



THE TERN TIDE

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Summer 2017
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FLOW's Fourth Year of Success

By Jennifer Robins

FLOW (Follow and Learn about the Oceans and Wetlands) had another successful year introducing middle school, high school and college students to the world of Phytoplankton. In the spring of 2016, Amigos was honored to have been awarded a prestigious Whale Tail grant. This allowed us to have a consistently employed Curriculum Developer and Program Manager for a year, and it allowed us to purchase some major equipment and supplies for plankton analysis as well.

During the 2016-17 academic year seventeen classes of 543 students participated in the Educational

Component of the FLOW program. Many of the teachers that accompanied the students have brought their classes to FLOW since the inception of the program. They feel this hands-on activity provides their students the ability to learn about methods, techniques and equipment used to collect and analyze plankton, and also about the importance and applicability of monitoring programs for coastal management and conservation purposes.

Nine of the schools that took part in this program are Title 1 schools. This means that the schools

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First Saturday of the Month Tour:

Free tours on the first Saturday of each month from 9:00 a.m. to 10:30 a.m.

Last Saturday of the Month Tour:

FREE bird talk and nature walk at the Bolsa Chica Ecological Reserve. Led by Amigos docents. 9:00 am.

Carpooling is encouraged as parking at the Bolsa Chica Ecological Reserve is limited.

President's Tern

FLOW with Junior Rangers at the Beach

By Jerry Donohue

Summer has arrived at Bolsa Chica as thousands of elegant terns have once again descended upon North and South Tern Island. Their raucous banter and aerial displays delight visitors walking on the foot bridge. Also clamoring for attention are the juvenile round sting rays basking in the warm shallow water. Sea hares, sometimes in clumps of 10, are usually on display as well. With our abundant spring rain, sand verbena and beach primrose can be found nestling up against the southern walkway.

Our spring schools participating in the FLOW program were the best in its four-year history. Students were well prepared, teachers often interacted with FLOW instructors and students asked excellent questions. We now head into summer where our Junior Ranger program, modeled on the normal FLOW school program, takes effect during July and August. The flexibility of the FLOW program is evident as we have youngsters down to age five involved in Citizen Science. We also get to educate the Junior Lifeguards, allowing them to test water chemistry and getting a close up view of the microscopic creatures they are swimming with daily. Our FLOW program begins at 9:30 am on Fridays during July and August. Junior Rangers show up from 10:00 – 11:00 am. Stop by sometime to see the excitement with many youngsters using the microscope for the first time. Some of our former college graduate FLOW members have returned for a summer visit and relayed the value of our program in pursuing their vocational goals. Others are leaving to explore opportunities in other states. We have always appreciated the multi-generational aspect of FLOW.

At behest of the Amigos Board of Directors, we are currently looking for a Program Manager/ Media Wizard to help get our message out to the public. Most of this position will encompass FLOW activities but we hope to reignite interest in tours for the wetlands. Along with a newly scheduled docent class, at the end of summer, we hope this position will help us reach a broader audience. If you or someone you know would be a good candidate for this part time

job, please contact us soon. One final opportunity to reach the educational community occurs August 1-2 when teachers from selected Orange County schools choose to visit Bolsa Chica and we get to share our programs with them. We are looking forward to an exciting summer. Please join us when you can!

Good News in State Budget for the Tidal Inlet

By Shirley Dettloff

As you learned in the last edition of the Tern Tide, funding for the tidal inlet dredging was in jeopardy for the 2018 dredging cycle. This is extremely important! The channel must be kept open if the wetlands are to remain healthy and viable. The State Lands Commission had put a request for one million dollars in the state budget so that the 2018 dredging could be done. Luckily the State Legislature agreed that the request for one million for dredging was important. The Governor agreed as well, and he signed the budget. The Amigos, as well as the Bolsa Chica Land Trust and the Bolsa Chica Conservancy were all a part of this effort, sending letters of support and meeting with their local elected officials convincing them that this was the right thing to do.

We still have work to do. Now we must make sure that there is always money to do what needs to be done for restoration and making sure that the inlet is always open for ocean waters to flow directly into the wetlands. The committee of all three NGO's continues to meet and will do all that the Bolsa Chica Steering Committee and the State Lands Commission feels is necessary. Currently the Land Trust has submitted two grant applications which, if granted, will provide funding for a study on the best ways to keep the tidal inlet open, hopefully reducing the cost. Then we will all have to join efforts to secure a source of funding that is sustainable and one that does not require yearly efforts. If the wetland is to remain healthy, then keeping the tidal inlet open is of the highest priorities.

Why I Volunteer

By Bill Stern



Reflecting on my life these past 75 years, I've often wondered why I get so much enjoyment volunteering. I suppose it began in my youth, watching my parents' involvement in their volunteer activities: PTA at my elementary school, Cub Scouts, Boy Scouts, service clubs, politics. They were involved in life-long learning, and they wanted to make a contribution to help others. How could I not pick up on that? I was very fortunate to have had them as role models and I wanted to emulate them. One of my first volunteer experiences after becoming an Eagle Scout was to help younger scouts with their advancement. I was also involved with politics in college, volunteering in many local, state, and national elections. My first employer after college encouraged civic activities. It was a great way to volunteer, make new friends, and gain future customers in the process. I joined a service club and then Junior Achievement. Later on, after our children were born, I joined the YMCA and became involved in fund-raising, served on their board of directors, and enjoyed meeting and working with a variety of people.

As retirement years approached, I really wanted to find something to do, to give back. I had always been a semi-handy man, doing my own home repairs and helping our kids with their house projects, etc., so I Googled "volunteer opportunities" in our Minneapolis, Minnesota community. I made appointments to see what they did, and whether I could fit my experience with their needs. I have now completed 10 years volunteering with Bridging, the largest used furniture bank in the U.S. Three half-days a week, I work in the electric shop inspecting, cleaning, and fixing donated small electrical appliances: TVs,

microwaves, lamps, mixers, etc. The families we serve have lost everything. We provide furniture and everything they need to set up housekeeping. The best part of my involvement is fulfilling a much needed service to desperate people in transition. But it's also fun, I've made great new friends—and there's free coffee!

Our permanent home is Minneapolis and our whole family is there. However, we are fortunate to be able to spend half the year in California. We've been coming to Huntington Beach for the past 8 years, enjoying all HB has to offer. My wife and I love it here. We each have separate activities, but together we bike, hike, go bird watching, etc. I love the Bolsa Chica Wetlands, and when the Amigos de Bolsa Chica presented their short film on the decades-long effort to save the wetland at the Central Library in early 2016, I was hooked. I wanted to be involved, to help and to share their story of the history and restoration of this wonderful wetland. I became a Docent, leading Wetland tours, and this past winter I've joined the Amigos Board of Directors. I also volunteer with the Amigos FLOW program, as a citizen scientist, learning about phytoplankton, microscopy, water quality of the tidal inlet, and helping with the hundreds of school kids who are learning about saving the wetlands for future generations. It all goes back to life-long learning, being involved, making a small contribution to our environment, meeting new people and making friends, and having fun in the process.

I urge everyone to get involved and use your free time to help others through volunteering.

Mini-update for Key Species at Bolsa Chica

By Kelly O'Reilly

June 28, 2017. Western Snowy Plover: nest total = 114; total chicks hatched = 223; total fledglings = 39.

California Least Tern: nest total = 177; only Nest Site 1 is currently active, nest Sites 2 and 3 were abandoned due to pressure from avian predators (Cooper's hawks, American kestrels and a red-tailed hawk). We've seen a few CLTE fledglings this week: 2 to 3 on NS1 and 2 in the muted tidal basins surrounding NS2.

Large terns: Many thousands of Elegant Terns on North Tern Island (NTI) as well as on the mudflats within Bolsa Basin.

FLOW Program's Fourth Year of Success

Continued from page 1

are certified as having a high percentage of low income students. Amigos de Bolsa Chica thanks Southern California Edison for their generous grant that allowed us to assist the schools with bus transportation cost for their trip to Bolsa Chica.

Amigos de Bolsa Chica volunteers become Citizen Scientists by coming out on Fridays and taking water samples from the Bolsa Chica Wetlands and the Tidal Inlet. They use microscopes to view the phytoplankton and identify the species. Measurements of water quality variables, such as temperature, salinity, nutrients, dissolved oxygen, turbidity, and pH are taken and recorded. The experienced Citizen Scientists become mentors for the students that visit the Bolsa Chica Wetlands and State Beach. Jerry Donohue, Terry Jorris, Bill Stern, Judy Huck, Rick Beard, Jim Robins and Jennifer Robins acted as mentors for the FLOW program's Educational component this past year. To be qualified to work with the students at a California State Park completion of a Volunteer Application, a LiveScan and a DMV certificate is required.

Also as a result of the Whale Tail grant, the Amigos hosted seven FLOW Seminars which invited members of the community to participate in free talks about various ocean and wetland health topics

from specialists in those fields. We again want to thank Kelly O'Reilly, DFW; Gabrielle Dorr, NOAA; Priya Ganguili and students from the Earth Science Department at UCI; Kurt Lieber, Ocean Defenders Alliance; Erica Seubert, PhD, Pasadena City & Chaffey Colleges; and Michael Mori, Environmental Resources Specialist, County of Orange. **The final FLOW Seminar will feature Nancy Caruso, "Get Inspired Changing the World: Community Based Restoration," on August 17, 6:30 pm at REI Bella Terra in Huntington Beach.**

We would like to thank REI at Bella Terra for hosting some of the presentations and their continuing interest in partnering with the Amigos. We also thank Curriculum Developer Joana Tavares for her expertise, patience, perseverance and enthusiasm. She developed the FLOW program for Amigos de Bolsa Chica and has been behind us all the way. Special thanks goes to our two program managers, Gwen Noda, who worked with us from May to December, and Melanie Cox, who took over for Gwen in January and worked until the grant funding ended in June. Running a program like FLOW is not easy and without them we could not have had such smoothly coordinated efforts between the teachers, the buses, the students, the Citizen Scientists, the State Beach staff, REI staff, and the seminar speakers.

The Amigos are proud of our FLOW program which has been in existence for four years. Citizen Scientists have attended every Friday for these four years to complete sampling, microscopy and chemical analysis. While the objective is to determine the presence of any harmful plankton species and send a sample to the California Department of Public Health each week, the experience of learning about the importance for phytoplankton in wetland and ocean health has been invaluable.

Anyone with some curiosity about our world and a little time on Fridays is welcome to join us with the continuing FLOW adventure.



Erica Seubert, PhD, Pasadena City & Chaffey Colleges, spoke about "Fertilizers, Toilets & Upwelling: How Human Activity Can Impact the Coast" on May 18 at Bolsa Chica State Beach. Photo by Joana Tavares



On Friday, April 9, part of the FLOW team were able to tour the Orange Coast College Aquarium, which is the largest student run aquarium in Southern California. Rob Ellis was an amazing tour guide who showed our FLOW team the college students in action - cleaning out tanks, using refractometers, conducting water chemistry and the like. We were also shown the new home of the plankton lab that will be added to the aquarium. Photos by Joana Tavares

2017 Docent Training Starts in September

By Jennifer Robins

The next Docent Class will be held in September for 6 weeks, one night a week from 7:00 to 9:00 p.m. At press time, the night of the week is still to be determined. If you have an interest in taking the Amigos Docent Training Class to learn more about the Bolsa Chica and to then share your understanding with others on tours and at presentations contact Jennifer Robins at jjrobins@dslextreme.com or 714-894-8381. The subjects that will be covered include Birds, Endangered Species, Ecology, History and Restoration of the Bolsa Chica Ecological Reserve.

The purpose of the Docent Class is to train individuals to lead tours and in turn teach others about the importance of wetlands and excite the public to become more active in their local community with environmental causes. The members of the public who attend tours are elementary, high school and college students; girl and boy scouts; community groups; visitors from the United States and other countries.

The cost of the class is the Amigos Membership plus \$50 which includes a Docent Training Manual and a Docent Photo Binder. The classes will take place at Bolsa Chica State Beach Visitor Center on Pacific Coast Highway between Warner Avenue and Seapoint Street. The entrance is across the street from the Bolsa Chica Ecological Reserve on the ocean side of the street.

Amigos de Bolsa Chica has a free Public Tour the first Saturday of each month starting at 9:00am at the south parking lot of the Bolsa Chica Ecological Reserve on Pacific Coast Highway between Warner and Seapoint across the street from the entrance to the Bolsa Chica State Beach. You are encouraged to attend the tour for an overview of the classes.

South Korean Television Visits the Bolsa Chica

By Thomas Anderson

Amigos de Bolsa Chica recently had the privilege of meeting with a film crew representing a South Korean TV station that was visiting the Bolsa Chica to see the success of the restoration and how it was achieved. There were four young men who all spoke only Korean, and one interpreter who lives in Los Angeles. They had read about the Amigos de Bolsa Chica and knew that we had worked for over 40 years to save and restore this important natural resource. Shirley Dettloff, one of the founding members of Amigos, met with them at the wetland. After filming the beauty of the wetland, they engaged her in an interview. They were very interested in the citizen involvement which had been the critical factor in saving the Bolsa Chica. They wanted to know how the community had been brought together to understand the importance of wetlands and then what it took to take that enthusiasm and dedication to convince decision makers to do the right thing: SAVE THE BOLSA CHICA!

Since the blowing wind at the wetland interfered with the sound, the crew had to move the interview indoors. They quickly decided the Dettloff home would be the best spot. Mr. Bob Dettloff, however, had been busily working in the garage on a doll house he was making for a charity auction and was unaware of the impending visit. Mrs. Dettloff quickly jumped out of her car before the van with the Koreans arrived and was able to inform Mr. Dettloff so that he was able to enthusiastically welcome the group and greet them in Korean. Luckily for all, he happened to have worked in Korea on the Korean space program and knew a little of their language (very little). After rearranging the living room furniture and placing a large wooden pelican next to the chair where Mrs. Dettloff was seated for effect, the interview began with the interpreter asking the questions in English.

After leaving the Dettloff residence, the crew headed for San Francisco to film another successful U.S. wetland restoration project, the San Francisco Bay. Mrs. Dettloff had been very excited about the Korean television production's interest in wetlands and their recognition of the importance of saving them throughout the world. They clearly recognized that the Bolsa Chica is a special place, and in choosing to

film here were aware that to save an important natural resource, you must have equal support from both the local population and the scientific community. So if you happen to be in Korea in the next few months, turn on the TV and see if you recognize a place that is so special to all of us . . . the Bolsa Chica!

Amigos Welcomes New Board of Director Members

By Thomas Anderson

In March, Bill Stern was invited to join the board of directors. Bill spends half the year in his native Minnesota and half in Huntington Beach. He's been a volunteer in both locations. With his long history of volunteer work (see his article, "Why I Volunteer" on page 3), he has already brought a unique and welcome perspective of dedication to the organization.

In June, Joana Tavares was invited to join the board of directors. Joana became involved with Amigos de Bolsa Chica in 2011, when, as part of a grant, she was hired to develop curriculum that expanded Amigos' education program's focus to include the importance of the ocean's connection to the wetland. Since we wouldn't have coastal wetlands without the ocean, Joana's experience in marine biology, specifically phytoplankton, led to the creation of our FLOW program.

As the source of half the planet's oxygen as well as the basis of the ocean food web, Earth's vast array of life would be unlikely to exist without phytoplankton. Increasing everyone's awareness about the simplicity and complexity of this fact through citizen science is the thrust of FLOW. Who—besides Joana—knew the study of phytoplankton could be both interesting and fun? As FLOW completes its fourth school year and our Whale Tail grant funding ends, Joana begins her work in the PhD. program at UC Irvine with a focus on citizen science. Pretty nice coincidence for the Amigos!

Western Fence Lizards: Benefits for Humans?

By Rachael Lloyd

These animals are so ordinary and abundant that everyone is familiar with them even if they don't know the name. The wide-ranging Western Fence Lizard, *Sceloporus occidentalis*, is a common lizard especially prevalent in the American Southwest and Northern Mexico. In Southern California its familiar presence in Bolsa Chica, in backyard gardens, in vacant lots, and yes, scurrying up fences, is so ubiquitous that it is glanced over without much reaction or notice. From a normal five to ten foot viewing distance the dusty gray wiggly little fellows might even provoke a bit of a yuck reaction similar to a snake sighting—if it gets a reaction at all.

The little grayish fellows attract a bit more notice from March to June each year if they are truly males. During mating season males will often perch themselves on block walls, high rocks or dead logs and pump their upper body up and down in an attempt to interest any nearby females who might be waiting to be impressed. Move in for a closer look and among the dust covered black, gray and/or tan scales patterning its back is a scattering of blue or blue-green scales. Turn the lizard over (if you can catch it) and if it is a male, the underbelly will be marked with an astonishingly bright blue. Males' engage in rhythmic push-ups in order to display this belly and chin coloration. While hard to see in nature, it is easy to find close up images of these distinctive under markings on the web and especially at <http://calphotos.berkeley.edu>.

As surprising as the skin colorations are even more surprising is a feature of the Western Fence Lizards' blood biology. In California, Western Black-legged Ticks, also commonly known as Deer Ticks, are the primary carriers of Lyme disease. These ticks frequently feed on Western Fence Lizards by attaching themselves around the lizards' ears to ingest its blood. Research has revealed that a protein in Western Fence Lizard blood kills the bacterium transmitted by ticks infected with Lyme disease. In addition to protecting the lizard itself the blood inside of the ticks' gut is cleansed through digestion and the ticks no longer carry Lyme disease. Due to this benefit studies have shown that Lyme disease is lower in areas where Western Fence Lizards occur including California.

So far this blood protein has not been adapted into a vaccine to prevent Lyme disease in humans but the possibilities are intriguing.

Nature is a master chemist and has served as the inspiration for numerous drugs on the market today. As you are hiking the trails through Bolsa Chica and spot these common reptiles remind yourself that respect for even the ordinary things of nature has its rewards. Every living thing has qualities that are exceptional and might even someday profit us personally.

Unique skin decorations are only the start of what is unexpected and special about Western Fence Lizards.





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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.

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