation and collaboration to resolve these issues and usher in a new time of environmental stewardship.

These pillars of conservation will be much missed. With major environmental threats looming larger than ever, it is up to us to make good on their aspirations.

Silverwood Scene *Following the Water*

by LaTresa Pearson, Sketches Editor, and Phil Lambert, Silverwood Resident Manager

From the parking area at Silverwood Wildlife Sanctuary, a dirt road leads up to the Quail Trail. If you arrive early, this stretch of road between the parking area and the trailhead sign is the best place to see the tracks of wildlife attracted to one of Silverwood's four water features, which were constructed to provide drinking water and bathing opportunities for the Sanctuary's animal residents and visitors. It's such a good spot for track identification that Resident Manager Phil Lambert routinely uses it to conduct transect tracking lessons for youth groups visiting Silverwood. As Phil and I walk up the road, he shows me a large section of plywood with rope attached to it and explains how he and his assistant Sami Collins drag it over the loose dirt along the road to smooth the path the day before a lesson. When the group comes the next morning, they can see all the tracks—from tiny ants to Mule Deer—leading to and from the small rock and concrete basin filled with water from a steadily dripping water line.

Silverwood's observation area has two more water features. There, you can view the variety of life attracted to them from the comfort of one of several benches and chairs set up in the area. Like the water feature near the Quail Trail, the water feature in the lower part of the observation area is constructed of rock and concrete, fed by a slowly dripping water line, but this one is quite a bit larger and stands a few feet tall. The water feature in the upper part of the observation area looks like a natural pool. Phil says he and long-time Silverwood volunteer Pete Nelson transformed the original bird bath into a natural-looking pool by drilling a hole through a large stone and placing it next to a basin made of rock and concrete. Water trickles down over the stone into the basin below. Native vegetation grows around the water feature, adding to its appeal.

Phil Lambert points out the tracks of Silverwood's denizens.

During my visit in February, California Quail, Yellow-rumped Warblers, Hermit Thrushes, American Robins, and House Finches visited the water features in the observation area. I particularly enjoyed seeing mixed groups of Yellow-rumped Warblers and Hermit Thrushes sipping from the water trickling down the stone to the pool below while a Northern Flicker in a nearby oak tree noisily called from above. Phil says that in addition to the many bird species at Silverwood, he has seen a variety of other wildlife using the water features, including Bobcats, Coyotes, California Gray Foxes, rattlesnakes, toads, and tree frogs. "Four of the resident female mule deer spend their days roaming through the observation area during the early morning hours," he says, adding, "we should expect to see some fawns this spring coming to drink at the bird baths."

In the fall, I had also observed some White-crowned Sparrows drinking from the lower water feature. Apparently, I was lucky because Phil says there were few sightings of White-crowned Sparrows and no sightings of Fox Sparrows or Golden-crowned Sparrows during the fall/winter season. In addition, due to low rainfall, none of the Coast Live Oaks or Scrub Oaks produced acorns during the fall months, impacting the resident wildlife. Phil says he rarely saw the Acorn and Nuttall's Woodpeckers in January and February, but he observed the California Scrub-Jays flying from the residential community across the street with acorns in their beaks and stashing them in the Silverwood chaparral habitat. The resident Western Screech Owls also have been absent this winter, he says, but they should return to their nest sites in the observation area this spring.

"Spring migration should bring the bird species count back up for the year," says Phil. Warbler species, including Black-throated Gray, Townsend's, Hermit, and MacGillivray's Warblers usually arrive during April and May and are gone by June, he adds, so be sure to visit Silverwood before they're gone. The best place to observe them is at the two water features in the observation area.

(Above) A Hermit Thrush slakes its thirst at one of Silverwood's drip pools. Photo by LaTresa Pearson.

Silverwood Calendar for April-June, 2022

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.** Please note that COVID-19 safety rules may still be in place during your visit and should be followed at all times.

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.

Wish list: Silverwood needs to replace 10 feet of copper water line near the Manager's residence, and Phil is seeking donations to purchase and install the new pipe, which will run about $1,000.

Birdathon—For the fun of it (but the money helps too!)

By Kristen Tongue, Development Manager

Say goodbye to the birder blues, dust off the binoculars, fill up your feeders, and grab your checklist and camera … The San Diego Audubon Birdathon 2022 is here!

What: Spring is a great time to enjoy San Diego's incomparable bird life, and it is the time of year when we ask you to directly support our work to protect local birds by giving to our Birdathon fundraiser.

Who: The event is open to any and all solo birders, of all levels of experience as well as teams like The U-Terns, Too-Tired Birders, Elder Birds, and the Wandering Totalers, who are back in force this year.

Where: Anywhere you decide! Bird your favorite patch or all over San Diego County.

When: Your team will count as many bird species as possible within any consecutive 24-hour period during the month of April.

Register: Contact Kristen Tongue, our Development Manager, at tongue@sandiegoaudubon.org or call the office at 858-273-7800 ext. 107 to sign up. A webpage for donations should be set up by the time you read this. A $10 donation is suggested for individuals, and a $20 donation is suggested for a (virtual) team. Gather your fans, who can support you or your team by making one-time or match donations. Log these donors on the form we provide at registration.

Donate: The Birdathon gives us the opportunity to collectively celebrate and protect the birds and wildlife that we love. Compete to record the most species and raise the most money, and share texts, emails, and photos throughout your day. Reach out to your friends, families, and neighbors to get them to sponsor you. Any donation is welcome — it's up to them, and the birding is up to you. The deadline for donations to count toward a team's total is May 20th.

New this year: A fun end of Birdathon will be on June 1st at an as yet unnamed location, where we will announce the winning teams.

2021 Birdathon Results: *Most Species Counted by Team:* Wandering Totalers, with 141 species, followed closely by the U-Terns with 134 species, and the Silent Siskins with 111 species. *Most Funds Raised by a Team:* Silent Siskins, with $5,519.11 raised, followed by the Wandering Totalers with $4,519.16, and the Elder Birds with $4,491.86.

San Diego Bird Festival 2022

Perfect Weather Contributes to a Great Success

Written by Jen Hajj. Photos by Karina Ornelas.

San Diego was showing off her best for the 2022 San Diego Bird Festival. 550 birders came out to enjoy picture-perfect weather. 212 species of birds were spotted on our field trips, which went to the mountains, foothills, canyons, lakes, estuaries, shores and on the ocean.

We had travelers from all over the country, and a few Canadians escaping bitter cold weather as well. We've been receiving a lot of feedback from the people who attended, and the recurring message was that the festival was grand, and that our staff, trip leaders, and many volunteers all did an excellent job.

Our 2023 festival will be February 22-26. We're looking for folks to join our 2023 festival committee, so if you would like to share in the planning and staging of a well-oiled event, contact Jen Hajj at hajj@sandiegoaudubon.org. We'll be looking for committee members to work on field trips, hospitality, programs, silent auction, and the Red Bird Bookstore. We're pleased to announce we'll be doing a post-festival trip, "Wonders of the Desert" to Anza-Borrego and Salton Sea. The trip will take place February 27–March 1 with leaders Kurt Leuschner of College of the Desert and Desert Cities Bird Club and Festival Coordinator Jen Hajj. Watch for details at www.sandiegoaudubon.org.