

**3-Day Practitioner-Level Training in the
California Rapid Assessment Method (CRAM):
Riverine Wetland Training Module**

Anticipated Event Dates: May 5-7 (Tuesday-Thursday)
Event Location: Upper Newport Bay Science Center, Newport Beach, CA
Lead Contact: Chris Solek 714-755-3244; chriss@sccwrp.org
Alternate Contact: Eric Stein 714-755-3233; erics@sccwrp.org

The California Rapid Assessment Method (CRAM) for wetlands and riparian areas has been developed over the past six years by an interregional team of scientists from academia, non-profit research institutes and agencies. The overall goal of CRAM is to provide a rapid, scientifically defensible, and repeatable assessment method that can be used routinely for wetland monitoring and assessment (www.cramwetlands.org). The CRAM methodology assesses wetland condition based on the attributes of buffer and landscape context, hydrology, physical structure, and biological structure. CRAM has a companion, field-to-PC data management application, **eCRAM**, that allows for the inputting and uploading of CRAM field data, automatic calculation of CRAM scores, and an option to upload the CRAM results to a statewide database.

The intent in developing CRAM was to provide a rapid and flexible methodology that can be used in conjunction with an agency's other tools in managing wetlands. Currently, CRAM is being considered as an additional monitoring and assessment tool under the Clean Water Act 404 permitting and 401 certification programs, for use in the Surface Water Ambient Monitoring Program (SWAMP) for the State of California, as well as several programs of the California Department of Fish and Game (e.g. DFG 1600). CRAM has the potential to be an excellent tool to standardize reporting of site impacts and compensatory mitigation under these programs. It can also be used in ambient monitoring efforts within a watershed context to assess cumulative impacts, assist with locating the best sites for restoration, and for reporting on restoration project success.

Course Objectives

This 3-day course is intended to provide practitioners with the skills necessary to accurately and consistently conduct CRAM for the **riverine wetland class**. The primary course objectives are as follows:

- An understanding of the conceptual structure and approach of CRAM;
- A detailed, technical grounding in the method for riverine wetlands and associated riparian areas;
- An understanding of CRAM for project and regulatory applications.
- Experience in the use of eCRAM and attendant quality assurance procedures;

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Course Agenda

Day 1 (*meet at Back Bay Science Center, Newport Beach)

- 9:00 am Introductions & Purpose of the Training Course
- 9:15 Brief Introduction to the CA Wetland Monitoring Framework and CRAM
- 9:30 Carpool to Field Site #1 (*Santiago Creek, Modjeska Canyon Preserve*)
- 10:00 CRAM Field Demonstration at Site # 1
- 11:30 pm Drive to Cook's Corner Restaurant for Lunch
- 12:15 Drive to Field Site #2 (*Aliso Creek, Whiting Ranch Wilderness Park*)
- 12:30 CRAM Field Demonstration at Site # 2
- 1:45 Return to Back Bay Science Center
- 2:30 Presentation: CRAM Riverine Module

- 4:00 pm Adjourn (dinner on your own)

Day 2 (*meet at Serrano Creek Park, City of Lake Forest)

- 9:00 am Review of Day 1 and Introduction to Day 2 objectives (**hand-in take home test*)
- 9:30 Group exercises: CRAM Assessment of Field Sites # 3 and 4 (*Serrano/ Lake Forest Park*)
- 11:30 Debrief of group assessments
- 12:00 pm Groups reconvene at Serrano Creek meeting area for Lunch
- 1:00 Group exercises: CRAM Assessment of Field Sites # 3 and 4 (*Serrano/ Lake Forest Park*)
- 3:00 Debrief of group assessments
- 3:30 Instructions for next day activities

- 4:00 pm Adjourn (dinner on your own)

Day 3 (*meet at Big Canyon Creek Nature Preserve, Newport Beach)

- 9:00 am Review of Day 2 and Introduction to Day 3 objectives
- 9:30 Field practicum
- 12:00 pm Return to Back Bay Science Center for Lunch
- 12:30 Debrief of Field Practicum
- 1:30 Introduction of CRAM guidelines for project assessment/case studies
- 2:30 Break
- 2:45 Introduction to eCRAM
- 3:45 Instructor and Course Evaluations

- 4:00 pm Adjourn (end of training)

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Your Instructors:

Eric Stein is principal scientist of the Watershed Department, Southern California Coastal Water Research Program (SCCRWP), where he oversees a variety of projects related to stormwater and mass emissions monitoring, watershed and water quality model development and assessment of wetlands and other aquatic resources. Dr. Stein received his Bachelor's degree in Biology in 1987, Masters degree in Science Education in 1988 and Doctorate degree in Environmental Science & Engineering in 1995, all from UCLA

Betty Fetscher is a biologist specializing in plant ecology, botany and the analysis of ecological data. She received her B.A. in Microbiology from UC–Santa Barbara in 1992 and her Ph.D. in Biology from UC–San Diego in 1999. Dr. Fetscher joined SCCRWP in December 2003. In addition to her work as part of the CRAM development team, her recent accomplishments include work with the Southern California Wetlands Recovery Project's Scientific Advisory Panel toward the development of a wetlands regional monitoring program, the Integrated Wetlands Regional Assessment Project (IWRAP).

Christopher Solek is a biologist specializing in wetland and riverine assessment and monitoring. He received his B.S. in Wildlife Biology from U.C. Davis in 1992, a M.S. in Biological Sciences from California State Polytechnic University Pomona in 2002, and will complete his Ph.D. in Environmental Science, Policy, and Management from U.C. Berkeley in 2008. He joined SCCWRP in April 2007 and is currently involved with developing and implementing monitoring/assessment programs for southern California wetlands. He also works with the Southern California Wetlands Recovery Project's Scientific Advisory Panel.

Co-instructors:

Mike Klinefelter

M.J. Klinefelter GIS & Environmental Consulting Services

Erik Larsen, D. Env

Project Manager/Regulatory Specialist
AECOM US West Region