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Tideline



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

100 Years of the Farallon National Wildlife Refuge

By Zach Coffman

February marks the 100th anniversary of the Farallon National Wildlife Refuge. The refuge was created by President Theodore Roosevelt with an executive order that designated North and Middle Farallon Islands and Noonday Rock as the Farallon Reservation, establishing a “preserve and breeding ground for native birds.” In 1969, the Reservation became known as Farallon National Wildlife Refuge and expanded protection to include Southeast Farallon Island (SEFI).

As the only inhabitable island among a cluster of rocky outcrops, SEFI once supported a Coast Guard Station. Most of the former dwellings and outbuildings that were constructed over the last hundred years have been removed and only the bare essentials of a field camp remain for refuge use. Management of the islands is now focused on preservation and restoration, whilst also serving as an invaluable resource for data collection and research. It is a place where nature is paramount, unrestricted and raw. It is sometimes hard to comprehend that the islands are only 27 miles west of San Francisco and still within the city limits.

“Farallon” is the Spanish word for “a rocky promontory rising from the ocean.” Today, the Farallones are commonly referred to as the Galapagos of California. They are abundant with life! The islands support the largest seabird breeding colony south of Alaska. They are home to 350,000 seabirds and roughly 30,000 marine mammals.

Twenty-nine percent of California’s breeding seabirds breed on the Farallones. They include the world’s largest breeding colonies of ashy storm-petrel, Brandt’s cormorant, and Western gulls. Other seabird species that nest on the refuge are tufted puffin, common murre, pigeon guillemot, double-crested and pelagic cormorants, Cassin’s and rhinoceros auklets, Leach’s storm petrel, and black oystercatcher.

The proximity of the Farallones to the mainland provided humans with easy access and its ecological bounty was reaped. The islands, though rugged and seemingly indestructible, suffered greatly at the hands of man. It is well-documented not just in the history books but also in the soil, the plants and animals that live on the Farallones.

It is speculated that the first visitors to the islands were the sea-faring Native Americans of more northerly groups. The local Costanoan and Coast Miwok Indians, sometimes referred collectively as the Ohlone, had great reverence for the Farallones. They called them the “Islands of the Dead” and believed the spirit of the deceased traveled there. Although it



California sea lions.

Photo: USFWS, Zach Coffman

is generally accepted that these local Native Americans did not go to the islands, it is unclear whether this is due to the islands’ spiritual significance or due to the lack of adequate sea worthy boats.

Sir Francis Drake is recognized as the first European to visit and named them

continued next page

the “Islands of Saint James.” On August 3, 1579, work parties were sent ashore to the south island, where they replenished the ships’ stores with seal and sea lion meat.

The Spanish captain Sebastian Rodriquez Cermeno, on a return voyage from the Philippines, was given the directive to survey and map the coast of California. After crashing off the coast of Punta de los Reyes (Point Reyes), his crew continued towards Acapulco in nothing more than a small open launch. As they headed south, they mapped the Farallon Islands for the first time. They noted that there were “seven Farallones close together.” Though the Spanish captains knew of the Farallones it was believed that they never set foot there. The following 200 years left the islands relatively untouched. It was not until the proliferation of fur traders that degradation of the islands began.

Fur seals are medium-sized marine mammals, with males growing up to 600 pounds and females topping out at 110 pounds. Fur seals became highly coveted for their warm, dense fur, which has 300,000 hairs per square inch. A captain and a small group of Boston-based whalers established a post on SEFI and subsequently slaughtered 150,000 fur seals between 1810 and 1813, extirpating the vast majority of the population.

Russian hunters then occupied SEFI for the next 25 years and wiped out the remaining fur seals. Members of the Russian contingent lived in rock huts with skin roofs near the present day East Landing. It is believed that during this time the population of people living on the island varied greatly, anywhere from 100 to just seven. Life was hard on the island. Supplies were infrequent and often meager. As a result the Russians harvested common murre eggs and killed thousands of them for their feathers and meat. In 1840 the Russian government decided to leave California and the Russian occupation on the Farallones ceased.

The Islands did not remain quiet for long. In 1848, with the discovery of gold in the Sierra Nevadas, San Francisco became a booming port overnight. The coastal waters filled quickly with boats full of gold seekers, and as a result Congress authorized the construction of 16 lighthouses along the coast, including one on the Farallones. The construction of the lighthouse on SEFI became a monumental feat, as it would stand atop the 348-foot peak. Most of the materials were quarried on the island and a brick facing was used to cover the rocks. By

August 1853 the lighthouse and the keepers’ quarters were completed. The finishing touch to the lighthouse was a special Fresnel lens arriving from France. Unfortunately, the lighthouse that had been specifically designed to fit around the lens was too small and the entire structure had to be torn down and rebuilt. By the end of the following year a new structure was built in its place and the lighthouse was operational.

While construction was occurring on

missions. The importance of the weather and radio stations increased, as did the level of involvement that the Navy had on the islands. In addition to the Navy, the newly-created Lighthouse Service, which had full responsibility of maintaining and manning the lighthouse, also had staff on the SEFI. During this time many buildings were constructed and the island population grew significantly. The Lighthouse Service remained on the island until it was dis-



Southeast Farallon Island

Photo: USFWS, Zach Coffman

the SEFI, life on the mainland was booming. The gold rush was bringing tens of thousands of new people to San Francisco and as a result food shortages occurred. People turned to common murre eggs to supplement their diets. This egg collection took place until 1881 and decimated the murre population. It was estimated that 400,000 common murres once bred on the Farallon Islands. By the time this practice ended, just a fraction of the population remained.

Activity on SEFI was relatively quiet after 1881 - just the lighthouse keepers and a few support staff remained. This continued until 1902 when the United States Weather Bureau laid a cable from the islands to Point Reyes. The cable was plagued with problems. It was abandoned the following year when the Weather Service unveiled a new long range radio that would transmit back to the mainland. This too was short lived as the U.S. Navy soon took over control of the Weather Service equipment and the radio.

By 1905 the Navy had built its own station, which became a highly important and strategic center for long range trans-

banded in 1939.

The U.S. Coast Guard took over maintaining the lighthouse facilities. The Coast Guard and the Navy brought the island population to a high of 78 during World War II in 1942. When the war ended and the Navy departed, many of the old, unused buildings were torn down. The Coast Guard remained on SEFI until 1965 when the families moved away from the island and crew size was reduced to just six.

A monumental change occurred on the islands and on the mainland in 1967. Environmental awareness was increasing and ecological significance of the islands became apparent. With awareness came the need for environmental stewardship. Biologists from Point Reyes Bird Observatory (now known as PRBO Conservation Science) became permanent residents on SEFI to research and monitor the wildlife.

When the Farallon Reservation became known as the Farallon National Wildlife Refuge in 1969, U.S. Fish and Wildlife (Service) joined the Coast Guard in managing the islands. In addition, a formal agreement was established between PRBO

and the refuge for PRBO to continue its research.

The Service and PRBO developed several priorities to restore the Farallones. One of the first priorities was to reduce disturbance and foster the islands to return to a more natural state. By 1969 wildlife population numbers were dismal. Common murre, for example, were down to 6000 birds. Years of unrestricted egg collecting, senseless shooting of animals and countless oil spills had devastated the wildlife.

Another priority was to educate the local fisherman and Coast Guard personnel still living on the island on how their actions can affect wildlife and its habitat. Education, reduction of human disturbance, and increased enforcement helped some wildlife populations rebound slowly.

Today the Farallones once again abound with life. Fur seals that had been extirpated are returning to the islands. Male fur seals began to arrive 30 years ago and in 1996, the first pups were born on the islands. Since then the population increased



Pigeon Guillemot Photo: USFWS, Zach Coffman

and in 2008, scientists surveyed 190 seals, including 97 pups.

The common murre, whose breeding colonies had been decimated, have returned with approximate numbers of 150,000 on the refuge. Western gulls, another species that had for many years been the brunt of needless attacks and senseless killing are back at historic numbers. Other species,

such as auklets and sea lions, have also recovered. California sea lion populations have increased so dramatically in the last year that portions of the island were closed to all biologists and refuge personnel to foster this amazing growth.

For those researchers living on the island, life on the Farallones is a balancing act; how does one study a species in sensitive habitat without creating more harm to the habitat or the animal? The handful of researchers and managers who cycle through the island during the year are constantly reminded that they are simply visitors who must walk with utmost care to promote the recovery of this truly amazing place.

Zach Coffman is the Farallon National Wildlife Refuge Wildlife Specialist. He has been working for U.S. Fish and Wildlife Service for two years. He has a B.S. in Wildlife Biology and Conservation Ecology from Humboldt State University.

Working Together Toward a Common Goal

Partnership is the key to the success of all grand endeavors. In December 2008, the City of Redwood City hosted an event that highlighted the kickoff for the restoration of Bair Island, a unit of the Don Edwards San Francisco Bay National Wildlife Refuge in Redwood City. The event underscored how local, state, federal, and nonprofit agencies, along with individuals, can come together to help protect the environment.

Bair Island, once a tidal salt marsh, was diked and drained for agriculture and salt production in the mid to late 1800s. The island, separated by sloughs into three parts known as Inner, Middle and Outer Bair Island, was added to Don Edwards Refuge in the late 90s. Over time, wind and waves breached some of the levees, thus restoring tidal flow to half of the island. The remainder, about 1400 acres, requires engineered construction to help speed the restoration and to avoid potential impacts to adjacent landowners.

Subsidence caused by groundwater withdrawal and destruction of the marsh requires us to raise the elevation of Inner Bair Island so that marsh plants can re-colonize quicker, speeding up the restoration process. Over a million cubic yards of dirt is needed to accomplish this. The Bair Island Task

Force, made up of the Port of Redwood City, the City of Redwood City, U.S. Army Corps of Engineers, State agencies, private organizations, and individuals, found a way to make it possible. Why not use the sediment the Port of Redwood City dredges

Inner Bair Island, work is underway to breach areas of Outer Bair Island to restore tidal flow. This phase of the project, being implemented with the help of Ducks Unlimited, will reconnect 460 acres of diked former marshland to the bay. Once



Refuge Reflections

by Mendel Stewart

up when it maintains its shipping channels? Almost 200,000 cubic yards of fill from the dredge operation have been pumped onto the refuge. This bay sediment, once barged many miles to be discarded in deep areas of San Francisco Bay or the open ocean, is now being reused to help with the restoration.

To ensure the public's safety, it has been necessary to keep Inner Bair Island closed to all public use. The dredge contractor is working around the clock to complete the project. In coming years, additional fill will be trucked onto the refuge, further necessitating closure of the area until it is complete.

In addition to the fill operation on

complete, the Bair Island Unit of the refuge will provide not only abundant salt marsh habitat for several endangered and threatened species but will also include improved wildlife-oriented recreational opportunities in the form of hiking trails, observation platforms and interpretative exhibits. Restoration of Bair Island will benefit the estuary and reconnect the public to one of the world's most important bays.

To find out more, please visit http://www.fws.gov/desfbay/Bair_Intro.htm to learn more about the Bair Island Project or <http://southbayrestoration.org/> about the South Bay Salt Pond Restoration Project.

New Film Explores Farallon Refuge's Human History and Conservation Future



Navy radiomen and light keepers cooperate in moving supplies on Southeast Farallon Island, 1926.

Courtesy San Francisco Public Library



Cormorants and common murrelets on rock.

USFWS, Zach Coffman

The nonprofit Oceanic Society and the U.S. Fish and Wildlife Service announced the release of *The Farallon Islands, Past Present and Future*, a 30-minute film that provides an intimate, behind-the-scenes glimpse of the Farallon Islands and the Farallon National Wildlife Refuge, a remote wilderness refuge located 27 miles off San Francisco's coast.

"Even San Franciscans are mostly unaware of this wilderness teeming with wildlife just off their coast," said Birgit Winning, Executive Director of the Oceanic Society, which pioneered educational excursions to the Farallon Islands to raise awareness of this important and sensitive wildlife refuge and marine sanctuary. "The Farallones have a rich natural history and a fascinating human history dating back 400 years. Since the refuge is not open to the public and not everyone is prepared for eight hours at sea to cruise around the islands, this film opens a window to the world of the Farallones."

The film, which is available as a DVD, takes a close look at the islands' natural and human history, as well as threats to the islands and the ongoing conservation, research and restoration efforts, among other topics. It also highlights the important work of PRBO Conservation Science (PRBO) and the U.S. Fish and Wildlife

Service. "The Farallon Islands are so rich in wildlife, they are rightly called California's Galapagos," said PRBO biologist Russell Bradley.

The islands' interesting human history covers occupation from Russian seal hunters, to eggers, Lighthouse Service, U.S. Navy and U.S. Coast Guard. The film documents a 2008 visit to the islands by Linda Murray, who last set foot on Southeast Farallon Island in 1953 when she was eight years old and her father was stationed there with the Coast Guard. The film documents her return with her parents Lucky and Dell Jackson who share their impressions and provide a personal perspective of the place and its history.

"This special film brings the history and nature of the Farallon National Wildlife Refuge to the millions of Bay Area residents and others who want to know more about this jewel of the Pacific," said Gerry McChesney, acting Refuge Manager of the Farallon NWR.

The Farallon National Wildlife Refuge, managed by the U.S. Fish and Wildlife Service, supports the largest seabird rookery in the lower 48 states. The refuge is home to 12 nesting species including common murrelets, Cassin's auklets, tufted puffins, Western gulls, cormorants and others.

Island beaches are covered with California sea lions, northern elephant seals, harbor seals, fur seals and the threatened Steller sea lion. The waters surrounding the islands – known as the Gulf of the Farallones – are part of the California Current System, one of the four most productive marine ecosystems on the planet. Nutrient-rich Gulf waters not only sustain huge populations of seabirds and pinnipeds, they support some of the largest feeding populations of endangered humpback and blue whales in the world. The Farallon Islands are the centerpiece of the Gulf of the Farallones National Marine Sanctuary-1,255 square miles of federally protected ocean just beyond San Francisco's Golden Gate.

Produced for the Oceanic Society in cooperation with the U.S. Fish and Wildlife Service by award-winning Earthviews Productions, the DVD sells for \$15 plus \$2 for shipping. Proceeds will benefit the research and conservation work of the nonprofit Oceanic Society or U.S. Fish and Wildlife Service cooperators. The San Francisco Bay Wildlife Society offers the DVD for sale at the Don Edwards San Francisco Bay National Wildlife Refuge in Newark.

SOUTH BAY BIRD FEST

**Fly by Saturday, May 2nd
12 p.m. to 3 p.m.**



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

***Where San Jose
meets the Bay!***

**All activities
are FREE!**

**Face Painting
Crafts
Hands-On Activities
Story Time
Guided Bird Walks**

**Visit our website for directions
and more information
at <http://www.fws.gov/desfbay/>
or call (408) 262-5513.**

*South Bay Bird Fest is sponsored by: City of San Jose,
San Francisco Bay Wildlife Society, Santa Clara Valley
Urban Runoff Pollution Prevention Program, and US Fish
& Wildlife Service*

Let's Go Outside! Be a Refuge Rambler!

The Don Edwards San Francisco Bay National Wildlife Refuge enters its second season of the Refuge Rambler club. This walking club is a fun way to explore the refuge, meet new people, and to become physically healthier. One to two times 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. New this year is a walk in an area that is normally closed to the public!

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.

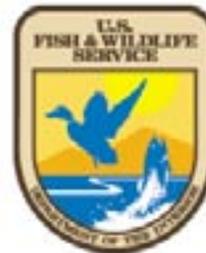
Becoming a Refuge Rambler is easy and free. You are under no obligation. Complete the registration form below, or download the form on the refuge web site at <http://www.fws.gov/desfbay>. Mail it to Carmen Minch, 9500 Thornton Ave, Newark, CA 94560. In a couple of weeks, you will receive a Refuge Rambler patch, a trail passport, a schedule, and a description of the trails featured for 2009.

The trail passport helps keep track of all the trails you completed. The Refuge staff/volunteer will place a sticker in your passport for each trail walk you attend. 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 Contact Station on October 10 after the last scheduled



walk and receive your 2009 T-shirt. Or, you can mail your passport to the refuge by October 31, 2009 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, 9500 Thornton Ave, Newark, CA 94560

Name: _____

Address: _____

Phone Number: _____

Email Address: _____

Thank you San Francisco Bay Wildlife Society Donors!

We gratefully acknowledge the following donors who have made gifts to the San Francisco Bay Wildlife Society between October 11, 2008 and January 16, 2009. These gifts will be used for capital, environmental education, habitat restoration, and interpretive programs at the Don Edwards San Francisco Bay National Wildlife Refuge.

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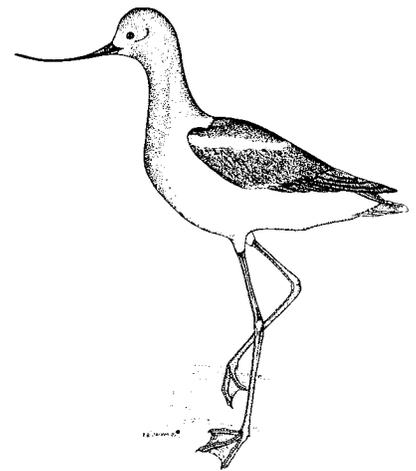
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Help Us Help the Refuge

Mail your donation to: **San Francisco Bay Wildlife Society, P.O. Box 234, Newark, CA 94560.** You may also fax your membership donation using a Visa or MasterCard number to 510-792-5828.

For a gift membership, call 510-794-8170.

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:

- | | | | | |
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| <input type="checkbox"/> \$20 Student/Senior | <input type="checkbox"/> \$50 Family | <input type="checkbox"/> \$100 Participant | <input type="checkbox"/> \$250 Sponsor | <input type="checkbox"/> \$1,000 Leader |
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Don Edwards San Francisco Bay National Wildlife Refuge
Ravenswood Point, East Palo Alto



Earth Day Cleanup

Saturday, April 18, 2009
8:30 a.m. - 11:30 a.m.

Help us protect wildlife and the environment while enjoying great Bay views!
Join us on 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 work hard and get dirty!

RESERVATIONS REQUIRED! Call 408-262-5513 x106 to sign up.
Minors must be accompanied by an adult. Space is limited to 50 people.



Our Visitor Center Has Moved!

To provide easier access and information about the refuge, the Visitor Center on top of the hill has moved temporarily to the lower parking lot overlooking LaRiviere Marsh. This long-term, temporary Visitor Contact Station will serve as the gathering area for our Fremont weekend programs until funds are available to construct a new Visitor Center.

Contact the refuge at 510-745-8695 for additional information.

Spring Activity Schedule

March

Saturday, March 7

Webelos Naturalist Program

NEW Visitor Contact Station, 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. Space is limited to 15 Webelos. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Call 510-745-8695. Led by June Smith.

Community Service

Environmental Education Center, Alviso

10:30 a.m. – 12:30 p.m.

Do you need to fulfill community service requirements, or would you just like to lend a hand? Volunteer in our native plant garden by pruning, mulching, removing non-native plants, or various other jobs that help protect wildlife. Great for scout groups, high school students needing community service hours, church groups, or home-schooled groups. Bring gloves or borrow a pair of ours. Tools provided. Dress in layers and bring water. Be prepared to get dirty and wet. Ages 9 and up. Participants under 18 must be accompanied by a chaperone. RESERVATIONS REQUIRED. Call Lindy at 408-262-5513 ext. 102.

Sunday, March 8

*Where Does All the Water Go?

Environmental Education Center, Alviso

10:30 a.m. – 12:00 p.m.

Are you curious about where wastewater goes after we flush, rinse, wash, and shower? Come enjoy a presentation about how the San Jose/Santa Clara Water Pollution Control Plant cleans wastewater. After the presentation there will be a short tour that will get participants up close with wastewater and the refuge habitats involved. Appropriate for ages 10 and up. RESERVATIONS REQUIRED. Call 408-262-5513 ext. 104.

Friday, March 13

*Night Sky Party!

Environmental Education Center, Alviso

7:30 p.m. - 9:00 p.m.

Meet the stars of spring! Join amateur astronomer Bob Havner and friends 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! Program will go sprinkling rain or shine. Program will be canceled only if it is pouring rain. RESERVATIONS REQUIRED. Call Lindy at 408-262-5513 ext 102.

Saturday, March 14

Beginning Birding Clinic

Environmental Education Center, Alviso

9:00 a.m. – 11:30 a.m.

If you can't tell your egrets from your cormorants this class is for you! We'll learn about binoculars, identification books, and other birding basics through hands-on activities and conversation. Then we'll go out into the field to practice our new skills. Binoculars and books provided during the class, but if you have your own please bring them. Be prepared to be outdoors in the weather for about an hour. RESERVATIONS REQUIRED. Call Jennifer at 408-262-5513 ext.106.

Exploring the Dunes

Antioch Dunes NWR, Antioch

10:00 a.m. – 11:00 a.m.

Did you know there's a National Wildlife Refuge in Antioch? Here's your chance to explore this refuge that is usually closed to the public. This guided tour (1-1.5 mile) will focus on the wonders of Antioch Dunes National Wildlife Refuge. Wear sturdy shoes for the sandy hike along the dunes. All ages welcome. No reservations required. No facilities. Contact 510-521-9624 for additional information and directions.

Twilight Marsh Walk

NEW Visitor Contact Station, Fremont

5:30 p.m. – 7:00 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. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Not suitable for young children. RESERVATIONS REQUIRED. Call 510-745-8695. Led by Mary and Gene Bobik.

Saturday, March 21

*Marshlands of Dreams

NEW Visitor Contact Station, Fremont

9:30 a.m. – 10:30 a.m.

Join a refuge ranger 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. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Led by Paul Mueller.

*Monster Bacteria and Other Suspicious Critters

Environmental Education Center, Alviso

10:30 a.m. – 12:30 p.m.

Come explore the salt marsh's hidden inhabitants. See monster bacteria, some of whom love rotten eggs. Join Microbial biologist Wayne Lanier for a short hike where we will use field microscopes to dive down into a tiny world; an ecology hidden from view. Don't miss this unique opportunity to see the marsh closer than you ever have before! Dress warmly. Ages 8 to 80 years. Space is limited so don't hesitate to make your reservation. RESERVATIONS REQUIRED. Call Lindy at 408-262-5513 ext. 102.

*Seasons and Weather

Environmental Education Center, Alviso

1:30 p.m. – 3:00 p.m.

Why is it summer in California when it's winter in Argentina? Find out the answer to this question and learn how weather can affect people and wildlife. Build your own backyard weather station. Suitable for ages 7 and up. Led by Ed Kantack. RESERVATIONS REQUIRED. Call Lindy at 408-262-5513 ext 102.

*Family Bird Walk

NEW Visitor Contact Station, Fremont

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

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. Meet at the new visitor contact station located by the first parking lot to the right after on Marshlands Road. Recommended for children ages 5-10. RESERVATIONS REQUIRED. Call 510-745-8695.

Sunday, March 22

*Habitat Hike

Environmental Education Center, Alviso

1:30 p.m. – 3:00 p.m.

Do you enjoy exploring nature? Do you find yourself curious about where mice sleep or how birds stay dry in the rain? If so, then come take a walk and explore the habitats at the refuge. Along the way we will learn about wetland and upland habitats that have been human-altered. We will observe and identify plants, birds, and any other animals we see on this short and easy trek. Recommended for all ages. Reservations required. Call 408-262-5513 ext.104.

Tidelands Trail Walk

NEW Visitor Contact Station, Fremont

3:00 p.m. – 4:30 p.m.

Explore the Tidelands Trail with a naturalist and learn about the plants and animals that thrive in the salt marshes and uplands. Reservations are required. Call 510-745-8695. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Led by Mansur Nur.

Sunday, March 29

A Taste of the Refuge

NEW Visitor Contact Station, 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. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Led by Carmen Minch.



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

Visitor Center, 1 Marshlands Road, Fremont – (510) 745-8695 • Environmental Education Center, 1751 Grand Blvd, Alviso – (408) 262-5513

April

Saturday, April 4

Coyote Creek Lagoon Trail – 5 miles

Meet at the Trailhead in Fremont. Directions below. 9:00 a.m.

Let's Go Outside!

Meet new people while getting fit and healthy! This is the first walk featured in the Refuge Rambler club. This trail at Coyote Creek Lagoon is five miles, flat, and level. The walk is self-paced and you may turn back at anytime. Hats, water, and sunscreen are strongly recommended. You do not need to be a Refuge Rambler to join this walk. To become a Refuge Rambler, see page 7. No reservations are needed. Refuge staff will be there to greet you at 9 a.m. For a narrative description of this trail, log on to the Don Edwards web site at <http://www.fws.gov/desfbay>. Directions: From Hwy 880, take the South Fremont Blvd/Cushing Pkwy exit. Drive south on Fremont Blvd on the west side of Hwy 880 until it dead ends. Meet at the parking lot on the right adjacent to 48481 Fremont Blvd.

Alviso Salt Pond Birding Tour

**Environmental Education Center, Alviso
8:00 a.m. – 12:00 p.m.**

Sign up early for this rare opportunity to explore and bird the remote salt ponds of the refuge. Led by Refuge Biologist Cheryl Strong, the group will travel to areas "behind the gates," ponds little visited by the public. We plan to be out during high tide to see what shorebirds and other spring migrants we can find. This trip will include travel by van and by foot. Participants need to be prepared to walk up to 2.5 miles on unpaved, possibly muddy, levees. Space is limited and RESERVATIONS ARE ESSENTIAL. Call Jennifer at 408-262-5513 ext. 106.

*Marshlands of Dreams

**NEW Visitor Contact Station, Fremont
11:00 a.m. – 12:00 p.m.**

Join a refuge ranger 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. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Led by Paul Mueller.

Community Service

**Environmental Education Center, Alviso
10:30 a.m. – 12:30 p.m.**

Do you need to fulfill community service requirements, or would you just like to lend a hand? Volunteer in our native plant garden by pruning, mulching, removing non-native plants, or various other jobs that help protect wildlife. Great for scout groups, high school students needing community service hours, church groups, or home-schooled groups. Bring gloves or borrow a pair of ours. Tools provided. Dress in layers and bring water. Be prepared to get dirty and wet. Ages 9 and up. Participants under 18 must be accompanied by a chaperone. RESERVATIONS REQUIRED. Call Lindy at 408-262-5513 ext. 102.

Sunday, April 5

*Salinity Sleuths

**Environmental Education Center, Alviso
10:30 a.m. – 12:00 p.m.**

Step into the shoes of a scientist and strap on our field detective packs for a hands-on investigation where we will collect water samples, use plant clues, and do some sleuthing around to uncover how salty the water is. You will need to bring along keen senses of taste, smell and sight to determine which plants and animals live in the refuge's salty habitats! Recommended for ages 6 and up. RESERVATIONS REQUIRED. Call 408-262-5513 ext. 104.

Saturday, April 11

Exploring the Dunes

**Antioch Dunes NWR, Antioch
10:00 a.m. – 11:00 a.m.**

Did you know there's a National Wildlife Refuge in Antioch? Here's your chance to explore this refuge that is usually closed to the public. This guided tour (1-1.5 mile) will focus on the wonders of Antioch Dunes National Wildlife Refuge. Wear sturdy shoes for the sandy hike along the dunes. All ages welcome. No reservations required. No facilities. Contact 510-521-9624 for additional information and directions.

Webelos Naturalist Program

**NEW Visitor Contact Station, 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. Space is limited to 15 Webelos. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Call 510-745-8695. Led by June Smith.

Oliver Salt Works Hike

**Eden Landing Ecological Reserve, Hayward
1:30 p.m. – 4:00 p.m.**

The refuge and the South Bay Salt Pond Restoration Project are sponsoring this hike to the old Oliver Salt Works within the Eden Landing Ecological Reserve. Ellen Johnck will lead the group back in time to learn about early attempts to mine the Bay's "gold" – salt! We'll be walking into an area of the Reserve not yet open to the public so please be prepared to walk several miles on unimproved levees. For more information and to make reservations, call Jennifer at 408-262-5513 ext.106.

Sunday, April 12

A Taste of the Refuge

**NEW Visitor Contact Station, 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. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Led by Carmen Minch.

*Avian Antics

**Environmental Education Center, Alviso
1:00 p.m. – 3:00 p.m.**

Join us at the refuge as we explore the trails and search for

Spring Activity Schedule

signs of bird life. Learn some bird trivia along the way, like why some birds eat their own feathers, how birds protect their eggs, and which refuge birds mate for life. Bring your own binoculars, or borrow one of ours. This is a quiet walk so the birds don't fly away. Recommended for all ages. RESERVATIONS REQUIRED, call 408-262-5513 ext. 104.

Saturday, April 18

Earth Day Cleanup

**Ravenswood Point, East Palo Alto
8:30 a.m. – 11:30 a.m.**

Join us for our annual Earth Day Cleanup and help protect wildlife. This year, it will be held on the west side of the Dumbarton Bridge in East Palo Alto. Bring a hat, sunscreen, and water. We'll supply gloves and trash bags. Be prepared to get dirty! RESERVATIONS ARE REQUIRED. Space is limited to the first 50 people. Minors must be accompanied by an adult. To reserve, call 408-262-5513 ext.106.

Earth Day Community Service

**Environmental Education Center, Alviso
10:30 a.m. – 12:30 p.m.**

Find out what you can do at home to take care of our planet. Come lend a hand in our chemical-free native plant garden by removing non-native plants, pruning, mulching, or various other jobs that help protect wildlife and clean up our gardens. Great service project for scout groups, high school students needing community service hours, church groups, or home-schooled groups. Bring your own gloves or borrow a pair of ours. Tools provided. Dress in layers and bring water. Be prepared to get dirty and wet. Ages 9 and up. Participants under 18 must be accompanied by a chaperone. RESERVATIONS REQUIRED. Call Lindy at 408-262-5513 ext. 102.

*Habitat Exploration

**Environmental Education Center, Alviso
1:30 p.m. – 3:00 p.m.**

It's springtime! Join us for a leisurely walk around the refuge. We will look for seasonal changes in some habitats. We may be able to catch a glimpse of young animals during our walk. Bring your camera and binoculars if you have them. A limited number of binoculars are available to borrow. Great program for scout groups. Open to all ages. Led by Ed Kantack. RESERVATIONS REQUIRED. Call Lindy at 408-262-5513 ext. 102.

Twilight Marsh Walk

**NEW Visitor Contact Station, 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. Meet at the new visitor contact station located

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

Visitor Center, 1 Marshlands Road, Fremont – (510) 745-0695 • Environmental Education Center, 1751 Grand Blvd, Alviso – (408) 262-5513

Spring Activity Schedule

by the first parking lot to the right on Marshlands Road. Not suitable for young children. RESERVATIONS REQUIRED. Call 510-745-8695. Led by Mary and Gene Bobik.

Sunday, April 19

Medicinal Plant Walk

NEW Visitor Contact Station, Fremont
1:00 p.m. – 2:30 p.m.

Join a naturalist and learn the medicinal properties of plants commonly found on the Don Edwards San Francisco Bay National Wildlife Refuge. Find out how these plants can be used to make home remedies for colds, coughs, indigestion and much more. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Reservations Required. Call 510-745-8695. Led by Elana Garfinkle.

Saturday, April 25

Bike Tour

Environmental Education Center, Alviso
10:00 a.m. – 12:00 p.m.

The salt ponds of the South Bay are undergoing an amazing transformation! Journey by bike out into this unique landscape and discover the rebirth of the Bay's edge through wetland restoration. Salt Ponds A16 and A17 will play a starring role in this leisurely 5.5-mile tour of the South Bay Salt Pond Restoration Project. We'll also have plenty of opportunities to look for our feathered visitors stopping by on their way north for the summer. Helmets are required and knobby tires strongly encouraged. Recommended for ages 8 and over. RSVP by calling Jennifer at 408-262-5513 ext. 106.

*Discover Ohlone Uses of Plants

Environmental Education Center, Alviso
1:30 p.m. - 3:00 p.m.

Do you want to learn more about the Ohlone Indians? Then this is the program for you. Explore the plants that were traditionally used by the original inhabitants of this area, the Ohlone Indians. Then enjoy a guided walk in our native plant garden. Recommended for ages 7 and up. Led by teacher/librarian Pat Hartinger. Reservations required. Call Lindy at 408-262-5513 ext. 102

*Beginning Bird

Photography Workshop

Environmental Education Center, Alviso
3:00 p.m. – 5:00 p.m.

Come learn the basics in bird photography! This beginning bird photography workshop will help you get the most out of your point-and-shoot camera. We will discuss ideal sighting and photo-taking conditions, lighting, composition, and equipment. We will also have a slide show to familiarize you with some common birds at the refuge. Our discussion will be followed

by an easy, late afternoon walk to several locations where we will spot birds and stop to take photos. Please be sure to bring your binoculars and/or digital or film camera, warm clothing, and a comfortable pair of walking shoes. Space is very limited. Ages 14 and up. RESERVATIONS REQUIRED. Call Lindy at 408-262-5513 ext. 102.

*Family Bird Walk

NEW Visitor Contact Station, Fremont
2:30 p.m. - 4:30 p.m.

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. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Recommended for children ages 5-10. RESERVATIONS REQUIRED. Call 510-745-8695.

Sunday, April 26

*Habitat Hike

Environmental Education Center, Alviso
10:00 a.m. – 11:30 a.m.

Do you enjoy exploring nature? Do you find yourself curious about where mice sleep or how birds stay dry in the rain? If so, then come take a walk and explore the habitats at the refuge. Along the way we will learn about wetland and upland habitats that have been human-altered. We will observe and identify plants, birds, and any other animals we see on this short and easy trek. Recommended for all ages. Reservations required. Call 408-262-5513 ext.104.

*Adult Beginning Birdwatching

Environmental Education Center, Alviso
10:00 a.m. – 11:30 a.m.

Can you tell an avocet from a black-necked stilt? If not, join birding enthusiast Ceal Craig for a beginning bird watching program and get to know the most common refuge visitors. Start with a slideshow inside to learn how to recognize the regulars, then borrow a pair of binoculars and take a walk with Ceal to try your new skills. Program intended for adults. RESERVATIONS REQUIRED. Call Lindy at 408-262-5513 ext. 102.

*Drawbridge Slideshow

Environmental Education Center, Alviso
1:00 p.m. – 2:00 p.m.

There's a ghost town in 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? Enjoy a slide show program presented by Ceal Craig. Note: There is no driving tour in this program. RESERVATIONS ARE REQUIRED. Call Lindy at 408-262-5513 ext. 102.

Salt Marsh Safari

NEW Visitor Contact Station
3:00 p.m. – 4:30 p.m.

How can anything survive in a salty, gooey place that gets flooded twice a day? Come along on this short nature walk and discover the answer! Reservations are required. Call 510-745-8695. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Led by Mansur Nur.

May

Saturday, May 2

*South Bay Bird Fest!

Environmental Education Center, Alviso
12:00 p.m. – 3:00 p.m.

Join us for a day of exploration celebrating 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. Don't miss this annual feather-filled fiesta! Everything is FREE. Fun for the whole family and great for scout groups. No reservations necessary. Visit our website for directions. For more information contact Lindy at 408-262-5513 ext. 102 or Eric at ext. 104.

Saturday, May 9

Cruisin' Towards Restoration

Environmental Education Center, Alviso
9:30 a.m. – 12:00 p.m.

Now that the rainy season is over, we can once again offer this popular van tour of the refuge. The salt ponds of the South Bay are undergoing an amazing transformation. We'll journey by van out into this unique landscape to discover the rebirth of the Bay's edge through wetlands restoration. Recommended for ages 12 and over. Space is very limited. RESERVATIONS REQUIRED. Call Jennifer at 408-262-5513 ext. 106.

*Marshland of Dreams

NEW Visitor Contact Station, Fremont
2:00 p.m. to 3:00 p.m.

Join a refuge ranger 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 farms, railroads, salt production, and quarries. There are opportunities for bird watching as well. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road.

Exploring the Dunes

Antioch Dunes NWR, Antioch
10:00 a.m. – 11:00 a.m.

Did you know there's a National Wildlife Refuge in Antioch? Here's your chance to explore this refuge that is usually closed to the public. This guided tour (1-1.5 mile) will focus on the wonders of Antioch Dunes National Wildlife Refuge. Wear sturdy shoes for the sandy hike along the dunes. All ages welcome. No reservations required. No facilities. Contact 510-521-9624 for additional information and directions.

*Monster Bacteria and Other Suspicious Critters

Environmental Education Center, Alviso
10:30 a.m. – 12:30 p.m.

Come explore the salt marsh's hidden inhabitants. See monster bacteria, some of whom love rotten eggs. Join microbial biologist Wayne Lanier for a short hike where we will use field microscopes to dive down into a tiny world; an ecology hidden from view. Don't miss this unique opportunity to see the marsh closer than you ever have before! Dress warmly. Ages 8 to 80 years. Space is limited. RERVATIONS REQUIRED. Call Lindy at 408-262-5513 ext. 102.

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

Visitor Center, 1 Marshlands Road, Fremont – (510) 745-8695 • Environmental Education Center, 1751 Grand Blvd, Alviso – (408) 262-5513

Sunday, May 10

*Mother's Day in the Marsh

Environmental Education Center, Alviso
10:00 a.m. – 11:30 a.m.

If you enjoy nature and are looking for a fun and relaxing experience in the outdoors, join us on Mother's Day for an exploration of refuge habitats. After a brief slideshow, we'll take a leisurely stroll and learn how we are connected to the refuge's wetland and upland habitats through our daily water use. Recommended for all ages. RESERVATIONS REQUIRED. Call 408-262-5513 ext. 104.

Medicinal Plant Walk

NEW Visitor Contact Station, Fremont
1:00 p.m. – 2:30 p.m.

Join a naturalist and learn the medicinal properties of plants commonly found on the Don Edwards San Francisco Bay National Wildlife Refuge. Find out how these plants can be used to make home remedies for colds, coughs, indigestion and much more. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Reservations Required. Call 510-745-8695. Led by Elana Garfinkle.

Saturday, May 16

Bike the Levees

Environmental Education Center, Alviso
10:00 a.m. – 12:00 p.m.

Join Ed Kantack for an easy 5-mile bike ride along the levees. Get a glimpse of Drawbridge and see a variety of our summer birds. Helmets are required and knobby tires are recommended along with water and sunscreen. Fun for the whole family! Children under 8 years old must be accompanied by a parent. Space is limited. Please call Lindy at 408-262-5513 ext 102.

Community Service

Environmental Education Center, Alviso
10:30 a.m. – 12:30 p.m.

Do you need to fulfill community service requirements, or would you just like to lend a hand? Volunteer in our native plant garden by pruning, mulching, removing non-native plants, or various other jobs that help protect wildlife. Great for scout groups, high school students needing community service hours, church groups, or home-schooled groups. Bring gloves or borrow a pair of ours. Tools provided. Dress in layers and bring water. Be prepared to get dirty and wet. Ages 9 and up. Participants under 18 must be accompanied by a chaperone. RESERVATIONS REQUIRED. Call Lindy at 408-262-5513 ext. 102.

*Beginning Bird Photography Workshop

Environmental Education Center, Alviso
3:00 p.m. – 5:00 p.m.

Come learn the basics in bird photography! This beginning bird photography workshop will help you get the most out of your point-and-shoot camera. We will discuss ideal sighting and photo-taking conditions, lighting, composition, and equipment. We will also have a slide show to familiarize you with some common birds at the refuge. Our discussion will be followed by an easy, late afternoon walk to several locations where we will spot birds and take photos. Please be sure to bring your binoculars and/or digital or film camera, warm clothing, and a comfortable pair of walking shoes. Space is very limited. Ages 14 and up. RESERVATIONS REQUIRED. Call Lindy at 408-262-5513 ext. 102 to make a reservation.

Twilight Marsh Walk

NEW Visitor Contact Station, 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. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Not suitable for young children. RESERVATIONS REQUIRED. Call 510-745-8695. Led by Mary and Gene Bobik.

Saturday, May 23

Walk the Ravenswood Trail – 4 mile-loop

Meet at the Trailhead in Menlo Park
Directions Below. 9:00 a.m.

Let's Go
outside!

Meet new people while getting fit and healthy! This is the second walk featured in the Refuge Rambler club. This trail in Menlo Park is four miles, flat, and level. The walk is self-paced and you may turn back at anytime. You do not need to be a Refuge Rambler to join this walk. To become a Refuge Rambler, see page 7. No reservations are needed. Hats, water, and sunscreen are strongly recommended. Refuge staff will be there to greet you at 9 a.m. For a narrative description of this trail, log on to the Don Edwards web site at <http://www.fws.gov/desfbay>. Directions: Ravenswood Trail is on the west side of the Dumbarton Bridge. From the East Bay, cross over the Dumbarton Bridge and exit at the Ravenswood Unit sign. Drive east 0.3 miles on the frontage road until you see a brown metal gate and the Ravenswood Trail Sign. From Menlo Park, drive Hwy 84 toward the Dumbarton Bridge. Exit at the Ravenswood Unit sign and drive east on the frontage road. Cross under the bridge and back west 0.6 miles until you see the brown metal gate and refuge sign.

Sunday, May 24

A Taste of the Refuge

NEW Visitor Contact Station, 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. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Led by Carmen Minch.

*Native Species Scavenger Hunt

Environmental Education Center, Alviso
1:00 p.m. – 3:00 p.m.

The Refuge is a mosaic of different habitats, each of which supports an array of California native wildlife. Come enjoy the outdoors as we embark on a scavenger hunt, exploring the refuge habitats and the creatures that call them home! We will get up close and personal with the salt marsh, sloughs, and salt ponds on our short and easy trek! Binoculars and I.D. charts in hand, we will look at and try to identify native plants and animals. We will also learn how these wetland habitats are impacted by humans. All ages welcome. RESERVATIONS REQUIRED. Call 408-262-5513 ext. 104.

Spring Activity Schedule

Geokids

NEW Visitor Contact Station, Fremont
3:00 p.m. – 4:30 p.m.

A rock in the hand is worth... This hands-on activity is great for kids who want to know more about why some rocks are different from others. Come along on a short hike and discover the official state rock! Reservations are required. Call 510-745-8695. Meet at the new visitor contact station located by the first parking lot to the right on Marshlands Road. Led by Mansur Nur.

Friday, May 29

*Night Sky Party!

Environmental Education Center
8:00 p.m. -9:30 p.m.

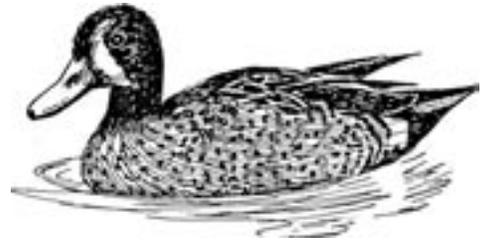
Meet the stars of spring! Join amateur astronomer Bob Havner and friends, as we learn about constellations. Make a star chart and then venture outside to view the night sky through a telescope. Afterwards, warm up with some hot chocolate. Bring your own binoculars or spotting scopes if you have them. Dress warmly as it gets cold in the evening. Fun for the whole family! Program will go sprinkling rain or shine. Program will be canceled only if it is pouring rain. RESERVATIONS REQUIRED. Call Lindy at 408-262-5513 ext 102.

Saturday, May 30

*Drawbridge Slideshow

Environmental Education Center, Alviso
9:30 a.m. – 12:00 p.m.

There's a ghost town in 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? Enjoy a slide show program presented by Ceal Craig. Note: There is no driving tour in this program. RESERVATIONS ARE REQUIRED. Call Lindy at 408-262-5513 ext. 102.



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

Visitor Center, 1 Marshlands Road, Fremont – (510) 745-8695 • Environmental Education Center, 1751 Grand Blvd, Alviso – (408) 262-5513

Field Trips to the Refuge

General Field Trip 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 the Visitor Center in Fremont, and Wetland Round-Up and Slow the Flow field trip programs 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 Orientation Workshop. The Orientation Workshop allows 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 Orientation Workshop. It is our policy that lead educators must attend training every two years. Location of activities and trail conditions may vary. Please call for accessibility information.

Field Trips at the Visitor Center in Fremont

Wetland Round-Up

Explore the habitats of the refuge! Investigate creatures of the mud flats, collect plankton from the slough, and taste pickleweed from the salt marsh. This field trip is designed for grades K-6, for up to 65 students. Wetland Round-Up is offered Tuesday – Friday from March 3 – June 12, 2009.

****Please note: We are completely booked for Spring 2009 and are no longer taking reservations.** We will begin scheduling Fall 2009 field trips on Thursday, September 10 from 4 - 5 pm. For more information, call the Environmental Education Intern at 510-792-0222.**

Field Trip Orientation Dates at the Learning Center in Fremont

All Orientations are from 4:00 p.m.-7:30 p.m.

Wednesday, March 11

Thursday, April 9

Call the Environmental Education Intern at 510-792-0222 to attend an orientation.

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.

****Please note: We are completely booked for Spring 2009 and are no longer taking reservations.** We will begin scheduling Fall 2009 field trips on Thursday, September 10 from 4 – 5 pm. For more information, call the Environmental Education Intern at 408-262-5513 ext. 103.**

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

All Orientations are from 4:00 p.m. – 7:30 p.m.

Monday, March 2

Wednesday, March 25

Wednesday, April 8

Thursday, April 23

Call the Environmental Education Intern at 408-262-5513 ext. 103 to attend an orientation. ** Please note: The cut off date to make a reservation is the Friday before each orientation date.

The 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 cooperating efforts of the City of San Jose, U.S. Fish and Wildlife Service, and the San Francisco Bay Wildlife Society. Slow the Flow programs are available to educators and groups located in San Jose, Alviso, Milpitas, Santa Clara, Saratoga, Monte Sereno, Los Gatos, Campbell, and Cupertino.

Programs are offered to 5th – 12th grade students, although a modified field trip is available for college groups. Educators are encouraged to contact us to discuss options for customizing field trips and classroom presentation activities and schedules. Reservations for the Slow the Flow program are on a first – come basis. **For more information or to make a reservation for March – June, 2009, call Eric McKee, the Slow the Flow Program Coordinator at 408-262-5513 ext. 104.**

Spring 2009 Scout Programs in Alviso Offered by the Watershed Watchers Program

The Environmental Education Center in Alviso currently offers free hands-on, small group programs for Scouts. During the programs Scouts learn about endangered species, migratory birds, wetland habitats, and the relationship between personal habits and their effects on the Bay. The programs

in Alviso are sponsored by the Santa Clara Valley Urban Runoff Pollution Prevention Program and the San Francisco Bay Wildlife Society and are hosted at the Don Edwards San Francisco Bay Wildlife Refuge.

We offer three specific Scout Programs that meet the badge/patch requirements. The Scout Programs offered are:

Webelos Naturalist Badge

Saturday, March 28, 2009

2:00 p.m. - 4:00 p.m.

Saturday, May 30, 2009

2:00 p.m. - 4:00 p.m.

Brownie Eco-Explorer Patch

Saturday, April 11, 2009

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

Junior Girl Scout Wildlife Badge

Saturday, April 4, 2009

2:00 p.m. - 4:00 p.m.

RESERVATIONS ARE REQUIRED.
Programs fill up quickly. **Reservations**

for spring Scout Programs begin on **Wednesday, March 11 between 3 p.m. – 4 p.m. and continue until the program is booked.** To make a reservation or for more information please call Lindy at 408-262-5513 ext. 102.

Note: Ratio of 1 adult per 5 children maximum. Space is limited to 20 people, including siblings (no siblings under 5 yrs old). Once the program is full there will be a waiting list. Programs are usually on Saturdays at scheduled times and are roughly two hours. Almost all of the badge/patch requirements will be covered. Weekday programs are offered in the summer and during some school holidays.

Scouts are also invited to make reservations for other weekend programs that may be suitable to their badge/patch needs. Please see the individual program description for more information and who to contact for a reservation. Some of the regular programs offered that may meet badge requirements include: Community Service, Habitat Hike, Special Events, Owl Programs, Butterfly Programs, Mud and Critter Programs, Cleanups, etc.



TIDELINE

Published quarterly by San Francisco Bay National Wildlife Refuge Complex, with funding from San Francisco Bay Wildlife Society.

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Editor: Carmen Minch

To receive *Tideline*, email carmen_leong-minch@fws.gov, or write to: *Tideline*, Don Edwards San Francisco Bay National Wildlife Refuge, 9500 Thornton Ave, Newark, CA 94560.

San Francisco Bay National Wildlife Refuge Complex

Administered by the U.S. Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge Complex exist 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.

Project Leader: Mendel Stewart

Deputy Project Leader: John Bradley

Don Edwards Refuge Manager: Eric Mruz

Don Edwards Warm Springs Unit Manager: Ivette Loredó

Farallon Refuge Wildlife Specialist: Zach Coffman

North Bay Refuges Manager: Christy Smith

North Bay Wildlife Specialist: Louis Terrazas

South Bay Refuges Manager: Diane Kodama

Refuge Planner: Winnie Chan

Chief of Visitor Services: Karla Tanner

Outdoor Recreation Planners: Carmen Minch, Jennifer Heroux

Environmental Education Specialists: Genie Moore, Tia Glagolev

Volunteer Coordinator: Paul Mueller

Law Enforcement Officers: Walter Duran, Kevin Watts

Biologists: Joy Albertson, Giselle Downard, Rachel Hurt, Gerry McChesney, Susan Euing, Peter Kappes, Cheryl Strong

Administrative Staff: Lucinda Ballard, Ellen Tong, Patricia Compton, Lauren Hupp

Maintenance Staff: Juan Flores, James Griffin, Calvin Sahara, Michael Springman, and Norman Winkler

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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 FISH AND WILDLIFE SERVICE
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SAN FRANCISCO BAY NATIONAL WILDLIFE REFUGE COMPLEX

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Inside This Issue

- 1 100 years at Farallon
- 3 Refuge Reflections
- 4 New Farallon Film
- 5 South Bay Bird Fest
- 6 Habitat Heroes
- 7 Refuge Ramblers
- 10-13 Spring Activities
- 14 Field Trips to the Refuge

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

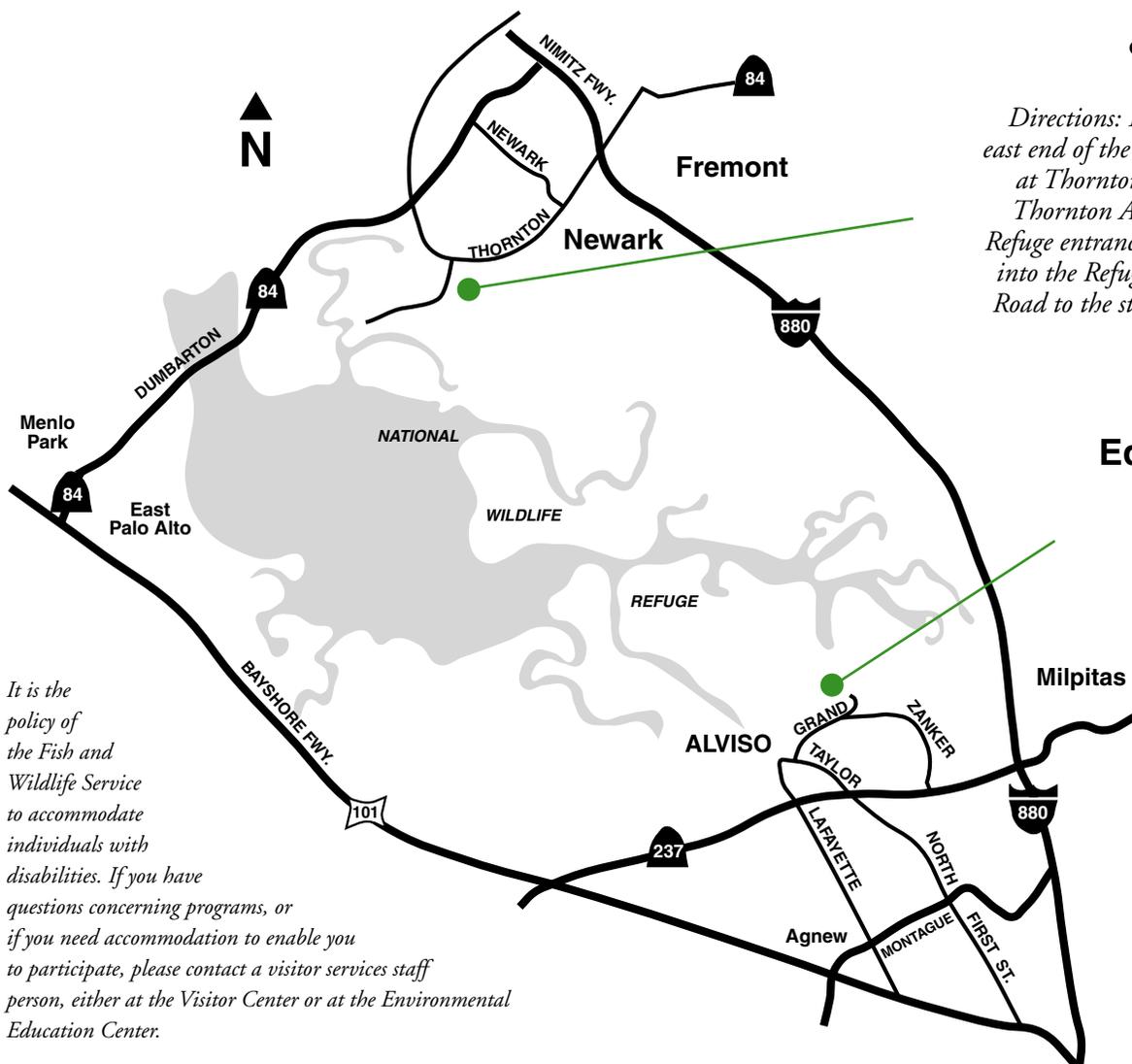
Headquarters

& Visitor Center

(510) 745-8695
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 Marshlands Road to the stop sign. Turn left into the parking lot.

Environmental Education Center

(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.



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