



Volume 26, Number 2

Not Just for the Birds – Wildlife Refuge Provides Sanctuary for Gray Fox

By Brian Popper

It's a beautiful Tuesday in June. You have the afternoon free, so you decide to go for a short hike and view some wildlife. Grabbing your coat, scope, and trusty field guide, you head for one of your favorite local spots - the Don Edwards San Francisco Bay National Wildlife Refuge in Fremont.

Having wandered through the Visitor Center on previous visits, you have some idea of what migratory birds are present. On this particular outing you hope to see something rare, such as the endangered California clapper rail. After trekking the Newark Slough Trail, you cross Marshlands Road and head out into LaRiviere Marsh. Rumor has it that this marsh is the best location to see the elusive clapper rail. You see plenty of shorebirds and waterfowl, but unfortunately, no rails. Although the rail eludes you once again, it has been a rewarding hike with several birds and ground squirrels within easy viewing distance. You return to your car via the boardwalk to climb the stairs to the main parking lot.

As you step off the boardwalk something catches the corner of your eye. Is it a cat? Using your spotting scope, you see the mammal laying in the shade under a coyote brush. Studying the animal you realize the snout is too long to be a cat. It turns its head and looks in your direction. The animal looks like a small dog. It suddenly hits you. "I am looking at a fox!" You grab your field guide but quickly realize it is useless; it's a bird field guide. You rack your brain trying to remember the identifying characteristics of a fox. As the fox stares at you, you notice there is a lot of reddish-orange on the side of the neck.

"Hmm, red sounds familiar," you think. You have heard red fox are non-native and have caused many problems for the threatened and

endangered species found at the refuge.

Thinking this may be an important sighting, you head for the Visitor Center to report what you saw. A volunteer directs you to one of the refuge staff.

You describe what you saw including its colorations. The staff person explains, "There are two kinds of fox found in this area. One, the native gray fox, is primarily gray with some red on the side and white on the bottom. The other, the red fox, is reddish-orange on the head, back and sides with black ears, black 'socks' and white underneath."

You remember seeing some white and gray on the face, forehead, and ears. A mammal field guide opened to a page with a picture of a fox is handed to you. "Is this what you saw?" she asks. It is. The top of the page reads "Gray Fox (*Urocyon cinereoargenteus*)."

As the field guide explains, these small, cat-sized predators are gray in color with patches of red on the side of head, neck and lower part of



Photo by Brian Popper

Continued page 3

On March 7, 2006 levees in South San Francisco Bay were breached in five different places, causing bay waters to flow unchecked into three salt evaporation ponds. Senator Dianne Feinstein, Deputy Secretary of the

Interior Lynn Scarlett, California Resources Secretary Mike Chrisman, and Santa Clara Valley Water District Board Member Richard Santos arrived on

away from human habitation and structures that possible flooding would not be a problem. Yet, the action was the culmination of several years of planning and coordination among partner organizations and governmental agencies.

Since becoming the San Francisco Bay National Wildlife Refuge Complex Manager in June of 2005, I had sensed that the South Bay Salt Pond Restoration Project was something special. Although I knew the scope of the project was large – it totals 15,100 acres in all and crosses several local, State and Federal jurisdictions – I was not prepared for the level of involvement, concern, and dedication shown by individuals, agencies, and organizations. This commitment illustrated the incredible desire for

Refuge Reflections



by Mendel Stewart

March 20 – not to survey damage but to commemorate the event. The unrelenting March rains had not been the cause of the breaches, an amphibious excavator had dug through them!

The opening of the levees was an intentional act and a historic event. It allowed tidal water exchange into the area for the first time in over 60 years. By permitting nature to “run its course,” these former Cargill salt ponds, acquired as part of the Don Edwards San Francisco Bay National Wildlife Refuge in 2003, will revert to the tidal salt marshes that early explorers documented 250 years ago. Restoring the land back to its natural habitat will encourage healthy, self-sustaining fish and wildlife populations through natural processes.

Restoring tidal marshes by digging through former salt pond levees in a relatively remote area may appear to be simple at first glance. After all, these ponds are far enough

For more information on the South Bay Salt Pond Restoration Project, log on to www.southbayrestoration.org



Deputy Department of the Interior Secretary Lynn Scarlett, California Resource Secretary Mike Chrisman, and U.S. Senator Dianne Feinstein.

Learn More about Wetlands!

As an armchair traveler at home on your computer or a real-time traveler driving along the North Bay Flyway Highway (aka State Highway 37 between the bookend cities of Novato and Vallejo), you can now learn more about the North Bay wetlands restoration project. Ninety-second radio programs/podcasts give voice to stories from, and about, these wetlands at <http://www.yourwetlands.org>

Among the archived podcasts, which highlight new stories each week, are story bytes from Christy Smith, Refuge Manager for San Pablo Bay NWR; Marge Kolar, Assistant Manager for Refuges, USFWS California/Nevada Operations Office; and Eileen McLaughlin, Project Leader for Wildlife Stewards. The YOUR WETLANDS website is a project of the San Francisco Bay Joint Venture and its partners, and provides a wealth of information about on-going collaborative efforts to protect and restore wetlands in all nine counties that surround San Francisco Bay. Check it out!

success despite the logistical and administrative challenges, such as we faced preparing to breach the levees this spring.

The South Bay Salt Pond Restoration Project is full of promises in more ways than one – the promise to the public, to funders, and to other agencies and organizations for a healthy, diverse ecosystem, wildlife-oriented recreation, and flood management. It was also promised to be completed in a reasonable amount of time.

The levee breaching of the three former salt ponds and the steps leading up to it transpired as scheduled because of teamwork. Each agency and organization worked hard to meet deadlines. As a result, wildlife species are already utilizing these former salt ponds and the next phase of the South Bay Salt Pond Restoration Project will continue. We have shown the “can do” spirit and we have succeeded.

Wildlife Refuge Provides Sanctuary for Gray FOX (from page 1)

the sides and legs. The underside is whitish. The top of the head, back and sides are gray. They have a strip of darker fur that runs along the back from the shoulders to the end of the bushy tail.

Like many canids (dog-like mammals), gray fox breed once a year. Mating season for gray fox is February through March. During April and May, females will have three to seven pups. These pups will stay in the dens until late May or early June when they begin exploring the area on their own. This is when visitors are most likely to run into resident foxes.

Gray fox are widespread - found throughout most of California, western Oregon and the southwest United States. Their range extends south into Mexico and Central America, east to the Atlantic coast and into the upper Midwest states of Wisconsin and eastern North Dakota. They can be found in several types of habitat including chaparral, open forest, and rocky hillsides. Observations of gray fox in South San Francisco Bay have occurred from the Fremont area south to San Jose and west to the Palo Alto area.

Gray fox are mostly nocturnal, actively searching for food at night. However, they can also be seen wandering the refuge during the day. They are omnivorous and opportunistic, making their meals out of fruit, berries, acorns, insects, small mammals, eggs, and birds. They will also scavenge dead animals that they find.

Toyon berries are a favorite food at the refuge and the gray fox will climb into the trees to get to the berries. They are the only canines in North America that can climb trees. Gray fox are able to accomplish this feat because they have semi-retractable claws, similar to those of a cat.

Being opportunistic feeders, gray fox are not opposed to free meals. In an attempt to reduce the number of critters gaining access into the refuge garbage cans, some of the garbage cans were replaced with bear-proof cans that have a garbage and recycling component. These cans worked well in reducing the wildlife's ability to get food out of the garbage. It didn't take long for the fox to figure out how to get into the recycling component of the container. Once inside the container, they were able to access the garbage bag, ripping it to shreds in their quest for food. The containers had to be modified. The fox still climb on the garbage cans in hopes of getting inside, but they have been unsuccessful.

Refuge biologists are very interested in the gray fox and their possible impacts on threatened and endangered species. In the mid 1980s, non-native red fox (*Vulpes vulpes*) moved into the south bay. Red fox are more aggressive and are

adapted to hunting in marshes. They are one of the principle threats to the California clapper rail. As red fox numbers were reduced in an effort to protect the endangered species, biologists noticed gray fox numbers were increasing at the refuge headquarters in Fremont.

To better track their population and learn more about this elusive species, refuge biologists



Photo by Peter Cervantez

coordinated with U.S. Department of Agriculture Wildlife Services to institute a tagging program in 1999. Over the past seven years, more than 150 gray fox have been captured, tagged and released. Since the tagging program began, biologists have observed the gray fox population expand from the Alviso area in San Jose to Palo Alto Baylands. It has been discovered that some individuals have dispersed several miles, crossing creeks and channels, and moving into residential neighborhoods and marsh habitat. Other fox have disappeared from the capture site only to be caught at the exact same site two or more years later. One tagged fox lived to be at least six-years old. In captivity, gray fox have been reported to live up to ten years. Multiple adult fox have been captured near the Visitor Center. This indicates that the refuge provides abundant food, good shelter, and excellent areas to rear young.

Gray fox leave evidence of their existence everywhere. They are notorious for leaving piles of scat or droppings at many places around the Visitor Center while out on their nightly patrols. Often, they will do this in the same area, night after night. The droppings help mark their territory, although many of these territories overlap.

Continued page 4

Wildlife Refuge Provides Sanctuary for Gray FOX (from page 3)



Photo by Peter Cervantez

They will also mark new objects in their territory with scat. They appear to have an affinity for climbing as well. Muddy tracks on garbage cans, railings, picnic tables, and freshly washed vehicles are common occurrences on the refuge.

Gray fox are very adaptable and have learned to tolerate the presence of humans at the refuge. Often they can be seen going about their business while seeming to ignore the human activity around them. Many of the fox at refuge headquarters have been around people their entire lives. Normally this isn't a problem. It does become a problem when they begin to associate people with food.

It may begin very innocently. A young fox is seen wandering around during the day. The fox may be curious. People may misinterpret this or think it won't hurt if the fox is given a bit of food. A few days later, someone else does the same. Then a third person does. Eventually, the fox learns it gets food with relatively no effort when it approaches people. No energy is expended for chasing, searching or hunting. It doesn't go hungry. The more people feed it, the more this behavior is reinforced. The fox can become so conditioned to being fed that it will rely on people for all of its food. At some point, it may approach someone who has no food. When no food is given, it may become aggressive in its efforts to get food. If this happens, someone may get bit. Unfortunately, if a fox bites some-

one, that animal will have to be captured and relocated, or worse.

Gray fox are part of the natural ecosystem. Their population in the south bay is doing well and is expanding into new areas. Often they can be seen at the refuge headquarters. Although they may seem docile and tame, they are far from it. Like all other wildlife, they should never be fed. It is best to enjoy them from a distance by watching them go about their daily activities. So next time you head out to the refuge, take your trusty mammal field guide along and keep your eyes open for this small predator.

Reference:

Burt, W.H. and Grossenheider, R.P (1980). *Mammals*. Peterson Field Guides, pp 75-77.

Brian Popper is the Project Leader/Wildlife Biologist for US Department of Agriculture's Wildlife Services San Francisco Bay Threatened and Endangered Species projects. His main duties consist of protecting the endangered California clapper rail, salt marsh harvest mouse, and the threatened western snowy plover, and assisting the San Francisco Bay National Wildlife Refuge Complex with wildlife management. Brian received his B.S. degree in Wildlife Biology from Utah State University in 2001 and has worked at the refuge for the past 6 1/2 years.

TIDELINE

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

Volume 26, Number 2

Editor: Carmen Minch

To receive **Tideline**, email carmen_leong-minch@fws.gov, or write to: Tideline, Don Edwards San Francisco Bay National Wildlife Refuge, P.O. Box 524, Newark, CA 94560-0524.

San Francisco Bay National Wildlife Refuge Complex

Founded in 1974 and administered by the U.S. Fish and Wildlife Service, Don Edwards San Francisco Bay National Wildlife Refuge exists to preserve wildlife habitat, protect threatened and endangered species, protect migratory birds, and provide opportunities for nature study. Six additional refuges are managed from the headquarters located in Fremont: San Pablo Bay NWR, Antioch Dunes NWR, Salinas River NWR, Ellicott Slough NWR, Marin Islands NWR, and Farallon NWR.

Project Leader: Mendel Stewart
 Deputy Project Leader: John Bradley
 Don Edwards San Francisco Bay
 Refuge Manager: Clyde Morris
 Don Edwards Warm Springs Unit Manager: Ivette Loreda
 Don Edwards Refuge Operations Specialist: Eric Mruz
 Farallon Refuge Manager: Joelle Buffa
 Farallon Refuge Operations Specialist: Jesse Irwin
 San Pablo Bay and Antioch Dunes Manager: .. Christy Smith
 Refuge Planner: Winnie Chan
 Chief of Visitor Services: Karla Tanner
 Outdoor Recreation Planner: Carmen Minch
 Environmental Education Specialists: Fran McTamane, Genie Moore
 Volunteer Coordinator: Tia Glagolev
 Law Enforcement Officers: Sean Reier
 Biologists: Joelle Buffa, Joy Albertson, Diane Kodama, Giselle Downard, Rachel Hurt, Gerry McChesney, Danielle LeFer, Susan Euing
 Administrative Staff: Lucinda Ballard, Ellen Tong, Tess Dumaop
 Maintenance Staff: Larry Wade, Juan Flores, Michael Springman, James Griffin, Robert Stump

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.

Board of Directors

President: Christopher Kitting
 Vice President: Ceal Craig
 Treasurer: Bart Anderson
 Secretary: Karen Natoli Maxwell
 Directors: Sue Ten Eyck, Terry Smith, Vernon Smith, Robert Ahrenkiel, and Bill Fu

Staff

Interpretive Specialist: Laurie McEwen
 Education Specialist: Tina Simmons
 Program Administrator: Sue Ten Eyck

Tideline is On-Line

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

Volunteers Invade the Invasives

by Jesse Irwin

A war has been raging on for more than 15 years on the Farallon National Wildlife Refuge. Invasive plants such as the New Zealand spinach and *Malva* species have been dueling with refuge managers and biologists, and it appeared that the invasives were winning the battle. Removing these plants is a challenge. Given the sensitivity of the surrounding habitat, the plants can only be sprayed for one week once a year, and pulled by hand the rest of the year. The Farallon Refuge Operations Specialist and biologists from Antioch Dunes, Salinas River, San Pablo Bay, and Don Edwards San Francisco Bay National Wildlife Refuges and have been dubbed “Team Spinach” for their yearly attempts to eradicate these invasives. Interns, the maintenance staff, and PRBO Conservation Science (formerly Point Reyes Bird Observatory) biologists occasionally assist with the effort.

This past year, Farallon Refuge received some much needed help from the U.S. Fish & Wildlife Service’s Coastal Program. This program focuses conservation and restoration efforts in bays, estuaries, and watersheds around the U.S. coastline. The Coastal Program provided funds for transporting and feeding volunteer weed pullers. This allowed more volunteers to assist with weed pulling on the Farallons than ever before. Six volunteers spent their days pulling weeds while watching grey whales cruise past the island on their way north from Mexican calving areas.

The first volunteer to arrive on the island was Marjorie Siegel in January. Marjorie enjoyed staying at the Farallons so much after nine days of pulling weeds that she accepted an internship with PRBO on the island. Marjorie was followed by Karen Davis, Earle and Susie Cummings, refuge intern Nicole Smith, and

Julie Starobin. By March 12 of 2006, it was extremely difficult to locate a *Malva* plant – a first in the 15-year history of eradicating this weed. The results of their hard work, about 340 hours of pulling, will be evident when team spinach arrives in August 2006 to finish off what is left.

In addition to the volunteer weed pullers, two other volunteers arrived on the island in the winter to work on non-plant issues. Andrew Coruthers-Liske spent four days in December repairing the antiquated plumbing in the houses. Gerry Ellis spent eight days in January helping to rebuild the existing pumphouse that would improve the purification of the island’s water supply.

Volunteers clearly make a huge impact in the management of Farallon National Wildlife Refuge. Spinach and *Malva* were less abundant heading into the breeding season than any of the other past seasons. The volunteers thoroughly enjoyed the experience despite the repetitive nature of the work. Most have voiced a desire to return next year. The refuge staff would like to thank the volunteers for their hard work and for taking time away from the comforts of home to support the refuge and the wildlife.

Jesse Irwin is the Refuge Operations Specialist for the Farallon National Wildlife Refuge.



Earle Cummings is surrounded by Malva and New Zealand Spinach.

In other News . . .

Thank you to the City of Fremont, Allied Waste, Starbucks, REI and all volunteers who came out to make our Earth Day Cleanup a success!!

.....

Devil’s Slide Rock Murre Cam Returns! View live common murre and Brandt cormorants during the breeding season on Devil’s Slide Rock. Just log on to <http://www.fws.gov/sfbayrefuges/murre/murrehome.htm>.

.....

PBS will soon air “Returning Home”, a documentary chronicling the Common Murre Restoration Project. Check your local listings. Log on to <http://www.greentreks.org/naturalheroes/season2/returninghome.asp> to see the trailer.



Trails Of The Don Edwards San Francisco Bay National Wildlife Refuge



Photo Larry Wade

Did you know that the Don Edwards San Francisco Bay National Wildlife Refuge spans nine cities and three counties, and contains over 30 miles of hiking trails? This is the second in a series of Refuge Trail Guides in *Tideline*, written by Refuge Manager Clyde Morris, that features trails on America's first urban National Wildlife Refuge.

Name: LaRiviere Marsh Trail

Miles Roundtrip: 0.7 mile

Degree of Difficulty: Easy

Uses Permitted: Walking; dogs & bikes not permitted

Trail Surface and Elevation: Compacted dirt levee & wooden boardwalk. Mostly flat. Sections meet ADA standards

Highlights: Wildlife and historic salt pond structures viewing. Trail traverses through tidal salt marsh which was restored from a commercial salt crystallizer bed

Directions to Trailhead: The trailhead is at the LaRiviere Marsh Trailhead Parking Lot. From Highway 84 on the east side of the Dumbarton Bridge in Fremont, take the Thornton Avenue exit. Drive 0.6 miles south on Thornton Avenue to the first road on the right; Marshlands Road. Follow Marshlands Road 0.3 miles to the first paved parking lot on the right. Turn right into the parking lot. You've gone too far if you get to a stop sign with the Visitor Center parking lot on the.

Introduction: This 0.7-mile loop trail leaves the parking lot and follows a former maintenance road for a short distance. The trail crosses through a restored tidal marsh via a boardwalk to a historic salt pond levee. Follow the levee and walk past the historic salt works structures to Marshlands Road. Once on Marshlands Road, head back toward the parking lot along the road. The trail can also be accessed from the Visitor Center parking lot. The Visitor Center is open Tuesday through Sunday 10:00 a.m. – 5:00 p.m. where trail maps are available.

Wildlife Viewing: This trail is probably the best place on the refuge to view the endangered California clapper rail as it comes out at low tide to feed in the muddy slough channels. Another notable species that may be seen is the Alameda song sparrow, a species of concern in California. The trail provides access to tidal marsh and tidal slough. The marsh has several open water ponds for excellent water bird viewing.

Summer brings calling Forester's terns which carry small fish to their nestlings on

islands in the salt ponds within view of the Visitor Center. Year-around residents are great and snowy egrets, northern harriers, white-tailed kites, American kestrels and red-tailed hawks. During the fall, winter, and spring, many species of shorebirds including Western and least sandpipers, black-necked stilts, American avocets, dowitchers, and greater yellowlegs feed in the open water marsh ponds. During the winter, ducks such as mallards, gadwall and occasionally a canvasback are easily observed. Also common in the winter in the parking lot area are golden-crowned and white-crowned sparrows, California towhees and yellow-rumped warblers. Western meadowlarks, black phoebe and Anna's hummingbird are also possible.

Historical Interests: For 50 years, these levees surrounded dry ponds filled with thick layers of salt. From the 1920's to the late 1970s, this site was used as a crystallizer pond where bay waters would evaporate, leaving the salt behind. The salt was scraped up and piled in a tall stack which today is an open water pond adjacent to Thornton Avenue. The levee next to the metal water control structure once supported a railroad used to transport the salt to markets. Remnants of old metal and redwood pipes, wooden walls, dug out channels, and wooden locks left over from the salt production days can still be seen along the trail. This marsh is named for Florence and Philip LaRiviere in 1997 to honor their leadership in the group Citizens Committee to Complete the Refuge which helped establish the refuge and protect South San Francisco Bay wildlife habitat.

Trail Details: Follow the LaRiviere Marsh trail sign in the parking lot down to a former gravel road. Follow the sign onto the boardwalk. Please stay out of the maintenance yard to protect the privacy of refuge staff living there. Follow the boardwalk across the marsh to the levee. Turn right onto the levee toward the interpretive exhibit which provides information on salt marsh restoration. On your left are former wooden locks used to control water flow in the salt making days. As you walk down the levee, keep an eye on the channel to your right for the elusive endangered California clapper rail. At the water control structure, spend some time with the birds in the slough channels. This is a great site to observe rails, ducks and shorebirds. Continue on to Marshlands Road and turn right. You can then cross the road to enter the Tidelands Trail system, or continue onward to the LaRiviere Marsh parking lot to complete the loop.

For More Information:
For trail maps and refuge activities, consult the web site: www.fws.gov/desfbay or call 510/792-0222. For emergencies call 911 or the Dispatcher at 415/561-5510.

Congratulations to the 24th Annual Endangered Species Poster Contest Winner!



Congratulations to Christy Wang for taking the Best in Show in the Don Edwards San Francisco Bay National Wildlife Refuge 24th Annual Endangered Species Poster Contest! We received more than 450 posters and they were all wonderful! Thank you to all who entered. First, second, and third place finishers in each grade level from Kindergarten to 6th grade along with Honorable Mentions can be viewed on-line at www.fws.gov/desfbay/contest.htm.

Other winners include:

Kindergarten

Justin Leung – 1st Place, Kevin Lee – 2nd Place, Nancy Ruiz – 3rd Place, Anaelle Dumatol – Honorable Mention, Pranav Nagarajan – Honorable Mention, and Sita Sanigepalli – Honorable Mention.

1st Grade

Tulika Mohanti – 1st Place, Nitya Vakil – 2nd Place, Sasha Sorenson – 3rd Place, Jonathan Chen- Honorable Mention, Soham Jayant Pant – Honorable Mention, and Shubha Jagannatha – Honorable Mention

2nd Grade

Suchita Gupta – 1st Place, John Wang – 2nd Place tied, Grace Dong – 2nd Place tied,

Lange's Metalmark Butterfly. Christy Wang. Forest Park Elementary, 6th Grade.

Tiffany Zhang – 3rd Place, Pavithra Nagarajan – Honorable Mention, Sonia Sachar – Honorable Mention, and Stephanie Sung – Honorable Mention

3rd Grade

Madeleine Fajilan – 1st Place, Michaela Burpee – 2nd Place, Nazila Ulfat – 3rd Place, and Sneha Patkar – Honorable Mention

4th Grade

Tarush Mohanti – 1st Place, Alan Cheng – 2nd Place, Shirby Wang – 3rd Place, Alen Martin – Honorable Mention, Caroline Lee- Honorable Mention, and Sanjana Naik – Honorable Mention

5th Grade

Anthony Lau – 1st Place, Maya Ma – 2nd Place tied, and Annie Cheng – 2nd Place tied

6th Grade

Helen Tsui – 1st Place, Merry Mou – 2nd Place, Lisa Chang – 3rd Place, Jasmine Chen – Honorable Mention, Aadil Vora – Honorable Mention, Winnie Ding – Honorable Mention, and Nithya Thangaraj – Honorable Mention

The Don Edwards San Francisco Bay National Wildlife Refuge would like to thank the California Academy of Sciences, Chabot Space & Science Center, Children's Discovery Museum, Coyote Point Museum, Lindsay Wildlife Museum, San Francisco Zoo, and the Tech Museum of Innovation for donating prizes to the contestants.

The refuge would also like to thank BayFrames for framing the Best in Show entry, and to Wildlife Stewards for making this event possible.

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 January 14 and April 7, 2006. These gifts will be used for capital, environmental education, habitat restoration, and interpretive programs at the Don Edwards San Francisco Bay National Wildlife Refuge.

Employer Matching Gift Program

Hewlett-Packard program, Donor Wei Koh
CISCO, Donor David Paradise

Participant

Joyce E Bartlett, Marge Callow, Helen E Conway, John Corcoran, Jane Hicks, Jeannette D Jensen, Gloria P & Richard Newhouse, and Varon Smith

Supporter

Bill Delameter, Linda Drey-Nightingale, Dale & Diane Schouten, and Tanis Walters

Family

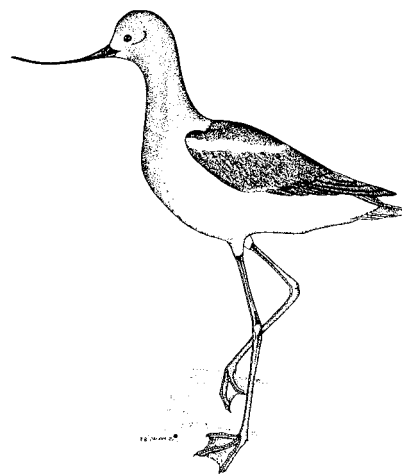
John F Atwood, John L Bennett, Mary & Gene Bobik, John r & J Evangelyn Boice, Donald R & Margaret Emery, Lyne Fitzjarrell, Craig & Barbara L Heckman, Jan Z Hintermeister, John B & Laura Jamieson, John & Melanie McKenna, Sue Hunt & Byron Richards, Jean Staats, Carl & Terry Yordan, and Kathleen Yoshikawa

Individual

Peggy Bernucci, John B Bowers, Judy Garvey, Eric A Johnson, Robert W Kirby, Jr, Patricia Kishi, Susan Kozdon, Enid Leff, Mary T Light, Eugene I Majerowicz, Katleen M Smallshire, David R Thompson, Jean E Toonen, Ruth Troetschler, and Phillip Vallejo

Senior/Student

Rosemary Auwbrey, Richard Beidleman, Rich Cereghino, Ann Dee Clemenza, Ken Crowley, Marilyn Fowler, Russel Fowler, Winifred P Gegan, David S Ginsburg, Romasn Kendzior, June Ladd, Doris R McCormick, Miranda L Miller, Margaret Gale Moore, Donna H Olsen, Eleanor H Perry, David Stronk, Marilyn J Walter, Claudia Whitnah, Eric D Winch, Frank Wolff, and Stella Yang



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 510-792-0222 ext. 40.

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:

- | | | | | |
|--|---|--|--|---|
| <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 |
| <input type="checkbox"/> \$35 Individual | <input type="checkbox"/> \$75 Supporter | <input type="checkbox"/> \$200 Corporation | <input type="checkbox"/> \$500 Sustainer | |

Check Visa or MasterCard # _____ Exp. Date _____

Signature _____

Name _____

Address _____ City _____ State _____ Zip _____

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

Thanks! NUMMI

New Trail Maps for the Refuge Headquarters

New, readable and accurate trail maps of the Don Edwards San Francisco Bay National Wildlife Refuge headquarters in Fremont are now available thanks to a \$3,000 grant from NUMMI to the San Francisco Bay Wildlife Society. After years of distributing hand-drawn photocopied maps, the refuge now has colored maps depicting all refuge trails near the headquarters in Fremont - just in time to shake off the cabin fever created by the recent rains. Stop by the Visitor Center, pick up a copy of the new trail map and browse through the selection of birding and hiking books at the bookstore. Remember, all San Francisco Bay Wildlife Society members are entitled to a 15% discount on merchandise upon presentation of your current membership card.



From left: San Francisco Bay Wildlife Society Program Board Member, NUMMI Representative Karen Natoli Maxwell, San Francisco Bay Wildlife Society President Dr. Christopher Kitting, Don Edwards San Francisco Bay National Wildlife Refuge Outdoor Recreation Planner Carmen Minch. Photo by Tim Downey

Salt Pond Restoration Tours



Photo courtesy of Wildlife Stewards.

View a thriving tidal marsh and salt ponds acquired as part of the South Bay Salt Pond Restoration Project during a docent-led walking tour on the Don Edwards San Francisco Bay National Wildlife Refuge in Menlo Park. Learn more about the challenges and opportunities that lie ahead and how this project can change the South Bay. See the Activity Schedule for upcoming tours.

The tours are suitable for adults and youth age 12 and older.

Group tours and presentations are available upon request.

Call Carmen Minch at 510-792-0222 ext. 38

This program is cosponsored with **Wildlife Stewards**.

Summer Activity Schedule

June

Sunday, June 4

Birding By Van

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

Want to get out and see our new arrivals, but not up to taking a walk? This program is for you! Join Ceal Craig for a comfortable minivan excursion to see birds nesting in the marsh and around the salt ponds. Unfortunately, no small children allowed; van not equipped with child safety seats. RESERVATIONS ESSENTIAL. Space is very limited. Call Laurie at 408-262-5513 ext.102.

Saturday, June 10

Salt Pond Tour

Meet at Bayfront Park, Menlo Park
10:00 a.m. – 12:00 p.m.

Did you know that the largest tidal wetland restoration project on the West Coast is happening right here in San Francisco Bay? Hear more about this project and view some of the salt ponds acquired by the Don Edwards San Francisco Bay National Wildlife Refuge. Geared toward adults. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 43 for reservations and directions.

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.

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. Ray spent most of 2004 researching the on-site salt production, railroads, and homes that were located on the refuge grounds until the 1950s. Using a collection of old photographs, the last vestiges of a way of life can be traced back to the 1850s that led to the construction of the town of Newark in 1876.

Twilight Marsh Walk

Visitor Center, Fremont
7:30 p.m. - 9:00 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 observation deck. Not suitable for young children. RESERVATIONS REQUIRED. Call 510-792-4275 ext. 43. Led by Mary and Gene Bobik.

Sunday, June 11

Where Does All the Water Go?

Environmental Education Center, Alviso
2:00 pm. – 3:30 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 and personal with wastewater and the refuge habitats involved. Appropriate for ages 10 and up. Reservations required. Call Tina at 408-262-5513 ext 104.

Saturday, June 17

Bye-Bye Spring

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

Say goodbye to spring and hello to summer. Many of our inhabitants have finished with mating and are now busy raising their young. Join Ed Kantack on a leisurely walk around the refuge to see if we can discover any little ones. All ages welcome. RESERVATIONS REQUIRED. Call Laurie McEwen at 408-262-5513 ext.102.

Bird Photography Seminar

Environmental Education Center, Alviso
2:00 p.m. - 4:30 p.m.

Bird photography is something anyone can do, especially with recent advances in camera technology. Join local photographer Paul Bridges as he discusses the ins and outs of bird photography. He'll cover cameras, lenses and accessories, field techniques, artistic aspects, and much more. Beginners through advanced are welcome. You may bring a camera if you wish, but it's not necessary. Program geared for adults. RESERVATIONS REQUIRED. Call Laurie McEwen at 408-262-5513 ext. 102.

Saturday, June 24

Family Bird Walk

Visitor Center, Fremont
10:00 a.m. - 12:00 p.m.

Let family walks become a shared time of nature learning. We'll begin by helping kids create their personal birdwatching field guides, and then head out onto the trails to find those birds. Learn about the salt marsh habitat along the way. A limited number of binoculars are available to borrow. Recommended for children ages 5-10. RESERVATIONS REQUIRED. Call 510-792-0222. Led by Eileen McLaughlin.

Botanical Wanderings

Visitor Center, Fremont
2:00 p.m. – 3:30 p.m.

Discover the diverse summer habitats from the hilltops to the marsh. Use our free plant list to help identify the great variety of plants that thrive in this unique urban refuge. Bring binoculars to get a better look at birds and animals we may encounter on the trail, or borrow a pair of ours. Led by Alvin Dockter.

In the Good Ol' Summertime

Newark Slough Learning Center, Fremont
(Down the hill from the Visitor Center)
8:30 p.m. – 9:30 p.m.

Join us for a "campfire" program, refuge style complete with amusing stories, silly songs and zany skits. Fun for the entire family! Bring a flashlight for the walk back to your car.



Don Edwards San Francisco Bay National Wildlife Refuge

1 Marshlands Road, Fremont – (510) 792-0222 • 1751 Grand Blvd, Alviso – (408) 262-5513 • <http://www.fws.gov/desfbay>

Summer Activity Schedule

Sunday, June 25

Salt Pond Tour

**Meet at Bayfront Park, Menlo Park
2:00 p.m. – 4:00 p.m.**

Did you know that the largest tidal wetland restoration project on the West Coast is happening right here in San Francisco Bay? Hear more about this project and view some of the salt ponds acquired by the Don Edwards San Francisco Bay National Wildlife Refuge. Geared toward adults. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 43 for reservations and directions.

Salinity Sleuths

**Environmental Education Center, Alviso
2:30 p.m. – 4:00 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! Reservations required. Call Tina at 408-262-5513 x104.

July

Sunday, July 2

Avian Antics

**Environmental Education Center, Alviso
1:00 p.m. – 2:30 p.m.**

Join us at the refuge as we explore the trails and attend a low tide feast. Learn some bird trivia along the way, like why some birds eat their own feathers or which refuge bird finds a mate for life? Bring your own binoculars, or borrow a pair of ours! This is a quiet walk so the birds don't fly away. Recommended for ages 6 and up. Reservations required. Call Tina at 408-262-5513 x104.

Saturday, July 8

Salt Pond Tour

**Meet at Bayfront Park, Menlo Park
10:00 a.m. – 12:00 p.m.**

Did you know that the largest tidal wetland restoration project on the West Coast is happening right here in San Francisco Bay? Hear more about this project and view some of the salt ponds ac-

quired by the Don Edwards San Francisco Bay National Wildlife Refuge. Geared toward adults. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 43 for reservations and directions.

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.

Sunday, July 9

A Taste of the Refuge

**Visitor Center, Fremont
10:30 a.m. - 12:00 p.m.**

Take a guided walk on Tidelands Trail and discover which plants are edible or have medicinal uses. We'll sample some of these plants as they are, or in already-made products. Led by Carmen Minch.

Saturday, July 15

Butterfly Garden Walk

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

Ed Kantack leads a tour of our butterfly garden. Learn cool facts about butterflies and discover why they love our native plants. Recommended for kids age 7 and up. RESERVATIONS REQUIRED. Call Laurie McEwen at 408-262-5513 ext. 102.

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. Ray spent most of 2004 researching the on-site salt production, railroads, and homes that were located on the refuge grounds until the 1950s. Using a collection of old photographs, the last vestiges of a way of life can be traced back to the 1850s that led to the construction of the town of Newark in 1876.

Family Bird Walk

**Visitor Center, Fremont
10:00 a.m. - 12:00 p.m.**

Let family walks become a shared time of nature learning. We'll begin by helping kids create their personal birdwatching field guides, and then head out onto the trails to find those birds. Learn about the salt marsh habitat along the way. A limited number of binoculars are available to borrow. Recommended for children ages 5-10. RESERVATIONS REQUIRED. Call 510-792-4275 ext. 43

Twilight Marsh Walk

**Visitor Center, Fremont
7:30 p.m. - 9:00 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 observation deck. Not suitable for young children. RESERVATIONS REQUIRED. Call 510-792-4275 ext. 43. Led by Mary and Gene Bobik.

Saturday, July 22

Drawbridge

**Environmental Education Center, Alviso
1:30 p.m. – 4:00 p.m.**

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? Find out at this program, led by Pat Anthony. Start with a slide show then take a short mini-van excursion to view Drawbridge across Coyote Creek. Program intended for adults. Space is very limited. RESERVATIONS ARE ESSENTIAL. Please call Laurie McEwen at 408-262-5513 ext.102 to make a reservation.



Don Edwards San Francisco Bay National Wildlife Refuge

1 Marshlands Road, Fremont – (510) 792-0222 • 1751 Grand Blvd, Alviso – (408) 262-5513 • <http://www.fws.gov/desfbay>

Summer Activity Schedule

South Bay Salt Pond Restoration Presentation

Visitor Center Auditorium, Fremont
3:00 p.m. – 4:00 p.m.

The South Bay Restoration Project will transform South San Francisco Bay in the next few decades. How will this affect habitat, wildlife, and wildlife-oriented recreation? In this slide presentation, hear about the project, the role of the Don Edwards San Francisco Bay National Wildlife Refuge, and how you can become involved with the largest tidal wetland restoration project on the West Coast. Geared for ages 12 and older. Call 510-792-0222 ext. 43 for reservations.

Twilight Games

Environmental Education Center, Alviso
7:00 p.m. – 9:00 p.m.

Make the most of long summer days by taking a twilight walk around the refuge with stops to play games along the way. Many marsh creatures are just waking up to start their “day”. Find out why. Become hunters of the night while playing Bat & Moth. Test your eyesight and hearing when you become a hungry owl searching for dinner. A short video, such as Kids by the Bay, will be shown in the auditorium following the walk. Find out how you can take care of wildlife starting in your own backyard. Dress warmly as the wind picks up in the evening. Games suitable for ages 5 and up. All ages welcome. RESERVATIONS REQUIRED. Call Laurie McEwen at 408-262-5513 ext.102.

Sunday, July 23

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 birdwatching program and get to know the most common refuge visitors. Start with a slide show inside to learn how to recognize the regulars, and then try your new skills on the trail. Program intended for adults. RESERVATIONS REQUIRED. Please call Laurie at 408-262-5513 ext. 102.

Sunday, July 23

Critter Café

Environmental Education Center, Alviso
2:00 p.m. – 3:30 p.m.

Water is pretty boring stuff, right? No way! Come take a closer look at some of the tiny, wiggly, squiggly creatures we'll find in slough water

samples. Learn about macroinvertebrates and plankton - the tasty treats that shorebirds are eating at our five-star marsh ‘cafes’ at the refuge. You will also discover how these creatures act as species indicators of our bay habitats. Recommended for ages 6 and up. Reservations required. Call Tina at 408-262-5513 ext 104.

Salt Pond Tour

Meet at Bayfront Park, Menlo Park
2:00 p.m. – 4:00 p.m.

Did you know that the largest tidal wetland restoration project on the West Coast is happening right here in San Francisco Bay? Hear more about this project and view some of the salt ponds acquired by the Don Edwards San Francisco Bay National Wildlife Refuge. Geared toward adults. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 43 for reservations and directions.

Saturday, July 29

Botanical Wanderings

Visitor Center, Fremont
2:00 p.m. – 3:30 p.m.

Discover the diverse summer habitats from the hilltops to the marsh. Use our free plant list to help identify the great variety of plants that thrive in this unique urban refuge. Bring binoculars to get a better look at birds and animals we may encounter on the trail, or borrow a pair of ours. Led by Alvin Dockter.

Sunday, July 30

A Ghost Town in San Francisco Bay?

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

That's right! On Station Island nestled in the salt marshes of south San Francisco Bay, the town of Drawbridge once boomed. Was it a quiet, peaceful community of nature lovers, or a rip-roaring gang of two-fisted rowdies? Excellent slide show and presentation. Presented by Pat Anthony.



August

Saturday, August 5

Salt Pond Tour

Meet at Bayfront Park, Menlo Park
10:00 a.m. – 12:00 p.m.

Did you know that the largest tidal wetland restoration project on the West Coast is happening right here in San Francisco Bay? Hear more about this project and view some of the salt ponds acquired by the Don Edwards San Francisco Bay National Wildlife Refuge. Geared toward adults. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 43 for reservations and directions.

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. Meet at the observation deck. Not suitable for young children. RESERVATIONS REQUIRED. Call 510-792-4275 ext. 43. Led by Mary and Gene Bobik.

Saturday, August 12

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.

Recycled Paper Art

Environmental Education Center, Alviso
2:00 p.m. – 4:00 p.m.

Turn used paper into all kinds of nifty stuff. Make new paper from old. Turn magazines into jewelry. Even make a puppet show stage from a paper bag. Then take a short walk while crafts dry and discover how you can take care of wildlife starting in your own backyard. Crafts suitable for ages 8 and up. RESERVATIONS REQUIRED. Call Laurie McEwen at 408-262-5513 ext.102.

Don Edwards San Francisco Bay National Wildlife Refuge

1 Marshlands Road, Fremont – (510) 792-0222 • 1751 Grand Blvd, Alviso – (408) 262-5513 • <http://www.fws.gov/desfbay>

Summer Activity Schedule

Meteor Shower Star Party!

Environmental Education Center, Alviso
8:00 p.m. – 10:00 p.m.

It's a bird! It's a plane! It's a shooting star! Well... maybe. Tonight the Perseid Meteor Shower will be at its peak. The best time to view the meteor shower is 2 a.m., but that's past most people's bedtimes. There's a chance we'll see some meteors after sunset and before moonrise. Amateur astronomer, Bob Havner, will help us understand meteors. We'll set up telescopes for star gazing while we watch for shooting stars. Dress warmly as it gets cold and windy after the sun goes down. Program geared for ages 7 and up, but all ages welcome. RESERVATIONS REQUIRED, please call Laurie McEwen at 408-262-5513 ext. 102 to make a reservation.

Sunday, August 13

Slough Whoop?

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

Whoop...whoop...whoop did that owl eat? Bet you can find out! Come solve the mystery of who ate whom and learn about these nocturnal predators with Ed Kantack. We will watch a slide show on owls, hike the habitats and search for owl clues, and get a chance to dissect owl pellets to discover exactly who that owl ate! Reservations required. Call Tina at 408-262-5513 x104.

Saturday, August 19

Canoe the Sloughs

Newark Slough Boat Launch
10:15 a.m. – 1:15 p.m.

Ducks paddle the slough in the winter; humans paddle the slough in the spring and fall. Experience the Refuge from a duck's point of view. Bring your own canoe, paddles, and life vest (mandatory!). Learn about the ecology of the salt marsh, and identify the birds, plants, and mammals of the slough. Meet at the Newark Slough boat launch off of Thornton Avenue. No inflatables please!! RESERVATIONS REQUIRED!! Led by Ed Kantack. Call 510-792-4275 ext. 43.



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. Ray spent most of 2004 researching the on-site salt production, railroads, and homes that were located on the refuge grounds until the 1950s. Using a collection of old photographs, the last vestiges of a way of life can be traced back to the 1850s that led to the construction of the town of Newark in 1876.

Sunday, August 20

Birding By Van

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

Would you like to see more of the refuge, but not up to taking a walk? This program is for you! Join Ceal Craig for a comfortable minivan excursion past New Chicago Marsh and around the salt ponds. Unfortunately, no small children allowed; van not equipped with child safety seats. RESERVATIONS ESSENTIAL. Space is very limited. Call Laurie at 408-262-5513 ext.102.

Salt Pond Tour

Meet at Bayfront Park, Menlo Park
2:00 p.m. – 4:00 p.m.

Did you know that the largest tidal wetland restoration project on the West Coast is happening right here in San Francisco Bay? Hear more about this project and view some of the salt ponds acquired by the Don Edwards San Francisco Bay National Wildlife Refuge. Geared toward adults. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 43 for reservations and directions.

Saturday, August 26

Family Bird Walk

Visitor Center, Fremont
10:00 a.m. - 12:00 p.m.

Let family walks become a shared time of nature learning. We'll begin by helping kids create their personal birdwatching field guides, and then head out onto the trails to find those birds. Learn about the salt marsh habitat along the way. A limited number of binoculars are available to borrow. Recommended for children ages 5-10. RESERVATIONS REQUIRED. Call 510-792-0222. Led by Eileen McLaughlin.

Botanical Wanderings

Visitor Center, Fremont
2:00 p.m. – 3:30 p.m.

Discover the diverse summer habitats from the hilltops to the marsh. Use our free plant list to help identify the great variety of plants that thrive in this unique urban refuge. Bring binoculars to get a better look at birds and animals we may encounter on the trail, or borrow a pair of ours. Led by Alvin Dockter.

Twilight Marsh Walk

Environmental Education Center, Alviso
6:30 p.m. – 8:00 p.m.

Need some relief from hot August nights? Join naturalist, Ed Kantack, for an easy hike around the Education Center. Discover what comes out in the salt marsh as the sun goes down. Find out why these creatures come out at night. Suitable for all ages. RESERVATIONS REQUIRED, please call Laurie at 408-262-5513 x102 to make a reservation.

Sunday, August 27

A Taste of the Refuge

Visitor Center, Fremont
10:30 a.m. - 12:00 p.m.

Take a guided walk on Tidelands Trail and discover which plants are edible or have medicinal uses. We'll sample some of these plants as they are, or in already-made products. Led by Carmen Minch.

Habitat Hike

Environmental Education Center, Alviso
2:00 p.m. – 3:30 p.m.

Are you feeling the itch to go exploring? Come take a walk and discover the exciting world of wetland habitats! We will explore the salt marsh, sloughs, salt ponds and more on this short and easy trek! We will identify plants, birds, and whatever other animals we see and learn how people have affected their habitat. Recommended for ages 7 and up. Reservations required. Call Tina at 408-262-5513 ext 104.

Don Edwards San Francisco Bay National Wildlife Refuge

1 Marshlands Road, Fremont – (510) 792-0222 • 1751 Grand Blvd, Alviso – (408) 262-5513 • <http://www.fws.gov/desfbay>

Field Trips to the Refuge

Don Edwards San Francisco Bay National Wildlife Refuge

The Refuge offers field trip programs at both our Visitor Center in Fremont and Environmental Education Center in Alviso.

General Field Trip Program Information

FREE field trip programs are offered at two sites at the Don Edwards San Francisco Bay National Wildlife Refuge. Wetland Round-Up and Trekking the Refuge field trip programs are offered at the Visitor Center in Fremont, and Wetland Round-Up and Slow the Flow 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 students. All programs have been correlated to the appropriate State of California Education Standards.

Educators and Youth Group Leaders conduct their own field trips after attending a Field Trip Orientation Workshop. The Orientation Workshops provide the information you need 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.

Field Trips at the Visitor Center in Fremont

Wetland Roundup - Investigate creatures of the mud flats, plankton and other creatures in the slough, and the pickleweed in the salt marsh. This field trip is designed for grades K-6, for up to 65 students. Wetland Roundup is offered Tuesday through Friday. Fall field trips will be offered from October - December, 2006.

Trekking the Refuge - Trek the 1-mile Tidelands Trail, and learn about the natural history of the refuge! Then explore the pickleweed in the salt marsh, the brine shrimp in the salt pond, and the plankton in the slough! Available only at the Visitor Center in Fremont, Trekking the Refuge Field Trip is designed for grades 3-6, for up to 36 students. Trekking the Refuge is offered Tuesday through Friday.

Reservations begin on Thursday, September 7, from 4:00 p.m. -5:00 p.m. Call 510-792-0222.

Field Trip Orientation Dates at the Visitor Center in Fremont

It is our policy that you must attend every two years. Call the education staff at 510-792-0222.

Wetland Round-Up and Trekking the Refuge field trip orientations will be announced in the Fall. For more information about field trips at the Don Edwards San Francisco Bay National Wildlife Refuge in Fremont, call the Education Staff at 510-792-0222.

Free Discovery Packs available at the Visitor Center and Environmental Education Center!

Explore the salt marshes, salt ponds, and the birds of the refuge with your family or small youth group! The Discovery Pack includes an activity booklet, and equipment such as dip nets, magnifying lenses and bug boxes that you will need to take a close look at the salt marsh plants, the brine shrimp, and the birds. The back pack is suitable for up to six people, ages kindergarten - adults. There are also group packs available for 12-24 people (only in Fremont). Please call in advance if you would like a group pack. You can check out the Discovery Packs free of charge at the Visitor Center in Fremont or at the Environmental Education Center in Alviso. The Visitor Center is open Tuesday-Sunday from 10:00 a.m. - 5:00 p.m. For questions or to reserve a group pack in Fremont, please call 510-792-0222. The Environmental Education Center is open Saturday and Sunday from 10:00 a.m. - 5:00 p.m. For questions, please call 408-262-5513.

Field Trips to the Refuge

Field Trips at the Environmental Education Center in Alviso

Wetland Round-Up Field Trips

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.

Reservations for Fall field trips begin on Thursday, September 7th, between 4:00 p.m. and 5:00 p.m. Call Genie Moore at 408-262-5513 to make a reservation in Alviso.

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

It is our policy that you must attend every two years. Call the education staff at 408-262-5513.

Wetland Round-Up field trip orientations will be announced in the Fall.

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. The program offers field trips at the refuge, classroom presentations, and outreach presentations

Programs are geared for 5th - 12th grades. A modified field trip is available for college groups. Educators are also encouraged to contact us to discuss options for customizing field trip and presentation activities and schedules.

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.

Slow the Flow Programs are available throughout the year in Alviso. Reservations for the Slow the Flow program are on a first come basis. Call Tina Simmons, the Slow the Flow Program Coordinator at 408-262-5513 ext. 104 for more information, or to schedule a field trip or presentation.



PASS IT ON!!

Please help us spread the word about our FREE, fun, and educational field trip programs!!

If you know a teacher that would be interested in these programs please pass on your copy of Tideline or have them give us a call for more information!!

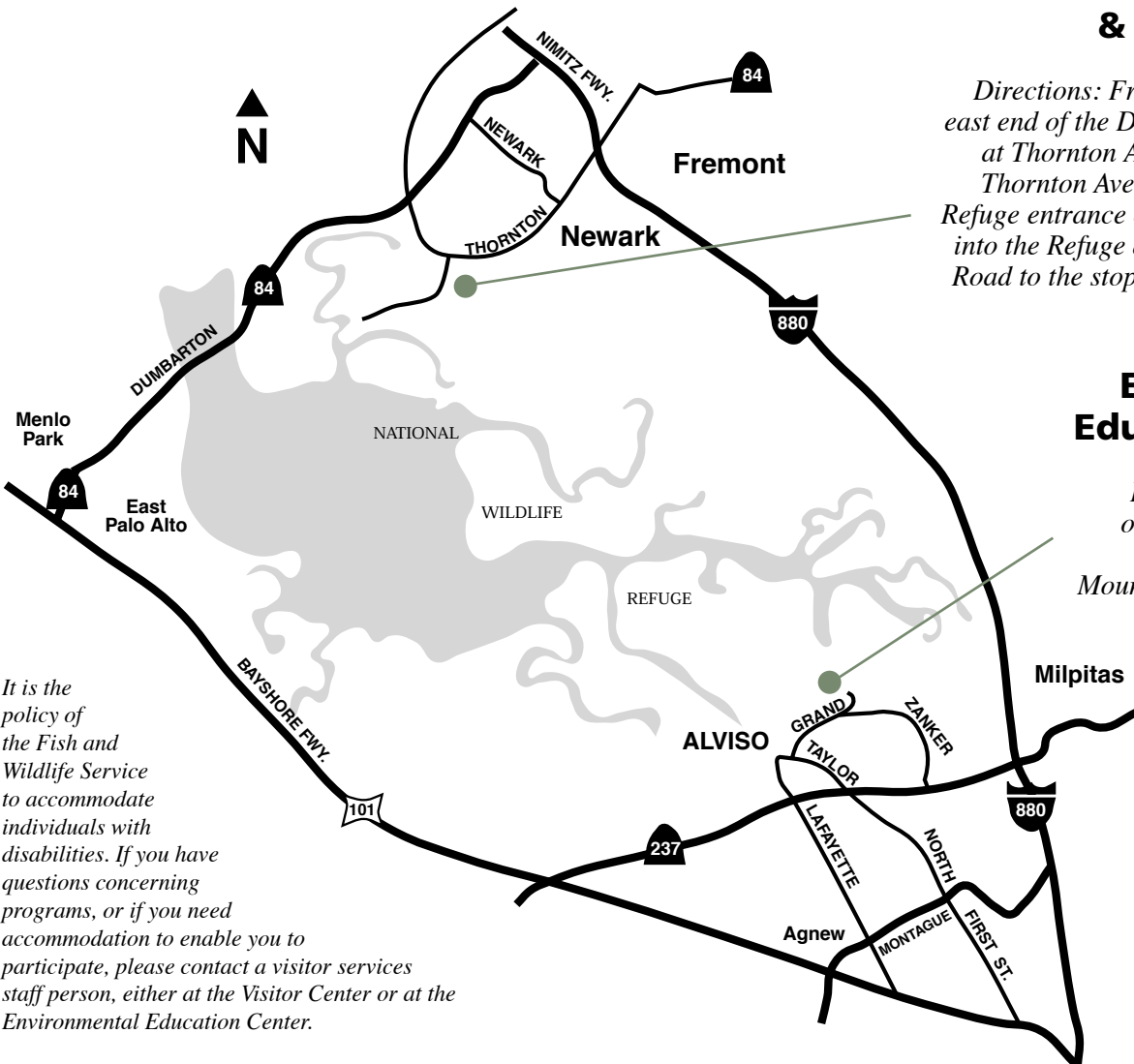
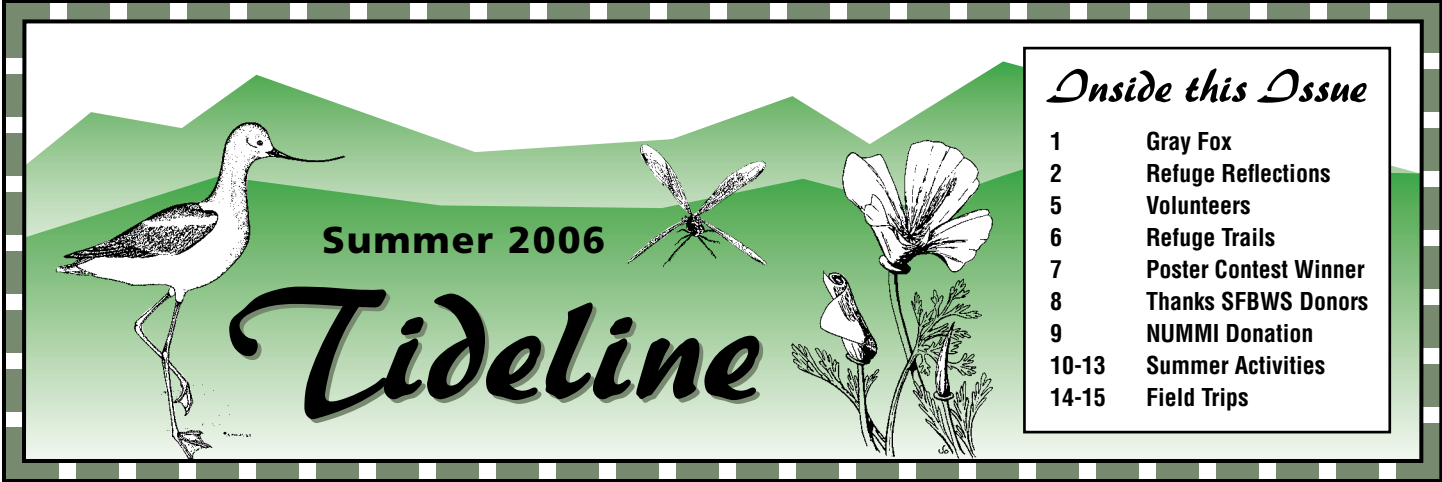
Thank you for your help!

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
DON EDWARDS SAN FRANCISCO BAY
NATIONAL WILDLIFE REFUGE
P.O. BOX 524
NEWARK, CALIFORNIA 94560

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

FIRST-CLASS MAIL
POSTAGE & FEES PAID
U.S. Fish & Wildlife Service
Permit No. G-77



**Headquarters
& Visitor Center**

(510) 792-0222

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.

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.