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CALIFORNIA RAPID ASSESSMENT METHOD

CRAM

WETLANDS SCIENCE PROGRAM
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What is the California Rapid Assessment Method (CRAM)?

Rapid assessments have been developed around the country and are part of the EPA's three-level approach to wetlands assessment (landscape level, rapid assessment, and intensive assessment). Rapid assessments are used to evaluate the general condition of wetlands using field indicators. These methods provide standardized, cost-effective tools for land use planning and project evaluation. A rapid assessment method is especially helpful when full funding is not available for intensive monitoring. The score from a rapid assessment indicates where a wetland falls on the continuum ranging from full ecological integrity (or least-impacted condition) to highly-degraded. Rapid assessment tools have been developed in Ohio, Montana, Delaware, Florida, Wisconsin and other states, including California. These methods have been validated with comparison to other, more intensive assessments.

CRAM was developed specifically for the wetland types of California as a tool to assess the status of and trends in the condition of wetlands throughout the state. It is designed to enable standardized ambient assessments at multiple scales: projects, watersheds, regions, and statewide. CRAM can be used to assess compensatory mitigation projects as well as restoration projects to help evaluate the performance of wetland and riparian protection policies and programs.

CRAM's Underlying Assumptions

Three tenets guided CRAM development

1. Wetlands are valued because of processes and functions that provide services to society (e.g., habitat for fish and game, carbon sequestration, and flood control).
2. The overall value of a wetland depends more on the diversity of its services rather than on the level of any one service.
3. The diversity of services provided by a wetland increases with its structural complexity and size. CRAM therefore favors large, structurally complex wetlands within each wetland class.

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How does CRAM work?

A CRAM assessment takes a team of two people less than 4 hrs of field time plus one half day of office preparation and data analysis. CRAM can be applied to seven main types of wetlands (riverine and riparian, lacustrine, depressional, estuarine, wet meadows, vernal pools, and playas). CRAM allows real-time data collection with eCRAM, which is a PC-based imagery-delivery and data-entry system that interfaces with the CRAM website.

The maximum CRAM score possible represents the best condition that is likely to be achieved for the type of wetland being assessed. The overall score for a wetland therefore indicates condition relative to the best achievable condition for that wetland type in the state. Local conditions can be constrained by the particular context of a wetland (in the landscape, as a project, etc.), which should be considered when comparing the CRAM score to an ambient population of wetlands.

CRAM assesses wetland condition based on four attributes.

Each of the four attributes has associated metrics, which are scored by matching the correct score from a list of descriptive narrative conditions for each metric to what is observed in the wetland. Metric scores are then compiled into numerical scores for each attribute and an overall score for the wetland. These standardized scores can then be used for comparison to other CRAM scores at different scales.

WETLAND CONDITION

1

LANDSCAPE CONTEXT

describes the area around a wetland. The land near the wetland and the adjacent landscape can determine whether or not a wetland is buffered from adjacent stressors and, therefore, is a key attribute for overall wetland condition.

2

HYDROLOGY

is the most important direct determinant of wetland function. The physical structure of a wetland is largely determined by the magnitude, duration, and intensity of water movement. The hydrology of a wetland also affects nutrient cycling, sediment entrapment, and pollution filtration.

3

PHYSICAL STRUCTURE

and the physical complexity of a wetland relates to its capacity for supporting a diverse biological community. This attribute looks at the diversity and spatial organization of physical aspects of the wetland habitat.

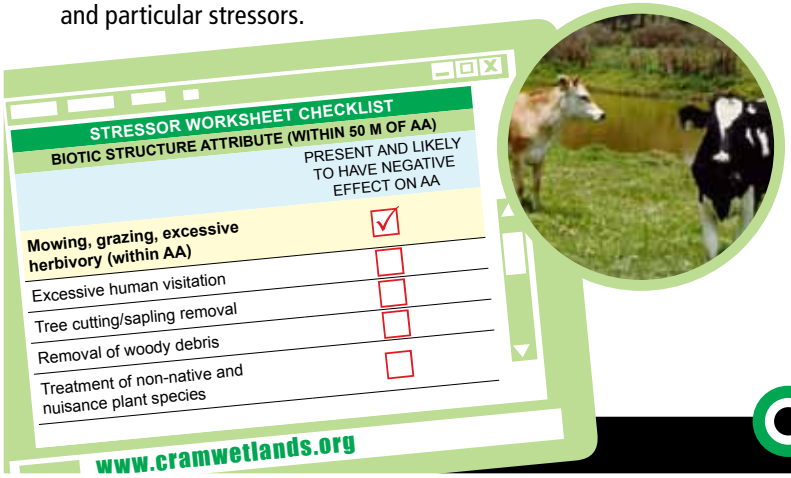
4

BIOTIC STRUCTURE

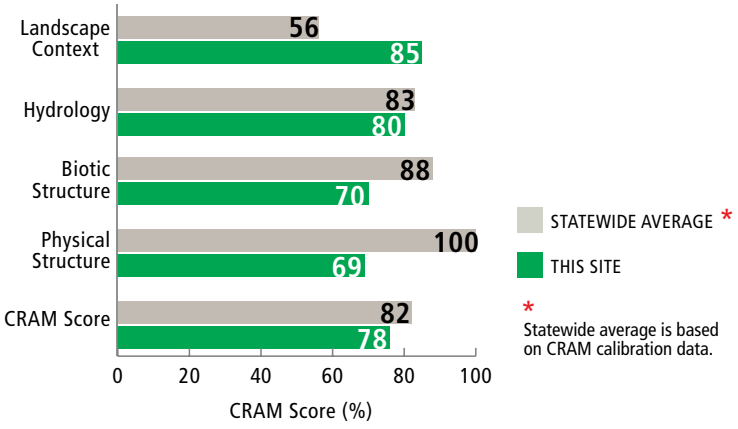
of a wetland includes all of its plants and algae. These primary producers support wetland wildlife higher in the food web, and also affect water flow energy and cycling and water quality.

Stressors

CRAM provides guidelines for identifying stressors that might account for low scores. A CRAM assessment is accompanied by a stressor checklist that allows researchers and managers to explore possible relationships between CRAM scores and particular stressors.



CRAM Score CARPENTERIA SALT MARSH



For more information, please visit the CRAM website at

www.cramwetlands.org