



THE TERN TIDE

SINCE 1976

Spring 2018
Volume 42, Issue 1

Lands Pass Update – Good News

By Shirley Dettloff

The day before the Lands Pass was to take effect, we learned from California Department of Fish and Wildlife that the program for Bolsa Chica and Upper Newport Bay was to be indefinitely suspended. When we reported on this in our last Tern Tide we had been told that starting on February 1, 2018 a fee would be required to visit the Bolsa Chica and many other natural resources sites in California. This had come about through legislation passed by the State Legislature in 1988 as a way to broaden the funding base beyond hunters and anglers to pay for conservation and habitat improvements on some of the state's most popular and frequently visited wildlife areas and ecological reserves. Nothing had been done until Fish and Wildlife were told to implement the legislation.

When we heard about this, the Amigos de Bolsa Chica were adamantly opposed. Letters were sent to the State with our opposition and reasons why stated. We felt that this would be extremely difficult to implement as there were many ways visitors could enter the wetlands. We felt that any funds collected would all be used for enforcement, so that the resource would never see the money meant to be used to enhance a site. The department, however, continued to plan to execute the Lands Pass.

Lands Pass continued on page 7

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

Editor & Graphic Design:

Thomas Anderson

President: Charles Falzon
Vice President: Daryth Morrissey
Secretary: Shirley Dettloff
Treasurer: Brian Westcott

Directors:

Jerry Donohue
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First Saturday of the Month Tour

*Free tours of the Bolsa Chica
Ecological Reserve led by
Amigos docents.
9:00 a.m. to 10:30 a.m.*

Last Saturday of the Month Bird Walk

*Free bird walk led by Amigos
docents. 9:00 am.
Reservations are encouraged,
714-840-1575*

**Free monthly tours are on a first come, first served
basis. Carpooling is encouraged as parking at the
Bolsa Chica Ecological Reserve is limited.**

Amigos Website Now Hosting Bolsa Chica Lowlands Restoration Project Monitoring Documents

By Rachel Woodfield

The Bolsa Chica Lowland Restoration Project Biological Monitoring and Follow-up Plan was prepared by the US Fish and Wildlife Service in 2001 to monitor the effects of the restoration. Responsibility for implementation of the plan before and during construction was held by the USFWS. Long-term responsibility for implementation of the Monitoring Plan was assumed post-construction by the California State Lands Commission. The purpose of the monitoring program was to document the habitat improvements for fish and wildlife, the result of revegetation efforts, the use of the site by endangered species, and to ensure the inlet was properly maintained, constructed nesting areas had adequate maintenance, the rare plant Coast Woolly Heads was protected, and that construction impacts to Belding's Savannah Sparrow were minimized and offset through post-construction improvements to marsh habitat. The monitoring program also allowed for the evaluation of project objectives established in the accepted project design that was evaluated in the project Environmental Impact Report/Environmental Impact Statement and approved by federal, state, and local agencies.



Measuring a California Halibut from the Full Tidal Basin. Photo by Merkel & Associates

The State Lands Commission contracted Merkel & Associates, Inc. and its team to implement the Biological and Beach Monitoring Plans. The monitoring team included Merkel & Associates, Moffatt & Nichol Engineers, Coastal Frontiers, and Chambers Group, Inc. The ten-year post-restoration monitoring program was conducted from October 2007 to September 2016. All reports generated from this program can be found at http://amigosdebolsachica.org/bolsa_chica_restoration.php. In addition, available reports on nesting Western Snowy Plovers since 2002 at Bolsa Chica are provided.

Volunteers Needed for Earth Day Celebration April 14

This year Amigos will join with the Bolsa Chica Conservancy and nine other organizations to celebrate Earth Day. As in the past we will be setting up our canopies and tables in the north parking lot of the Bolsa Chica Ecological Reserve at 8:00 am and be done with clean up by 4:00 pm. The public hours however are from 10:00 am-3:00 pm. We will have displays from our FLOW program, "Birds and Beaks" and "Birds and Tides" activities as well as history and general information. We run two shifts, 10:00 am-12:30 pm and 12:30-3:00 pm. Lunch and snacks are provided. Most of the activities are under a canopy, for sun protection, but the cool afternoon breeze makes a sweatshirt or sweater advisable. We have a fun time interacting with many young people and it gives us a chance to work with other Amigos. If your schedule is full between 10:00 am and 3:00 pm, we welcome help setting up or taking down exhibits outside public viewing hours. Please contact Jennifer Robins at jjrobins@dlsextreme.com to sign up for an activity.

Spring is the Time for Gray Whale Migration

By Daryth Morrisey



Thar she blows! Have you witnessed the telltale heart-shaped blow from the shore or the sea of the gray whale (*Eschrichtius robustus*)? Now is the time to go whale watching to see both northbound and southbound grays on their migration routes. They can be viewed easily from the headlands in Dana Point, Laguna Beach, Crystal Cove, and from the Point Vicente Interpretive Center in Palos Verdes. As of March 19, the American Cetacean Society's Los Angeles Chapter's Gray Whale Census and Behavior Project (which operates from December 1st through late May at Point Vicente) has counted 1,256 southbound and 1,990 northbound gray whales.

The Eastern Pacific Gray whale has one of the longest migrations of any mammal on earth. Every year, they swim up to 14,000 miles from their summer feeding grounds in the Bering and Chukchi Seas down to the warm, shallow water lagoons of Mexico's Baja Peninsula. Being coastal navigators, the whales usually travel within 2.5 miles of shore, which is why they are so easily viewed by humans. In a 24 hour period, they can swim up to 100 miles, but they usually average 75 miles per day. Average speed is 3-6 mph. On average, it takes 2-3 months to complete a southbound migration.

From May to October in their summer feeding grounds, gray whales spend their time sucking up and filtering out up to an acre of crustaceans (gammarid amphipods) from the bottom sediments. During this 130-140 day feeding period, it is estimated that they consume 130,000 pounds of food. This energy is stored in their up to 5 inch thick layer of blubber. They will not eat like this again until they return home. Sensing that daylight hours are shortening, thus not allowing for as much photosynthesis and food, the grays begin their journey southward. The first to leave are the pregnant females, followed by the males and other females, and lastly the juveniles. About 53% of the

births occur before passing Los Angeles.

From January to June, the grays are in their winter birthing and mating grounds in Mexico. Here the males spend their time vying for new parenting rights, and the new moms feed and train their babies. Gray whale milk is 53% fat, as compared to humans which is 3-5% fat. A newborn calf can consume 30-50 gallons of milk each day, gaining up to 50 pounds daily! The babies need to store this energy in their blubber, for the long migration home and to insulate their bodies from the cold Arctic seas. Once all of those competing males have left, the moms (cows) train and strengthen their calves on how to swim at the mouths of the lagoons as



A gray whale breaching. Photo courtesy en.wikipedia.org

the tides go out. They can also be seen breaching, jumping out of the water, and spy hopping, sticking their heads out of the water.

Through February and March, the first to leave the lagoons are again the males and females without new calves. Pregnant females and nursing mothers with their newborns are the last to depart. So get on a boat! There are several whale watch companies to choose from in Dana Point, Newport Beach, and Long Beach. Or, bring your binoculars and watch from shore.

Whose Tern Is It? A Tern Identification Guide

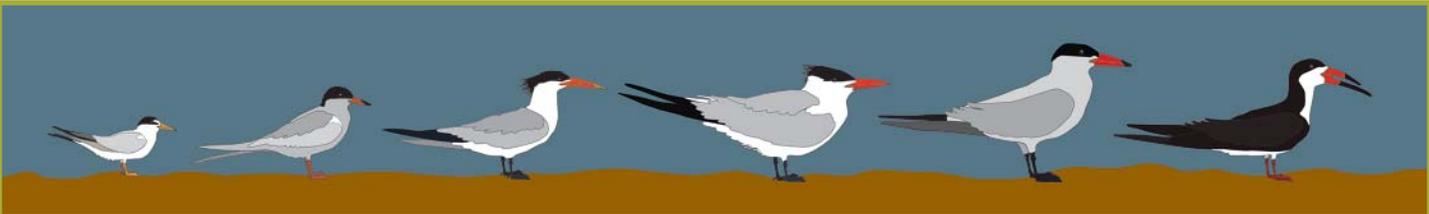
Written & Illustrated Rachael Lloyd

Spring at the Bolsa Chica Ecological Reserve (BCER) can be defined by the return of several species of tern from their wintering areas in Central and South America to perform their annual family duties. The tern species that nest in the BCER are at the heart of what the preservation and restoration of the Bolsa Chica wetlands is and has been all about. Terns, like other sand-nesting birds, have struggled to reproduce in an era where virtually all of Southern California's sandy shores have been converted to the demands for human recreation. Our feathered friends needed a safe place to build their ground nests free of interference from trampling feet.

A primary reason for the formation of the Amigos de Bolsa Chica more than 40 years ago had been to ensure the wetlands and surrounding areas were spared from development and allowed to provide suitable breeding habitat for endangered species like the California Least Tern and threatened species like the Western Snowy Plover. The California Department of Fish and Wildlife (CDFW) constructed two small islands (North Tern Island and South Tern Island) within the muted tidal Inner Bolsa Bay, completed in 1978. The Lowland Restoration Project, completed in 2006, provided three additional protected nesting areas. The birds have enthusiastically responded.

Observers who come eager to witness these engaging creatures courting, flying, fishing and feeding their young are faced with a dilemma: it can be difficult to differentiate one species from another. There are Elegant Terns, Caspian Terns, Royal Terns, Least Terns and Forster's Terns. Though not a part of the tern family, the Black Skimmer is a bird of similar size and shape that could be mistaken for a tern. On the following page is guide to the distinctive characteristics of each of Bolsa Chica's terns to help alleviate confusion. Consider participating in the Amigos popular free monthly bird walk this spring to see if you can spot all the terns along the way. Bird Walks take place the last Saturday of each month at 9:00 am starting at the south parking lot in the BCER. One of the Amigos expert birders will be your guide. And since tern nesting areas are off limits to visitors, watch tern nesting activities from the Bolsa Chica Land Trust's live eco-cam starting each April-May: <http://bclandtrust.org>.

Special thanks for tips on the best viewing spots for the terns to Kelly O'Reilly, Department of Fish & Wildlife Land Manager Bolsa Chica Ecological Reserve; Dr. Vic Leipzig, Golden West College Science Instructor (retired), past president Sea and Sage Audubon and Amigos de Bolsa Chica; Jerry Donohue, Science Instructor (retired), past president Amigos de Bolsa Chica; and David Beeninga, Orange County Naturalist.



Least Tern 8.3" - 9.4"	Forster's Tern 13"	Elegant Tern 15.5" - 17"	Royal Tern 18" - 20"	Caspian Tern 19" - 24"	Black Skimmer 16" - 20"
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Tern diet: Small fish including sardines, anchovy, pipefish and lizardfish make up most of tern chicks diet. Squid, small crustaceans and worms are also consumed.

Tern pair bonding: The male flies above while the female banks gently from side to side beneath him. On the ground a male tern will offer the female a fish during courtship or incubation in response to a call from the female almost identical to a young bird begging food from its parents. This courtship feeding most often occurs near the chosen nest site.

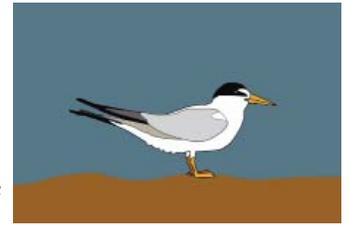
Flight and feeding behavior: Terns can be viewed in flight from all the public trails within Bolsa Chica. To pick terns out in flight look for body shape and size similar to small gulls. Seen from the ground tern bodies are mainly white with black head markings. Hunting terns tend to soar in languid circles from as high as 90 feet overhead, but usually much lower, carefully watching the water's surface for small fish. When a tern spots potential prey, it tucks its wings and plunges head first into the water, often completely submerging.

California Least Tern, *Sternula antillarum browni*. Not seen in fall-winter, abundant in spring-summer. The smallest of all the tern species, this tern has a distinct white patch on its forehead interrupting its otherwise solid black cap. Yellow bill with black tip and yellow feet.

Threatened by habitat loss, predation and other factors, the California Least Tern remains an endangered species. CDFW closely monitors their breeding efforts at the BCER.

Where to see it: Nest Site 1 separating Inner Bolsa Bay and the Full Tidal Basin. Look through the chain link fence on the trail at the end of the footbridge. Least Terns can be seen sitting on nests and feeding young. Least Terns are often seen standing on the road located behind a south-facing gate along this fence.

EONS: The Eyes on Nest Sites program allows volunteers to record observations and collect data on the Least Tern and Western Snowy Plover nesting activities on Nest Site 1. Visit <http://bolsachica.org/programs/research/eons/> for more information about becoming an EONS volunteer.



Forster's Tern, *Sterna forsteri*. Uncommon in fall, rare in winter, abundant spring-summer.

Forster's terns have a long, deeply forked gray tail with white undersides. The wings are light, silvery gray in flight. The bill is orange-red with a black tip, and the legs are orange-red. Solid black cap.

Where to see it: Forster's Terns nest in the pickleweed located between the footbridge and North Tern Island within Inner Bolsa Bay. They often perch on the footbridge giving visitors an exciting close up view. Forster's Terns fish at the tide gates separating Inner and Outer Bolsa Bay, and at the Pocket Marsh between the Wintersburg Channel and Bolsa Chica Mesa.



Elegant Tern, *Sterna elegans*. Uncommon in fall, not seen in winter, abundant spring-summer. Elegant Terns have a black cap with a long shaggy crest at the back of the head. The bill is orange with black tip and the feet are dark gray.

Where to see it: Elegant Terns nest on North Tern Island south of the footbridge in Inner Bolsa Bay. During some years, as many as 10,000 Elegant Terns arrive, and the overflow will take advantage of the Nest Site 1 just east of the north tern island separating Inner Bolsa Bay and the Full Tidal Basin. Elegant Terns fish at the tide gates as well as make frequent crossings of the Coast Highway to find fish in the ocean.

Feeding behavior: Early in the day these birds tend to fly alone. Later in the day, the birds heading out to feed often go in pairs. Elegant Terns will shake off excess water after diving.



Royal Tern, *Thalasseus maximus*. Rare in fall, unknown in winter, abundant spring-summer. A large tern, second in size only to the Caspian Tern, the Royal Tern has a slender yellow to reddish bill, pale grey upper parts and white under parts, a slender body, long, pointed wings and a short, forked tail. Its legs are black. During breeding season it has a short, bushy crest straight back from its eye; the crest becomes patchy other times of the year exposing a white forehead.

Where to see it: Royal Terns nest amongst the Elegant and Caspian Terns on North Tern Island.



Caspian Tern, *Hydroprogne caspia*. Unknown in fall, rare in winter, abundant spring-summer. Caspian terns are the largest tern. They have a very 'front-heavy'/short-tailed appearance. The tail is shallowly forked. Black cap with slight crest that gives the head a squared-off look. Very thick red bill with a black tip. Black legs.

Where to see it: Caspian Terns nest on North Tern Island south of the footbridge in Inner Bolsa Bay along with the Elegant Terns, Royal Terns and Black Skimmers, though in far fewer numbers. They make their nests apart from the large groups of Elegant Terns.

Other notable characteristics: Caspian Terns are large, gull-sized birds, and their flight is characterized by distinctive somewhat labored rowing strokes. Known for their loud, screechy call.



Black Skimmer, *Rynchops niger*. Unknown in fall-winter, abundant spring-summer.

The entire upper body is black with a black head cap. Heavy red bill with black tip; the lower mandible is distinctly longer and thicker than the top. The legs are bright orange.

Where to see it: Black Skimmers can be seen flying just inches above the water along the stretches of calm water in the Wintersburg Channel, and they also use both Outer and Inner Bolsa Bay to feed toward dusk. The number of Black Skimmers nesting at Bolsa Chica has decreased during the past few years and they are found in greater numbers at the Upper Newport Bay Ecological Reserve.

Feeding behavior: Skimmers are nocturnal feeders and begin to feed at dusk in small groups. They are highly agile as they fly just above the surface of the water holding their protruding lower mandible under the surface of the water while they fly. They capture food by touch; the upper mandible snaps down immediately when contact is made with a fish.



Amigos Elect New President

By Charles Flazon



As the new President of Amigos, I want to first thank Jerry Donohue for serving as President for the past four years, and to thank Jerry for his many years of volunteering with the fervor of any one of our founding members. I also want to thank Jerry in advance for his continued volunteering for Amigos. The way I see it, since he doesn't have to worry about the duties of the President, he'll have much more time for other Amigos activities such as FLOW, public and school tours, etc.

For those who don't know me, I have been involved with Amigos since before we agreed upon the name "Amigos". We were just a small group of concerned residents of Huntington Beach meeting in the living room of the home of the Chatterton's. I was originally the 'student representative' on the Board, eventually becoming the Treasurer for many years, and then becoming the Vice President. Our family business

provided Amigos with office and storage space for many years. I helped plan the first organized cleanup of the Bolsa Chica and the first photo contest. I was a frequent tour speaker and an occasional traveler to Sacramento.

Why am I still involved with Amigos after more than 40 years of participation? Because there is still so much work to be done. Even though the Bolsa Chica is partially restored, we must help maintain the treasure that is the Bolsa Chica Ecological Reserve. And with continued constraints on State funding to support and maintain our priceless natural habitats, our volunteers must be the constant, continuing voice on behalf of the BCER. Please consider spending some time visiting the BCER and please consider how you can support the Amigos de Bolsa Chica.

World Wetlands Day, February 10

By Jerry Donohue

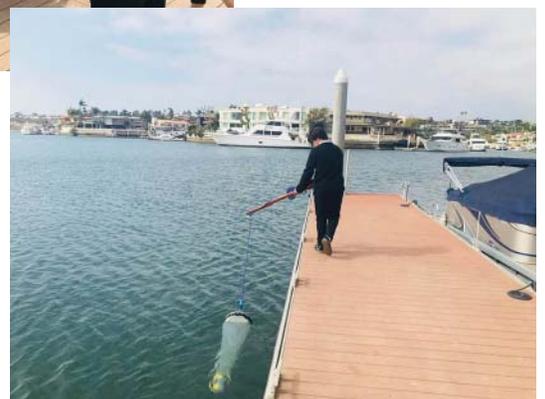
In celebration of World Wetlands Day, the Newport Bay Conservancy held its annual symposium at the Back Bay Science Center on February 10, 2018.

The focus this year was "Human Impacts on Estuaries: Sea Level Rise and Algal Blooms." Throughout the morning we heard from five speakers on topics ranging from "Coastal Storm Monitoring" to "Harmful Algal Blooms in California Estuaries" to "How Photosynthesis Shapes and Is Shaped by Ocean Processes."

After lunch, guests were invited to participate in either an eel grass demonstration or a FLOW workshop. Jim and Jennifer Robins, Tom Pfeifer, Joana Tavares, Chuck Drescher, Judy Huck and Jerry Donohue led 8-10 individuals through our typical plankton collection, identification and water chemistry testing. The mostly college-aged students were awed by the microscopic creatures that came into view. It was a wonderful experience to share our FLOW program at this symposium.



Jerry Donohue explains the purpose of FLOW and demonstrates how phytoplankton is collected for analysis. Photos by Charles Falzon.



FLOW Receives Grant from State Parks Foundation

By Thomas Anderson

Amigos de Bolsa Chica's Follow and Learn about Oceans and Wetlands (FLOW) program received a generous grant from California State Parks Foundation in January. The grant supports two of the most important elements ensuring the success of the program: the costs of bus transportation for 6-10 qualifying underserved schools as well as a portion of the Program Manager's compensation.

Jill Lemon is our current Program Manager. Jill has had a life-long passion for the ocean, science and education, and she is now working on a degree in Marine Biology and plans to transfer to Cal State Long Beach. Jill is an outgoing, enthusiastic young woman who most recently worked for the Newport Beach-based Ocean Quest as an educator and Citizen Science Coordinator. While there, she developed programs for middle and high school students, conducted fieldwork, collected data for grant requirements, and created partnerships with other Orange County non-profits conducting citizen science. She also conducted instructional presentations and hands-on science with both students and the community. She knows how to adjust the curriculum to fit the needs of the audience.



Before working for Ocean Quest she served in the U.S. Coast Guard for 13 years. She became an expert in pollution prevention/response and incident management while there. She conducted patrols in the Arctic and Pacific enforcing the Living Marine Resources (fisheries enforcement and marine mammal protection) mission of the Coast Guard. She also oversaw the completion of the 2014 Area Contingency Plan, capturing natural resource data and protection strategies for 300 miles of California coastline.

Jill says, "I've spent my career thus far on the wrong side of environmental change—enforcement and 'after-the-fact' policy. It feels so good to finally affect change, educate, and work with an engaged community."

We encourage not just our Citizen Scientists but all Amigos members to stop by FLOW at the Bolsa Chica State Beach Visitor Center on Fridays to meet Jill and see why studying the most basic component of the aquatic food web—phytoplankton—can be so much fun. To find out when FLOW is meeting on Fridays, contact Jill at flow@amigosdebolsachica.org.

Lands Pass continued from page 1

After making a call to the State Lands Commission, we learned that they had never been consulted during the planning process for the Land Pass. When the Commission learned of the intention to implement the Land Pass on sovereign lands, their Executive Officer immediately contacted the CA Fish and Wildlife Director and requested the postponement of the Land Pass on Commission lands. As a result, the CDFW has indefinitely suspended the Land Pass Program on state sovereign land locations under the jurisdiction of the Commission. This included Bolsa Chica Ecological Reserve. The Commission has concerns about the potential conflict of implementation of the program on sovereign public trust lands. These lands are held in trust for the benefit of the public, and maximizing free and open public access is a central value of the public trust. Currently on the list are 21 sites in California where the program is indefinitely suspended, plus one more site of temporary postponement. There will continue to be 20 sites where the Lands Pass will continue in force. Visit <https://www.wildlife.ca.gov/licensing/Lands-Pass> to see the listing of sites requiring fees.

We believe because of the status as state sovereign land, Bolsa Chica will remain exempt. We will continue to monitor the status of the BCER, and if changes occur we will notify our members and the Amigos de Bolsa Chica board of directors will take appropriate action as needed. We can now continue to access the trails at Bolsa Chica and enjoy the wetlands that we spent 45 years saving at no cost.



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THE TERN TIDE

Volume 42, Issue 1

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info@amigosdebolsachica.org

(714) 840-1575

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.

ANNUAL DUES

\$ 10 Student

\$ 25 Individual

\$ 40 Family

\$100 Sustaining

\$1000 Life Member

Name: _____

Address: _____

City: _____ State: ____ Zip: _____

Email: _____

Phone: _____

Additional Contribution:

\$ _____ Fund operational expenses \$ _____ Fund education projects \$ _____ Total enclosed

Please check if you are interested in volunteering for:

Education outreach Grantwriting Social media Wetlands cleanup Leading tours Fundraising

All contributions to Amigos de Bolsa Chica are tax-deductible as allowed by law under IRS Code Section 501(c)3.

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

Return application to: Amigos de Bolsa Chica, P.O. Box 1563, Huntington Beach, CA 92647