



Tide Rising

Spring 2024 Volume V, 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 AND THREATENED SPECIES

SFBWS Perspectives

- Endangered Species Day is May 17, 2024 - can we celebrate? Learn about what an endangered species is and how to help them thrive.

Endangered and Threatened Species: Protecting Habitats

- Mary Deschene of SFBWS writes about key takeaways and highlights from Public Lands Alliance Convention and Trade Show
- On 3/27, Deb Haaland, United States Secretary of the Interior, visited the Don Edwards San Francisco Bay National Wildlife Refuge.
- At USFWS Workshop, Rachel Tertes of DESFBNWR shares her expertise using nature based solutions in managing landscapes
- Sirena Lao, new SFBWS Watershed Watchers Program Coordinator, shares her perspective on what she has been learning in her role.
- Hear about highlights from walks at several refuges and preserves across the Bay - including a chorus of avian voices!

Community Voices

- Two young environmentalists call for habitat protection.
- Hear from a young volunteer about ecopsychology.
- Meet a local high school robotics team recycling old printers into learning experiences that also promote responsible e-waste disposal.
- Learn about ways to conserve power and materials in an age of tech.

Enjoy the San Francisco Bay Wildlife Society Spring Newsletter! Share your ideas for future articles! What interests you? [Tell Us!](#) Thanks for reading, and enjoy the rest of the San Francisco Bay Wildlife Society's Quarterly Newsletter!

San Francisco Bay Wildlife Society

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Masthead: Earth Day Graphic (Olivia Poulos)

Left: Purple sunset during a Twilight Walk at DESFBNWR on Dec. 2, 2023 (Mary Bobik)

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Endangered Species Day is May 17, 2024: Can We Celebrate?

by Cecilia (Ceal) D. Craig, BOD President, San Francisco Bay Wildlife Society

The environment around us shows us negative impacts from human presence every day: rising sea level, wild weather, fewer birds, pollinators, and grasslands. How many times have we heard lately “once in a hundred years storm/rain/snow”? Our focus this issue is species that are endangered or threatened and what we can and are doing to help

them thrive. World Wildlife Federation reports 99% of species listed have avoided extinction after being listed using the Endangered Species act. One notable species is the Bald Eagle: listed in 1967 with a status today as recovered, delisted in 2007 (forty years after being listed as endangered). But first, what is an endangered species and what does it mean when a species is listed?

“Passed with bipartisan support on Dec. 28, 1973, the [Endangered Species Act] allows individuals and organizations to petition to have a species listed as endangered or threatened. These listing petitions undergo rigorous scientific evaluation and public review before a final decision is made on whether a species should be protected. The law requires protection for critical habitat areas and the development and implementation of recovery plans for listed species. It also allows for flexibility in its implementation, requiring coordination among federal, state, tribal, and local officials on efforts”

- World Wildlife Federation (<https://www.worldwildlife.org/pages/the-us-endangered-species-act>)

Before becoming engaged as a US Fish and Wildlife Service volunteer in 2002, I didn't often think about the number of species we had already lost, those that are hanging in there with help, the species that are no longer endangered, or the benefits of supporting these species. Now my awareness is much higher. Personally, I've noticed fewer goldfinches visiting my backyard feeders. Years ago, when visiting the Desert National Wildlife Refuge northwest of Las Vegas, seeing the efforts to support endangered pupfish and what impact those efforts took: clearly challenging. The iconic species on the Don Edwards SFB NWR—Ridgway's rail and snowy plover—are hard to find and many efforts have been tried to help them thrive, often stopping other projects. I have seen rails and heard them at La Riviere marsh trail in years past. For the plover, notably, last spring, A16 levee (Alviso pond by the Environmental Education Center) construction efforts stopped for a bit as some snowy plovers had set up nests on the levee. Thus, on the Refuges we are trying, and data shows it is helping.

What can we each do to help, besides supporting habitat restoration and monitoring support on the Refuges by donating or volunteering? A recent article by the *New York Times* (March 2024), “A New Surge in Power Use Is Threatening U.S. Climate Goals” by Brad Plumer and Nadja Popovich, provided me with a new perspective on how multi-dimensional conservation efforts are. For example, driven by the need to charge electrical vehicles and the explosion of large data server farms (huge users of the electrical power grid), the authors shared data showing U.S. electrical energy use is exploding; future estimates show it almost doubling.

In retrospect, this should not be a surprise, but for me the consequences were. Installing solar power and wind power takes longer, project-wise, than traditional coal and natural gas plants. “While a data center can be built in just one year, it can take five years or longer to connect renewable energy projects to the grid and a decade to build some of the long-distance power lines they require.” Thus, to meet these unexpected needs, utilities are moving back to coal and natural gas, and potentially nuclear, even with its long construction time. Incentives, regulatory steps, and local communities are all driving solution choices. Complex systems...

So, going to renewable energies helps, but best if we use less energy overall, right? If we do things to make our homes and companies use less energy, that means less need for the electrical grid: for example, LED bulbs vs. incandescent. More efficient appliances and more efficiently insulated homes help too. But what else?

The main message for me during this spring as Earth Day and Endangered Species Day approach is one of *using less* and paying attention, *being mindful* of my impact on the world around me. Reuse and repair versus buying new. Planting native species in my garden and yard. Use local efforts to recycle (Ridwell is a new neighborhood effort that picks up all sorts of plastic that I know my San Jose recycler does not take, including plastic bags/wrap and Styrofoam). **We would love to hear what efforts you are making!** Share your thoughts in this Google Form and we will publish the results next quarter: <https://forms.gle/MFRv2MRrqH1YnZDMA>

Endangered and Threatened Species: Protecting Habitats

SFBWS at the Public Lands Alliance Convention and Trade Show 2024

by Mary Deschene, Program Administrator, San Francisco Bay Wildlife Society

Mary Deschene and Sirena Lao of San Francisco Bay Wildlife Society were given a scholarship by the Public Lands Alliance (PLA) to attend their annual Convention & Trade Show in San Francisco on March 4-8, 2024, representing one of several Friends of the Refuge Groups on the west coast. PLA is a national not-for-profit organization whose mission is to connect, strengthen and represent the nonprofit partners of America's public lands. See more at: <https://www.publiclandsalliance.org/pla2024/home>

This year's themes were: Health and Healing on Public Lands, Inclusive Story Telling, Community-Led Stewardship, and Adapting and Thriving in Uncertain Climates.

We enjoyed stories of healing and celebration in communities, such as families who came from different cultures bringing their elders and grandparents out to public lands, most of whom had never visited, and either never knew about the places or never felt welcome. In some cases, they started bringing their cherished rituals of belonging to the landscape into local public spaces, and now treasure their connections with a sense of belonging in their adopted lands.

We saw examples of stewardship building up from the roots, including hearing from young people who have benefited from experiential programs and volunteering. These examples of engaging communities to become active stewards of our public lands inspired and delighted us.

One theme was about Rosie the Riveter from the World War II era, reminding us of the unity and strength of purpose when all of us are pitching in and working together. With National and State Parks, Forests, Refuges, and others, all represented among the attendees and presenters, with both government staff and supporting non-profit organizations, the wide variety of input about issues and solutions was palpable evidence of the results we can attain when working together. We have much in common: tight budgets and creative solutions, often led by community activists; and there is much to do. Advocacy is needed and adaptation is key, but with care not to recede and accept, rather to rally and support the places we love, to protect and enhance, to speak up and lead.

A few take-aways, among many:

Public/Private partnerships - this is one way to strengthen the budget for lands that need additional support to maintain infrastructure, safe access, and impactful public education and outreach programs.

California State Parks has a good model for this, with a non-profit partnership in a formal agreement with the state agency, bolstering the capacity of the staff with additional efforts on the ground and funding from private donations. Currently, the National Wildlife Refuge System is in great need of assistance, with critically deferred infrastructure and very large decreases in staff, compounded over many years to the point of crisis, while the amount of land and water habitat to protect has increased.

Communication - ever evolving, it is very important to keep up to date. But that means doing it all, because you want to pull in all of your audiences, with everything from rapid-fire social media to videos, to appealing on-site programs, and paper mail, to keep everyone in the loop learning about the places we are preserving for future wildlife, and people, to enjoy. For SFBWS, updating our website is paramount, as is reaching out to a greater range of people in the bay area to rally and build support for the San Francisco Bay National Wildlife Refuge Complex.

Advocacy - but what can you do? Join us, join your public partner organizations like San Francisco Bay Wildlife Society with a membership, and/or volunteer. We are a Refuge Friends Group. We participate in national organizations with many other Refuge Friends Groups to bring together support for our beloved public lands, dedicated to preserving wildlife. One of these umbrella groups is the National Wildlife Refuge Association, with staff having great expertise in working with the federal legislative system to make sure the people who represent us in Washington DC are aware of the needs and the problems that result from underfunding. Also, the Coalition of Refuge Friends and Advocates is a grass roots alliance that collects and shares information relevant to the support of the Refuges, with a focus on input and cooperation among us. Not least is the Public Lands Alliance, including a focus on the National Wildlife Refuges to help bring awareness of this unique public lands system up to the same status of awareness as National Parks and Forests. Their America's Wildlife Refuges program is designed to promote and support the National Wildlife Refuge System. See: <https://www.publiclandsalliance.org/home>

The fun parts:

The PLA Trade Show was an eye-candy treat of new items available for our Nature Stores. From hiking books to anti-bird-strike decals for windows,

(Continued on next page)

SFBWS at the Public Lands Alliance Convention and Trade Show 2024 (continued)

we saw many appealing items that we can make available to you in our Nature Stores when we get them fully back up and running.

Currently the Fremont Visitor Contact Station (Visitor Center) at 2 Marshlands Road is recruiting for volunteers. We are maintaining open hours on Saturdays from 10am-2pm - but only if volunteers are there to staff it! **The need for SFBWS volunteers is critical.** We are there to sell items in the Nature Store benefiting the Society and the Refuges. But just as importantly, we are there to greet, inform, and help visitors. Please consider becoming a regular volunteer. Once a month for four hours? Every week

for two? Whatever you can handle, we can use! See volunteermatch.org, and search for Nature Store in Fremont to see the position description and consider volunteering with us. Contact Mary Deschene (mary.deschene@sfbayws.org) or Neels Kulshrestha (Volunteer Coordinator) for more info.

For the Adapting and Thriving in a Changing Climate theme, we are so proud of the program FWS put together for the final ultimate outing for PLA attendees, a Field Trip to our very own Ravenswood and Bair Island Refuge sites: *Before and After: Restoring a Refuge, Educational Field Trip to Don Edwards San Francisco Bay National Wildlife Refuge.*



Rachel Tertes, USFWS Biologist, showing the newly restored land of the Ravenswood unit of the Refuge (USFWS)



Bair Island tour with Ivette Loredó plus Gail Raabe & Matt Leddy of *Citizens Committee to Complete the Refuge*, showing their campaign to save the island from development. (Aja Yee)

Ann Spainhower, Don Edwards SF Bay National Wildlife Refuge Manager, and Chris Barr, Deputy Complex Manager, led a tour of the newly restored and not-yet-fully-open Ravenswood area providing tidal marsh habitat near highway 84 and the Meta complex, followed by a stop at Bair Island, a successfully restored flourishing Refuge habitat a bit farther north.

Participants learned “how these parts of the Refuge support conservation of wildlife, create space for public access and recreation while also reducing the risk to neighboring communities from floods and rising sea levels.” Truly collaborative on a large scale,

they heard from many of the partners involved in these monumental achievements including City of San Mateo’s One Shoreline, Ducks Unlimited, Citizens to Complete the Refuge, and San Francisco Bay Bird Observatory, who all helped with the restorations; and Rachel Tertes and Ivette Loredó, FWS Biologists, along with Aja Yee, San Francisco Bay Wildlife Society. They learned of the challenges of bringing clean dirt fill in with trucks that worked for years to bring up the level of the marshland, and saw how many of our neighbors rely on this restoration for flood protection, whether they know it or not, and enjoy the benefits of these beautiful places.

“Advocacy is needed and adaptation is key, but with care not to recede and accept, rather to rally and support the places we love, to protect and enhance, to speak up and lead.”

- Mary Deschene, Program Administrator, San Francisco Bay Wildlife Society

Head of the Department of the Interior Visits Don Edwards SF Bay NWR

by Matthew Brown, Complex Manager, San Francisco Bay NWRC, USFWS



From left to Right: Wade Crowfoot, Secretary of the California Natural Resources Agency; Deb Haaland, United States Secretary of the Interior; and U.S. Congressman Kevin Mullin (CA 15).
(Aja Yee)

On March 27, Deb Haaland, United States Secretary of the Interior visited the Don Edwards San Francisco Bay National Wildlife Refuge, which is receiving \$2 million from President Biden's Investing in America agenda to improve recreational opportunities for local communities along the San Francisco Bay. Working with partners, including Tribes and local youth advocacy groups, the Refuge will identify the trails most at-risk from climate change and ensure they remain a community asset in the face of rising

sea levels. This work will benefit local, traditionally underserved communities, as well as the greater Bay Area by securing connections along the 500-mile Bay Trail system - a critical transportation network for non-motorized transportation in the dense urban core. In addition, the Service received \$4.69 million from the Land and Water Conservation Fund (LWCF), building on the President's commitment to secure additional lands for public access by expanding the Refuge.

Read More at: www.doi.gov/pressreleases/during-california-visit-secretary-haaland-announces-new-investments-create-public

Nature Based Solutions

by Chris Barr, Deputy Complex Manager, San Francisco Bay NWRC, USFWS

Rachel Tertes, Wildlife Biologist for the Don Edwards San Francisco Bay National Wildlife Refuge attended the USFWS National Nature Based Solution Workshop at the National Conservation Training Center (March 18-22) to share her expertise and connect with others using NBS in managing landscapes. NBS are actions that incorporate natural features and processes to sustainably protect, conserve, restore, use, and manage natural or modified ecosystems while providing benefits for people and nature. The USFWS

is already an internationally recognized leader in the delivery of NBS and embracing and employing innovative solutions to conservation. By improving ecosystem health and resilience, NBS can help wildlife and human communities adapt to climate change, support positive social and economic outcomes, and enhance human well-being. The below poster highlights the way the South Bay Salt Pond Restoration Project is using NBS to achieve our project goals.



What is the South Bay Salt Pond Restoration Project?

It's the largest wetland restoration effort on the West Coast, transforming 15,100 acres of former industrial salt ponds in the South San Francisco Bay, CA to a rich mosaic of wetland habitats and public open spaces. Project area includes Don Edwards San Francisco Bay National Wildlife Refuge and Eden Landing Ecological Reserve.



Project Goals

1 Restore and enhance a mix of wetland habitats

Accomplishments

- ◆ Restored 3,300 acres to tidal marsh to date
- ◆ Construction in progress to restore an additional 2,085 acres of tidal marsh.
- ◆ Enhanced over 1,000 acres of managed ponds.
- ◆ Planning in progress to enhance an additional 900 acres of managed ponds

2 Provide wildlife-oriented recreation and public access

Accomplishments

- ◆ Built over 7 miles of public trails and 4 more miles in the planning stage
- ◆ Constructed accessible kayak launch
- ◆ Installed boardwalks, benches, interpretive signs
- ◆ Opened 2,000 acres for waterfowl hunting

3 Maintain or improve flood risk management

Accomplishments

- ◆ Improved miles of former salt pond berms
- ◆ Built tens of acres of gentle habitat transition zones with more on the way
- ◆ Modified pond storage for use by local municipalities

Nature Based Solutions

Tidal marsh restoration

Benefits

- ◆ Buffers communities from storms, shoreline erosion, and SLR
- ◆ Groundwater recharge
- ◆ Carbon capture
- ◆ Shelter for endemic, threatened and endangered species
- ◆ Nurseries for fish and crustaceans
- ◆ Pollutant filtration
- ◆ Habitat transition zones for marsh migration
- ◆ Recreational opportunities

Beneficial reuse of sediment

Examples

- ◆ Creation of marsh to upland habitat transition zones
- ◆ Shallow water strategic sediment placement
- ◆ Raise and improve berms and levees to maintain or improve flood risk
- ◆ Raise pond bottoms to accelerate marsh restoration (scoping phase)
- ◆ Creation of nesting islands and future high tide marsh refugia

Pilot projects

Examples

- ◆ Gravel beach and berm project
- ◆ San Francisco Bay Living Shoreline Project: Oyster reef and eelgrass restoration






Photos: R4 breach ©Jack Morris, R4 HTZ ©KAP, CA Ridgway's Rail ©BANG, Salt Marsh Harvest Mouse ©Rachel Tertes, Evolution of A21 ©KAP







Author:
Rachel Tertes,
USFWS

SBSRP Poster Presented at National NBS workshop depicting project goals and Nature Based Solutions being used on the project (Rachel Tertes, USFWS)

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Perspectives from a New Watershed Watcher

by Sirena Lao, Interpretive Specialist & Watershed Watchers Program Coordinator, SFBWS

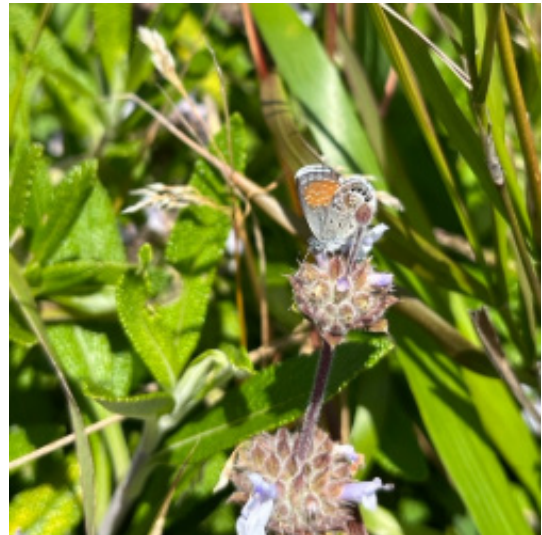
Having just started as the new Watershed Watchers Program Coordinator at SFBWS in late January, I have been learning a lot about the National Wildlife Refuge system and what so many of the dedicated staff and volunteers do here in the SF Bay NWR Complex. Although I had frequently worked on the lands of the Don Edwards SF Bay NWR prior to starting at SFBWS, in the last couple of months I've gained an immense appreciation for how so many people are connected to the Refuge, not only through visitation and ecosystem services, but through our watersheds.

This issue's theme of endangered species has me reflecting on how we've already talked to hundreds of people through our programs about the endangered

species that depend on the Refuge for habitat. I have enjoyed seeing kids' faces light up as they yell, 'Salty!' when they see a salt marsh harvest mouse in our presentation. We have also been sharing how these tiny endangered mice and our Ridgway's Rails depend on tidal marshes of the Refuge with students from De Anza College and San Jose State University. In our post-event surveys, several of them noted that they particularly enjoyed learning about these species. Most students were also able to correctly recall that anything that goes down the storm drains goes directly to our creeks and to the Bay, impacting the habitat our endangered species depend on. I was impressed by these results, especially considering that the students were in the midst of preparing for finals.



De Anza College biology students on a field trip at the Refuge
(SFBWS/Sirena Lao)



Western pygmy blue butterfly on a black sage flower
(SFBWS/Madison Cline)

With the arrival of spring, we have a lot to look forward to this quarter for continuing to engage communities with the Refuge, its wildlife, and the actions we can all take to reduce our impact. April is Earth Month, and we are excited to bring Earth Day at the Refuge to the Alviso unit this year on Sunday, April 21st from 10am-2pm - **see the next page!** We're planning to have several partner organizations and plenty of family-friendly activities to celebrate! We'll also be sharing more about the Refuge and the importance of watershed protection at several community Earth Day events, including those hosted by the city of Santa

Clara, Mission College, and Russo McEntee Academy in the Alum Rock School District of San Jose. In the weeks leading up to Pollinator Week in June, we are looking forward to sharing more information about pollinators and how to help them by hosting a number of public programs which you'll find in our upcoming events. While the variety and number of programs we do can at times feel daunting for the size of our staff, I am excited to continue engaging diverse audiences with the wonders of the Refuge and inspire people to help protect habitat for the benefit of endangered species and for our local human communities!



NATIONAL
WILDLIFE
REFUGE SYSTEM



Santa Clara Valley
Urban Runoff
Pollution Prevention Program



SCVAS
Santa Clara Valley
Audubon Society



Celebrate Earth Day
with the Don Edwards
SF Bay National
Wildlife Refuge and
partners!

Sunday, April 21st
10am-2pm

Don Edwards SF Bay
National Wildlife Refuge
Environmental Education Center
1751 Grand Blvd, Alviso, CA 95002

Activities include:

- Guided nature tours
- Wildlife-themed arts & crafts and games
- Endangered species puppet show
- Volunteer habitat restoration, 9am-12pm (separate registration required)
- And more!

Learn more & register for this FREE event:

EarthDayAtTheRefuge2024.eventbrite.com



SFBWS is also looking for volunteers to help us with the following events:

Mission College Eco Fair
Thursday, 4/18, 11am-2pm

We will have a table there and you're welcome to join us for part of the time or stay for set up/clean up. We expect the audience to be primarily college students.

Earth Day Festival at Russo McEntee Academy in San Jose
Thursday, 4/25, 5:30pm-7pm

We will have a table with an activity (to be decided). We expect the audience to be mostly families from the Alum Rock school district.

On The Trail...

by Cecilia (Ceal) D. Craig, BOD President, San Francisco Bay Wildlife Society

On February 16, a friend and I joined a walk at SF2 (former salt pond on southwest corner of the bay & Dumbarton bridge/HWY 84, part of Don Edwards SFB NWR) guided by SFBWS staff Aja and Maddie. Nice day, grey, brisk, breezy, and lots of folks, many for the first time at that location. Joined by a Santa Clara

Valley Audubon Society volunteer (expert birder), the group found so many species! Some not so common (canvasbacks, Eurasian wigeons) and some old friends (northern shovelers, avocets, black-necked stilts, ruddy ducks, scaups, and more). Learned about salt pond restorations!

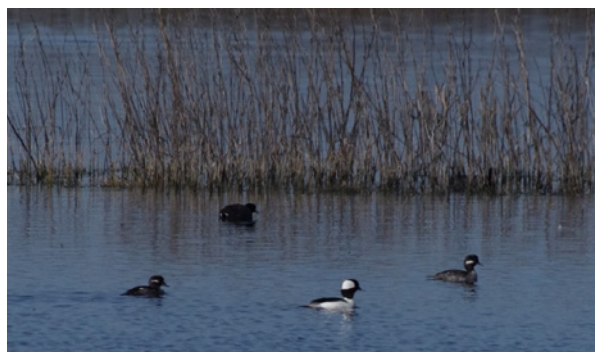
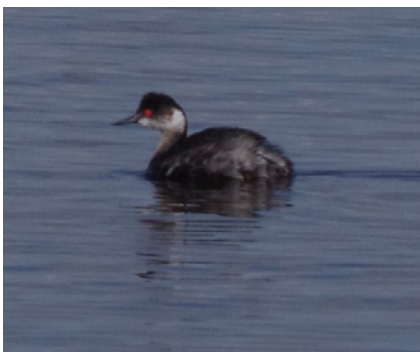


Dumbarton Bridge from SF2 trail (Don Edwards SFB NWR) Corporations and migrating waterfowl together. Feb-16, 2024 (Ceal Craig)

Also, visited several refuges and preserves observing birds on the Pacific Flyway in February: Consumnes River Preserve (south of Sacramento, mile plus of accessible trail); Kern NWR (quiet auto trail, migrating waterfowl, west of Bakersfield off I-5) and Merced and San Luis NWRs (near Merced and Los

Banos respectively). Consumnes River was a quick stop, some waterfowl. At Kern NWR, beyond one FWS truck, I didn't see a single vehicle that early weekday foggy morning: wigeons, northern shovelers, many buffleheads and eared grebes.

(Continued on next page)



Left: Kern NWR: Eared grebe. Buffleheads and coot. Feb-22, 2024 (Ceal Craig)



Left: Kern NWR: Landscapes. Feb-22, 2024 (Ceal Craig)

On The Trail... (CONTINUED)

However, near Los Banos, I was overwhelmed with sight and sound. I drove the entire Merced NWR auto trail not seeing much, a few waterfowl, sparrows, shorebirds, a bunny or two, and then near the end of the route, in the fields, snow geese, greater-white front geese by the thousands and sandhill cranes by the hundreds. The sound was impossible to describe

unless you have heard that many avian voices at once yourself. Driving then to San Luis NWR, near that end of that waterfowl trail route, I stopped at the pond that for the past few years has had tundra swans. It did not disappoint, not just a pair that I had seen before, but more than 20!

Hope to see you on the trails before our next edition!



Merced NWR: snow geese (including dark morph), sand-hilled crane. Feb-26, 2024
(Ceal Craig)



San Luis NWR: Tundra swans
(Ceal Craig)

Stop Habitat Loss!

by *Da Potato Sisters*

Hello! Our names are Riya and Isha, and we host the podcast *Exploring The World with the Da Potato Sisters!* Today, we are here to talk to you about habitat loss. One of the fundamental problems leading to the extinction and endangerment of animals is habitat loss. Habitat loss impacts animals and us humans. You are probably wondering, “what humans?” Well, we get air from trees; and without trees, we cannot live, because as you know, we need to breathe to live. Animals become endangered and extinct because we are destroying their habitat. For example, think about the paper you write on and draw on, or the wood floor you walk on, and the chairs you sit on, and even the

toilet paper you use - guess what they are made of... TREES!!!

Animals such as birds, tigers, cheetahs, pandas, etc. need trees to survive - not just to breathe, but also to mark their territory, scratch their fuzzy backs, and even to eat. If we keep cutting our wonderful trees down, our beautiful animals will go extinct. Now you know why we should conserve our amazing habitats! To learn more, visit our podcast *Exploring the World with the Da Potato Sisters!* In this podcast, we will explore different habitats and learn how to conserve them. (You can find this podcast wherever you get your podcasts.)



New leaves (*Deepti Rao*)



Serene waterside scenery
(*Deepti Rao*)

“If we keep cutting our wonderful trees down, our beautiful animals will go extinct.”

- Da Potato Sisters

How Does Nature Affect Us in Our Day to Day Lives?

by Riya Marella, HH Hero/Volunteer

Nature. It's everywhere, yet so hard to get to. Wrapped up in our urban lives, quite often we are missing what we really need to make us happy. Isn't it funny that the things that make us the most happy are the things that really are the simplest? In this article, I

dig deeper into the idea of ecopsychology (the belief that nature can help us both mentally and physically) and directly reference how science has proven to be true in my life.



In Nature (Riya and Isha)
(Deepti Rao)

Quite often we talk about how we influence nature, from the negatives to the positives, but how often have we talked about how nature influences us? From physical to mental health, nature has been proven to do more than we originally thought. The idea that nature affects us mentally (ecopsychology) has been contemplated over and over again, but with similar results. Nature has proven to us to help with diminishing stress, quelling anxiety, and promoting calm. I can imagine that quite a few of you might be thinking that being alone in nature can be quite intimidating, so to answer your questions, I have also included a comparison of feelings in nature with and without people, and compare this with my own experiences.

As most of us live our daily lives in an urban environment, we are prone to experiencing total sensory overloads, resulting in anxiety, depression, and even fear ([UC Davis Health](#)). Being out in nature allows us to escape everyday demands, with some experiments even stating that our connection with nature has stuck with us ever since our evolutionary stages. Experiments performed by scientists from hospitals to schools show that even a plant in the room can reduce blood pressure ([University of Minnesota](#)). Being in nature has also been shown to encourage physical activity such as kayaking and hiking because of the constant flow of positive endorphins released.

Not surprisingly, a variety of citizens stated that being in solitude in nature was a reinvigorating

experience. Studies have shown that being solitary in nature encourages people to drop their public appearance and relish their authentic persona ([Psychology Today](#)). People have even described being in nature as a "reset", and this is now the subject of scientific study. One theory, called Attention Restoration Theory, suggests that being in nature can even improve cognitive function.

Being an avid hiker and a passionate environmentalist, nature has been a form of escaping day to day life. I, myself, looked to Don Edwards during our recent pandemic, as a place of solitude and peace - my goal being to simply disconnect from the torture of staring at my screen for hours on end. Simply starting with a humble marshland like Don Edwards has gotten me inspired to do so many things and it has helped me grow as a person as well. Nature has helped me finally find who I am as a person and what I value. This has driven me to fight for something I care about, from making signs at Don Edwards to help the marsh, to hosting fundraisers in second grade, to where I am now, giving back to the community by writing to you. I aim to leave an impact on people. Personally, being in nature for extended periods of time helps me connect more with myself. When I look upon acres of forest or expanses of ocean, I relish the fantasy that it's all that exists - before snapping back into hearing the sounds of the city. So why, I wonder, do we - especially now - want to conquer it for our own and demolish something that, as a species, we have all connected and bonded over?

Combating E-Waste, One Discarded Printer At A Time

by Ethan Deng and Daigo Hayashi, Marketing Staff, Aragon Robotics

In the world of technology, where innovation often goes hand-in-hand with mountains of e-waste - a growing environmental threat - one group of high school students is taking a refreshingly sustainable approach. The resourceful [Aragon Robotics](#), a high school robotics team from Aragon High School in San Mateo, is weaving sustainability practices into the very fabric of their robotics program, organizing many eco-friendly initiatives focused on reusing materials

and proper disposal of electronic waste. These include a Foster City city council materials drive in 2018 for collecting corrugated plastic sign boards to reuse in prototyping their robots; an electronics drive in 2019 to promote proper disposal of electronics; and, perhaps their most creative project - annual workshops focused on “dissecting” discarded printers, turning e-waste into a significant hands-on learning opportunity while fostering environmental awareness.



High school students deconstructing old printers
(Geary Chew)

During these workshops, participants work in teams of five to six members to disassemble unusable and broken printers, turning it into a treasure trove of reusable parts. The printers are primarily sourced from Green Citizen, a local environmental conservation business and e-waste recycler, that agreed to provide the team discarded printers to deconstruct for educational and environmental purposes. The workshop instructors then guide participants through the parts, explaining their functions and how they relate to mechanisms commonly used in robots. “Maybe you’ve heard your parents tell you, ‘don’t touch that, or you’ll break it.’”, muses Geary Chew, an adult mentor for the team guiding this effort. “Well, it’s in fact quite the opposite. I learned about many things by taking them apart. This workshop lets the students learn about the intricate machinery of the printer by taking it apart.”

While learning how the various components work, participants sort the printer parts into metal, plastic, and electronics bins. Some are given to participants to take home for their own projects. Various hardware components, like shafts and switches, are salvaged for reuse. The plastic housings of the printers are sent to another company the team works with, who shreds

them, then melts and reuses them for components and covers for the team’s robots. Then, the rest of the now thoroughly dissected printer assemblies are handed over to e-waste recyclers. Because different types of materials require different processing methods, this detailed sorting effort facilitates proper disposal and recycling by saving the recyclers from having to invest considerable cost and effort separating out the parts themselves for further processing. “It takes money for printers to be [processed] with all the mechanisms still in place”, explains Chew, “But if the students take apart the printer to its raw components, the parts are worth more than the printer as a whole since the parts that need to be recycled are more easily sorted. So it’s a win-win relationship.”

Aragon Robotics has not only run this workshop internally for its own members, but also offered it publicly for the past four years as part of the annual [Western Region Robotics Forum \(WRRF\) Conference](#), a learning & networking event attended by dozens of other high school robotics teams across Northern California each year. The workshop has generally garnered positive feedback at the conference, with attendees regularly bringing it up as a favorite and expressing appreciation for its hands-on approach.

Conserving Energy and Materials in an Age of Electronics

by Clayton Ou, Independent Web/Graphic Designer and Software Developer

As Earth Day approaches, it's important to reflect on our use of electronic technology in a time when it's practically impossible from most of us to get away from it. That's not to say we should seek to eschew it altogether - as it has throughout history, technology has provided many important benefits, from convenience to empowerment. Nevertheless, it does often come at a cost to the environment. To build on what Dr. Craig points out in an article earlier in this issue, energy usage has grown in the US - and, presumably, in many other societies around the world - driven by a ever-growing demand for various technologies, many of which require considerable power. And the rush to meet these demands often results in increased depletion of natural resources, increased emissions into the environment, and disruption of natural habitats, in turn increasing the risk of many species becoming endangered. So what can we do to reduce demand on the power grid?

Replacing traditional lightbulbs with LED ones is a well-known example, but there are energy efficient options available for many other types of common devices as well. For example, in the computer industry, driven by a variety of motivations - whether it's answering the call of environmentally conscious customers, providing more "bang for the buck" than competitors, or keeping up a reputation for innovation - manufacturers have invested considerable effort into developing ever more efficient devices; the amount of computing performance that can be "squeezed" out of a single watt of electricity, known as *performance-per-watt*, has become a significant metric in the industry. The result? Smartphones, tablets, monitors, laptops, and even small desktops that can draw less power than

a traditional incandescent lightbulb, yet boast enough performance for you to reasonably browse websites, write emails, and hold hour-long videoconferences.

Another exciting innovation is in the field of chargers, like those you use for phones and laptops. New charging technologies using gallium nitride (GaN) promise substantial energy efficiency gains over existing chargers (which use silicon). Some sources claim that if every household in the US switched to GaN chargers, several million kWh of power could be saved per year. Meanwhile, a minor efficiency gain in a large data center thanks to GaN could save significant energy over a decade, potentially equivalent to a small city's annual energy use.

Also worth keeping an eye on are advances in battery technology. Currently, many electric vehicles utilize LiFePO4 (Lithium Iron Phosphate) batteries, known for their reliability but also weight. However, solid-state batteries, a still-maturing evolution of this technology, promise to be lighter while still offering high capacity, which could enable more energy-efficient electric vehicles (since they wouldn't need to expend as much power lugging their own batteries around). LiFePO4 batteries can also now be found in portable power stations (sometimes marketed as solar generators), essentially large batteries with built-in outlets. Offering hundreds of kWh in a package sometimes no larger than a lunchbox, most power stations can be charged via solar panels. While these may not help you save energy directly per se, they do offer a convenient, somewhat portable way of transitioning some of your devices over to an off-grid power source that you can charge with renewable energy. *(Continued on next page)*



Small, energy-efficient yet reasonably powerful computers
(Clayton Ou)



Portable LiFePO4 power stations that can be charged with (separate) solar panels
(Clayton Ou)



GaN chargers promise more energy efficiency than existing silicon-based chargers
(Clayton Ou)

Balancing Sustainability and Convenience in an Age of Electronics (CONTINUED)

And, look for devices with [Energy Star](#) certification (or equivalents in other countries), indicating that the device meets strict standards for energy efficiency.

Some will point out, however, that it's not just about power consumption, but also the impact of the extraction and processing of the raw materials necessary to manufacture these devices. And that's true. In the long term, will the environmental benefits of these new devices offset the effects of producing them in the first place? Hard to say. Still, producing new devices is necessary to make their technology - with the increased efficiency and capabilities they bring - available to everyone in the long run, so again it's not something to disavow entirely. But what can we do to at least reduce materials usage?

One option is to look for devices built with recycled materials. For example, [Microsoft's Windows Arm Devkit 2023 desktop computer](#) is built with 20% recycled ocean plastic, while [Acer's Aspire Vero laptops](#) are made with over 60% post-consumer recycled (PCR) plastics and 100% recyclable packaging.

Also, try to buy devices that have easily replaceable or repairable components, so that if a component breaks, you can address just that part rather than having to get an entirely new device. And for power stations, look for ones using the aforementioned LiFePO4 battery technology. These have a significantly longer lifespan than other battery types as of the time of writing, making the need for replacement less frequent.

Reusing old devices or buying secondhand is also a potential option, but should be weighed carefully against other factors. For example, an older computer may run too slowly for your needs, requiring you to keep it on for longer periods of time and/or push it to its limits to get anything done, resulting in significant power consumption in the long run compared to a newer, more efficient, and faster computer. And secondhand devices may come with wear on internal components that is not immediately obvious but may

result in the device failing sooner than expected, requiring a replacement anyway.

Still, if a device is in good condition and not too dated, reusing/repurposing it is a great approach. But what of the devices you no longer need at all? If you're confident they're in good working condition, consider making them available to others to encourage reuse, contributing to the "circular economy". Selling them is always an option, but older devices may not attract a lot of people willing to pay. In that case, look for sites like [Freecycle](#) where you can list items you're willing to give away for free. You can also donate them to nonprofit & humanitarian organizations; consider those that will repair and pass them on to schools & other institutions in need. Or ask around friends or schools to see if they happen to need what you don't.

But reuse isn't always possible, for example if a device is fully broken or outdated. In that case, make sure to replace and/or dispose of the device responsibly - many devices, especially those with batteries, contain compounds that, at best, go to waste, and at worst, can harm organisms and the environment if simply tossed into landfill. Many electronics manufacturers offer recycling programs where they will take back old devices from their brands and recycle it for you for free, sometimes even paying you for the remaining value. You can also take it to a reputable e-waste recycler; major electronics retailers like [Best Buy](#) and [Staples](#) partner with e-waste recycling organizations to accept e-waste in-store, or you can look for a local company. Some recyclers also offer recycling kits, which you can order, deposit old batteries and small electronics into, and then ship back to them for recycling. See sites like [Earth911](#), [How2Recycle](#), [Call2Recycle](#), and [CalRecycle](#) for many more tips and resources on how to properly recycle a variety of electronics (and other items too).

By making informed choices about our technology use, we can limit our impact on the environment while enjoying the benefits of modern technology.



Left: Spare computer components for replacing or upgrading parts of a computer as needed without having to discard the entire device (Clayton Ou)



Right: A recycling kit for batteries and small electronics (Clayton Ou)

NEWS

SFBWS Staff Changes

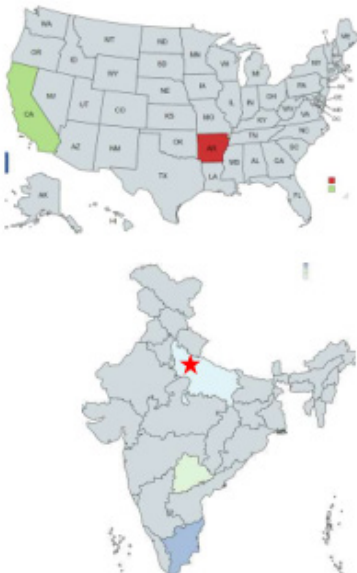


Neels Kulshrestha
(Neels Kulshrestha)

Neels Kulshrestha, *Volunteer Coordinator*

Neels joins us as our new Volunteer Coordinator. Neels, who has lived in five states across two countries, studied Computer Science, Information Systems, and Data Science at the University of Arkansas and Sastra University, and has worked for The Clorox Company, E2Open, and TATA Consultancy Services across ten years. Neels most enjoys reading Ruskin Bond, PG Wodehouse, and non-fiction literature; listening to 90s Bollywood; watching K-Dramas and classics; and eating potatoes (in any form).

2 countries | 5 states



Places Neels has lived
(Neels Kulshrestha)



Mando Valencia
(Elizabeth Olachea)

Mando Valencia, *Warm Springs Associate*

Mando is currently a student researcher in Anthropology and Molecular Ecology at California State University, East Bay. He focuses on a variety of ecological interactions and human relationships with the environment from the global spread of chytrid in amphibians to pop culture films like Bambi, his current research involves the revitalization of prescribed fire and the restoration of Indigenous food resources in Sonoma County. He has a deep interest and connection with natural history and social narratives, having pursued various endeavors related to analyzing land use and engaging with people to hear their stories. He has a strong inclination towards the study of land management with an emphasis on rangelands and will be joining UC Berkeley's Rangeland and Wildlife Management master's program this Fall.

Mando enjoys spring docenting at Jepson Prairie Nature Preserve, California's most studied vernal pool ecosystem, where a variety of rare flora and fauna can be admired and shared with the public. He has been working as a project biologist and biological monitor for an environmental restoration firm, handling projects ranging from dry creek restorations in Napa to Concord, and monitoring for Pacific herring in Redwood City.

Mando shared he is happy to have taken up a position with SF Bay Wildlife Society in support of USFWS as a Wildlife Biologist Associate, assisting at the Warm Springs Unit vernal pools within Don Edwards San Francisco Bay National Wildlife Refuge. With his experience in vernal pool ecology, rangeland management, and community engagement, he is excited to get his boots wet and spend his time at a place that suits his interests, while continuing to be an effective communicator of cultural and wildlife preservation to stakeholders and planners alike.

NEWS (CONTINUED)

Farallon Islands Webcam Re-Launch

by Gerry McChesney, Manager, Farallon Islands National Wildlife Refuge, USFWS

The Farallon Islands webcam is back! You can once again view [the spectacular island refuge live here](#) and even join the queue to control the camera yourself on that page. The webcam is a partnership of [Point Blue Conservation Science](#), [U.S. Fish and Wildlife Service](#), and California Academy of Sciences. Thanks to the [Santa Cruz Island Foundation](#) for donating a new camera and to [TwoP LLC](#) for supporting the telecommunication system.

Please share widely!

Earth Day is Coming Up on April 22!

Earth Day is an annual event to demonstrate support for environmental protection. First held on April 22, 1970, it now includes a wide range of events coordinated globally by Earthday.org including 1 billion people in 193+ countries. The official theme for 2024 is "Planet vs. Plastics."

**SFBWS Earth Day Activities: April 21 (Saturday)
at the EEC (Alviso):**

<https://sfbayws.org/activities/2024/04/21/earth-day-refuge>

Nature Store and Visitor Center Opening

The San Francisco Bay Wildlife Society Nature Store is beginning to open with regular hours at the Visitor Center, 2 Marshlands Road, Fremont, from 10am-2pm on Saturdays. We are recruiting and training new volunteers with the help of Neels Kulshrestha, Volunteer Coordinator for the Nature Store. If you would like to help us greet visitors, and expand these hours, check out the full description of the position at [VolunteerMatch.org](https://www.volunteermatch.org) and search for Nature Store in Fremont, or see: <https://www.volunteermatch.org/search/opp3717197.jsp>



Items available in the Nature Store (SFBWS)

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.

COMMITTEES

Looking for volunteers!

- Fund Development & Marketing
- Nature Store in Fremont Visitor Contact Station on weekends later this year (see next page)
- Donor / Member Management (see next page)

Reach out to [Mary Deschene](#) if you are interested!

FY24 SFBWS BOARD OF DIRECTORS

Cecilia (Ceal) Craig, PhD, F. SWE, President
Neil Butani, Vice-President
Avleen Kohli, Secretary*
Grace Koz, Treasurer
Chris Kitting, PhD, Founding Director
Ravi Kohli, Director*
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* no relation

SFBWS Staff

Mary Deschene, Program Administrator
Sirena Lao, Watershed Watchers Coordinator
Madison Cline, Interpretive, Restoration and Education Associate
Aja Yee, Peninsula Programs & Restoration Education

Volunteer Positions Available With SFBWS



Join a fun group of Refuge Volunteers who share your passion!

San Francisco Bay Wildlife Society

come join us!
We Need
YOUR HELP

Nature Store Volunteer, Fremont, CA, 94555

- Manage Nature Store sales
- Trained to engage with Refuge visitors and respond to questions
- Weekend shifts
- Network & learn about the Refuge

Please contact mary.deschene@sfbayws.org for more information.

check out our volunteer description here

See ongoing SFBWS Volunteer Positions at [VolunteerMatch](https://www.volunteermatch.org)

Contact: mary.deschene@sfbayws.org

Call or leave a message: 505-417-2561



Fremont Visitors' Center Nature Store Volunteer

- Key activities: greet visitors, answer questions, ring up sales
- Skills: Friendly and outgoing. Interested in outdoor recreation and wildlife preservation
- This position is suitable for high school students on up to retirees. Regular commitment preferred
- Get to know the Refuge people and issues, spread the word
- Help people find what they need, and learn about wildlife in the process
- Duties: opening and closing shifts, especially weekends

Donor/Member Management

- Long-term mature committed volunteer needed to help enter donation data into an online system; track and generate membership renewal letters, and thank you letters; and generate reports to the Board
- May contribute to decisions for future processing, learn other aspects of fundraising and not-for-profit management, and more according to your interests
- Requires the use of a computer, printer, and email from your location, and basic computer competence. Not-for-profit experience is a plus. Location must be in or near the San Francisco Bay area. An interest in nature, wildlife, outdoor recreation, and environmental education is a plus, but not required

Also, save the date: look out for more info on a Volunteer Banquet planned for June 1 in Fremont!

ACTIVITIES ON THE REFUGE

Join us for free public events at the Refuge!
Check out the links to learn more and register.

APRIL EVENTS

Family Bird Walk - Fremont

Saturday, April 13, 12:00pm - 2:00pm

Recommended for families & children ages 5-10. Kids will create personal bird watching field guides, and then head out onto the trails to find those birds.

<https://FamilyBirdWalk-April2024.eventbrite.com>

Twilight Marsh Walk - Fremont

Saturday, April 13, 6:45pm - 8:30pm

Experience the salt marsh at twilight on an easy stroll along refuge trails (about 0.6 miles).

<https://TwilightMarshWalk-April2024.eventbrite.com>

Earth Day at the Refuge - Alviso

Sunday, April 21, 10:00am - 2:00pm

Celebrate Earth Day with us by participating in a variety of family-friendly activities such as guided walks, arts & crafts, and much more.

<https://EarthDayAtTheRefuge2024.eventbrite.com>

MAY EVENTS

Family Bird Walk - Fremont

Saturday, May 11, 12:00pm - 2:00pm

Recommended for families & children ages 5-10. Kids will create personal bird watching field guides, and then head out onto the trails to find those birds.

<https://FamilyBirdWalk-May2024.eventbrite.com>

Native Seed Bomb Workshop - Alviso

Sunday, May 12, 10:30am - 12:00pm

Celebrate Mother's Day and World Migratory Bird Day by creating seed bombs with native wildflower seeds.

<https://SeedBomb-May2024.eventbrite.com>

Twilight Marsh Walk - Fremont

Saturday, May 11, 6:45pm - 8:30pm

Experience the salt marsh at twilight on an easy stroll along refuge trails (about 0.6 miles).

<https://TwilightMarshWalk-May2024.eventbrite.com>

Bird Walk at Pond SF2 - Menlo Park

Saturday, May 18, 11:00am - 12:30pm

Join a leisurely 1.4 mile stroll to learn about resident and migratory bird species and the South Bay Salt Pond Restoration Project.

<https://SF2BirdWalk-May.eventbrite.com>

Family Story Walk: Betty the Bee - Alviso

Sunday, May 19, 10:00am - 12:00pm

Explore the trails around the Environmental Education Center while reading the story of Betty the Bee, a local pollinator who is navigating the world of her urban home. This story and its activities are fun for all ages.

<https://StoryWalk-May2024.eventbrite.com>

Bair Island Sunset Walk - Redwood City

Thursday, May 23, 7:00pm - 8:00pm

Enjoy the sunset while learning about the fascinating history of Bair Island and its local wildlife species as we take an easy 0.8 mile stroll along the marsh.

<https://BairSunsetMay.eventbrite.com>

Trail Maintenance Volunteer Work Day at the EEC - Alviso

Sunday, May 26, 9:30am - 12:00pm

Volunteer to help improve the trails around the Butterfly Garden.

<https://VolunteerWorkDay-May2024.eventbrite.com>

JUNE EVENTS

Pollinator Week: Self-Guided Volunteer BioBlitz - Alviso

Monday, June 17 - Sunday, June 23

Volunteer on your own time to help document the pollinators around the Environmental Education Center anytime during Pollinator Week. If you'd prefer a docent-led BioBlitz, join our guided event below.

<https://PollinatorWeekBioBlitz2024.eventbrite.com>

Pollinator BioBlitz at the EEC - Alviso

Sunday, June 23, 10:00am - 11:30am

Join our guided BioBlitz to learn more about using iNaturalist and document the pollinators around the Environmental Education Center.

<https://EECBioBlitz-Jun2024.eventbrite.com>

ACTIVITIES ON THE REFUGE (CONTINUED)

Twilight Marsh Walk - Fremont

Saturday, June 22, 6:45pm - 8:30pm

Experience the salt marsh at twilight on an easy stroll along refuge trails (about 0.6 miles).

<https://TwilightMarshWalk-June2024.eventbrite.com>

Bair Island Sunset Walk - Redwood City

Tuesday, June 25, 7:00pm - 8:00pm

Enjoy the sunset while learning about the fascinating history of Bair Island and its local wildlife species as we take an easy 0.8 mile stroll along the marsh.

<https://BairSunsetJun.eventbrite.com>

OTHER COMMUNITY EVENTS

ADVENTURES FOR OLDER ADULTS 50+

Hosted by



California Agriculture Walk

Wednesday May 8, 2024 from 9:30 AM to 1:00 PM

Join us for a leisurely 2-mile walk around Martial Cottle agriculture park and learn about its place in history. We stop for a visit with Our City Forest for a tour. We end the afternoon with an included social picnic lunch. For more information and to register:

<https://www.bayareaolderadults.org/bao-hikes>

(look for Hike 8)

Guadalupe River Cleanup Day

May 9, 2024 from 9:30 AM to 1:30 PM

Come show your support for our native fish and keep our drinking water clean by joining this FREE social volunteering event! Six of our drinking water reservoirs are part of Guadalupe Watershed. The watershed also supports native fish. All activities will be standing up and supplies and tools are provided in addition to snacks, lunch and a bottle of water. For more information and to register:

<https://www.bayareaolderadults.org/bao-culture>

(look for Event 5)

Sunnyvale Baylands Birding

Wednesday June 5, 2024 from 8:30 AM to 1:30 PM

Join us for a gentle two-mile walk at Sunnyvale Baylands led by an expert birder who will find more than 20 birds during our excursion. We end the afternoon with an included social picnic lunch. Transportation and binoculars are provided. For more information and to register:

<https://www.bayareaolderadults.org/bao-hikes>

(look for Hike 10)

BAO Don Edwards National Wildlife Refuge Webinar

Thursday June 6, 2024 from 10:00 AM to 11:00 AM

This webinar will introduce the San Francisco Bay Wildlife Society and briefly discuss the history behind the SF Bay NWR Complex and the Refuge System. We will touch on the local grassroots movements that lead to the formation of the Don Edwards Refuge, its habitats and wildlife, and what work is being done to restore wetlands and combat climate change impacts.

For more information and to register:

<https://BAO-DonEdwardsNWR-Webinar.eventbrite.com>

Wildlife by the Bay

Wednesday June 19, 2024 from 9:00 AM to 1:30 PM

Enjoy the summer breeze by the bay with a leisurely two-mile walk along the shore led by an Audubon Society member who will help us find and identify birds. We end the day with an included hearty picnic lunch. Location is Shoreline Park Mountain View. Transportation and binoculars are provided.

For more information and to register:

<https://www.bayareaolderadults.org/bao-hikes>

(look for Hike 11)

GARDEN AND GREEN HOME SHOWCASE

Hosted by Bringing Back the Natives

Bringing Back the Natives: In-Person Garden Tours and Green Home Features Showcase

May 4 (Bayside) and May 5 (Inland), 10am - 5pm

See how 60 of your neighbors have greened their gardens with California native plants, and learn how they have electrified their homes. Free. Registration required at:

<https://www.bringingbackthenatives.net>

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, 2024 through March 31, 2024.

Senior/Student (\$20)

Charmon Ashby
Michael Dunn

Family (\$50)

Aanbi Inc.
Susan Boddy
Andrew Forbis
Bruce Kelly
Bruce Paton
Phillip Vallejo
Stephen and Myrna Wilkerson
Yukio and Kathleen Yoshikawa

Supporter (\$75)

Edward Dowling
Carol Johnson
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Participant (\$100)

John Colbert
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Neels Kulshrestha
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Company Donations & Grants

Cargill
Electronic Arts
Anonymous from Fidelity
Anonymous from Wells Fargo

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.

<https://sfbayws.org/gift-membership>

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
<input type="checkbox"/> \$35 Individual	<input type="checkbox"/> \$250 Sponsor
<input type="checkbox"/> \$50 Family	<input type="checkbox"/> \$500 Sustainer
<input type="checkbox"/> \$75 Supporter	<input type="checkbox"/> \$1,000 Leader
<input type="checkbox"/> \$100 Participant	
<input type="checkbox"/> Check Enclosed	<input type="checkbox"/> Credit card payment, use PayPal at www.sfbayws.org/donate

Name _____

Address _____

City _____ State _____ Zip _____

Phone _____ Email _____

Thank you for your support!

For more than 35 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/>

