



U.S. Fish & Wildlife Service

Ventura Fish and Wildlife Office

2018 Year in Review



Conservation success stories from the people of the U.S. Fish and Wildlife Service in Ventura who work to protect fish, wildlife, plants, and natural habitats of the central and Southern California coast.

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Southern sea otter. Lilian Carswell/USFWS

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A Year in Review

I feel very fortunate to celebrate another fantastic year of conservation. I am continuously amazed at what you can accomplish when you assemble a team of extremely talented and passionate people. The staff at the Ventura Fish and Wildlife Office and our partners are just that.

As you turn the pages of this publication, you will see inspirational conservation success stories that we share with our partners. We constantly strive to find that sweet spot - a balance between the needs of our local communities and the flora and fauna that live along the central California coast.

This year's edition features some of my all-time favorite stories: a campaign to recognize remarkable women in science, an instrumental partnership with a local developer to recover the San Fernando Valley spineflower, and celebrating our very own 'Recovery Champion'! I hope you enjoy learning about these wonderful success stories as much as I do telling them!



Stephen P. Henry

Stephen P. Henry

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Based in Ventura, our biologists and natural resource professionals work across the southern and central California coast in Santa Cruz, San Benito, Monterey, Santa Barbara and Ventura counties; portions of Los Angeles and San Luis Obispo counties; and the northern Channel Islands.

Serenity in the slough

Sea otters lure the world to tiny coastal town

Joonya Lopez steers his quiet, 22-foot electric boat carefully around the boat docks, coming up parallel to a group of a hundred or so harbor seals basking in rays of sunlight peeking through an overcast sky.

The bank is teeming with wildlife, from pelicans and cormorants to gulls and other seabirds. It's a serene morning at Elkhorn Slough, one of the largest wetlands in the state of California. It's 20 miles north of Monterey in the town of Moss Landing, population 204.

Gena Bentall raises her binoculars to get a closer look at kayakers near a group of sea otters resting in the water. She likes what she sees.

“They’re doing exactly what they’re supposed to be doing: staying parallel, about 20 meters away from the otters so as not to disturb them,” she says.



Southern sea otters are a protected species under the Endangered Species Act and Marine Mammal Protection Act, instrumental laws that protect imperiled species from disturbance and harm.

The U.S. Fish and Wildlife Service (Service) works with partners to recover the southern sea otter and educate the public about their important role in our coastal ecosystems.

The return of southern sea otters to parts of the central California coast like Elkhorn Slough has meant a boost in visitors — a boost to the tiny town's local economy, too.

“Moss Landing is the best-kept secret in Monterey County,” says Michele Alcantara, president of the Moss Landing Chamber of Commerce. “The southern sea otter thrives here, and Elkhorn Slough is one of the best places to witness them.”

Bentall, a resident of the Monterey Bay area for 15 years, attests that the ecotourism industry in this small town is growing. “People really want to get out on the water and experience these wild places,” she says.

But this increase in visitation concerns Bentall and other researchers who study sea otters and other wildlife in the slough. Too many visitors can have unintended consequences.

‘Make things better’

Sea otters are undeniably charismatic. They have unique behaviors while feeding and grooming, and can be seen from shore or by boat. “They’re an important draw for people to come and see these places and bring vitality into these communities,” Bentall says. But sometimes, Bentall says, people just get too close.

In 2015, Bentall, with financial support from the Service, founded an educational initiative called Sea Otter Savvy. A nonprofit, it offers an organized and long-term approach to address human-caused disturbance to sea otters.

She did it, Bentall says, “to make things better.”



Southern sea otters often rest in groups called rafts. Unlike other marine mammals, sea otters do not have a blubber layer to keep warm. Instead, they rely on their fur and burning calories, which means they eat about a quarter of their body weight each day to keep that calorie count up. Lilian Carswell/USFWS



Joonya Lopez is the owner and operator of Whisper Charters, an eco-friendly option for visitors to enjoy southern sea otters and other wildlife of Elkhorn Slough in a safe, natural, and minimally-invasive way. Hazel Rodriguez/USFWS

“What I’ve come to realize is that most people that are out on the water who are causing a disturbance to sea otters and other wildlife really aren’t doing it intentionally,” she says. “People might want to take a picture or a selfie, and they don’t know their approach is actually causing that animal to change its behavior.”

Bentall wanted to give helpful tips to boaters, kayakers, and other water-lovers about the best ways to observe sea otters and other wildlife without unknowingly causing serious harm to the animals.

She’s not going it alone. The success of Sea Otter Savvy is built on communication and collaboration — not just with businesses, but with other sea otter experts, agencies, organizations, and private citizens.

Sea Otter Savvy’s advisory panel includes staff from the Service, California Department of Fish and Wildlife, and Monterey Bay Aquarium. Much of the organization’s daily work is accomplished by volunteers. Bentall has trained some to collect data on sea otter behavior and disturbance; others she’s recruited to lead classroom programs.

Just like people, sea otters need copious amounts of rest to build energy to find food and raise their young. Unlike other marine mammals, they do not have a blubber layer as insulation against the cold. Instead, sea otters rely

on their fur and burning calories to keep warm. They must eat large amounts of food to keep up their calorie count.

If people get too close while a sea otter is catching a much-needed nap, the otter will dive or swim away, burning up those much-needed calories to stay warm, forage — or, if it’s a mother, look after her pup. If that happens repeatedly, the otter will have a very tough time surviving.

“It may not seem like a big deal... one time, one picture, right?” Bentall says. “But if it’s happening throughout the day, five, 10, 20 times a day, it can really add up to an impact for those animals.”

Global visitors

Sea otters are also formidable predators. They’re related to the wolverine, so it’s no surprise that they have a very powerful bite that helps them crack open crabs and other invertebrates that they collect from the slough bottoms. Like any wild animal, they can be dangerous if people get too close.

Boat operators like Whisper Charters, owned and operated by Lopez, are paving the way for eco-friendly tourism. His customers can enjoy the animals and scenery in a safe, natural and minimally invasive way.

Moss Landing is a small coastal town about 20 miles north of Monterey. The return of southern sea otters to this part of the central California coast has meant a boost in visitors, and ultimately, a boost to the tiny town’s local economy. Courtesy Jim York.



“People are out here to enjoy and experience nature in its natural state, and watch sea otter behavior uninterrupted by our presence,” Bentall says. “By staying back, staying quiet, being observant and alert to what’s going on around you, you’ll have the most natural experience and will also avoid doing any harm.”

People from across the globe make the trek to the central California coast to explore the slough and see the sea otters, sometimes as a stopover point en route between Los Angeles and San Francisco.

“They come all year-round,” Lopez says as he admires a cormorant feed its chick atop one of the docks. Whisper Charters has taken visitors on more than 200 trips since last winter.

“It’s not just good for business, it’s good for the community,” Lopez says. “People not only enjoy coming on the boat, but they also learn to respect the slough. We need the animals, we need the trees.”

“Without the animals, we probably wouldn’t be here.”



To avoid disturbing resting sea otters, kayakers should stay at least five kayak-lengths away, which is about 20 meters or 60 feet, remain parallel to the animal(s) instead of pointing directly toward them, and keep moving slowly but steadily past them.

Lilian Carswell/USFWS

Recovering slowly

It wasn't all that long ago that sea otters weren't there. They were teetering on the edge of extinction after being nearly wiped out by the maritime fur trade that began in the 1700s and lasted nearly two centuries. In the early 1800s, up to 2,000 sea otters from San Francisco Bay and nearby waters were killed per year for their fur; many thousands more were taken from other areas of California.

One remnant population numbering just a few dozen animals managed to survive off the rocky coast of Big Sur. These animals were likely saved by an accident of geography: the rugged coastline simply offered no safe anchorage for the fur hunters.

The creature once was a common sight as far north as Washington, says Lilian Carswell, the Service's southern sea otter recovery and marine conservation coordinator. She's studied southern sea otters since 2002.

"Today, they occupy only about 13 percent of their historic habitat," she says. "There are miles and miles of coastline habitat that are missing a really important keystone predator."

From a few dozen sea otters 100 years ago to today's population estimate of around 3,000 sea otters are slowly swimming toward recovery, but they still have a long way to go.

Their population is just about at peak capacity in the central part of the range. And, at the northern and southern ends of that range, they are being picked off by hungry or curious great white sharks. These areas of high shark-caused mortality present a barrier that sea otters have a hard time getting past.

"Range expansion is essential for the recovery of southern sea otters," Carswell says, "and expansion into historical parts of their range is critical to the health of our coastal ecosystems."

'Long way to go'

Sea otters are crucial in the natural food web, too. For example, their diet of sea urchins reduces the number of spiny creatures eating environmentally important kelp forests. In the slough, otters perform much the same function for seagrass beds. They eat crabs, which lessens the pressure on sea slugs — a crab delicacy — freeing the slugs to eat algae from sea grasses. That, in turn, allows sunlight to reach the grass blades.

Because sea otters live and feed along the coastline, their health can help scientists detect the presence of pollutants and potential disease-causing pathogens washing down the coastline, Carswell notes.

Programs like Sea Otter Savvy and eco-friendly operators like Whisper Charters help ensure that sea otters can thrive, even in the presence of large numbers of visitors who come to enjoy the otters and the coastal waters that are their home.

"Through our connection to Sea Otter Savvy, we are enabling businesses to prosper while ensuring that sea otters stay safe and enhancing opportunities for wildlife watchers, photographers, and marine recreationists to observe wildlife behaving naturally," Carswell says.

Bentall agrees. "Folks like Joonya really embrace the wildlife in their community; they are ambassadors for the area," she says. "They know the importance of the health of the ecosystem and the health of the species, because it's a big part of their industry to have people come out to see places like Elkhorn Slough in a natural state."

Sea otter conservation starts with its nearest neighbors, Carswell says.

"Sea otters have come a long way back from the brink of extinction in the 20th century, but they still have a long way to go," she says. "By understanding their needs and behaviors as wild animals and respecting their space, the community of Moss Landing and the visitors who come here are contributing to their long-term recovery."

Lopez agrees. "This is their home, we're visiting their home as guests. We have to remember that."

Artichokes and amphibians

Watsonville Slough Farm brings land conservation and farming together



Organic artichokes on Watsonville Slough Farm. Watsonville Slough Farm is nearly 500 acres of restored wetland and grassland habitat and organic row crops in the heart of the Watsonville Slough system. Hazel Rodriguez/USFWS

Less than a minute's drive from the outskirts of Watsonville, California, is a hidden gem: a small coastal farming community alive with flora and fauna known as Watsonville Slough Farm. It's 500-acres lies in the heart of one of California's largest coastal wetlands.

Through thoughtful and strategic land management on the property the wetlands, and the wildlife, are thriving alongside fields of organic



artichokes taller than the average human, lettuce, broccoli, other row crops and strawberries ripe for the picking. Yet the habitat did not always look that way.

Beginning in 2008, the Land Trust of Santa Cruz County purchased 441 acres that would eventually be Watsonville Slough Farm. Funding for the purchase came from a variety of sources including the California State Coastal Conservancy, the California Wildlife Conservation Board and The Nature Conservancy. In 2010 and 2011 two additional pieces of property were purchased with support and funding from the U.S. Fish and Wildlife Service's Coastal Program and National Coastal Wetland Conservation Grant Program.

The Coastal Program is partnership-based and works with private and public landowners to restore coastal habitat for federally threatened or endangered species. In the case of Watsonville Slough Farm, the coastal program's first interest involved enhancing and protecting the only pond within the slough system known to support breeding California red-legged frogs.

Listed as threatened under the Endangered Species Act in 1996, California red-legged frogs are the largest native frog in the western United States. Habitat lost to land development has reduced their numbers by 70 percent.

"Over the last several years the Coastal Program has been able to provide assistance on many habitat improvement projects in the Watsonville area," said Shawn Milar, Coastal Program Coordinator for the Service along California's central coast. "The Watsonville Slough Farm's restoration projects are unique in that many of them link together, creating a much larger footprint for habitat connectivity transitioning from floodplain to riparian [zones] and then to coastal prairie habitat all within a few hundred yards.

"Beyond the ultimate goal of improving habitat for wildlife, the Coastal Program wants to provide value to any project we are working on."

For Watsonville Slough Farm that meant lending technical expertise in planning, implementation, monitoring and management, and in many cases providing funding for specific projects on the farm.

Historically, the area surrounding the farm was part of the floodplain of the Pajaro River, which flows east to west just south of Watsonville before it empties into the Monterey Bay. In the late 1800s, the land was drained and maintained by channel dredging primarily to support agricultural use. By the mid-1980s, maintenance operations of the land slowed, and it steadily returned to its former, marshy state.

"The parcels that make up the property have been a hotspot in the tug-of-war between biodiversity conservation and development in Santa Cruz County since the 1970s. And every few years there would be a new proposal for widespread and large scale development of that land," said Bryan Largay, conservation director for the Land Trust of Santa Cruz County.

Partners for land conservation and cultivation

In 2010, the Land Trust hired the Resource Conservation District of Santa Cruz County to help develop a long-term management plan for the properties. The plan's vision: "Protect and restore the Watsonville Slough coastal wetland ecosystem, demonstrate economically and environmentally sustainable agricultural practices, and provide opportunities for appropriate research, public access and education."



Jonathan Pilch, executive director of Watsonville Wetlands Watch, describes habitat restoration efforts on Watsonville Slough Farm.
Ashley McConnell/USFWS

“Planning and implementation for recovery projects are always a village effort, and we wouldn’t be able to do it without all our partners,” said Kelli Camara, technical program director for the district. “It was a really wide group of individuals and agencies that came together to develop the conservation plans for the property.”

The growers, who already knew the lay of the land, were another vital partner in the development and execution of the management plan, and Camara said working with the growers allowed for insight not typically available during restoration of land previously used for farming or other activities.

“Most of the time you don’t have the opportunity to discuss what resources or opportunities are there with the people who are farming the land [now] and who may have been farming the land for decades,” she explained. “So it was a really unique opportunity to hear about resource issues or constraints that we wouldn’t have known otherwise.”

The collaboration between the conservationists and the growers did not stop with the development of the management plan, explained Jonathan Pilch, executive director of Watsonville Wetlands Watch, which manages the restoration work on the farm and the integration between the restored habitat and agricultural fields.

“We’ve worked really closely [with the growers] on both the planning side, in terms of identifying areas where we could strategically retire and improve native, natural habitat,” he said. “And then also on the implementation side, so using on-farm technologies as best as we can to do the habitat restoration work.”



Watsonville Slough Farm, owned by the Land Trust of Santa Cruz County, is nearly 500 acres of restored wetland and grassland habitat and organic row crops in the heart of the Watsonville Slough system. Hazel Rodriguez/USFWS

However, that does not mean the restoration team suddenly became experts in backhoe operation.

The growers on the property share their time and farm equipment for projects like native grassland restoration, grass waterways construction, soil settlement area regrading and building alternative breeding ponds for California red-legged frogs.

“I think we recognize that there are areas in which our goals may not be completely the same,” said Pilch. “We’ve stayed in very close communication in order to move projects forward, trying to alleviate any concerns on both sides and work together in those areas in which we have the same goals: soil erosion, soil protection and water quality management.”

Ongoing restoration

The restoration work on the farm is an ongoing process, with projects in completion and monitoring, and others are just getting started.

On a small portion of land, just 45 acres, Pilch and Camara are working now to restore native grassland, wet meadow and California red-legged frog habitat on farmland that was once leveled and has been out of production for years.

Currently, the team is reseeding the area with native seeds, much of which was locally collected. If all goes well, the area will eventually be covered with 30 to 40 percent or more native grassland and meadows, similar to other restored grassland areas on the farm.

The restoration work here also includes creation of ponds through topography development, to create breeding habitat for California red-legged frogs and variety in vegetation communities; supporting different wildlife species.

“It’s such a need within the community; the red-legged frog population within the Watsonville Slough is so limited, so any opportunity that we have to create breeding or upland habitat for their survival is critical,” said Camara.

She added that designing restoration that accounts for multiple species allows for future adaptive management in response to changes in climate and other influencers outside of their control.

“Since the creation of alternative breeding ponds and native grassland restoration, the red-legged frogs have expanded their breeding and wintering locations when conditions were ideal,” said Pilch. The work is also benefiting wetland and grassland-dependent species like burrowing owls, American bittern, grasshopper sparrows, horned larks, northern harriers and white-tailed kites.

“The sloughs have become a part of the fabric of the city and gives community residents a sense of pride,” said Largay.

“The town of Watsonville is very much a farming town, and having agriculture be sustainable is a source of great pride, too. Having very productive, job-creating farmland close to sensitive habitat is something that the region prides itself on.”



California red-legged frog. Ashley McConnell/USFWS

A promising future

How a California developer helped save the San Fernando Valley spineflower



The San Fernando Valley spineflower, a tiny plant once believed extinct, has a promising future thanks to support from an unlikely source — a Southern California developer.

That developer, FivePoint Holdings, LLC, is working with the U.S. Fish and Wildlife Service as well as other agencies to ensure that a plant found only two places in the world will continue to grow in its native habitat.



And, as the tiny, flowering buckwheat grows, so, too, will a master-planned community comprising 21,500 homes and employing 75,000 people. The project, Newhall Ranch, is taking shape west of Interstate 5 in the Santa Clarita Valley, about an hour drive northwest of Los Angeles.

The project, named for the ranch that once operated in northern Los Angeles County, is immense proof that commerce and conservation can be partners. The collaboration helped conservationists and developers realize their interests could complement each other.

It also highlights the increasing importance of public-private partnerships — particularly in land-constrained and ecologically sensitive regions like California — to accomplish vital environmental objectives.

“This is a success story,” said Emile Haddad, Chairman and CEO of FivePoint, the largest developer of master-planned communities in coastal California. “If you have an open mind, you can problem solve. A healthy economy can go hand in hand with a healthy environment.”

Newhall Ranch will preserve more than 10,000 acres of open space and establish more than 50 miles of walking trails. It will be the largest community in the United States that commits to a net zero increase in greenhouse gas emissions.

Those innovations helped end a decades-long battle from environmental groups to block development on the ranch. In 2017, an array of organizations opposed to the builder’s plans dropped their lawsuit. The project, they said, could go on.

As a result of collaborative, proactive conservation efforts, the Service announced in March that the San Fernando Valley spineflower was no longer at risk of becoming endangered in the foreseeable future. It withdrew a 2016 proposal to list the plant under the federal Endangered Species Act.

“This is a victory for proactive, partnership-driven conservation,” said Paul Souza, director of the Service’s Pacific Southwest Region. “Listing a species under the Endangered Species Act is neither a goal nor a measure of success. Working together with state, local and private partners to avert the need to list, saves taxpayer money, reduces the regulatory burden and ensures our wildlife thrive for future generations.”

The spineflower’s future looks bright, added Cat Darst, assistant field supervisor for the Service’s local field station in Ventura, California.

“We thought this plant was lost forever,” said Darst. “Now, less than 20 years later, it’s being reestablished in historical locations. To me, that means success.”

Part of that success: establishing a candidate conservation agreement, which secured the permanent conservation of over 1,500 acres in Los Angeles and Ventura counties for the spineflower’s benefit.

Candidate conservation agreements are formal agreements between the Service and one or more parties to address the conservation needs of proposed or candidate species, or species likely to become candidates, before they become listed as endangered or threatened.

Botanist Jodi McGraw and her team collect data at a seeding trial site. In 2016 seeding trials, “We saw spineflower germinating and producing seeds at all of the sites,” said McGraw. “From a return on investment perspective, we had 30 times as many seeds produced as were put out into the ground. One of our highest performing plants produced up to 10,000 flowers.” Courtesy Andy Thomson



San Fernando Valley spineflower at Upper Las Virgenes Canyon Open Space Preserve. Connie Rutherford/USFWS

Presumed extinct for more than 70 years, the San Fernando Valley spineflower was rediscovered in 1999 in just two locations in Southern California: Ahmanson Ranch in Ventura County, which at the time was proposed for development; and Newhall Ranch.

The discovery occurred the same year that the Service designated the spineflower as a candidate for listing under the Endangered Species Act. In 2001, California listed it as endangered under state law.

The state's 2003 acquisition of Ahmanson Ranch ensured that spineflower habitat would be protected in perpetuity at one geographic location, the Upper Las Virgenes Canyon.

Still, the Service was concerned for the plant's future. Invasive grasses at the Upper Los Virgenes Canyon pose a threat to the population of the tiny annual

buckwheat there. And as Newhall Ranch moved slowly through the approval process, botanists were concerned how its development might impact the spineflower. Finally, the presence of Argentine ants, common invaders in urban environments, could undermine the spineflower's reproduction by displacing native ants, which are known spineflower pollinators.

"We needed to find a way to ensure spineflower populations could be sustainable in the long run," Darst said.

'Spineflower whisperers'

With FivePoint's commitment to environmental stewardship, botanists and restoration ecologists got busy developing a comprehensive conservation plan for the spineflower.

Nathan Gale and Anuja Parikh, a husband-and-wife botanist team fondly called the "spineflower whisperers," were charged with finding spineflower plants in the field.

"Our claim to fame is that we've seen more spineflowers than anyone else on the planet," said Gale. In 2000, the two rediscovered the San Fernando Valley spineflower at Newhall Ranch. Their work at the ranch, based on data collected from nearly a decade of survey and conservation planning, contributed to the development of a 2010 Spineflower Conservation Plan to protect, enhance and manage the Newhall spineflower population. This early plan created a 230-acre preserve system within the ranch that holds 75 percent of the Los Angeles County spineflower population, a critical stepping stone to further conservation efforts.

But Jodi McGraw, a botanist with 25 years of spineflower experience, knew preserving existing populations wouldn't be enough.

"Once we understood the habitat that the spineflower needed, the question became: Can we establish this plant in suitable but unoccupied areas through the addition of seeds?" said McGraw, who joined the team working to preserve the Newhall spineflowers.



Conservation partners from Newhall Land and Farming company (owned by FivePoint Holdings, LLC), U.S. Fish and Wildlife Service, Dudek, Jodi McGraw Consulting, and FLx environmental consulting firms. Ashley McConnell/USFWS

So the team started to think about potential reintroductions beyond the footprint of the Newhall Ranch development site, including where it existed historically and where it could grow in the future.

Andy Thomson, a restoration ecologist with the environmental consulting firm Dudek, added his expertise. He helped lay the foundation for a spineflower introduction plan, including seeding trials. The goal: establish new spineflower populations in unoccupied areas, including sites that were historically occupied by the plant and entirely new locations with qualities of suitable spineflower habitat.

The team collected seeds from flowers and salvaged top soil that included the seedbank of the San Fernando Valley spineflower and stored them for safekeeping at the Rancho Santa Ana Botanic Gardens and National Seed Lab in Colorado. Seeding trials began in 2016 at two sites adjacent to existing spineflower preserves established by the 2010 Spineflower Conservation Plan.

“From a return-on-investment perspective, we had 30 times as many seeds produced as were put out into the ground,” McGraw said. “One of our highest performing plants produced up to 10,000 flowers.”

Buoyed by that early success, the Service and FivePoint formalized plans for introduction of the spineflower in a candidate conservation agreement in 2017. That plan secured the permanent conservation of over 1,500 acres in Los Angeles and Ventura counties for the benefit of the spineflower.

“FivePoint has committed the resources needed for this to be a successful introduction with long-term management and monitoring,” Thomson said.

FivePoint has dedicated more than \$8 million to fund the establishment of the spineflower and long-term conservation and management of the new sites. That number is in addition to approximately \$10 million in habitat enhancements and endowments for long-term management efforts on the ranch that FivePoint is already funding through the 2010 spineflower conservation plan.

“Newhall Ranch will create a new paradigm for responsible community building and a model for living and working sustainably in California,” Haddad said. “By harnessing innovation and collaborating with leading public agencies and environmental organizations, we will create a new standard of environmental sustainability and a lasting investment in our future.”

The Service will evaluate both implementation and effectiveness of conservation measures over the next 10 years, said Darst.

“The level of commitment to this plant,” she said, “is unprecedented.”

Husband and wife team Nathan Gale and Anuja Parikh were among the first botanists to rediscover San Fernando Valley spineflower on the Grapevine Mesa of Newhall Ranch in 2000.
Ashley McConnell/USFWS



Hopper Mountain National Wildlife Refuge Complex

A marriage of opposites

Condor conservation, oil research link couple





A pair of California condors. USFWS

Can a committed conservationist find happiness with a guy whose living focuses on the search for oil?

Absolutely, provided the two share a core belief: that conservation and industry can go hand-in-hand — yes, just as they do. The Faiths, Nadya and Luke, can show you how it's done.

Nadya Seal Faith is a conservation biologist with the Santa Barbara Zoo; Luke Faith is a foreman for Seneca Resources, Inc., an oil-production company.

The zoo, her employer, has worked for more than a decade with the U.S. Fish and Wildlife Service's California Condor Recovery Program.

His employer, the oil company, has operations adjacent to Hopper Mountain National Wildlife Refuge where — yes — biologists work to preserve the condor. The massive bird, with a 9.5-foot wingspan, once hovered on the brink of extinction and was among the first species protected under the Endangered Species Act.

Nadya Seal Faith is a conservation biologist with the Santa Barbara Zoo. Her husband, Luke, is a foreman for an oil production company.

Robyn Gerstenslager/USFWS

This is no case of “Romeo and Juliet,” Seal Faith said.

“I’m no contemporary Capulet, and my husband is no modern-day Montague, but that does not stop the questions we get when people first learn what we do for a living,” she said. “Without fail, I’ll get a finger pointed at me while I hear, ‘So wait, you’re a conservation biologist,’ and then the ‘look’ toward my husband.”

The look, she said, invariably leads to the question: “So how do you make that work?”

Her response? “It’s because we love each other.”

There’s another reason, too. Conserving wildlife and producing oil aren’t mutually exclusive.

A storied history

Oil exploration and production have a rich history in Ventura County, California, where the Faiths live and work. Union Oil, the oldest oil company in the west and now a subsidiary of Chevron, was founded in Ventura County in 1890. Today, the industry employs just under 9,000 people in Ventura County, and generates more than \$172 million in state and federal tax revenue.

Some of the wells in the Sespe oil field are adjacent to Hopper Mountain NWR. The refuge, established in 1974, supports a variety of habitats, including more than 900 acres of grassland foraging area for condors. The refuge also buffers the Sespe Condor Sanctuary in Los Padres National Forest from the sprawling Los Angeles metropolis about 50 miles southeast. There are 17 wells on the refuge.

Seneca took over roughly half of the Sespe oil field in the 1980s; today, it operates the majority of the leases located there. An oil lease is an agreement between a land owner and an oil and gas company that allows the company access to the property and the minerals within.

As Seneca's operations grew, so did the effort to save the endangered California condor. The California Condor Recovery Program is credited with keeping these birds aloft, figuratively and literally.

As the last of the wild California condor population steadily dwindled primarily due to a variety of human-related factors, including lead poisoning, biologists made a bold decision to capture the birds before it was too late; they brought the last wild bird into a captive flock in 1987. They hoped to breed enough birds to reintroduce them into their historic range.



Signs on an oil lease in the hills of Ventura County, California promote best practices to help protect endangered California condors. Robyn Gerstenslager/USFWS

Five years later, in 1992, scientists released a handful of captive-bred birds into the Sespe Condor Sanctuary — knowing, even as the birds took wing, that the condors were close to the Seneca oil fields. But that site was a place where condors historically foraged and nested.

The scientists crossed their fingers.

Collaboration for conservation

Both Seneca Resources and the Service wanted to prevent California condors putting themselves at risk by going near oil field equipment.

The Service looked at Seneca's operations and recommended building fences around the leased areas. This was an inexpensive and effective way to keep the big birds out of harm's way — proof, too, that the Service wanted to work with the oil company. Those fences are still in place today.

The innovations didn't stop there. Following the birds' release into the wild, several died after striking power lines. The fatalities weren't Seneca's fault; they didn't occur on Seneca's oil fields. Even so, the company identified potential hazardous lines on its site and buried them.

The company turned its attention to other possible dangers. Due to the curious nature of condors, they have drowned in water tanks or died after getting entangled in machinery. On the well locations any gas or liquid that is stored on site is covered, including water tanks; any length of wire, rope, or cord is secured when not in use by machinery. The company also installed bird deterrents on pumping units to prevent condors from landing on temporary stationary oil pumps, putting them at risk for injury.

There was a microtrash risk, too. Microtrash — tiny bits of debris — are attractive to scavenging condors. Parent birds often pick up the microtrash and feed it to their young, with fatal results.

Seneca and the Service created a microtrash clean-up plan that includes educational signs, training for oil workers, and monthly trash pickups on oil leases and roads. These efforts have helped Seneca create a conservation-minded workforce.

“We play a unique and vital role in the protection of the California condors and it is not a responsibility that we take lightly,” said Sean Brake, Seneca’s West division director. “The public and our agency partners hold us to a high standard and we strive to exceed that standard every day. We are all stakeholders when it comes to protecting the environment and endangered species.”

In 2017, the Santa Barbara Zoo and the Service recognized the company for its “exceptional cooperative efforts with the California Condor Recovery Program.” Because of the cooperation between public agency and private company, condors and oil production in the Sespe are thriving.



The Santa Barbara Zoo and the U.S. Fish and Wildlife Service’s California Condor Recovery Program present an award to Seneca Resources, Inc., for their efforts to protect the California condor on their oil leases in the Sespe. Courtesy Santa Barbara Zoo

Returns on investment

Those long-ago crossed fingers must have worked. Today, an estimated 80 wild California condors use the Sespe region for roosting, foraging and nesting. The total wild population is nearing 280 birds, with another approximately 170 birds in captivity.

The Service, said Luke Faith, demonstrated that it was pro-condor — not anti-oil.

“The Service came in with an open mind: willing to communicate and educate about the type of management condors needed to recover, and willing to learn what it takes to operate an oil field,” he said. “They did not impose restrictions, but instead made recommendations based upon our shared knowledge of one another’s resources and limitations.”

Dave Ledig, the Service’s project leader at Hopper Mountain NWR, returned the compliment.

“The relationship we’ve built with Seneca over the years is invaluable,” he said. “Not only for their proactive contributions to California condor recovery, but also for their willingness to come to the table, have a conversation and share information.”

The collaboration surely extends to the Faith family.

“My husband and I make our relationship work because we follow basic tenets that allow for success in any relationship,” said Seal Faith.

“...Just because I work toward and care deeply about conservation doesn’t mean I can’t appreciate how petroleum-based products enrich my life,” she said. “And just because my husband works for a petroleum company doesn’t mean that he can’t spend his leisure time enjoying nature through hiking, fishing and even birding.”

“We’ve found happiness not in spite of what we do, but because we’re able to learn from each other and strengthen our relationship because of it.”

A peregrine falcon on Santa Cruz Island. Twenty to thirty peregrine falcon pairs nested on the Channel Islands before 1945. During the DDT era, their entire population was wiped out in less than a decade. Courtesy Peter Sharpe/Institute for Wildlife Studies



Restoring the 'Galapagos of North America'

California's Channel Islands

Off the coast of California, a string of islands rise above the waves. Shaped by millions of years of tectonic, volcanic, and climatic events, the Channel Islands have played host to myriad plants and animals. Some, like the pygmy mammoth, disappeared thousands of years ago, while others, like the island fox, are now thriving after narrowly escaping extinction at the turn of the 21st century.

Considered by many to be the Galapagos of North America, these

islands, designated a national park in 1980, have been used by humans for millennia.

The arrival of Europeans more than 250 years ago led to the introduction of numerous non-native species. With that and later contamination by the chemical compound Dichlorodiphenyltrichloroethane, commonly known as DDT, in the mid-20th century, waters around the islands and the wildlife they supported forever changed.

Over the last several decades, scientists, biologists, land managers and local communities have rallied together to help restore these islands to their rich and biodiverse origins.

Biologists with the U.S. Fish and Wildlife Service in Southern California share stories and personal memories of these unique islands.

"They hold a very near and dear place in my heart," said Steve Henry, field supervisor for the Service's Ventura Fish and Wildlife Office, who grew up in a family of recreational fisherman and spent summers fishing around Anacapa and Santa Cruz Islands with his uncles and cousins.

Later on, he took up diving and marveled at the beautiful diversity of the marine ecosystem teeming with more than 2,000 marine species of fish, plants and other marine life. Waters around five of the Channel Islands are designated as a national park and a national marine sanctuary.

"But then I would look at the islands above water. It was barren, there was little plant life there," he said.



California brown pelicans nest on Anacapa Island. Courtesy Andrew Yamagiwa/California Institute of Environmental Studies



Considered by many to be the ‘Galapagos of North America,’ the Channel Islands is host to myriad plants and animals and was designated a national park in 1980. Biologist Annie Little coordinates the U.S. Fish and Wildlife Service’s involvement in the island’s Montrose Settlement Restoration Program and has worked on seabird conservation efforts for more than 15 years. Cat Darst/USFWS

Henry didn’t realize at the time that he would be involved years later in one of the most comprehensive restoration efforts ever attempted for island ecosystems, on the very same islands he admired throughout his childhood and adolescence.

“I started to see the islands changing before my eyes,” he said.

Annie Little and Robert McMorran have similar stories. Little took her first trip to Anacapa Island when she was 10 years old, a spark that led to her love of seabirds and other island wildlife. McMorran spent time in his early career living on San Clemente Island researching

and supporting the recovery of endangered birds, a job that inspired his long-term commitment to restoration of the Channel Islands.

Years later, Henry, Little and McMorran all dedicated their careers to wildlife conservation with the U.S. Fish and Wildlife Service.



The Service played an important role in the recovery of these island ecosystems along with land managers from The Nature Conservancy, National Park Service, Catalina Island Conservancy, U.S. Navy and many other conservation partners.

The Channel Islands are the traditional home of the Chumash people, who established villages across the northern islands and portions of the central California mainland. Later, Spanish exploration and the colonization of the Americas left a complex history of human activity on these islands.

Fisherman and tradesmen used them as a base, and by the mid-1800s, ranching on some of the islands became a profitable venture. They then became working landscapes to raise and graze sheep, cattle, pigs, goats and other livestock. In some areas native vegetation was decimated.

With humans, came other nonnative invasive animals like cats and rats that impacted native seabirds. “I saw with my own eyes the damage they could do to native ecosystems,”

Steve Henry participates in a training dive with the U.S. Fish and Wildlife Service near Anacapa Island.
Courtesy Steve Henry



McMorran said. The presence of feral pigs attracted non-native golden eagles that preyed on the island foxes to the point of near extinction on three of the six islands they inhabit. Golden eagles took up residence on the islands in the absence of bald eagles that left due to the impacts of DDT.

From the late 1940s to the early 1970s, millions of pounds of toxic chemicals, including DDT and polychlorinated biphenyl were discharged into ocean waters off the Southern California coast. Most originated from the Montrose Chemical Corporation manufacturing plant located in Torrance, California, one of the largest DDT manufacturing plants in the world at the time. Because these chemicals are slow to break down in the environment, they left a lasting impact on the marine ecosystems.

The chemical influx into the food web proved to be disastrous for peregrine falcons, California brown pelicans, bald eagles and a variety of seabirds. When these birds ate contaminated prey, the chemicals affected their ability to metabolize calcium, resulting in egg-shell thinning and ultimately reproductive failure.

Twenty to 30 peregrine falcon pairs nested on the Channel Islands before 1945. During the DDT era, their entire population was wiped out in less than a decade.

Once a stronghold for bald eagles with at least 25 nesting territories on the Channel Islands, they also disappeared by the early 1960s. And in 1970, only a single California brown pelican chick survived out of 552 nests on West Anacapa Island, the most critical breeding location for California brown pelicans in the U.S.

All three ill-fated species were listed on the first Federal List of Endangered Species, the precursor to the Endangered Species Act on 1973, as a result of their steep population declines. In 1972, DDT was banned in the U.S., and efforts began to restore these iconic birds back to their island homes.

Recovery of the island fox

Recognizing the importance and uniqueness of California's Channel Islands and the species that call the islands home, agencies and organizations channeled their expertise and funding into projects designed to restore the ecological health and balance of these island jewels.

During the latter half of the 20th century, ranching and hunting activities waned on many of the islands. The National Park Service and other land managers led the charge to restore balance to the island ecosystem by removing invasive species and promoting the recovery of native wildlife and plants.



Santa Cruz Island fox. Courtesy Chuck Graham

With extinction of the island fox on Santa Cruz and Santa Rosa, and an imminent threat on the San Miguel islands, scientists and natural resource managers across government agencies and private organizations rallied around a common mission to bring the island fox back from the brink.



A captive island fox breeding program was initiated in 1999, and golden eagles were captured and relocated to northern California, with the last pair removed in 2006. Land managers also worked to remove the nonnative species including feral pigs that were preyed on by golden eagles. The subspecies were listed as endangered under the Endangered Species Act in 2004, a further catalyst for recovery efforts.

McMorran worked with a multitude of partners to prepare a recovery plan for the subspecies. He says, “Having seen foxes in the wild sparks a lot emotions for me. They’re a symbol of the islands coming back to life.”

“Recovery actions to save the island fox were rapid and remarkably successful, a testament to the teamwork, tenacity and dedication of so many partners and members of our community,” said Channel Islands National Park superintendent Russell Galipeau.

With populations flourishing after little more than a decade, those who worked on island fox recovery—some dedicating their entire careers to the effort—breathed a sigh of relief. Today, island fox numbers have bounced back to historic levels.

In 2016, three island fox subspecies were removed from the Endangered Species list, marking the fastest recovery of any land mammal in the history of the Endangered Species Act.

“People who didn’t know about the island fox were as excited about their recovery as those who had been working on it for years,” Henry said. “People from across the world were hearing about this remarkable recovery and it was all taking place right in sight of where we live. It really drew attention to the islands on a national scale.”

A boost for seabird conservation

Funds from the Montrose Settlement Restoration Program were made available to restore the natural resources in the Southern California marine environment that were harmed by DDT and polychlorinated biphenyl, including bald eagles, peregrine falcons, seabirds and fish restoration.



Wildlife biologist Robert McMorran conducts a seabird survey off the waters of Catalina Island. Courtesy Darrell Whitworth/California Institute of Environmental Studies

The funding allowed for an extensive bald eagle recovery program and multiple on-the-ground seabird restoration projects ranging from invasive species removal to native vegetation planting.

Little, who coordinates the Service's program involvement, asserts that removal of invasive species from islands has been one of the most effective tools for seabird conservation. "By removing invasive predators from their nesting islands, we remove a significant threat during a critical stage in their life cycle," she said.

Between 2002 and 2006, 61 bald eagles were released onto Santa Cruz Island, expanding upon an earlier reintroduction of 33 eagles on Catalina Island that began in 1980.

Little has been involved in bald eagle recovery efforts for more than 15 years and recalls the celebratory moment a bald eagle chick hatched on Santa Cruz Island for the first time in more than 50 years in 2006.

"It's a powerful story of perseverance and hope," she said. "Since that moment, we have continued to witness the successful recovery of the bald eagle with eagles now breeding on five of the eight islands."

In 2017, there were 17 known bald eagle nesting pairs throughout the Channel Islands that successfully produced a total of 17 chicks.

Today, there are 60 resident bald eagles on the Channel Islands and their successful recovery continues.

Pelican productivity on Anacapa Island has also started to show signs of improvement. From 1985-2006, the Anacapa Island nesting colony produced about 4,600 nests every year.

In 2006, the Service estimated the entire California brown pelican population at around 70,680 nesting pairs or 141,360 breeding birds.

The peregrine falcon also made a dramatic recovery since the end of the DDT era and today number more than 50 nesting pairs on the Channel Islands.

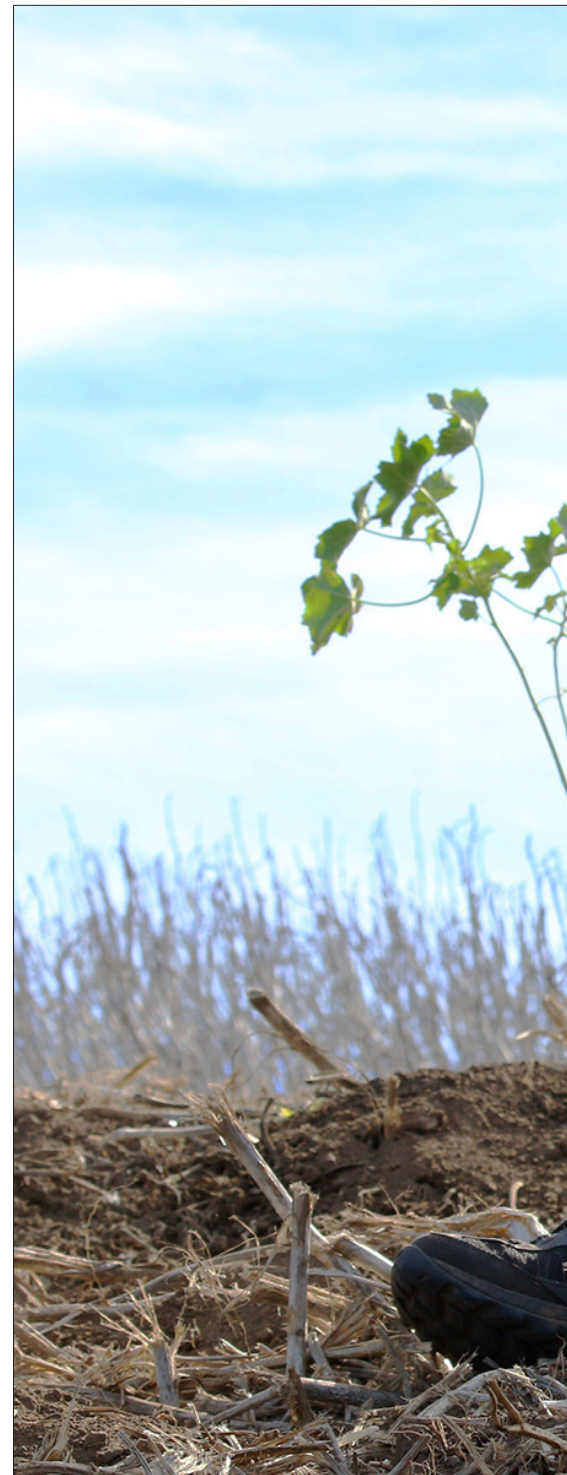
All three species have been removed from the Endangered Species List due to their remarkable recovery.

The restoration of native plant communities has been integral to restoring balance to the island ecosystem. Native plantings on East Anacapa Island continue to play a pivotal role in engaging the local coastal community in island conservation.

Community groups, schools and conservation organizations have all made the one-hour nautical voyage to this seabird haven to help construct a greenhouse and plant more than 7,500 native plants including giant coreopsis, island buckwheat and oldman sage. This native vegetation provides important habitat for nesting seabirds.

The Montrose Settlement funding will dry up in the near future, but Little says its positive impacts on the island ecosystems will remain for years to come.

"We would not have been able to achieve half of what was accomplished were it not for the successful partnerships of this restoration program," she said.



Henry says the restoration of the Channel Islands—from the remarkable recovery of the bald eagle, peregrine falcon, and California brown pelican, to the comeback of the island fox—“symbolizes what is possible when people work together.”



Native plant restoration on the islands is part of broad plan to restore balance to the islands' ecosystems by removing invasive species and promoting the recovery of native wildlife and plants. Robyn Gerstenslager/USFWS

The lion in the tree

A botanist's mission to save our natural landscapes

Santa Cruz cypress, Lane Mountain milk-vetch and Island bedstraw. Few people know them by name, but we can attribute their continued existence on earth, in part, to Service botanist Connie Rutherford and her lifelong commitment to their recovery.

“This is much more than just a job for her,” says Ray Bransfield, Rutherford’s husband of 27 years and a wildlife biologist for the Service (they met on the job).

“I remember Connie and our son sitting on their haunches in the middle of a field of wildflowers in the Panamint Valley.” It was a banner year for wildflowers in 1998. Bransfield describes a moment captured on film that epitomizes his wife’s love of wild places and natural landscapes, a love she nurtured traveling the world as a diplomat’s daughter and lifelong adventurer. Bransfield and Rutherford passed on their love of the outdoors to their children, Tyler and Terra.

Rutherford’s childhood was spent overseas in Venezuela, Iran, Canada and Indonesia, impressing upon her at an early age the stark contrasts between urban and natural landscapes. Her family settled in California when she was an adolescent and she recalls sleeping on the roof of her parents’ house in Long Beach “to get away from the TV, the noise, to just look at the stars.”

Later, Rutherford cut short her travels around Europe to take an introductory botany class at the University of California, Davis, in 1973.

“I had never taken a science class before,” she says. She can hardly contain her excitement as she recalls the pivotal moment more than 45 years ago, when she fell in love with the world of plants.

“We learned about photosynthesis. I was mind blown!” she exclaims. “How miraculous is it that plants can take carbon dioxide, water, soil and sunlight, and through this remarkable process of photosynthesis, make oxygen and carbohydrates for all the rest of life on earth to live and eat!”

Rutherford attributes to her mother the adventurous spirit that led her to become a firefighter in Olympic National Forest, a backcountry ranger in Rogue River National Forest and a natural resource surveyor in the Alaskan tundra. “My mother was a trailblazer, a pull-yourself-up-by-your-bootstraps, self-made woman. She left home at 17, learned to fly and became a decoder for the U.S. Department of State,” she says. “She had a willingness to go off into the unknown, and taught me to leave myself open to the learning experiences that the world has to offer.”



Rutherford graduated with a bachelor’s degree in plant sciences from the University of California, Santa Cruz, in 1975. She went on to pursue her master’s degree at Humboldt State University.

Rutherford argues that our society turns a blind eye to plants’ contributions to our world. “Show a person a picture of a lion in a tree. What do people see? They see the lion,” she says. “But people don’t realize the tree is the anchor of the ecosystem, providing shelter and food for all of the wildlife that uses that landscape.”



Connie Rutherford, botanist with the U.S. Fish and Wildlife Service, and her son Tyler exploring a sea of wildflowers in the Panamint Valley in California in early spring 1998. Courtesy Ray Bransfield

Rutherford admits she is often asked the question, “But why do plants really matter?” For her, the answer is simple. We, and the rest of life on earth, need them to survive.

“Plants are working so hard for us, keeping our watersheds intact, pumping out oxygen, keeping our pollinators around so we can have agriculture,” she says. “They are critical to the whole web of life.”

Rutherford saw that first hand as a Peace Corps volunteer in Haiti from 1985 to 1987. At the time, Haiti had already lost 95 percent of its forests due to agriculture and other land uses. Communities faced extensive soil erosion and the waters surrounding the country were clogged with sediment from agricultural run-off. She worked alongside the Food and Agriculture Organization, a branch of the United Nations, to help villagers set up tree nurseries in their backyards

to replenish the soil, thus allowing them to continue their food crops of beans and corn, while stabilizing the small plots of land on which families farmed and lived.

Rutherford returned to California after two years with the Peace Corps in Haiti. “I realized that we have a better chance to conserve our wild landscapes, and I knew I had to be part of that effort.”



Earlier in her career, Rutherford also served as a backcountry ranger at the Rogue River National Forest, part of the Cascade Mountains in Oregon, and studied plant communities in the Sky Lakes Basin. Courtesy Connie Rutherford

Rutherford spent the next three decades working to recover some of the many species of rare plants in southern and central California, some of which teetered on the edge of extinction in the 1980s due to habitat loss and fragmentation from urban expansion, agricultural conversion and recreation.

In 1990, the Service was petitioned to list more than 100 plants species in Southern California under the Endangered Species Act (ESA). Rutherford, a botanist for the Bureau of Land Management (BLM) at the time, was hired by the Service to analyze their status based on the best available science, ultimately leading to ESA protections for many.

Rutherford’s work, along with that of her co-worker Tim Thomas, led to the protection of 13 plant species on the northern Channel Islands. She and her colleague worked with the National Park Service and U.S. Geological Survey to develop a conservation strategy for those species. The strategy outlined what the plants needed to recover, set goals to reduce threats and helped guide management of the islands.

She also worked with natural resource professionals from the Department of Defense and BLM to study in depth the Lane Mountain milk-vetch, a species that only exists in the Mojave Desert. The plant, once thought extinct, was rediscovered in 1985. Rutherford and husband Ray spotted a new population of the plant a few years later, and she returns every spring to conduct surveys with natural resources staff from Fort Irwin and BLM. She suggests that the more we learn about rare plant species, the better chance we have at recovering them and conserving the ecosystems in which they live and thrive.

“It’s like squares in a quilt that are stitched together,” she says. “If the threads start loosening, the squares start to detach, and the whole quilt eventually falls apart.”

Those stitches strengthened in Santa Cruz County when conservation work allowed the downlisting of the Santa Cruz cypress from endangered to threatened under the ESA in 2015. The cypress, found in the Santa Cruz Mountains of San Mateo and Santa Cruz counties, was protected as an endangered species in 1987 due to threats from logging,

development and agricultural conversion. Rutherford says the ESA listing focused conservation resources on recovery planning and projects in partnership with the California Department of Fish and Wildlife, California Department of Parks and Recreation, San Mateo County and conservation efforts by private landowners in Santa Cruz County.

“We chipped away over the years to address issues like habitat protection. We worked to understand the ecology of the species—especially its response to wildfire—and established seed collections,” she says.

The number of known trees in 1987 was 2,300. Today, improved data indicate some 33,000 to 44,000.

“I think one of the things that’s so remarkable about Connie is how she works with people,” Bransfield says. Bransfield has observed his wife’s knack for networking and building partnerships that have helped contribute to the recovery of listed plant species such as the Santa Cruz cypress.

Rutherford has mobilized universities, land managers, nongovernmental organizations and research institutions across southern and central California to support rare plant conservation.



Santa Cruz cypress seed cluster
Connie Rutherford/USFWS



Rutherford observes San Fernando Valley spineflower at Laskey Mesa in Ventura County. USFWS

With three other botanists, she established Botswap, a forum for dialogue across the botanical community to share information and resources along the Central Coast region. “We need to have that dialogue,” she says. “We need to make sure we have the best information to help us reach our goals, while at the same time putting a name and a face on our agency.”

Botswap has since been replaced by another collaborative group, headed by the Land Conservancy of San Luis Obispo County that is focusing on conserving unique dune habitats and their constituent species, including Nipomo lupine. After years of securing support for research on the species, Rutherford is heartened to see that the combined efforts of the Land Conservancy, the University of California, Santa Barbara, and the Santa Barbara Botanic Garden may have finally turned a corner and put this plant back on the road to recovery.

Rutherford has also served in numerous leadership roles for more than 28 years with the California Native Plant Society, a large network of partners from academics to nonprofits dedicated to plant conservation. She is currently working on a committee to promote a certification program for professional botanists in California.

“Connie’s decades-long, active engagement with the plant research and conservation community enables her to collaborate with species experts to address questions that contribute to conservation of our listed plants,” says Cat Darst, Connie’s supervisor and assistant field supervisor for the Service in Ventura. “These relationships are critical to help our partners recognize what steps are needed to recover our listed plant species.”

When asked what advice she would give to budding botanists, she says, “If you have the opportunity to get out and work in the world, volunteer, take on internships, see different parts of the country,

the world, do it! Learn how land-use planning works, how laws and regulations work, and learn how to communicate and work with all different types of people.” She adds, “And don’t be afraid to ask questions. Seek out mentors in your field. Seek out people who have spent their lives studying what interests you. Those experiences and that knowledge are irreplaceable.”

As for the future of plant conservation, Rutherford says there’s one thing that we need to work toward. “As a society, we’ve decided that conservation of our natural resources is a value that we uphold. There’s education that needs to continue to take place, so that our kids don’t only see the lion, but they also see the tree.”

Elkhorn Slough designated 'Wetland of International Importance'

Congressman Jimmy Panetta, California State Senator Bill Monning, State Assemblymember Mark Stone, and representatives from the U.S. Fish and Wildlife Service, NOAA, California Department of Fish and Wildlife, and Elkhorn Slough Foundation gathered on October 5 at Elkhorn Slough National Estuarine Research Reserve's Hester Marsh to celebrate the designation of Elkhorn Slough as a Wetland of International Importance by the Secretariat of the Ramsar Convention on Wetlands.

With this recognition, the Elkhorn Slough joins 38 other wetland sites in the United States — including the San Francisco Bay estuary — and more than 2,330 sites worldwide, in a network of globally important wetlands designated under the world's oldest international environmental treaty. The Convention was signed in Ramsar, Iran in 1971, and almost 90 percent of U.N. member states have since adopted the treaty.

"I am proud that Elkhorn Slough is being recognized internationally for what we on the central coast of California have long known, that this wetland is an environmental crown jewel. This designation is a reminder of the importance of protecting the diverse wildlife and conserving these waters for future generations to enjoy," said Congressman Panetta.



Elkhorn Slough joins a network of globally important wetlands designated under the world's oldest international environmental treaty. Hazel Rodriguez/USFWS

The Elkhorn Slough, which enters Monterey Bay at Moss Landing and is partially located in NOAA's Monterey Bay National Marine Sanctuary, has long been recognized by local, state, and federal organizations as exceptional for its biologically rich diversity and unique scientific research

studies, as well as the estuary's recreation, tourism, and education opportunities.

"Elkhorn Slough is a spectacular wetland on the central California coast, hosting a rich diversity of plants and animals and beloved by the local community," said Mark Silberstein, executive director of the Elkhorn Slough Foundation.

"Every day, hundreds of people from kayakers to birdwatchers and other visitors enjoy the sea otters, seals, fish, shorebirds, eelgrass beds, and marshes of the Elkhorn Slough. We're pleased these wetlands have now earned international recognition."





Deputy Regional Director Jody Holzworth (right) of the U.S. Fish and Wildlife Service recognized Mark Silberstein, Executive Director of Elkhorn Slough Foundation, Nicole LeBoeuf, acting director of NOAA's National Ocean Service, and Dave Feliz, reserve manager of the Elkhorn Slough National Estuarine Research Reserve for the designation of Elkhorn Slough as a Wetland of International Importance by the Secretariat of the Ramsar Convention on Wetlands. Hazel Rodriguez/USFWS

To be designated as part of the Ramsar Convention on Wetlands of International Importance, a wetland site must fulfill at least one of nine criteria, including hosting more than 20,000 shorebirds at a time, serving as fish nursery habitat, and supporting threatened species. Elkhorn Slough met all nine criteria. The designation was approved by the U.S. Department of State and the U.S. Fish and Wildlife Service this year.

The Elkhorn Slough is a seasonal estuary rich with intertidal marshes, mudflats, eelgrass beds and oyster communities that nourish wildlife. More than 340 species of birds, 100 species of fish, including bat rays and leopard sharks, and more than 500 species of invertebrates have been documented in the watershed.

Its distinctive estuarine communities are among the rarest and most threatened habitats in California, and are home to more than 140 Southern sea otters that feed, rest, and raise their pups in these wetlands.

“Healthy wetlands help support healthy economies,” said Paul Souza, regional director of the U.S. Fish and Wildlife Service’s Pacific Southwest Region. “The rich and diverse ecosystems of Elkhorn Slough help both our wildlife and our local communities thrive. Visitors from across the globe come to the slough to immerse themselves in its serene beauty and observe the wildlife that call the area home, including the southern sea otter, a species that once thrived but faced near extinction in the last century.”

Wetlands like Elkhorn Slough serve key functions in pollution control and food provision, offering green, sustainable, low cost and efficient ways to clean wastewater of impurities and recycle nutrients, and also serve as cradles of biodiversity by hosting young fish and other marine species as well as rice paddies – all of which are critical to the food chain for humans and wildlife worldwide.

The Elkhorn Slough National Estuarine Research Reserve and Elkhorn Slough Foundation hosted the designation ceremony at the Hester Marsh Restoration site, a \$6.5 million, 61-acre wetland restoration project nearing completion. Like many of the marshes of the Elkhorn Slough,

Hester Marsh was diked and drained for farming during the last century, resulting in a marsh plain elevation too low to support salt marsh. The restoration project provides the elevation needed to support tidal marsh habitat that will withstand changes in sea level over the next century and continue to provide important habitat for fish, plants and wildlife.

“This project is an example of the intensive investment required to restore estuarine functions once lost, while incorporating a design that enhances resilience for future challenges,” said Dave Feliz, manager of Elkhorn Slough National Estuarine Research Reserve for the California Department of Fish and Wildlife, which owns the property.

More than 90 percent of California’s wetlands have been lost over the past century. Though today the Elkhorn Slough features the most extensive salt marshes in California south of San Francisco Bay, without restoration its remaining marshes are projected to drown within 50 years due to sea level rise. The current project at Hester Marsh is reviving one of these drowning marshes.

The Hester Marsh restoration project illustrates why the Elkhorn Slough is receiving this prestigious designation as a Wetland of International Importance. Once complete, the project will double salt marsh habitat in a part of the slough frequented by southern sea otters and their pups — underscoring the Ramsar

Convention’s mission for the conservation and sustainable use of wetland ecosystems.

“Few places embody NOAA’s mission of ‘science, service and stewardship’ more fully than Elkhorn Slough,” said Nicole LeBoeuf, acting director of NOAA’s National Ocean Service. “As part of our system of 29 National Estuarine Research Reserves, it offers opportunities for scientific research, community recreation and tourism, and provides habitat for many species. Today’s Ramsar designation shows how we have all joined forces to protect this extraordinary place. Along with our many partners here today, we will continue to protect it and the communities that depend on it.”



The biologically rich estuary covers more than 1,700 acres and is home to thousands of migratory shorebirds, fish species, invertebrates, and marine mammals, and attracts visitors from across the globe for recreation, education, and research. Lillian Carswell/USFWS

California sea otter numbers take a slight dip from last year, but average count exceeds 3,090 for third consecutive year

Southern sea otter numbers have declined off the coast of California since peaking in 2016, but the average population count remains above 3,090 for the third consecutive year. According to the U.S. Fish and Wildlife Service's Southern Sea Otter Recovery Plan, the population average count would have to exceed 3,090 for three consecutive years for southern sea otters to be considered for delisting under the Endangered Species Act.

Despite the recent dip in numbers, the population average count this year has reached this three-year threshold.

According to data released by the California Department of Fish and Wildlife and U.S. Geological Survey, this year's average count of 3,128 was 58 sea otters lower than the 2017 survey. Southern sea otters are designated as threatened under the Endangered Species Act of 1973.

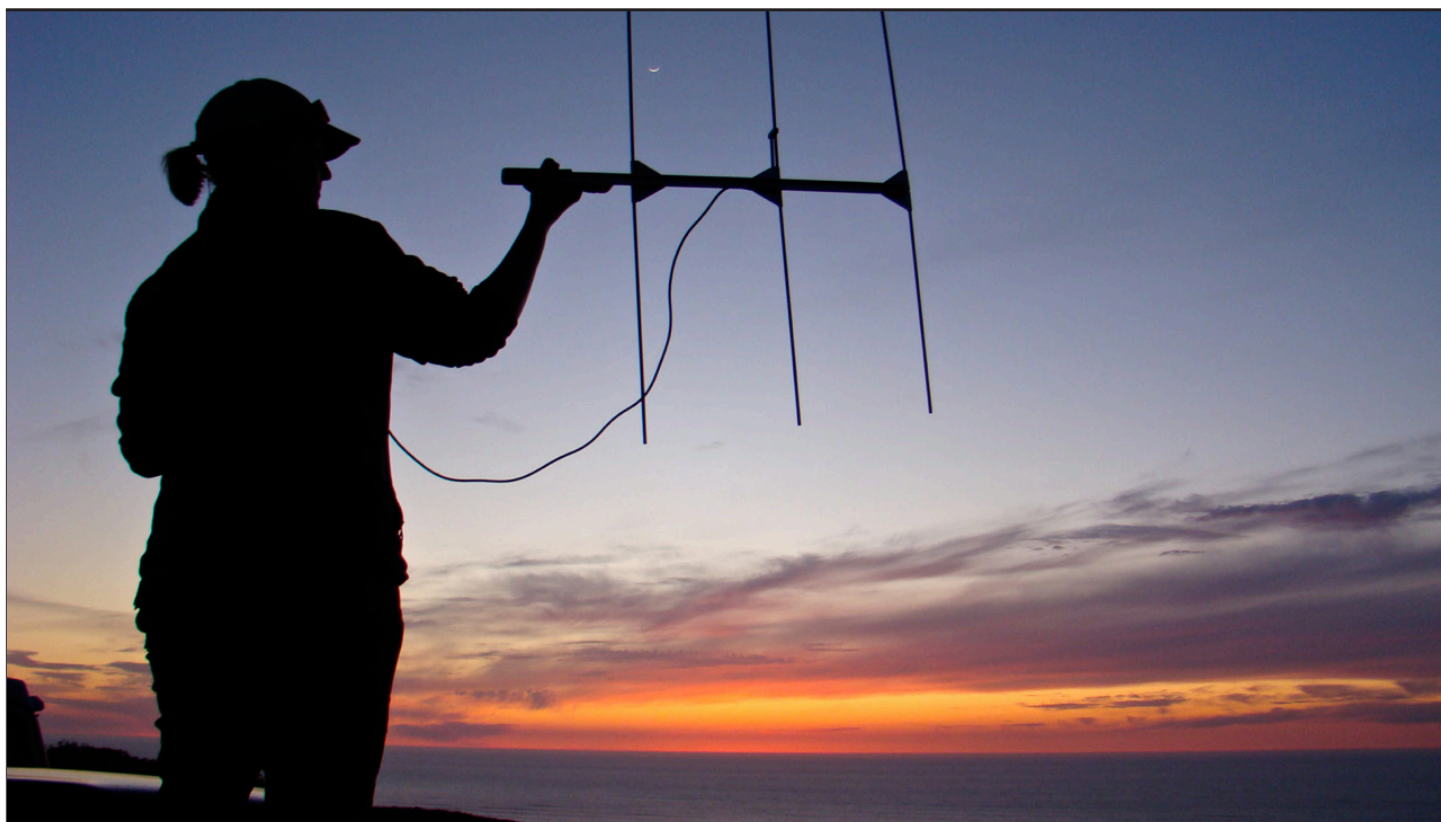
"Reaching this threshold is a milestone in southern sea otter recovery, but it will be important to review all factors influencing the population to determine whether or not delisting is appropriate using the best available science,"

says Lilian Carswell, southern sea otter recovery coordinator for the Service. "For the southern sea otter, those factors include ongoing threats such as shark bite mortality, lack of range expansion, and changes in prey."

In part, this year's dip reflects a 2.2 percent decrease in the three-year average count of the sea otter's mainland population, which stretches from about Point Año Nuevo in San Mateo County to a few kilometers west of Gaviota State Beach in Santa Barbara County. In contrast, the small sea otter population at San Nicolas Island continues to increase.



Southern sea otter at Elkhorn Slough
Lilian Carswell/USFWS



A sea otter researcher with USGS tracks a radio-tagged sea otter near Morro Bay. Lilian Carswell/USFWS

“Surface kelp canopies were abundant this year within the otter’s mainland range compared to last year when they were very sparse,” says Brian Hatfield, the USGS wildlife biologist coordinating the annual range-wide survey. “This may have influenced sea otter distribution and contributed to the higher count in the center of their range.”

Scientists from the CDFW, USGS, and the Monterey Bay Aquarium have conducted this range-wide census of southern sea otter populations every year since the 1980s, except for 2011, when poor weather conditions prevented completion of the field research. Researchers compute the annual population index and evaluate population trends, providing the USFWS and other resource agencies with insight into southern sea otter abundance and distribution.

The mainland population of sea otters was largest in the central part of the species’ range, which is between Seaside and Cayucos; it increased slightly in the southern part of the range. North of the central region, however, the five-year trend in sea otter populations continued to drop. Changes at the range ends have implications for the long-term outlook for sea otter recovery.

“We continue to recover high numbers of shark-bitten sea otters along the northern and southern ends of the range. These are the same areas we’ve documented a decrease in abundance. This trend is concerning and is likely impacting population expansion and recovery,” says Mike Harris, senior environmental scientist with the CDFW.

In addition to the sea otter population along the mainland California coast, USGS and partners also survey the sea otters at San Nicolas Island in the Southern California Bight. This population, established by introducing sea otters back into the area in the late 1980s, struggled at low numbers through the 1990s.

However, over the last decade, the population has grown rapidly at an average rate of about 10 percent per year.

The sea otter survey and stranding programs are just one part of a larger research program investigating sea otters and their role as predators in coastal ecosystems. As a “keystone” species, sea otters can give scientists clues on the health of Pacific nearshore ecosystems, which support diverse wildlife species and provide economic support for coastal communities.

To keep a finger on the pulse of sea otter populations, USGS researchers monitor changes in the kelp forest ecosystems that provide sea otters with suitable resting and feeding habitat. USGS also collaborates with CDFW and the Monterey Bay Aquarium in running a sea otter stranding network. The findings from these coordinated efforts inform and support effective management of sea otter populations to guide them toward recovery.

Hopper Mountain National Wildlife Refuge Complex

Watch endangered California condor chick in the wild live during record-breaking nesting season on 'Condor Cam'

People across the world can get up-close-and-personal with an endangered California condor chick in real-time through livestreaming video of a wild nest located near the U.S. Fish and Wildlife Service's Hopper Mountain National Wildlife Refuge in Ventura County, California. The chick and its parents make up one of the 12 California condor nests in the mountains of Ventura, Santa Barbara and Kern counties - the highest number of nests ever recorded in Southern California.

"Watching a condor chick and its parents in the wild is a unique and remarkable experience, and one that can be shared with millions of viewers through livestreaming technology," said Molly Astell, wildlife biologist with the Service's California Condor Recovery Program.

The 2018 nesting season marks a significant milestone for California condor recovery with more wild nests documented in Southern California than ever recorded.

"Not only do we have more nests, but they are also spread out across a broader area, indicating that California condors continue to expand back into parts of their historic range," Astell said.

California condor chick #923 hatched on April 6 and is being raised by sixteen-year-old female condor #289 and thirteen-year-old male condor #374. This is the pair's first year to be featured on the livestreaming Condor Cam,



California condor #289 and its chick, #923, have a staring contest in their nest. The chick hatched April 6, and along with its other parent, condor #374, is featured on a livestreaming nest camera, available to a worldwide audience. USFWS

and is the pair's first attempt at raising a chick together though both previously nested with other condors in the past. The chick's father, condor #374 has fledged three other chicks in the past with two previous mates. The mother, condor #289, has fledged one chick previously and has nested with three other mates.

Followers of the California Condor Cam watched a chick hatch live in the wild for the first time in history from a cliffside nest at Hopper Mountain NWR in 2015. Since then, livestreaming video of California condor chicks at the refuge have gained worldwide attention – nearly two million views from more than 190 countries and 34 million minutes, or 65 years of watch time.

“Until now, only a handful of biologists had the privilege to observe wild condor nests. They had to trek into the remote backcountry and wait for days, sometimes weeks, at observation blinds located hundreds of feet from the nests to catch a glimpse of the birds,” says Dr. Estelle Sandhaus, the Santa Barbara Zoo's director of conservation and science. “Today's technology allows researchers like us to observe a number of nests with high precision – and in high def. That enables more efficient nest management and research for us, and allows anyone with an internet connection to share in the excitement of scientific discovery.”

Conservation efforts toward the recovery of the California condor are achieved only through partnerships amongst federal and state agencies, together with private land owners and other organizations. The Hutton's Bowl Condor Cam is made possible through access provided by private landowners, and through the financial and technical support of the Service, Santa Barbara Zoo, Cornell Lab of Ornithology, the Western Foundation of Vertebrate Zoology, Disney Conservation Fund, and Friends of California Condors Wild and Free.



California condor #289 keeps a watchful eye on its nest. USFWS

In California, wild condors are found in the mountains of Monterey, San Benito, San Luis Obispo, Santa Barbara, Ventura, Los Angeles and Kern counties, and most recently in the western foothills of the Sierra Nevada Mountains in Tulare and Fresno counties. In 2017, California condors were spotted roosting in the western Sierras for the first time in nearly 40 years.

The number of California condors dropped dramatically in the mid-20th century, leading the Service to designate the species as endangered under the Endangered Species Act. By 1982 there were only 22 of the iconic birds left in the wild. Today, due to intensive, ongoing captive breeding and recovery efforts led by the Service in conjunction with multiple public and private partners, the California condor population has grown to around 470 birds worldwide, with more than half of the population flying free.

Today the number one killer of California condors is lead poisoning, caused by condors feeding on carcasses containing lead bullet fragments. Peer-reviewed research shows that lead poisoning is a serious health problem for both wildlife and humans, and the Service is working with partner

organizations and the hunting community as it transitions to the use of non-lead ammunition alternatives. Hunters are continuing their proud tradition of wildlife conservation by using these non-lead alternatives.

Another threat specific to condor chicks is “micro trash.” Micro trash are small coin-sized trash items such as, nuts, bolts, washers, copper wire, plastic, bottle caps, glass, and spent ammunition cartridges. Condor parents collect these items and feed them to their chick which can cause serious problems with the chick's development. While it is not completely understood why this occurs, many biologists believe that the condor parents mistake these items for pieces of bone and shell which provides a source of calcium if fed to the chick.

“Last year's breeding season culminated in the first condor chick to fledge successfully from one of our livestreamed sites,” said Charles Eldermire, Cornell Bird Cams project leader. “We're hoping we get to observe #923 taking that first leap from the nest ledge this year.”

Conservation partners release western monarch overwintering site management plan

The U.S. Fish and Wildlife Service, Xerces Society for Invertebrate Conservation, Groundswell Coastal Ecology and California Department of Parks and Recreation have developed a western monarch butterfly overwintering site management plan that also serves as a template for land managers at other overwintering sites.

The Monarch Butterfly Overwintering Site Management Plan for Lighthouse Field State Beach, presented earlier this month at the Monarch Overwintering Site Management Workshop in Oceano, California, was developed for the overwintering site at Lighthouse Field State Beach in Santa Cruz, California. Although the plan focuses on a specific site, it is adaptable to other western monarch overwintering sites along the California coast.

“Protecting and managing these groves is crucial for the continued migration of monarchs to coastal California and by extension, a great portion of the monarchs in the western U.S.,” said Emma Pelton, a conservation biologist with The Xerces Society.

The development of the Lighthouse Field site management plan began a couple of years ago when Samantha Marcum, the monarch butterfly conservation coordinator for the Service’s Pacific Southwest Region, and Bill Henry, director of Groundswell Coastal Ecology shared adjacent workspaces in

Santa Cruz. Both had heard one another discuss current work projects; for Marcum it was management plans for western monarch overwintering sites; Henry was focused on coastal habitat restoration.

“He was located in the same office as me at the time, and he had a history of working with [California] State Parks here in Santa Cruz on coastal habitat restoration projects,” said Marcum. “So we started brainstorming how we might be able to collaborate to benefit monarchs.”

The Service had previously worked with The Xerces Society to provide support for a western monarch overwintering site status report and overwintering site management plan at a different location. Marcum approached The Xerces Society about the idea for a customizable template based on the Lighthouse Field overwintering site.

According to Marcum, Lighthouse Field was chosen for a variety of reasons: monarchs consistently return there to overwinter year-after-year, and the site had existing committed partners in Groundswell



Monarch butterflies cluster in the trees at the Lighthouse Field State Beach overwintering site near Santa Cruz, California. Joanna Gilkeson/USFWS

and California Department of Parks and Recreation, both of which were willing to help develop and implement the plan.

The site is also ranked in the top 10 priority overwintering sites according to The Xerces Society “State of the Monarch Butterfly Overwintering Sites in California” report.

“One of the big reasons I think that we’ve been able to progress in developing the plan and to be moving towards implementation is that we have a really strong partnership of people that are working together, and I think that is key for any plan to be successful,” said Marcum.

Together they began on-the-ground research, consultation with local experts, and data and literature analyses to create a management plan for California Department of Parks and Recreation to begin management actions to support overwintering monarchs at Lighthouse Field.

“Xerces worked closely with Groundswell, the U.S. Fish and Wildlife Service, and [California] State Parks to develop the plan. The team also engaged local biologists who knew the site and the monarchs well, to get a longer-term perspective,” said Pelton.

“I think this multi-partner approach helps get more people together discussing management, helps identify differences in management approaches, and develop a plan that works for everyone... and represents a good model for other sites as many sites have multiple stakeholders, managers, public uses, etc.,” she said.

The plan outlines best practices for habitat management specific to maintaining or restoring microclimatic conditions within a grove that provides protection, nectar and water sources for the butterflies.



Samantha Marcum, monarch butterfly conservation coordinator for the Service’s Pacific Southwest Region, looks for monarch butterflies clustering at Lighthouse Field State Beach. Tannika Eglehard/USFWS

This includes tree selection, placement and management to guard against winds and storms, provide the right combination of sunlight and humidity required of overwintering western monarchs, while at the same time maintaining best silvicultural, or forestry, practices to promote a healthy grove of trees.

According to Henry, consultation with an arborist was added to the plan in order to appropriately answer the questions of “How can we maintain a grove of trees so they live a long time; how do we manage [the grove] to retain desired elements beneficial to monarchs that will persist, such as allowing sunlight to penetrate some portions of the grove and maintaining protection from wind in others; how do we protect the trees from pathogenic fungi, pests, and other diseases?”

The plan also outlines suggested public outreach and engagement activities, monarch mortality monitoring, and data collection that can be used to inform other research about western monarch migration and overwintering habits.

Monarch butterflies in western North America typically arrive at overwintering sites along the California coast in September or October, and remain through early spring.

These overwintering sites offer the microclimatic conditions monarch butterflies need to survive winter in western North America.

Overwintering sites along the western U.S. coast are found from Mendocino County, California to Baja California, Mexico. In recent years, many sites have become unsuitable due to multiple factors including, habitat degradation, development, and aging trees. As a result overwintering population numbers have declined by more than 95 percent in the last 30 years.

The team is hopeful that other land managers will find ways to incorporate the plan into their management practices, thereby restoring habitat crucial to western monarch butterfly survival and recovery.

“Migratory species... they’re species that move long distances and are exposed to many threats, and they say something about the general state of landscape at a large scale because they integrate space so well,” said Henry. “By protecting and maintaining healthy populations of monarchs that says that you’re maintaining healthy ecosystems across a large area and I think that that is really important.”

Women in science

This Women's History Month, we honored the instrumental contributions of remarkable women to our ultimate mission: the conservation and protection of rare fish, wildlife, plants and their habitats for the continuing benefit of the American people.

Learn what inspired these women to pursue careers in conservation, and what advice they have for young women pursuing similar careers today.

Watch our 'Women in Science' video series here: <https://go.usa.gov/xPdbB>



Cat Darst

Assistant field supervisor

"Part of my love for animals and the outdoors is because I grew up in coastal California. I love the landscapes, this is my home, and it has made me who I am. By conserving plants and animals for future generations, we're providing the opportunity for the kids of coastal California to have that same experience."



Jenny Marek

Deputy field supervisor

"I grew up here in California and my family always enjoyed going out and being in nature. That just made me really love the outdoors and appreciate nature, and I wanted to do something in the environmental realm. For anyone out there who is interested in pursuing a career in science, I'd say, 'Go for it!' There is nothing holding you back, and there are so many facets of science that you can get involved with."



Colleen Grant

Fish and wildlife biologist

"I work with different landowners or organizations on focus projects that help restore the ecosystem for various animals and plants. I think everyone gets some sort of enjoyment or reward from being outside and in nature in general, so being able to work in a field where I can help preserve and protect this environment for everyone to enjoy – it's really rewarding."



Karen Sinclair

Fish and wildlife biologist

“When I was about nine years old, I learned about Jane Goodall and it blew my mind that you could spend your entire career helping wildlife. From that point on, my goal was to become someone who would protect wildlife. I continued learning about science and I had fantastic teachers that made science super fun. If you’re struggling with a subject, but you need to pass that class or obtain that knowledge to pursue your dream career; keep trying, look for help from your teachers or your friends, give every opportunity your all, and you will succeed!”



Kendra Chan

Fish and wildlife biologist

“Working in science has influenced me as a person and as a woman because it’s taught me how to stand up for myself, and how to empower myself with knowledge. It’s taught me how to look something up if I’m confused, and how to ask questions rather than taking things at face value.”



Lara Drizd

Fish and wildlife biologist

“I really love working with the people here. This can be a difficult job, and you can see sad, depressing things happen every day. Then you realize that the people you work with are so passionate and so supportive that it really inspires you and motivates you to move forward.”



Connie Rutherford

Botanist

“To young women who are interested in pursuing a career in conservation I would say, get out as much as you can in the world; don’t think that you have to get a full-time job right away: volunteer, take internships, and travel; get out and meet people, go to different places, and try to understand how things work.”

Women in science



Lena Chang

Senior fish and wildlife biologist

“I like that I can be an influence to younger people who are thinking about getting into science, especially young women. It can and will be challenging, but if you have a passion and you have a goal, set it out there and know you can do whatever it takes to get there.”



Raphaela Ware

Fish and wildlife biologist

“I was really fortunate because I was part of the Service’s Directorate Fellowship Program and through that I got to work on a refuge in Montana studying songbirds and habitat relationships. It was a golden ticket for me and I feel super fortunate and blessed to work for the Service.”



Mary Martin

Fish and wildlife biologist

“I think that working in the science field has made me a stronger woman: I think growing up as girls we are inherently taught to second-guess ourselves, especially when being challenged by a respected colleague or a higher authority figure. Ultimately being in the science field has taught me to be an advocate for myself and to trust my intuition.”

A celebrated career

Farewell thoughts from senior wildlife biologist Rick Farris

In March, Rick Farris, wildlife biologist and Section 7 coordinator for the Service in Ventura, California, retired after two decades with the agency.

In that time, one of his fondest memories occurred while working on the Tejon Ranch Habitat Conservation Plan. The 272,000-acre ranch is the largest single private landholding in California.

“During one of my visits, we had reached a hill overlooking the Antelope Valley. It was raptor migration season, and we could see ‘kettles’ of hawks, falcons and eagles soaring wherever there was a good updraft. They would ride the thermal to a great height, then glide to the next one and repeat the process, covering huge distances with little effort. Seeing hundreds of raptors soaring together in these swirling clouds was one of those moments that reminded me that what I was working for was worthwhile.”

Not everyone sees that, though. Rick says that one of the most difficult things in the job was one of the most basic: “convincing people that conservation is worthwhile; that it’s an effort to protect something we should all cherish.”

Nevertheless, Rick will miss the job, especially the people. “I value my time working with others in the office more than anything. I’ve always had excellent mentors and I’ve wanted to be the same for other people. There’s a great sense of accomplishment when you can explain a difficult concept and have someone understand it and take it with them.”



Senior wildlife biologist Rick Farris at home with his birdfeeders. Courtesy Rick Farris

In retirement, Rick hopes to advance his woodworking skills and build musical instruments. He also plans to just “enjoy life with my wonderful wife who will retire in June after almost 30 years as a biology professor.” But he still plans to “further conservation in some way, whether through activism or volunteering with conservation organizations.”

And he offered some advice for biologists who are just starting their careers with the Service: “Stick with it. No one else is going to do your job as well as you, and no one cares more than you. At some point, I came to realize that

if someone with less concern for our natural world was doing my job, they wouldn’t bother to notice something extraordinary, like a mass migration of songbirds or habitats worthy of preserving when possible, like Tejon Ranch. You are the ones who care the most or else you wouldn’t have dedicated your careers to conservation. You are the best ones to carry out the Service’s mission.”

At-Risk Species Conservation Award

Ventura Fish and Wildlife Office and FivePoint Holdings, LLC presented first-ever award recognizing efforts to prevent listing of at-risk species

Regional Director Paul Souza presented the leadership of FivePoint Holdings, LLC, and the Ventura Fish and Wildlife Office with the first-ever “At Risk Species Conservation Award.” The award recognizes the proactive conservation efforts of FivePoint in the preservation of more than 1,500 acres in Los Angeles and Ventura counties for the benefit of the San Fernando Valley spineflower, a plant once believed extinct.



Regional Director Paul Souza (center left) presents first-ever At-Risk Species Conservation Award to leadership of FivePoint Holdings, LLC. Hazel Rodriguez/USFWS



Steve Henry, field supervisor; and Cat Darst, assistant field supervisor; receive accolades from Regional Director Paul Souza for their work with FivePoint Holdings, LLC to save the San Fernando Valley spineflower from extinction. Ashley McConnell/USFWS

Recovery Champion Award

Botanist Connie Rutherford receives national accolades for her work to recover rare plant species

Botanist Connie Rutherford was awarded the Recovery Champion Award for more than 30 years of dedicated work to recover dozens of federally listed plant species in central and Southern California.

Her leadership, professionalism, and commitment to collaboration has helped foster highly-successful partnerships both within the Service, and with state and local partners including California Department of Fish and Wildlife, Bureau of Land Management, National Park Service, and Department of Defense.

Her decades-long, active engagement with the plant research and conservation community has enabled her to communicate directly with species experts to quickly address questions that contribute to the conservation of taxa in the region.

These relationships have been critical to help our partners recognize what steps are needed to recover listed plant species.



Botanist Connie Rutherford with her Recovery Champion award outside of her office in Ventura.

Robyn Gerstenslager/USFWS

Curren School students and teachers recognized for environmental stewardship

Field supervisor Steve Henry recognized students and faculty of Curren Elementary School in Oxnard for their exemplary contributions to environmental stewardship at an assembly in June 2018.

The Ventura FWO worked with Curren School to build a native pollinator garden that doubles as an outdoor classroom.



Field supervisor Steve Henry (center left) with teachers Melissa Moser (far left) and Jennifer Siebers (far right) and principal Christine McDaniels (center right).

Robyn Gerstenslager/USFWS

ON THE BACK: Young girl hugs a native plant at Oxnard College Child Development Center. The U.S. Fish and Wildlife Service works with kids to create native pollinator habitats across the Ventura County community. Robyn Gerstenslager/USFWS

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