



# The Pickleweed

The Newsletter of the Huntington Beach Wetlands Conservancy, Inc. (a Nonprofit Corporation)

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## A Message from Our Chairperson

By Gordon Smith

The year just passed has been an extraordinary one for the Huntington Beach Wetlands Conservancy. As you'll read in the articles that follow, we're finally off and running with the completion of our visitors' interpretive center thanks to a grant from the California Coastal Conservancy, and we're strengthening our ties with the education and visitor-serving communities in Huntington Beach. Our newly restored marshes continue to thrive and increase their biological richness as reported by our colleagues at Cal State Long Beach. Another article presents recent findings on the decline in coastal habitat that underscores why our wetland restoration and education efforts are so important.

In our last issue of *The Pickleweed* we wrote about our appeal of the environmental review of the planned demolition of the oil tank farm adjacent to our Magnolia Marsh, and we discussed the enormous problem of trash and debris that enter our wetlands from the county's flood control channels. To update readers, not much has changed with the tank farm demolition issue. No further action has been taken by the tank farm's owners to obtain the demolition permit, and the Conservancy will continue to demand that the pipeline across our property be removed as part of the demolition. On the trash and debris issue, the county flood control agency has agreed to install containment booms on both the Huntington and Talbert channels to mitigate the influx into our wetlands. We don't have a date set yet for the installation of the booms; we're hopeful they will be in place before the winter's heavy rains commence.

On the subject of trash, we would like to thank the 100-plus people who volunteered on Coastal Cleanup Day this past September. More than 100 bags of trash were removed from our wetlands, estimated to weigh 1,000 lbs. **Our next cleanup event is set for Saturday March 3**; trash is already accumulating from the winter rainstorms.

Lastly, I would like to extend a warm welcome to our newest board member, Marco Perry. Marco is general manager of the downtown Shorebreak Hotel and brings a solid business and managerial background to our organization. Our nine-member board possesses an impressive array of skills and backgrounds in education, law, environmental science, and

administration in both the public and private sectors. Each of our board members is enthusiastically dedicated to advancing the mission of our organization as a non-profit corporation and land trust responsible for an important coastal resource.

## Conservancy Receives Major Grant

The California Coastal Conservancy has awarded the Huntington Beach Wetlands Conservancy a grant of \$750,000 for design, fabrication and installation of displays in the Wetlands and Wildlife Care and Education Center, and for preliminary planning and permitting of an interpretive trail along the Magnolia Marsh. The grant will fully fund the completion of the visitors' interpretive center, including interactive displays on coastal wetlands ecology and restoration, negative human impacts and their mitigation, and the care and rehabilitation of sick and injured wildlife. The conceptual design of the displays and their layout can be found at <http://hbwetlands.org/pdfs/Report06.17.08.pdf>.



Boardwalk Section of Interpretive Center Design

An Orange County-based contractor, Dimensional Images, has been selected to fabricate and install the displays. Completion of the interpretive center is planned for Fall 2012.

The Magnolia Marsh interpretive trail is planned as a combination boardwalk and graded pathway beginning at the

observation deck and running along the existing sand dune separating the marsh from PCH. Interpretive signage will be installed along the trail, which will be wheelchair accessible. Because the dune is considered an environmentally sensitive habitat area, the design and location of the trail will require careful planning and approval by the California Coastal Commission and other agencies. The Coastal Conservancy is thus funding the project in two phases with the second construction phase to be funded once all permits are in hand.

Once the interpretive center and dune trail are completed, the Wetlands Conservancy will have achieved its vision of Magnolia Marsh as an ideal “showcase” for educating visitors in the importance of coastal wetlands, and for providing an opportunity to learn about and view a successful restoration project.

### **Conservancy Builds Ties with Educators and Local Visitor-Serving Community**

With the Conservancy’s major wetland restoration efforts recently completed, and the interpretive center set for completion in the coming months, the organization is turning its attention to outreach to local educators and hotels interested in offering ecotourism opportunities for their guests.

In October the Conservancy hosted a teachers’ workshop on curriculum development in wetlands science. NOAA and the USC Sea Grant Program sponsored the event. Science teachers from elementary and secondary grade levels spent the day learning methods for incorporating wetlands ecology into their courses, and had the opportunity to try out some field studies in Magnolia Marsh.



**October Teachers’ Workshop**

Also, the Conservancy is forming an advisory committee of local science teachers to provide guidance as the various educational and interpretive displays are designed for the new visitors center. The Conservancy intends the Center to become a valuable educational resource, with displays

engaging and meaningful for student groups from all grade levels.

With its proximity to major hotels, the Center can also play a role in fostering ecotourism as a vehicle for increasing awareness of the vital role coastal wetlands play in the larger ecosystem. Conservancy Chairperson Gordon Smith has been appointed to the board of directors of the Huntington Beach Marketing and Visitors Bureau, and with Marco Perry’s appointment to the Conservancy board, the organization looks forward to developing partnerships in this area.

Lastly, the Conservancy now has a coordinator for community outreach and education in the person of Anastasia Shippey. Anastasia is a graduate student in biology at CSU Long Beach and works for the Conservancy on a half-time basis. She can be reached at her email address [astasia81@hotmail.com](mailto:astasia81@hotmail.com).

### **Huntington Beach Wetlands Restoration Project: Monitoring Data Summary (October 2010 to October 2011)**

*By Profs. Christine Whitcraft, Bengt Allen, and Chris Lowe  
CSU Long Beach*

#### **Physical Monitoring Program**

**Bathymetric Monitoring:** In January 2011, bathymetric surveys of the tidal channel system (from Talbert Inlet bridge to Magnolia Street bridge) were conducted to document post-restoration bathymetric conditions with particular focus on the area near Talbert Marsh Inlet. Brookhurst Marsh channels, as planned, are consistently deeper than Talbert Marsh. To date, there has been no significant accumulation of sediments in the Talbert inlet portion of the channel, indicating continued success of the 2008 dredging at this location

**Tidal Monitoring:** Three self-contained tide gauges were deployed monthly and recorded tidal height (m) at thirty minute intervals. These were deployed at the marsh inlets, the back of Magnolia and Brookhurst, and under the Pacific Coast Highway bridge. The gauges were deployed in one of four combinations to allow comparisons within and among marshes.

The Magnolia inlet experienced a lag in tidal influx. Within Brookhurst Marsh, both inlet and back locations experienced similar tidal ranges to the Talbert bridge location. Within Magnolia Marsh, ranges in both inlet and back locations are muted compared to those measured at the Talbert bridge location. Overall, post-restoration tidal amplitudes at the inlet of Brookhurst Marsh and Magnolia Marsh are now functionally equivalent to tidal amplitude in the reference marsh (Talbert Marsh).

**Water Quality Monitoring:** Three self-contained multi-probed water quality monitoring instruments were deployed monthly and recorded turbidity, pH, and dissolved oxygen. These

instruments were deployed at the same locations as discussed in the Tidal Monitoring section above.

Among inlets, the Magnolia locations had generally lower dissolved oxygen levels than the other locations especially toward the end of February 2011. The Talbert and Brookhurst inlet locations had comparable dissolved oxygen (DO) levels. We will continue to monitor DO data closely.

### **Biological Monitoring Program**

**Fish Monitoring:** Beach seines, beam trawls and hook and line fishing were employed in monthly surveys from July 2009 – July 2010 and quarterly surveys since. Fish abundance and species richness have increased in Brookhurst Marsh from pre-restoration (no water, no fish) conditions. In Spring 2011, Brookhurst Marsh had a total of 306 individual fish caught in a total of 6 seines (total 20 spp., average of 44 fish per seine) as compared to the reference site, Talbert Marsh (total of 275 individual fish, average of 46 fish per seine). Although the identity of the dominant fish species varies between Talbert and Brookhurst Marshes, the overall species compositions are quite similar. Talbert Marsh has a larger proportion of killifish and turbot than Brookhurst Marsh, which has a larger proportion of topsmelt, jacksmelt, and anchovies than Talbert Marsh.

**Benthic Infaunal Monitoring:** Sampling in 2008 and subsequent years found that the infaunal assemblages of Talbert Marsh are generally characterized by high percentages of oligochaetes (marine earthworms), polychaetes (bristled worms typical of wetter environments), and mollusks (particularly snails also typical of wetter environments). In 2008 (pre-restoration), Brookhurst had a high percentage of Crustacea, primarily the isopod *Iais californica*, which are more tolerant of drier terrestrial conditions. All of these discussed differences are significant. In Fall 2009, following 4.5 months of tidal inundation, Brookhurst Marsh infaunal communities more closely resembled the Talbert Marsh communities than prior to restoration. This change is driven primarily by a reduction in the abundance of isopods and an increase in the number of gastropods and marine oligochaetes in Brookhurst Marsh.

**Benthic Epifaunal Monitoring:** All three marshes show seasonal and yearly variation in epifaunal invertebrate abundances, as expected in such dynamic systems. However, Brookhurst and Magnolia Marshes also show a progression of epifaunal community development. Although the numbers remain lower than Talbert Marsh in Fall 2011, the post-restoration sampling points in Brookhurst and Magnolia Marshes have increased in density of all three epifaunal taxa.

**Stable Isotope Analysis:** Preliminary data suggest that potential food sources can be differentiated using stable isotope ratios and that juvenile halibut seem to feed primarily on seagrass-associated invertebrates. In addition, we see a change in Brookhurst Marsh invertebrate isotopes from a food web that was significantly different from Talbert Marsh in 2008, to a food web that more closely resembles Talbert's isotopic signatures in 2009.

**Vegetation Monitoring:** Little change in native vegetation has occurred in Talbert, although percent cover of *Spartina foliosa* (cordgrass) has increased. The percent cover of native vegetation at Brookhurst Marsh transects decreased from 92% in 2008, prior to restoration, to 47% in 2009 four months post-restoration. This was due to the loss of the extensive areas of brackish marsh previously dominated by reeds (*Schoenoplectus americanus*) as well as removal of large stands of spiny rush (*Juncus acutus*). Nevertheless, the amount of vegetated salt marsh habitat in Brookhurst should increase through time due in part to an aggressive transplant program on the elevated berms (to be evaluated in our next newsletter). Eelgrass in Brookhurst Marsh exhibited an increase in total area from 2010 to 2011 of approximately 44%. Overall percent cover of native vegetation at all Magnolia Marsh transects decreased from an average of 60% in 2008 to 39% in 2009 due mainly to excavation of salt marsh in north Magnolia to create the basin. In the areas that remained vegetated, little percent cover was lost.

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### **Federal Report Highlights Decline in Coastal Wetlands Habitat**

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A recently released federal report documents substantial loss in coastal wetlands. The report "Status and Trends of Wetlands in the Conterminous United States, 2004-2009," released last fall by the US Fish and Wildlife Service, represents the most up-to-date and scientifically valid assessment of the nation's wetland habitats.

In the five years covered by the study, coastal wetlands experienced a decline of 110,000 acres, or 2.4% (roughly the size of 84,000 football fields). The rate of loss far surpasses that of other wetland habitat types, according to the report.

The magnitude of the loss of coastal wetland acreage is alarming in light of the vital roles coastal wetlands play as nurseries for commercially and recreationally important fish and shellfish species, as storm buffers for coastal communities, and as habitats for numerous species of fish and wildlife. Coastal wetlands also provide recreational opportunities for millions of Americans annually.

In response to the report, a national coalition of eleven environmental and sportsman organizations, representing more than two million members is calling on Congress and the administration to ramp up restoration and conservation efforts.

"Status and Trends of Wetlands in the Conterminous United States, 2004-2009" is available online at <http://www.fws.gov/wetlands/StatusAndTrends2009>.

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### **Newland Marsh: An Update**

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Newland Marsh, the 44-acre parcel bordered by Beach Boulevard and Pacific Coast Highway and bisected by a county flood control channel (outlined in red in the photo that follows), represents the last remaining degraded coastal wetland area targeted by the Conservancy for acquisition and

restoration. The land has a complicated history, and it presents a complicated set of challenges for restoration.



**Newland Marsh**

In the mid-1960s the California Department of Transportation (CalTrans), through an eminent domain action, acquired the land for a coastal freeway project that was never realized. The original owner, Mills Land and Water Company, sued the state in the mid-70s in an effort to regain the land, and sued the city of Huntington Beach for zoning the property as wetlands. (The protective zoning was required by the California Coastal Commission under the terms of the California Coastal Act of 1976.) As part of the settlement of the lawsuit in 2004, Mills Land and Water received the now-vacant boatyard property at the corner of Beach and PCH. CalTrans retained the remaining acreage.

The situation at present is that CalTrans is going through the administrative process of declaring the Newland Marsh property surplus and determining its valuation for sale to another state agency such as the California Coastal Conservancy. Once that transfer occurs, the property will be given to the Huntington Beach Wetlands Conservancy for restoration.

Once acquired, Newland Marsh will present the Conservancy with some challenges as it proceeds with restoration of the full tidal access enjoyed by Talbert, Brookhurst and Magnolia marshes. Highways, housing developments and a mobile home park lie immediately adjacent to the property and will need protection from inundation. The wetlands will in turn need protection, or "buffering," from the residential developments. Electrical transmission lines, including a high voltage line, run across the middle of the property and will need to be relocated or protected in place, and a long-abandoned oil well on the site needs to be evaluated. Finally, the disposition of the small former boatyard parcel must be determined. Any development on that parcel will need to be buffered from the wetlands.

Despite these complications, Newland Marsh has the potential to become a biologically productive coastal wetland on par with the other three marshes comprising the Huntington Beach Wetlands. Located at a key intersection of two major highways, the marsh can also present a visually appealing open space vista in an otherwise busy urban environment. Restoration of Newland Marsh is most definitely a challenge worth pursuing.

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