



U.S. Fish & Wildlife Service

Ventura Fish and Wildlife Office

2019 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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Restored wetland at North Campus Open Space in Santa Barbara. Courtesy UCSB

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A Year in Review

We have many conservation success stories to celebrate in 2019.

After one of California's largest wildfires, we worked with partners in the Ojai Valley to restore native habitat for wildlife displaced by fire. We worked to keep the Santa Clara River wild, providing flood protection and habitat for rare species, while neighboring farms grow food to support local communities. We asked for the public's help in curbing the illegal international poaching trade threatening "liveforevers," rare succulents found only in the Santa Monica Mountains. We celebrated a successful reintroduction of San Fernando Valley spineflower, a plant once believed to be extinct, to the hills above Santa Clarita. We honored a breast cancer survivor who beat the odds, and a former gang member turned conservationist.

Thank you to our partners and our community for making these success stories and so many others possible.



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.

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From devastation to collaboration

Partnership to restore native habitat after devastating wildfire

Just two hours northwest of Los Angeles you will find a small city called Ojai. The perfect getaway from the hustle and bustle of big city life, Ojai provides urban professionals an escape to a picturesque valley backdropped by the Topatopa mountains.

A town like no other, it's no surprise that many of those visitors end up living the rest of their lives here. The tight-knit community of artists, free spirits and outdoor enthusiasts take pride in their beloved town and local natural resources.

In December 2017, the largest wildfire in modern California history threatened the peaceful getaway. The Thomas Fire ravaged communities in Santa Barbara and Ventura counties, burning more than 280,000 acres. Encircled by raging flames, devastation of life and property threatened the small city.

Miraculously, Ojai remained mostly unscathed, thanks to firefighters from across the West, including Service fire personnel.

Just outside of town though, 1,500 out of 2,300 acres of Ojai Valley Land Conservancy's open space was burned by the fire, including nearly 40 acres of newly planted oak trees, shrubs and grasses.

Nonnative plants on the property like yellow star thistle, black mustard, and fennel created the perfect fuel for the Thomas Fire to engulf the area in flames. Before the fire, the conservancy, a non-profit organization that works with partners to protect open space,

wildlife, habitat and watersheds in the Ojai Valley, was actively working on a 36-acre restoration project to restore native habitat on land that was once an orange orchard.



Biologists with the Service's Ventura office lend a hand restoring native plants. USFWS

From 2015-2017, the team restored the 36-acre orchard to native oak woodland savannah. They had installed oak nodes, an encircled cage to protect newly planted oaks, planted over 3,000 native plants, and installed a new irrigation system. Of the 36 acres that had undergone the restoration process, 29 were scorched by the Thomas Fire.

“One of the issues we have out here with restoration that is so tough is that there’s a lot of land

to manage and a lot of weeds that need removal. It takes an army, and we were unable to remove a lot of weeds [before the fire,]” said Nathan Wickstrum, restoration field crew supervisor with the conservancy.

Devastated by the loss of habitat, plants, and time that went into restoring the preserve, the conservancy quickly shifted gears and received an overwhelming response from organizations and volunteers seeking to help.

“We recognized the huge impact the Thomas Fire had on the community,” said Mary Martin, a biologist with the Service’s Ventura office. She reached out to the conservancy to offer assistance with post-fire habitat restoration. “We collaborated and leveraged funding, and we were able to get this project off the ground.”

The Partners for Fish and Wildlife Program works with private landowners to implement voluntary habitat restoration projects on

private lands for the benefit of fish, wildlife and plants through financial and technical assistance.

“California’s native vegetation is actually adapted to fire and can bounce back relatively quickly after these large scale events,” said Martin.

She’s hopeful that the conservancy’s efforts to restore the native habitat will bring back many of the native species that use adjacent lands.



Top right: Nathan Wickstrum, restoration field crew supervisor; leads the restoration effort for Ojai Valley Land Conservancy’s open space that was burned by the fire. Bottom right: Charred restoration area following Thomas Fire. USFWS

“There are species in our watershed that have the opportunity to use this site as they’re moving to and from breeding sites.”

The conservancy will work with the Service to improve habitat for rare wildlife including least Bell’s vireo, southwestern willow flycatcher, California red-legged frog, western pond turtle and steelhead trout.

By the end of the year the conservancy hopes to see the area restored back to its native oak

savannah habitat, with the newly installed plants flourishing.

Organizations involved in the restoration efforts of Ventura River Preserve include the California Wildlife Conservation Board, Ventura County, California State Coastal Commission, Patagonia, Natural Resources Conservation Services, Ojai Rotary, Federal Emergency Management Agency, volunteers and local schools.

One river remains

Untouched by development, the Santa Clara River remains the only wild river in Southern California

Southern California rivers are not known for their abundance of water flow. Yet, when the rains do come, the rivers can swell in dramatic fashion.

Attempts to tame inconstant rivers have resulted in channelized, dammed or leveed waterways that resemble concrete canals more than Instagram-worthy landscapes. But one wild river remains: the Santa Clara River.

Beginning with headwaters in both the Los Padres and Angeles National Forests, the river meanders for more than 100 miles through Los Angeles and Ventura counties before flowing into the estuary on McGrath State Beach. In dry months, many areas of the Santa Clara River flow completely underground.

Despite this lack of water, much of the Santa Clara River is alive

with riparian trees and shrubs like willows, fragrant mule fat and native pollinators like buckwheat. These provide habitat for local birds that feed on the bugs zipping through the air or crawling along the sandy river bottom.

Eleven federally listed species, and several species with dwindling population numbers, rely on the Santa Clara River as a food and habitat source.



The Santa Clara River estuary at McGrath State Beach in Ventura, California, where the river flows into the Pacific Ocean. USFWS

“This includes other sensitive or listed species like the southwestern pond turtle, the unarmored threespine stickleback, and southern steelhead,” said Chris Dellith, senior fish and wildlife biologist for the U.S. Fish and Wildlife Service in Ventura. “The loss of this habitat could compromise the stability of existing populations and the ability to recover already tenuous populations of these species.”

That the Santa Clara remains relatively untouched by modern humans is due in no small part to a long-standing partnership of federal, state, local and non-governmental organizations who work to ensure it stays that way.

Spurred to action in the early ‘90s by two oil spills in the upper river, the Santa Clara River Trustee Council formed to manage \$9.8 million in settlement dollars. The council funds restoration projects within the watershed to offset the damaging effects of the spills to the river and the wildlife dependent upon it.

The council, made up of representatives from the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife funded the acquisition of six parcels of land along the river in Ventura and Los Angeles counties. The Nature Conservancy manages the majority of those parcels, and has also acquired additional land along the river for a total of more than 4,100 protected acres.

Much of the conservancy’s work along the river focuses on habitat restoration through invasive species removal. Preserving farmland within the floodplain is also key to maintaining the river’s wild state.

“The river’s floodplains support a great amount of agriculture. The entire Oxnard Plain was developed from deposits of sediments from the Santa Clara River over a long period of time,” said Jenny Marek, deputy field supervisor for the Service in Ventura.

E.J. Remson, senior project director for The Nature Conservancy in Ventura,

remembers the day he realized that protecting local agriculture could help protect this one last wild river.

“I was actually standing on a levee and kind of marveling that we’re on the edge of one of the largest and most affluent metropolitan areas in the world, and all of the rivers in Los Angeles, Orange County and the Bay Area are all channelized concrete. So how did this river survive? I realized it survived because agriculture was still flourishing in Ventura County,” Remson said.

According to the Farm Bureau of Ventura County, the county ranked 11th in the U.S. for agriculture production.

Remson and his colleagues feared that if agriculture left Ventura County, the Santa Clara River would suffer the same fate as other Southern California rivers.

“Back in the mid-50s, Los Angeles County was the most agriculturally productive county in the country, and Orange County was number two,” Remson said. “And I said, ‘So we all know what’s going to happen if ag goes away; Ventura County is going to turn to suburban sprawl. So we thought, how do we help keep ag viable?’”

That’s when the idea to protect the floodplain through easements on agricultural land was born. Together with the Ventura County Watershed Protection District and the Farm Bureau of Ventura County, The Nature Conservancy developed a concept that addressed the needs of farmers, the needs of wildlife and habitat in the river, and the need to control flooding. With partial funding from the trustee council, The Nature Conservancy manages the Natural Floodplain Protection Program along the Santa Clara. The program offers floodplain protection easements to farmers or other landowners along the river and provides payment to the landowner in exchange for leaving their property undeveloped.



The Santa Clara River is a rarity in Southern California: a river largely untouched by channelization and boasts an abundance of wildlife. This one wild river remains due in no small part to a long-standing partnership of federal, state, local and non-governmental agencies who work to ensure it stays that way. Courtesy Santa Clara River Conservancy

The Nature Conservancy commissioned the University of California Santa Barbara’s Bren School of Environmental Science and Management to identify which land along the river was most crucial for floodplain protection.

Armed with that data, Remson began to approach landowners.

“As a landowner, you’re always reluctant to put easements on your property. So I had to give some thought as to whether I’d be willing to do that,” said Craig Underwood, owner of Underwood Ranches and Underwood Family Farms.

He has participated in the floodplain easement program for about two years. “The program itself makes a lot of sense because if you’re going to have a river running through a valley like that and not spend a lot of money doing flood protection, you’re going to have to have some kind of a floodplain.”

The Nature Conservancy manages 551 protected acres within the river’s floodplain. And Remson says they’ve worked with a variety of

agriculture land owners, from the family farm to the publicly-traded agricultural company.

“Each one is different,” said Remson. “That’s the kind of cool thing about easements -- they’re custom made. But, in general, they preserve the property and you’re encouraged to keep it in ag.”

While the land may flood during major storm events, the easement money can offset or lessen the burden of the agriculture loss. Landowners can reclaim the eroded land either by pulling it back out of the river, bringing in new topsoil, or a combination of both.

When the river is unrestricted by channelization and urban development it can expand and shrink within its floodplain as needed. This natural movement of the Santa Clara provides life for the ecosystems it supports.

Preserving the floodplain also provides an economic benefit to unincorporated Ventura County and Oxnard residents through FEMA’s Community Rating System

Program. Unincorporated Ventura County currently gets a 25 percent discount and City of Oxnard residents get a 15 percent discount.

“The largest chunk of points that we get from [Ventura County’s] application has to do with open space lands preserved within the floodway, and the one percent annual chance (previously known as the 100-year) floodplain,” said Angela Bonfiglio Allen, an environmental planner with the Ventura County Watershed Protection District.

Underwood recognizes the value of allowing the river to flow naturally, uninhibited by human interference. Just for slightly different reasons.

“E.J. [Remson] and I don’t always see eye-to-eye on The Nature Conservancy goals, but in this case I think [The Nature Conservancy’s] program is a good one because if you were to channelize the river and not have floodplains, based on their projections, then it would cause a lot more damage when you get into the urbanized areas,” said Underwood.

E.J. Remson, a senior project director for The Nature Conservancy, stands near the Santa Clara River in Ventura County, California. Courtesy Liz Moskowit



Hanging by a thread

California's 'liveforevers' face new threat of poachers engaged in lucrative, illegal succulent trade

A few hundred meters from the start of a trailhead on the western edge of the Santa Monica Mountains, Ken Niessen and Mark Elvin stop in their tracks. They are surveying areas impacted by wildfires in Southern California, and checking on rare plant species that live there.

While they expect to see acres of charred earth and burned tree limbs just days after a recent wildfire that swept through Ventura and Los Angeles counties, it's what they see a few miles away that captures their undivided attention. One, and then another, and then another. Hand-sized clumps of soil and rock seemingly dropped

in a straight line feet apart along a dusty trail. To the casual hiker, inconsequential obstacles to be passed over, but to professional botanists Niessen and Elvin with the U.S. Fish and Wildlife Service's Ventura office, these clumps, and their contents, were a much more interesting and concerning find.



Stored for safe-keeping with other rare dudleyas in a non-public portion of the Santa Barbara Botanic garden, salvaged clumps of Verity's dudleya have recovered and will be used to help grow more of the rare plants to help boost the wild population.
Courtesy Matt Guillems/Santa Barbara Botanic Garden



Botanists Mark Elvin and Ken Niessen found these uprooted clumps of Verity's dudleyas along a trail head in the Santa Monica Mountains, and collected the clumps as evidence of potential poaching activity.. USFWS

“Ok, there’s something weird going on here,” Elvin says, as he carefully picks up a clump. In his hand is a plant the color of light sage with about a dozen rosettes, or clusters of red-tipped leaves.

“It’s Verity’s dudleya,” Elvin says.

Verity’s dudleyas are a type of succulent that live on cliff faces in the Santa Monica Mountains of Ventura County and nowhere else on earth.

Dudleyas are more popularly known as ‘liveforevers,’ aptly named for their hardiness by early English explorers in the Americas. The specimens they collected, to the explorers’ surprise, survived the long ocean voyage back to England pressed between the pages of their field books.

Today, this particular species of dudleya is hanging on, quite literally, by mere threads. Nearly wiped out by intense wildfires, these charismatic mini-flora, and others like them, now face a new threat from poachers engaged in a lucrative and illegal succulent trade. Niessen and Elvin carefully gathered the plant material in ziplock baggies as evidence, and alerted state and federal law enforcement officials to the suspicious find.

While officials cannot confirm these particular dudleyas were poached, Patrick Freeling, a game warden with the California Department of Fish and Wildlife, says the signs are there.

“From all of the poaching incidents I’ve seen, they’re shoving backpacks full of plants, and then some of the plants fall out as they

bail. You’ll find clumps of plants in the area the next day where they were freshly harvested.”

There are documented cases of succulent poaching in Southern California dating back at least two decades, but officials say the trend is increasing in frequency and severity. Collecting rare plants, particularly those categorized as either threatened or endangered like the Verity’s dudleya, is a violation of state and federal law.

John Tiszler, plant ecologist with the Santa Monica Mountains National Recreation Area, says that the Verity’s dudleya population was already reduced by up to 90 percent due to wildfires in 2013, and because of extreme drought conditions there has been little to no recovery of the population.



Patrick Freeling, game warden with the California Department of Fish and Wildlife, examines more than 800 poached dudleya plants along the side of a road in Mendocino County in March 2018. Courtesy CDFW

“It’s not an unreasonable thought that the species is in danger of being lost,” Tiszler says. “Whether the plants were poached, vandalized, or simply collected out of curiosity, the taking of even a small number of these plants could have a significant impact and ultimately threatens the long-term survival of the species.”

Poaching of dudleyas, primarily more common types, has become a serious concern for local officials and conservation organizations, threatening not just the plants themselves but the ecosystems in which the plants live.

Dudleyas are a food source for native wildlife from land snails and rabbits to ground squirrels and deer. “They hold lots of water when water is not readily available,

so they’re a popular food source for many animals, particularly in drought-stricken California,” Elvin says.

There are around 80 kinds of dudleya plants in the world, and more than 70 percent of those dudleyas exist only in California.

“We’re in the epicenter of dudleya country,” says Niessen. Nine of those dudleya types, like the Verity’s dudleya, are considered threatened or endangered under federal or state law. Four of the nine live in the Santa Monica Mountains and nowhere else.

“As far as plants go, they are pretty charismatic,” says Elvin. “Someone might say, ‘Wow, this is going to be a great little plant for my window sill’ and take the plant home with them. In other cases, the ‘taking’ may be more organized.”

Freeling says that some of the more common dudleya species are selling on average for \$50 to \$100 per plant. And the demand, mostly from international markets, is hitting California hard.

A string of poaching cases involving mass shipments of dudleya plants to South Korea and China were prosecuted in California in 2018. Sentencing for offenders ranged from probation and community service to hefty fines and even jail time. In some cases, perpetrators were barred from future U.S. entry. Most of the cases have been in areas of Northern California in Mendocino and Humboldt counties.

However, the trend appears to be making its way south. In Monterey County in 2019, two people were sentenced to jail time, \$14,000 in fines, and \$10,000 in additional restitution for felony grand theft, felony vandalism, and take of plants from a California state park. State officials say a Monterey resident witnessed the poachers in action last summer and provided key evidence - photos of the assailants and their license plate - that helped crack the case.

“California is an incredibly special place, a global biodiversity hotspot with more plant diversity than any other state in the U.S.,” says Dan Gluesenkamp, executive director for the California Native Plant Society. “This is our legacy to protect, which is why it’s so great to see everyday Californians stepping forward to report problems and help.”

When word of the poaching first broke, the society jumped into action to help spread the word and repair the fragile dudleya ecosystems. Last spring, trained volunteers from the society - North Coast chapter worked with state and federal partners to replant stolen dudleya along the coast. Now, the society has engineered a novel solution to curtail future poachers: The organization is overseeing mass nursery production of thousands of dudleyas that will be given away for free in order to flood the market and eliminate financial gains for poachers. “You want dudleyas, we’ve got ‘em for free! Just not from our wildlands!” Gluesenkamp says.

While Elvin and Niessen’s find along the Santa Monica Mountains trailhead has yet to be confirmed as a poaching incident, they are concerned that this new threat could decimate already dwindling dudleya populations in the area. The U.S. Fish and Wildlife Service, National Park Service, California Department of Fish and Wildlife,

and other partners are working together to exchange information and get a handle on the growing problem.

“Much like our state counterparts, we simply cannot be everywhere, all of the time,” says Dan Crum, special agent in charge for the U.S. Fish and Wildlife Service’s Pacific Southwest Region Office of Law Enforcement. “The public can play an integral role in curbing the illegal wildlife trade,

to include the unlawful collection and commercialization of rare and endemic plant species, such as the dudleya, simply by reporting potential poaching incidents to the proper authorities.”

As for the mysterious clumps found on the trailhead in the Santa Monica Mountains, they are in the capable hands of botanists and horticulturists at the Santa Barbara Botanic Garden, a conservation-oriented non-profit organization

that houses the Nationally Accredited Plant Collection of Dudleya.

Grouped for safe-keeping with other rare dudleyas in a non-public portion of the Garden, the salvaged clumps of Verity’s dudleya have recovered and will be used to help grow more of the rare plants to help boost the wild population.

“Verity’s dudleya is so rare that every individual counts,” says Matt Guilliams, curator of the Clifton Smith Herbarium at the Santa Barbara Botanic Garden. “A silver lining to this potential poaching incident is that we now have plants in our conservation collection, where they can be used to produce seed and additional plants for restoration.”

The public can report suspicious activity by contacting the U.S. Fish and Wildlife Service Office of Law Enforcement at 1-844-FWS-TIPS, or the California Department of Fish and Wildlife’s CalTIP at 1-888-334-CalTIP. Tips can be submitted anonymously.

Verity’s dudleyas are hanging on by mere threads, nearly wiped out by intense wildfires. These charismatic mini-flora, and others like them, now face a new threat from poachers engaged in a lucrative and illegal succulent trade. USFWS



Hawkeyes, tritons, terns, and rails

Unique partnership helps rare birds share land and sky with military aircraft

Sixty-five miles northwest of Los Angeles, Naval Base Ventura County (comprised of operating facilities at Point Mugu, Port Hueneme, and San Nicolas Island) houses a diverse array of tactical aircraft from E-2 Hawkeyes to MQ-4C Triton Unmanned Aircraft Systems. But did you know that this Naval Base is also home to other rare aerial wonders from the secretive light-footed Ridgway's rail to the California least tern?

In fact, the base is a force for conservation of these rare birds, along with other rare wildlife and plants along the central California coast.

Earlier this year, Naval Base Ventura County Natural Resources Conservation Team was awarded the Chief of Naval Operations Award, Secretary of the Navy Award, and the 2018 Secretary of Defense Environmental Award.

The latter award acknowledges outstanding conservation achievements and innovative environmental practices, and recognizes individuals and teams throughout the military that promote sound conservation management practices and continued support of the military's readiness mission.

California least terns. USFWS



Three E-2C Hawkeyes fly over Naval Base Ventura County, California. Courtesy U.S. Navy

Naval Base Ventura County includes approximately 2,200 acres of wetlands, including the largest functioning salt marsh in coastal Southern California, and is home to numerous fish, bird, plant, and invertebrate species.

Among the long list of diverse federally protected fauna and flora found on base are western snowy plovers, the light-footed Ridgway's rail, California least terns, the least Bell's vireo, tidewater gobies and the salt marsh bird's beak. Without compromising the integrity of the Navy's mission, the installation's Natural Resources Conservation Team ensures that these plants and animals are given the best chance of survival by providing key habitat and supporting their recovery through their Integrated Natural Resources Management Plan.

Point Mugu hosts one of the largest California least tern colonies in the state. California least terns were listed as endangered in 1970 due to habitat loss, human disturbance and other factors. Recently, Navy biologists incorporated Unmanned Aerial Systems technology into their annual nesting survey efforts which was previously labor-intensive footwork for biologists and inherently caused disturbance in the nesting colony.

"Imagery taken from the drone helps collect data on nesting success, without having to disturb the terns by having to enter the colony to collect data," said Martin Ruane, resource manager at the Naval Base.

The elusive light-footed Ridgway's rail, a hen-sized marsh bird, faced extinction in the 1980s due to habitat loss. For more than 30 years, the U.S. Fish and Wildlife

Service has worked with recovery partners, including the U.S. Navy, to help boost the population statewide.

In 2016, Service and Naval Base biologists teamed up with the Girl Scouts of California's Central Coast to build and deploy nest platforms to create nesting habitat in Point Mugu's coastal lagoons. The light-footed Ridgway's rail typically builds its nest in areas to avoid flooding by tides, yet must be dense enough to provide protection from predators and support the bird's relatively large nest.

Ruane placed Service wildlife cameras inside the nests to monitor rail activity during the spring nesting season.

"The girls willingness to get muddy, installing the rafts, and see this project to completion, was great.



Light-footed Ridgway's rails faced extinction in the 1980s due to habitat loss. Naval Base Ventura County has worked with the U.S. Fish and Wildlife Service to create nesting habitat to support this rare bird's recovery. USFWS

Now it is up to the rails to decide how they want to use these rafts, hopefully to nest or raise their young," Ruane said. "We've seen the rails and their chicks use the rafts to stay safe during high tides and to roost at night, that's a success, and we are hopeful they will be used for nesting in the future."

For some, it may come as a surprise that military installations like Naval Base Ventura County have become leaders in conservation, but the reality is that the Department of Defense manages over 25 million acres of land on more than 425 military installations.

Many of these installations have set aside acres of land, restricted from public access and free from residential development for many threatened and endangered species.

"Our military lands hold some of the most precious natural resources

along California's coastline, and provide important habitat for many of our imperiled fish, wildlife, and plants. Navy Base Ventura County truly goes above and beyond with their proactive approach

to conservation of rare plants, animals, and at-risk species," said Rachel Henry, wildlife biologist for the Service based in Ventura, California.

Martin Ruane, natural resources manager with Navy Base Ventura County (second from right) with biologists from the U.S. Fish and Wildlife Service and Girl Scouts of California's Central Coast after deploying nest platforms for the federally endangered Ridgway's rail. The nest platforms help provide cover during high tides. USFWS



'All is not lost'

Rare California red-legged frogs fight for survival following SoCal wildfire

Amid an ashy creek bed in the Simi Hills, rare frogs are fighting for survival following the Woolsey Fire, which swept across Ventura and Los Angeles Counties this November, prompting mass evacuations. While thousands of residents fled their homes, California red-legged frogs, a threatened species, hunkered down in creek bottoms, and waited. Fueled by persistent Santa Ana winds, the Woolsey Fire burned nearly 100,000 acres, destroying more than 1,500 homes, businesses, and other structures from inland Thousand Oaks to the seaside town of Malibu. Nearly half of the Santa Monica Mountains burned, including sites where California red-legged frogs were reintroduced in recent years to help boost the dwindling population.

When it was safe for residents to return home in the days following the fire, a team of scientists huddled around a creek bed surrounded by darkened hillsides. Emergency response helicopters flew overhead.

"There's one there. It's alive," said Chris Dellith, senior wildlife biologist with the U.S. Fish and Wildlife Service. An adult California

red-legged frog hopped from a tumbled tree branch into the water and disappeared.

Dellith and partners from federal and state agencies came together to assess damage areas where the threatened species is known to exist, including a site in the Simi Hills where for the past four years, scientists have collected frog eggs to transplant to new areas in the Santa Monica Mountains to aid in the recovery of the species. All four sites were impacted by the fire. While driving southbound on Highway 101 en route to the survey site, Dellith looks at the charred landscape and reminisces about a childhood spent playing in those very hills. "These are my old stomping grounds." When asked how many fires he's been through since he moved to California in 1971, he said, "I've lost count." We rolled down the windows as we entered the town of Calabasas; the air is thick with the smell of a summer campfire.

It will be at least a year until scientists are able to determine the fire's effects to the California red-legged frog population in the Simi Hills, and now, a new challenge for the rare amphibians - winter rains.

"The rains are a mixed blessing," Dellith said. An hour-long deluge could send earth loosened by the fire into the stream bed, bringing with it toxic ash that could kill the frogs and leave their breeding habitat without clean water to mate and lay their eggs during the spring breeding season.

A consistent drizzle over a day, on the other hand, could have the opposite effect, providing just enough water to germinate the unburned seedbank, which in turn would grow roots and anchor the soil on the adjacent slopes in place.



The Woolsey fire ignited on November 8, 2018 and burned nearly 10,000 acres of land. The fire destroyed 1,643 structures, killed three people, and prompted the evacuation of more than 295,000 residents. It was one of several fires in California that ignited on the same day. Courtesy USFS

Tim Hovey, senior environmental scientist with California Department of Fish and Wildlife, has monitored California red-legged frog populations in the area for the last 15 years.

“It’s terrible that this happened, but I’m encouraged by what I see,” Hovey said as he looked up at the blackened hillsides scattered with oak trees. “The sloping hillsides around this creek bed are not very steep, so we may not see a tremendous amount of sediment flowing down. We’ll see what happens after the rains.”

Hovey and the other scientists have a strategy to intervene following winter rains if needed.

Following the Copper Fire in 2002 which impacted portions of the San Francisquito Canyon in Los Angeles County, “we created artificial pools

alongside the existing stream channel that had been closed in by the sediment from heavy rains,” said Elizabeth Gallegos, biologist with the U.S. Geological Survey. “The frogs successfully bred in those pools until the habitat reestablished itself.”

Years later, Gallegos said, “the frogs in that area are doing great.” The frogs in the Simi Hills have also been doing well in recent years, Gallegos said. She and others have been surveying the frog population there since 2009. In 2017, she documented 76 egg masses in just a 250 meter reach of the creek bed.

There were enough frogs in the Simi Hills to support a reintroduction program that began in 2014, when scientists moved the first egg masses from the Simi Hills into a site in the Santa Monica Mountains National Recreation Area.

Since then, egg masses from the Simi Hills have been transplanted year after year, in the hopes that eggs would metamorphose into tadpoles and ultimately adult frogs that would then reproduce on their own. In 2017 and 2018, scientists rejoiced when frogs were documented reproducing at two of the introduction sites – a sign of the program’s remarkable success.

“We’re concerned about the introduction sites, but we’re certainly not going to give up,” said Seth Riley, wildlife ecologist with the Santa Monica Mountains NRA. Riley and the rest of the team plan to keep a close eye on the frogs in the Simi Hills and survey the introduction sites in the coming weeks. They’ll conduct nighttime surveys before and after winter rains to assess habitat impacts and collect data.

While the future of the reintroduction program remains uncertain following the fire, Riley said that the team “would not put frogs into unsuitable habitat.”

“It will take a while for the habitat to recover, but it will recover,” Hovey said. “Even now, we see little sprouts of green coming up. The vegetation will return.”

While wildfires remain a threat to the long-term sustainability of the California-red legged frog population in California, Hovey, Dellith and others remain optimistic.

“There’s still hope for this species. All is not lost,” Dellith said. “It’s just going to take time.”



Chris Dellith, senior wildlife biologist with the U.S. Fish and Wildlife Service surveys the charred landscape in search of California red-legged frogs following the Woolsey Fire that swept through Los Angeles and Ventura Counties in November 2018. USFWS

Elizabeth Gallegos, biologist with the U.S. Geological Survey, kneels beside a creek bed near Calabasas, scanning the water for signs of life following the Woolsey Fire in November 2018. USFWS



Flourishing return

Once presumed extinct, San Fernando Valley spineflower returns following successful first year planting

Yellow flags mark locations where San Fernando Valley spineflower seedlings were planted at an introduction site in Los Angeles County. After abundant rainfall, the seedlings are now growing in the thousands across eight sites in the county.
USFWS



The San Fernando Valley spineflower, once believed extinct, is now flourishing in the hills above the Santa Clarita Valley in Los Angeles County.

Botanists planted seeds of the tiny buckwheat as part of a multi-year effort that kicked off this past December to re-establish the plant across its historic range. After abundant rainfall, those seedlings are now growing in the thousands across eight sites in the county.

“It’s pretty exciting for this first year of introductions to be such a success,” says Cat Darst, assistant field supervisor of the U.S. Fish and Wildlife Service’s office in Ventura. “This tells us this can work.”

In 2017, the Service signed an agreement with FivePoint Holdings, the landowner of Newhall Ranch, to ensure the San Fernando Valley spineflower would continue to grow in its native habitat while plans

are underway to build a 21,500-home master-planned community which will add an estimated 75,000 permanent jobs to the area.

The robust Candidate Conservation Agreement outlines plans to establish plants in new and existing sites and manage the species long-term, while conserving more than 1,500 acres within Los Angeles and Ventura counties to support spineflower conservation.

As a result of these proactive conservation measures, the plant, once considered a candidate for listing under the Endangered Species Act, is no longer at risk.

“This is really astonishing,” said Anuja Parikh, a botanist with FLx Consulting, as she observed thousands of tiny San Fernando Valley spineflower plants at one of the introduction sites this March. “It’s been a good year with a lot of rainfall and germination. Hopefully next year we’ll get good rain again.”

Parikh and her husband Nathan Gale were among the first to rediscover the San Fernando Valley spineflower in Los Angeles County in 2000, and have been working as botanists on the ranch for nearly two decades. They are part of a team that has developed a plan to protect and conserve the San Fernando Valley spineflower into the future.

FivePoint has dedicated more than \$8 million to fund the establishment of the spineflower and long-term conservation and management of the new sites, as well as \$10 million in habitat enhancements and endowments for long-term management efforts of existing populations.

The U.S. Fish and Wildlife Service will continue to evaluate implementation and effectiveness of conservation measures over the next 10 years.

San Fernando Valley spineflower, a tiny buckwheat once presumed extinct, now grows in the thousands at introduction sites in Los Angeles County. The tiny buckwheat is part of a multi-year effort that kicked off this past December to re-establish the plant across its historic range. USFWS



From birdies to bird habitat

A former golf course is returned to its wetlands roots

Blooming lupines and inundated vernal pools, signs of spring in April 2019 at the North Campus Open Space. Courtesy UCSB



A “chance to turn the clock back.”

That’s how Carla Frisk described a recent effort to transform a former seaside golf course in Santa Barbara, California into a functional wetlands community.

Frisk, a former project coordinator with The Trust for Public Land, was enthralled with the 64-acre restoration project effort, which will provide recreational opportunities, pristine wildlife habitat and educational opportunities for students, residents, and visitors at the UC Santa Barbara campus. “California has lost something like 95 to 96 percent of its coastal wetlands. It’s just almost unheard of that you get a chance to turn even 64 acres back,” Frisk said.

In the 1960s a portion of the wetlands community of Devereux Slough was filled in to make way for the Ocean Meadows Golf Course. Now, with the help of grant funding from the U.S. Fish and Wildlife Service and multiple state and local partners, permanently protected

wetlands are being created within the 100-acre North Campus Open Space.

“This is the type of project that is the pinnacle of a restoration ecologist’s life,” said Dr. Lisa Stratton, director of ecosystem management at the University of California, Santa Barbara’s Cheadle Center for Biodiversity and Ecological Restoration.

“Restoration of Devereux Slough, incorporating it as a part of the UCSB campus, is a conservation wonder and a great opportunity to illustrate how the Service works with the states and their conservation partners to bring wildlife assets back to communities,” said Larry Riley, regional chief of the Service’s Wildlife and Sport Fish Restoration Program. “These grants are so exciting because you can see and feel the benefits to wildlife and to people. This one in particular is one of my favorites. Located on the campus of a major university, this project is habitat, connectivity, community protection, open space, a nature classroom and a learning laboratory, all in one.”

Dr. Lisa Stratton, director of ecosystem management at UCSB’s Cheadle Center for Biodiversity & Ecological Restoration, receives award from the U.S. Fish and Wildlife Service’s Steve Henry for her work to restore a former golf course. USFWS



Conservation partners broke ground on the project in spring 2017 and opened trails to the public in October 2018.

Restoration planning by staff, students, and volunteers will continue through 2019 and the site will officially be dedicated in spring 2020. The area will boast more than 100 acres of salt marsh, grasslands, sage scrub, vernal wetlands, and walking trails.

The former golf course created a flooding risk for nearby homes and businesses during heavy rain years. By creating a natural wetland system, the slough area has already demonstrated its capacity to retain rainwater that would otherwise cause flooding in neighboring communities.

By ‘rearranging’ some 350,000 cubic yards of soil (the fill that made up the golf course), the natural function of the slough and upland vernal pool habitats are restored.

“After just two feet of sea level rise, the system will become almost fully tidal, which will actually create a six-foot adaptation to sea level rise – pretty amazing in terms of habitat and benefits to the community,” Stratton said.

Partners anticipate the area will also support the recovery of rare species including the California red-legged frog, Ventura marsh milk-vetch, California least tern, tidewater goby, and western snowy plover.

Tidewater gobies were re-discovered in the slough in 2004 and the adjacent Coal Oil Point Reserve boasts one of the most productive western snowy plover breeding sites in California.

These tiny shorebirds have already been documented courting and nesting on a sandy portion of the site.



A Western snowy plover at Sands Beach on the UC Santa Barbara campus. USFWS

The Service’s Endangered Species Recovery Land Acquisition Program granted the state of California and The Trust for Public Land \$500,000 toward acquisition of the property. An additional \$3 million in matching funds from the Service’s National Coastal Wetlands Conservation Grants Program was awarded to assist with land acquisition as well as planning, design and restoration.

During a behind-the-scenes tour of the North Campus Open Space in 2018, the Service honored Dr. Stratton and the center for spearheading the groundbreaking restoration initiative.

“Lisa’s determination and willingness to bring people together toward a common vision was instrumental to restore Devereux Slough to a beautiful natural area that will provide habitat for native plants and wildlife – an area that will be shared and enjoyed by the people of this community,” said Steve Henry, field supervisor for the Service in Ventura. “Without UCSB’s persistent and genuine

commitment to our shared cause of conservation, projects like this might not come to fruition.”

Funds from the Endangered Species Recovery Land Acquisition Program are appropriated by Congress to help in the acquisition of land and water resources crucial to the recovery of threatened or endangered species. Monies from the National Coastal Wetlands Conservation Grants Program come from boaters and anglers who pay a federal excise tax on their sport fishing equipment and fuel for their boats. Both funds are designed to assist states and other agencies in the shared mission to conserve, protect, and enhance fish, wildlife, plants and their habitats for the benefit of the surrounding community.

Additional major funders include the Wildlife Conservation Board, CalTrans, California Department of Fish and Wildlife, the State Coastal Conservancy, Department of Water Resources Urban Streams program, California Natural Resources Agency and the Ocean Protection Council.

Financial support from Santa Barbara County Flood Control, Santa Barbara County Coastal Resource Enhancement Fund, and the collaboration of the Land Trust for Santa Barbara County, the City of Santa Barbara, Goleta West Sanitary District, Associated Students of UCSB Coastal Fund and others have been equally key to the project.

Learn more at <http://www.openspace.vcadmin.ucsb.edu/>.

Breast cancer survivor, botanist beats odds

“Field season is coming,” said Dr. Anuja Parikh. “You can’t just sit around during field season.” She put on her gel prosthesis underneath her field gear, and headed to the day’s survey site: the slopes of Grapevine Mesa in southern California. Her husband, Dr. Nathan Gale, hiked just ahead of her, bushwhacking through some of the heavier brush to protect his wife from the thorny branches.

“The prosthesis was filled with gel, and I didn’t want it to get poked by a shrub and have that stuff oozing out everywhere!” she said. It was the spring of 2000.

Parikh is a botanist, wife, sister, daughter and breast cancer survivor. She played an instrumental role in collecting key data to support land managers’ and the U.S. Fish and Wildlife Service’s work to recover the San Fernando Valley spineflower, a tiny buckwheat plant once believed to be extinct in Southern California.

She was diagnosed with ductal carcinoma in late 1999, and underwent a complete mastectomy of the left breast soon after an annual mammogram detected abnormalities.

“It was all over the breast... so widespread. The doctor wanted the whole thing out,” she said.

The youngest of four sisters, Parikh came to the United States from India in 1983 at the age of 24 to pursue her doctorate studies at the University of California, Santa Barbara.

“There were no woods to explore where I grew up in the city of Bombay, but I always was interested in hiking outdoors and exploring the natural world whenever possible,” she said.

During her second year at UC Santa Barbara, a large wildfire swept through the Los Padres National Forest, prompting her to narrow her focus to forest ecology, and eventually, the study of plants.

Later on, Parikh went on to pursue a career in botany with her husband, whom she met at UC Santa Barbara.

“I love what I do,” she said. “Spending time outside and looking on the ground for little flowers... it’s a chance to be a kid all over again.”

Parikh and Gale have been surveying and studying plants across Santa Barbara, Ventura, San Luis Obispo, Los Angeles, Kern, and Riverside counties in California for more than 30 years.

During her first field season following the mastectomy in 2000, the husband and wife team were

among a team of botanists that rediscovered the San Fernando Valley spineflower on Grapevine Mesa of Newhall Ranch in Los Angeles County. Using her expertise in plant taxonomy, Parikh was the first to positively identify the species from Newhall Ranch. Later, she and others found more occurrences of the plant in other areas of the ranch.

Some of these locations were on land slated for a large master-planned development - thousands of homes and businesses – threatening the continued existence of the spineflower. A multi-year phased effort ensued to find a balance among landowners, conservationists, natural resource agencies, scientists and the local community, with the goal to preserve, understand and recover the enigmatic species.

Dr. Anuja Parikh is a botanist, wife, sister, daughter and breast cancer survivor. She played an instrumental role in collecting key data to support land managers’ and the U.S. Fish and Wildlife Service’s work to recover the San Fernando Valley spineflower. Courtesy Nathan Gale





Anuja Parikh around ten years of age in India. Courtesy Anuja Parikh

Following their rediscovery of the San Fernando Valley spineflower, Gale and Parikh were hired on as consultants by the landowner, Newhall Land and Farming Company, to conduct an inventory of flora across the ranch. Fondly

called the ‘spineflower whisperers,’ they collected data integral to the long-term conservation of the tiny-flowered plant in the buckwheat family. Their surveys contributed to the development of a 2010 Spineflower Conservation Plan

and a 2017 agreement between landowners and the U.S. Fish and Wildlife Service to establish plants in new and existing sites and manage the species long-term.

In good rainfall years, Parikh and Gale would conduct daily field surveys for four to five months straight.

“After 10 to 12 hours slogging it out in 100 degree heat, she’d spend hours in the evening looking through a microscope to ID a plant,” Gale said. “She is incredibly thorough, incredibly persistent.”

In February 2018, Parikh was diagnosed with ductal carcinoma again, this time in her right breast. Following a partial mastectomy, she underwent 33 radiation treatments, five days a week through late spring.

A little more than a year following her second mastectomy and radiation therapy, Parikh and Gale walked the hillsides of Newhall Ranch in the Santa Clarita Valley, San Fernando Valley spineflower plants flourishing around them.

“It was astonishing,” she said. “It’s been a good year with a lot of rainfall and germination. Hopefully next year we’ll get good rain again.”

Since her initial diagnosis in 1999, Parikh has undergone eight surgeries, including reconstructive surgeries, and a hysterectomy due to a high risk of ovarian and cervical cancers.

“She will not give up. When other people give up, she keeps going,” Gale said.

Parikh was by Gale’s side when pre-cancerous polyps were detected in his colon. “In the middle of what she was going through, she also saved my life. It was her persistence with getting screenings... that’s why we’re both still here.” He had part of his colon removed in 2004.

Both continue to undergo annual screenings.

Parikh currently is in remission, and continues to enjoy worldwide travels and botanical explorations, while making plans for another year of field work ahead. “It’s such a privilege to be here doing what I love to do,” she said. And it certainly helps to have Nathan at the ready to help clear any thorns along the way.

For more information on early detection, visit <https://www.cancer.gov/> or <https://www.nih.gov/about-nih/what-we-do/nih-almanac/national-cancer-institute-nci>.



Anuja Parikh and Nathan Gale observe growth from San Fernando Valley spineflower plants at Newhall Ranch in spring 2019. USFWS

Former gang member turned conservationist

Recognizing conservation volunteer and hunter Anthony Prieto



Anthony Prieto mentors at-risk teens and teaches his three sons the importance of environmental stewardship and human rights. USFWS

Anthony Prieto will never forget the first time he saw a California condor flying wild and free. The year was 1999 at Los Padres National Forest, located between central and Southern California, along the Sierra Madre Ridge. The former gang member set foot on the 1.75 million-acre forest as a U.S. Fish and Wildlife Service volunteer and never looked back.

“I dreamt about this moment all my life,” said Prieto, “and it brought tears to my eyes to finally see one. I thought about my grandpa, who died a month before. He really inspired me to get into conservation, and I knew he was looking down on me that day.”

His grandfather, an immigrant from Michoacán, Mexico, had often told Prieto many stories of flying giants

that encircled the sky near Prieto’s birthplace; the city of Santa Paula by the Topa Topa Mountains in California.

During the early 1980s, a major conservation recovery project began to save the last couple of dozen California condors from extinction. Biologists conducted field investigations to better understand the rapid decline of

the species. Radio transmitters were placed on multiple condors’ wings, and wild eggs were collected and incubated to increase the population.

For Prieto, life was also taking a turn for the worst. He found himself dropping out of the University of California, Santa Barbara and pursuing a different life of gangbanging and committing a series of petty crimes.



Top: Anthony Prieto holds California condor during health check.

Bottom: Prieto turned his life of gangs around in the late 1980s by taking up hunting. Courtesy Anthony Prieto

“There was a situation where I had to make a choice,” he said. “There were some things in my life going on, and it was going to end up bad.”

Prieto turned to faith and spiritual healing to get back on the right path. He took up hunting with military veterans who served in the Vietnam War, learning the ethics of modern wildlife management and the effects of human carelessness.

In April 1987, while “Good Morning, Vietnam” made headlines for top grossing movie of the year, conservationists were saddened to hear the grim reality of the largest bird in North America. The last remaining wild California condor AC-9 was captured by biologists from the U.S. Fish and Wildlife Service’s California Condor Research Center to join 26 other members of the species that were held within two California zoos. This was a high stakes intervention to recover the bird species from extinction.

The research that was available highlighted lead-based ammunition as the main cause of California condor decline. Prieto did not take this news lightly—he had to do something.

Organizations like Hunting with Nonlead started educating the public on the effects of lead poisoning to condors, as did Prieto. “While in the field during the early 2000s, biologists and interns were intimidated to walk up to people holding guns, but I had no problem with that,” he said.

Prieto gained instant credibility with hunters as soon as he spoke. Due to his years of hunting experience shooting with lead and copper bullets, he was able to provide comparisons in both Spanish and English.

“There are more Mexicanos hunting on public land,” said Prieto. “It is at least 80-95% Latino/Hispanic hunting. Unfortunately, the working class Mexicanos do not know the effects of lead poisoning. It’s like what César Chávez and Dolores Huerta were doing, informing the field workers of the effects of pesticides.”

And Prieto was doing just that, informing his people about the effects of lead ammunition to wildlife, ecosystems and to the very families that hunters feed.

On July 1, 2019, the state of California banned lead ammunition when taking wildlife with a firearm anywhere in the state. For Prieto, this has been a long time coming, yet there is more work to do for the recovery of the endangered California condor.

Today, former gang member turned conservationist Anthony Prieto mentors at-risk teens and teaches his three sons the importance of environmental stewardship and human rights. He continues to volunteer with U.S. Fish and Wildlife Service and educate hunters.

“However you leave this planet, leave it a little better than what it was when you first got here,” said Prieto. “Do something to make a positive impact on humanity and the environment.”

Field Shots



Faces of the USFWS



Jennifer Strotman
Wildlife Biologist

“Having grown up in Ventura County, I have a soft spot in my heart for southern sea otter and Channel Islands fox. Both of these animals were so close to extinction and they have shown remarkable recovery. They show what collaboration and conservation can do!

The most rewarding part of my professional life thus far is inspiring the next generation and taking care of animals that need help. There is nothing more profound than giving back and sharing my passion.

My main hobby is hiking, which I do with my rescued service dog, Poppy; I need nature to recharge my batteries. If the weather is not cooperating, I love to read, catch up on my favorite TV shows, and cook.”

- Jennifer

“I have a big soft spot for Hickman’s potentilla (*Potentilla hickmanii*) because it was the first federally endangered plant that I worked with for a significant amount of time. It is a small yellow flowering plant in the rose family (but it would never be mistaken for the classic image of a rose). It is extremely limited in range and is known from only two natural populations. It enjoys coastal terraces and bluffs, much like the rest of us.

Recently, I was surveying for a very rare listed plant; small, hard to see if you don’t know what you’re looking for, and I was approached by an older gentleman. He asked if I knew that there was an endangered plant around where we were and I said yes, that that was what I was looking for. He said he had been



Todd Lemein
Botanist

looking for it for a decade and had never had any luck and so I offered to show it to him. When we found it he seemed so happy and stood

up, turned around, and raised both hands in the air and yelled “YES!” Then he shook my hand and went about his day. It was fantastic.”

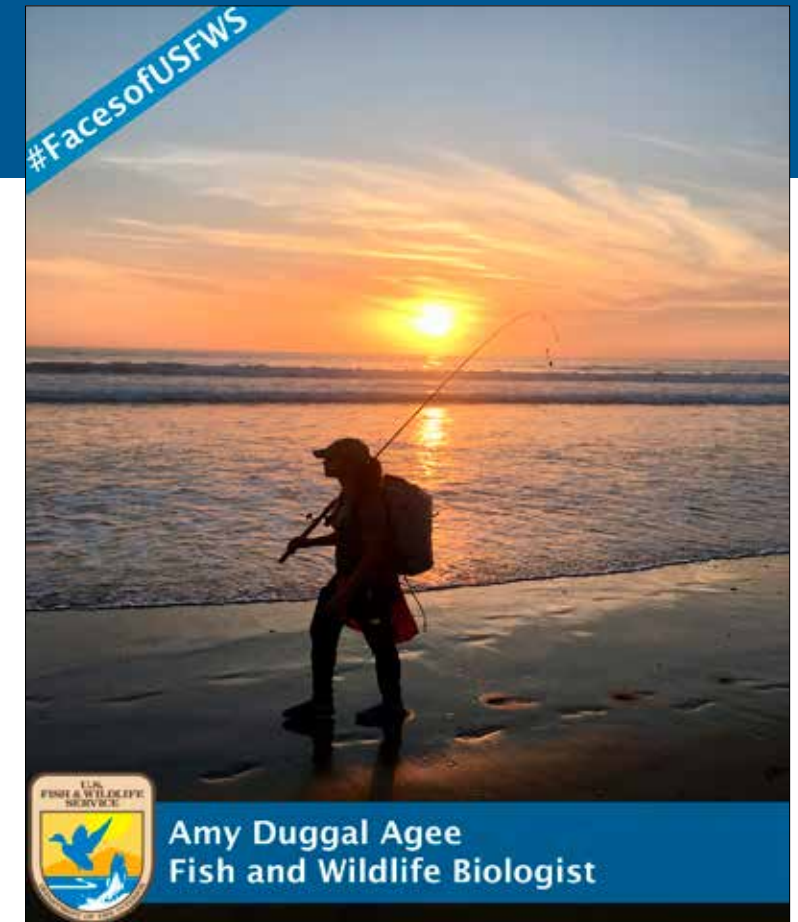
- Todd

“I attended California State University, Channel Islands, where I majored in biology and minored in chemistry. I served in the United States Navy Seabees for six years. Seabees build forward naval bases in war zones as well as projects to support disaster and humanitarian relief.

I feel fortunate to be affiliated with this agency while still keeping in touch with my military roots. I am proud of the work I get to do with the military, especially at Fort Hunter Liggett and Camp Roberts. I spent time at those bases for field exercises during my military service, and now I have the opportunity to see the area from a very different perspective, in terms of the wildlife these bases host.

I absolutely love camping and hiking with friends and family. I also make every effort to participate in volunteer activities as a way to increase my knowledge of our native and non-native species.”

- Amy



Amy Duggal Agee
Fish and Wildlife Biologist

“At the end of the day, my ultimate goal is to prevent the most imperiled plant species from going extinct and to further the mission of our agency. This requires a tremendous amount of collaboration with a variety of stakeholders and partnerships with many different entities. I also strive to help people see and simply consider plants and to value our unique flora as a rich botanical legacy through education, sharing of information, and by instilling a sense of regional pride in our flora because it occurs no place else on earth.

One of my favorite plant species is the endangered Pismo clarkia. It is one of the most beautiful and stunning flowers because it blooms later in the season, after the grasses have browned. The corollas are hot pink with white centers and it is very showy and vibrant. Its entire range is restricted to the sandy hills of the San Luis Valley, near the community of Edna to the City of Arroyo Grande, in San Luis Obispo County.”

- Kristie

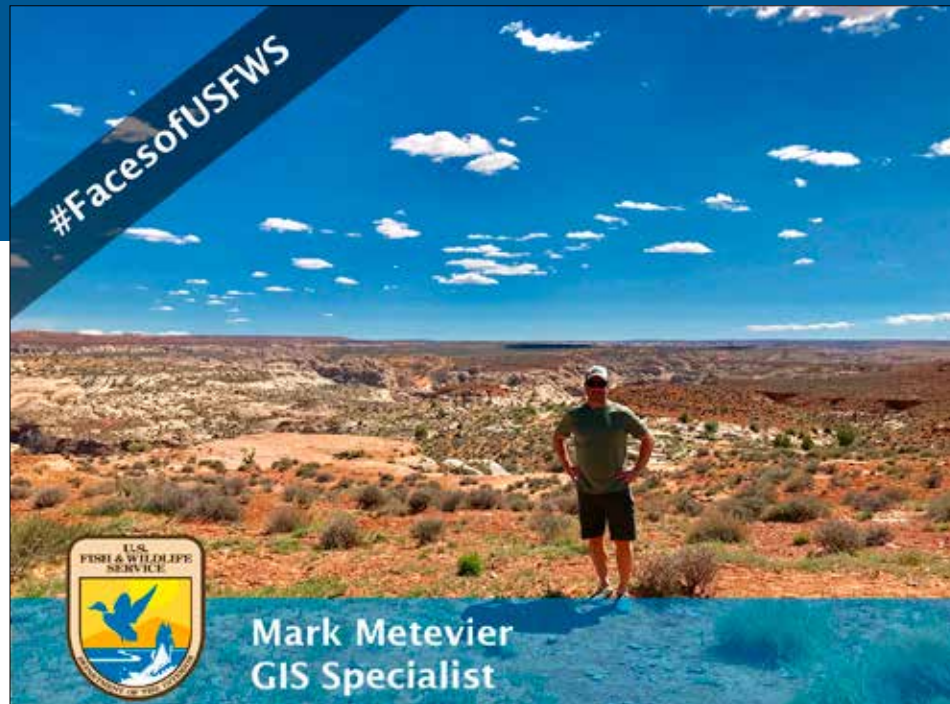


Kristie Scarazzo
Botanist

“Thirty years ago I began exploring the Rocky Mountains from New Mexico to Wyoming, and the canyons and desert landscapes of Utah and Arizona. I knew then that I wanted to spend my life in the service of protecting our natural and cultural resources.

I provide geospatial services to the agency through the development and use of spatial data and geospatial technological applications. But more importantly, I try to enable my colleagues through training as well as direct technical support to achieve their project goals.

I think the most surprising aspect of my career is not a particular project, but is the diversity of projects and the hundreds of species I have been able to work with. My career has taken me



from Hawaii and the Pacific Islands to the Western U.S., allowing me the opportunity to work with so many talented scientists, who have taught me just a little more about the natural world we live in.

I spend my free time outside with my friends and family hiking and camping.

I particularly like poking around desert canyons and mountain lakes with lots of granite. Most of all, spending time with my son is my favorite activity.”

- Mark



“My passion for people, research, education, and wildlife conservation led me to a summer fellowship with the Service, and I look forward to transitioning this position into a lifelong career with the Service. Growing up with self-proclaimed “land stewards” as parents, our family visited many conservation festivals together, and one particular celebration, called “Bald Eagle Days,” first introduced me to local agents of the Service as well as to their daily work with and passions for wildlife.

The California condor is my favorite species that our agency works to protect along the central California coast. Not only do I favor these condors because I am a raptor fanatic, but I also favor them for their incredible life history and conservation story. These Pleistocene-period birds are one of the largest and most powerful soaring raptors in the world, which readily warrants our protection and appreciation.”

- Andrew

Celebrating our partners



Every year the Service recognizes conservation partners who exemplify dedication and commitment to endangered species recovery. This year's Recovery Champion Award recipients are the Santa Barbara Zoo's Rich Block, Aaron Marshall, Estelle Sandhaus, Julie Barnes, Rachel Ritchason, Carol Hunsperger, Nadya Seal Faith, David Meyer and Erin Arnold. USFWS



The Service also recognized Dr. H. Bradley Shaffer, University of California, Los Angeles (left) and Dr. Christopher A. Searcy, University of Miami (above) for their outstanding contributions to help conserve and protect California tiger salamanders in Santa Barbara County. Courtesy Bradley Shaffer and Christopher Searcy

Celebrating our partners

U.S. Fish and Wildlife Service biologists and botanists work with a multitude of partners to carry out field work key to our mission. All photos USFWS



Connecting people with nature

We connect people with nature through educational programs and field opportunities. All photos USFWS



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*Dedicated to Kendra Chan
Fish and Wildlife Biologist
(1993-2019)*

*“We carry with us your love of the ocean, devotion to science,
and energy for life in all the days ahead.”*

