

Tideline



Don Edwards / Antioch Dunes / Ellicott Slough / Farallon Island / Marin Islands / Salinas River / San Pablo Bay

San Francisco Bay Wildlife Society Celebrates 25 years of Environmental Education & Refuge Complex Support

By Ceal Craig, Eric McKee, Debra King, and Sue Ten Eyck

What began 25 years ago as a small not-for-profit organization formed primarily to publish a quarterly newsletter, has blossomed into a cooperating association and friends group that helps finance environmental education, facility construction, and habitat restoration. John Steiner, former San Francisco Bay NWR Complex Chief Naturalist who was instrumental in launching the San Francisco Bay Wildlife Society, wrote in a 1997 *Tideline* article that the Society was created “to help fund the refuge’s expanded public use effort... A public-benefit, nonprofit organization chartered by the State of California in 1987, the Society has spent its first ten years providing vital support to the many refuge programs.”

The Society owes its success over the years to a number of volunteers, who mapped out the organization’s future course and made success possible. Oakland attorney Jed Somit volunteered his time to draw up the initial charter documents and provided the guidance that got the organization started. He served as a volunteer Director for many years. Dr. Chris Kitting, Biology Professor at California State University East Bay, has continuously

supported the Society, often serving as an officer, and is still on the Board of Directors today.

The first goals of the Society were to generate revenue through bookstore sales at the refuge, publish *Tideline*, brochures, trail guides and other publications, and fund environmental education programs. Over the

In its first decade of existence, the Society wanted to help other National Wildlife Refuges in the western region. Bookstores on those refuges were established to better support their specific projects. The board members wanted to offer their assistance, just as Coastal Parks Association at Point Reyes National Seashore had done



Pump house that had been renovated into an environmental education classroom. Photo by Dr. Chris Kitting

next quarter century these goals expanded and grew to meet the growing needs of the refuge. The Society’s mission, since the first day, has been to promote public awareness and appreciation of the San Francisco Bay and its natural history, and to foster the conservation and preservation of the remaining bay lands as essential wildlife habitat.

when the Society was getting its start. Other projects the Society undertook included creating a native plant nursery, establishing a wetlands research station with Cal State East Bay, renovating an abandoned pump house into an environmental education classroom and stocking it with laboratory equipment

continued next page

through a grant from Leslie Salt, and managing funds from the Peninsula Open Space Trust for the Bair Island restoration project. Research conducted at the Research Station has resulted in a number of scientific publications on wetlands ecology.

Since then, the Society has helped foster diverse field work at the refuge by tens of thousands of students of all ages, from elementary to graduate classes, and the general public. The Society has supported scientific and policy conferences (such as Society of Wetland Scientists) and printed diverse publications that include children's books, a history of Drawbridge, scientific journal articles, and early editions of the *Salt Marsh Manual*. The *Salt Marsh Manual* was developed as a guide for teachers bringing their students to the refuge for a field trip, and contained activities that can be done inside the classroom. This guide is still being used as a model for National Wildlife Refuges across the country today.

As visitation began to increase at the Environmental Education Center in Alviso, there was a need for the center to be open on weekends. A long-term partnership with the City of San Jose and with the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) provided staff for weekend support beginning in 1992 to supplement refuge employees. These two new staff members not only deliver specific programs in water conservation, they also assist with refuge operations and messages; these partnerships continue today. The addition of the Slow the Flow Coordinator (City of San Jose) and an interpretive specialist (SCVURPPP) greatly increased the number and variety of interpretive programs offered at the Don Edward Refuge. Chances are, if you've attended a program or an event at the Environmental Education Center, it was made possible through these partnerships between the Society and the City of San Jose and SCVURPPP.

The Society began its second decade of service and partnership with the addition of construction projects and habitat restoration. A capital campaign was waged for a new boardwalk that is now part of the New Chicago Marsh Trail at the Environmental Education Center. Funding was sought to construct a new greenhouse and improve the Tidelands Trail in Fremont for accessibility. The Society also branched out into

the realm of restoration during this time, helping to fund the Bair Island Restoration and Management Plan, restoration work at Antioch Dunes NWR, and uplands restoration at the Environmental Education Center.

Over the next years, environmental education expanded with summer camps for young people in Fremont, Alviso, and East Palo Alto. The Slow the Flow and Watershed Watchers (formerly known as SCVURPPP) programs expanded their outreach with continued investments in



Slow the Flow Coordinator Eric McKee

environmental education equipment and interpretive displays, kiosks, and trails. These two programs have consistently brought rave reviews from the public.

"Slow the Flow is a perfect match—and extension—to the BioSITE program. The rich discussions generated by the Slow the Flow program and demonstrations help students to make connections in a very concrete and visual way."

The Slow the Flow program has grown exponentially since it first began offering field trips, interpretive programs, events, and classroom presentations to participants in 1999. In its infancy, the program consisted of one dedicated staff person who worked part-time. That person served as the Program Coordinator, providing environmental education through four different programs, one special event, one summer day-camp, and a handful of classroom presentations and field trips. Today, the program has grown to include 15 unique interpretive programs, two to three special events a year, one summer camp, and field trips and classroom presentations for schools, community partners, and non-profit organizations.

On average, Slow the Flow provides outreach and education experiences for over 5,000 students, visitors, and volunteers, and to over 25 schools, colleges, and non-profit

organizations annually!

Yearly, the Slow the Flow program has enhanced its outreach. In 2005, Slow the Flow partnered with the NASA Ames JASON Expedition to provide wetlands education for over 5,750 participants and then enhanced programs in 2006 by including a pre- and post-classroom visit with a field trip, to participating schools. This has become the foundation for a large part of the existing program and its assessment efforts. Recently, in partnership with ScienceCastle.com, two interactive programs were developed and webcast live over the internet, providing a new and innovative way for participants to become involved in the program.

The Watershed Watchers program is a fruitful, collaborative partnership for the Santa Clara Valley Urban Runoff Pollution Prevention Program, the U.S. Fish and Wildlife Service, and the San Francisco Bay Wildlife Society. What began as weekend staffing for the Don Edwards Refuge Environmental Education Center site in Alviso, has turned into a full collection of great educational and interpretive programs.

The purpose of the Watershed Watchers program is to prevent urban runoff pollution (pollution coming from a myriad of sources, such as oils from vehicles, detergents from washing things outside, litter, and pet waste) and increase the surrounding communities' knowledge of such pollution, and how to reduce its harmful effects through personal behavior. The Watershed Watchers Coordinator also arranges programs at the Environmental Education Center, such as bird watching, photography, night sky parties, owl programs, and bacteria programs, giving visitors an introduction to local wildlife and how wildlife is directly affected by human actions.

Outreach is also an important component for Watershed Watchers spreading the message of pollution prevention, with visits to local libraries, sciences fairs, and other environmental organizations. Community service projects allow participants to really make a difference, removing invasive plants, learning about native plant gardening, and eliminating the use of pesticides and other chemicals.

The Society's staff, the refuge staff, and many volunteers coordinate several large scale events such as South Bay Bird



Current Board of Directors (left to right): Dr. Chris Kitting, Cheryl Davis, Terry Smith, Varon Smith, Ceal Craig, John Bradley (FWS), Sue TenEyck. (Missing: David Riensche, Karen Maxwell, Bart Anderson).

Fest, Shark Day, and Spooky Slough. These events often attract hundreds of visitors, who learn about local birds, sharks, and nocturnal wildlife. Activities are geared toward teaching people about the impacts to local wildlife. California Coastal Cleanup Day and National River Cleanup Day get local communities involved in stewardship and are opportunities to help spread the message of preventing urban runoff pollution.

Now in its third decade, the San Francisco Bay Wildlife Society looks forward to continuing its partnership with the San Francisco Bay National Wildlife Refuge Complex, the City of San Jose, and the Santa Clara Valley Urban Runoff Prevention Pollution Program. We will continue to explore alternative approaches and investments to supplement the refuge's work in these hard fiscal times. We welcome your support and input to maintain and expand the efforts of the San Francisco Bay National Wildlife Refuge Complex and its friend and collaborative organization:

the San Francisco Bay Wildlife Society. Together, we can achieve the goals of conserving and preserving the San Francisco baylands for another 25 years and beyond. To learn more about the San Francisco Bay Wildlife Society, or to become a supporting member, go to www.sfbws.com.

Cecilia (Ceal) D. Craig is the President of the San Francisco Bay Wildlife Society Board of Directors. Ceal began volunteering at the refuge, in the late 1990s. She joined the San Francisco Bay Wildlife Society Board of Directors in 2005, serving later as Secretary and now President. Ceal worked many years in high tech, after earning a Bachelor of Science in Mechanical Engineering from The Ohio State University and a Master of Science in Engineering from Cal State University at Fullerton. She is currently pursuing a Ph.D. in Education at Walden University, studying her other passion, robotics programs for high school students to grow their interest in engineering and science.

Eric McKee is the Environmental Education Specialist/Slow the Flow Program Coordinator. Eric grew up in rural Connecticut, and achieved a Bachelor of Science in Natural Resource Management from the State University of New York - College of Environmental Science and Forestry in Syracuse, NY. Eric also holds certifications as a Project WET Facilitator, Leave No Trace Master Educator, and Certified Interpretive Guide from the National Association for Interpretation.

Debra King is the Interpretive Specialist/Watershed Watchers Program Coordinator. She is a California native who studied Environmental Sciences and Music at UC Berkeley, and enjoys spending her time outdoors, traveling, cooking, and playing with animals.

Sue TenEyck is the San Francisco Bay Wildlife Society Program Administrator and a member of the Society Board of Directors. Sue has been a volunteer at the refuge for more than 15 years and became a board member in 1990.



The San Francisco Bay National Wildlife Refuge Complex is now on Facebook!
Like us and receive timely updates about the Complex.

Implementing the Vision

Last Fall, I discussed the “Conserving the Future” Conference held in Madison, WI that brought U.S. Fish and Wildlife Service employees from across the country and throughout the agency together with many of our partner agencies and non-profit organizations. Over 1,000 people attended the conference and began the process of charting the future of the National Wildlife Refuge System. The road map for this effort is now complete; entitled *Conserving the Future: Wildlife Refuges and the Next*



Generation, the resulting document outlines a vision of how the Refuge System fits into the larger context of the federal government’s America’s Great Outdoors (AGO) initiative.

The AGO is a 21st century, grassroots approach to protecting our lands and waters by connecting all Americans to their natural and cultural heritage. Both the AGO and the *Conserving the Future* document call for bold actions to address the ever increasing stresses on our natural environment.

Implementation of these bold ideas has already begun, with the establishment of nine teams tasked with addressing such things as: strategic growth of the Refuge System; urban wildlife refuges; leadership; planning; scientific excellence; community

partnerships; hunting, fishing, and outdoor recreation; and interpretation and education. Each team has about a dozen Service employees and is empowered to reach out to other employees, friends organizations, partners, and subject matter experts to develop policies and actions needed to make the vision a reality. Our Refuge Complex

only path to conserving America’s wildlife and wild places.

Conserving the Future is one more chapter in the story of the National Wildlife Refuge System, and we are all actors in that continuing narrative. In its final pages the vision document notes, “Now this story compels you to add your own chapter



Refuge Reflections

by Mendel Stewart

is fortunate to be involved on two teams: Winnie Chan, Planner for our Refuge Complex, is engaged on the Planning Team, and I represent our staff on the Urban Refuge Team. The teams are expected to complete their work in 2012.

The *Conserving the Future* vision was developed with the knowledge that the conservation landscape – and the stakes – have changed. The scale of issues and challenges we face is unprecedented, and no single entity has the resources to address such challenges on its own. Strategic and collaborative landscape conservation is the

and take your place among a long line of conservation heroes.” Indeed, it compels all of us—not only because of our shared love for wildlife and wild places, but because of our awareness that, working together, we can protect and preserve them for future generations.

You can be a part of the effort by joining the social network online at (www.AmericasWildlife.org/vision). Follow our social media profiles on Facebook (www.facebook.com/americaswildlife) and Twitter (www.twitter.com/americaswildlife) to stay informed, or use them to share your story.



Don Edwards San Francisco Bay National Wildlife Refuge

Earth Day Cleanup
Saturday, April 21, 2012
9:00 a.m. – 12:00 p.m.

Help us protect wildlife and the environment while enjoying great Bay views!

Join the Don Edwards Refuge and Save the Bay at our Annual Earth Day Cleanup at Ravenswood Point in East Palo Alto. We'll supply latex gloves and trash bags. Wear sturdy shoes, a hat, and sunscreen. Prepare to get dirty and to have fun! Minors must be accompanied by an adult.

RESERVATIONS REQUIRED at www.savesfbay.org. Call (510) 463-6809 or (510) 792-0222 ext. 362 for more information.

Discover the Beauty of Local Birds

Don Edwards
San Francisco Bay
National Wildlife Refuge
Environmental Education Center
in Alviso

Saturday, May 12th
12:00 PM-3:00 PM



FREE!
Face Painting!
Guided Bird
Walks!
Hands-on
Activities!
Crafts!



For more information, please call us at (408) 262-5513 or visit our website
www.fws.gov/desfbay and click on the Tideline Newsletter link.

Check out our Facebook page! www.facebook.com/SanFranciscoBayNWRComplex

Sponsored by: City of San Jose, Santa Clara Valley Urban Runoff Pollution Prevention Program, Santa Clara Valley Audubon Society, San Francisco Bay Wildlife Society, and U.S. Fish and Wildlife Service.

Don Edwards San Francisco Bay National Wildlife Refuge hosts its first BioBlitz

By Carmen Minch, *Outdoor Recreation Planner*, and Toni Caldwell, *Environmental Education Intern*

At 8:55 a.m. a group of curious on-lookers surrounded biologist Brian Popper as he stood next to a cage trap with a sheet over it. There was clearly something alive inside the cage but Brian was not yet ready to reveal the occupant. The BioBlitz schedule promised a mammal release at 9:00 a.m. and people were patiently waiting to see what animal was caught on the Don Edwards San Francisco Bay National Wildlife Refuge that morning so they could record it on their data sheets. At the appointed time, Brian lifted the sheet only to reveal a feral cat wearing a flea collar. Amused expressions on the adults were coupled with puzzled looks on the kids' faces. Nature can be unpredictable.

In a course of just one 24-hour period, nearly 200 people took part in the Don Edwards Refuge's first-ever BioBlitz. From 2:00 p.m. December 10 to 2:00 p.m. December 11, scientists, educators, and members of the community descended upon the Alviso Unit and documented every living organism that crossed their path. Together, the participants logged 195 species that included phytoplankton, insects, and mollusks in addition to plant, avian, mammalian, and fish species. Although the feral cat that got caught in the cage trap was unintentional, it made for a great opportunity to educate the public why it was important not to let cats roam freely outdoors, particularly near a wildlife refuge. Brian seized the moment to explain how cats can harm birds and other wildlife due to their natural instincts.

The word "BioBlitz" was first coined by US National Park Service Naturalist Susan Rudy in 1996. It was used to describe the event that was part contest, part festival, part educational event, and part scientific endeavor. The event is designed to increase the public's awareness of the variety of life in their immediate neighborhood, to excite children about science and to consider careers in this field, and to generate a list of species found on the refuge. The goals of this particular event were: count, map, and learn about the refuge's diverse organisms ranging from predatory sharks, migratory



Liming Chao attempts to look through the spotting scope during a bird walk while her mother Sunny, and sister Ping-Ya looks on. Photo by Alex Baranda

birds, microscopic plankton, and nocturnal mammals; provide scientists, students, and the general public an opportunity to conduct field work together; document species occurrence by adding to the refuge's official species list; highlight the importance of protecting biodiversity of a local refuge; provide an outlet for active recreation and outdoor enjoyment to complement First Lady Michelle Obama's Let's Move campaign and the Fish and Wildlife Service's Connecting People with Nature Initiative; and encourage today's youths to explore careers in the conservation field.

The event brought several first-time visitors to the Don Edwards Refuge. Sunny Chao, a mother of four, learned about the event through word-of-mouth. It was their first time visiting the refuge and they attended both days of the event, participating in bird walks and the bat program. She said, "We enjoyed it very much. We thought the bat presentation was very professional and we got to go outside to listen for bats with the [echolocation] equipment."

Julie Willey, another first time visitor also exclaimed, "My three older kids and I absolutely enjoyed ourselves between the habitat, plant hikes, phytoplankton viewings, water testing, and bats. This was

our first visit to the Don Edwards Wildlife Refuge in Alviso. We feel quite lucky to have had such a great introduction to this part of the bay area."

The event also created a new partnership between the refuge and iNaturalist.org, a website where people can record their nature observations on-line, meet other nature lovers, and learn about the natural world. BioBlitz caught the attention of Scott Loarie, co-director of iNaturalist.org and a climate change researcher for the Carnegie Institution. Scott volunteered to create a widget for the refuge's website where budding scientists at the event could record their sightings using the iNaturalist.org mobile application. Participants who have a smart phone could take a photo of the organism, and upload it onto the website. Participants also had the option of taking their data sheet home and entering their findings using their home computer. In addition, a map was available for everyone to see the location where the species were found.

To view the species that were recorded at the BioBlitz, visit http://www.fws.gov/desfbay/species_inventory.htm.

Let's Go Outside!

Be a Refuge Rambler!

The Don Edwards San Francisco Bay National Wildlife Refuge enters its fourth season of the Refuge Rambler club. This walking club is fun way to explore the Refuge, meet new people, and to become physically healthier. Once a month from April to October, members of the Refuge Rambler club will gather at designated times and locations on the Don Edwards Refuge (or areas adjacent to the Refuge) to walk Refuge trails together. Staff or a volunteer will be present to greet the group, check off trail passports and walk the trail. These walks will range from 1.5 - 9 miles and will be located in Fremont, Alviso, Menlo Park, Sunnyvale and Mountain View.

These walks are self-paced. Take your time to enjoy the outdoors, discover nature, and meet fellow nature-lovers. People of all ages are welcome.

Becoming a Refuge Rambler is easy and free. You are under no obligation. Complete the registration form on this page, or download the form on the refuge web site

at <http://www.fws.gov/desfbay>. Mail it to Carmen Minch, 1 Marshlands Rd, Fremont, CA 94555. In a couple of weeks, you will receive a Refuge Rambler patch, a trail passport, a schedule, and a description of the trails featured for 2012.

The trail passport helps keep track of all the trails you completed. If you complete 7 out of the 8 trails featured, you become a Refuge Rambler All-Star! Submit your passport in person at the Visitor Center on October 13 and receive your 2012 t-shirt. Or, you can mail your passport to the Refuge by October 31 and the t-shirt will be mailed to you. All passports will be returned.

Want to join in on the fun but don't want to be a member? No problem. All trails will be advertised in Tideline and on our web site. Choose the trails you want to walk and show up at the designated location and time. No reservations needed. Bring your friends! There are over 30 miles of hiking trails on the refuge just waiting to be explored!



Sign me up for the Refuge Rambler Club!

Complete the form below and receive a patch, a schedule, trail descriptions, and a passport.

Mail the form to Carmen Minch, 1 Marshlands Rd, Fremont, CA 94555

Name: _____

Address: _____

Email Address: _____

Teens help Restore LaRiviere Marsh

by David Thomson and Tia Glagolev

Visitors entering the Don Edwards San Francisco Bay National Wildlife Refuge on Marshlands Road in Fremont are greeted by a sign identifying the lush salt marsh as LaRiviere Marsh. This marsh is one of the best examples of tidal salt marsh restoration in the San Francisco Bay area. People today may not realize that this tract of land had once been operated as industrial salt ponds for many years. When the Don Edwards Refuge obtained the property in the early 1980s, refuge managers made the decision to convert the salt ponds back into tidal salt marsh.

Up until this year, restoration efforts were primarily passive after digging a few holes in levees to let the Bay tides in, essentially letting nature take its course. The result has been the creation of a high quality salt marsh habitat suitable to support local resident and migratory species, and endangered species such as the Salt Marsh Harvest Mouse and the California Clapper Rail.

However, the upland edges of the marsh were not so successful. Invasive plants dominate these edges, degrading the habitat



Left: Habitat Heroes distributing rice straw over the seeded areas. Photo by Alie Mayes. Right: Aerial photo of LaRiviere Marsh in 2008. Photo by Cris Benton.



for native plants and animals. These upland edges require a more active restoration approach. Boosted with the support of a USFWS Challenge Cost Share grant, the refuge began a hands-on approach to restoring the upland plant communities bordering LaRiviere Marsh.

Last year the refuge began actively restoring the plant communities. Teens from the Habitat Heroes program, a leadership and service program of the Refuge

Complex, have begun assisting refuge staff in restoration efforts. Compost pile are being spread to "topdress" the ground and create a seedbed. A seed mix of 28 native plant species which has been developed by our restoration research program at the Environmental Education Center in Alviso is also being hand-scattered. And finally our volunteers mulch seeded areas with rice straw. If it rains, we should have a glorious spring and summer show!

Scout and Youth Group Programs

The Don Edwards San Francisco Bay National Wildlife Refuge offers free hands-on, programs for youths. During the programs participants learn about endangered species, migratory birds, wetland habitats, and the relationship between personal habits and their effects on the San Francisco Bay. These programs are designed to meet badge/patch requirements of Scout Groups, but anyone can participate. Because of the popularity of such programs, reservations are required. Badges are not provided.

Below are the names, dates, and descriptions of the programs. Programs at the Environmental Education Center are sponsored by the Santa Clara Valley Urban Runoff Pollution Prevention Program and the San Francisco Bay Wildlife Society.

Youth Group Programs at the Environmental Education Center in Alviso

Note: Ratio of 1 adult per 5 children maximum. Space is limited to 20 people, including siblings. Once the program is full there will be a waiting list. Call Debra at 408-262-5513 ext. 102 for reservations.

Saturday, March 3

*Brownie Eco-Explorer Patch

Environmental Education Center, Alviso

10:00 a.m. – 12:00 p.m.

Come and learn about habitats, food chains, and how you can help wildlife. Then take a walk to explore the habitats at the South Bay. We'll have a special craft to round out the day. Space is limited to 20 people and program fills quickly.

Saturday, April 7

Webelos Naturalist Badge

Environmental Education Center, Alviso

10:00 a.m. – 12:00 p.m.

2:00 p.m. – 4:00 p.m.

Anyone out there need to earn a Naturalist badge? We've got the program that's right for Webelos! Learn about birds, migration, flyways, food chains, human impact, and the importance of wetlands. Then take a walk and use our binoculars to spot birds in the wild.

Saturday, April 21

*Junior Girl Scout Wildlife Badge

Environmental Education Center, Alviso

2:00 p.m. – 4:00 p.m.

Calling all Junior Girl Scouts of Santa Clara County!

Anyone out there need to earn a Wildlife badge? We've got the program just for you! Come to the wildlife refuge and learn about features of different creatures, observe animal behavior, see how you can help wildlife, and so much more. Take a walk to explore the habitats at the south end of the bay.

Youth Group Programs at the Refuge Headquarters in Fremont

Saturday, March 17

Saturday, April 28

Sunday, May 20

Webelos Naturalist Program

Visitor Center, Fremont

10:00 a.m. – 12:00 p.m.

Attention Webelos! Earn your naturalist badge in just two hours. During this hike, learn about birds, flyways, food chains, and the importance of wetlands. Bring your binoculars, or borrow one of ours. Led by June Smith. Space is limited to 15 Webelos. Reservations required. Call 510-792-0222 ext. 363

Saturday, May 5

All About Birds

Visitor Center, Fremont

2:00 p.m. – 4:00 p.m.

Girl Scouts interested in birds will find this the perfect program for earning the Interest Project Award. This program will teach the basics of bird identification, the fascinating lives of birds, and how you can help protect their habitat. Recommended for ages 11-15. Space is limited to 15 girls. Reservations required. Call 510-792-0222 ext. 363. Led by Jessica Beatty.

Help Us Help the Refuge

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

You may also become a member at www.sfbws.com.

For a gift membership, call 510-745-8170.

San Francisco Bay Wildlife Society is a nonprofit 501(c)(3) organization which raises money and awareness for the San Francisco Bay National Wildlife Refuge Complex.

YES! I want to support San Francisco Bay Wildlife Society and its programs with my membership. My dues include a subscription to *Tideline* and 15% discount at the Don Edwards SF Bay National Wildlife Refuge bookstore. Enclosed is my contribution of:

- \$20 Student/Senior \$50 Family \$100 Participant \$200 Corporation \$500 Sustainer
 \$35 Individual \$75 Supporter \$250 Sponsor \$1,000 Leader

Check Visa or MasterCard # _____ Exp. Date _____

Signature _____

Name _____

Address _____ City _____ State _____ Zip _____

Phone _____ **Thank you for your support!**



Teens take action! **BE A HABITAT HERO**

July 16- 19, 2012
for new participants

& July 18-19, 2012
for returning Habitat Heroes

If you are a teen entering 7th grade or above and have the desire to develop leadership skills through team-building activities and community service on a National Wildlife Refuge this is a program for YOU! New participants will attend all 4 days of program, July 16-19. Returning Habitat Heroes will join us for the refresher portion of the program July 18-19. We are recruiting Junior Leaders for our Marsh-In Summer Camp, August 6-10, 2012 AND volunteers for refuge events throughout the year. The program is FREE, but space is limited. Applicants must commit to attending the program (or the refresher) AND serving at our summer camp or another special event this year.

ALL APPLICANTS: Please submit a letter (one page) of interest (with your name, age, address, phone number, parent/guardian's name), why you would like to participate, AND a letter of reference from someone who knows you well (teacher, coach, neighbor, etc.). Application deadline is 5:00 pm on Friday, June 1, 2012. Participants will be notified by mail and subject to parent/guardian approval. Questions? Please call Tia at 510-792-0222 ext. 474.

Please send your letters to: U.S. Fish and Wildlife Service
1 Marshlands Road
Fremont, CA 94555
Attn: EE Office

Spring Activity Schedule

MARCH

Saturday, March 3

*Hawk Hunt!

Environmental Education Center, Alviso

1:30 p.m. – 3:30 p.m.

Hey kids! Are you interested in awesome birds of prey? Do you ever see a Red-Tailed Hawk soaring above you and wonder what it may be doing? If so, come to this beginning raptor class to see a short presentation about different birds of prey followed by a short hike. This program will conclude with an interactive game which will show how hawks hunt. Led by Intern Jennifer Fraga. Call Debra for reservations at 408-262-5513 ext. 102.

Saturday, March 10

*We Built it for the Birds

Ravenswood Unit (SF2), Menlo Park

10:00 a.m. – 11:30 a.m.

Docent Jane Moss will lead you on a 1-mile walk through the ever-changing panoramas surrounding a former salt pond. Learn about the exciting ways this area is being reshaped as newly created wildlife habitat. Trail is easy and level. All ages and abilities welcome. For information, call 510-792-0222 ext. 139.

A Trip Back in Time

Visitor Center, Fremont

10:30 a.m. – 12:00 p.m.

Revive the vanishing knowledge of the history of the Don Edwards San Francisco Bay National Wildlife Refuge grounds by strolling the trails with docent Ray Studer. Using a collection of old photographs, the last vestiges of a way of life such as salt production, the old railroads, and homes can be traced back to the 1850s that led to the construction of the town of Newark in 1876.

Sunday, March 11

Nature Drawing for Kids

Visitor Center, Fremont

10:30 a.m. – 12:30 p.m.

Does your child have an interest in the arts? Introduce your child to outdoor sketching in this workshop by Travis Turner and increase their observations skills. We will learn how to draw what we see by incorporating common shapes, and learn about shading value. We will then head out onto the trail and practice the various techniques. Paper and pencils will be provided. This program takes place outside so dress warmly. Rain cancels. Kids age 7-12 only! Call for reservations at 510-792-0222 ext. 363. Bring binoculars if you have them. Minors must be accompanied by an adult.

Saturday, March 17

Ethical Bird Photography for Beginners

Environmental Education Center, Alviso

9:30 a.m. – 11:30 a.m.

Have you ever wanted to photograph that snowy egret stalking its dinner in the shallows? Join docent and published wildlife photographer Mark Bohrer to discover where to find those wary birds, what behavior to look for, and how to ethically capture them on pixels or film. You'll need a lens extending to at least 300mm (400mm or longer preferred) on your digital SLR, or the 35mm-equivalent on your advanced point-and-shoot camera. Tripods are recommended, but not required. Please be familiar with your camera's operation, dress for muddy conditions, and expect to do some walking. Recommended for ages 16 and up. Anyone under 18 must be accompanied by a parent. Reservations required. Call Debra at 408-262-5513 ext. 102.

Monster Bacteria & Other Suspicious Critters

Environmental Education Center, Alviso

1:00 p.m. – 3:00 p.m.

Let's explore the salt marsh's hidden habitats. See monster bacteria, some of whom love rotten eggs, and some of whom make the air we breathe. Join microbial ecologist Dr. Wayne Lanier for a short hike where we will use field microscopes to dive down into a tiny world – an ecology hidden from view. Ages 8 to 80 and beyond! Call Debra at 262-5513 ext. 102 for reservations.

*Family Bird Walk

2:30 p.m. – 4:30 p.m.

Visitor Center, Fremont

Let family walks become a shared time of nature learning. We'll begin by helping kids create their personal bird watching field guides, and then head out onto the trails to find those birds. A limited number of binoculars are available to borrow. Recommended for children ages 5-10. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 363.

Twilight Marsh Walk

Visitor Center, Fremont

6:30 p.m. – 8:00 p.m.

Experience the salt marsh at twilight on an easy stroll along Tidelands (1 1/3 mile) Trail. At the setting of the sun we will observe the beginning of nature's night shift. Come discover the sights, sounds, and smells of the refuge as night descends. Not suitable for young children. RESERVATIONS REQUIRED. Call 510-792-0222 ext 363. Led by Mary and Gene Bobik.

Sunday, March 18

Bay Bike Ride

Meet at the Visitor Center, Fremont

10:30 a.m.

Go on an 11-mile bike ride with docent Gregg Aronson along Marshlands Road and on the Shoreline Trail to observe birds and the occasional leopard shark! Pass through several habitat types along the way including salt marsh, salt pond, and the bay. The paved and dirt trails are almost flat and trail and hybrid bicycles highly recommended. Helmets are required. Recommended for more experienced bicyclists. Program cancels if it rains the day before and the day of the program due to mud. Call 510-792-0222 ext. 363 for reservations.

Tracking through the Slough

Environmental Education Center, Alviso

2:00 p.m. – 3:30 p.m.

Tracks tell us many stories about the animals that made them. During this program we will look at the different types of movement that animals use to get around, and what that tells us about their lifestyle. We will then tour the marsh to explore and identify what we find. Come and discover a world of wildlife and the tales they weave in the marsh. RESERVATIONS RECOMMENDED – All ages are welcome. Call Eric at 408-262-5513 ext. 104.

A Sinking Feeling: Coyote Hills

Visitor Center, Fremont

2:00 p.m. - 3:00 p.m.

Join Roy Sasai on a hike to learn about and view the inner core of Coyote Hills. What forces created this magnificent hill along the bay? What forces continue to move and shape the vista we see? What forces made a huge portion of Coyote Hills disappear? We will meet at the Visitor Center to begin our adventure, then hike 1.5 miles on steep terrain to view the makeup of Coyote Hills. Dress warmly, bring binoculars, rain gear, and camera. Reservations are not required.

Saturday, March 24

*Beginning Bird Watching

Environmental Education Center, Alviso

9:30 a.m. – 11:00 a.m.

Ever wonder what birds are here in our very own community? This is a great way to learn about local and migratory birds. Start with a slideshow indoors to learn how to recognize the regulars, then borrow binoculars and take a walk to try out your new skills. All ages welcome. Reservations required. Call Debra at 408-262-5513 ext. 102.

Ravenswood Hike

Bedwell Bayfront Park, Menlo Park

10:30 a.m. – 12:30 p.m.

The 2.3-mile perimeter trail at Bedwell Bayfront Park offers great opportunities to discover spring wildlife and to discuss how future wetlands restoration will shape this piece of the Bay. Offered by the refuge and the Friends of Bedwell Bayfront Park. Meet at the main parking lot bathrooms at Bedwell Bayfront Park. Call 510-792-0222 ext. 139 for information.

*Habitat Exploration

Environmental Education Center, Alviso

1:30 p.m. – 3:00 p.m.

Join us as we explore all five habitats on the refuge. We will look for various types of wildlife, including insects, and reptiles. With the end of spring approaching, we will see signs of seasonal change. Open to all ages but best suited to ages 9 to adult. Led by Ed Kantack. Call Debra at 408-262-5513 ext. 102 for reservations.

Sunday, March 25

Nature Yoga

Visitor Center, Fremont

10:00 a.m. – 11:30 a.m.

Enjoy the benefits of Yoga outdoors with great views of the salt marsh. Through story and postures, learn what attracted people and wildlife to the Bay. There will be a short hike to the site from the Visitor Center. Bring a yoga mat. A limited number of mats are available to borrow. Wear comfortable clothing. Consult with your doctor before participating. All ages and abilities welcome. Reservations are required. Rain cancels. Call 510-792-0222 ext. 363. Led by Carmen Minch.

*Trails are generally level. Surface and trail conditions vary. Please call for accessibility information.

Visitor Center, 2 Marshlands Road, Fremont – (510) 792-0222 ext. 363 • Environmental Education Center, 1751 Grand Blvd, Alviso – (408) 262-5513

The Salt Marshes: Then and Now

Visitor Center, Fremont

2:00 p.m. – 3:30 p.m.

Approximately 85% of San Francisco Bay's wetlands have disappeared over the last 200 years due to industry and development, impacting the wildlife that lived in and around them. Some of the plants and animals have made a comeback. Learn the history of the salt marshes and the plant and animal life affected by the changes. The presentation includes a slideshow followed by an optional walk (approximately 45 minutes, weather permitting) to view a salt marsh and the remains of a salt evaporation pond. Led by Gregg Aronson. Call 510-792-0222 ext. 363 for reservations.

APRIL

Saturday, April 7

Bay Bike Ride

Meet at the Visitor Center, Fremont

10:30 a.m.

Go on an 11-mile bike ride with docent Gregg Aronson along Marshlands Road and on the Shoreline Trail to observe birds and the occasional leopard shark! Pass through several habitat types along the way including salt marsh, salt pond, and the bay. The paved and dirt trails are almost flat and trail and hybrid bicycles highly recommended. Helmets are required. Recommended for more experienced bicyclists. Program cancels if it rains the day before and the day of the program due to mud. Call 510-792-0222 ext. 363 for reservations.

*Marshlands of Dreams

Visitor Center, Fremont

10:30 a.m. – 11:30 a.m.

Join Paul Mueller on a 1-mile walk of the LaRiviere Marsh Trail to find traces of the past. Prior to marsh restoration, learn how Californians utilized the area for farming, quarrying, salt production, and transportation. There are opportunities for bird watching as well.

Sunday, April 8

Intro to Nature Drawing for Adults

Visitor Center, Fremont

10:30 a.m. – 12:30 p.m.

Learn the basics of sketching nature. We will learn how to draw with negative shapes and shadows, and how to use light to add dimension. We will discuss how the changing horizon lines can offer depth. There will be opportunities to practice these techniques on the trail. Paper and pencils will be provided. Dress for the weather. Bring binoculars if you have them. Call for reservations at 510-792-0222 ext. 363. Led by Travis Turner.

Saturday, April 14

Community Service

Visitor Center, Fremont

9:30 a.m. – 12:00 p.m.

If you are interested in improving the refuge for visitors and for wildlife alike, join us at the Visitor Center for a community service project. We will do either a trash cleanup or a planting/weeding project. Dress appropriately for the task and for the weather. We will have gloves to lend and will provide the tools. Bring your own water bottle. Meet in the parking lot at the Visitor Center. Driving an additional 2.5 miles may be required since the project may be at a different location. For more information, or to make reservations, call 510-792-0222 ext. 363.

Levee Bike Tour

Alviso Marina County Park, Alviso

10:00 a.m. – 1:00 p.m.

Get a new perspective! Take a docent-led bicycle tour along the levees of the Don Edwards SF Bay Refuge. Learn about the Salt Pond Restoration Project and see Silicon Valley from a new angle. It's nature in the middle of it all! The trail is level and smooth, but unpaved, and it can be windy. The tour starts and ends at the Alviso Marina County Park. The pace is moderate with stops. Helmet is required for minors and water is highly recommended. Recommended for ages 14 and over.

*All About Owls

Environmental Education Center, Alviso

10:30 a.m. – 12:00 p.m.

Learn all that you've ever wanted to learn about owls here at the refuge! Where do owls eat? How do we not hear them when they flap their wings? Are owls the brainiacs of the bird world? Through an interactive presentation and owl pellet dissection, we'll find the answers to all these questions! Led by Paul Bridges. Call Debra at 408-262-5513 ext. 102 for reservations.

A Trip Back in Time

Visitor Center, Fremont

10:30 a.m. – 12:00 p.m.

Revive the vanishing knowledge of the history of the Don Edwards San Francisco Bay National Wildlife Refuge grounds by strolling the trails with docent Ray Studer. Using a collection of old photographs, the last vestiges of a way of life such as salt production, the old railroads, and homes can be traced back to the 1850s that led to the construction of the town of Newark in 1876.

Wildflower Drawing for Families and Adults

Environmental Education Center, Alviso

1:30 p.m. – 3:00 p.m.

Come and draw the wildflowers! Increase your confidence in drawing and learn some skills to help you draw what you see. We will begin inside with some exercises designed to teach you about flowers while practicing drawing life-like representations. We will then go outdoors and draw flowers in the wildflower garden. In case of rain, we will bring some wildflowers inside. Materials are provided but if you have a sketchpad, pencil, and colored pencils or watercolors, bring them along. Appropriate for ages 8 to adult. Children, please bring an adult with you who would like to participate. Adults without children are also welcome. All skill levels welcome. Call Debra at 408-262-5513 ext. 102 for reservations.

Twilight Marsh Walk

Visitor Center, Fremont

7:00 p.m. – 8:30 p.m.

Experience the salt marsh at twilight on an easy stroll along Tidelands (1 1/3 mile) Trail. At the setting of the sun we will observe the beginning of nature's night shift. Come discover the sights, sounds, and smells of the refuge as night descends. Not suitable for young children. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 363. Led by Mary and Gene Bobik.

Sunday, April 15

*A Taste of the Refuge

Visitor Center, Fremont

11:00 a.m. – 12:30 p.m.

Take a guided walk on Tidelands Trail and discover which plants are edible or have medicinal uses. We'll taste some of these plants on the refuge, or in commercially made products. Led by Carmen Minch.

Spring Activity Schedule

Saturday, April 21

Earth Day Cleanup

Ravenswood Point, East Palo Alto

9:00 a.m. – 12:00 p.m.

Help us protect wildlife and the environment while enjoying great Bay views! Join our Annual Earth Day Cleanup at Ravenswood Point with Save the Bay in East Palo Alto. We'll supply plastic gloves and trash bags. Wear sturdy shoes, a hat, and sunscreen. Prepare to get dirty and to have fun! Minors must be accompanied by an adult. RESERVATIONS ARE REQUIRED at www.savesfbay.org. Call 510-792-0222 ext. 362 for more information.

Earth Day Community Service

Environmental Education Center, Alviso

10:00 a.m. – 12:00 p.m.

Come spend Earth Day with us in the great outdoors! Do you need to fulfill community service requirements? Or would you just like to come lend a hand? Help in our native plant garden by removing non-native plants, pruning, mulching, or various other jobs that help protect wildlife and clean up our gardens. It's a great service project for scout groups, high school students, church groups, and home-schooled groups. Bring your own gloves or borrow ours. Tools are provided. Dress in layers and bring water and sunscreen. Be prepared to get dirty! Ages 9 and up. Participants 18 and under must be accompanied by a chaperone. Call Debra for reservations at 408-262-5513 ext. 102.

Sunday, April 22

Nature Drawing for Kids

Visitor Center, Fremont

10:30 a.m. – 12:30 p.m.

Does your child have an interest in the arts? Introduce your child to outdoor sketching in this workshop by Travis Turner and increase their observations skills. We will learn how to draw what we see by incorporating common shapes, and learn about shading value. We will then head out onto the trail to practice the various techniques. Paper and pencils will be provided. This program takes place outside so dress warmly. Rain cancels. Kids age 7-12 only! Call for reservations at 510-792-0222 ext. 363. Minors must be accompanied by an adult.

*South Bay Earth Day

Environmental Education Center, Alviso

1:00 p.m. – 2:30 p.m.

Why not join us and celebrate Earth Day at the EEC? We will look at the history of Earth Day and the environmental movements in the United States. We will pay special attention to environmental efforts taken to help protect the marshlands surrounding the bay, and the creation of the Don Edwards San Francisco Bay National Wildlife Refuge. Come and hear about the various restoration efforts being undertaken right now and what is being done to improve the natural resources in our community. Program is a guided presentation and a short walk. RESERVATIONS RECOMMENDED – suggested for ages 10 and up. Call Eric at 408-262-5513 ext. 104.

*Trails are generally level. Surface and trail conditions vary. Please call for accessibility information.

Visitor Center, 2 Marshlands Road, Fremont – (510) 792-0222 ext. 363 • Environmental Education Center, 1751 Grand Blvd, Alviso – (408) 262-5513

Spring Activity Schedule

*California Clapper Rail: I know you're out there

Visitor Center, Fremont
2:00 p.m. - 3:00 p.m.

Come learn about the endangered and rarely seen California Clapper Rail. What do they look like? Where do they live? What do they eat? We will share information about this rarely seen bird to optimize your chances of capturing a glimpse of them. The tour is comprised of a 1.5 mile hike. Dress warmly, bring binoculars and rain gear. Led by Roy Sasai. Reservations are not required.

Saturday, April 28

*Coyote Creek Lagoon - 4.0 miles roundtrip

Meet at trailhead. Directions below.
9:00 a.m.

Let's Go
Outside!

Meet new people while getting fit and healthy! This is the 1st walk featured in the Refuge Rambler club. This trail is a compacted gravel levee that is flat and level. The walk is self-paced and

you may turn back at any time. You do not need to be a Refuge Rambler to join this walk. Go to <http://www.tws.gov/destbay> to learn more about the Refuge Rambler Club. No reservations are needed. Hats, water, and sunscreen are strongly recommended. A refuge representative will be there to greet you. Directions: From I-880, exit South Fremont Blvd/Cushing Pkwy in Fremont. Drive south on Fremont Blvd. until it dead ends. There is a parking lot on the right next to 48481 Fremont Blvd. Meet in the parking lot. There are no restroom facilities on this trail.

*Bird Migration Walk Ravenswood Unit (SF2), Menlo Park

9:00 a.m. - 10:30 a.m.

Our wetlands are an important stop on the Pacific Flyway, a major bird migration route. Stroll with docent Laurel Stell to learn why the birds migrate, why they stop along the San Francisco Bay, and to spot the birds in action. Trail is easy and level. All ages and abilities welcome. Meet at the SF2 trail parking area on the west side of the Dumbarton Bridge. For information and directions, call 510-792-0222 ext. 139.

Levee Bike Tour Alviso Marina County Park, Alviso

10:00 a.m. - 1:00 p.m.

Get a new perspective! Take a docent-led bicycle tour along the levees of the Don Edwards SF Bay Refuge. Learn about the Salt Pond Restoration Project and see Silicon Valley from a new angle. It's nature in the middle of it all! The trail is level and smooth, but unpaved, and it can be windy. The tour starts and ends at the Alviso Marina County Park. The pace is moderate with stops. Helmet is required for minors and water is highly recommended. Recommended for ages 14 and over.

*Family Bird Walk

2:30 p.m. - 4:30 p.m.

Visitor Center, Fremont

Let family walks become a shared time of nature learning. We'll begin by helping kids create their personal bird watching field guides, and then head out onto the trails to find those birds. A limited number of binoculars are available to borrow. Recommended for children ages 5-10. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 363.

Sunday, April 29

Nature Yoga

Visitor Center, Fremont

10:00 a.m. - 11:30 a.m.

Enjoy the benefits of Yoga outdoors with great views of the salt marsh. Through story and postures, learn what attracted people and wildlife to the Bay. There will be a short hike to the site from the Visitor Center. Bring a yoga mat. A limited number of mats are available to borrow. Wear comfortable clothing. Consult with your doctor before participating. All ages and abilities welcome. Reservations are required. Rain cancels. Call 510-792-0222 ext. 363. Led by Carmen Minch.

The Salt Marshes: Then and Now

Visitor Center, Fremont

2:00 p.m. - 3:30 p.m.

Approximately 85% of San Francisco Bay's wetlands have disappeared over the last 200 years due to industry and development, impacting the wildlife that lived in and around them. Some of the plants and animals have made a comeback. Learn the history of the salt marshes and the plant and animal life affected by the changes. The presentation includes a slideshow followed by an optional walk (approximately 45 minutes, weather permitting) to view a salt marsh and the remains of a salt evaporation pond. Led by Gregg Aronson. Call 510-792-0222 ext. 363 for reservations.

Saturday, May 5

Ethical Bird Photography for Beginners

Environmental Education Center, Alviso

9:30 a.m. - 11:30 a.m.

Have you ever wanted to photograph that snowy egret stalking its dinner in the shallows? Join docent and published wildlife photographer Mark Bohrer to discover where to find those wary birds, what behavior to look for, and how to ethically capture them on pixels or film. You'll need a lens extending to at least 300mm (400mm or longer preferred) on your digital SLR, or the 35mm-equivalent on your advanced point-and-shoot camera. Tripods are recommended, but not required. Please be familiar with your camera's operation, dress for muddy conditions, and expect to do some walking. Recommended for ages 16 and up. Anyone under 18 must be accompanied by a parent. Reservations required. Call Debra at 408-262-5513 ext. 102.

*Marshlands of Dreams

Visitor Center, Fremont

10:30 a.m. - 11:30 a.m.

Join Paul Mueller on a 1-mile walk of the LaRivière Marsh Trail to find traces of the past. Prior to marsh restoration, learn how Californians utilized the area for farming, quarrying, salt production, and transportation. There are opportunities for bird watching as well.

Twilight Marsh Walk

Visitor Center, Fremont

7:00 p.m. - 8:30 p.m.

Experience the salt marsh at twilight on an easy stroll along the marshlands (1.25 mile) trail. At the setting of the sun

we will observe the beginning of nature's night shift. Come discover the sights, sounds, and smells of the refuge as night descends. Not suitable for young children. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 363. Led by Mary and Gene Bobik.

Sunday, May 6

Intro to Nature Drawing for Adults

Visitor Center, Fremont

10:30 a.m. - 12:30 p.m.

Learn the basics of sketching nature. We will learn how to draw with negative shapes and shadows, and how to use light to add dimension. We will discuss how the changing horizon lines can offer depth. There will be opportunities to practice these techniques on the trail. Paper and pencils will be provided. Dress for the weather. Bring binoculars if you have them. Call for reservations at 510-792-0222 ext. 363. Led by Travis Turner.

*Wetlands Water Café

Environmental Education Center, Alviso

1:00 p.m. - 2:30 p.m.

Wetlands can be filled with multiple nutrients and organisms that build a diverse web of life. Come visit the wetlands of the South Bay at the Environmental Education Center during this program. Participants will use our lab to observe wetland critters up close, and learn about their role in the ecosystem. RESERVATIONS RECOMMENDED - All Ages are welcome. Call Eric at 408-262-5513 ext. 104.

Saturday, May 12

*Bird Migration Walk

Ravenswood Unit (SF2), Menlo Park

9:00 a.m. - 10:30 a.m.

Our wetlands are an important stop on the Pacific Flyway, a major bird migration route. Stroll with docent Laurel Stell to learn why the birds migrate, why they stop along the San Francisco Bay, and to spot the birds in action. Trail is easy and level. All ages and abilities welcome. Meet at the SF2 trail parking area on the west side of the Dumbarton Bridge. For information and directions, please call 510-792-0222 ext. 139.

Community Service

Visitor Center, Fremont

9:30 a.m. - 12:00 p.m.

If you are interested in improving the refuge for visitors and for wildlife alike, join us at the Visitor Center for a community service project. We will do either a trash cleanup or a planting/weeding project. Dress appropriately for the task and for the weather. We will have gloves to lend and will provide the tools. Bring your own water bottle. Meet in the parking lot at the Visitor Center. Driving an additional 2.5 miles may be required since the project may be a different location. For more information, or to make reservations, call 510-792-0222, ext. 363.

Levee Bike Tour

Alviso Marina County Park, Alviso

10:00 a.m. - 1:00 p.m.

Get a new perspective! Take a docent-led bicycle tour along the levees of the Don Edwards SF Bay Refuge. Learn about the Salt Pond Restoration Project and see Silicon Valley from a new angle. It's nature in the middle of it all! The trail is level and smooth, but unpaved, and it can be windy. The tour starts and ends at the Alviso Marina County Park. The pace is moderate with stops. Helmet is required for minors and water is highly recommended. Recommended for ages 14 and over.

*Trails are generally level. Surface and trail conditions vary. Please call for accessibility information.

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SOUTH BAY BIRD FEST!

Environmental Education Center, Alviso

12:00 p.m. – 3:00 p.m.

Join us for a day of exploration as we celebrate our feathered friends with guided walks, games, crafts, face painting, and various other hands on activities. Explore avian antics in a LIVE BIRD SHOW showcasing bird behavior! Get up close and personal with real refuge birds and their habitats on the Flying Frenzy Expedition and learn about how you can help birds! Don't miss our annual bird-brained bash! Everything is FREE! Fun for the whole family! No reservations necessary. Visit our website for driving directions. For more information contact Debra at 408-262-5513 ext. 102 or Eric at ext. 104.

Sunday, May 13

*A Taste of the Refuge

Visitor Center, Fremont

11:00 a.m. - 12:30 p.m.

Take a guided walk on Tidelands Trail and discover which plants are edible or have medicinal uses. We'll taste some of these plants on the refuge, or in commercially made products. Led by Carmen Minch.

Saturday, May 19

National River Cleanup Day

Environmental Education Center, Alviso

10:00 a.m. – 12:00 p.m.

Come help out with urban runoff pollution as we join others around the world in an effort to keep our rivers clean! Together with other concerned citizens, we'll pick up trash and tidy up a local body of water. Come with a hat, sunscreen, and a great attitude, and we'll provide the rest! Space is limited. Call Debra at 408-262-5513 ext. 102 for reservations and location information.

A Trip Back in Time

Visitor Center, Fremont

10:30 a.m. – 12:00 p.m.

Revive the vanishing knowledge of the history of the Don Edwards San Francisco Bay National Wildlife Refuge grounds by strolling the trails with docent Ray Studer. Using a collection of old photographs, the last vestiges of a way of life such as salt production, the old railroads, and homes can be traced back to the 1850s that led to the construction of the town of Newark in 1876.

Intro to Wildlife Drawing for Families

Meet at the Visitor Center, Fremont

10:30 a.m. – 12:30 p.m.

Learn how to draw wildlife in this beginning workshop by Travis Turner. We will begin by drawing what we see by incorporating common shapes, and learn about shading value. We will then head out onto the trail and practice the various techniques. Paper and pencils will be provided. This program takes place outside. Rain cancels. Kids age 7-12 only! Call for reservations at 510-792-0222 ext. 363.

Endangered Species Day Art Reception

Visitor Center, Fremont

1:00 p.m. – 3:00 p.m.

Celebrate Endangered Species and attend an artists' reception at the Visitor Center. View the winning artwork submitted by K-5 students, learn how to draw animals at 1:30 p.m., or go on a walk at 2 p.m. with Roy Sasai to learn about the refuge's two endangered species. Punch and cookies will be served at the reception. All are welcome.

Endangered Species Walk

Visitor Center, Fremont

1:30 p.m. – 2:30 p.m.

Join Roy Sasai on a walk to learn about the endangered Salt Marsh Harvest Mouse and the California Clapper Rail. We will share information about these rarely-seen animals and their habitat. Fun for the whole family. No reservations necessary.

Butterflies, etc.

*Environmental Education Center

1:30 p.m. - 3:00 p.m.

Do you know the difference between butterflies, moths, and skippers? Learn all about them, including their life cycles and migration. Then take a leisurely walk around our butterfly garden to see some of these beautiful insects. Suitable for ages 7 and up. Led by Ed Kantack. Call Debra at 408-262-5513 ext. 102 for reservations.

Sunday, May 20

Mysteries of Wastewater Treatment

Environmental Education Center, Alviso

2:00 p.m. - 3:30 p.m.

The San Jose-Santa Clara Water Pollution Control Plant treats hundreds of millions of gallons of wastewater from millions of people every day using some of the most advanced treatment technologies available. Come and learn what it takes to make this interesting process happen through a slideshow and hands-on activities. A tour of the Water Pollution Control Plant is not included as a part of this program. RESERVATIONS RECOMMENDED – All Ages are welcome. Call Eric at 408-262-5513 ext. 104.

Welcome Back Swallows Tour

Visitor Center, Fremont

2:00 p.m. - 3:00 p.m.

The swallows have arrived from their long voyage from South America to their breeding grounds here in the Bay Area. Join Roy Sasai to view the Barn Swallows, their nests, and their habitat. Meet outside the Visitor Center to learn about this species' natural history and their habits. We will hike to spots on the refuge to view their unusual homes and their feeding grounds. Bring binoculars and camera. The hike is approximately 2 miles with medium hills.

Friday, May 25

Night Sky Party

Environmental Education Center, Alviso

8:00 p.m. – 10:00 p.m.

Meet the stars of Spring! Join our amateur astronomers as we learn about constellations. Make a star chart and then venture outside to view the night sky through a telescope. Afterwards, warm up with some hot chocolate. Bring your own binoculars or spotting scopes if you have them. Dress warmly, as it gets cold in the evening. Fun for the whole family! RESERVATIONS REQUIRED. Call Debra at 408-262-5513 ext. 102. Program cancels if heavy rain.

Saturday, May 26

Newark Slough Trail – 5.8 miles roundtrip

Visitor Center, Fremont

9:00 a.m.

Let's Go Outside!

Meet new people while getting fit and healthy! This is the 2nd walk featured in the Refuge Rambler club. This trail is compacted dirt, flat and level.

Spring Activity Schedule

The walk is self-paced and you may turn back at any time. You do not need to be a Refuge Rambler to join this walk. Go to <http://www.fws.gov/desbay> to learn more about the Refuge Rambler Club. No reservations are needed. Arefuge representative will be there to greet you. Hats, water, and sunscreen are strongly recommended.

Drawbridge Van Excursion

Environmental Education Center, Alviso

9:30 a.m. – 12:00 p.m.

There's a ghost town in the San Francisco Bay? That's right! Nestled on an island in the salt marshes of South San Francisco Bay, the town of Drawbridge once boomed. Was it a quiet, peaceful town full of nature lovers, or a rip-roaring town full of two-fisted rowdies? Led by Ceal Craig. Start with a slideshow, and then take a short van excursion to view Drawbridge across Coyote Creek. Program is intended for adults and space is very limited. RESERVATIONS ARE ESSENTIAL. Call Debra at 408-262-5513 ext. 102. (Note: we do not visit the town itself – we go to the closest spot that one can legally view Drawbridge.)

Levee Bike Tour

Alviso Marina County Park, Alviso

10:00 a.m. – 1:00 p.m.

Get a new perspective! Take a docent-led bicycle tour along the levees of the Don Edwards SF Bay Refuge. Learn about the Salt Pond Restoration Project and see Silicon Valley from a new angle. It's nature in the middle of it all! The trail is level and smooth, but unpaved, and it can be windy. The tour starts and ends at the Alviso Marina County Park. The pace is moderate with stops. Helmet is required for minors and water is highly recommended. Recommended for ages 14 and over.

Nature Drawing for Families and Adults

Environmental Education Center, Alviso

11:00 a.m. – 12:30 p.m.

Increase your confidence in drawing while exploring natural objects from the refuge and beyond. We will carefully observe all manner of cool objects and learn skills to translate these observations into realistic drawings. Appropriate for ages 8 to adult. Children, please bring an adult with you who would like to participate. Adults without children are welcome. Bring a sketch pad and pencil or use ours. All skill levels welcome. Led by Kathy Kleinsteiber. Call Debra at 408-262-5513 ext. 102 for reservations.

Sunday, May 27

Nature Yoga

Visitor Center, Fremont

10:00 a.m. – 11:30 a.m.

Enjoy the benefits of Yoga outdoors with great views of the salt marsh. Through story and postures, learn what attracted people and wildlife to the Bay. There will be a short hike to the site from the Visitor Center. Bring a yoga mat. A limited number of mats are available to borrow. Wear comfortable clothing. Consult with your doctor before participating. All ages and abilities welcome. Reservations are required. Rain cancels. Call 510-792-0222 ext. 363. Led by Carmen Minch.

*Trails are generally level. Surface and trail conditions vary. Please call for accessibility information.

Visitor Center, 2 Marshlands Road, Fremont – (510) 792-0222 ext. 363 • Environmental Education Center, 1751 Grand Blvd, Alviso – (408) 262-5513

Field Trips to the Refuge

General Education Program Information

We offer FREE field trip programs at two sites at the Don Edwards San Francisco Bay National Wildlife Refuge. Wetland Round-Up field trip programs are offered at our Headquarters in Fremont, and Wetland Round-Up and Slow the Flow field trips are offered at the Environmental Education Center in Alviso. These programs actively involve teachers, adult volunteers, and students in investigating the diverse habitats and wildlife at the refuge. The hands-on, small-group activities are designed to teach basic ecological concepts and to introduce endangered species, migratory birds, and wetland habitats to the students. All programs have been correlated to the appropriate State of California Education Standards.

Educators and adult leaders conduct their own field trips after attending a Field Trip Training. The trainings allow you to design and conduct your own field trip. In addition, adult volunteers must be recruited to lead the activities at the different learning stations and to chaperone the rotation groups of students. We provide easy to follow “scripts” for each station, but both “leaders” and “chaperones” are strongly encouraged to attend a Field Trip Workshop. New teachers must attend the New Teacher Training. In addition, it is our policy that lead educators must attend a workshop every third year. Location of activities and trail conditions may vary. Please call for accessibility information.

Field Trips at the Learning Center in Fremont

Wetland Round-Up

Explore the habitats of the refuge! Investigate the creatures of the mudflats, collect plankton from the slough, and taste the pickleweed from the salt marsh. This field trip is designed for grades K-6, for up to 65 students. Wetland Round-up will be offered Tuesday-Friday from March-Mid-June 2012. We are fully booked for Spring. Please contact us for further information

Contact the Environmental Education Staff at Fremont:

Office: (510) 792-0222 ext. 475

Cell: (510) 377-7269

E-mail: ee.hq.intern@gmail.com

Field Trip Orientation Dates at the Learning Center in Fremont

Thursday February 9, 4:00 p.m. – 7:30 p.m.

Tuesday March 6, 4:00 p.m. – 7:30 p.m.

Saturday March 24, 9:30 a.m. – 1:00 p.m.

Thursday April 6, 4:00 p.m. – 7:30 p.m.

Please call the Environmental Education Intern at (510)792-0222 ext. 475 to reserve your place and for further information.

Field Trips at the Environmental Education Center in Alviso

Wetland Round-Up

Investigate the butterflies in the butterfly garden, taste pickleweed in the salt marsh, or discover the creatures that live in the slough water on a Wetland Round-Up Field Trip. This field trip program is designed for up to 65 students in grades K-6.

Wetland Round-Up is offered Monday – Thursday from March-May, 2012. **Our field trip program is fully booked for spring. Please call the Environmental Education Intern at (408)262-5513 ext. 103 for more information.**

Field Trip Training and Orientation Workshop Dates at the Environmental Education Center in Alviso

Announcing our NEW Field Trip Training and Orientation Program! Please note the following changes. *Thank you to all the teachers and parents who have provided us feedback so we could restructure our training program to better serve you!*

New Teacher Field Trip Training

New teachers that have not yet attended a field trip orientation **must** attend one of the following **New Teacher Field Trip Trainings** listed below.

Monday February 6, 4:00 p.m. – 6:00 p.m.

Sunday April 29, 10:00 a.m. – 12:00 p.m.

Returning Teacher and Parent Workshop

Returning Teachers and Parents will be offered a separate Returning Teacher and Parent Workshop. **It is a requirement that returning teachers must attend one of these workshops once every three years.** We highly recommend that Parent Activity Leaders attend one of the following workshops. In addition, we **strongly encourage** returning teachers to attend the workshop with their parent volunteers.

Thursday February 16, 4:00 p.m. – 6:00 p.m.

Thursday March 29, 4:00 p.m. – 6:00 p.m.

Sunday April 29, 1:30 p.m. – 3:30 p.m.

For more information call the EE Staff at Alviso:

Office: 408-262-5513 ext. 100

Email: eec.refuge@hotmail.com

Slow the Flow Program

Slow the Flow provides an experiential learning environment for students and educators to explore the topics of water use, wastewater treatment, and habitat preservation. Activities and presentations focus on the relationship between personal habits and their effects on local habitats. Slow the Flow is an environmental education program offered **at no cost** through the cooperative efforts of the City of San Jose, U.S. Fish and Wildlife Service, and the San Francisco Bay Wildlife Society.

Slow the Flow Program Offerings:

Integrated Field Trip Program (5th – 12th grades): This program incorporates multiple activities. Participating classes will receive two full-length classroom presentations from Slow The Flow educators that includes hands-on activities and demonstrations, and a field trip to the Don Edwards Refuge. Upon special request, the field trip may be combined with a tour of the San Jose-Santa Clara Water Pollution Control Plant (when available). For the Integrated Program, participating classes must be from the following cities: San Jose, Alviso, Milpitas, Santa Clara, Saratoga, Monte Sereno, Los Gatos, Campbell, and Cupertino. There is a limit of 60 students per



field trip, and a 1:10 chaperone to student ratio is required.

Classroom Presentations (5th – 12th grades): Currently there are three classroom presentation activities available, *Watersheds and Wetlands*, *Mysteries of Wastewater Treatment*, and *Marsh Lab Study*. Each of these presentations takes approximately one hour. Please contact us for specific classroom presentation needs.

Field Trip and Guided Tours for other Schools, Colleges, Universities, and related organizations: General presentations and guided tours are available, and are 1.5 hours in length.

Educators are encouraged to contact us to discuss options for customizing field trips and classroom presentations. Reservations for the Slow the Flow program are on a first-come basis. For more information or to make a reservation, call Eric McKee, the Slow the Flow Program Coordinator, at 408-262-5513 ext. 104 or email at sfbay.slowtheflow@gmail.com.

PLEASE NOTE CONSTRUCTION AT THE ENVIRONMENTAL EDUCATION CENTER:

The salt ponds (A16 and A17) adjacent to the Environmental Education Center will be undergoing construction for the South Bay Salt Pond Restoration Project. Restoring A16 and A17 will create 130 acres of tidal marsh habitat and 240 acres of shallow water foraging habitat for migratory birds, including nesting islands. *Thank you for your patience during this exciting restoration project!*

Visit San Francisco Bay Wildlife Society at www.sfbws.com

TIDELINE

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Editor: Carmen Minch
To receive *Tideline*, email carmen_leong-minch@fws.gov, or write to: Tideline, San Francisco Bay National Wildlife Refuge Complex, 1 Marshlands Rd., Fremont, CA 94555

San Francisco Bay National Wildlife Refuge Complex

Administered by the U.S. Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge Complex exists to preserve wildlife habitat, protect threatened and endangered species, protect migratory birds, and provide opportunities for nature study. Seven refuges are managed from the headquarters in Fremont: Antioch Dunes NWR, Don Edwards San Francisco Bay NWR, Ellicott Slough NWR, Farallon NWR, Marin Islands NWR, Salinas River NWR, and San Pablo Bay NWR.

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Don Edwards Warm Springs Unit Manager: Ivette Loreda
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San Francisco Bay Wildlife Society

A nonprofit 501(c)(3) cooperating association established in 1987 to promote public awareness and appreciation of San Francisco Bay and fund education and outreach programs at San Francisco Bay National Wildlife Refuge Complex.

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Visit our web site, which features past issues of *Tideline*, at <http://www.fws.gov/desfbay>



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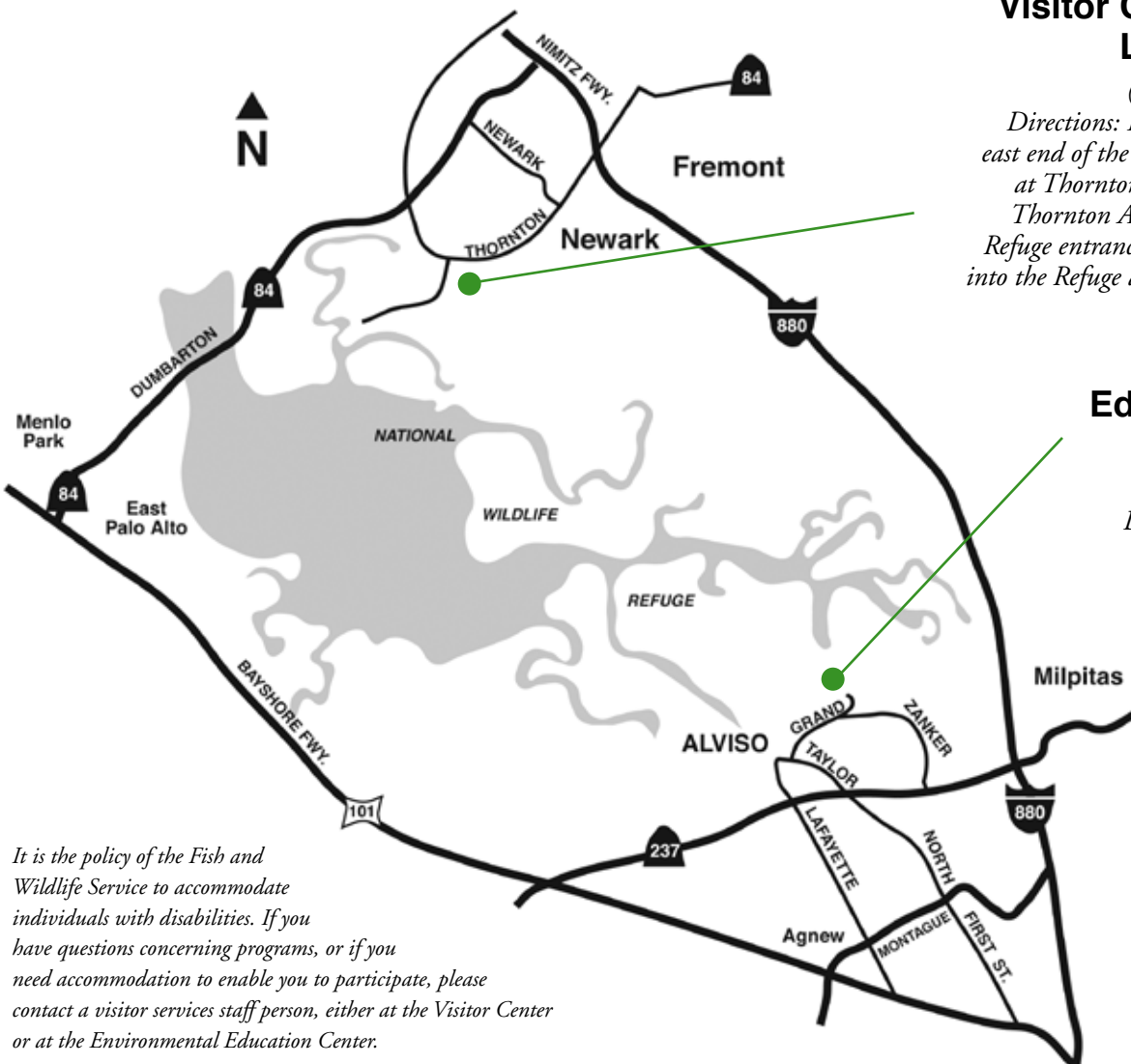
Tideline



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Don Edwards / Antioch Dunes / Ellicott Slough / Farallon Island / Marin Islands / Salinas River / San Pablo Bay



Visitor Center, Fremont Learning Center

(510) 792-0222 ext. 363
Directions: From Highway 84 (at the east end of the Dumbarton Bridge), exit at Thornton Avenue. Travel south on Thornton Avenue for 0.8 miles to the Refuge entrance on the right. Turn right into the Refuge and follow the signs to the Visitor Center.

Environmental Education Center, Alviso

(408) 262-5513
Directions: From I-880 or Highway 101, exit on Highway 237 toward Mountain View/Alviso. Turn north onto Zanker Road. Continue on Zanker Road to the Environmental Education Center entrance road (a sharp right turn at Grand Blvd.) The distance from 237 to the entrance road is 2.1 miles.

It is the policy of the Fish and Wildlife Service to accommodate individuals with disabilities. If you have questions concerning programs, or if you need accommodation to enable you to participate, please contact a visitor services staff person, either at the Visitor Center or at the Environmental Education Center.