



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

As you will see from the articles and photos that follow, the Huntington Beach Wetlands Conservancy has these past months made impressive progress toward our goal of restoring the Huntington Beach Wetlands. Tidal flow was reopened to the marsh between Brookhurst and Magnolia streets, and, despite major obstacles, over 100,000 cubic yards of accumulated sand and silt was removed from the Talbert Marsh and entrance channel. With the restored tidal flow, several species of fish have already found their way into the Brookhurst Marsh to the evident delight of diving California Least Terns, an endangered species.

The success of these projects is readily apparent to anyone visiting the wetlands. What is not apparent, however, is the great deal of behind-the-scenes work that required countless hours of dedicated effort on the part of our all-volunteer board members and our project manager. The process began with putting together the \$6.2 million funding package needed for the project, developing the detailed design of the restoration, and negotiating the complicated process of acquiring necessary permits and approvals from a variety of government agencies.

With that preliminary groundwork in place, we went through a competitive bidding process to choose the contractor for the construction of the restored marsh channels and the maintenance dredging. Once work was underway, daily on-site monitoring was required, change orders had to be negotiated, and unforeseen crises such as a surprise oil seep had to be quickly resolved. There was also the relentless accounting and billing workload associated with such a large-scale project.

Along with our tireless project manager, Gary Gorman, all of our board members deserve a thank you for their contributions to making this restoration project a success. In particular, I'd like to acknowledge the members of our project management committee: Kristen Bender, Jack Kirkorn and George Mason. Ann McCarthy, our treasurer, also deserves credit for the many hours she spent on the financial side of the project. Although challenges remain - reestablishing wetland plants in the Brookhurst Marsh needs to be completed as soon as possible - we are already looking ahead to our next project of restoring Magnolia Marsh.

Lastly, I am very pleased to announce that we have received our first major donation for the development of our visitors' interpretive center off Newland. Aera Energy Corporation has given us \$25,000 for a display on wildlife rehabilitation. Fundraising efforts continue for the remaining displays and exhibits, details of which can be found on our website. We have also received a contribution of \$5000 from Chevron Corporation for general program support.

Gordon Smith, Chairperson

Brookhurst Marsh Opened to Tidal Flow

After many decades of dry summers and fresh water winters, this historic coastal marsh was finally restored and reopened to salt water tidal flow on March 11th of this year.

Financial assistance from a number of sources made this possible. The Wetlands Conservancy would like to thank the Trustees of the Montrose Settlements Restoration Program (the United States settled the legal claims against Montrose Chemical Corporation and other defendants relative to the natural resource damages and response costs - overseen by NOAA as lead agency), the City of Huntington Beach (mitigation for the Newland Street rehab), Orange County Flood Control Agency, and AES Corporation (mitigation funding provided through the California Energy Commission) for their contributions to this very worthwhile project. We would also like to thank the many volunteers who have provided the manpower necessary to help design the restoration plan, administer the resulting contract, propagate and plant native seedlings (an Orange Coast River Park project), and monitor impacts on bird populations and water quality.

Earth movement began in September 2008 with the excavation of deep water channels in what was believed to be the location of historic natural channels in the marsh indicated by areas of lesser growth of pickleweed and other native species.

Construction progressed quickly to convert the normally dry marsh plain as shown in the following photo to productive tidal wetlands.



As earth movers dug into the marsh plain, the very high water table made moving around a bit difficult.



A pumping system was utilized to keep the water table under control in areas of excavation. Without the lower water table, operating heavy equipment would have been impossible. In the photos above, note that the first shows extensive ground water while the second is relatively dry after pumping was started. Note the well point in the second photo. Ground water (which is brackish) was initially pumped to Magnolia Marsh and later pumped directly to Talbert Channel.

There were several hiccups along the way (such as this one in November), but generally the work in Brookhurst Marsh proceeded quite well.



With completion of work on the channels, the next step was to open the marsh to the tide. A partial opening was made through the levee and culvert pipes were installed to permit muted tidal flow in order to preserve the available pickleweed for nesting this year by the endangered Belding's Savannah Sparrow.



And before you knew it the channels were filled with salt water, and with it the beneficial organisms that make a coastal marsh viable.



A full opening of the levee to permit unrestricted tidal flow will be made after the breeding season is complete. By then newly

planted pickleweed and other native species will have started to grow above the expected high tide line. At that time much of the dry land that is seen in the marsh today will become wet mud that will rapidly foster marine growth including eelgrass, cordgrass, clams, crabs, worms, and shrimp.

The constantly changing salt water will allow the marsh to function as a nursery for multiple species of fish and as a feeding and nesting area for many varieties of both common and endangered seabirds.

Talbert Marsh and Entrance Channel Dredged and Deepened

At the same time work was proceeding in Brookhurst Marsh, a hydraulic dredge was working in Talbert Marsh and then in the Entrance Channel that flows through the east end of Huntington State Beach. Talbert Marsh was restored by HBWC in 1989 using backhoes and trucks to open channels and create habitat areas. Dredge depth then was not as deep as this year's project, and no obstructions were found at that time. As can be seen in the first photo below, the seaward end of the entrance channel was partially blocked by sand that has been periodically removed by Orange County Flood Control every couple years. Maintenance dredging was done again this year by HBWC to restore full flow.



As deeper dredging in Talbert Marsh and the Entrance Channel progressed this year, obstructions were uncovered that had not been known during the design process. It was expected that dredging would be primarily in sand and silt, but a number of rocks, concrete slabs, piles, and pipes were uncovered. Even a

wooden dam structure was found that presumably was installed by local farmers decades ago to preserve fresh water for crop irrigation back in the days when Huntington Beach had numerous bean fields where houses now stand. Large pipes carried the dredged silt and sand out to sea hundreds of feet off Huntington State Beach where it will help refresh sand lost during winter storms.



Talbert Marsh and its entrance channel are now deeper and receive much more sea water with each tide change. A significant portion of this increased water flow also finds its way into the newly opened Brookhurst Marsh channels.

Native Species Planted in Restored Wetlands

Raised berms were built in Brookhurst Marsh to provide nesting habitat above the high tide line for endangered Belding Savannah Sparrows. These berms will be planted with native species of marsh plants over the next several months.



In celebration of Earth Day on April 19th, about 50 volunteers gathered in Brookhurst Marsh to begin planting native species propagated in the wetlands plant nursery that was established by Orange Coast River Park at the Huntington Beach Wetlands Conservancy at Newland and PCH. Many more planting efforts like this will be needed before the wetland will be fully restored.

Volunteers for the propagation and planting efforts are always welcome, especially from 10 AM to 1 PM every Tuesday and Saturday. Without the help of our volunteers none of this wetlands restoration effort would be possible. We are very thankful for their continuing assistance.



Following completion of this initial planting effort, the Wetland Conservancy's floating salt water irrigation method was unveiled to the public. This method will be utilized to get plant growth off to a quick start until a more permanent watering method can be developed. Because fresh water promotes more rapid plant growth than salt water, installation of an improved irrigation system is being studied to replace the salt water system in use today.

The rapid establishment of pickleweed is necessary for successful nesting of Belding's Savannah Sparrows and also encourages spawning of several species of fish within its newly established root systems. With establishment of the pickleweed in disturbed areas, including the new berms, the levee will be breached with a wide opening and full tidal flow will be restored.

Successful pickleweed growth and the return of native plant species will signal full restoration of the wetland to a state approaching its original vitality.

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