

Proposed
Two-Year Science Plan
for
Experimental Flow Treatments and Mechanical Removal
Activities in WY's 2002-2004

PREPARED BY THE GRAND CANYON MONITORING AND RESEARCH CENTER

for
Glen Canyon Adaptive Management Program
August 9, 2002

**Proposed GCMRC Science Plan for Experimental Flow Treatments
and Mechanical Removal Activities for WY 2002-2004**

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Introduction

This plan describes a conceptual framework, which identifies priority project areas for research and monitoring related to experimental flows and mechanical removal of non-naive fishes. It is not intended to provide highly detailed methodologies for accomplishing the research and monitoring. The plan assumes that normal core monitoring activities conducted by GCMRC as part of the Glen Canyon AMP will be completed and indeed may provide much of the necessary information to evaluate the effectiveness of the treatment scenarios.

In response to a motion passed by the Adaptive Management Work Group at their January 2002 meeting a series of treatment scenarios for WY2002-03 was developed by the Grand Canyon Monitoring and Research Center in conjunction with the 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 and Mechanical Removal of salmonids in the LCR reach of the Colorado River Ecosystem. 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 during summer of 2002.

The treatments recommended by GCMRC and adopted by the AMWG for WY 2002 – 2004 are intended to: (1) decrease downstream export of tributary input sediment from Marble Canyon, (2) increase retention of sediment through Beach/Habitat-Building Flows (BHBF), (3) improve survival and recruitment of HBC by reducing competition and predation from non-native fish (primarily rainbow trout) and (4) improve and maintain habitat for young native fish.

Within the recommended experimental flow scenario for WY 2002 – 2003 GCMRC is recommending a series of treatments, depending on the timing of and whether or not one gets significant sediment inputs, that combine low flows to reduce sediment export, BHBFs to enhance sediment storage, and high fluctuating flows to disadvantage non-native fish. This latter flow pattern will potentially improve the growth of salmonids by reducing density in the Lees Ferry reach and reduce predation or competition by rainbow and brown trout on the endangered humpback chub in the LCR reach. Integrated science studies are also being designed to document relationships between terrestrial sand-bar dynamics and vegetation and impacts to cultural and recreational resources within Grand Canyon.

In addition, GCMRC has provided a first draft of a larger set of experimental flows that can serve as a starting point for working with the Science Advisors, the TWG, and other stakeholders to develop a longer term program of experimental flows. This long term implementation plan was part of the AMWG motion passed April 24, 2002.