

**ORMOND BEACH WETLAND
RESTORATION FEASIBILITY STUDY
PROJECT RESTORATION GOALS**

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Introduction

The overall goal of any restoration project should be to achieve a self-sustaining ecosystem that functions within and provides value to its region and/or watershed. This overall goal certainly applies to Ormond Beach, which is an instrumental, albeit degraded, part of the Pacific Flyway for birds migrating between Alaska and Central America. Achieving this overall goal requires identifying more specific, measurable goals or objectives crafted in consideration of site-specific and regional needs, opportunities, and constraints (PERL, 1996; Zedler, 1996).

Many past restoration efforts suffered from goals that were too broad and focused on achieving unproven structural criteria (PERL, 1996). Examples of these goals included achieving certain plant cover percentages and restoring an unspecified level of tidal flushing. While these restoration goals appeared adequate at the time, they ignored the underlying functions and values that produced the more distinctive structural features. Poor understanding of the processes operating in the system precludes the identification of the key structural indicators and the threshold values that indicate restoration success.

One can gain understanding about enhancing or restoring functions for a particular habitat type by studying regional reference sites. Naval Base Ventura County Point Mugu offers numerous reference sites for a variety of habitat types occurring at Ormond Beach. These sites can provide measurable and transferable restoration targets for a variety of indicator organisms, such as fish, invertebrates, and birds, as well as more traditional measures such as plant cover and distribution, standing stock, habitat distribution, and tide range.

Most restoration goals can be grouped into four broad categories: hydrology, biogeochemistry, floral and faunal support, and socioeconomics and land use. The first three categories are **function-based** while the fourth category is **value-based**. Both types are important to the success of habitat restoration.

Function-Based Goals

The following goals are key processes or functions (i.e., “things wetlands do”) to enhance or restore within the Ormond Beach Study Area in consideration of the larger region. They were developed by the project team with the assistance of resource and regulatory agency staff during a meeting on April 1, 2004:

Hydrology

- Enhance or restore site hydrology (i.e., proper elevations, slope, tidal inlet/closure frequency, tidal channels, freshwater sources, etc.) sufficient to establish a habitat mix similar to historic composition or to regional reference sites

Biogeochemistry

- Achieve soil grain sizes and organic matter content that support a mix of habitats similar to what occurred at Ormond Beach historically or to regional reference sites
- Enhance or restore physical and chemical conditions of water sources to optimize wildlife use (e.g., appropriate DO, temperature, pH, turbidity, salinity) and to achieve contaminant concentrations (e.g., excess nutrients, heavy metals, organic compounds) below State/federal standards and other published/accepted levels of adverse effect

Foral and Faunal Support

- Enhance or restore a habitat mix that benefits sensitive species currently using the area, including tidewater goby, California least tern, western snowy plover, Belding's savannah sparrow, and salt marsh bird's beak, and that encourages nesting/ foraging/ establishment of sensitive species that may have used this area historically
- Restore a habitat mix enhancing regional or landscape-level "functions" such as the Pacific Flyway and regional fish populations
- Enhance and restore habitats using approaches to minimize the presence and influence of exotic, invasive plant species (e.g., *Arundo donax*)
- Restore habitat spatial relationships and connectivity similar to historic characteristics or to regional reference sites
- Restore plant communities for each habitat type with species abundances, composition, and vertical structure comparable to regional reference sites
- Achieve abundances and types of vertebrates and invertebrates found associated with each habitat type (in the overall mix) comparable to regional reference sites

Value-Based Goals

This type of goal is what society or the local community would value about the restored habitat. Support from the local community is critical to the success of large-scale habitat restoration, so it is essential to consider these interests in advancing the restoration of Ormond Beach. The following five goals and more specific objectives/interests were developed by the project team with the assistance of members of the Ormond Beach Task Force (OBTF) during the June 3, 2004 and September 23, 2004 meetings:

Capitalize on Education and Research Opportunities

- Provide educational opportunities for young people and visitors
- Provide a visitor center for on-site education and to provide security to protect resources (e.g., Nature Cam)
- Coordinate activities with California State University, Channel Islands (CSUCI)

Provide Broad-Based and Environmentally Sensitive Recreation and Access

- Provide pedestrian access to the beach through the area
- Provide tourism opportunities such as cruise ship "ecotours" (i.e., Ormond Beach as a destination for ecotourists)
- Consider the access modes to/through the area (e.g., trails, roads, buses, trams)

Protect, Enhance, and Restore Habitat and Species in Consideration of Regional Resources and Conditions

- Protect endangered plant and animal species (restoration)
- Take sea level rise into account in the restoration design
- Allow for natural sand accretion along the shoreline
- Support recovery plans of various resource agencies for rare, threatened, and endangered species
- Provide an open-ocean connection through the beach
- Consider the regional importance of wetlands relative to other sites along the Pacific Flyway
- Preserve, enhance, restore, and create freshwater habitat area for shorebirds and coastal birds
- Consider the role of wetlands in water reclamation efforts
- Consider drains as a water source (e.g., Bubbling Springs)

Implement a Project Compatible with or Benefiting Surrounding Land Uses

- Consider impacts and constraints to adjacent landowners and uses (e.g. Southland Sod)
- Provide adequate buffer areas (i.e., native habitat) to protect wetlands and to minimize impacts to adjacent landowners and uses
- Consider the benefit of wetlands as a buffer between developed areas and Naval Base Ventura County, Point Mugu (especially important for security)
- Work with Naval Base Ventura County, Point Mugu on consideration of buffers
- Preserve agricultural land through the creation of an open space district

Maximize Implementation of Protection, Enhancement, and Restoration Activities

- Provide a financial plan for the restoration project
- Consider how other people outside the Ormond Beach Task Force will perceive the restoration project to gain support (e.g., name of wetlands)
- Consider parcels adjacent to the Study Area identified by the California State Coastal Conservancy as acquisition, enhancement, or restoration opportunities

Conclusions

The function-based and value-based goals provide key processes and societal interests to consider carefully in the context of the opportunities and constraints. The intent is to incorporate as many of them as possible during the development and evaluation of restoration alternatives, and ultimately, to achieve as many of them as possible in the restoration project.

References

- PERL (Pacific Estuarine Research Laboratory). 1996. Tidal Wetland Restoration: A Scientific Perspective and Southern California Focus. California Sea Grant College Program Publication No. T-038. La Jolla, CA. 129 pgs.
- Zedler, J.B. 1996. Coastal mitigation in southern California: The need for a regional restoration strategy. *Ecological Applications*. 6(1): 84-93.