



The Pickleweed

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

21900 Pacific Coast Highway (PCH at Newland), Huntington Beach, California
 Phone: 714-536-0141 Email: info@hbwc.org Website: www.hbwc.org

A Message from Our Chairperson

By Gordon Smith

It's fair to say that June 30, 2009, was the biggest day in the 24-year history of the Huntington Beach Wetlands Conservancy (HBWC). On that date, our organization hosted a national media event announcing a program of habitat restoration grants totaling \$167 million in federal economic stimulus funds. The National Oceanic and Atmospheric Administration (NOAA) will administer the nation-wide grant program.

Speaking in front of the soon-to-be-restored Magnolia Marsh, Undersecretary of Commerce and NOAA Administrator Dr. Jane Lubchenco described the program of 50 restoration grants, nine of which were awarded to California projects. She praised the Conservancy for the strength of its successful application, indicating that it ranked in the top 5% of the 814 applications received from across the country. Also speaking at the event were Mike Chrisman, California Resources Secretary, and Huntington Beach Mayor Keith Bohr.



A tour following the announcement gave attendees an opportunity to view three distinct stages of coastal wetland restoration: the degraded but restorable Magnolia Marsh, the Brookhurst Marsh just reopened to the ocean in June, and the mature Talbert Marsh the Conservancy restored in 1989.

The Conservancy received from NOAA a \$3.3 million commitment of economic stimulus funds for the 41-acre Magnolia Marsh restoration project. A major advantage of the

project as a candidate for stimulus funds is its "shovel-ready" status. Our contractor is still onsite, having just completed the restoration of the Brookhurst Marsh. Plans detailing design of the marsh have been completed and permits have been obtained from the various state and local agencies with jurisdiction. Restoration work officially commenced on-site in Magnolia Marsh on September 21st.



An especially exciting aspect of the Magnolia Marsh project is its potential for public access and education. Because the marsh is immediately adjacent to our Wetlands and Wildlife Care and Education Center, we have designed a trail system, viewing platform, boat dock and wetland interpretive features that will tie closely with the visitors' center being developed in our building off Newland Street. Look for more information about these plans in upcoming newsletters.

Lastly, our thanks to the 100+ volunteers who participated in the 2009 Coastal Cleanup Day at the Huntington Beach Wetlands on September 19th.

Magnolia Marsh Restoration Project Explained

Excerpts from NOAA Grant Application

Huntington Beach Wetlands is a sensitive habitat area that has degraded over time due to isolation from tides, neglect, encroachment, unauthorized access, and historic oil exploration and filling. During recent geologic history, the Huntington Beach and Newport Beach wetland systems were connected by the meandering Santa Ana River, which followed the coastline southeastward from near its present ocean outfall to form a link with the lower Newport Bay. The coastal

wetlands associated with this system covered 2,950 acres prior to the beginning of development in the 20th century. The area between present-day Beach Boulevard and the Santa Ana River was reportedly open to tidal flushing and periodic flooding from the river until the mid-1940's. Beginning in the 1920's tidal connections through the beach began to be filled-in and isolation of the wetlands resulted from the construction of Pacific Coast Highway, channelization of the Santa Ana River and construction of flood control channels.

Today, approximately 191 acres of degraded coastal wetlands remain in Huntington Beach. These wetlands are comprised of four marshes, namely Talbert, Brookhurst, Magnolia, and Newland. The Talbert, Brookhurst and Magnolia Marshes form a complete system divided by Brookhurst Street and Magnolia Street. The Newland Marsh is located approximately 1/3 mile further upstream from Magnolia Marsh and is separated from the southern three marshes by streets, a power plant and other industrial sites.

Magnolia Marsh covers approximately 40.5 acres and is made up of salt marsh (14.1 acres), salt panne (14.8 acres) and shallow subtidal (1.8 acres) with brackish marsh, scrub and disturbed dune making up the remaining acreage. This marsh is completely isolated from tidal exchange by a flood control channel. Its wetland character is maintained through periodic rainfall and the tidal and seasonal fluctuations of the local water table. This project will restore Magnolia Marsh to a full tidal coastal wetland.



Other components of the project include replacing approximately 8,000 linear feet of chain link fence which will protect the wetlands from trash, debris and unauthorized entry; creation of approximately 4,000 linear feet of public access trails; and the installation of interpretative signs.

Endangered birds nest and forage over large areas of pickleweed, salt panne and the flood channels including Belding's Savannah Sparrow, California Least Tern and the California Brown Pelican. A 2006 survey for the Belding's Savannah Sparrow documented 35 territories as well as 15 individuals within Magnolia Marsh. Sensitive invertebrates found in Magnolia Marsh include the S-banded Tiger Beetle.

Restoration of the Brookhurst Marsh and maintenance dredging in the Talbert Marsh were completed in March 2009, and they are already beginning to reestablish as viable coastal salt marshes. These both now provide habitat for a variety of fish, birds and invertebrates. Some of the fish species observed include gobies, northern anchovies, mullet, corvina, pipefish, and California halibut. Some of the bird species include the

California Least Tern, California Brown Pelican, Double-Crested Cormorant and several species of grebes.

Magnolia Marsh is completely isolated from tidal exchange by a flood control channel. Its wetland character is maintained through periodic urban runoff and the tidal and seasonal fluctuations of the local water table. Of the three southern marshes, Magnolia is the only marsh still isolated from regular tidal exchange. As a result of this isolation, the marsh has dried to form areas of hypersaline soils with a surface veneer of salt, identified as salt panne. Although pickleweed has colonized much of the salt panne, the vegetation quality varies throughout the site from tall and robust to short in stature and desiccated. Those areas lowest in elevation that pool water for long periods remain bare. Evidence of large algal mats dried over some of these areas indicates that these areas collect water during rainy months, only to rapidly dry, leaving conditions that are inhospitable to most marsh plants.

Comparisons of photographs of Magnolia Marsh from 1997 and 2006 show the expansion of pickleweed into many of the salt panne areas following the 1998 El Nino event. The marsh is, however, again in decline as a result of the present drought conditions and it is unlikely that the lowest, most saline areas will become vegetated in the near future under the current hydrological conditions.

Additional plant species found throughout the salt marsh include saltgrass, saltwort, and alkali heath. The majority of this non-tidal marsh shows very minimal invasion by exotic species; however, there is very little plant diversity, likely due to the hypersaline sediment conditions and the environmental extremes experienced in the marsh between the wet and dry seasons. In a few areas, particularly just east of the Huntington Beach Generating Station at the western end of Magnolia Marsh, the marsh is degraded with various iceplant species, unauthorized recreational use, and dumped fill dirt and concrete scraps further degrading the area. Surviving coastal salt marsh areas have a high potential to benefit from restoration efforts involving reintroduction of tidal influence.

An analysis of the restored areas within the Huntington Beach Wetlands at Talbert Marsh and Brookhurst Marsh clearly indicates an increase in the abundance and variety of fish, avian and other species observed there. The long term ecological goal of restoration of Magnolia Marsh is to convert it to subtidal and low marsh habitat capable of supporting levels of species variety very similar to those of the already restored other two marshes.

This project will convert Magnolia Marsh to subtidal and low marsh habitat. Surface cover will consist of open water and mudflat in bare areas, and primarily cordgrass in vegetated areas. The existing surface is mainly non-tidal pickleweed and salt panne. Creation of a large cordgrass dominated low marsh isolated by tidal channel systems will favor the reestablishment of endangered Clapper Rails to the wetlands in a sizable and defensible marsh area.

The short term ecological objectives can be broken down as follows:

- Remove physical obstacles to tidal influence within the marsh; and

- Remove invasive non-native plant species.

The long term ecological objectives are:

- Create a full tidal wetland; and
- Ensure the area provides long term quality habitat to a diverse number of biological communities as found in the already restored areas of the Huntington Beach Wetlands.

In support of the economic stimulus funds being used in this restoration project, the short term socioeconomic goals are:

- Maintain construction labor and supervision jobs that were engaged in the restoration of Brookhurst Marsh; and
- Maintain support roles in the engineering and biological fields necessary for providing those design, monitoring and construction support services essential to project success.

The long term socioeconomic goals of this restoration project are:

- Provide continued employment opportunities indirectly through enhancing the recreational draw through required wetland maintenance;
- Provide wetland educational opportunities to all sectors of the community;
- Provide opportunities for academic research; and
- Support future indirect jobs affected by the recreational draw exerted by a fully restored wetland and creation of trail system.

This project will be accomplished by excavating former channels in the low areas, removing the levee and allowing seawater in and out of the marsh with the daily tides. The average elevation throughout Magnolia Marsh is approximately +4.0 feet. Exceptions to this topographic relief exist in the form of old roads, oil work areas, and perimeter fill material, but the overall surface condition is relatively flat. The spring tide range in the channel that will supply seawater to this marsh is between +7.2 feet and +2.2 feet. The distance from the ocean to the marsh via flood channel is approximately one mile. The restored marsh will be fully inundated at spring high tides and nearly completely drained at spring low tides without significant changes to topography.

The modifications to Magnolia Marsh include:

- Create one main channel to an elevation of 0.0 feet through the marsh by excavation, following relic channels and low points wherever possible;
- Lower the sides of the main channel to elevations between +3.6 and +2.0 feet within the marsh to create mudflat area;
- Remove the flood control levee along the HB Channel down to the elevation of mudflat at between +3.6 and +2.0 feet to supplement the tidal connection;
- Install a breach through the remaining base of the flood levee at the main channel at elevation 0.0 feet to provide an unrestricted connection to the HB Channel;

- Install a maintenance access road and interpretive trail along the west perimeter adjacent to the AES plant to +11.0 feet elevation;
- Remove two to three feet of soil at two small areas of a former oil sump/production area;
- Create mounds to an elevations of 7.5 to 8.0 ft to provide sufficient nesting habitat for the endangered Belding's Savannah Sparrow; and
- Expand and support the existing on site nursery to accommodate the plant propagation component of the wetland revegetation task.

An open channel connection to the HB Channel will be created to 0.0 feet at the northwesternmost end of the property where wetland elevations are lowest adjacent to the channel. The one main channel will convey seawater through the system, with one tributary channel branching off of it. Additional excavation will occur within and along the main channel and banks to lower the site further to create mudflat area. A moderate-sized subtidal pool will be created near the west end of the site for habitat and maintenance access.

The earthen HB Channel levee will be lowered to the elevation of mudflat (+3.6 to +2.0 feet) along the entire marsh. The levee will be significantly lowered to allow unrestricted infilling of the marsh with seawater to further supplement tidal penetration in the main channel. The remnants of oil activity at the south-central portion of the marsh near PCH will be removed and remediated.

Climate change has the potential to affect the wetland in two significant ways. One way involves the adaptation that will be required of typical wetland species to temperature rise, but the bigger impact will be habitat transitions due to the resultant sea level rise. The project is designed to be viable and self sustaining during predicted sea level rise through 2060. The perimeter is high enough to contain water under future conditions, and higher ground within the marsh has been designed in the form of elongated berms that are above tidal influence for at least the next 50 years. These berms are 3 to 4 feet above existing grade, are approximately 50 feet wide, hundreds of feet long, and will be placed alongside the new channels. This high ground will progressively convert into high intertidal habitat as sea level rises to preserve the acreage of that habitat on site. This design has received the approval of the California Department of Fish and Game, National Marine Fisheries Service and all other permit agencies. As a pilot effort, HBWC has already planted native transitional and salt marsh plant species on the newly constructed berms in Brookhurst Marsh and is irrigating them to enhance growth. In addition, the adaptive management approach of the monitoring program will ensure that additional or revised measures can be taken to protect against habitat loss due to sea level rise.

Permanently restoring tidal influence to the Magnolia Marsh is considered to be the most self-sustaining approach as it restores the area to its original hydrological state and eliminates more expensive and maintenance-intensive restoration measures. Sensitive birds may utilize Talbert Marsh, Brookhurst Marsh and Newland Marsh as refuges

during temporary displacement while construction and initial habitat establishment occurs at Magnolia Marsh.

If You Build It, They Will Come

By Lena Hayashi

This article's title certainly applies to the Huntington Beach Wetlands. The wetlands were isolated from tidal influence when the flood control channels were constructed during the Orange County housing boom years. They became degraded from lack of water, misuse and the over growth of non-native vegetation. Allowing salt and fresh water to once again inundate former wetlands has resulted in an immediate increase of coastal bird species and their numbers.

Since January 2007, quarterly bird census surveys have been conducted by the HBWC on the Talbert, Brookhurst and Magnolia marshes owned by the HBWC and the Newland Marsh owned by Caltrans. At each survey a dedicated group of about 22 skilled volunteer birders begins at dawn on designated mornings in January, April, July and October to identify each species of bird by sight and/or sound and to count how many of each species were observed.

The many years of behind-the-scenes work by HBWC to acquire the land parcels, obtain funding, develop a Master Plan for restoration, and then survive the lengthy permitting process finally resulted in breaking ground in Brookhurst Marsh in September 2008. The results of the bird census surveys since construction commenced show that the addition of tidal flow into the degraded wetlands immediately increased the variety and number of birds.

Using the data collected from April 2009, when the variety and numbers of birds are usually most abundant, which was just after construction ended in the Brookhurst Marsh, showed there was a total of 792 birds counted as compared to 381 in

2008. The impact of water was also apparent in the Magnolia Marsh. It was inundated with rain water in April 2008, and then this year water was temporarily pumped into it during the restoration of the Brookhurst Marsh during January 2009. During both of the survey days, significantly more birds were observed in the marsh than when the marsh was dry.

These results are encouraging as coastal wetlands up and down the state of California have been declining in the last four decades due to urban development. The mission of HBWC is to restore and preserve the few remaining wetland acres in Huntington Beach and throughout Orange County, and this mission will now continue as work begins in Magnolia Marsh.

Many thanks to our volunteer bird surveyors for their very much appreciated efforts: Mabel Alazard, Bill Butler, Dick and Pat Cabe, Claudine Casey, Bill Cullen, Cheryl Egger, Jean Gill, Claire Grozinger, Rusty Harold, William Heckman, Bob Hogan, Star Howard, Leigh Johnson, John Kelly, Vic Leipzig, Bobbie Miller, Kelly Porter, Roy Poucher, Susan Sheakley, Yvonne Spaw, Robin and Jean Suan, Dave and Sharon Telford, Scott Thomas, Marty Trujillo, Darrell Wilson, Jan Wilson, Michele Wood, Barbara Sentovich, Roc and Andee Burrell, Carol Paquette, Pornpat Nikamanon, Tom Dixon, Ron Schnorr, Sharon Weeks, Tim Maas, Lew and Claudia Bird, Peter Ridley, Irene Horiuchi, Susan Kaveggia, Cheryl Searcy, and Lucy Lee.

Our Board of Directors

| | |
|----------------------------------|--------------|
| Gordon Smith, Chairperson | Teresa Guido |
| Kristen Bender, Vice Chairperson | Jack Kirkorn |
| Bill Weisman, Secretary | Jim Robins |
| Ann McCarthy, Treasurer | Dick Zembal |

WE CAN ONLY RESTORE THESE VITAL WETLANDS WITH YOUR CONTINUING SUPPORT

----- (CUT HERE) -----

----- (CUT HERE) -----



Please join our contributors with your personal donation to wetlands restoration and maintenance activities

With your annual tax deductible contribution you will receive our newsletters, invitations to special events and our thanks for your help with this exceptionally worthy cause.

- This is a new contribution
- This is a renewal of my annual contribution
- Great Egret (\$10)
- Belding's Savannah Sparrow (\$25)
- California Halibut (\$50)
- Least Tern (\$100)
- Brown Pelican (\$250)
- Other Amount (\$ _____)

Name: _____

Address: _____

City, State, Zip: _____

Phone: _____ E-Mail: _____ (I prefer to receive regular mail)

My interests include:

- | | | | |
|---|---|--|--|
| <input type="radio"/> Docent training | <input type="radio"/> Docent walks | <input type="radio"/> Wetlands restoration | <input type="radio"/> Native plant propagation |
| <input type="radio"/> Newsletter articles | <input type="radio"/> Wildlife monitoring | <input type="radio"/> Interpretive center staffing | <input type="radio"/> _____ |

Please cut this out and mail along with your contribution to: **HBWC, PO Box 5903, Huntington Beach, CA 92615**