



# Tide Rising

Spring 2023 Volume IV, Issue 3



Publisher & Editor: [San Francisco Bay Wildlife Society](#) (SFBWS).

SFBWS is a not-for-profit Friends Group for the San Francisco Bay National Wildlife Refuge (NWR) Complex, working along with many Refuge volunteers to keep our public lands sustainable for you and wildlife.

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## ENDANGERED & THREATENED SPECIES

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## San Francisco Bay Wildlife Society

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Masthead: Earth Day Graphic (Olivia Poulos)

See [later page](#) for full flyer!

**MISSION:** The San Francisco Bay Wildlife Society seeks to nurture in the public a sense of understanding, appreciation, and stewardship of the San Francisco Bay National Wildlife Refuges, their natural and cultural history, and to conserve, preserve, and restore bay lands as essential wildlife habitat.

**VISION:** Working with partners, we envision wildlife and natural resources thriving in a healthier SF Bay region/area and a reinvigorated society supporting stewardship.

## Celebrate Earth Day April 22, 2023 at the Refuge

by Giessell Aguilar, Urban Refuge Ranger, USFWS

This year, the Don Edwards San Francisco Bay National Wildlife Refuge and partners are celebrating Earth Day and 50 years of the Endangered Species Act in a big way - and it will be fun for the whole family! Please join us any time from 10:00 am to 2:00 pm on Saturday, April 22, at Refuge Headquarters in Fremont. This free event offers time to explore, learn more about our endangered species, join a guided walk or ranger program, participate in some arts & crafts, and much more as we celebrate our Earth!

[Register here:](#) Registration is not required but is a great way to get more information about the day's events!

This program is brought to you by the U.S Fish and Wildlife Service (USFWS), the San Francisco Bay Wildlife Society (SFBWS), and Saved by Nature

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## Endangered & Threatened Species

### Endangered Species Act of 1973 and its Implementation at San Francisco Bay National Wildlife Refuge Complex

*by Ann M. Spainhower, Refuge Manager, Don Edwards SFBNWR, USFWS*

**Round 1: 355 - 4; Round 2: 92 - 0.** Those are not scores from March Madness 2023. Can you imagine basketball scores like that? Those numbers represent the number of votes in the House and the Senate, respectively, that culminated in the passage of the Endangered Species Act of 1973. It was a time when bipartisanship and other issues that divide our social fabric were united enough to pass this and several other important environmental laws to protect our natural history and ensure clean air and water for future generations. For this reason, the 1970s have been called a “seminal decade for environmental protection.”

Fast forward to today, and perhaps we should call the 2020s “the golden anniversary of environmental protection.” A few statutes reached their golden anniversaries in the first two years of the 2020s, including the National Environmental Policy Act, Clean Air Act, the Clean Water Act (which is a more popular title for what is formally the Federal Water Pollution Control Act), and the Marine Mammal Protection Act. Although not a law, Earth Day also had its golden anniversary in 2020. Coming up in the next few years are the golden anniversaries of the Magnuson-Stevens Fishery Conservation and Management Act and the National Forest Management Act. Of course, we cannot overlook that in the midst of all of those laws being passed, and due to the hard work of some concerned citizens, Don Edwards San Francisco Bay National Wildlife Refuge was established in 1972. Not long after, along the Monterey coast and in the Bay Area, the US Fish and Wildlife Service created: the Salinas National Wildlife Refuge in 1974; the San Pablo Bay National Wildlife Refuge in 1974; and Ellicott Slough National Wildlife refuge in 1975.

**These actions of the 1970s share a significant commonality – they redefined the nation’s relationship with the natural world.** That several of the environmental laws passed with nearly universal support seems almost hard to believe today, and while the Endangered Species Act remains one of the United States hallmark pieces of environmental legislation that protects plants and animals, we have come a long way since 1973.

By the end of 1973, there were a total of 137 federally listed species: 51 endangered species and 86 threatened species. At that time Salinas National Wildlife Refuge and Don Edwards San Francisco Bay National Wildlife Refuge provided protections for three endangered species, California Ridgway’s rail (formerly California clapper rail), salt marsh harvest mouse, and the California least tern; and three listed whales (humpback, blue and fin whales) inhabited the waters adjacent to Salinas National Wildlife Refuge and the Farallon Islands National Wildlife Refuge. Between 1974 and 1980, the US Fish and Wildlife Service increased protection for these species and also added the Santa Cruz long-toed salamander to the list of endangered species protected by Bay Area refuges. Three species (Lange’s metalmark butterfly, Contra Costa wallflower, and Antioch Dunes evening primrose) listed in 1976 and 1978 as endangered led to the creation of the Antioch Dunes National Wildlife Refuge, and another endangered species was added to species protected list on Salinas National Wildlife Refuge (Smith’s blue butterfly).

Today there are 1,870 species listed as threatened or endangered in the United States. Worldwide numbers of species on the verge of extinction are even more staggering. As sad as it is that there are so many species at risk of extinction, there remains hope. Hope lies in the hearts and minds of those that soldier on. At the age of 98, Florence LaRiviere who has spent a significant part of her life waging war to defeat environmental losses had this to say at the golden anniversary of the Don Edwards San Francisco Bay National Wildlife Refuge last October “I don’t care how many defeats you have; you have to come back and keep at it. Because you will be rewarded.” This simple message is a reminder that just because there may be some losses and defeats in our effort to protect natural spaces and the endangered species that live there, does not mean that we need to accept that we are defeated. In fact, credible science, concerned and active citizens, and the protections that refuges bring to the equation are just as important today as they were in the 1970s, and perhaps all of these are even more important today.

[SEE LIST ON NEXT PAGE](#)

[ARTICLE CONTINUED ON PAGE THEREAFTER](#)

Species Common Name	Species Scientific Name	Status	Critical Habitat on or adjacent to complex refuges	Year Listed	Refuge
Antioch Dunes evening primrose	<i>Oenothera deltoides ssp. howellii</i>	Endangered	Yes	1978	AN
Black abalone	<i>Haliotis cracherodii</i>	Endangered	Yes	2009	FI
Blue whale	<i>Balaenoptera musculus</i>	Endangered	No	1973*	FI
California's Ridgway's Rail**	<i>Rallus obsoletus obsoletus</i>	Endangered	No	1973*	DE,SP
California least tern	<i>Sterna antillarum browni</i>	Endangered	No	1973*	DE,SP,AP
California red-legged frog	<i>Rana draytonii</i>	Threatened	Yes	1996	EL
California tiger salamander (Central California DPS)	<i>Ambystoma californiense</i>	Threatened	No	2004	DE,EL
Chinook salmon (Central Valley spring run)	<i>Oncorhynchus tshawytscha</i>	Threatened	No	1999	SP,AN
Chinook salmon (Sacramento River winter run)	<i>Oncorhynchus tshawytscha</i>	Endangered	Yes	1994	SP, AN
Contra Costa goldfields	<i>Lasthenia conjugens</i>	Endangered	Yes	1997	DE
Contra Costa wallflower	<i>Erysimum capitatum var. angustatum</i>	Endangered	Yes	1978	AN
Delta smelt	<i>Hypomesus transpacificus</i>	Threatened	No	1993	SP
Fin whale	<i>Balaenoptera physalus</i>	Endangered	No	1973*	FI
Humpback whale (Central America DPS)	<i>Megaptera novaeangliae</i>	Endangered	Yes	2016*	FI, SA
Humpback whale (Mexico DPS)	<i>Megaptera novaeangliae</i>	Threatened	Yes	2016*	FI, SA
Lange's metalmark butterfly	<i>Apodemia mormo langei</i>	Endangered	Proposed	1976	AN
Longfin smelt	<i>Spirinchus thaleichthys</i>	Proposed Endangered	No	2022	FI, DE, SP, AN
Menzies' wallflower	<i>Erysimum menziesii</i>	Endangered	No	1992	SA
Monarch butterfly	<i>Danaus plexippus</i>	Candidate	No	2020	DE, SP, AN, EL, SA
Monterey spineflower	<i>Chorizanthe pungens var. pungens</i>	Threatened	No	1994	SA
North American green sturgeon (Southern DPS)	<i>Acipenser medirostris</i>	Threatened	Yes	2006	DE, SP, AN, EL, SA
Robust spineflower	<i>Chorizanthe robusta var. robusta</i>	Endangered	No	1994	EL
Salt marsh harvest mouse	<i>Reithrodontomys raviventris</i>	Endangered	No	1973*	DE, SP
Santa Cruz long-toed salamander	<i>Ambystoma macrodactylum croceum</i>	Endangered	Proposed	1973*	EL
Smith's blue butterfly	<i>Euphilotes enoptes smithi</i>	Endangered	Proposed	1976	SA
Soft bird's-beak	<i>Cordylanthus mollis ssp. mollis</i>	Endangered	Yes	1997	SP
Steelhead (California Central Valley DPS)	<i>Oncorhynchus mykiss</i>	Threatened	Yes	1998	SP
Steelhead (Central California Coast DPS)	<i>Oncorhynchus mykiss</i>	Threatened	Yes	1997	DE, SP,AN
Steelhead (South-Central California Coast DPS)	<i>Oncorhynchus mykiss</i>	Threatened	Yes	1997	SA
Tidewater goby	<i>Eucyclogobius newberryi</i>	Endangered	Yes	1994	SA
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	Endangered	Yes	1994	DE
Western snowy plover (Pacific coast population)	<i>Charadrius nivosus nivosus</i>	Threatened	Yes	1993	DE, SP, SA, AP

**Refuges:** Don Edwards =DE; San Pablo =SP; Antioch =AN; Ellicott =EL; Salinas =SA; Farallon Islands =FI; Marin =MI. Also included Veterans' Affairs site managed by Complex staff at Alameda Point =AP.

\*Species denoted by asterisk were listed under the precursor to the ESA of 1973

\*\*Until the FWS officially adopts recent nomenclature changes made by the American Ornithologists' Union to Ridgway's Rail (*Rallus obsoletus*), the listed entity officially remains the California clapper rail (*Rallus longirostris obsoletus*)



### Endangered Species Act of 1973 at San Francisco Bay National Wildlife Refuge Complex (*continued*)

Today, the San Francisco Bay National Wildlife Refuge Complex supports the conservation of 32 threatened and endangered species (see table on prior page) and many more plants and animals that are not listed. This includes habitat protections covering about 50,000 acres of natural areas that these species depend upon in the Bay Area. While sometimes the ESA is criticized for having a narrow and species-centric approach to conservation, the goal that Congress laid out was simple – provide a means for protecting the ecosystems that these species depend upon and provide a program for their conservation. The San Francisco Bay National Wildlife Refuge Complex programs do as Congress envisioned, we protect and restore the ecosystems several listed species depend upon. For instance, on Don Edwards San Francisco Bay National Wildlife Refuge and with our partners as part of the South Bay Salt Pond Restoration Project, we have restored 3,000 acres of tidal marsh (1,440 acres of muted tidal marsh and 1,600 acres of fully tidal marsh), and 710 acres of enhanced managed ponds. In 2023, we will open another 295 acres of tidal marsh at Ravenswood and protect 337 acres of enhanced managed ponds. In the coming years, with our partners, we are planning to restore more than 3,000 acres of tidal marsh and muted tidal marsh, and about 400 acres of managed pond habitat in South Bay alone.

Restoration projects like these offer species like the salt marsh harvest mouse, the least tern, and the California Ridgway's rail, our first listed species, and many others, the opportunity for range expansion or use of higher quality habitats for feeding, breeding and sheltering. While we don't claim credit for the rains that we've had, our staff have been busy through the drought continuing to care for the Warm Springs vernal pools and this year due to rain, they are teeming with life. Be sure to read "2023: A boom year for vernal pool aquatic species!" Later in newsletter for more about vernal pool tadpole shrimp, California tiger salamander and Contra Costa goldfields.

**From goldfields to golden anniversaries, let's celebrate Bay Area environmental accomplishments and 50 years of some of our nation's most important environmental laws together this April and throughout the year.** We invite you to the San Francisco Bay National Wildlife Refuge Complex Headquarters in Fremont on April 22 to celebrate Earth Day and the 50th Anniversary of the Endangered Species Act. We will have guided walks and wildlife programs, games and arts and crafts, and more. This is free to all, and all are welcome. We hope to see you in Fremont on April 22, but if you can't get there keep an eye out on Eventbrite for other upcoming Complex activities or consider going for hike, bird watching, or whatever your favorite outdoor activity and celebrate these milestones in your own special way.



LEFT: Ridgway's Rail (AKA Clapper Rail) (*Rachel Tertes*)

MIDDLE: Snowy Plover & chick (*Jenny Erbes*)

RIGHT: Salt Marsh Harvest Mouse (*Rachel Tertes*)



*Ellicott Slough National Wildlife Refuge established in 1975 is located in Santa Cruz County within the Monterey Bay area.*

*Formed in 1973, within 367 acres, Salinas River Refuge has six habitat types: Beach, dunes, salt marsh, saline ponds, Salinas River/lagoon, and grasslands. Located south of Moss Landing, it protects several threatened and endangered species, including Western snowy plover, Smith's blue butterfly, and Monterey spineflower.*

### Conservation of Endangered Species in the Monterey Bay Area

*by Diane Kodama, Manager, Ellicott Slough & Salinas River National Wildlife Refuges, USFWS*



Male Smith's Blue Butterfly  
(Matthew Slater)

*Summer at Salinas River NWR.* The roar of the Pacific Ocean surf recedes into the background, as we reach the top of the sand dune. Pausing to catch our breaths, we take in the vista spread out before us. Splashes of red Paintbrush, orange Beach Poppies and yellow Sand Verbena add vivid pops of color to the backdune landscape. A slight fluttering movement draws everyone's attention to a nearby patch of Coast Buckwheat.

*There!!* All eyes intently track a small butterfly as it drifts from plant to plant, until it settles upon a cluster of pink and white flowers. Slowly, its wings open to bask in the warm sunshine, revealing vibrant blue coloring and white fringes with black spots. The first Federally Endangered Smith's Blue Butterfly of the summer has been identified, during our annual survey.

*Autumn at Ellicott Slough NWR.* Dull, grey rain clouds blanket the sky, and it is not just the damp, chilly morning air that hastens our footsteps, but also anticipation. Following the pond bank, we make our way through mud and around willow thickets to reach the first trapline. After removing the shelter top, we peer into the depths of the bucket sunken into the ground and discover two small salamanders, curled up underneath the wet sponge.

During examination, the slim, black salamander with an orange pattern on back and tail is identified as a Federally Endangered Santa Cruz Long-toed Salamander. The second is larger, more robust in build, with a scattering of pale, yellow spots on a black background, marking it as a Federally Threatened California Tiger Salamander. Measurements indicate that both are juveniles, newly emerged from the pond this year. Processing complete, we release the young salamanders to continue their first migration, into the surrounding Coast Live Oak uplands. We are elated to have confirmation that successful population recruitment occurred at Ellicott Pond.



Juvenile Santa Cruz Long-toed Salamander  
(Heather Butler)



Monterey Spineflower  
(USFWS)

Affirming moments like these occur throughout the seasons as refuge personnel, together with partners, work to protect and recover Federally Listed species found throughout the Monterey Bay Area. For some species, like the Federally Threatened Western Snowy Plover, the full range extends along the entire Pacific Coast. For others, including the Federally Threatened Monterey Spineflower, the range occurs just in pockets along the central coast of California. But for species, such as the Santa Cruz Long-toed Salamander with its range limited to southern Santa Cruz and northern Monterey Counties, the Monterey Bay Area is their only home.



**Conservation of Endangered Species in the Monterey Bay Area** *(continued)*

Efforts continue at Ellicott to control invasive vegetation in salamander upland habitat, with the assistance of California Conservation Corps crews in 2023. And partner coordination to conserve lands, with the goal of expanding and connecting isolated salamander breeding populations, has made headway, under the guidance of the Ventura Fish and Wildlife Office. Research studies are also underway to understand Santa Cruz Long-toed Salamander population dynamics and genetics, throughout its range.

Invasive vegetation management at Salinas will gain a valuable new tool, with comprehensive mapping of invasive species, native habitats and Federally Listed plant species currently being planned for 2024. The resulting maps will also provide data on open sand coverage in the foredunes, a critical component of snowy plover nesting habitat. Refuge personnel and partners, including Point Blue Conservation Science and California State Beaches, have returned to the beaches throughout the Monterey Bay, to monitor plover nest success, an annual collaboration that has continued for close to 30 years. This weekly monitoring is key to mobilizing a rapid response to threats such as raven predation and informs ongoing efforts to improve management strategy success.



Male Western Snowy Plover  
(Matthew Slater)

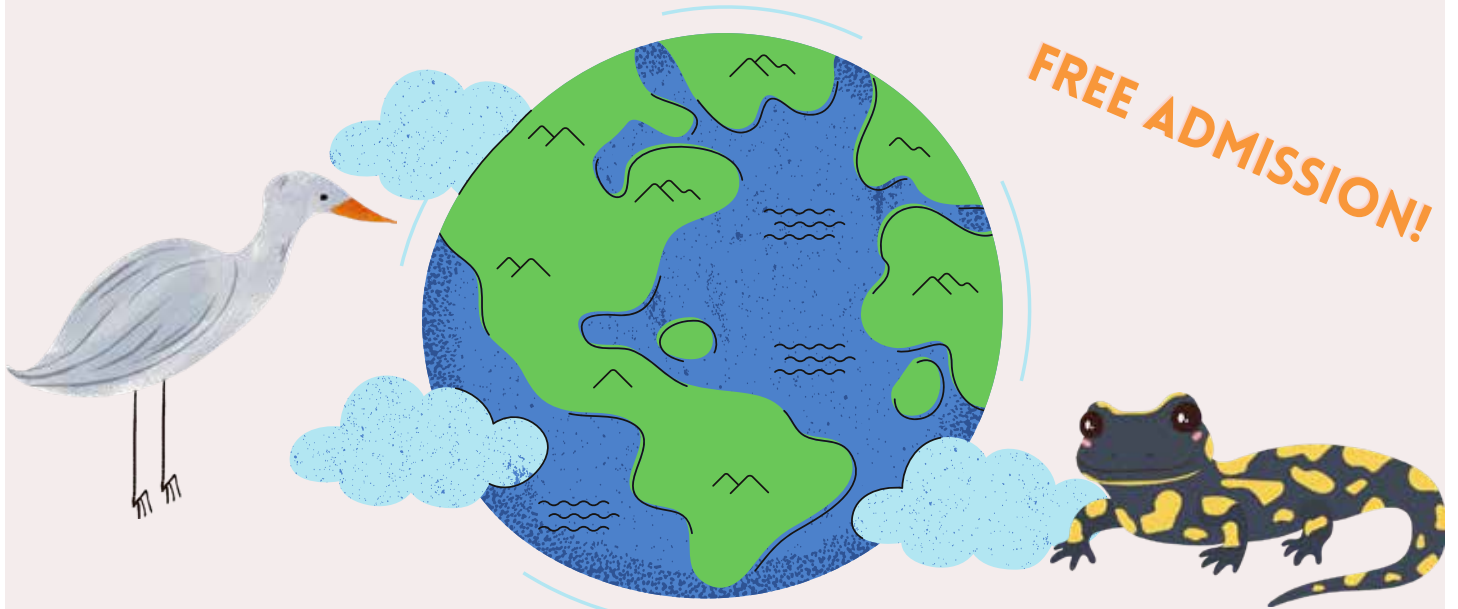
*Spring at Salinas River NWR.* Upon our approach, a flock of roosting gulls raucously protests the intrusion with strident calls. We continue to make our way along the tide line, stopping at intervals to scan the kelp strewn beach and the barren foredunes. The flash of a pale blur darting about, alerts us to the presence of a snowy plover. Following the bird with binoculars and scopes, we note the bold, black markings of a male and color bands, used to identify individual plovers, on both legs. The plover pauses in his dash to snap at kelp flies, giving us an opportunity to read the bands. Ah, this is yellow, red/orange, yellow, an old pro at nesting on the refuge. Meal eaten, he swiftly returns to the foredunes, pausing again to assess the surroundings for any threats, before carefully settling into a small, shallow depression, scraped in the sand. Our patience is rewarded with a brief glimpse of a speckled egg, tucked safely beneath his feathers. The breeding season has begun, and with its arrival, we reaffirm our commitment towards the recovery of a Federally Listed species.



Salinas River NWR Backdunes  
(USFWS)

# EARTH DAY AT THE REFUGE!

Saturday, April 22nd from 10am-2pm  
1 Marshlands Rd, Fremont, CA 94555



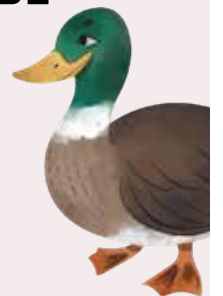
**CELEBRATING 50 YEARS OF THE ENDANGERED  
SPECIES ACT!**

**JOIN US FOR A FUN FAMILY EVENT! THERE WILL BE  
GUIDED WALKS, RANGER PROGRAMS, ARTS &  
CRAFTS, ACTIVITIES, & MORE!**

**REGISTER HERE!**



**NATIONAL  
WILDLIFE  
REFUGE SYSTEM**



## 2023: A boom year for vernal pool aquatic species!

by Aidona O. Kakouros, Botanist, USFWS

“What’s up with the vernal pools this year?” lots of people are asking me lately. With a twinkle in my eye, I start babbling on about this amazing year for our vernal pool aquatic species! Why this excitement? You see, the three last years of excruciating drought, when pools either stayed dry or were inundated for a short period, got us nail-biting, thinking of our two focal aquatic species, the federally endangered vernal pool tadpole shrimp and the federally threatened California tiger salamander. With no water there was no reproduction. Even worse, the few storm systems last year triggered the critters to initiate breeding, but ponding was too

short to complete the cycle successfully. This meant the adult salamanders exposed themselves to an increased risk of predation and expended a lot of energy without receiving any reproductive benefit. The duration of the ponding was so short, that even vernal pool tadpole shrimp were unable to complete their lifecycle. If this drought/erratic precipitation were to continue, we worried that their viable cysts, which are fertilized embryos encapsulated in a capsule structure, would be depleted. But when the 2023 storms arrived and kept coming, it was time to rejoice!



Vernal Pool Grassland at Warm Springs Unit  
(Aidona Kakouros USFWS)



Pools filled in their highest capacity because of the frequent strong storm events in 2023  
(Aidona Kakouros USFWS)

Year 2023 storms resulted in fully inundated pools literally brimming with life. The confluence of long pool hydroperiods and the high frequency of precipitation events greatly benefits aquatic species that breed in the pools, and those that require extended periods of inundation to succeed in breeding. For example, here at Warm Springs Unit, this year, the federally endangered vernal pool tadpole shrimp, which needs 6 weeks to complete its cycle, and the federally threatened California tiger salamander, which needs a minimum of three months for full metamorphosis of the larvae to occur, have an exceptionally good year in pools since lengthy hydroperiods allow them to comfortably complete their cycle. Our monitoring program is still in full swing. Dozens of volunteer biologists and naturalists have joined Refuge staff to offer help surveying this years’ oversized pools. Despite the difficult weather conditions and the long hours of dip-netting, there was a celebratory atmosphere among the surveyors for a good reason. We are super excited to report that our two listed species have been present in a record high number of pools! This is a boom year!

Vernal pool tadpole shrimp and California tiger salamanders are among species considered “boom and bust species”, for the reason their population can grow exponentially one year, a boom year, and then may experience “bust years” when reproductive success is extremely low or zero and their population declines. Natural conditions, and especially pool hydrology, determine if it will be a boom or a bust year. However, it is very important that during the boom years, no major catastrophic events deplete or significantly decrease these species population and therefore alter the sustainability of boom-and-bust cycles. Therefore, it is very important to have places like National Wildlife Refuges, and other protected areas, where management is focused on protecting wildlife from potential threats. In addition, because of the increased frequency of extreme weather events and erratic weather patterns we are experiencing due to climate change, we need strong monitoring programs that will allow us to assess the health status of an ecosystem and alert us when intervention is needed.



## 2023: A boom year for vernal pool aquatic species! (continued)

What is next? At the time of writing this article, rains are coming to an end, ponds are starting to dry, and I am assessing the pools for signs of vernal pool plants. It is still very wet, but I can see familiar seedling shapes emerging and impatiently, I cross my fingers and wish for seas of colorful arrangements of vernal pool flowers. But I will tell you the conclusion of this story next time...



The monitoring program at Warm Springs Unit helps assess the health of the vernal pool ecosystem and adapt management accordingly  
(Robin Agarwal)



Volunteers joined Refuge staff to conduct the vernal pool aquatic surveys in 2013  
(Merav Vonshak)



Vernal pool tadpole shrimp  
(Robin Agarwal)



California tiger salamander larva and detail of the legs that start developing as the metamorphosis progresses  
(Robin Agarwal)



Y.

### Exciting News from the Channel Islands

by Madison Cline, Interpretive Associate, San Francisco Bay Wildlife Society

In an age of doom and gloom with regard to wildlife conservation, it is undeniably uplifting to hear success stories. The Channel Islands have an exciting series of species recoveries that remind us that a change in our ways can make a difference in our environment. San Clemente Island, the southernmost of the Channel Islands, is currently owned by the U.S. Navy and used for training, but it has not always been that way. 60 miles off the coast of what is now San Diego, San Clemente Island and the Channel Islands are the ancestral homelands of an Indigenous group known as the Chumash. The Chumash were eventually displaced from most of their homelands by European explorers who likely arrived in the mid-1500s. However, many members of the Chumash community still live in California today.

Since colonization, the island has been mainly used for grain and livestock farming. The grazing of livestock, including goats, pigs, cattle, and sheep, began to degrade the island's habitats. This habitat destruction induced a dramatic decline in local wildlife populations. Some of which included the San Clemente Island paintbrush, lotus, larkspur, and bushmallow plants, along with the San Clemente Bell's sparrow. These species were all federally listed as endangered in 1977. All are endemic to California, meaning they are not found anywhere else in the world. In addition, many of these species are only found on San Clemente Island.



Bell's Sparrow  
(Kelly Matsubara/USFWS)

At their lowest point, the Bell's sparrow only had 34 individuals remaining when they were listed as endangered. The bushmallow had been reduced to a tiny section of the island, and several other plants, including the lotus, were estimated to have fewer than a thousand individuals. In 1934, the U.S. Navy established San Clemente Island as a Navy base. The Navy partnered with several organizations, such as the Institute for Wildlife Studies and other biologists, to remove the feral livestock and monitor the endangered populations. With the last goats removed between 1991-1993, these endangered species began to grow in numbers as their habitat recovered. And in January of this year, the five species were reported as recovered and officially delisted.

It only gets more exciting. The U.S. Fish & Wildlife Service is not only ecstatic about the recovery of these five delisted species but also for several others that are increasing in population size on the Channel Islands. It is reported that the populations of the island fox, night lizard, bedstraw, and Santa Cruz Island dudleya are also on the rise. Moreover, a recent increase in the successful nesting of peregrine falcons and bald eagles on the Islands has brought more of these incredible species back to historical numbers. Bald eagles had been absent from the Channel Islands for over 50 years until the early 2000s. Since then, along with the peregrine falcons, their island nesting territories have grown. As we look to the future, there is hope that more success stories will be heard and celebrated just in time for the 50th anniversary of the Endangered Species Act in December of this year.

#### LINKS

[History of the island notes](#)

[Native groups.](#)

[Bell's Sparrow](#)

[San Clemente Island Paintbrush info and Island History](#)

[Short video for information](#)

[Bald eagle info](#)

Join us  
for...



# Mother's Day at the Refuge



**SUNDAY, MAY 14TH FROM 10AM-2PM**

**DON EDWARDS SAN FRANCISCO BAY NWR  
ENVIRONMENTAL EDUCATION CENTER**

**1751 GRAND BLVD, ALVISO, CA 95002**

Scan the  
QR code to  
register!



MothersDayAtTheRefuge  
.eventbrite.com



**NATIONAL  
WILDLIFE  
REFUGE SYSTEM**



**Santa Clara Valley Urban Runoff  
Pollution Prevention Program**

We welcome you to  
celebrate Mother's Day  
with us as we celebrate  
our Mother Earth &  
Mama Birds! This free  
event will be fun for the  
whole family!





# NEWS

## USFWS Staff Changes

Hannah Schmidt, *Visitor Services Specialist*

Hannah was born and raised in Oregon and has spent the past 2 years working as a seasonal BLM Park Ranger for the Northwest Oregon Cascade Region. She is passionate about environmental education and community outreach within the environmental sector, and she loves working out in the field. Hannah has spent the last 3 months traveling around northern Italy with her partner, and she is looking forward to returning to the States and spending the season working at the Don Edwards San Francisco Bay National Wildlife Refuge and being part of the Complex Visitor Services team!

Hannah Schmidt  
(USFWS)



## SFBWS Staff Changes

Aja exploring the Refuge at Bair Island  
(Aja Yee)

### WELCOME:

**Aja Yee**, *Peninsula Programs Coordinator*

Aja's love for the environment was fostered by her upbringing in Monterey, CA. She has been involved in environmental education her whole life, starting with being a docent at the Monterey Bay Aquarium as a teen. Aja started as an intern at the SFBWS and then later returned as the Living Wetlands Coordinator.



Aja took a hiatus from working to raise her son but has returned to us as the Peninsula Programs Coordinator. She also works for Keep Coyote Creek Beautiful as Event Coordinator. Aja's hobbies include tide pooling, rock climbing, and exploring the Bay Trail (especially around the wetland areas).

## Family Doings in Fremont at Don Edwards SFBNWR



Children  
exploring  
playground at  
the Visitor  
Contact  
Station in  
Fremont  
(Winnie Chan)





**Bald Eagle**  
(*Olivia Poulos*)

**From the Trail: Olivia Poulos & Ambarish Goswami)**

A Bald Eagle atop a power line  
perusing the sites  
of the Alviso Unit.

Images evoking the water  
we've had this winter  
as we move into spring

Please share your photos  
of our Refuges and other  
Refuges (or National Parks)  
you visit! Celebrate the  
Outdoors!

Playful eddies and vortices in muddy water close to the Harrier Spur Trail.  
(*Ambarish Goswami*)





## SAN FRANCISCO BAY WILDLIFE SOCIETY: DONOR RECOGNITION

We gratefully acknowledge the following donors who have made gifts to the San Francisco Bay Wildlife Society from January 1 through March 31, 2023.

### Senior/Student (\$20)

Ruth E. Mundy

### Individual (\$35)

Stephen Wilkerson

### Family (\$50)

### Supporter (\$75)

John B. Bowers  
Lynne Fitzjarrell  
Bruce Kelly  
Phillip Vallejo

### Participant (\$100)

Norman & Marcia G. Houseworth  
Robert W. Kirby Jr.  
Mark A. & Kathleen Soulard  
Mark Jackson

### Sponsor (\$250)

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**Our Refuges  
appreciate your  
support.**

## Help Us Protect Your San Francisco Bay Wetlands!

Mail your donation to: San Francisco Bay Wildlife Society,  
P.O. Box 234, Newark, CA 94560.

You may also become a supporter at <https://sfbayws.org/>

For a gift membership, call 510-792-0222 ext. 72004.

[LINK here](#)

San Francisco Bay Wildlife Society is a not-for-profit 501(c)(3) organization, a Friends group for the San Francisco Bay National Wildlife Refuge Complex.

My support will help the *San Francisco Bay National Wildlife Refuge Complex* and its south Bay and Outer Bay Refuges

(Don Edwards, Salinas River, Ellicott Slough, and the Farallon Islands)

Enclosed is my contribution of:

<input type="checkbox"/> \$20 Student/Senior	<input type="checkbox"/> \$200 Corporation
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For more than 30 years, the San Francisco Bay Wildlife Society has:

- Introduced the refuge to tens of thousands of students of all ages
- Helped fund the Bair Island restoration and Management Plan, restoration work at Antioch Dunes NWR, and uplands restoration at the Environmental Education Center (EEC)
- Provided weekend EEC staff through long-term partnership with the Santa Clara Valley Urban Runoff Pollution Prevention Program
- Provided funding for a new boardwalk at the New Chicago Marsh Trail at the EEC.
- Funded a new greenhouse
- Provided funds for a native plant nursery
- And much more...

**Help continue this tradition by becoming a Supporter of the Society.**

Benefits include:

- Tax Deduction to the extent allowed by law
- Free book - *Exploring Our Baylands*
- 15% Discount on purchases in SFBWS Nature Stores
- The joy of helping protect this important environment.
- Free subscription to *Tide Rising* newsletter

<https://sfbayws.org/>



**Thank you for your support!**