



Volume 24, Number 3

## Grassroots groups work to improve habitat – one backyard at a time

By *Jim Nickles*  
*U.S. Fish and Wildlife Service*

Delighted at her own handiwork, Karen Paulsell points to a small dogwood tree that has taken root in a hidden forest she helped create.

“See the red bark?” she asks, smiling. “You can tell it’s a dogwood by the bark!”

Further up the trail, she collects a handful of ripe gooseberries, and marvels at the delicate color of a scarlet monkey-flower. She relates the flower’s history from the time she and other volunteers collected seeds along a nearby road to when they planted the young seedling next to a sparkling brook that dances over rocks.

Meandering along a foot path shaded by cottonwoods, alders and oaks, Paulsell could be in any remote stream canyon in California’s Sierra Nevada or coastal mountains. But she is on the banks of Oakland’s Sausal Creek, less than two miles from Lake Merritt. Hidden in the trees above, at the top of Dimond Canyon, are the homes of Oakland’s Glenview and Dimond neighborhoods.

A bumper-sticker of the early environmental movement exhorted people to “think globally, act locally.”

In the San Francisco Bay Area, and throughout California, homeowners, ranchers and residents like Paulsell live that philosophy every day. In partnership with local, state and federal agencies, they are working to improve some of our most critical and sensitive habitats – the often-forgotten creeks that flow through backyards, canyons and culverts and ultimately empty into the state’s biggest rivers and the Bay.

Operating on shoestring budgets, these grassroots campaigns to protect local watersheds are accomplishing a variety of on-the-ground actions to improve water quality, reduce erosion, minimize the threat of wildland fires, and revive habitat for native plants and animals.

Paulsell is a member of a dedicated group of volunteers who are helping revive Sausal Creek – a stream once thought lost to concrete, pollution and an invasion of non-native species. While much work remains to be done, large stretches of Sausal Creek today are a haven for native plants, birds and other wildlife, and a slice of solitude for urban dwellers.

Thanks in part to the pollution-cleanup efforts of the Friends of Sausal Creek, the stream even boasts its own self-sustaining population of native rainbow trout.

“What we are really about is enhancing the biodiversity,” Paulsell said.

Creek by creek, the Bay Area is home to dozens of grassroots watershed groups. Besides improving the quality of life for millions of residents, their work is enhancing an ecosystem that extends from the top of ridgelines to the Bay itself. The improved health of several creeks is helping the Don Edwards San Francisco Bay National Wildlife Refuge protect and restore 28,000 acres of wetlands ringing the Bay.



Photo by Jim Nickles, USFWS

*Karen Paulsell, a native plants specialist with the Friends of Sausal Creek, with some gooseberries she picked along the creek trail.*

Continued on page 2

# Grassroots groups work to improve

*Continued from page 1*

“We all know that water flows downhill,” said Refuge Project Leader Margaret Kolar. “Wildlife refuges in San Francisco Bay are at the bottom of the hill. When habitats are improved in the upper watershed, fewer sediments and pollutants flow to the Bay, which in turn helps protect refuge habitats.”

Watershed groups play an increasingly important role in efforts to recover a number of threatened or endangered species, including the California red-legged frog, the Alameda whip-snake, and the pallid manzanita. Recovering such species requires improving entire landscapes – a job that can only be accomplished if homeowners and residents pitch in.

“We can’t recover these species without their help,” said Harry McQuillen, who supervises endangered-species recovery in the U.S. Fish and

Wildlife Service’s Sacramento field office.

For instance, the first 35 tasks outlined in the Service’s recovery plan for the threatened California red-legged frog involve watershed management, from protecting

streambeds and riparian corridors to improving water quality and eliminating non-native predators.

Yet the Service – or any government agency – doesn’t have the time, resources, expertise or authority to manage the dozens of watersheds from Red Bluff to San Diego that are the range of the red-legged frog.

But if government agencies and local residents work as partners, there is no limit to what they can do, said Kathy Kramer, former director of the Aquatic Outreach Institute, a non-profit organization that assists watershed groups throughout the Bay Area. Kramer and her group played a key role in forming the Friends of

Sausal Creek in 1996.

“Together they have accomplished so much more than they could have done separately,” Kramer said of the group.

Throughout California, projects undertaken by local creek groups are impressive, wide-ranging, and doing much to help native wildlife. Much of their work is sophisticated and scientifically validated, and goes well beyond annual creek clean-up days.

For example, Paulsell and other Friends of Sausal Creek are working to preserve and reintroduce dozens of native plants; monitor water quality, birds and aquatic life, and remove exotic plants from one of the most scenic streams in the East Bay.

The Alameda Creek Alliance, another community group in the East Bay – [www.alamedacreek.org](http://www.alamedacreek.org) -- is working to revive native steelhead and salmon populations in one of the Bay’s largest watersheds.

Perhaps the most significant thing watershed groups are doing is outreach – educating residents about their backyard creeks, bringing them together as a community, and building constituencies for environmental stewardship.

“It helps create a community. It gets everybody involved,” said Ralph Kanz, a former board member and volunteer with the Friends of Sausal Creek.

For those involved in local watershed groups, the benefits can be both tangible and intangible, from enhancing their own property values to enriching their quality of life.

“Here is something you can do that is linked to these (global) issues,” said Diana Surber, another leader of the Friends of Sausal Creek. “But you can actually see the results of what you are doing in your own backyard.”

Of the Bay Area’s creek groups, the Friends of Sausal Creek --<http://www.sausalcreek.org/> -- may be among the most active and ambitious. In 2001, the group partnered with the city of Oakland to restore a stretch of creek in Dimond Canyon, just upstream of Dimond Park in the Oakland hills.

To restore the natural stream flow, crews hired by the city stabilized the banks and removed concrete barriers and walls in the channel that were built in the 1940s by the Works Progress Administration. While workers removed a thicket of non-native vines and trees, Friends volunteers planted 20,000 seedlings raised in the

*Friends of Sausal Creek activists (left to right) Mark Rauzon, Ralph Kanz, Diana Surber and Karen Paulsell, on a recent walk along the creek.*



*Photo by Jim Nickles, USFWS*

# habitat – one backyard at a time

group's own native-plant nursery.

What was once a choke of Himalayan blackberry and Algerian ivy is now a thriving urban forest with more than 60 different varieties of native plants.

On a recent tour, several members of the Friends of Sausal Creek marveled at the way 3-year-old alders, willows and dogwoods are now providing shade to trout and hikers and home to nesting birds.

"We actually watched a Cooper's hawk hunt in our backyard," Surber said. "It was amazing."

Ultimately, the group hopes to work with the city and other local agencies to restore the creek from the headwaters in Joaquin Miller Park to the mouth, where it pours out of a culvert into the tidal canal between Oakland and Alameda. Several miles of the creek still flows in pipes and culverts below ground.

In the meantime, the Friends of Sausal Creek is raising thousands of local native plants at its nursery in Joaquin Miller Park, planting them along the creek or making them available to other creek groups. The U.S. Fish and Wildlife Service's Coastal Program is providing the group with a \$5,000 grant this year to help support the nursery.

Service biologists have also studied the creek as potential habitat for the California red-legged frog. Though no frogs have been documented within the creek, the California red-legged frog historically was found throughout the watersheds of the East Bay. If the health of Sausal Creek continues to improve, red-legged frogs may turn up, said Don Hankins, a biologist with the Fish and Wildlife Service's Sacramento office who recently toured the creek.

The Friends would like to work with the Service, the city of Oakland, and the East Bay Regional Park District to help improve the health of several small patches of pallid manzanita, a threatened shrub, in the watershed's upper reaches.

Mark Rauzon, a wildlife biologist and Friends volunteer, said the group may seek funding to draw up a plan to conserve the manzanita, marshalling the resources, expertise and funding of several agencies and other partners.

"Otherwise, it (saving the species) is not going to get done," he said.

The Fish and Wildlife Service's Hankins, who has talked with the group about manzanita-recovery efforts, agreed.

"The more that we can get local groups to assume the responsibility for taking care of these species and the management of them, the better off we will be," he said. "We don't have the resources to be everywhere."

Watershed restoration is not just an urban phenomenon.

In Tehama County, the Sunflower CRMP -- <http://www.sunflowercrmp.com/> -- is working to improve the health of a vast belt of chaparral and woodlands on the west side of the Sacramento Valley, at the far reaches of the Bay-Delta watershed. One of its main goals is to improve the flow and functioning of the stream systems, enhancing water supplies for a "working landscape" of farms and ranches, Burrows said.

In fact, instead of a "watershed," the group calls its area a "water catchment basin."

"You want the water to go into the soil – the majority of it," Burrows said. "We don't want to shed water."

The Sunflower CRMP, named for a local stream, was adopted in the early 1980s when 65 landowners, and several local, state and federal agencies, signed an agreement to work together to reduce the threat of fire by improving management of the land. Burrows said the plan works because the landowners themselves are in charge.

Numerous state and federal agencies, including the Fish and Wildlife Service and the Bureau of Land Management, are providing assistance – from funding to technical expertise.

The CRMP has applied for a \$163,000 grant from the Service's Private Stewardship Program, which provides grants and other assistance to individuals and groups working to conserve federally protected species.

"You want to make any kind of stewardship system work ... it's got to be landowner-driven," he said. "It will never happen unless it is a landowner-driven process."



*The scarlet monkey flower blooms along Sausal Creek.*



*Photo by Jim Nickles, USFWS*

*Jim Nickles is deputy assistant field supervisor for External Affairs in the U.S. Fish and Wildlife Service's Sacramento field office.*

# 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 10, 2004 and July 16, 2004. These gifts will be used for capital, environmental education, habitat restoration, and interpretive programs at the Don Edwards San Francisco Bay National Wildlife Refuge.

## Matching Gift Program

Koh Kok-Wei, HP Employee Charitable Giving Program

## Sponsor

Mark T Jackson & Esperenza Uruena

## Participant

Andrew J Blasband, Kim Brink, Joseph V Costello, Jr, Robert & Harriet Jakovina, Laurel Przybylski, and Genny Smith

## Supporter

Alan & Cheryl Abel, Daniel Due, William T & Katherine Duffy, Jr, Richard & Imegene Hilbers, Laurence E Stearns, and David Williams

## Family

Lavonne M Coleman, David & Julie Darknell, Patricia G Devlieg, Jeanne & Dave Dittman, Donald & Margaret Emery, David & Marilyn Epps, Catherine M Felton, Steve Ferguson, Nancy & David Fries, Paul E & Marlene S Grunow, Arthur N Hicks, Lorraine J Hill, Melanie Ito & Charles Wilkinson, Gerald E & Susan C James, John B & Laura Jamieson, Martha A Johnson, John & Deborah Lukas, Liz McElligott, John & Melanie McKenna, Frederic & Kirsten Nichols, Laura Sharp & Scott Klein, David W Smith, Mark A & Kathleen Soulard, Jeanne & Albert Starr, and Julianne Yeaman

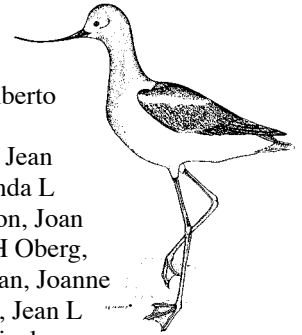
## Individual

Earl M Aagaard, George B Almeida, Gayle Anderson, Wilfred & Nilgiri Baer, Robert Ball, Lyle P Bickley, Patricia Callaway, Rosalie R Cape, Saul W Chaikin, Edith Cole, Edward F Dowling, Arthur Feinstein & Ruth Vose, Mary Ann Frankel, Laurel M Gould, Blanca L Haendler, Jan Z Hintermeister, Paul & Jule Jensen, Dave Keim, Jean Kovach, Philip A Lathrap, Maariam F Leiseroff, Harry & Lois Lutz, Pamela Lorenz, Candance S Martinez, Hedy McAdams, Eileen E

Menter (& Burke), Bonnie J Michalek, Sherrel A Miller, William Milestone, Annemarie Rosengren, Dolores Schmidt, Howard Shellhammer, Janet Thompson, Bracey & Richard Tiede, William G Vandenburg, Stephen P Walker, Carol Wolf, and Shanna Yonenaka

## Senior/Student

Leon M Abrams, Jack Alex, Harriette Atkins, Ruth Bailey, John Bowers, Don B Bristol, Doris M Brown, Erna B Coker (with additional donation), Bowen J Doerr, Marg Ann Dowd, Walter R Ems, Betty Foster, Barbara Friedrich, Stanley Halper, Rita Halper, Margaret Hartmann, Anne H Hootman, John Leahy, Philip Lindsay, Alberto Martinez, Mary McDevitt-Brown, Jean McNamara, Miranda L Miller, Dick Nelson, Joan M Nolen, David H Oberg, Curtis H O'Sullivan, Joanne Preston, Liz Price, Jean L Salmon, Robin Winslow Smith, Samuel D Sparck, David Stronck, Don J Thompson, Claudia Whitnah, Craig Williams, and Norma Zimmer



## 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:

- \$20 Student/Senior   
  \$45 Family   
  \$100 Participant   
  \$250 Sponsor   
  \$1,000 Leader  
 \$35 Individual   
  \$75 Supporter   
  \$200 Corporation   
  \$500 Sustainer

Check     Visa or MasterCard # \_\_\_\_\_ Exp. Date \_\_\_\_\_

Signature \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_ **Thank you for your support!**

## **Wildlife Art Exhibit to Benefit San Francisco Bay Wildlife Society and the Don Edwards San Francisco Bay National Wildlife Refuge**

The San Francisco Bay Wildlife Society will host internationally acclaimed wildlife artist D. Nicholson Miller, at a one-man exhibition of his art. The exhibit will be open Saturday and Sunday, September 11 and 12, from 10:00 a.m. to 5:00 p.m. at the Don Edwards San Francisco Bay National Wildlife Refuge at #1 Marshlands Road (off Thornton Avenue) in Fremont.

In addition to an original painting of sandpipers, donated to the San Francisco Bay Wildlife Society, the artist will donate 20% of all sales during the exhibit to the Society for conservation and wildlife preservation at the refuge.

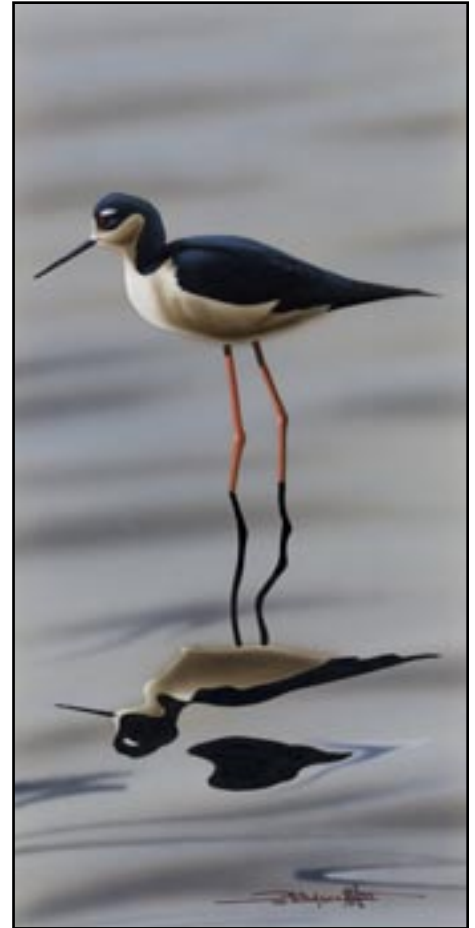
The Society has hosted showings of Miller's work in the past and in 1997 he was selected to do a commemorative painting for the Don Edwards San Francisco Bay National Wildlife Refuge's 25th anniversary.

Miller, a self-taught artist who grew up in San Mateo, has been obsessed with wildlife since childhood. His love of wild creatures inspired him to make them his lifelong study. Using acrylic paint he meticulously builds his images with thousands of brush strokes and free-hand airbrush to create what he calls

"ultra realism" paintings so lifelike they challenge the reality of the mind's eye. In addition to his collectors around the world his art has received awards from Ducks Unlimited, California Waterfowl Association, Pacific Flyways Decoy Association, John Scharff Migratory Bird Festival, Saratoga Rotary Art Show and the St. George Art Festival.

Miller is the only American artist to be awarded eight conservation stamps from Canada. His newest conservation stamp print is 2004 stamp for the Province of Ontario and features belted kingfishers. His art was selected for two Washington State Duck Stamps, the 2002 and 2004 stamp prints feature green-winged teal and pintail ducks. All the stamp prints will be available for purchase during the exhibition. Miller will also exhibit collector edition prints and originals featuring a wide range of wildlife including animals, birds of prey, upland game birds, songbirds, and waterfowl.

Take advantage of the opportunity to meet Miller, preview his work and purchase unique and valuable art at the show on Saturday and Sunday, September 11 and 12 from 10 a.m. to 5 p.m.



**Coming Soon to a Refuge near You...**

# **SHARK DAY 2004**

## **Swim by on October 16<sup>th</sup>**

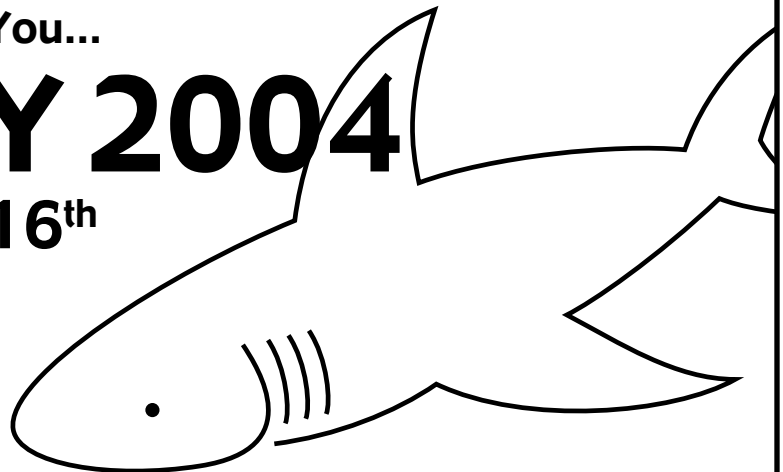
### **11am - 4pm**

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

### **Pet a live Leopard Shark from 12:00 p.m. - 3:00 p.m.!**

### **For more information CALL 408-262-5513**

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



San Francisco Bay National Wildlife Refuge Complex  
Celebrates

# NATIONAL WILDLIFE REFUGE WEEK

October 9-16, 2004

The San Francisco Bay National Wildlife Refuge Complex has scheduled a week full of events from San Pablo Bay NWR to Antioch Dunes NWR to Don Edwards San Francisco Bay NWR. Join us as we celebrate the National Wildlife Refuge System!

## OCTOBER 9

### ★ Connections to Pier Fishing

Dumbarton Fishing Pier, Fremont  
8:00 a.m. - 12:00 p.m.

### Discovery Hike

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

### Exploring the Dunes

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

### Botanical Wanderings

Visitor Center, Fremont  
12:00 p.m. - 1:30 p.m.

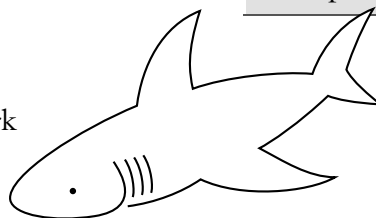
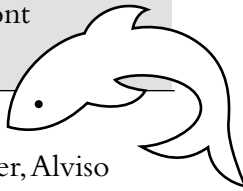
### ★ Native Plant Nursery Sale

Newark Slough Learning Center, Fremont  
(Down the hill from the Visitor Center)  
10:00 a.m. - 3:00 p.m.

## OCTOBER 10

### Salt Pond Tour

Meet at Bayfront Park, Menlo Park  
1:00 p.m. - 3:00 p.m.



## OCTOBER 12

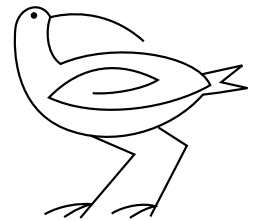
### Guided Bird Walk

San Pablo Bay NWR  
9:00 a.m.

## OCTOBER 16

### Guided Bird Walk

San Pablo Bay NWR  
9:00 a.m.



### Shark Day

Environmental Education Center, Alviso  
11:00 a.m. - 4:00 p.m.



### Twilight Marsh Walk

Visitor Center, Fremont  
6:30 p.m. - 7:30 p.m.

### Campfire Sing-Along with Mary Miche

Newark Slough Learning Center, Fremont  
(Down the hill from the Visitor Center)  
8:00 p.m. - 9:00 p.m.



For more descriptions and additional information, see pages 12-13.

★ONE TIME ONLY

# Caspian Tern Makes Presence Known at Salinas River NWR

By *Emily Amaral*

The phrase “return of the terns” has a new meaning at the Salinas River National Wildlife Refuge where for the past three years Caspian terns have been making their presence known. These gull-like terns, easily distinguishable by their heavy red bill, black cap and hoarse vocalizations, began nesting on the refuge three years ago. Their typical nesting habitat consists of barren, undisturbed islands, shores or levees; however, on the Salinas Refuge the terns discovered a patch of sand located between coastal dunes and a saline pond. This unlikely coastal location contains over 400 adults who divide into monogamous pairs throughout the breeding season which lasts from April through August.

Unfortunately for the threatened Western snowy plover, the location the Caspian terns chose to nest previously served as both a nesting and nursery area for the plover. The location is secluded, protected from human disturbance and gave the plovers an area away from the surf and the public to feed. Now that area is lost to the plover for the tiny plover is no match for the larger, aggressive tern.

This situation makes for an interesting dilemma. The Salinas Refuge is home to a variety of endangered species. As ecosystems are very complex, the presence of new species such as the Caspian tern can alter food webs and the distribution of other species. This issue becomes particularly sensitive when threatened species such as the Western snowy plover are affected. Caspian terns eat a strict fish diet; therefore, they do not compete with the plover for food. As illustrated earlier, their rivalry occurs over breeding habitat.

The Caspian tern colony also attracts several species of gulls which congregate alongside the terns. While gulls are a potential threat to the Caspian eggs and chicks the terns are fairly effective at defending their colony against unwanted avian intruders; as a colony they work together to drive predators and trespassers away. Plovers are small, non-colonial birds and are unable to protect their chicks and nests in the same way. As a result, their nests are in danger of being trampled by invading flocks of gulls in their area.

As shown, Caspians are constantly followed by controversy and continuously in a head to head competition with threatened and endangered species. But is the problem really with the terns? We cannot expect nature to restructure its delicate balance every time we encroach. As the human population grows so does the disturbance we cause. We have traveled to the moon, build skyscrapers 1400 feet tall and recently have sent

a spacecraft 800 million miles to the rings of Saturn; but, we have yet to discover our equilibrium with nature and force species into smaller and smaller areas.

Caspian terns are a cosmopolitan bird with breeding populations on all continents except Antarctica. Yet, in the United States they are constantly limited by suitable nesting site availability. They have been listed as threatened or endangered in three states or provinces and are a species of special concern in eight more. California currently has no state wide listing for the terns, however, if the Caspians remain the scapegoat for ecological problems in their



*FWS Photo*

environment we may soon see their name listed.

For now, on the Salinas River NWR, the colony has met with success. There are currently over 450 adults, 122 chicks and 114 fledglings. When the colony first formed in 2002 there were 120 adults present at the peak of the season. That number grew to 280 in 2003 and increased once again this year.

While the increase in population size is an exciting development the problems which occur with the Caspian’s presence are also increasing as the population grows and questions about how to manage the Refuge arise. In other states where the tern’s impact endangered species, management techniques include relocating entire colonies to manmade sites away from areas of concern. No such measures are being taken on the Salinas River NWR. Even though plovers are losing breeding ground there has been no attempt to dissuade colony formation as long term affects are yet to be determined. As the Refuge is a protected area along the Pacific Flyway more migratory species may show up providing competition for the plover and Caspian. Questions regarding management will become more complex. In the meantime the presence of the terns makes an interesting sight for fisherman, beach-goers and birders alike and perhaps a natural balance will yet be formed.

*Emily Amaral is a graduate of California Polytechnic University with degrees in Ecology and Systematic Biology. She is currently the biology intern for Salinas River and Ellicott Slough National Wildlife Refuges.*

# Fall Activity Schedule

## September

*Saturday, September 4th*

### Slow the Flow Presents: Habitat Hike

Environmental Education Center, Alviso  
11:00 a.m. – 12:00 p.m.

Ever wonder how many habitats are here at the Refuge? Come take a walk and see them all! See the salt marsh, sloughs, salt ponds and more on our short and easy trek! We will look at and try to 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 x 104.

*Saturday, September 11*

### Exploring the Dunes

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

Did you know there's a National Wildlife Refuge in Antioch? Well, 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.

### Salt Pond Tour

Meet at Bayfront Park, Menlo Park  
1:00 p.m. – 3:00 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 recently acquired by the Don Edwards San Francisco Bay National Wildlife Refuge. Geared for adults. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 43 for reservations and directions.

### Botanical Wanderings

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

Discover the diverse fall 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.

*Tuesday, September 14*

### Guided Bird Walk

Tubbs Island, Tolay Creek Parking Lot  
San Pablo Bay National Wildlife Refuge  
9:00 a.m.

Join Bruce Bajema on a guided bird walk on Tubbs Island in San Pablo Bay National Wildlife Refuge. Don't forget to bring your binoculars! No facilities. Directions to Tolay Creek: Take 101 to 37 and 37 to 1/4 mile past the stoplight for the turnoff to Sonoma. The parking lot is on the right just past the large lagoon. There is a small sign. This is a very active shorebird area. For more information, contact Refuge Manager Christy Smith at 707-975-5521.

*Saturday, September 18*

### Coast Cleanup!

Visitor Center Parking Lot, Fremont  
8:30 a.m. – ~~9:00 a.m.~~

Join thousands of people around the world for International Coastal Clean-Up Day. Bring a hat, sturdy shoes, water, sunscreen, and gloves if you have them. No reservations needed. All groups welcome. For more information, contact Carmen Minch or Matt Greuel at 510-792-0222.

### Coast Cleanup

Alviso Marina, Alviso  
9:00 a.m. - 12:00 p.m.

Join Refuge staff and local citizens in cleaning up the shores of the San Francisco Bay. We'll be picking up trash along the slough channels near the Alviso Marina. This is a great community service project and lots of fun for groups. Gloves, trash bags and snacks provided. Prizes awarded for most trash collected and the strangest item found. All ages welcome. Call Laurie at 408-262-5513 ext. 102 if you have questions.

### Slow the Flow Presents: Where Does All the Water Go?

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

Ever wonder where all the water that goes down the drain and the toilet ends up? Come see a talk and a slide show about how the San Jose/Santa Clara Water Pollution Control Plant cleans our wastewater, and then take a hike to see the Refuge habitats and how this cleaned wastewater affects them. Appropriate for ages 10 and up. Reservations required, call Tina at 408-262-5513 ext 104.

*Sunday, September 19*

### Salt Pond Tour

Meet at Bayfront Park, Menlo Park  
1:00 p.m. – 3:00 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 recently acquired by the Don Edwards San Francisco Bay National Wildlife Refuge. Geared for adults. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 43 for reservations and directions.

*Saturday, September 25*

### 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, 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.

### Drawbridge

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

A ghost town in San Francisco Bay? That's right! On Station Island nestled in the salt marshes of the south bay, the town of Drawbridge once boomed. Was it a quiet, peaceful community of nature lovers, or a rip-roaring town full of two-fisted rowdies? Join Pat Anthony, our Drawbridge historian, for a slide presentation followed by a short mini-van excursion to view Drawbridge across Coyote Creek. Please Note: this tour does not enter the town of Drawbridge. Mini-van excursion subject to weather conditions, rain a few days prior to the event will close the levee road. Program is intended for adults. Space is very limited, RESERVATIONS ARE ESSENTIAL. Call Laurie at 408-262-5513 ext.102 to reserve your space.

### Equinox Walk

Environmental Education Center, Alviso  
6:00 p.m. - 7:30 p.m.

Fall has arrived. Find out what's happening in the marsh during harvest season. Learn what makes an equinox and how people celebrate around the world. We'll take a twilight stroll through Refuge habitats looking for signs of fall. As the sun sets, we'll watch and listen for night creatures. Warm

**Don Edwards San Francisco Bay National Wildlife Refuge**

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



# Fall Activity Schedule

Don Edwards San Francisco Bay National Wildlife Refuge Presents

## Coastal Clean-Up Day

Saturday, September 18, 2004

8:30 a.m. – 12:00 p.m.

Join thousands of people around the world for International Coastal Clean-Up Day.

Help wildlife and the environment in your own backyard. We'll supply latex gloves and bags. You supply energy, sturdy shoes, sun protection, and clothes you don't mind getting dirty. All groups are welcome. No reservations needed!

For more information, contact Carmen Minch at 510-792-0222

up inside with a cup of hot chocolate and then join us at 7:30 for a look at the night sky. Dress warmly as the wind can pick up in the evening. Suitable for all ages, children welcome. RESERVATIONS REQUIRED, please call Laurie McEwen at 408-262-5513 ext. 102.

### Twilight Marsh Walk

Visitor Center, Fremont  
6:00 p.m. – 7:30 p.m.

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

### Night Skies

Environmental Education Center, Alviso  
7:30 p.m. - 8:30 p.m.

Join Refuge astronomer, Ralph Libby, and learn about the stars of Autumn. Then venture outside to view the night sky through a telescope. Bring your own binoculars or spotting scopes if you have them. Dress warmly as the wind can pick up in the evening. Fun for the whole family. Star viewing subject to weather conditions. Led by Ralph Libby. RESERVATIONS REQUIRED, call Laurie at (408) 262-5513 ext. 102.

## October

Saturday, October 2nd

### Slow the Flow Presents: Critter Café

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

Mud and water are pretty boring stuff, right? No way! Come take a closer look at some of the tiny, wiggly, squiggly creatures we'll find in samples of mud and water from marshes at the Don Edwards San Francisco Bay National Wildlife Refuge. Learn about macroinvertebrates and plankton – the tasty treats that shorebirds are eating at our five-star marsh 'cafes' at the Refuge. Recommended for ages 6 and up. Reservations required, call Tina at 408-262-5513 ext 104.

Sunday, October 3

### Gardening for Wildlife

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

Want to turn your backyard into a wildlife refuge? Come for an informative program followed by a tour of the Refuge's chemical-free habitat gardens. Discover drought-resistant plants that add beauty to your yard while attracting butterflies and birds. Find local native plant outlets. Learn from the Refuge's own native plant expert, June Smith. Please call Laurie at 408-262-5513 ext 102 to make a reservation. Space is limited.

Saturday, October 9

### Connections to Pier Fishing

Dumbarton Fishing Pier, Fremont  
8:00 a.m. – 12:00 p.m.

Have you ever wondered what the hoopla was all about? Learn the fundamental basics of catch and release fishing at the fishing pier! Discover the types of wildlife living in the San Francisco Bay, learn the safety and ethics of fishing, and then try your luck out on the pier with our fishing poles. All participants receive a free tackle box. Partnered with the California Department of Fish and Game. Space is limited to the first 50 people! RESERVATIONS REQUIRED. Must come on time. Call the Visitor Center desk at (510) 792-0222 for reservations.

### Discovery Hike

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

Join naturalist Ed Kantack for an enlightening hike around the EEC. Find out what critters are enjoying the Refuge during this time of year. What does Fall look like in a salt pond? In a salt marsh? Look for seasonal changes in our wetland habitats. Geared for ages 7 and up. Reservations required. Call Laurie at 408-262-5513 x102 to make a reservation.

### 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? Well, 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.

### Botanical Wanderings

Visitor Center, Fremont  
12:00 p.m. – 1:30 p.m.

Discover the diverse fall 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. Afterwards, stop by the Native Plant Nursery sale at the Newark Slough Learning Center and learn which plants are great for birds and butterflies! Led by Alvin Dockter.

Don Edwards San Francisco Bay National Wildlife Refuge

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

## National Wildlife Refuge Week!

October 9-16, 2004

Join the Refuge in celebrating the largest and most diverse network of lands devoted to protecting wildlife in the United States!

# Fall Activities

*Saturday, October 9*

### **Native Plant Nursery Annual Sale**

Newark Slough Learning Center, Fremont  
(Down the hill from the Visitor Center)  
10:00 a.m. – 3:00 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! Not only that, drop by open tables to find eco-friendly ways to care for your garden.

*Sunday, October 10*

### **Salt Pond Tour**

Meet at Bayfront Park, Menlo Park  
1:00 p.m. – 3:00 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 recently acquired by the Don Edwards San Francisco Bay National Wildlife Refuge. Geared for adults. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 43 for reservations and directions.

*Tuesday, October 12*

### **Guided Bird Walk**

Tubbs Island, Tolay Creek Parking Lot  
San Pablo Bay National Wildlife Refuge  
9:00 a.m.

Join Bruce Bajema on a guided bird walk on Tubbs Island in San Pablo Bay National Wildlife Refuge. Don't forget to bring your binoculars! No facilities. Directions to Tolay Creek: Take 101 to 37 and 37 to 1/4 mile past the stoplight for the turnoff to Sonoma. The parking lot is on the right just past the large lagoon. There is a small sign. This is a very active shorebird area. For more information, contact Refuge Manager Christy Smith at 707-975-5521.

*Saturday, October 16*

### **Guided Bird Walk**

Tubbs Island, Tolay Creek Parking Lot  
San Pablo Bay National Wildlife Refuge  
9:00 a.m.

Join Bruce Bajema on a guided bird walk on Tubbs Island in San Pablo Bay National Wildlife Refuge. Don't forget to bring your binoculars! No facilities. Directions to Tolay Creek: Take 101 to 37 and

37 to 1/4 mile past the stoplight for the turnoff to Sonoma. The parking lot is on the right just past the large lagoon. There is a small sign. This is a very active shorebird area. For more information, contact Refuge Manager Christy Smith at 707-975-5521.

### **SHARK DAY**

Environmental Education Center, Alviso  
11:00 a.m. – 4:00 p.m.

Are they all great whites? Are they as scary as they look? Come celebrate National Wildlife Refuge Week by spending the day learning about these incredible ocean dwellers. Come see and touch some special visitors (that have unusually sharp teeth) from 12-3pm, learn about sharks that live on the Refuge, take a guided nature walk, become a salinity sleuth, watch a puppet show, make a shark tooth necklace, and play some shark games while you're here. Everything is FREE. Call Laurie at 408-262-5513 ext. 102 if you have questions. Check our web site for more details: [http://desfbay.fws.gov/tideline/shark\\_schedule.htm](http://desfbay.fws.gov/tideline/shark_schedule.htm)

### **Twilight Marsh Walk**

Visitor Center, Fremont  
6:30 p.m. – 7:30 p.m.

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

### **Campfire Sing-Along with Mary Miché**

Newark Slough Learning Center, Fremont  
(Down the hill from the Visitor Center)  
8:00 p.m. – 9:00 p.m.

After the twilight marsh walk, join us for a foot-stomping, hand-clapping great time as you sing along by a campfire and in the pavilion. Warm your hands on cups of hot chocolate while listening to earthy tunes. A good time to be had by all!

*Saturday, October 23*

### **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, 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.

*Saturday, October 23rd*

### **Slow the Flow Presents: Slough Whoop?**

Environmental Education Center, Alviso  
1:30 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 a bit about these nocturnal predators. We will watch a slide show and see lots of owls, hike the habitats and search for owl clues, and get a chance to dissect owl pellets to discover exactly who that owl ate! Recommended for ages 6 and up. Reservations required, call Tina at 408-262-5513 x104.

### **Bats In Our Watershed**

Environmental Education Center, Alviso  
3:30 p.m. – 5:00 p.m.

Meet some nocturnal flying mammals up close and personal. Find out what you can do at home to protect bats living in your watershed. Maggie Hooper, from the Bat Conservation Fund, will clear up a few of the mysteries surrounding bats and their lives. Plus, Maggie will bring some live bats to the program. Find out which bats can be found in the Bay Area. All ages welcome. Please call Laurie at 408-262-5513 ext 102 to make a reservation. Space is limited.

*Friday, October 29*

### **Moon & Tides Nocturnal Walk**

Environmental Education Center, Alviso  
7:00 p.m. - 8:30 p.m.

Come explore the Refuge after dark. Bring your flashlight and extra batteries for this wild, new program. Our walk begins after sunset with a stroll along the boardwalk. Watch the moon rise and the tide fall – are they connected? We might spot owls, night herons, and who knows... maybe even a salt marsh harvest mouse! This will be a quiet walk so we don't scare the wildlife. Kids that enjoy the dark are welcome. Need a minimum of 5 people. Reservations required, call Laurie at 408-262-5513 ext 102.

*Saturday, October 30*

### **Salt Pond Tour**

Meet at Bayfront Park, Menlo Park  
1:00 p.m. – 3:00 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 recently acquired by the Don Edwards San Francisco

**Don Edwards San Francisco Bay National Wildlife Refuge**

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

# Fall Activity Schedule

Bay National Wildlife Refuge. Geared for adults. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 43 for reservations and directions.

*Sunday, October 31*

## **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. Led by Pat Anthony.

## November

*Saturday, November 6*

## **Bird the Refuge**

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

When winter comes, so do the birds. Where do they come from and where will they go? Join Peg Bernucci for a casual, informative birdwatching expedition. Peg will introduce you to some new feathered friends. Come meet birds that have flown thousands of miles to be here! Bring binoculars or borrow a pair of ours. Great for novice birdwatchers ages 5 and up. Please call Laurie at 408-262-5513 x102 to make a reservation.

## **Life Between the Tides**

**Visitor Center Entrance, Fremont**  
**1:00 p.m. - 2:30 p.m.**

Most wildlife and some plant life on the Refuge are affected by the tidal action. Join us for a short slide show followed by a leisurely walk along some of our trails to observe how living things adapt to the changes that occur while the tide goes from high toward low. Led by Ed Kantack.

*Sunday, November 7*

## **Salt Pond Tour**

**Meet at Bayfront Park, Menlo Park**  
**1:00 p.m. - 3:00 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 recently acquired by the Don Edwards San Francisco Bay National Wildlife Refuge. Geared for adults. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 43 for reservations and directions.

*Tuesday, November 9*

## **Guided Bird Walk**

**Tubbs Island, Tolay Creek Parking Lot**  
**San Pablo Bay National Wildlife Refuge**  
**9:00 a.m.**

Join Bruce Bajema on a guided bird walk on Tubbs Island in San Pablo Bay National Wildlife Refuge. Don't forget to bring your binoculars! No facilities. Directions to Tolay Creek: Take 101 to 37 and 37 to 1/4 mile past the stoplight for the turnoff to Sonoma. The parking lot is on the right just past the large lagoon. There is a small sign. This is a very active shorebird area. For more information, contact Refuge Manager Christy Smith at 707-975-5521.

*Saturday, November 13*

## **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? Well, 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.

## **Botanical Wanderings**

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

Discover the diverse fall 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.

## **Slow the Flow Presents: Puzzling Pipes**

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

Care to climb down your drain pipes? Well, maybe not! Instead, come out to the Refuge and jump into our fun maze of puzzling pipes. Bring your creativity because we will be learning where all of our water goes by designing our very own drain pipe system. Next, you'll get to design and decorate your own, unique household water-saver pail from recycled materials. Finally, while you wait for your newly crafted pail to dry, test your agility and luck in our water pipes obstacle course. Recommended for ages 7 and up. Reservations required, call Tina at 408-262-5513 ext 104.

*Sunday, November 14*

## **Salt Pond Tour**

**Meet at Bayfront Park, Menlo Park**  
**1:00 p.m. - 3:00 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 recently acquired by the Don Edwards San Francisco Bay National Wildlife Refuge. Geared for adults. RESERVATIONS REQUIRED. Call 510-792-0222 ext. 43 for reservations and directions.

*Saturday, November 20*

## **Slow the Flow Presents: Salinity Sleuths**

**Environmental Education Center, Alviso**  
**2:00 p.m. - 3:30 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 answer the question "How salty is it?" You will need to bring along keen senses of taste, smell and sight to determine which plants and animals live in the Refuge's salty habitats! Recommended for ages 10 and up. Reservations required, call Tina at 408-262-5513 x104.

## **Twilight Marsh Walk**

**Visitor Center, Fremont**  
**4:00 p.m. - 5:30 p.m.**

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

*Saturday, November 27*

## **Twilight Walk**

**Environmental Education Center, Alviso**  
**4:00 p.m. - 5:30 p.m.**

Had enough turkey? Need some fresh air? Join Refuge staff 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.

**Don Edwards San Francisco Bay National Wildlife Refuge**

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

# Despite Urban Predators, Snowy Plover Numbers Hold Steady

By *Natalie R. Wilson*

Most people know that habitat loss is one of the biggest threats to the Pacific Coast population of Western snowy plovers along the coastal beaches, where public recreation and development clash with shorebird nesting needs. Surprisingly, the growth of industry in the South San Francisco Bay, specifically commercial salt production, increased potential snowy plover habitat through conversion of tidal marshes to salt ponds. Plovers nest on salt ponds and salt pond levees which mimic beach topography and its sparse vegetation. This provides plovers with unobstructed views to warn them of potential predators. The color of dry salt ponds and pond levees is also similar to the color of coastal beaches, which helps to

camouflage the adults and young. Since several inactive salt ponds are currently managed for plovers by the Don Edwards San Francisco Bay NWR and California Department of Fish and Game the primary threat to plovers in this area is not from habitat loss but from predation.

Snowy plovers have many predators, avian and mammalian, native and non-native. Subsidized predators

have become one of the key issues at the Refuge in recent years. Subsidized predators are species that flourish in urban settings; taking advantage of resources provided by humans. Raccoons, ravens, and gulls are prime examples. They put unnaturally high predatory pressure on other native species, such as the local shorebird population.

For example, common ravens would historically nest in trees in upland habitats a good distance from beaches and wetlands. Now ravens, along with other predatory birds, can nest on power-line towers that cross through salt ponds and other types of wetlands. Adult ravens hunt salt ponds and scavenge from nearby dumps, which are great resources for subsidized predators. With food and shelter being readily available and nearby, the raven population is booming. When chicks fledge, they learn to forage and hunt the plovers in the salt pond. This is currently happening on the salt ponds near Warm Springs Seasonal Wetland Unit on the Don Edwards Refuge in Fremont. Other subsidized predators in the area include skunks, raccoons, feral cats, red-tailed hawks and several gull species.

Another predator species which preys on plovers is the northern harrier. Harriers are native and natural predators of the snowy plover, but habitat alterations and urban development in former upland harrier foraging areas have put the two species in closer proximity to each other than they have been historically. In the Baumberg area in Hayward, the Old Alameda Creek had been channeled around a system of salt ponds where plovers nest. This year a pair of harriers nesting in the creek channel was seen hunting plovers in the adjacent salt ponds on many occasions.

Assessing snowy plover nest predation is of special interest to the biologists of Don Edwards Refuge. In past years, the Refuge put up exclosures in areas subject to high levels of nest predation. While exclosures greatly increased nest success, some avian predators were able to key in on exclosures, causing nest abandonment. This year, refuge biologists did not erect nest exclosures since much of the snowy plover activity has moved away from areas populated with ravens, the primary avian predator of nests.

As of July 2004, there have been 60 snowy plover nests in the south bay. These have been found in the salt ponds of Baumberg, Ravenswood (Menlo Park), and the Warm Springs Seasonal Wetlands Unit. Six nests are still being actively incubated. Considering the 54 nests that are no longer active, 43 nests (80%) successfully hatched chicks, 3 nests (5%) had evidence of predation, 7 nests (13%) had an unknown fate, and only 1 nest (2%) was abandoned.

Because the breeding season has not yet concluded at the time this article was being written, comparisons to last year's data has not been assessed. In addition, this is the first time all three sites are being monitored during the same breeding season since 2001. There were 78 nests that year, and nest success was 80%. In 2001 only 4% of nests had direct evidence of predation and 8% were abandoned. The rest (8%) had an unknown fate.

Currently, the data points toward the same hatching success as 2001. This is a good indicator that our management is effective and that our decision to omit exclosures was sound. Eliminating the exclosures resulted in similar nest success and lowered the rate of nest abandonment.

With the Refuge's acquisition to many of the south bay's salt ponds, and its participation in the South Bay Salt Pond Restoration Project, we hope to increase and improve local habitat for snowy plovers. They are amazing and beautiful small birds that deserve all the protection we can offer.



FWS Photo

*Natalie R. Wilson is a graduate of Texas A&M University with a B.S. in zoology. She is currently the intern for the Don Edwards San Francisco Bay National Wildlife Refuge.*

## Pardon our Mess!

*Marshlands Road in Fremont will be undergoing construction September through January. The Refuge will be open during construction.*

*For more information, call 510-792-0222.*

## Special Thanks

Special thanks to the Wild Bird Center of Los Gatos, Santa Clara Valley Audubon Society, Happy Hollow Park & Zoo, and the San Francisco Bay Bird Observatory for their generous contributions to International Migratory Bird Day 2004.

### More Thanks

A big THANK YOU to Pizza Guys of Campbell for donating pizza boxes for our solar oven program. Thanks, they worked great!

The Don Edwards San Francisco Bay National Wildlife Refuge Presents

## Salt Pond Restoration Tours

View a thriving tidal marsh and visit newly acquired salt ponds during a docent-led walking tour 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

### TIDELINE

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

Volume 24, Number 3

Editor: ..... Carmen Minch

To receive Tideline, email [carmen\\_leong-minch@fws.gov](mailto: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: ..... Marge Kolar  
Don Edwards San Francisco Bay  
Refuge Manager:..... Clyde Morris  
Farallon Refuge Manager: ..... Joelle Buffa  
Farallon Refuge Operations Specialist:..... Jesse Irwin  
San Pablo Bay Manager: ..... Christy Smith  
South Bay Refuges Manager:..... Ivette Loreda  
Antioch Dunes Refuge Manager:..... Chris Bandy  
Refuge Planner: ..... Winnie Chan  
Chief of Visitor Services..... Karla Tanner  
Outdoor Recreation Planner: ..... Carmen Minch  
Environmental Education Specialists: .....  
Fran McTamane, Genie Moore, Ken Clarkson  
Volunteer Coordinator:..... Tia Glagolev  
Law Enforcement Officers:..... Barry Tarbet  
Biologists: ..... Joelle Buffa, Joy Albertson,  
Diane Kodama, Giselle Downard, Rachel Hurt,  
Sally Reynolds, Gerry McChesney  
Administrative Staff: ..... Sheila Blackman Bahan,  
Ellen Tong, Tess Dumaop  
Maintenance Staff: ..... Juan Flores, Larry Wade,  
Michael Springman, James Griffin, Colby Peterson

### 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: ..... Laura Sharp  
Vice President: ..... Jim Ferguson  
Treasurer: ..... Bart Anderson  
Secretary: ..... Jed Somit  
Directors: ..... Sue Ten Eyck, Christopher Kitting  
David Reinsche

#### 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://desfbay.fws.gov>

# 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. 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, the 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-Friday.

**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.

**\*\*\*PLEASE NOTE\*\*\* Reservations for Fall 2004 field trips will begin on \*\*\*THURSDAY, SEPTEMBER 9th \*\*\* from 4:00 p.m. - 5:00 p.m.. Call the Environmental Education Staff, at 510-792-0222, to reserve a date for your Trekking the Refuge or Wetland Round-Up**

*Field Trip at the Fremont Visitor Center this fall! For more information call Ken, or email him at ken\_clarkson@fws.gov.*

### Field Trip Orientation Dates at the Visitor Center in Fremont

Attention Educators and Youth Group Leaders: Call to reserve a place for yourself and any interested adult volunteers planning to lead activities on your field trip. It is our policy that you must attend every 2 years. Call the education staff at 510-792-0222.

#### **Wetland Round-Up Field Trip Orientations at the Visitor Center in Fremont**

Wednesday, September 29, 2004 4 p.m. - 8 p.m.

Tuesday, October 19, 2004 4 p.m. - 8 p.m.

Wednesday, November 10, 2004 4 p.m. - 8 p.m.

#### **Trekking the Refuge Field Trip Orientations at the Visitor Center in Fremont**

Tuesday, September 21, 2004 4 p.m. - 8 p.m.

Tuesday, October 26, 2004 4 p.m. - 8 p.m.

### Field Trips at the Environmental Education Center in Alviso

Educators and Youth Group Leaders:

**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.

**\*\*\*PLEASE NOTE\*\*\* Reservations for Fall 2004 field trips will begin on \*\*\*THURSDAY, SEPTEMBER 9th \*\*\* from 4:00 p.m. - 5:00 p.m.. Call Genie Moore at 408-262-5513 ext 100. For more information call Genie, or email her at genie\_moore@fws.gov.**

**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

# Field Trips to the Refuge

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, although 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.

Reservations for the *Slow the Flow* program are on a first come, first served basis. To schedule a field trip, a presentation, to sign up for a field trip orientation workshop, or for more information, please call the Slow the Flow Program Coordinator at (408) 262-5513 ext 104.

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

**Attention Educators and Youth Group Leaders:** Call to reserve a place for yourself and any interested adult volunteers planning to lead activities on your field trip. It is our policy that you must attend every 2 years. Call the education staff at 408-262-5513.

### **Wetland Round-Up Field Trip Orientation Workshops**

Tuesday, September 28, 2004 4 p.m. - 8 p.m.  
Wednesday, October 13, 2004 4 p.m. - 8 p.m.  
Thursday, November 4, 2004 4 p.m. - 8 p.m.  
Tuesday, November 16, 2004 4 p.m. - 8 p.m.

### **Environmental Education Programs at San Pablo Bay NWR**

*In the Marsh on Mare Island* is a FREE educator-led field trip program for grades K-12, for up to 40 students. Students participate in a variety of hands-on activities which teach them about the different habitats and wildlife found in the North Bay. In order to come on a field trip to the Refuge, teachers must attend one of our teacher orientation workshops. These workshops provide the educator with the information

needed to have a successful field trip. For reservations and information, call 707-562-2473.

***In the Marsh on Mare Island* Field Trip Orientation Workshops at San Pablo Bay NWR:**

Tuesday, October 5 3:45 p.m. to 7:30 p.m.

## Environmental Education Curriculum Available!

Are you a K-12 educator? Curriculum developer? Scout leader? Are you planning a field trip? Do you want to teach your child more about the environment? Are you looking for some Spanish-English bilingual material?

The EEC Curriculum and Resource Library may have just the thing to help you. Within our 200 resource items available at the EEC, you can find...

**On Sandy Shores: Teachers Guide** – Five detailed activities for grades 2-4: Beach Bucket Scavenger Hunt; Sand on Stage; The Sights That Sand Has Seen; Build a Sandy Beach; Oil on the Beach. Material provides good background information for teacher. Activities are designed for classroom use with projected times.

**Conservation Biology: A Curriculum for High School Students** - "Activities that reflect the problems and questions facing conservation biologists." Seven lessons address biological diversity including species extinction. Each unit has handouts and presentation pages for transparencies. Each lesson is organized including goals, duration, prerequisite knowledge/skills, background data, instructional strategy, and teacher tips.

**Spanish-English and English-Spanish** dictionaries of specific scientific terms are available in a California Aquatic Science Education Consortium (CASEC) Spanish supplement to a five volume series available in Spanish and English.

How can you gain access to this treasure trove? This resource library can be used by appointment during the week or from 10 am - 5 pm on Saturday and Sunday. Call the education staff, (408) 262-5513, to find out how you can peruse an Excel database of the resource library, find a particular item, and then be able to copy and use it!

*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!!*

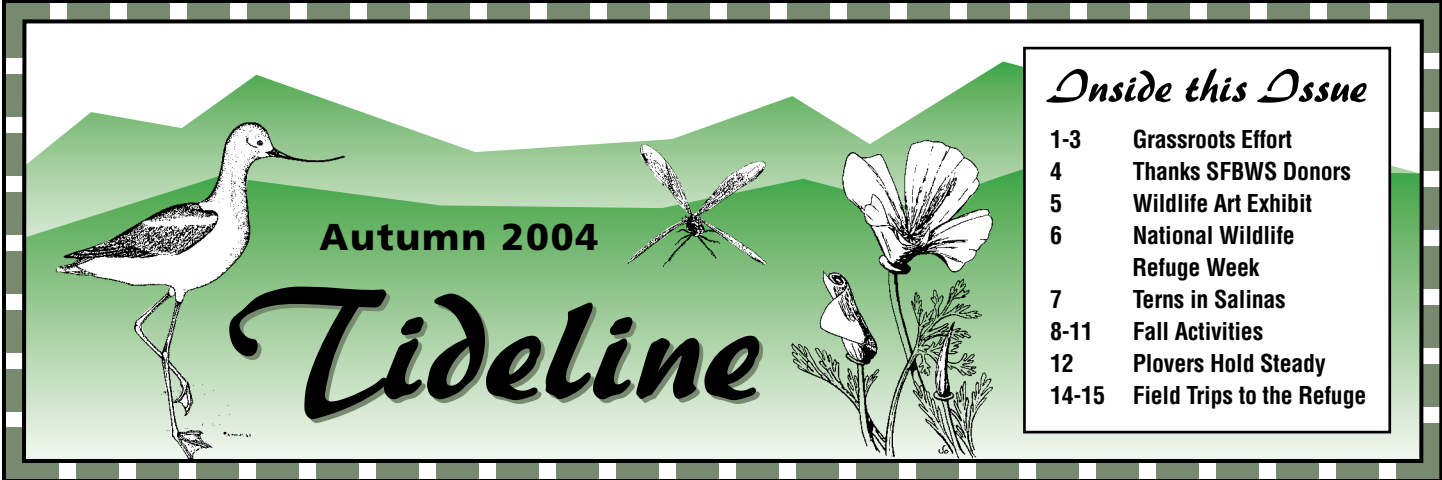
*Thank you for your help!*

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

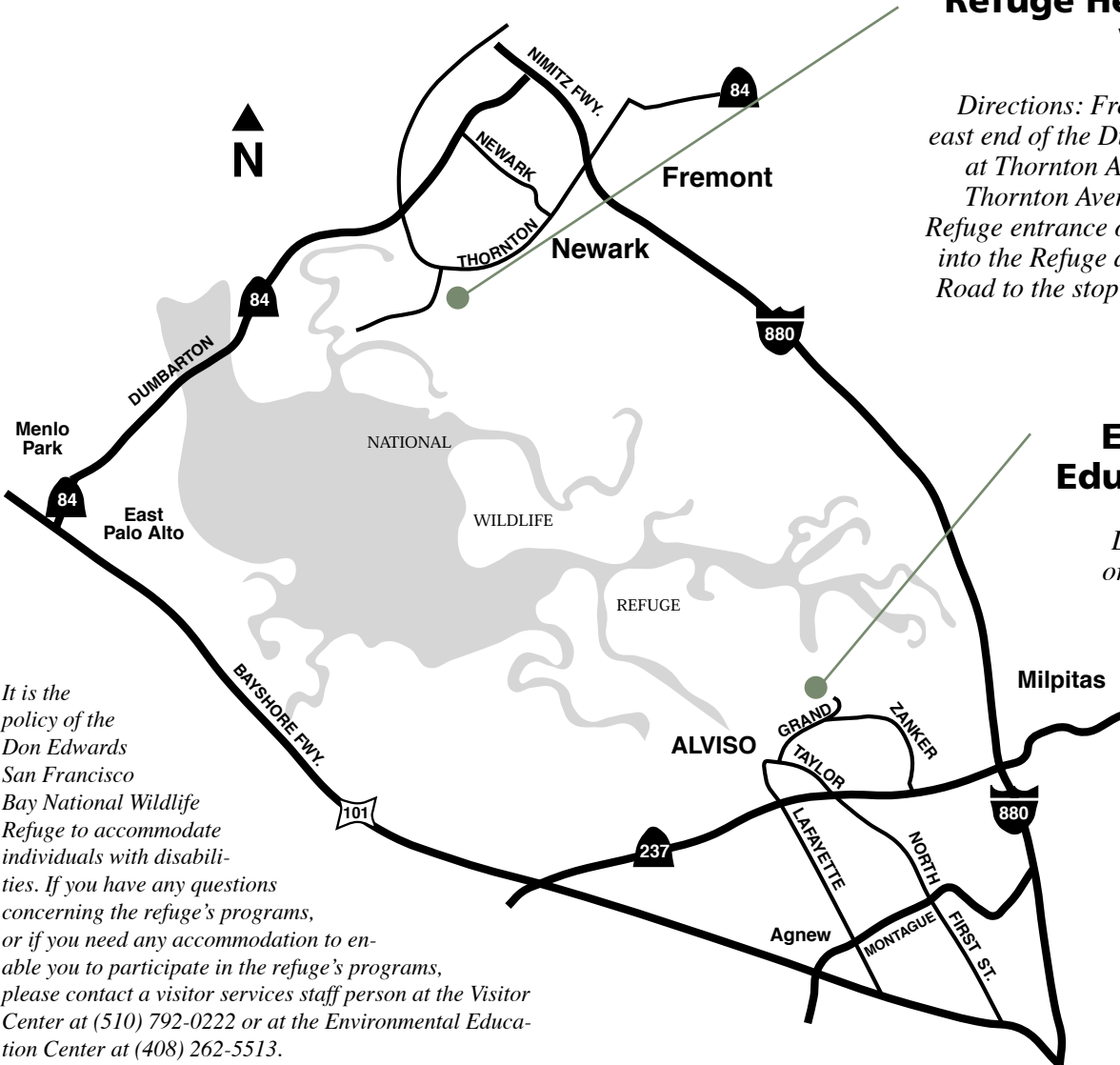
OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300

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



### Inside this Issue

- 1-3 Grassroots Effort
- 4 Thanks SFBWS Donors
- 5 Wildlife Art Exhibit
- 6 National Wildlife Refuge Week
- 7 Terns in Salinas
- 8-11 Fall Activities
- 12 Plovers Hold Steady
- 14-15 Field Trips to the Refuge



### Refuge 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.

### Refuge Environmental Education Center

(408) 262-5513

Directions: From I-880 or Highway 101, exit on Highway 237 toward 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 Don Edwards San Francisco Bay National Wildlife Refuge to accommodate individuals with disabilities. If you have any questions concerning the refuge's programs, or if you need any accommodation to enable you to participate in the refuge's programs, please contact a visitor services staff person at the Visitor Center at (510) 792-0222 or at the Environmental Education Center at (408) 262-5513.