

Sketches

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SAN DIEGO AUDUBON

Threatened by Too Much Fire:

*The Science behind Protecting Southern California
Chaparral and Sage Scrub Habitats*



Rock Wren by Parrish Nnambi

Threatened by Too Much Fire:

The Science behind Protecting Southern California Chaparral and Sage Scrub Habitats

By Richard W. Halsey, Director of the California Chaparral Institute

Rich, dense shrubbery. As every Southern California birdwatcher knows, many of our region's most iconic birds—Wrentit, Spotted Towhee, California Thrasher, Scrub Jay, California Gnatcatcher—thrive in our native shrublands. The physical structure of these shrub habitats—chaparral, with its dense stands of woody shrubs, and sage scrub, characterized by soft, aromatic plant species—helps create one of the most biodiverse natural communities on Earth.

The arrival of humans has prompted widespread disturbance and destruction of native habitat, posing one of the greatest threats to nature in California. While development certainly drives much of habitat disturbance, a byproduct of human carelessness poses the most significant, immediate danger—the increasing frequency of wildfire.

Travel anywhere in Southern and Baja California, and you are often confronted with large tracts of land filled with invasive, flammable, nonnative weeds. These weeds spread when wildfires are too frequent for natural recovery of native plant communities. For chaparral, the natural fire-return interval is 30–150 years or even more. The interval is a little shorter for sage scrub. Before humans first began to seriously impact the California environment, about 10,000 years ago, some chaparral stands were quite probably fire-free for centuries.

When fire returns too frequently, keystone chaparral shrub species, such as *Ceanothus* and *Arctostaphylos* (manzanita), have difficulty repopulating the burned areas. Lower-intensity fires result in lower germination levels, and shorter intervals between fires don't allow adequate time for seed banks to fully recover. As a consequence, the habitat becomes even less dense, with quick-growing nonnative weeds and grasses often filling the void. Grim evidence for this trend: San Diego County's 2003 fire storm burned over 375,000 acres, after which the 2007 fire storm reburned nearly 70,000 of the same acres. The habitat in these areas is now severely compromised.

As Audubon members, we must inspire others not only to appreciate and enjoy our avian companions, but also to help us protect the habitat that birds and other wildlife need to thrive. To help us achieve this goal, a solid understanding of fire ecology is important to help us dispel the many misconceptions people have about wildland fire. Following are some key concepts.

1. Large, infrequent, high-intensity chaparral wildfires are inevitable in California and Baja. Large, high-intensity chaparral fires have occurred in the distant past and will continue to occur. For example, more than 300,000 acres burned in the Santiago Canyon Fire during the last week of September, 1889, in Orange and San Diego Counties (comparable to the 273,246 acres burned by the 2003



Photo by Pete Nelson

Cedar Fire). This newspaper quotation from the time is eerily similar to what was written after the 2003 and 2007 wildfires that swept across much of Southern California:

During the past three or four days destructive fires have been raging in San Bernardino, Orange, and San Diego...It is a year of disaster, widespread destruction of life and property—and well, a year of horrors.

The Daily Courier, San Bernardino

The 1889 fires didn't inflict much human or property damage because few people lived in the backcountry then. Now, with so many homes built up against wildland areas, fires can become catastrophic for neighboring human communities. This problem also applies to wildfires in Baja California. Both the historical record and scientific research contradict any claims that Baja does not have large wildfires because of a "let burn" fire policy (See sidebar).

2. Chaparral fire patterns differ from those of forest fires.

Chaparral's natural fire pattern results in large, high-intensity crown fires occurring 30–150 years or more apart, where all above-ground plant cover is consumed. Generally, the hotter the fire, the better it is for the chaparral ecosystem. Hotter fires cause greater germination of native seeds and more destruction of invasive plant species. However, when fires occur more often than every 10–20 years, fires pave the way for the invasion of nonnative, highly flammable weeds and grasses. This invasion ultimately increases an area's flammability, further increasing fire frequencies.

On the other hand, mixed conifer and Ponderosa/Jeffrey Pine forests on the western slopes of the Sierra Nevada generally have mixed-severity fires, occurring every 20–60 years. Such fires include large high-severity patches that kill most of the trees. These burned

patches are critical for maintaining California's biodiversity, as they create important snag forest habitat, vital for birds such as the Black-backed Woodpecker. Unfortunately, the U.S. Forest Service destroys large amounts of such habitats through postfire salvage logging. One such project is currently being conducted within the Rim Fire area in the Stanislaus National Forest.

3. Old-growth chaparral is a beautiful, healthy ecosystem.

Chaparral does not need fire to renew itself or to clean out excess vegetation. As an ecosystem, old-growth chaparral does not need fire to remain healthy. The terms "overgrown" and "senescent" that are often applied to old growth are more applicable to our managed backyards and urban parks than to wild plant communities. Old-growth chaparral continues to be a productive ecosystem, growing fresh, new leaves and branches in its upper canopy every year. In fact, some chaparral plants require the leaf litter and shade provided by older chaparral stands for their seeds to germinate successfully. Far from being unproductive, as some claim, old-growth chaparral (in excess of 50 years) is actually just beginning a new cycle of life.

4. Fire suppression has protected the biodiversity of California's native shrublands from excessive fire. With fire frequency increasing, selective fire suppression has been essential in delaying the loss of native shrublands throughout the state. After recognizing the risk of increased fire frequency in chaparral, California State Senator Hanna-Beth Jackson added an important caveat to her successful 2018 bill restricting Cal Fire's habitat burning projects so they do not result in converting healthy native-plant ecosystems to unhealthy nonnative weeds and grasses. Cal Fire is attempting to

The Myth of Small Fires in Baja California

During the last week of October, 2019, wildfires raged in Baja California, burning more than 17,000 acres, destroying nearly 200 homes, and killing four people. The fires were propelled by Santa Ana winds reaching speeds up to 60 miles per hour. Similar fires occurred in 2014 and 2007.

Such fires clearly contradict the "Baja Fire Mosaic" hypothesis, which claims that large fires do not occur in Baja because of a let-burn fire policy or a lack of fire suppression in wildland areas there. This hypothesis is often inaccurately used to support the notion that past fire suppression in Southern California has led to an unnatural build-up of "fuel"

(i.e., habitat), which in turn is claimed to be responsible for large, high-intensity fires. The hypothetical narrative goes, "If we would just let fires burn, or conduct prescribed burns, California wouldn't have a fire problem." The historical record and scientific research contradict such a conclusion. This false narrative has also led to destructive land-management policies that have been responsible for eliminating native shrubland habitats.

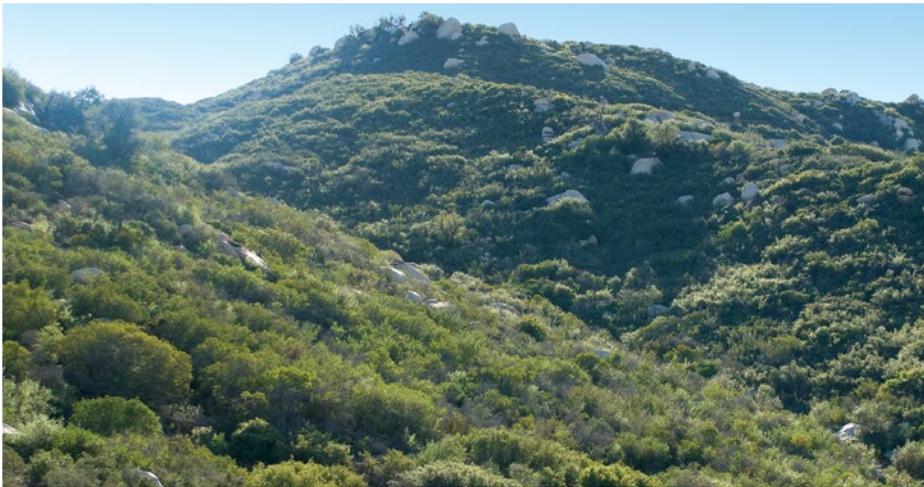


First proposed in 1983, the Baja Fire Mosaic hypothesis originally gained traction in the fire-management community because it is intuitively appealing and offers a simple solution to the wildfire problem—just clear (burn) more habitat. Huge amounts of money have been spent clearing habitat over the past few decades, even as every decade brings increased fire activity and wildfire losses.

The fundamental problem with the hypothesis is that its three underlying assumptions are false: (1) Large wildfires in California are not a new phenomenon; they have been occurring for thousands of years. (2) Fire suppression has not been effective in excluding fire from Southern California shrublands. (In fact, fire suppression has protected native shrublands from converting healthy native-plant ecosystems to nonnative weedlands.) (3) Baja and Southern California are not comparable landscapes—their demographic impacts, plant communities, climatic conditions, and topography radically differ.

California's large, devastating wildfires are driven by wind, not by vegetation. Though fire does need fuel to burn, when the Santa Ana winds blow, it doesn't matter whether that fuel is nonnative grass, shrubs, trees, or houses—the fire will continue to burn until the wind stops or it hits an unburnable object, such as the Pacific Ocean. In fact, of the 16,909 fires that burned in California in 2017 and 2018, just 9 fires caused 95% of the damage to human communities. All 9 were wind-driven fires.

Large, high-intensity, wind-driven fires are inevitable in California. What's not inevitable is the destruction of our communities. Science has clearly demonstrated that the best way to prevent fire's destruction is to focus on making our homes and communities themselves fire safe, not by attempting to control nature by clearing native habitat.



Silverwood one day after the Cedar Fire (above left) and as it looks today.

circumvent this restriction, but the California Chaparral Institute, Endangered Habitats League, and Sequoia Forestkeeper are challenging this attempt in court.

5. Adaptation to fire requires hundreds of thousands to millions of years. Basic evolutionary science contradicts the belief that plant species have developed adaptations to fire over the past 5,000–10,000 years due to human burning practices. Instead, most California plant species have adapted to specific fire patterns or regimes that have evolved over the past 10 million years. Changes in fire frequency, intensity, and seasonality (coupled with disturbance of soil that typically occurs prior to prescribed burning), can dramatically reduce biodiversity. This has occurred throughout many areas in California, due to both accidental and prescribed fires. Such loss of biodiversity resulting from excess fire in San Diego County can be seen along Highway 78 between Escondido and Ramona.

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6. Native Americans used fire, but not to the extent claimed by proponents of prescribed burning. In northern California, significant evidence supports the use of fire by indigenous peoples. However, for central and Southern California, Europeans were more effective in destroying much of the region's cultural history. Consequently, the details of precisely why, where, and how burning was done in early Southern California have been lost. Nonetheless, we have been able to glean some information from Spanish journals and from the archeological record.

Fire was used primarily near villages along the coastal plain to promote the growth of favored food plants. Nearly all of these areas are now under shopping malls, freeways, and housing developments. Regarding chaparral, however, there is little evidence that indigenous people actively burned it. The primary proof for this is the chaparral's continued existence on the landscape. Any deviation in the fire regime over the brief period of human occupation would have seriously compromised the health of the ecosystem. The most frequent cause of natural fires is lightning, but coastal California has some of the lowest lightning frequencies in North America, so frequent burning could not have occurred here without human intervention.

Undoubtedly, human-ignited fires on the coastal plain occasionally got out of control and moved into the mountain chaparral, but that probably occurred infrequently because it is much harder to ignite mountain chaparral than drier coastal sage scrub and grassland.

With millions of people on the landscape, the invasion of highly flammable, nonnative grasses and weeds that were not present hundreds of years ago, and climate change creating a drier and hence more flammable landscape, we must adapt to a rapidly changing world if we intend to protect what wild is left in California. For chaparral and sage scrub, this means reducing fire frequencies and protecting remaining stands from disturbance. For human communities, the best way to prevent loss of life and property is to adapt to nature rather than thinking we can control it—retrofit existing structures to make them more fire safe, plan communities so they are not built in high fire-risk areas, and maintain proper fuel management (which includes wooden fences, wood piles, ornamental vegetation, and native vegetation) directly around structures.

For more information, please visit <https://www.californiachaparral.org> or email Rick Halsey at naturalist@californiachaparral.org. Rick is a former teacher turned fire ecologist, a firefighter and an author.

Silverwood Scene *Fire recovery comes naturally to chaparral, but that's no reason for complacency*

Phillip Lambert, Silverwood Resident Manager

As we move into wildfire season, it's a good time to reflect on one of the most powerful fires we've ever encountered here at the Silverwood Wildlife Sanctuary—and to consider its implications for today. While the chaparral habitat is extremely resilient, it's far from invincible, especially as human-caused threats continue to mount. On October 26, 2003, the fast-spreading Cedar Fire burned its way through all of Silverwood's 723 acres—land that the San Diego Audubon Society owned and had managed for more than 40 years as a haven for wildlife and native plants. Located at an elevation of 1,500–3,170 feet, just north of Lakeside, the sanctuary was one of the many victims of the 2003 fire, which destroyed more than 270,000 acres of land in San Diego County.

Fortunately, the destruction at Silverwood didn't persist. As early as the next spring, Silverwood was 70% covered with a blush of wildflowers. New species of flowering plants that had never been seen at Silverwood were recorded during the three years after the fire. About four years after the fire, as chaparral shrubs dominated again, annuals and perennials died off, leaving their seed bank in the ground for activation by the next fire.

What makes these natural lands so susceptible to fire—and also so efficient at recovering from fire? It begins with San Diego's mild Mediterranean climate, with long, dry summers and variable winter rain. Silverwood receives an average of about 15 inches of annual rainfall, not enough for fungi to fully break down dead wood. In addition, the leaves of many shrubs are highly flammable. To cope with summer drought, some plants self-prune: They shed their leaves and cut the flow of nutrients to some branches. Over the years, dead biomass accumulates, tying up vital nutrients that cannot be returned to the soil due to lack of moisture. Until there is a fire.

Plants in a mixed chaparral have evolved to minimize water loss in various ways. California Sagebrush (*Artemisia californica*) drops its leaves and becomes dormant during the dry summer. Black Sage (*Salvia mellifera*) produces big leaves during the wet winters

when the plant does most of its growing, and small leaves with less surface area during the dry season. Hairy leaves, sunken stomata, and curling leaves are some of the other common techniques various plants use to reduce evaporation. It is less well known, however, that many plants in the mixed chaparral have also adapted specifically to be able to regenerate after a fire. The astounding growth during the first year following the Cedar Fire proves this point.

For years prior to 2003, the seeds of annuals had been lying dormant in the soil, essentially waiting for a fire. To open the pores in their seed-coats to allow in the moisture that enables germination, some seeds actually require the heat of a fire, while others are activated by smoke or by a chemical in ash. When fire burned all the vegetation in the area,

the fire provided annuals with ample space, sunlight, and nutrient-rich soil. The new growth of annuals set off other events that further helped our distinctive ecosystem to recover. With the blooming of wildflowers came swarms of nectar-seeking insects. In return for the gift of nectar, these insects pollinated the flowers, which were then able to produce more seeds. The abundance of insects and seeds in open spaces attracted different fire-following birds—birds seldom seen at Silverwood before the fire. Lazuli Buntings came in great numbers to eat the insects, and Rock Wrens came to nest in rock crevices or burrow in the bare ground while feeding on insects and spiders.

While annuals rely on seed banks, other plants use different survival strategies. The thick bark of older coastal live oaks (*Quercus agrifolia*)



Wren by Rick Halsey

insulated sensitive tissue in their trunks and large limbs, so dormant buds could produce new growth and replace their canopy. Younger trees, without protective bark, produced shoots from buds that were insulated in the soil at the base of their damaged trunks. Some larger oaks were so located that their fire-resistant bark was able to extinguish the fire before it reached the crown. These oaks also resprouted at the base of their trunks. The recovery of the chaparral plant community was fairly rapid due to the nutrients within the carbon-based ash. It took four to five years for the transition from the fire-following species of birds dominating the annual flowering landscape to the returning resident species of California Quail, Wrentits, and California Thrashers, as chaparral seedlings and recovering shrubs began to provide some cover from predators.

For other chaparral-dwelling organisms, recovery takes longer. The first recorded population of lichen making a comeback was back in 2007, when colonies of yellow foliose lichens called Candle Flame (*Candelaria concolor*) were recorded growing on charred bark of the skeletal remains of the shrubs. Many other species of lichens are being discovered now, after 17 years, finally showing their recovering population on rocks, soil, and branches. Lichen regeneration timelines are needed to establish sound fire-management guidelines, especially for habitats where lichens are both a food source for grazing animals and a camouflage nesting material for birds.

Chaparral may be well adapted to recover from fire, but this recovery has limits. It may lose important biodiversity from fires that are too closely spaced, forcing new growth cycles with a depleted seed bank. The problems of encroaching development, longer droughts, overgrazing, and invasion of alien plants are bad enough, but frequent fires can eventually replace an entire chaparral ecosystem with nonnative grasses. Yet the recovery process also inspires hope. It demonstrates that a healthy ecosystem is a complex network of interdependencies. Thanks to the coordinated life cycles of plants and animals, more recoveries may be possible in the future—especially if we humans can become better stewards of our environment.



A field of Golden Ear-drop in 2006, replaced by a variety of native perennials in 2020. Photos by Phil Lambert.

HOW NATIVE PLANTS RECOVER FROM WILDFIRE

Obligate Seeders

Some plants cannot resprout once killed by a fire. Their only hope for reestablishing themselves is through their underground seed bank. Fire usually kills the seeds on the surface, but buried seeds remain insulated as long as the soil is relatively dry. (Studies have shown that if a fire heats the surface of decomposed granitic soil to 1,500 degrees F., just 1 inch below the surface, the temperature is only 100 degrees F.) These long-lived seeds may remain dormant for hundreds of years, waiting for a fire's heat or smoke to stimulate germination. Once a seedling develops, the plant is still vulnerable to drought, animals, or competition from other plants. Regeneration is accomplished only when seedlings mature to produce seeds of their own. In short, obligate seeders can't resprout independently, and they depend on fire to cue germination of their seeds.

Obligate Resprouters

Some plants produce short-lived seeds and have no dormant seed bank. These plants may regenerate by resprouting if the fire did not kill their burls or underground rhizomes. Fire survival of resprouters is generally high, even after intense fires. Most shrubs that resprout will show new growth within the first month, and many can flower and set seed during the year following a fire. Resprouters offer mixed-age plants to the community, whereas obligate seeders date back no farther than the last significant wildfire.

Facultative Seeders

It's the best of both worlds: Mature forms of these plants can recover from a fire by resprouting, and they also have seeds that are activated by a fire. This versatility gives plants in this category a greater chance of survival.

Silverwood to Remain Closed Until Further Notice

San Diego Audubon's concern for the well-being of its visitors due to the COVID-19 situation requires us to continue the closure of Silverwood and cancellations of all Silverwood programs until we are cleared to do so.

We are currently devising COVID-19-safe rules for trail use for SDAS Friends and guests. Please call (619) 443-2998 or visit our website for updates and any questions.



Three views from the same location at Silverwood: 2003 (left), soon after the fire; 2005 (center); and 2020 (right) after full recovery. Photos by Phil Lambert.

Anstine Ambles *Lilacs under fire: Rising to the occasion*

by Walker Wilson, Anstine-Audubon Preserve Assistant

The bird, mammal, reptile, and invertebrate species that call our region home have coevolved with our plant species for millennia. As such, the habitats formed by these plants are just as essential to our San Diego animal life as the Amazon rainforest is for Jaguars or high-altitude bamboo forest is for Giant Pandas. If we want to protect our animal life, then we must prioritize protecting the habitat in which they can live, grow, and reproduce. To this end, the San Diego Audubon Society manages both Anstine and Silverwood preserves. Unfortunately, however, our wildlands, and our homes and businesses, are under threat from wildfires, which seem to grow more destructive with each passing year.

To understand fire's natural place in our ecosystem, we must examine our habitats. San Diego's native habitats are not simply mosaics of shrubbery, but many individual organisms, each with its own specialized set of adaptations. For example, a common and beautiful lilac, Hairy Lilac (*Ceanothus oliganthus*), is an obligate seeder. When fire comes, it often leaves no mature Hairy Lilacs alive, but these lilacs can still continue as long as they release enough seeds during their lifetime. The fire's heat triggers a small pore on the outer seed membrane to become permeable to moisture. Upon first rain, water gets inside, and the seed germinates. Without this heat, the seed could remain in the soil for many years without sprouting.

However the Hairy Lilac's fire strategy fails if the area burns too frequently—wiping out the population before the new generation matures enough to produce seeds. Many plants such as lilacs are long-lived, and they have adapted to a fire cycle more on the order of hundreds of years, rather than the all-too-frequent fires of today. These frequent fires, along with human efforts to prevent fire, often clear the way for invasive plant species, as well. These dry annual grasses and flammable weeds disrupt the habitat and increase the likelihood for more fire.

Silverwood Wildlife Sanctuary, and all the structures therein, burned in the 2003 Cedar fire, which was started by a hunter's signal fire. The only fires at the Anstine Preserve have been caused by car accidents and by cigarettes discarded alongside the road. When we humans make fire more frequent, we do so to our own detriment, but by replanting native plants (at a safe distance from our structures if we live in wildfire-vulnerable areas) and by suppressing invasive weeds, we can help protect and restore our environment and ourselves.



The well-being of our visitors requires us to continue the closure of Anstine until we are cleared to reopen. We are currently devising COVID-19-safe rules for trail use for SDAS Friends and guests.



Walker Wilson is the Preserve Assistant at the Anstine Preserve and is a California native plant enthusiast. He holds an undergraduate degree in History and Environmental Studies from UCSD and has spent several years exploring and cataloguing California's native flora and conducting habitat restoration. He also grows California native plants for local gardens and habitat restoration in his spare time and enjoys researching as well, having conducted field studies as well as written research projects.

Education SDAS *Major funders remain faithful in the age of Coronavirus*

by Rebekah Angona, Director of Education

“Schools might be closed, but nature certainly isn’t.” As we head into the new academic year, we face certain challenges as schools adapt to distance learning and safety guidelines to reopen their campuses. All the while, students are becoming more dependent on computer screens and less connected with the outside world. At least temporarily.

In recent history, children are largely growing up indoors, and this shift has been further exacerbated with the recent closures of schools and social events. We have yet to understand the implications of this stunning shift in childhood experience.

However, research has found that children are happier, healthier, and smarter when they learn outdoors and spend time in nature. This year, more than ever, our children need a break from chaos and an immersion back into the simplicity and stability that nature can provide.

San Diego Audubon is profoundly grateful for our funders, whose generosity allows us to continue doing what we do best: connecting students to nearby nature and instilling a sense of pride and ownership in the well-being of their natural spaces. Though our students may have been temporarily disconnected, it is our goal to remind them that nature is no farther away than a gaze out their window or stroll along the sidewalk. No matter what programs look like in the upcoming year, we can be confident they will provide inspiration and appreciation for the natural world.

We would like to extend a special thank you to our funders: **SDG&E, Port of San Diego, U.S. Fish and Wildlife Service, Tippett Foundation, Heller Foundation, Schoenith Foundation, National Audubon, and Audubon California.**

The conquering heroes of our 2020 Share our Shores program celebrate the program's recent success involving three nesting areas. Photo by Jenn Douglas.



Conservation in Action *The Advocates, version 2.0, Zoom to new heights*

by Andrew Meyer, Director of Conservation

Year two for advocate training launched in May, with 27 volunteers, ranging in age from high schoolers to working professionals. The training focused on topics such as *how to use the California Environmental Quality Act (CEQA) to advocate for wildlife; how to build and win a campaign; how to effectively talk with elected officials; and how to integrate environmental justice into a future as a local environmental leader.* Thanks to our partners from National Audubon, Center for Public Interest Law at the University of San Diego School of Law, SanDiego350, ECO San Diego, San Diego Canyonlands, and the Environmental Health Coalition for providing guidance with the training sessions. While the program has been virtual, the advocates are using them to make significant progress on real-world issues. The program ends in October, but here's the amazing work that they're doing so far, in their own words:

Stormwater Advocacy in Chollas Creek Watershed:

We are focusing on environmental justice impacts including environmental quality and public health outcomes in Chollas Creek. We plan to partner with local environmental organizations to advocate for green stormwater infrastructure that can solve these problems and maintain safe habitats for birds and other wildlife throughout the watershed.

Supporting State Bill AB 3030:

Team AB 3030 is advocating for our California State Legislature to pass Assembly Bill 3030, which would establish a statewide goal to protect and restore at least 30% of California's land, freshwater, and ocean environments by 2030. Along with more than 60 other California-based environmental organizations, we know that AB 3030 would make California a global leader in environmental conservation and contribute to a more equitable and habitable world for future generations. To influence our representatives in the California State Legislature, we have sent letters to and are scheduling meetings with our state senators, Toni Atkins and Ben Hueso.

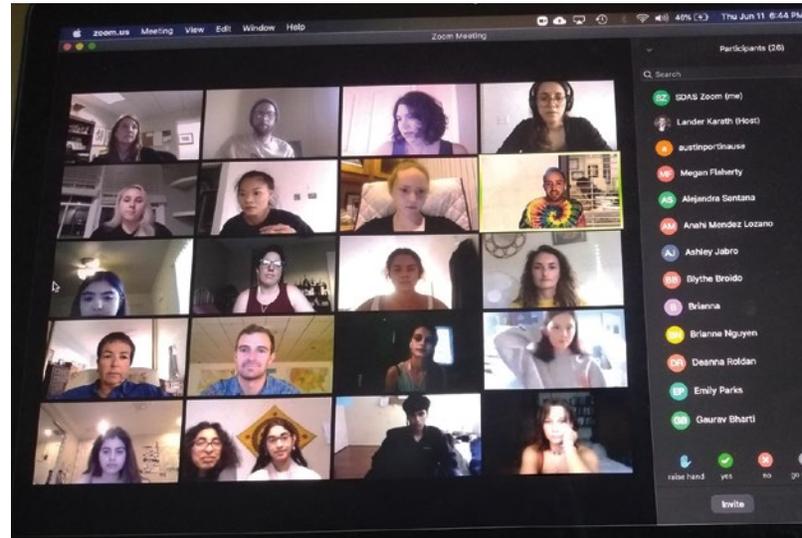
Conserving Golden Eagle Habitat:

Our team is focused on protecting the Golden Eagles of San Diego—as Audubon Advocates, we have named ourselves the “Golden Eagle Alliance.” So far, we have fielded numerous calls with raptor experts and environmental professionals, written personal appeals to protect the eagles, created infographics explaining the complicated history of these raptors (in our focus area of Bandy Canyon/the Ramona Grasslands Preserve), and are about to send a letter to the County requesting information about a multi-year trial opening of

an additional recreational road in the Ramona Grasslands Preserve, which could negatively impact the nesting eagles. We are proud of the connections we have fostered with the Sierra Club, Wildlife Research Institute, and many other organizations in San Diego, which have agreed to lend their support to our work.

Bringing Wildlife into the Climate Action Plan:

Strategy 5 of San Diego's Climate Action Plan (CAP) is to increase climate resiliency. As of now, the city's only tactic here is to increase



Director Andrew Meyer's laptop captures 20 participants in the Audubon Advocate program at a recent Zoom video conference.

urban canopy coverage. We are working to amend Strategy 5 to include the protection of wetlands and other coastal habitats. In order to accomplish this, our team is compiling a list of recommendations to share with organizations leading the CAP update, such as the Climate Action Campaign, as well as sending out an eblast to spread the word for the upcoming CAP update beginning in December 2020.

Advocating for Native Plants in San Diego:

The goal of our advocacy project is to promote native plants by advocating for land managers to increase the use of native plants in their landscaping. We're pursuing a municipal code change for the City of San Diego to increase the use of native plants as habitat for birds and pollinators. We've reached out to and met with various influencers and potential partners to pursue policy improvements.



SDAS welcomes new Director of Development

We are excited to announce the hiring of our new Director of Development, Charlene Pryor.

Charlene joins San Diego Audubon with more than 30 years serving the region's nonprofit community. Her prior experience includes leading the charitable giving team at the San Diego Foundation, as well as developing and managing a planned giving program at San Diego Zoo Global. Charlene has also served on the development teams of Santa Fe Christian Schools in addition to leading development efforts at the La Jolla Playhouse. Charlene has a B. S. degree in Business Administration with a concentration in Marketing and Sales from the University of Wisconsin–Stout.

She has volunteered at many organizations including The Rock Church and Rock Academy, Girl Scouts, CYT San Diego, Promises2Kids, La Jolla Rotary, and more. She loves nature and is excited about helping others experience, protect, and preserve San Diego's wildlife and natural habitats. We are enthusiastic about adding Charlene to our growing team, and we know her extensive skills and experience will help guide our development strategy into the future.

