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Assessment of the condition of San Francisco Bay Area depressional wetlands

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EXECUTIVE SUMMARY

Depressional wetlands are the most abundant, yet most threatened wetland type in California. Despite their relatively ubiquitous nature, they are poorly characterized, and unlike streams, they are not subject to any systematic ambient monitoring and assessment in California. Consequently, decisions regarding protection, restoration, and management, such as issuance of Section 401 water quality certifications or prioritization of projects for wetland restoration grant funding, are usually made without the benefit of any regional context of condition, knowledge of predominant stressors, or rigorous documentation of reference conditions.

The goals of this study were to apply tools for ambient monitoring of depressional wetlands in the San Francisco Bay region to accomplish the following: 1) To evaluate the regional condition of depressional wetlands in this portion of northern California, and 2) To evaluate the relationship between condition and stress by sampling both local stressors (intensity of direct wetland use, water chemistry, and sediment chemistry) and landscape stressors (adjacent land use, flow diversions, and road density). Once achieved, these goals should establish the foundation for developing a robust ambient depressional wetland monitoring program.

This study included perennial (have surface water year round) and seasonal (lack surface water for part of the year) depressional wetlands as defined by Brinson (1993) located within the boundaries of the San Francisco Bay Regional Water Quality Control Board. Depressional wetlands in this study includes both natural water bodies such as sag ponds and small lakes, as well as created wetlands such as abandoned or active stock ponds, aesthetic ponds, and irrigation/treatment ponds. Wetlands were not considered for this study if they were concrete lined, marine influenced, wastewater treatment ponds, livestock wastewater ponds, riverine (i.e., dominated by riverine hydrology), dry, or vernal pools. It is likely that a majority of wetlands sampled in this study would be considered waters of the State of California; the field teams did not perform a regulatory-based delineation of a wetland as part of this study.

Thirty wetlands in the San Francisco Bay area were sampled during the spring of 2014, including both perennial and seasonal wetlands. The proportion of wetlands in the region considered “likely intact” (scores in the upper 50th percentile of the range found at reference sites) varied by indicator (Figure ES-1).

Full Text

http://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/940_DepressionalWetlandsReport.pdf