



Sea Level Rise and Its Impact on Huntington Beach

By Shirley Dettloff

After seeing climate change throughout the world with fires, floods, hurricanes, droughts and weather that is unusual, we are looking more closely at the problem. Even for those who deny there is such a thing as climate change, what we are seeing has been very unusual and predictions are that this is just the beginning. In our own State we have seen towns such as Pacifica losing homes on their shoreline, fires threatening places like Lake Tahoe, huge waves attacking the shorelines in Orange County and many other examples.

We now see the State Legislature taking action, as well as the Coastal Commission and local jurisdictions including the City of Huntington Beach. The Coastal Commission requested that all coastal communities review and mitigate the impacts of Sea Level Rise. The city applied for funding to do such a study and received a \$200,000 grant from the Coastal Commission. This is the second study the city has done and it is available to the public at the city's website and is entitled Final Sea Level Rise Vulnerability Assessment.

The city, with the assistance of consultant Moffatt & Nichol, looked at several factors which would play a huge role in determining which areas of our City would be subject to sea level rise. They studied

areas that naturally tended to be flooded, areas where there are infrastructure projects such as the Sanitation District, roadways that could be impacted, transportation corridors, recreation areas and of course housing. The areas that were studied in depth were Huntington Harbour, including Sunset Beach, the Bolsa Chica, the downtown city area, and south Huntington Beach, including the Huntington Beach Wetlands.

Starting in the northern part of the City, Huntington Harbour was studied and found to be the most vulnerable. It is tidally influenced and also receives storm water runoff from major regional flood control channels. Subsidence has been reported in the Huntington Harbour areas due to historic oil production activities. Seawalls and bulkheads around the Harbour are the primary defense to rising sea levels and subsidence can directly impact the ability of these structures to accommodate sea level rise. Also, a number of storm water outfalls, storm water pump stations and sewer lift stations lie within the study area resulting in high over hazard exposure.

Going south to the Bolsa Chica area. This area contains wide, sandy beaches backed by the Bolsa Chica Wetlands. It also has a major transportation

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Thank You to Volunteers Who Assisted with Summer Programs

By Nancy Boyd Batstone and Jerry Donohue

This was an unusual summer. Due to COVID restrictions, our activities were limited through June and July. Undaunted, our volunteers got creative and went virtual! We provided “Live in the Wetlands” Zoom tours with elementary students enrolled in UCI’s Young Engineers and Scientists (YES) program. Thank you to Karen Belville, Annie Daw, Tom Pfeifer, Elissa Warantz, Jim Robins, Jerry Donohue, Judy Huck and Kim DePasquale.

We also had the opportunity to present “Live from the Wetlands” to educators around California as part of the NOAA Climate Generation Conference. Thank you to Tom Pfeifer, and Annie Daw for their assistance giving talks about the Bolsa Chica.

In collaboration with the Huntington Beach Library, Amigos created a video and activities focused on wetlands and birds. Thank you to Karen Belville, Sharon Von Dollen, and Jennifer Robins for coordinating this project and to Lauren Fillet for reading and hosting the virtual children’s storytime. As part of the library’s End of Summer Event, Amigos hosted an information and children’s activity booth. Thank you to Jennifer Robins, Karen Belville, Nancy Boyd-Batstone and Sharon VonDollen for coordinating and staffing this booth that reached over 100 community members.

When we were given the green light we were excited to bring back our in-person Last Saturday of the Month Bird Walk in July and First Saturday of the Month Tour of the Bolsa Chica Ecological Reserve in August. Thank you to all of the Naturalists who resumed their posts: Terry Hill at the Bird Walk, Elissa Warantz, David Lasky, Karen McReynolds, Tom Pfeiffer, Terry Jorris and Sharon Von Dollen at the public Tour. A huge thank you to Jennifer and Jim Robins who continue to coordinate these activities and recruit the Naturalists each month.

Junior Rangers 2021

Amigos has worked with Bolsa Chica State Beach the past five years during July and August to provide beach interpretive programs. We have modified our FLOW activity, that is usually geared toward middle school and older groups, to include activities that engage children as young as five. This year, instead



Jennifer Robins, Nancy Boyd-Batstone and Sharon Von Dollen participate in the HB Library’s end of summer celebration. Photo by Karen Belville.

of working out of the Visitor Center, we transported equipment to the RV camping area which holds more than 40 vehicles. Each Friday for an hour we hosted budding future scientists and their equally inquisitive parents. We honored 41 Junior Rangers this summer with a stamped booklet and a silver badge confirming their participation. Amigos volunteers included Cat Navetta, Linda Fillet and Jerry Donohue.

As school starts up this fall, we are beginning to get requests for private, scheduled tours and FLOW. If you are interested in volunteering for future activities, please contact info@amigosdebolsachica.org. We look forward to a busy Fall and 2022!



Jerry Donohue helps one of the Junior Rangers learn about microscopic life in the ocean. Photo by Cat Navetta.

Shipley to Shore Trail Connects Bolsa Chica to Central Park

By Vic Leipzig

From its earliest days, one of the goals of the Amigos de Bolsa Chica has been a public trail system that completely surrounds the Bolsa Chica wetlands. That goal has only been partially realized so far, but is gradually getting closer to fulfillment, thanks to an allied organization: the Huntington Beach Tree Society.

In cooperation with the city of Huntington Beach and the Friends of Shipley Nature Center, the Tree Society has been working to create a trail to be called the “Shipley to Shore” trail. It will eventually pass all the way from the Shipley Nature Center near Goldenwest Street and lead to the corner of Pacific Coast Highway and Seapoint Street. That’s a distance of nearly three miles. Along the way, it will offer magnificent views of the south end of Bolsa Chica.

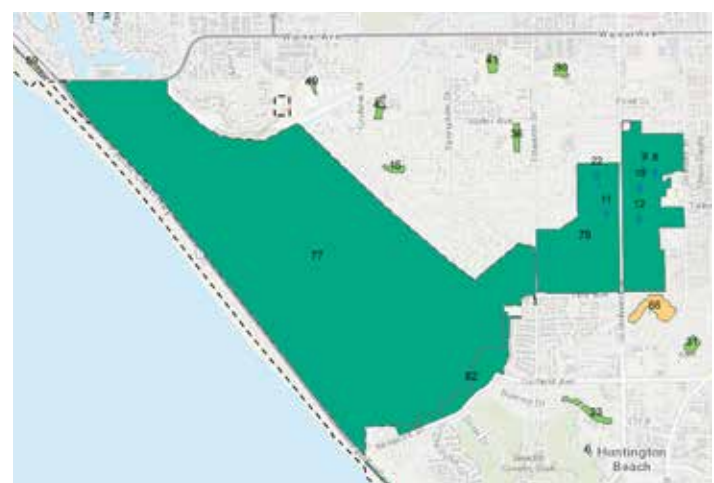
Shipley Nature Center lies within the city’s Huntington Central Park which already has an excellent pathway system. Parts of it parallel a trace of old Freeman Creek that used to flow into the wetlands. From the entrance to Shipley, one path leads to the north side of Huntington Lake, but, unfortunately, the trail along the east side of the lake is in desperate need of a major upgrade. Fortunately, the city has set aside funding for an elevated walkway that is expected to be constructed in the coming year. From the south side of the lake, another existing trail leads up the hill past the equestrian center in the direction of the city’s Urban Forest, largely created and maintained by the Tree Society.

At the corner of Edwards Street and Ellis Avenue, trail users will cross Edwards and enter property owned by the County of Orange that is part of the yet-to-be-completed Harriett Wieder Regional Park. Final improvements to Harriett Wieder park will only occur in future decades when oil extraction and pipeline transmission comes to an end, but the public already has access to informal trails that run most of the length of the park area. The sidewalk along Seapoint can be used for stretches where there is no park access.

The native habitats of Huntington Central Park and Bolsa Chica Ecological Reserve have been altered greatly in the past century and a half, but both remain

precious open space that provide benefits to people and wildlife alike.

Some other parts of the Bolsa Chica Ecological Reserve already have extensive public trails, such as the Brightwater Trail at the north end. And a well-used trail borders the ecological reserve on its northeast side where numerous local streets (such as Graham and Springdale) give public access. However, this trail terminates near Springdale, leaving a major gap from there to Edwards Street. In the long run, that ecological reserve trail could connect with Shipley-to-Shore and give the public a full view of the wetlands, fulfilling Amigos’ dream.



Top: The Shipley to Shore trail in its current state. Bottom: A city website map that shows how the two areas are still directly adjacent and constitute one interconnected ecosystem. Bridging the two with a public trail may help protect them both.

Elegant Terns Find Place to Nest at Port of Long Beach

By Thomas Anderson

While it is not unusual for Elegant Terns to nest at the Ports of Long Beach and Los Angeles, they almost always make that choice before laying eggs. We often see them gather in large numbers at the Bolsa Chica Ecological Reserve (BCER) in early spring when the birds are making a collective decision to stay at Bolsa Chica or go to the Ports. 2021 was different. Rarely do Elegant Terns abandon their nests while they are incubating eggs. When a drone crashed onto Tern Island at the Reserve in May, that's exactly what happened. Thousands of eggs were abandoned. All was not lost, however, though the Terns' recovery would not have been as successful without the intervention of several concerned groups and individuals.

By June, approximately 6,000 Elegant Terns had begun nesting on barges near the Queen Mary that were filled with large rocks destined for repair of the jetties at the Seal Beach Naval Weapons Station. Although few of the birds were banded, tern experts including Mike Horn of California State University, Fullerton and Charles Collins of California State University, Long Beach surmised that they were likely to have been terns that abandoned Bolsa Chica. Nesting was successful, and by early July the young, curious nestlings began wandering too close to the edges of the barges and fell into the water. Unable to fly, and without waterproof feathers, human intervention was needed.

California Department of Fish & Wildlife (CDFW), International Bird Rescue (IBR), California Science Center, Aquarium of the Pacific, Los Cerritos Wetlands Trust, Heal the Bay and other private citizens with boats came to the rescue. Since terns need to be with their parents until they have fledged, birds healthy enough to pass triage were put back on the barges. About 635 birds with more serious injuries were taken to various care centers and later returned to the barges. In order to prevent further injuries, IBR built special rafts that anchored to the barges to catch any

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Top: Elegant Terns find barges in the Port of Long Beach suitable for nesting after fleeing the Bolsa Chica. Middle: Juvenile terns that were rescued after falling off the barges. Bottom: Terns utilizing the rafts built by International Bird Rescue and placed next to the barges. Photos by Melissa Loebel.



2021 California Coastal Clean-up

By Jennifer Robins

On a beautiful Saturday, September 18, Amigos volunteers Tom Pfeifer, Nancy Boyd-Batstone, Annie Daw, Jim and Jennifer Robins, Doug and Sharon Von Dollen all arrived at the Bolsa Chica Ecological Reserve around 8:00 a.m. to set up the canopy and tables, bring out the trash grabbers, gloves, bright yellow buckets and other materials for the California Coastal Cleanup at the wetlands.

The parking lot was already almost full with cars driving through looking for a spot to park. Many were visitors to the wetlands, but the volunteer cleanup crews arrived too. They completed their waiver forms, signed out trash grabbers, and received a California Coastal Commission Trash Data Form to keep track of the items they found on the trails. They were given gloves and buckets for the trash, which they could easily dump into the dumpster.

It is always amazing to see the sort of trash gathered including cigarette butts, of course, sanitary products, hats, bottles and general roadside trash people have thrown out their car windows. One interesting item was a purple Beanie Baby with its face chewed off. Not sure what animal may have taken a liking to the stuffed bear. Thanks to all who helped make the Amigos de Bolsa Chica Coastal Clean-up Day a success: **36 volunteers that cleaned up 200 pounds of trash.**

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wandering young terns. In all, 3200 terns were saved and eventually fledged. Many were seen foraging at the BCER through the end of August before migrating.

The rescue efforts gave authorities the opportunity to band many young birds. Reporting the bands will help us better understand Elegant Tern migration, dispersal, life span and estimating survival and productivity. To learn how to report a banded bird, visit <https://www.birdrescue.org/contact/found-a-bird/reporting-a-banded-bird/>

Drone update

While the drone crash on Tern Island is still under investigation by the Orange County District Attorney's office, BCER Manager Melissa Loebl is working with CDFW leaders in Sacramento on several fronts.



After a year's absence, volunteers participate in the Coastal Cleanup at the Bolsa Chica Ecological Reserve. Photos by Tom Pfeifer and Annie Daw.



First, two of three apps used by drone operators have agreed to note that Bolsa Chica is restricted airspace. They are working on language to make it clear that drones are not permitted in any California Ecological Reserve. They are also working with the FAA to ensure the BCER is shown as restricted airspace, and they're working with California State Parks to enforce prohibition at Bolsa Chica State Beach (where 50% of drones seen at the BCER originate).

The Bolsa Chica Land Trust recently used a post card campaign to successfully lobby CDFW leadership for more warden presence at the Bolsa Chica. If you spot a drone at the BCER and no warden is present, call CalTip at 888-334-2258. All of these efforts contribute to educating people about appropriate behavior in an Ecological Reserve.

FLOW Returns with More to Offer

By Amber Davis

We are happy to report that FLOW is back in action! June 18th was our first FLOW Friday of this year, and the first since the lockdown in March 2020. Since returning to FLOW activities, we are being very mindful of the need to make some proactive changes in order to ensure the survival of the FLOW Program, keep ourselves and our participants safe, and not only maintain our program but grow it.

To address concerns regarding health - and taking into consideration the fact that a large part of the FLOW Program takes place inside the State Beach Visitor Center - we are developing new safety protocols for our weekly plankton collections as well as any field trips (once we are ready for them!). These protocols will include requiring either vaccinations or masks while inside, sanitizing the equipment after use, and more frequent hand washing, with the aim to protect ourselves, our volunteers, and the students and families we educate.

Another change is to the schedule; so far this year we have gathered for FLOW Fridays at 1:30pm every week, but as our plankton collection is dependent on an outgoing tide to avoid our nets getting caught on the bridge pilings, we've decided to switch to our alternating schedule (9:30 am or 1:30pm) starting the first week of October. At the end of the year we will assess the modified schedule and adjust if needed. A calendar of dates and times for the rest of this year will be posted on the Amigos de Bolsa Chica website.

Along with our refashioned schedule, we are also working on new FLOW Program shirts, training to



Girl Scouts Love State Parks 2021 - 60 Girl Scouts received wetland tours on September 12. Tom Pfeifer, Susan Hardgrave, Linda Fillet, Nancy Boyd-Batsone, Jennifer Robins and Annie Daw assisted.

Thank you to those who renewed their memberships this summer: Bob Hogan, Howard & Janet Emery, Marilyn Rowe, Shaun Appfel, Don & Ellen Goodwin, Elissa Warrantz, Karl Weimer, Linda Fillet, Keith Senechal, Amy Lee Goldsten, and Annie Daw.

use new chemical analysis equipment (user guides and training sessions to come!), welcoming two new volunteers and working to develop a new community science program alongside FLOW. The program is being developed with the help of BCER land manager Melissa Loebel and the Aquarium of the Pacific to monitor the new green sea turtle population in the full tidal basin. We are excited to embrace the “new” and hope it brings rejuvenation and growth back into our program.

Free First Saturday of the Month tours of the Bolsa Chica Ecological Reserve led by Amigos Naturalists 9:00 - 10:30 a.m.

NEW TIME: Free Last Saturday of the Month Bird Walk and Trash Cleanup led by Amigos Naturalists 8:30 a.m.

Free monthly tours are on a first come, first served basis. Reservations and carpooling are encouraged as parking at the Bolsa Chica Ecological Reserve is limited. All tours begin at the south parking lot, Pacific Coast Highway between Warner Ave. and Seapoint St.

The Tern Tide is published quarterly by
Amigos de Bolsa Chica

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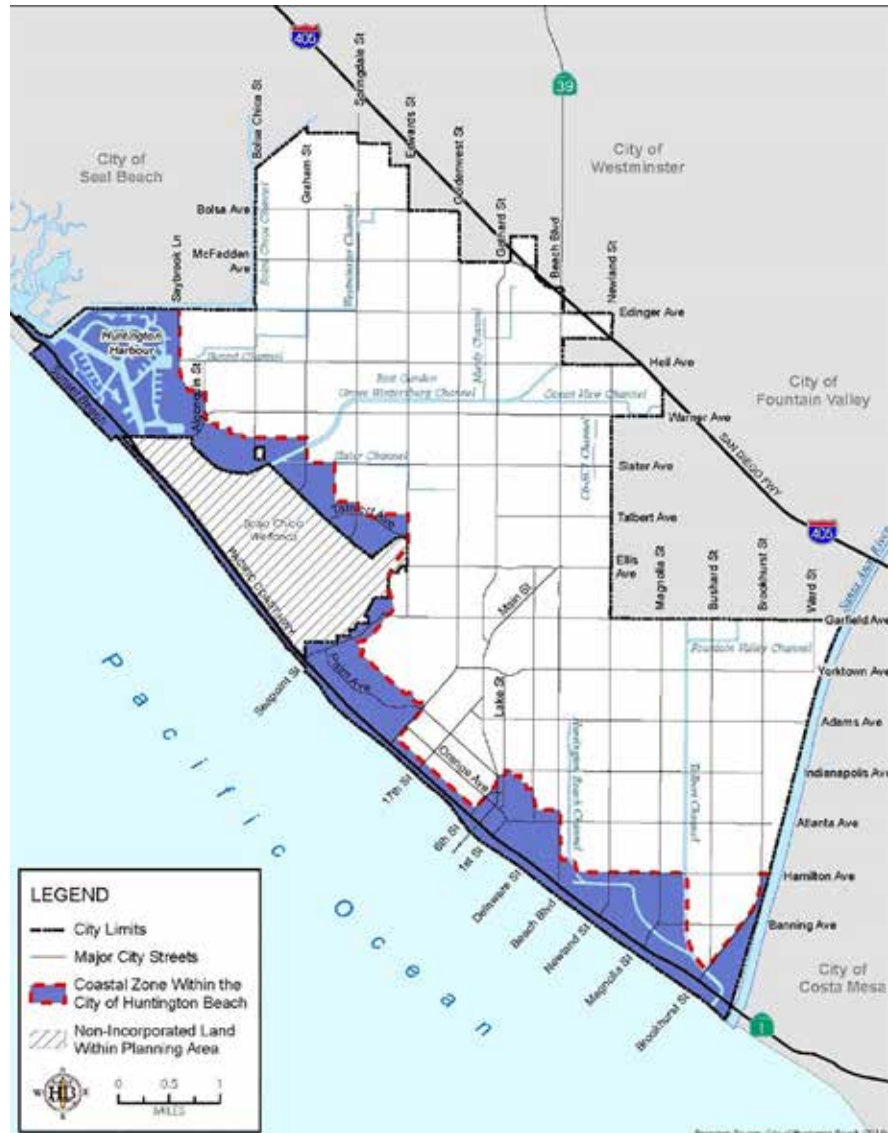
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corridor, Pacific Coast Highway, which in the past has received major flooding. If the oil field continues to function, this is another consideration as to how to address this issue. The wetlands has been restored and is functioning as a major wetland. What a major storm would do to this resource is still a question. One very important factor is that this wetlands absorbing so much of sea level rise, may protect those homes that are surrounding the wetland. This area is considered to be an area receiving minimal impacts.

How will the downtown area which extends from Goldenwest St. to Beach Blvd. be impacted? It includes wide sandy beaches and concentrated areas of residential and commercial development. There are two important structures in the area which include a condo project and the pier. Because most of this area is at a higher elevation than other areas of the city, it appears that sea level rise would have minor impacts.

Lastly the area from Beach Boulevard to the Santa Ana River which has two major facilities, the AES Plant and the Orange County Wastewater Treatment Plant. These facilities are now looking at adaptive measures that could give them protection, but will require hydraulic studies and significant changes. This area is protected by a system of levees along regional flood control channels thus giving them some protection.

But this is just the beginning. Future studies will be needed to know how we should address these impacts. Numerous recommendations have come forward such as moving homes or facilities in danger back from the coast, known as managed retreat, moving highways away from the coast, and relocating railroad



The above map shows areas in Huntington Beach that are most vulnerable to sea level rise. More information can be found here:

<https://www.huntingtonbeachca.gov/government/departments/planning/major/major-projects-view.cfm?ID=97>

corridors. These are merely ideas, but this issue must be addressed.

In conclusion let me quote Donne Brownsey, Vice Chair of the California Coastal Commission who says, “Sea level rise doesn’t always raise widespread concern among the public because it doesn’t display its threat as dramatically as other disasters. It’s a slower moving crisis than a wildfire or hurricanes, but this is an urgent impactful issue.”

Coming in the Winter 2022 Tern Tide: Update and a status of the City’s efforts and legislative action with SB 1 and SB 83.



THE TERN TIDE

Volume 45, Issue 3

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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

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Additional Contribution:

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

Please check if you are interested in volunteering for:

FLOW Citizen Science Naturalist training/wetland tours Wetlands cleanups Fundraising Grantwriting

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.

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