Chapter 4, part J. CATEGORY III PROJECT MONITORING And DATA REVIEW

Early in its planning stages, CMARP recognized the need for review of monitoring activities for the projects being implemented through the Category III Program. The Category III Program was initiated to implement environmental restoration projects to provide immediate benefits as an early implementation step of the CALFED environmental restoration plan. During 1997, more than 70 projects were authorized for funding through Category III. During 1998, at least 60 more were authorized. Feedback on Category III project effectiveness will be important in laying the framework for subsequent decisions on funding other projects and on water project operations.

CMARP, in general, is tasked with defining the longer term monitoring and assessment needs associated with CALFED Stage 1 actions and, additionally, with assessing the effectiveness of Category III projects. Accordingly, CMARP developed a process to provide review of Category III project monitoring plans, and is developing an infrastructure to provide a review of data/project effectiveness as information from those projects becomes available.

The process developed and utilized for Category III projects, presented schematically in Figure 4-1, emphasizes the use of a technical workteam to provide review of the monitoring activities of the projects. Note that "monitoring" was defined broadly to include any kind of data acquisition that would, hopefully, be supportive to the increase in knowledge and understanding of the system and/or project effectiveness. While not all projects would have a restoration-monitoring plan per se (such as a research project not doing restoration), most projects are appropriate to the broader data-acquisition definition.

WORKTEAM RESPONSIBILITIES

The first task was to clarify the scope of responsibilities of the Category III monitoring workteam. Several potential activities that this workteam could be responsible for and/or involved with include:
A. Review and comment to project proponents on monitoring, reporting and assessment plans for ongoing and planned Category III projects.
B. Review and assessment of monitoring data/information. This review includes various levels
   1. satisfactorily meeting project objectives,
   2. adequacy of data,
   3. evaluation/ assessment/ interpretation of data relative to other data on local basis, and
   4. evaluation/ assessment/ interpretation of data relative to overall ecological/biological objectives.
C. Serve as a data clearinghouse.
D. Develop and/or provide guidance on monitoring protocols/ indicators/ strategies for future projects.

The initial focus of the workteam was identified to be item (A) and at least the *first* level of evaluation in item (B). The workteam will not provide review of general project management, planning, or construction aspects of the project except as it specifically relates to biological/ ecological monitoring and data collection.

The CMARP steering committee recognizes the need for all of the above activities, and is developing approaches for the long-term program. A need currently exists, however, for a near-term implementation review process, to be consistent with a long-term program, which will include these additional review elements.

Define Workgroup Responsibilities

Obtain Project Information

Identify & Recruit Workgroup Members

Identify Timeframe for Plan Submittal and Review

Assign Projects to Workgroup Members

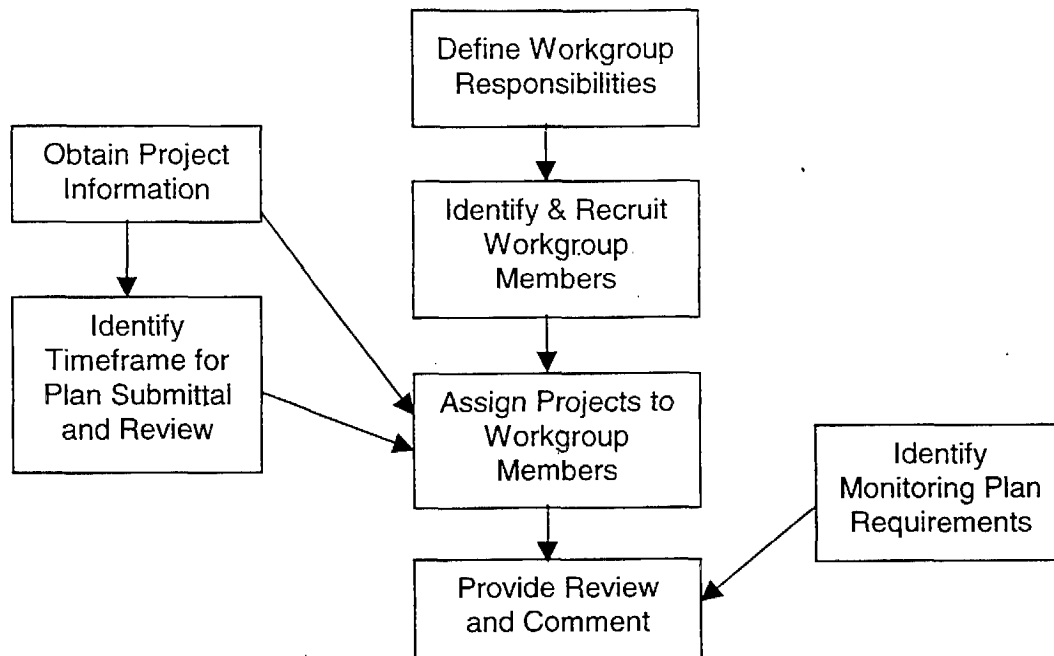Identify Monitoring Plan Requirements

Provide Review and Comment

Figure 4-1. Category III Monitoring Workgroup Process

For example, feedback to the CALFED Integration Panel on the effectiveness and related issues in implementing projects is critical to making new or additional funding recommendations as part of the FY1999 and FY2000 funding decisions. Initial feedback may not yet include evaluations of project data and results but does include information on how the implementation of projects is progressing and clarification of project objectives, hypotheses, and monitoring methodologies. Also, a process/system for the centralization and sharing of project information and data from the ongoing Category III projects needs to be developed and implemented. The data collection includes project descriptions, data, analysis, mapping, monitoring methodologies, etc. The efforts to describe monitoring methods and protocols used in the ongoing Category III projects will also serve as a basis for future projects.

THE MONITORING PLAN REVIEW PROCESS

A parallel task to developing the workteam responsibilities was to recruit a qualified workteam of technical specialists (Table 4-7). Because of the variety of technical specialties within the various projects, a diverse group was needed. Approximately twenty agency and non-agency personnel were recruited, based primarily on their technical abilities and availability.

Individual project information was collected, including the executive summary from the original proposal, the most recent scope of work, and monitoring plans, if available. For projects without monitoring plans per se, the scope of work served to provide much of the above information and was used for the review. The project packages were also used to help develop an understanding of the timeframe for submittal of monitoring information appropriate to each project.

Table 4-7. An outline of information expected to be in the monitoring/data-collection methods plan

Project and Monitoring Objectives	– include objectives, hypotheses, assumptions, and conceptual framework/models
Monitoring Approach and Design Methodology, with supportive rationale	– parameters to be measured, duration, frequency, type of equipment, constituents, locations, integration with other projects, etc. – provide references or copies of protocols being followed
Data Sampling Procedures	– number and type of samples, handling, preservation, storage, analytical techniques, data synthesis and analysis
Analysis and Reporting	– report frequency, content and format; evaluation approach, use of peer review; metadata, data management and format; etc.

Projects were assigned to members of the workteam based on their technical knowledge. At least three members were assigned to each project, although most projects have more reviewers, and project packages were distributed based on the assignments. Review comments are being coordinated and consolidated through the workteam chair.

Currently, monitoring plans for projects authorized in 1997 and 1998 are being reviewed, or the work team is awaiting information from project proponents. Project data/ conclusion review is premature, but the intent is to soon begin developing the process by which data/conclusions will be reviewed, shared with interested parties, and integrated into the decision-making process for the next funding round.

RECOMMENDATIONS BASED ON THE ONGOING CATEGORY III MONITORING REVIEW PROCESS

The experiences of the Category III review process provide useful information for the developing CMARP and related CALFED processes. Some of the more important points are:

1. Early review of monitoring and research methods is needed, ideally as soon as the project is authorized to be funded in order to assist in finalizing the scope of work and budgets. A standard format would be useful, to emphasize the need to articulate and link the objectives, conceptual models, assumptions, hypotheses and methods. The shift toward increasing communication of thoughts, concepts, and rationale is challenging and thus, a cooperative spirit from everyone involved is critical to effectively develop and implement the adaptive management process.

2. The review team needs to include experienced, locally involved specialists, and "external" peer review. However, the challenge of scheduling and commitment of time from these busy individuals exists. Diverse skills and knowledge are needed, and thus the workteam needs to expand in order to have the diversity, interaction, and availability of knowledge. A subgroup focus to enhance member interaction may be the best approach to accomplishing the goals of this type of workteam, similar to IEP workteams.

3. The important process of reviewing data/conclusions needs to be developed to demonstrate (and implement) how

feedback on funding from interested parties and eventually to decision-makers will be accomplished.

4. The request/need for monitoring and research information from projects funded by different sources needs better coordination, including working through any differences in agency goals and approaches. This need for coordinated requests also applies to permitting and otherwise-involved agencies and organizations (Endangered Species Act consultation, etc).

5. The protocols/methods presented through these early Category III projects should serve as a basis (in conjunction with other available information) for developing standardized protocols for subsequent projects.

6. Continue progress toward linking monitoring of local projects to regional and systemwide monitoring and evaluation. Also, a need exists to define the policy and process for monitoring over the longer term (beyond 2 to 3 years).

Chapter 4, part K. INTEGRATING CMARP MONITORING

During development of the initial
monitoring and research plans, the
Work teams identified many common
data needs among the CALFED
Common Programs (Table 4-8).
Integrating these common needs should
make CMARP less extensive and costly
than suggested by the compilations of
individual plans. The degree to which a
single monitoring program can serve
multiple CALFED programs, however,
will require more detailed development
of the individual monitoring program
components. This refinement will be
done collaboratively by CMARP,
CALFED and agency staff, and
stakeholders.

Table 4-8. Joint information needs of the CALFED Programs.

Information Topic	CALFED Programs That Need This Information						
	Delta Levees	Ecosystem Restoration	Storage & Conveyance	Watershed Management Coordination	Water Quality	Water Transfers	Water Use Efficiency
Streamflow Network	X	X	X	X	X	X	X
Water Quality (Surface & Groundwater)	X	X	X	X	X	X	X
Effects of Habitat Restoration	X	X	X	X	X	X	X
Species	X	X	X	X	X	X	X
Habitats – Extent, location, quality	X	X	X	X	X	X	X
Surface-Groundwater Interactions	X	X	X	X		X	X
Watershed Conditions		X	X	X	X	X	X
Land Use		X	X	X	X	X	X
Water use		X	X		X	X	X
Storage, conveyance, conjunctive use		X	X	X	X	X	
Bay-Delta Hydrodynamics	X	X	X		X	X	
Sedimentation	X	X	X	X	X		
Non-Indigenous species	X	X	X	?	X		
Extreme flow predictions	X	X	X	X			
Levee Improvements	X	X	X		X		
Land Surface Characterization	X	X	X	X			
Bathymetric Mapping	X	X	X		X		
Sediment Toxicity	X	X	X		X		
Subsidence	X	X	?			X	
Channel geometry/movement/scour	X	X	X	?			
Productivity/X2		X			X		
Bioassessment/Contaminants		X			X		