

Assessing the Status and Trends of California's Estuarine Intertidal Wetlands: A Statewide Ambient Survey

Martha Sutula¹, Joshua N. Collins², Adam Wiskind³, Chad Roberts⁴, Chris Solek¹, Sarah Pierce², Ross Clark⁵, Jeff Robinson⁴, Elizabeth Fetscher¹, and Eric Stein¹.

1 Southern California Coastal Water Research Project, Costa Mesa CA

2 San Francisco Estuary Institute, Oakland CA

3 Moss Landing Marine Laboratory, Moss Landing CA

4 Humboldt Bay Harbor Recreation and Conservation District, Eureka CA

5 California Coastal Commission, Santa Cruz, CA

ABSTRACT

Over the last 20 years, millions of public and private dollars have been invested in the protection, restoration, creation, and enhancement of wetlands and riparian areas throughout California. Information on the effectiveness of these investments is not readily available to resource managers, regulators, elected officials, NGO's, and the public because the condition of wetlands and riparian habitat is not being monitored systematically. To address this problem, California is building a statewide Wetlands Assessment Program. The state is working towards the implementation of a toolkit of standardized data collection and assessment methods to monitor wetlands and riparian habitat within various state programs. The toolkit supports three levels of assessment activities, which stem from USEPA's general approach to comprehensive wetland monitoring. These levels include: 1) Landscape Assessment (Level 1), which uses remote sensing data and field surveys to inventory the wetlands and riparian areas of a region, 2) Rapid Assessment (Level 2) uses field diagnostics to assess conditions at wetland and riparian sites. Work has been recently completed on the development of the California Rapid Assessment Method (CRAM) for this purpose, and 3) Intensive Site Assessment (Level 3), which provides the data to validate rapid methods, characterize reference condition, and diagnoses the causes of degraded wetland condition observed in Levels 1 and 2. This paper presents the results of the demonstration of the Level 1-2-3 framework to assess the status of the State's estuarine intertidal wetlands. The assessment includes: 1) a summary of the extent and geographic distribution of estuarine wetlands, 2) a probability-based survey of the ambient condition of estuarine intertidal habitat with CRAM, 3) an assessment of the status of estuarine restoration projects relative to the statewide ambient picture, and 4) an assessment of the condition of estuarine intertidal habitat with respect to contaminants. The data will be used to identify the major stressors impacting estuarine wetland condition in California. These data will establish a baseline against future trends in estuarine wetlands acreage and condition can be analyzed. It will also serve as a means to assess the impact of conservation and restoration programs on the extent and ambient condition of estuarine wetlands.

KEYWORDS

Wetlands, rapid assessment, estuaries, condition