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THE TERN TIDE

is published quarterly by Amigos de Bolsa Chica P. O. Box 1563 Huntington Beach, CA 92647 (714) 840-1575 (Phone/Fax) www.amigosdebolsachica.org info@amigosdebolsachica.org

Summary of 2010 California Least Tern Breeding Season at Bolsa Chica By Peter Knapp & Kelly O'Reilly, California Department of Fish and Game

October 2010 - The good news about the 2010 California Least Tern breeding season at Bolsa Chica is that there was a record number of 446 Least Tern nests and an expansion of nesting habitat used by the terns. Least Terns used Nest Site 2 (NS2) for the first time since its creation by the Restoration Project and there were more Least Tern nests on Nest Sites 1 and 3 (NS1 & NS3) this season (n 314 and nl9, respectively). South Tern Island (STI) had a total of 80 nests, which is normal. Although there were two Least Tern nests on North Tern Island (NTI), they were later abandoned due to subsequent colonization by large tern species (elegant, Caspian, and royal).

The bad news about the 2010 season is that predation on all of Bolsa Chica's nesting areas increased compared to previous years. Early in the season, gulls depredated the eggs of Elegant, Royal, and Caspian tern colonies on NTI and then the gulls turned their attention to Least Tern eggs on NS 1. During 2010, seventy percent of the Least Tern nests identified at Bolsa Chica were on NS 1. Of the 94 chicks monitors found on NS 1, an estimated 25 to 50 of them survived to fledge.

Throughout the season, monitors observed covote tracks across the entire length of NSI, an area covering approximately 10 acres. At the height of the Least Tern nesting cycle, coyotes depredated Least Tern and Black Skimmer nests continuously, taking eggs and chicks. Each time skimmer nests were depredated by coyotes, the skimmer colony moved northward on NS 1 to re-nest; trampling over Least Tern nests in the process. The Least Tern that utilized NS2 were second-wave nesters and may have been terns attempting to escape the heavy disturbance occurring on NS I. Unfortunately, all 31 Least Tern nests on NS2, as well as a couple of Western Snowy Plover broods, were predated by a family of ravens commonly seen hunting Bolsa's muted tidal basins and seasonal ponds. Although there was a total of 19 Least Tern nests on NS3, only 1 to 4 chicks survived to fledgling age. The balance of eggs and chicks on NS3 were taken by raven and coyote.

To increase breeding success of Least Tern at Bolsa Chica, we are hoping to implement the following in the future:

- 1. Increase the number of hours per day predator management is present at Bolsa Chica to insure that most mornings, most afternoons and some evenings are covered;
- 2. Install a gated chain-link fence across the east levee of the Full Tidal Basin (FTB) south of the road approaching NS 1 and extending down the banks of each side of the levee into each embayment (FTB and Bolsa Bay) to prevent large mammals such as coyote, opossum, and raccoon from accessing NS I.
- 3. During the non-breeding season, increase herbicide applications on NS I in order to reduce cover of non-native vegetation.

Docent Training Begins January 5 - Come Join an Elite Group of Amigos

Beginning January 5, 2011, a 5-week Docent training program will be held on Wednesday nights at the Bolsa Chica State Beach Visitor's Center from 7:00-9:00 pm. This training will also include two weekend field trips in Bolsa Chica. Each week a different speaker (Vic Leipzig, Helen Higgins, Barbara Sentovich, Kelly O'Reilly, and Dave Carlberg) will share with the class their knowledge about Bolsa Chica Wetlands ecology, history, birds and endangered species, the fish and macroinvertebrates, the restoration and maintenance project, and docent techniques. The \$40 class materials fee includes a docent manual filled with a wealth of background information and notes needed for tours and a pictorial binder to use during tours. Current docents are invited to attend (no fee) any of the classes to refresh their information, but please notify Margaret Carlberg, mcarlberg@ix.netcom.com. To register for the program or for more information contact the Amigos office at (714) 840-1575 or info@amigosdebolsachica.org.

State Beach Visitor Center Interior Exhibits Progress

California State parks has selected Dimensional Images as the contractor who is working to design, fabricate and install exhibits at Bolsa Chica State Beach Visitor Center. Dimension Images is a local, small business specializing in exhibits, trade shows, and creating interpretive and educational experiences.

The goal of the project is to design, fabricate and install exhibits at the Visitor Center located within the Visitor Center/Beach Headquarters building at Bolsa Chica State Beach. The primary objective of the proposed exhibits is to help visitors to Bolsa Chica State Beach explore the natural resources in the park and understand the connections the park has to the adjacent Bolsa Chica Ecological Reserve as well as the surrounding urban environment. Specifics of the exhibits have not been determined yet, but they are expected in the coming weeks. State Parks will work with the contractor to finalize the design drawings, move forward with finalizing the designs, and fabricate and install the final designs. The project is estimated to be completed by the end of Winter 2011.

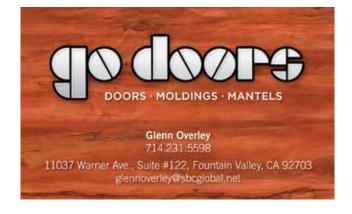
The existing Visitor Center is located within the north side of the building and is currently used for meetings and audiovisual presentations. Amigos de Bolsa Chica has been holding meetings and trainings in the room for the past 2 years, and has already given State Parks many photos and ideas for exhibits. We plan to continue to assist however possible.

Also, State Parks is open to receiving any additional artwork, images, ideas, and volunteer/community support. For more information on the project, please contact Blythe Liles, Regional Interpretive Specialist, Orange Coast District, California State Parks at bliles@parks.ca.gov or (949) 366-8503.

Monthly Help Needed, Part 1

2nd Sunday of each month, 9:00 am -12 noon: Native Plant Landscaping Maintenance at Bolsa Chica State Beach Visitor Center. Located just north of the entrance to BC State Beach, across from BC Ecological Reserve South parking lot. Light weeding, some planting, general tidying. Wear closed shoes, jacket. Tools and instructions are provided. Joint project between Amigos and Bolsa Chica Stewards. Call Margaret at 714-842-5619 for more information, or to RSVP.





Bolsa Chica Ecological Reserve Working Group News

By Jennifer Robins

The Bolsa Chica Ecological Reserve Working Group consists of representatives from the California Department of Fish and Game, Amigos de Bolsa Chica, Bolsa Chica Conservancy and Bolsa Chica Land Trust. It meets every two months at the Department of Fish and Game office on the reserve. The purpose of the meeting is to share information about what is happening on the reserve by the 4 different groups, plan for activities involving all groups and discuss problems that have arisen.

At the most recent meeting held in November, Kelly O'Reilly, Department of Fish and Game Reserve Manager, shared information about the breeding status of the Least Tern - see article on page 1 - as well as the Western Snowy Plover. She also reported that dredging of the full tidal area will start in December, 2010 (see her report on that below).

Carla Navarro, Department of Fish and Game Manager, reported that the Department is closing the fishing area between the Warner bridge and the new pedestrian bridge. She is working on getting a barricade to be placed under the bridge and a split rail fence will be installed to prevent walking into restoration area. They need to have a Department of Fish and Game presence in the area to show that they are changing access. Fishing needs to be stopped in the areas of erosion.

The Amigos de Bolsa Chica reported that Amigos is actively working on two projects, a Junior Naturalist program and to produce new offsite presentations for schools. The Bolsa Chica Conservancy is working on a Bird/Mammal/Plant card for the Reserve. Their kayak cleanups continue during the non-breeding seasons. The Bolsa Chica Land Trust started the fall/winter planting on the Mesa in October. Their Miracles of the Marsh educational program continues. During the time period of 2001-2009 the Land Trust served over 11,000 students.

The interpretive signage project that all four groups have been collaborating on during the past year is on-going. The design has been approved by the groups and the next step is to work on the text that will be incorporated on the signs. The Acorn Group of Tustin will produce the signs. Cal Trans has begun a project that will replace the K-rails along Pacific Coast Highway north of the dam that will have 495' of pedestrian cable railings and add 538' of metal beam railings. Department of Fish and Game issued comments regarding the project making note that endangered and threatened wildlife must be protected and that any coastal development permit needs approval.

Dredging to Begin in January

by Kelly O'Reilly

Maintenance dredging of Bolsa Chica's Full Tidal Basin will begin early January 2011 and, if necessary, will extend into mid March, 2011. Sand entering the basin's inlet accumulates there and over time, the tidal range within the basin becomes muted. In order for the Full and Muted Tidal Basins within the wetland restoration project to function as designed, the FTB must be dredged approximately every-other year. The dredged material, known to be clean beach sand, will be deposited onto the beach south of the inlet. The dredge operator, Ross Island Sand & Gravel Co., will work Monday – Saturday, 24 hrs per day until the job is completed or the breeding season begins—which ever comes first. The cost of this dredging event will be \$3.3 million dollars.





2010 Tours – Thanks to Amigos Docents

by Laura Holdenwhite

In 2010, Amigos had 52 tours given by 53 active docents. There are 11 more active docents than there were last year. There were also 13 booth events or off-site presentations. We had over 1600 visitors. We had more tours and more active docents but the number of visitors is down considerably from last year's totals. One reason is that we are in an era of budget cuts. Many school districts cannot afford the cost of buses to send their students on a field trip to the Bolsa Chica. Amigos actively pursues grants to fund buses. Our members are welcome to contribute to this fund or sponsor a class. The usual cost is between \$200 and \$500, depending on whether the districts own their own buses. Please contact Laura at info@amigosdebolsachica.org if you want to make a donation or know of a worthy class. Also, please consider arranging a tour or speaker for a group you belong to.

The following docents were active this past year with tours, Earth Day Events, Coastal Cleanup & offsite programs: 1-3 programs: Jim Aldridge, Alma Bowman, Patti Cacho-Negrete, Shirley Dettloff, Craig Frampton, Terry Hill, Laura Holdenwhite, Mary Ellen Houseal, Alina Lee, Kevin McCarthy, Nick Nguyen, Jamie Pavlat, Barbara Sentovich, Marlene Singer, Phil Smith, Donna Starr, Don Thomas.

4-7 tours or programs: Sanford Adelman, Joyce Beardsley, Barbara Binaski, Mike Concannon, Lori Donohue, Chuck Drescher, Dean Elder, Ross Griswold, Helen Higgins, Bob Hogan, Bob Johnson, Vic Leipzig, Jim Marshall, Susan Mickelson, Betty Murphy, David Myers, Fran Pike, Carol Rice, Sharon Simmons, Julia Tafel, Gail Vize, Elissa Warantz.

8-14 tours or programs: Dave Carlberg, David Casey, Ron Davis, Jerry Donohue, Patty Overley, Susie Pendleton, Barbara Stewart, David Vize.

14-23 tours or programs: Margaret Carlberg, Jennifer Robins, Jim Robins, Al Vari, Ed Zschoche.

Jerry & Lori Donohue 2010 Amigos Docents of the Year

By Margaret Carlberg

Jerry joined the Amigos in 1981 and became a Life Member in 1983. He didn't have time to be a really active member until he was ready to retire from being an energetic junior high science teacher, and he and his wife Lori took the 2009 Docent Training Class. Since then he has given dozens of tours for Amigos, helped with many booth events, and

assisted Lori in developing new activities for kids. For more than a year on the 2nd Sunday of each month he has helped with the Amigos and Land Trust joint project in improving the native plant landscaping at Bolsa Chica State Beach Visitor Center, including weekly watering of the newly planted natives. He is a good environmental role model, bicycling everywhere, recycling, taking classes, and patiently explaining to all ages the benefits of caring for our wildlife and environment. He shares so much time and knowledge about science and Bolsa Chica.

Lori joined the Amigos in 2009 at the Docent Training Class, and immediately became active with tours and booth events, and with the Community Education Committee. She saw a need for engaging kids, and developed two excellent handson activities that have been used all year at booth events—Bird Beaks and Feeding, and Plastics Pollution and Marine Animals. Lori is a well organized teacher, as her very active committee developing a new Coastal Wetlander (Junior Naturalist) publication knows.

Trained as a school nurse and librarian, she is now working part time at Golden West College. And there is no clowning around with her on the trail (only when she is masquerading as a clown for parties!) Last summer Lori was part of two Least Tern monitoring projects, with the Bolsa Chica Conservancy "Eyes On the Tern Site" at the end of the footbridge from the South parking lot, and with State Parks and Department of Fish and Game at Huntington State Beach at the Santa Ana River.

As they travel around the country in their camper, Jerry and Lori have become avid birdwatchers. They attend ranger programs and gather literature to share with friends, and now with the Amigos. Last March they took part in the Oregon State Parks program "Whale Watching Spoken Here" and participated in the official count of the migrating California grey whales. *Photo by Tom Anderson*.



Eelgrass Thriving in Restored Areas of Bolsa Chica

By Dave Carlberg

One of the most significant observations made by the biologists who are monitoring the progress of the Bolsa Chica restoration has been the enormous increase in the amount of eelgrass growing in the full tidal basin. Why get excited by something called eelgrass? Eelgrass is the unsung hero of coastal wetlands. In its own concealed way, it plays innumerable critical roles in the functioning of a wetland. It normally grows underwater on the sandy or muddy bottoms of lagoons and bays such as Bolsa Chica's full tidal basin. Spreading rapidly, it can quickly cover acres with slender, green leaves. Eelgrass is not a seaweed, it is a flowering plant that happens to grow in seawater. It propagates vegetatively through the expansion of new shoots, or through the spread of seeds, which appears to be the dominant means in Bolsa Chica.



It has been observed that populations of invertebrates and fish better than double wherever eelgrass establishes itself. Its long leaves, sometimes extending three feet, provide protective havens for shellfish and fish larvae as well as food for many species. Some fish species spawn in eelgrass beds. Through photosynthesis, eelgrass raises the oxygen level of the water in which it is growing. Eelgrass often dies back in the winter and its decaying leaves add large amounts of organic matter to a wetland's food web. Firmly anchored in the wetland bottom by rhizomes and deep roots, eelgrass acts as a stabilizer that reduces erosion of bottom sand and mud caused by tidal currents. Scientists use eelgrass as an indicator of the health of a body of water. Eelgrass is sensitive to pollution, particularly pollution involving high levels of nitrogen or excessive turbidity. Newport Back Bay is presently experiencing a loss of its eelgrass apparently due to runoff from the San Diego Creek.

In Bolsa Chica, eelgrass has shown the most dramatic increase of the wetland's vegetation. Merkel and Associates, the firm that has been contracted to monitor the progress of the restoration, reported that in 2007 0.8 acres of eelgrass were planted in the full tidal basin. By 2008 the plants had covered 2 acres, and in 2009, the eelgrass had expanded to 32.5 acres, a forty-fold increase in just two years. Surveys were not conducted during 2010, but will resume in 2011. The bulk of the plant's growth has occurred near the southern, or inlet end of the Full Tidal Basin, although within the last year increased propagation appears to be occurring at the northern end of the basin where most of the initial seeding took place. In light of the vigorous growth of the eelgrass in the full tidal basin at Bolsa Chica, it is one more indicator that the restoration has been enormously successful. *Photo by Tom Anderson*.

The Falcon & and the Pelican, A Double Success Story

By Barbara Sentovich

Last year, after almost forty years, two birds which frequent the Bolsa Chica Ecological Reserve were finally taken off of the endangered species lists. The American Peregrine Falcon and the California Brown Pelican were officially delisted as biologists determined their numbers had sufficiently rebounded. This represents a huge environmental success story, a double success.

The American Peregrine Falcon was placed on the Federal and California Endangered Species lists in 1970 and 1971, respectively. It was the victim of the agricultural pesticide DDT. When the birds ingest the chemical it interferes with the calcium metabolism resulting in eggs with thin, fragile shells. Such eggs were easily broken, thus interfering with the reproductive cycle. In 1975 only 39 mating pairs were known to exist in the lower 48 states. Under protective programs those numbers grew to 1,593 pairs in 1998, more than double the original target. In 1999 the falcon was Federally delisted. By 2000 it was estimated there were 1,700 pairs. Just last year the bird was also removed from California's endangered species list. This was good news for falcons, but not so for pigeons, rodents and other prey that the falcons favor.

Gray Whales Heading South Now

By Jerry Donohue

During late December through late February, gray whales are heading south to lagoons in Mexico to give birth as part of their annual migration. Yes, you can see them most days from Pt. Vicente Interpretive Center on the Palos Verdes peninsula and talk to American Cetacean Society docents tallying their numbers. However, if you have a week to spare and like the Oregon coast, the Oregon State Parks have a program for you. It is called Whale Watching Spoken Here. Jerry and Lori Donohue became docents to count whales and educate the public during this migration in 2010. The training takes place over a weekend along the Oregon coast. Once trained, docents then sign up to work one of the 26 stations between Crescent City and the Columbia River for 3 hours per day. These sites vary from functioning lighthouses to the 10th floor of an inn. Most are located at turnouts or in state parks. One involves a 2.5 mile hike but over 100 people made it to the lookout point one day last March.

These gray whales grow from 15 feet, 2000 pounds at birth to 45 feet, 70,000 pounds as an adult. They possess baleen plates instead of teeth through which they expel water with their large tongues, while trapping and swallowing copepods and plankton. Observers usually see the blow every 45 seconds with water expelled 12 feet into the air. After a few blows, they may see the dive, in which the tail and flukes are lifted out of the water as whales submerge for 3-5 minutes in search of food. Occasionally the breach is seen, whereby 3/4 of the whale's body leaves the water. Finally whales, like humans, are curious and spyhop, lifting their head above the surface to check out their surroundings. Whether the warm confines of LA and Orange County suit your needs, or the beautiful rocky coasts of our northern neighbor, watching whales is an exciting adventure. For information on the Oregon program, visit www.whalespoken.org.

"Success" - continued from page 5

their beaks and/or claws, while peregrinus means to wander. It is found on every continent except Antartica and from sea level to 12,000'. Their preferred habitat is open country, cliffs and in recent times cities where they nest on building

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ledges and feed on pigeons. They mainly feed on a variety of birds capturing them in the air in spectacular, fast dives or by pursuing their prey in level flight after spotting it from a perch or while flying. Because they are one of the fastest birds, possibly reaching speeds of 200 miles per hour, they are most successful hunters.

The California Brown Pelican was placed on the Federal and California endangered lists at the same time as the falcon and for the same reason, the pesticide DDT. It was delisted from both lists just last year. It has made a remarkable comeback. According to Kenn Kaufman, "By 1970 all North American populations were essentially gone except some in Florida." Locally, on Anacapa Island, one of the most important breeding areas for the Brown Pelican, nearly 3,000 eggs were counted in 1950. By 1970, 1 hatchling was counted. Now, visitors along the California coast might be surprised to know the bird was ever endangered as so many are regularly seen soaring low over the waves. A Congressional ban on DDT and similar pesticides in 1972, coupled with captive breeding and habitat protection all contributed to this success.

The California Brown Pelican is a bird of coastal waters, found in salt bays, especially sheltered bays and along the ocean. Their diet is almost entirely fish, which they catch by plunge diving from as high as 60 feet. After coming to the surface with their catch, the bird tilts its bill down to drain water out of the pouch, then tosses its head back to swallow. The pelican is indirectly responsible for the creation of the National Wildlife Refuge System. In the early 1900s an Audubon Society warden was collecting evidence on pelican hunting in Florida when he was murdered. That provided incentive for federal intervention and in 1903 Theodore Roosevelt established the first wildlife refuge by executive order. Fifty-three sanctuaries were created on federal property before he left office in 1909. Today there are more than 300 sanctuaries in this country.

It has taken almost 40 years for the Peregrine Falcon and the California Brown Pelican to recover to healthy populations. This is a success story on many levels, both for listing with its careful management requirements, and of course for the Peregrine Falcon and the California Brown Pelican, and for we the people who can still enjoy the wonders of these birds.



The Presidents Tern

By Jennifer Robins

Reduce, Reuse, Recycle: we've all heard these terms repeated for years and yet I believe they are still as relevant and important today as they were when first used. I have to admit I can do more to fulfill these simple principles. I've always thought I was a good environmentalist because I recycle as much as I can each day. But when I read the 3 principles again I see that the first one is Reduce. I need to start with reducing the items I normally recycle.

The first step is looking at the items thrown into the recycle bin – plastic containers for cole slaw and potato salad bought at the grocery store deli, so called "junk mail" that arrives every day in the mailbox, magazines from previous months, plastic wrappers that cover almost every item we buy today. And as I'm writing this Jim came home from Costco. He did use our reusable grocery bags – but what filled those bags is kind of embarrassing. Large plastic jars of spaghetti sauce with a plastic ring holding the containers together. Eight boxes of tissues wrapped in plastic. Two jars of peanut butter wrapped in plastic. To Reduce the amount of plastic brought home we could make our own cole slaw, potato salad and spaghetti sauce from scratch, buy recycled tissues in separate boxes and buy jars of peanut butter separately. To Reduce the amount of "junk mail" received we can contact the originators of the mail and ask to receive via email or stop mailing. But that's only a small start.

For the Reuse principal we are a little better as we use cloth napkins and cloth hand towels instead of paper napkins and towels. They get washed with all our other towels so extra water and soap doesn't get used. Jim has repaired our washing machine and dryer multiple times, so we are using our appliances longer – but they may not be as energy efficient as newer models. We reuse our shopping bags. Jim and I are both collectors of just about everything and many times something saved will find a new use or come back in fashion. We use our Tupperware containers to store leftover food instead of using plastic bags. Something we're trying to implement as a habit is to take Tupperware with us when we dine at our favorite restaurant where we always bring home leftovers.

The third principle is Recycle. Since Rainbow Disposal changed to the three trash bin system our Recycle bin is the fullest of the three bins. We put most plastic, paper and glass in this bin. We actually still separate aluminum, newspapers and redeemable glass containers as we have a good soul who picks up these items weekly to take to a recycle station. He uses the monies from the recycling for a non-profit organization. The magazines we receive can be recycled by passing on to a friend or organization for further use.

Reduce, Reuse, Recycle. How about some other R's that align with these principles: Redesign, Research, Reclaim, Repair, can you think of any others? We can do much more to change our lives to fulfill these principles. How about you? Do you have some habits you'd like to change? Do you have some tips to share with the Amigos members? Send your comments and tips to info@amigosdebolsachica.org and we can publish them in the next issue of the Tern Tide.

Monthly Help Needed, Part 2

Last Saturday of each month, 9:00 -11:00 am (this may change to Fridays 3:00-5:00 pm). Trash cleanup at South Parking Lot. Wear closed shoes, old clothes. Tools provided. This Amigos project is to clean up for our 1st Saturday of the month free public tour. Call Margaret at 714-842-5619 for more information, or to RSVP.







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AMIGOS DE BOLSA CHICA MEMBERSHIP APPLICATION

I support the specific and primary purpose of Amigos de Bolsa Chica, which is to advocate the preservation, restoration and maintenance of the Bolsa Chica, to encourage the public acquisition of all the wetlands and sufficient surrounding open space to create a viable ecosystem, and to provide education about the importance of wetlands.

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No goods or services were provided in consideration of this gift.