

Assessing Ecological Potential in an Urbanized Coastal Ecosystem: Methods and Findings from Historical Research in the San Francisco Bay Area

Robin Grossinger, Assistant Environmental Scientist, San Francisco Estuary Institute, Oakland CA

Southern California Wetlands Recovery Project Conference 2002

Historical information generally comprises a significant untapped resource for coastal management. When carefully analyzed and synthesized, these data can help explain both current conditions and the potential for future ecological recovery. In the San Francisco Bay Area, as multi-agency efforts for integrated wetland management began to coalesce in the early-1990s, scientists and agency staff recognized the need for a greater understanding of historical conditions, as a technical foundation for long-term regional ecological goals. The need for historical data in both local and regional environmental management has led to an ongoing program in Historical Ecology at the San Francisco Estuary Institute. Historical analysis has provided new understanding of the regional ecosystem at a variety of scales, from the distribution and abundance of wetland habitats in relation to persistent physical controls (to inform regional ecological planning), to measures of natural tidal channel metrics (used in engineering designs for marsh restoration). Entire habitat types were identified which had been forgotten or overlooked in recent generations, and could provide key endangered species habitat. A wide range of historical documents have been used in these efforts and a number of methods developed for interpretation, accuracy assessment, and synthesis of historical data, much of which is directly applicable to the Southern California Coast.