CALIFORNIA MONITORING AND ASSESSMENT PROGRAM (CMAP) IN THE CENTRAL VALLEY

SUMMARY

On February 6th, 2007, Agricultural Coalition representatives were invited to attend a presentation on the State Water Resources Control Board's California Monitoring and Assessment Program (CMAP) given by Peter Ode of the Department of Fish and Game's Aquatic Bioassessment Laboratory (ABL). The goal of the meeting was to solicit advice from coalition leaders concerning strategies to improve access to randomly selected monitoring sites in the Central Valley—particularly those in agriculturally dominated water bodies.

Overview of CMAP/ CMAP Rationale

States are required under the Clean Water Act Section 305(b) to report annually to Congress on the condition of their waterbodies, but satisfaction of this requirement has been confounded by the lack of resources to adequately assess these waterbodies. To address these constraints, the U.S. EPA established its Environmental Monitoring and Assessment Program (EMAP), a long-term research program designed to develop the tools and techniques needed for cost-effectively answering the fundamental status and trends questions in the Clean Water Act. EMAP is a statistical monitoring survey designed to produce statistically defensible condition assessments of the nation's waterbodies. CMAP is a California adaptation of EMAP. Both studies use a random survey design in which each sampling location represents a known length of stream with known statistical confidence. This design permits the inference of stream conditions for large geographic regions with a relatively small investment in sampling. Results are reported as a percentage of overall water bodies/stream miles rather than by individual site.

The current CMAP program is a collaboration between the U.S. EPA's Nonpoint Source Program/ Office of Water and the State Board's NPS and SWAMP programs. This survey was designed to produce both an overall statewide condition assessment and separate condition assessments for three major land use classes in the state: Agricultural Areas, Forested Areas and Urban Areas.

Supplemental Design to Include Modified Channels

Since the CMAP program intends to make statements about the condition of waterbodies in agricultural areas (which include a large proportion of modified channels) the sampling design currently includes both natural and modified channels. The 2006 and 2007 sampling seasons include more modified channels to adjust for lack of samples in these areas in 2004 and 2005.

Overview of CMAP Assessment Process

EMAP/CMAP assessments follow a standardized process. First, the population of interest is defined (all perennial and wadeable streams in CA) and a random list of sites is generated, then this list of random sites is screened to eliminate sites that aren't part of the target population (e.g., non-perennial waterbodies). The field personnel obtain ownership information from county assessors' offices, then send letters to landowners to request permission to sample sites. Once permission has been received, sites are sampled for biological, chemical and physical data. These data are analyzed to score sites for their ecological condition using bioassessment analytical techniques. These scores are combined with design information from the survey to produce condition assessments for the state and for each of the major land use classes. However, the quality of all of these products depends on the strength of the sampling design and getting access to the randomly selected locations.

CMAP Timeframe

CMAP is in the fourth year of a four year program. The preliminary screening steps are already completed and the field staff needs to send access request letters to landowners as soon as possible. Sampling is anticipated to occur between May and October 2007.

What Do We Mean by Access?
CMAP sampling involves a single visit to a site by a crew of 3-5 staff for approximately 4-6 hours. Field crews are always respectful of landowners and any special conditions they may impose on field staff. Field crews will drive directly to the closest access point, and work a section of the water body that ranges between 150 and 500 yards long. On rare occasions, we may ask to revisit a site to get repeat measures for quality control purposes.

Notes from February 6th Meeting:

Issues with Including Modified Channels
All coalition representatives attending the presentation expressed concern about the inclusion of modified channels in the population of waterbodies being sampled by CMAP. Much of the unease was related to the fact that the current assessment design will make assessments of ecological condition for waterbodies that are often managed to eliminate aquatic life. Thus, coalition leaders felt that these waterbodies would be subject to unfair expectations of biological condition.

Although we are committed to the current CMAP design (which includes modified channels), we have the ability to present the results of these assessments in two different formats, one which includes modified channels and another that does not. At a minimum, we are required by the EPA to report the version that includes modified channels, but the second version can be presented to help interpret the results.

Also note that this is the last year of CMAP. As the CMAP program ends, the State Board's SWAMP program is deliberating on the design of the statewide surveys that will replace CMAP. Although the current design of CMAP is committed to including these modified channels, there will be discussion of whether to include them in the next design.

Facilitating Site Access
We discussed options for increasing CMAP's chances for accessing sites in Central Valley waterbodies. The coalition representatives present indicated that DFG staff should work with the coalitions and the water districts within which the random sites may fall. They all expressed willingness to help ABL field staff identify which sites were owned by their coalition members and offered to help provide coalition maps that detail the distribution and location of natural and modified channels in their respective regions, whether the randomly selected sites met the selection criteria, and identify the associated water districts and appropriate contacts. Shawn McBride (ABL Field Lead) will follow up on these contacts.

Concern was expressed that only four of the 14-coalition representatives informed of the meeting were able to attend. (Dave Corey represented the Westside SJR Coalition per a last minute request.) Shawn will be contacting the remaining representatives to determine if they will also be willing to provide additional information on the potential sites as well as facilitate site access.

DFG is also interested in other approaches to improving sites access including: inviting landowners/ coalition leaders to accompany field crews, sharing draft results, asking coalition leaders to make the access requests of their members, etc. Please let Pete Ode (pode@ospr.dfg.ca.gov) know if you have any ideas that would help improve the odds of getting permission to sample.