Producing a Science Plan for Water Year 2002-03 Experimental Flows

A series of treatment scenarios for WY 2002-03 was developed by the Grand Canyon Monitoring and Research Center in conjunction with the Adaptive Management Technical Work Group (GCMRC 2002). At their April 24, 2002, meeting, the Adaptive Management Work Group reviewed these scenarios and made their recommendation for implementing Experimental Flows. The Bureau of Reclamation has forwarded the AMWG recommendation to the Secretary of the Interior via the Assistant Secretary for Water and Science. The Secretary's decision on that recommendation is expected shortly. If this decision authorizes the implementation of Experimental Flows, an exceedingly short time is available for planning the collection of scientific information about treatment scenarios. This paper has been written to articulate those factors that must be addressed to produce a credible Science Plan and to suggest a process and time line to accomplish its creation.

Information Available and Needed

Information from a number of sources is available for GCMRC's use in developing a Science Plan. As a point of departure, the treatment scenarios document (GCMRC 2002) posits assumptions and working hypotheses that can be developed into formal hypotheses and experimental designs. The GCMRC science advisors have reviewed these treatment scenarios and produced recommendations for consideration of the adaptive management stakeholders. Additional iterations of the writing/review process, incorporating science advisor, principal investigator, TWG, and AMWG comments, should enable the GCMRC to produce a final Science Plan.

The projected Science Plan will link the hypotheses to be tested with project descriptions about how data will be collected, analyzed, interpreted, and reported. Support services (remote imagery, mapping, survey, and logistics) will also be addressed. Personnel requirements will be detailed. Projected budgetary information will outline project and support costs, funds previously made available to GCMRC, as well as new funding requirements.

GCMRC Programs

It is important that research and monitoring of the Experimental Flows not compromise long-term data collection efforts while utilizing these ongoing programs to the greatest extent possible. Plan development should incorporate an evaluation of the contribution of existing GCMRC programs to Experimental Flow data needs along with an articulation of the residual research needs that will exceed the capacity of ongoing programs.

In concert with this analysis, an examination of the best mechanisms for addressing Experimental Flows research needs will be required. This should include

relative benefits of having the necessary data collection and analyses conducted by existing GCMRC staff, new temporary staff, or contractors.

Accompanying the new research information, staff, and equipment needs, will be the need for sufficient funding. GCMRC will evaluate needs and submit budget projections to the AMWG for their recommendation.

Factors Affecting Production of a Science Plan

The Science Plan should be completed prior to the implementation of a fall flow scenario on September 1, 2002. Making available a draft for the July 17-18 AMWG meeting is also important. The production of environmental compliance documents would be enhanced by the finalization of the Science Plan. As noted above, continued engagement of the TWG, AMWG, Science Advisors, and Principal Investigators will be necessary to successfully complete a Science Plan. The venue and scheduling of this involvement is addressed in the schedule below. Workshops have been used by GCMRC in the past to help facilitate the science planning process; such an approach is projected to help develop the Science Plan. The workshop will be used as the principal mechanism for providing comments on a Science Plan draft. Given preparation and planning requirements, consideration of GCMRC staff schedules (this comes at the height of the field season), GCMRC suggests the following timetable and process for development of the Experimental Flows Treatment Science Plan for 2002-2003.

Process and Schedule for Development of Experimental Flows Treatment Scenario for FY 2002-2003

Date	Proposed Activity
June 14, 2002	GCMRC Internal Review and Development of Plan
June 20, 2002	GCMRC emails Preliminary Draft Plan to Potential Workshop participants (AMWG,TWG,Science Advisors, PI's & Cooperators)
June 21,2002	Conference call w/workshop participants focusing primarily on biological resource aspects of Draft Plan 2-4pm MDT.
June 24, 2002	Conference call w/workshop participants focusing primarily on physical resource aspects of Draft Plan, 2-4pm MDT.
June 28, 2002	GCMRC distributes revised Draft Science Plan to prospective workshop participants for review
July 8, 2002	Conference call w/workshop participants to discuss additional comments on Draft Plan
July 12, 2002	Deadline for written comments on Draft Science Plan due to GCMRC
July 16, 2002	Revised Draft Science Plan for workshop discussion distributed by GCMRC
July 17-18, 2002	AMWG Meeting – Discussion of Science Plan development progress
July 18-19, 2002	Workshop to discuss Draft Science Plan held following AMWG mtg.
July 26, 2002	Final Science Plan Document completed by GCMRC based on workshop.
September 1, 2002	Plan Implementation begins