

Glen Canyon Dam Adaptive Management Work Group
Agenda Item Information
August 24-25, 2010

Agenda Item

The Effects of Three Glen Canyon Dam High-Flow Experiments (HFE) on the Grand Canyon Ecosystem (U.S. Geological Survey Circular Report)

Action Requested

✓ Information item only.

Presenter

This item will be presented as an informational write-up only with no presentation. However, time will be set aside for questions with regard to this item as well as other informational write-ups.

Previous Action Taken

✓ By AMWG: Funding for GCMRC to develop a synthesis of the 1996, 2004, and 2008 HFEs was provided as part of the FY08, FY09, and FY10 workplans.

Relevant Science

✓ See below for a description of the relevant research or monitoring on this subject.

Background Information

This report will provide a summary of the findings that emerged as the result of three high flow experiments (HFEs) conducted at Glen Canyon Dam, Arizona, in 1996, 2004, and 2008. USGS scientists and their cooperators undertook a range of scientific research to determine if HFEs could be used to benefit downstream resources in Glen Canyon National Recreation Area and Grand Canyon National Park. The report is intended to provide relevant scientific information about how HFEs affect a range of downstream resources in Grand Canyon: sandbars and camping beaches, archaeological sites, riverside vegetation, the aquatic food web, and native and nonnative fish. Additionally, this report details what scientists have learned during the past 15 years about the conditions needed to maximize the effectiveness of HFEs and the ability of these experimental flows to meet management objectives. The use of models, both physical and biological, for decisionmaking also will be discussed.

The five chapters that comprise the report will be as follows:

- (1) Overview
- (2) The Effects of Glen Canyon Dam Operations and the Emergence of High-Flow Experiments
- (3) The Effects of Three High-Flow Experiments on the Physical Setting
- (4) The Biological Response to Three High-Flow Experiments
- (5) Management Implications of Current Scientific Understanding

John C. Schmidt and Rich Valdez, both experts in Grand Canyon physical and biological processes, respectively, will serve as the report's editors in conjunction with the USGS's Theodore Melis. The

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five chapters will be written by some combination of the editors and other experts on specific topics. Much of the data will be drawn from research produced as the result of the Glen Canyon Dam Adaptive Management Program.

The five chapters will be sent out for independent peer review on or before August 27, 2010. The anticipated online publication date for the report is December 31, 2010, with printed copies of the report to follow. GCMRC is working closely with Reclamation to incorporate relevant information from the draft Synthesis into the HFE Protocol EA.

For more information, please contact Theodore S. Melis, Deputy Chief, GCMRC, tmelis@usgs.gov, 928.556-7282.