

# Tideline

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## A Cud Above: Cattlemen's Grazing Operation Helps Endangered Species

By Doug Cordell

"My grandfather was an environmentalist," says Frank Imhof, "he knew how to work the land. He just wouldn't have thought to put it that way."

Like both his grandfathers and his father, Imhof is a rancher—a cattleman—and now he's training his son, Frank, Jr.—better known as Frankie—to take over the business. But it's a challenge in the more and more densely populated San Francisco Bay Area, where grazing lands for cattle have been squeezed out by sprawling development.

That's why the partnership between the Imhofs and the U.S. Fish & Wildlife Service is so important. Through a unique public-private agreement, the ranchers are able to graze their cattle on a 719-acre vernal pool grassland at the Warm Springs unit of the Don Edwards San Francisco Bay National Wildlife Refuge in Fremont, CA. The grazing, in turn, offers a host of benefits for endangered species at the site.

"Keeping the grass short controls non-native grasses and increases germination for native vernal pool plants like the endangered Contra Costa goldfield," explains Wildlife Refuge Specialist Ivette Loredo, who manages the Warm Springs unit for the Service.

Grazing also benefits other critical species. For endangered vernal pool tadpole shrimp and threatened California tiger salamanders, it reduces non-native grasses that suck up water and shorten the seasonal lifespan of pool breeding habitats. For burrowing owls, a species of special concern in the State of California, and ground squirrels, which are central to the functioning of the



Frank Imhof. Photo: Julie Kitzenberger

vernal pool ecosystem, grazing reduces cover for potential predators.

To monitor the success of the grazing, the refuge maintains several small, ungrazed "exclosures" as a yardstick for comparison. Loredo often leads tours of the site, and the exclosures are a great teaching tool.

"They show us what things would look like without grazing," she says.

Inside the small fenced-off areas, non-native grasses grow in thick clusters as high as three feet and choke out native vernal pool plants. It's a dramatic contrast

to the flourishing Contra Costa goldfields and other colorful flowers on the surrounding land, where, rain allowing, vernal pools form seasonally.

The grazing arrangement between the Imhofs and the Service dates back to 2004, when it started on a smaller scale with 25 cows. It now allows the ranchers to rotate groups from about a hundred cattle among ten fenced fields. Frank, Sr. raises the cattle to sell for beef. His son does selective

breeding to raise certain cattle for shows. It's clear, watching them on the land, that they take their work to heart.

"We try to maintain good cow practices," says Frankie. "The main thing is talking to the cows, not yelling at them. Every time we move them, we want them to have a good experience."

"We have a target amount of grazing for each field and keep track of it on a spreadsheet," says the refuge's Loredo. "But it's basically about a lot of communication. We talk to each other weekly, at a minimum."

"We're also looking at the nutritional value for the cows," adds Frankie. "If we think they're getting too fat, or not fat enough, we'll move them."

A bonus for the refuge is having the ranchers' eyes and ears at the site.

"We're here every day, including Saturdays and Sundays," says Frank, Sr.

Loredo agrees: "These guys are constantly telling us when they spot owls in the fields, when maintenance needs to be done, or if they see trespassers."

That kind of information is crucial for a refuge staff stretched thin in managing more than 30,000 acres. So is the knowledge the ranchers bring from their years of history with the land.

"I was out here irrigating when I was 16, and I'm 57 now," says the elder Imhof. "My grandfather had dairy cows in the hills here in 1929."

A connection to the land is a living tradition in the Imhof family. Both of Frank Sr.'s sons and his daughter were in 4-H and Future Farmers of America.

"Fremont used to have a Future Farmers," he says. "They don't anymore."

"A lot of people in this area now don't even know about the history with ranching here," his son, Frankie, points out. "They're amazed when I tell them we do cattle grazing in Fremont."

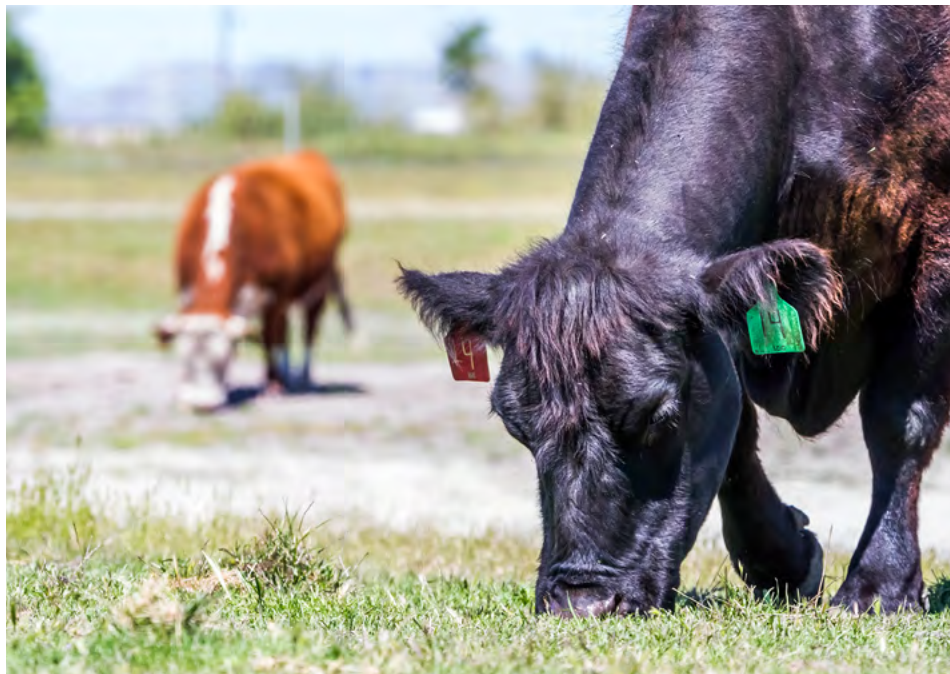
The Imhofs believe that their grazing partnership with the refuge offers useful lessons for conservationists, school groups and others who tour the site.

"It's showing people that what we do out here with grazing cattle doesn't harm the environment," says Frank, Sr.

In fact, as his son notes, it's helping.

"What better way are you going to have to pick these seeds up, fertilize them and spread them out?"

Under its contract with the Imhofs, the



*The Imhofs' cattle grazing at the refuge. Photo: Julie Kitzengerger*



*Vernal pools like this one at the Warm Springs unit of the refuge form in winter and last into spring. Photo: USFWS.*



*A California tiger salamander, one of the threatened species that depend on the vernal pool habitat. Photo: FWS*

Service determines market rate for grazing fees and uses that figure to calculate the amount of other work the ranchers have to do to cover it. That work can include construction of enclosure sites and help with restoration—projects that offer a learning

experience for the ranchers, as well.

"I tell folks all about the owls and salamanders here, and the Contra Costa goldfield..." says Frankie.

His father adds: "Without what the Service is doing here, this would have all been developed. And this will still be here in 50 years."

They agree that the collaborative effort is working well.

"We're very fortunate to be here, and Ivette has worked with us a lot," says Frankie. "She understands how our operation works."

"She taught me a lot," Frank Sr. offers, as Loredo stands alongside, smiling, "and I taught her a lot."

*Doug Cordell is a Public Affairs Specialist at the San Francisco Bay National Wildlife Refuge Complex.*

# Not Just for Wildlife, People Need Wildlife Refuges Too

Nearly two years ago, we embarked on an ambitious priority setting process using *The Open Standards for the Practice of Conservation* to help us work smarter and maximize results in support of our conservation mission across the seven refuges in the San Francisco Bay National Wildlife Refuge Complex. Through a structured and deliberative process of analyzing the full suite of conservation opportunities and challenges, identifying critical threats, and developing goals and strategies, we have developed a five-year work plan to reduce those threats and improve the condition of conservation targets.

Conservation targets are the ecosystems and species that we chose to prioritize our work and are representative of the array of biodiversity across our seven refuges - tidal marsh, coastal sand dunes, riverine sand dunes, estuarine islands, marine islands, vernal pool grasslands, the Pajaro River watershed, and the waterbirds of the San Francisco estuary.

In this process, we also felt it was important to acknowledge that healthy conservation targets provide human well-being benefits through ecosystem services. Ecosystem services are the services that intact, functioning ecosystems, species, and habitats provide and that can benefit people. Examples include water purification, flood protection, food, the practice of cultural traditions, and areas for recreation. Understanding the human well-being benefits that might be derived from our

conservation strategies is consistent with implementing refuge purposes and policies to enhance wildlife-dependent recreation opportunities and access to quality visitor experiences.

Based on the ecosystem services provided by the Refuge Complex's conservation targets, we identified five human well-being targets:

*Public health and environmental security* includes all the supporting and regulating services such as healthy air, water, food, and environment (contaminant, disease-free); security includes secure access to natural and other resources, reduced risk from natural and human-made disasters such as flooding.

*Mental and physical well-being* pertain to benefits to the individual which includes providing a physical place for rest, relaxation, and revitalization, which contribute to mental well-being and improvement of individual physical health through recreation and exercise.

*Culture, community, and heritage* is associated with the sense of place; serving as a place to gather or a focal point for a group of local people with shared experience or history, including Native American connections to the area; passing on of traditions or practices that occurred on the refuge.

*Increased knowledge and awareness* is the development of educational and interpreta-

tion opportunities that increase public awareness, knowledge, and understanding of fish and wildlife resources, ecological processes and the importance of our refuges.

*Wildlife-dependent recreation* includes hunting, fishing, wildlife observation, and wildlife photography.

These human well-being targets will guide the development of goals and strategies for our visitor services and communication programs. Our efforts to engage the



## Refuge Reflections

by Anne Morkill,  
Refuge Complex Manager

public in diverse ways - through environmental education, interpretation, hunting, fishing, volunteerism, citizen science, etc. - will increase public support for national wildlife refuges and broaden our conservation impact. By connecting to communities especially in our highly urbanized area, we hope to build a conservation constituency and encourage a strong conservation ethic - such as minimizing disturbance to wildlife and habitats, disposing of trash properly, taking care to contain invasive species-- in order to reduce threats to our targets and achieve our desired conservation results.



## Sale of Native Plants

### Saturday, October 13

10:00 a.m. - 2:00 p.m., 2 Marshlands Rd, Fremont

Time to landscape your yard before the rains start with drought-tolerant, native plants from the San Francisco Bay Area.

Create habitat for pollinators and birds.

For driving directions to the Don Edwards San Francisco Bay National Wildlife Refuge, log on to

[http://www.fws.gov/refuge/don\\_edwards\\_san\\_francisco\\_bay/drivingdirections.html](http://www.fws.gov/refuge/don_edwards_san_francisco_bay/drivingdirections.html)

Sold by the San Francisco Bay Wildlife Society

# Levee Project Ramps Up at Don Edwards San Francisco Bay National Wildlife Refuge

## South Bay Salt Pond Restoration Project at Ravenswood Ponds

Earlier this summer, trucks began transporting soil into the Ravenswood ponds directly south of Menlo Park's Bedwell Bayfront Park to shore up and repair levees. The ponds are part of the South Bay Salt Pond Restoration Project and shoring up the levees will ultimately benefit wildlife and people.

Once the levees are repaired, the Restoration Project can move forward

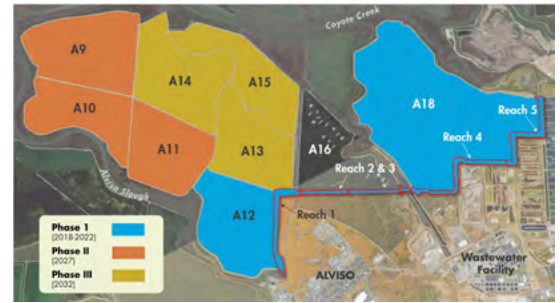


with enhancing wildlife habitat and outdoor recreation. Benefits include 204 acres of new tidal marsh, 37 acres of ponds for ducks and shorebirds, and a new trail and viewing platform.

The entire levee and restoration project at Ravenswood is expected to continue until 2021. The refuge and Restoration Project are working to minimize impacts to traffic and trail access at Bedwell Bayfront Park. For more information and updated announcements, go to our website at [www.fws.gov/refuge/don\\_edwards\\_san\\_francisco\\_bay/news/ravenswood.html](http://www.fws.gov/refuge/don_edwards_san_francisco_bay/news/ravenswood.html).

## South San Francisco Bay Shoreline Levee in Alviso

The South San Francisco Bay Shoreline Project, a federally funded effort to safeguard the north San Jose area between Alviso Slough/Guadalupe River and Coyote Creek from the risk of a 100-year coastal flood event, is moving forward. The project—a partnership of the U.S. Army Corps of Engineers, the State Coastal Conservancy, and the Santa Clara Valley Water District that involves land on the Don Edwards San Francisco Bay National



Wildlife Refuge—will mean construction of four miles of coastal levees to protect against sea level rise, restoration and enhancement of 2,900 acres of tidal marsh and wildlife habitat, and an increase in public access and recreational opportunities along the bay shoreline.

On July 6, U.S. Senator Dianne Feinstein announced that the project will receive \$177.2 million in federal funding as part of \$2.5 billion in federal funds for seven high priority flood control projects in California.

Construction of Reach 1 of the Shoreline Project levees, highlighted in the accompanying graphic, is tentatively scheduled to begin in summer, 2019. Stockpiling of fill material for Reach 1 construction in Pond A12 is expected to begin in late summer of this year.

Don Edwards San Francisco Bay National Wildlife Refuge

# Coastal Cleanup Day

Dumbarton Fishing Pier Parking Lot, Marshlands Rd., Fremont  
Saturday, September 15, 2018 • 9:00 a.m. – noon

Do you want to help wildlife and the environment? Join the thousands of people around the world for International Coastal Cleanup Day.

We'll supply gloves (or bring your own) and trash and recycling bags. You supply energy, sturdy shoes, sun protection, and clothes you don't mind getting dirty. Bring a reusable water bottle. For more information, and for groups larger than 10, please call 510-792-0222 ext. 361.

Children under age 18 must have parental approval. Children under the age of 16 must be accompanied by an adult. To expedite the registration process, log on to [www.fws.gov/refuge/don\\_edwards\\_san\\_francisco\\_bay](http://www.fws.gov/refuge/don_edwards_san_francisco_bay) to download the forms and bring to the registration table. Forms will also be available at the registration table.

# San Francisco Bay Wildlife Society Quarterly Message

**From the Trail:** Visiting national wildlife refuges around the United States is a passion for many of us, I know. In June, I had the opportunity to visit several on my trip north to Medford, Oregon, for a Friends Group PLUS Fish & Wildlife Service conference for Regions 1 and 8 covering Washington, Idaho, Oregon, California, Nevada, and the Pacific. Meeting other Friends Groups and Service staff is always a pleasure, since we all share the same passion for the refuges we support. I learned a lot about the northwest refuges on this trip, in particular, several rural refuges, in Idaho, Washington, and Oregon. Two of us representing the San Francisco Bay National Wildlife Refuge Complex attended: me (Friends President) and Paul Mueller, the Volunteer Coordinator for the Refuge Complex.

In one thought provoking conference discussion, I learned how a Friends Group is affected when the refuge they support is taken over by people who would not allow the public to visit, or let Friends and refuge staff do their jobs, specifically, the occupation of Malheur National Wildlife Refuge in early 2016. At that time, I was at a national Friends and Fish & Wildlife Service conference in West Virginia caught in over 40 inches of snow. There too, I was meeting people who are passionate about refuges in

the United States; passionate about helping wildlife, protecting habitat for endangered species, engaging the public, and fostering a sense of stewardship of the refuges.

The June discussion about “what can happen if...” was filled with emotion and heartfelt concerns for all our refuges. What if, due to budget losses, refuges lose so many Fish & Wildlife Service staff members that Friends efforts cannot adequately support the Service? Loss of Service staff members at our own Refuge Complex has resulted in closures of the Visitor Contact Station in Fremont and the Environmental Education Center in Alviso on Sundays. In this *Tideline*, we say goodbye to staff for another reason - our long-term, incredible Editor and Outdoor Recreation Planner, Carmen Minch, is departing for her well-deserved retirement. As your Friends Group, we are concerned about staffing losses and are working to find donations or grants to provide resources to fill some positions.

Closing on a positive note about refuges - during my drive up to Medford, my visits to the Sacramento and Colusa Wildlife Refuges along I-5 held surprises for a summer day (dry marsh beds in spots yet also much green). Visits to the Lower Klamath and Tule Lake Wildlife Refuges provided species I had never seen before (spotted sandpiper) or not often (yellow-headed

blackbirds), and lots of encouraging new life – fledgling Western grebes and cinnamon teals plus two juvenile bald eagles testing out their wings at dusk. On my return drive, the Humboldt Bay Wildlife Refuge was an oasis of calm early in the morning. It is fascinating to visit these locations and surprising to note that none of these refuges have active Friends Groups:

<https://www.fws.gov/refuge/Sacramento/>  
[https://www.fws.gov/refuge/humboldt\\_bay/](https://www.fws.gov/refuge/humboldt_bay/)  
[https://www.fws.gov/refuge/lower\\_klamath/](https://www.fws.gov/refuge/lower_klamath/)

**Volunteer Opportunities:** Volunteers are vital to our nature store operations at Fremont and Alviso, and are encouraged to get involved on various Board of Directors’ committees that help the Society function and grow. Or maybe you’d like to become a docent and assist with programming and activities. Join us, won’t you? Reach out to our Program Administrator, Mary Deschene, at [mary.deschene@sfbws.com](mailto:mary.deschene@sfbws.com) or 510-792-0222 ext. 364 for more information.

As always, check out [www.sfbws.com](http://www.sfbws.com). I also strongly recommend a visit to the National Wildlife Refuge Association site [www.refugeassociation.org](http://www.refugeassociation.org) to understand the challenges facing our refuges today.

**Cecilia (Ceal) D. Craig, PhD**  
President, SFBWS Board of Directors

## Sinking Underwater: a ghost town’s amazing legacy

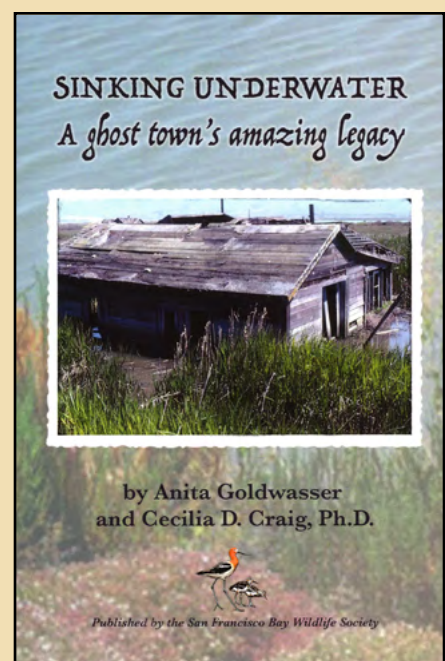
By Anita Goldwasser and Ceal Craig

Available now at the Don Edwards NWR Nature Stores  
2 Marshlands Road, Fremont, Wed-Sat 11 a.m.-4:30 p.m.  
1751 Grand Blvd., Alviso, Sat 10 a.m.-5 p.m.

Proceeds benefit the  
San Francisco Bay Wildlife Society.  
15% discount for Society members!  
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San Francisco Bay  
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# 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 April 1 and June 30, 2018. These gifts will be used for publishing *Tideline*, environmental education, habitat restoration, and interpretive programs at the Don Edwards San Francisco Bay National Wildlife Refuge.

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Jon Graff

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## Donations

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George and Beatrice Castro

Tim & Susan Stevenson for Bat Box at Don Edwards Wildlife Refuge

Overton Moore Properties for Equipment Shed at the Warm Springs Unit



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## Help Us Protect Your San Francisco Bay Wetlands!

Mail your membership donation to: San Francisco Bay Wildlife Society, P.O. Box 234, Newark, CA 94560. You may also become a member at [www.sfbws.com/donate](http://www.sfbws.com/donate).

For a gift membership, call 510-792-0222 ext. 364.

San Francisco Bay Wildlife Society is a not-for-profit 501(c)(3) organization that 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.

Enclosed is my donation of:

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*Thank you for your support!*

The San Francisco Bay Wildlife Society has:

- Introduced tens of thousands of students of all ages to the Don Edwards San Francisco Bay National Wildlife Refuge
- Provided weekend staffing at Visitor Centers
- Provided funding for restoration projects, a new boardwalk, trails, a greenhouse and native plant nursery

And much more ...

**Become a Supporting Member of the Society. Benefits include:**

- Free subscription to *Tideline* newsletter
- Tax deduction to the extent permitted by law
- 15% off at our nature stores
- Free book – *Exploring Our Baylands*
- The joy of helping protect this important environment

# Autumn Activity Schedule

Children under the age of 16 must be accompanied by an adult.

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

## September

Saturday, September 1

### \*Family Bird Walk

Visitor Center, Fremont  
10:00 a.m.-noon

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

### Nature Walk for Health

Visitor Center, Fremont  
10:30 a.m.-11:30 a.m.



Take a break from your busy schedule and refresh your spirit with nature at the refuge. Take a guided nature walk on the Tidelands Trail and hear what makes this National Wildlife Refuge unique. The 1.3-mile walk traverses through endangered species habitat and offers great views of south San Francisco Bay. Led by Rick Arellano.

Saturday, September 8

### Tai Chi & Refuge Nature Walk

Environmental Education Center, Alviso  
9:30 a.m.-11:00 a.m.



Morning Crane founder Chris Shelton is a certified Tai Chi and Qigong practitioner and instructor with 20 years of experience. Chris Shelton has helped thousands of people around the world reclaim their health and enjoy lives free from chronic pain. Join us for a short guided nature walk afterwards to learn about the refuge. Sponsored by Morning Crane and San Francisco Bay Wildlife Society. No registration necessary.

### Plants for Beginners:

#### Seeds and Fruit

Environmental Education Center, Alviso  
10:00 a.m.-noon

They're in cracks in the sidewalk and they make up entire forests – plants are everywhere! Did you know that you can learn a lot about plants with some basic knowledge? We'll walk around the garden at a botanist's pace (sloowly) using the native plants to learn easy-to-remember plant terminology. Wear weather appropriate clothing for being

outdoors and bring a water bottle and a sketch-book if drawing helps you remember. Develop the vocabulary you need to be plant literate. Good for all ages. Each program's topic will depend on the season. Reservations recommended. Go to <https://plantseedseeds.eventbrite.com>. Questions? Call 408-262-5513 ext. 104.

### Drawbridge Van Excursion

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

An abandoned town in the San Francisco Bay? That's right! Nestled on an island in the salt marshes of South San Francisco Bay, the town of Drawbridge once boomed. Was it a quiet, peaceful town full of nature lovers, or people scurrying out a living? How long did it exist? We will start with a slideshow, and then take a short van excursion to view Drawbridge across Coyote Creek. Program will be of most interest to adults interested in history or nature; children 13 and over with an adult are welcome. Space is very limited. RESERVATIONS REQUIRED. Go to <https://drawbridgefalleec.eventbrite.com>. Led by Ceal Craig. Questions? Call Hope at 408-262-5513 ext.104.

### Twilight Marsh Walk

Visitor Center, Fremont  
6:00 p.m.-7:45 p.m.

Experience the salt marsh at twilight on an easy stroll along Tidelands (1.3 miles) Trail. At the setting of the sun we will observe the beginning of nature's night shift. Come discover the sights, sounds, and smells of the refuge as night descends. Not suitable for young children. Go to <https://donedwardstwiight.eventbrite.com> or call 510-792-0222 ext. 363. Led by Mary and Gene Bobik.

Saturday, September 15

### Volunteer Work Party at Waterfowl Hunt Sites

Moffett Hunt Ponds, Sunnyvale  
9:00 a.m.-noon

Come help Don Edwards San Francisco Bay National Wildlife Refuge prepare for the upcoming waterfowl hunting season by volunteering to clean up the hunting site and repair hunt blinds in the Alviso Pond area. We will meet at 9:00 am on the levee between AB1 and A2E. Go to <https://bit.ly/2vqmEas> for more information and registration. Afterwards, join us for an information meeting at the Environmental Education Center in Alviso at 1 p.m.

### Coastal Cleanup!

Dumbarton Bridge Parking Lot, Fremont  
9:00 a.m.-noon

Join thousands of people around the world for International Coastal Cleanup Day. Bring a hat, sturdy shoes, water, sunscreen, and gloves if you have them. No reservations needed. For groups of 10 or larger, call Paul Mueller at 510-792-0222 ext. 361.

### Restoration Work Day:

#### Coastal Cleanup Day

Environmental Education Center, Alviso  
10:00 a.m.-noon

Interested in volunteering at the refuge? Come out for a Restoration Work Day celebrating Coastal Cleanup Day! We will be cleaning up trash along the entrance road into the refuge while learning about our habitats and wildlife. This is a great opportunity for middle school, high school, and college students to gain volunteer hours. Great for scout groups and families as well! All ages and skill levels are welcome to join. Gloves and tools are provided. Bring

a lunch to enjoy after. Reservations recommended. Please visit <https://restorationeec.eventbrite.com>. Questions? Call Hope at 408-262-5513 ext.104.

### \*Restoring Inner Bair Island Walking Tour

Inner Bair Island, Redwood City  
10:00 a.m.-11:00 a.m.

On this 1.5-mile walk, witness wetland restoration in progress. Hear the story of Bair Island and see how we are turning the former salt pond back into a healthy tidal marsh. Directions: Take Highway 101 and exit at Whipple Ave in Redwood City. Head west toward the bay. The road winds 0.5 mile becoming East Bayshore, then Bair Island Road. The Don Edwards National Wildlife Refuge Bair Island parking lot is on the right. Meet by the restrooms. Reservations recommended. Go to <http://innerbairtour.eventbrite.com>. Led by Vicki Martell.

### All About Owls

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

Learn all you've ever wanted to know about owls on the refuge! What do owls eat? Why don't we hear them when they flap their wings? Are owls the brainiacs of the bird world? Through an interactive presentation and owl pellet dissection, we'll find the answers to all these questions! Led by Paul Bridges. Registration recommended. Go to <https://allaboutowlseec.eventbrite.com>. Questions? Call 408-262-5513 ext. 104.

### Waterfowl Hunting Informational Meeting

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

Here's your chance to learn about waterfowl hunting on the Don Edwards Wildlife Refuge. Be informed about how to obtain a permit, wildlife refuge rules, and more.

Saturday, September 22

### Crafts in the Outdoors:

#### Beginning Leatherwork

Environmental Education Center, Alviso  
10:00 a.m.-noon

Doing crafts outdoors is a wonderful experience. Make and decorate (tool) a small patch for your backpack or clothing made from vegetable tanned leather. Learn how Bay Area residents used the tanoak tree for food and for making leather in this family-friendly program. Bring water, snacks, and appropriate clothing. This program runs rain or shine. Led by Steve Stolper, certified California Naturalist. Reservations recommended. Go to <https://leatherworkseec.eventbrite.com>. Questions? Call 408-262-5513 ext.104.

### Bay Bike Ride

Meet at the Visitor Center, Fremont  
10:00 a.m.

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

# Autumn Activity Schedule

Children under the age of 16 must be accompanied by an adult.

\*Trails are generally level.

Surface and trail conditions vary. Please call for accessibility information.

## Saturday, September 29

### Indicators that Fox are in Your Area

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

Do you sometimes see paw prints in mud or scat (poop) on the trails and assume that a dog left it? It could be from something else. Come along with me and I will show you how to distinguish and identify the markings of a gray fox. Gain some insights into the fox's nature and their behavior during the walk. By the time we are through, you will have a set of "tools" you can use to identify the presence of foxes in any area that you are in. Bring a hat, binoculars, and good walking shoes. Led by Bill Leikam from the Urban Wildlife Research Project. Register at <http://donedwardsfox.eventbrite.com>.

## October

### Saturday, October 6

### Webelos Adventure into the Wild

Visitor Center, Fremont

10:00 a.m.-12:30 p.m.

Attention Webelos! Earn your naturalist badge in just 2.5 hours. During this hike, learn about birds, flyways, food chains, and the importance of wetlands. Bring your binoculars, or borrow one of ours. The Refuge Headquarters offer Webelos programs for up to 15 Webelos. Registration required. Register at <https://donedwardswebelos.eventbrite.com>. Program led by June Smith.

### Stewardship Saturday

Visitor Center, Fremont

9:30 a.m.-noon

If you are interested in improving the refuge for visitors and for wildlife alike, join us at the Visitor Center for a stewardship project. We will do either a trash cleanup or a planting/weeding project. Dress appropriately for the task and for the weather. We will have gloves to lend and will provide the tools. Bring your own water bottle. Meet in the parking lot at the Visitor Center. Driving an additional 2.5 miles may be required since the project may be at a different location. For more information, or to make reservations, call 510-792-0222 ext. 361.



### Nature Walk for Health

Visitor Center, Fremont

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

See September 1 for program description.

## Friday, October 12

### Night Sky Party!

Environmental Education Center, Alviso

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

Meet the stars of Fall and view the moon and maybe some planets. Join our amateur astronomers as we learn about constellations. Make a star chart and then venture outside to view the night sky through a telescope. Afterwards, warm up with some hot chocolate. Dress warmly, as it gets cold in the evening. Fun for the whole family! Great for Scout groups! Reservations Recommended. Go to <https://nightskyfall18.eventbrite.com>. Questions? Call Hope at 408-262-5513 ext.104.

## October 13-20 is National Wildlife Refuge Week!

### Saturday, October 13



### Tai Chi & Refuge

### Nature Walk

Environmental Education Center, Alviso

9:30 a.m.-11:00 a.m.

See September 8 for program description.

### Hike the Mallard Slough

Environmental Education Center, Alviso

10:00 a.m.-noon

Look for birds, mammals, and animal tracks as we explore along the water's edge on this 3.7-mile nature walk. Bring binoculars and your favorite field guide to help enjoy the views. Have at least one liter of water, snacks, and appropriate clothing. Rain will cancel this hike due to possibly muddy trail. Led by Steve Stolper, certified California Naturalist. Reservations recommended. Go to <https://hikeectrail.eventbrite.com>. Questions? Call Hope at 408-262-5513 ext.104.

### Native Plant Sale

Visitor Center, Fremont

10:00 a.m.-2:00 p.m.

This is your chance to purchase that perfect native plant to add to your garden! Whether you're looking to re-landscape your yard with drought-resistant plants, or you want to create habitat for neighborhood birds and butterflies, this is the place to be!

### \*Family Bird Walk

Visitor Center, Fremont

Noon-2:00 p.m.

See September 1 for program description and registration information.

### Family Yoga (5-week session)

Environmental Education Center, Alviso

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



Bonnie Hasson presents Family Yoga at the refuge! Bring the whole family to participate in a one hour yoga class held outside surrounded by nature. Join us for a short nature walk after to learn about the refuge. This is a five week session – all classes are held on the following Saturdays: October 13, 20, 27, November 3, and 10. The first class is mandatory. More information will be given upon registration. A limited number of yoga mats are available for use during the class. Please plan accordingly. Ideal for children ages 5-10 and their caregivers. Sponsored by San Francisco Bay Wildlife Society and Santa Clara Val-

ley Open Space Authority. Reservations required. For additional information and to register, go to <https://familyyogaecfall.eventbrite.com>. Ticket registration ends Wednesday, September 26. Questions? Call 408-262-5513 ext. 100 or 104.

### Twilight Marsh Walk

Visitor Center, Fremont

5:30 p.m.-7:15 p.m.

See September 8 for program description and registration information.

## Saturday, October 20

### Bike Ride Tour

Environmental Education Center, Alviso

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

Join us for a bike tour on the Mallard Slough Trail! We will stop along the way to learn about the refuge, the wildlife and habitats, the importance of Coyote Creek watershed, and the history of the area. The ride is 4.5 miles on a level trail, and there is no shade. Must provide your own bikes, gear, and water bottles. Helmets are required for children. Water and snacks will be provided at a stop. Children ages 10+ recommended. Please use your best judgement on skill level for the distance. This event is in partnership with Keep Coyote Creek Beautiful and other local organizations. Reservations recommended. Go to <https://bikeridetoureec.eventbrite.com>. Questions? Call 408-262-5513 ext. 100 or 104.

## Sunday, October 21

### Visitor Center Desk

### Training – Day 1

Visitor Center, Fremont

10:00 a.m.-3:00 p.m.

The refuge is seeking volunteers to staff the Visitor Center information desk. Once trained, volunteers work a minimum of two shifts a month for a minimum of four months. This training is six hours and broken up into two days. On Day 1, we will walk the trails, discuss the history of the refuge and its mission, learn about the wildlife that lives here, and hear about the benefits of becoming a volunteer. To volunteer at the information desk, you must be able attend both training days. Day 2 training is held on Wednesday, October 24 from 6 p.m. – 8 p.m. To register, visit [https://donedwards\\_infodesk.eventbrite.com](https://donedwards_infodesk.eventbrite.com). For more information, contact Paul Mueller at 510-792-0222, ext. 361.

## Saturday, October 27

### Indicators that Fox

### are in Your Area

Visitor Center, Fremont

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

See September 29 for program description and registration information.

## Saturday, November 3



### Tai Chi & Refuge

### Nature Walk

Environmental Education Center, Alviso

9:30 a.m.-11:00 a.m.

See September 8 for program description.



## Stewardship Saturday

Visitor Center, Fremont

9:30 a.m.-noon

See October 6 for program description.



### Nature Walk for Health

Visitor Center, Fremont

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

See September 1 for program description.

### \*Family Bird Walk

Visitor Center, Fremont

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

See September 1 for program description.

### Pacific Flyway

Environmental Education Center, Alviso

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

Our wetlands are an important stop on the Pacific Flyway, a major bird migration route. Stroll with docent Laurel Stell to learn why birds migrate, why they stop along the San Francisco Bay, and to spot the birds in action. Trail is easy and level. All ages and abilities welcome. Meet at the SF2 trail parking area on the west side of the Dumbarton Bridge. Reservations recommended. Go to <https://pacificflyway.eventbrite.com> for driving directions. Questions? Call Hope at 408-262-5513 ext. 104.

## Saturday, November 10

### Intro to Geo PDF Maps

Visitor Center, Fremont

10:30 a.m.-noon

What's a Geo PDF map? How do you use it? A Geo PDF map is a map that you download and store on your smart phone. Use the free app called Avenza Maps to view and navigate from the stored map in your phone. Use it on hikes or bike rides to log your distance, start time, and duration, as well as perform other functions. You don't need wi-fi or a data connection once the app is installed. It uses your phone's GPS feature so it works even if you are out of range of mobile phone service. Meet at the Visitor Center to see a slideshow and find out how to obtain a copy of a Geo PDF map of the Don Edwards SF Bay National Wildlife Refuge. A live demonstration will follow. Led by docent Gregg Aronson. Register at <https://geopdf.eventbrite.com>.

### Twilight Marsh Walk

Visitor Center, Fremont

4:00 p.m.-5:45 p.m.

See September 8 for program description and registration information.

# Autumn Activity Schedule

Children under the age of 16 must be accompanied by an adult.

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

## Saturday, November 17

### \*Marshlands of Dreams

Visitor Center, Fremont

8:30 a.m.-9:30 a.m.

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

### Drawbridge Van Excursion

Environmental Education Center, Alviso

10:00 a.m.-12:30 p.m.

See September 8 for program description and registration information

### Hike the Mallard Slough

Environmental Education Center, Alviso

10:00 a.m.-noon

See October 13 for program description and registration information.

### Ohlone in the Marsh:

#### Acorn Grinding

Environmental Education Center, Alviso

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

Do you want to know more about the Native Americans that lived in the Bay Area before us? How did they survive without stores? Learn how the Ohlone lived off the land. Walk through the marsh and taste an Ohlone pickle, and grind acorns. Best suited for ages 8 and up. Reservations recommended. Go to <https://acorngrindingeec.eventbrite.com>. Questions? Call 408-262-5513 ext. 104.

## Saturday, November 24

### Salt Marsh Walk – King Tides

Visitor Center, Fremont

10:30 a.m.-noon

Take a walk with docent Gregg Aronson around the wetlands of the wildlife refuge and learn about their history. One of the highest tides of the season will take place at 12:35 p.m. See examples of salt collection ponds and learn what is being done to convert them back to their original, natural salt marsh state. Hear how wildlife is affected by the two types of habitat, and why it is important to control the rate of conversion from salt ponds back to the salt marshes. Register at <https://marshwalk.eventbrite.com>.

### Indicators that Fox

are in Your Area

Visitor Center, Fremont

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

See September 29 for program description and registration information.

## Bike Ride Tour

at

### Don Edwards San Francisco Bay National Wildlife Refuge, Environmental Education Center!

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



- Guided 4.5 mile ride on the dirt, levee trail
- Stops available during the ride to learn about the refuge, wildlife, and Coyote Creek watershed
- Water and snacks provided at one of the stops
- You must bring your own hybrid or mountain bike and a water bottle.
- Recommended for children ages 10 and up. Use your best judgement on skill level.
- Helmets required for children



Go to <https://bikeridetoureec.eventbrite.com> to register.

# Field Trips to the Refuge

## Wetland Round-Up Program\*

Wetland Round-Up field trip programs, designed for Kinder to 4<sup>th</sup> grade students, are offered at our headquarters in Fremont and at the Environmental Education Center in Alviso.

This program actively involves 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. We are piloting new and modified activities that support Next Generation Science Standards.

Educators and adult leaders conduct their own field trips after attending a field trip workshop. We provide easy to follow scripts for each station, but both leaders and chaperones are strongly encouraged to attend a field trip workshop. **New teachers must attend a field trip workshop.**

## Field Trips at the Learning Center in Fremont

Wetland Round-Up field trip programs will not be offered in fall 2018. Details about scheduling a Wetland Round-Up field trip for spring 2019 will be posted on our website in November 2018.

Contact the Environmental Education Staff at Fremont:

Office: 510-792-0222 ext. 475

Cell: 510-377-7269

Email: tia\_glagolev@fws.gov

## Field Trips at the Environmental Education Center in Alviso

### Wetland Round-Up Field Trips

Registration information for the 2018-2019 school year will be announced on the refuge's website in August 22, 2018. Go to <https://go.usa.gov/xQkCf>

Contact the Environmental Education Staff at Alviso:

Office: 408-262-5513 ext. 100

Email: genie\_moore@fws.gov

## Wetland Round-Up Field Trip Workshops

The workshop dates will be announced on-line with the field trip registration information (see above).

## Watershed Watchers Program in Alviso

The Watershed Watchers program is excited to announce the addition of Habitat Restoration Service Learning field trips for grades 5-12. Students have the opportunity to learn about the important habitats that surround the Bay, the wildlife that depend on them, and how they can help on the refuge and at home. Watershed Watchers is an interpretive program offered at no cost though the cooperative efforts of the Santa Clara Valley Urban Runoff Pollution Prevention Program, U.S. Fish & Wildlife Service, and the San Francisco Bay Wildlife Society.

Field trips include a habitat hike on the boardwalk and levee trails to see the five habitats at the refuge, restoration work, and upland habitat improvements in the butterfly garden and surrounding areas by removing invasives and planting native plants. A trash pickup using the Litterati app to document the types of trash found can also be included in the field trip. Field trips are limited to a maximum of 35 students with a minimum of 10. Field trips are 10:00 a.m.-1:00 p.m. and includes time for lunch.

Programs are offered September-May on Tuesdays and Thursdays at the Environmental Education Center in Alviso. Due to funding restrictions, program dates are limited and first priority will be given to

schools located within Santa Clara County.

Contact Hope Presley, Watershed Watchers Program Coordinator, at [hope.presley@sfbws.com](mailto:hope.presley@sfbws.com) or 408-262-5513 ext. 104 to set up your field trip. For more information, go to <https://go.usa.gov/xUkkp>

## College and University Field Trips in Alviso

### Staff-led Field Trips

Guided field trips by staff are two hours long and include a PowerPoint presentation followed by a habitat hike at the Environmental Education Center in Alviso. Reservations must be made at least eight weeks in advance of the desired field trip date. Please contact Hope Presley at [hope.presley@sfbws.com](mailto:hope.presley@sfbws.com) or 408-262-5513 ext. 104.

### College Instructor-led Field Trips

Instructors from local colleges can lead their own field trip excursions at the Environmental Education Center in Alviso. All instructors planning this type of excursion must make a reservation at least eight weeks in advance of the desired field trip date. If your group size is over 25, you will need to acquire a special use permit from our headquarters office in Fremont. Please contact Hope Presley at [hope.presley@sfbws.com](mailto:hope.presley@sfbws.com) or 408-262-5513 ext. 104.

Due to funding restrictions, reservations are limited and first priority will be given to schools located within Santa Clara County.

\*All of our programs are offered FREE of charge. Location of activities and trail conditions may vary. Please call for accessibility information.

## Programs for Scout Groups in Alviso

Programs offered for Boy and Girl Scout groups at the Environmental Education Center in Alviso and are sponsored by the Watershed Watchers Program. Please note that programs are 1.5 hours, and are offered September-May only. Programs must be scheduled 8-12 weeks in advance, and badges are not provided. Group leaders are responsible for fulfilling badge requirements. Visit [https://www.fws.gov/refuge/Don\\_Edwards\\_San\\_Francisco\\_Bay/Scouts.html](https://www.fws.gov/refuge/Don_Edwards_San_Francisco_Bay/Scouts.html) for additional information and to choose desired program. Contact Hope Presley at [hope.presley@sfbws.com](mailto:hope.presley@sfbws.com) to schedule.

Due to funding restrictions, the number of programs offered is limited and first priority will be given to groups located within Santa Clara County.

## Application for 2018-2019 Blue Goose Bus Funds

The Blue Goose Bus Fund was started with funding from the U.S. Fish & Wildlife Service's Connecting People with Nature Program. The San Francisco Bay Wildlife Society has provided additional funding for the 2018-2019 school year through a generous grant from the City of San Jose and the California Coastal Conservancy's Explore the Coast program. The program is administered by the U.S. Fish & Wildlife Service and San Francisco Bay Wildlife Society staff.

The fund was created to help Title 1 schools and schools with proven hardships to access the Wetland Round-Up and Living Wetlands Field Trip programs at the Don Edwards San Francisco Bay National Wildlife Refuge Environmental Education Center in Alviso and the Newark Slough Learning Center in Fremont.

Please refer to our website for more information at <https://go.usa.gov/xRVMJ>. You may also contact Genie Moore at 408-262-5513 ext. 100 or at [genie\\_moore@fws.gov](mailto:genie_moore@fws.gov).



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### San Francisco Bay National Wildlife Refuge Complex

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

**Tideline is On-Line** Visit our web sites at

[https://www.fws.gov/refuge/antioch\\_dunes](https://www.fws.gov/refuge/antioch_dunes)  
[https://www.fws.gov/refuge/don\\_edwards\\_san\\_francisco\\_bay](https://www.fws.gov/refuge/don_edwards_san_francisco_bay)  
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San Francisco Bay NWR Complex

# National Wildlife Refuge Week October 13-20, 2018

Nature walks, yoga and tai chi, plant sale, and a bike tour - there's something for everyone during National Wildlife Refuge Week. Celebrate your local national wildlife refuge! Check the listings on page 8 for more details.

### Tai Chi & Nature Walk

Environmental Education Center, Alviso  
9:30 a.m.-11:00 a.m.

### Hike the Mallard Slough Trail

Environmental Education  
Center, Alviso  
10:00 a.m.-noon

### Family Bird Walk

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

### Family Yoga (5-week session)

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

### Twilight Marsh Walk

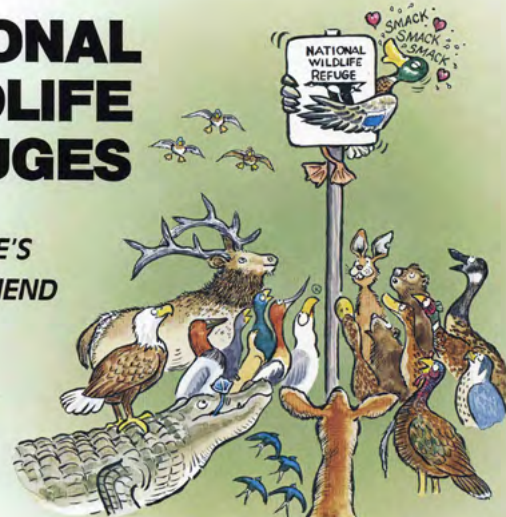
Visitor Center, Fremont  
5:30 p.m.-7:15 p.m.

### Bike Ride Tour

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

## NATIONAL WILDLIFE REFUGES

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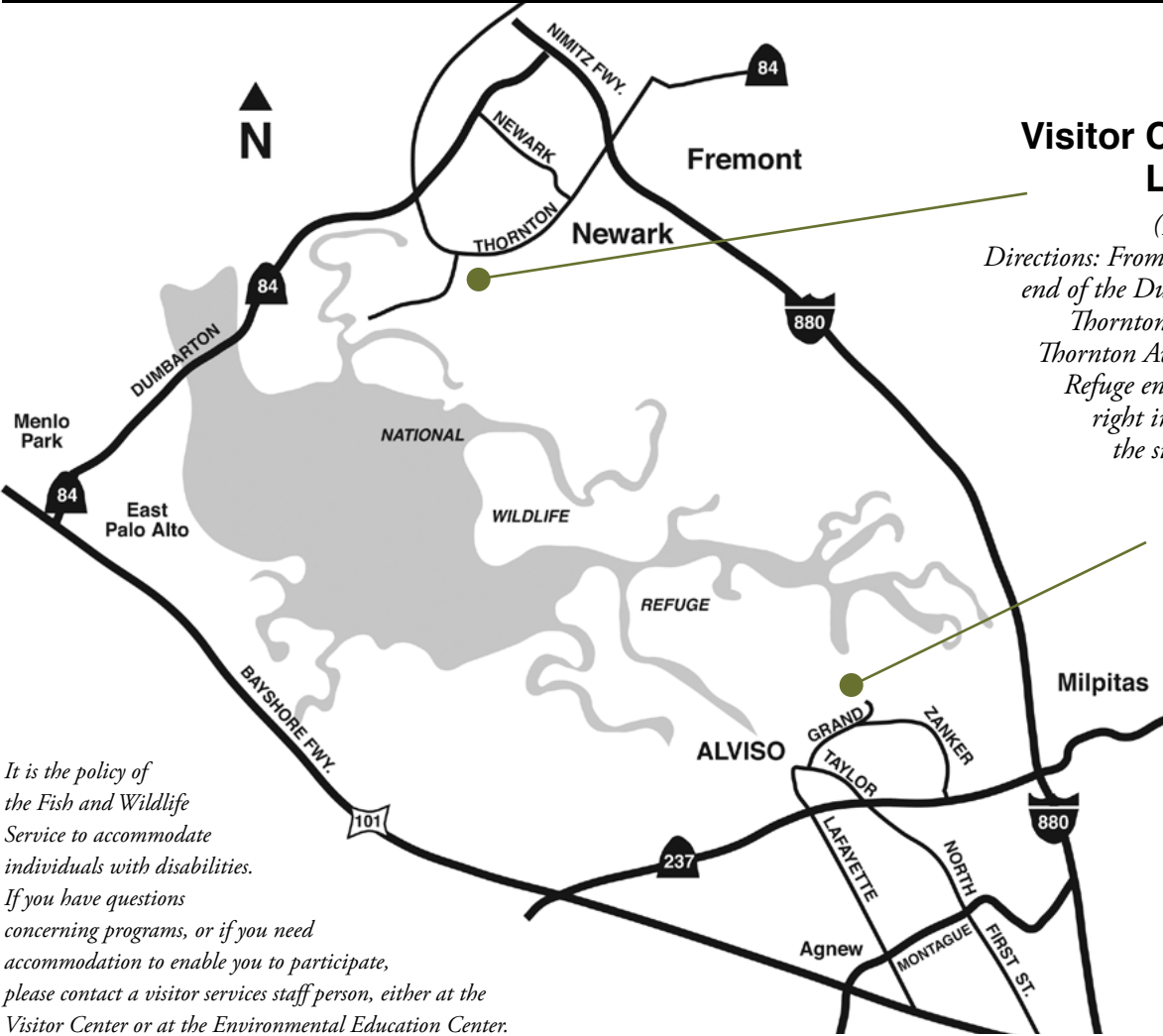
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**AUTUMN 2018**  
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**Visitor Center, Fremont  
Learning Center**

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

**Environmental  
Education  
Center, Alviso**

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

*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.*