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Determining the health of California's coastal salt marshes using rapid assessment

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ABSTRACT

The integration of rapid assessment methods with probability-based regional survey designs provides a cost-effective means for making unbiased assessments of wetland condition over a relatively large area within a short period time. We demonstrated this synergy through a statewide probability-based survey of the condition of perennially tidal saline estuarine wetlands (salt marshes) in California using the California Rapid Assessment Method (CRAM). An estimated 85% of the State's salt marshes scored within the top 50% of possible CRAM index scores. Among the four CRAM attributes for salt marshes, Buffer and Landscape Context had the highest scores. Physical Structure was the attribute for which California's salt marshes scored the lowest. CRAM index and attribute scores showed a general decrease from northern to southern California. The presence of dikes, levees, and other water control structures that restrict tidal exchange was a severe stressor that is responsible for low physical structure scores. Urbanization of surrounding land uses was significantly correlated to poor wetland health statewide. Information on landscape and local stressors gathered via the CRAM assessment suggest possible management actions that could be used to improve wetland health. This study demonstrates how RAM results from a regional probability-based survey can be used as context for evaluating the condition of restoration projects.

Full Text

ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/AnnualReports/2011AnnualReport/ar11_083_097.pdf