

**Glen Canyon Dam Adaptive Management Work Group**  
**Agenda Item Information**  
**September 9-10, 2008**

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Agenda Item

2007 and 2008 Biological Opinions Conservation Measures Update

1. Introduction: Overview and Strategic Approach
  2. Near Shore Ecology and Fall Steady Flow Science Plan
  3. Humpback Chub Translocation
  4. Q&A
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Action Requested

√ Information item. No action requested.

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Presenters

Matthew Andersen, Biological Program Manager, Grand Canyon Monitoring and Research Center  
Dennis Kubly, Chief, Adaptive Management Group, Upper Colorado Region, Bureau of  
Reclamation

Glen Knowles, Fish and Wildlife Biologist, U.S. Fish and Wildlife Service

Melissa Trammell, Fishery Biologist, National Park Service

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Previous Action Taken

- √ Other: Two recent Biological Opinions (BOs) contain conservation measures that have programmatic and budgetary implications for the Glen Canyon Dam Adaptive Management Program:
1. Final Biological Opinion for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, December 12, 2007.
  2. Final Biological Opinion for the Operation of Glen Canyon Dam, February 27, 2008. (This BO related to the Bureau of Reclamation's experimental high flow test of approximately 41,500 cfs for 60 hours beginning March 4, 2008, as the initial action in a series occurring through 2012, as described in an Environmental Assessment issued in February 2008.)
- √ AMWG: At its May 2008 meeting, the AMWG heard a report from Sam Spiller, U.S. Fish and Wildlife Service, in which he described the conservation measures from both BOs.
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Relevant Science

- √ The following describes the relevant research or monitoring on this subject:  
Much of the science related to these subjects can be found in the following two documents and the extensive references therein:
- "Science Plan for Potential 2008 Experimental High Flow at Glen Canyon Dam," which can be found at [http://www.gcmrc.gov/research/high\\_flow/2008/documents.aspx](http://www.gcmrc.gov/research/high_flow/2008/documents.aspx), the last document under "Planning Documents," click on "Proposed 2008 High-Flow Science Plan."
  - At the request of the Bureau of Reclamation, GCMRC conducted a science workshop in April 2007 to solicit scientific recommendations for consideration in preparation of the Long

Biological Opinion Conservation Measures Update, continued

Term Experimental Plan EIS. The proceedings document was made available to AMWG via email on May 7, 2008, can be found at <http://pubs.er.usgs.gov/usgspubs/ofr/ofr20081153>.

Background Information

The following are conservation measures that were included in the 2007 Shortage Guidelines and 2008 Glen Canyon Dam Operations biological opinions, with an indication of under which agenda item updates will be provided during the September AMWG meeting.

<b>BO</b>	<b>Conservation Measure</b>	<b>AMWG Agenda Item</b>
<b>Humpback chub</b>		
2007	Genetic Biocontrol Symposium (Genetic Biocontrol of Nonnative Fishes)	Nothing new to report; not on the AMWG agenda.
2007	Humpback Chub Parasite Monitoring	Nothing new to report; not on the AMWG agenda.
2007, 2008	Humpback Chub Sediment Research/ Humpback Chub Near Shore Ecology Study	This agenda item.
2007, 2008	Nonnative Fish Control	Research Updates and Budget
2007, 2008	Humpback Chub Refuge	Humpback Chub Updates
2008	Humpback Chub Consultation Trigger	Nothing new to report; not on the AMWG agenda.
2008	Comprehensive Plan for the Management and Conservation of Humpback Chub in Grand Canyon	Humpback Chub Updates
2008	Humpback Chub Translocation	This agenda item.
2008	Monthly Flow Transition Study	This agenda item.
2008	Little Colorado River Watershed Planning	Nothing new to report; not on the AMWG agenda.
<b>Kanab ambersnail</b>		
2007	Kanab Ambersnail Monitoring and Research	Nothing new to report; not on the AMWG agenda. (Fall monitoring trip scheduled for September-October.)
2008	Kanab Ambersnail Habitat Protection	Nothing new to report; not on the AMWG agenda. (Snails and habitat were moved during high flow experiment.)

BO	Conservation Measure	AMWG Agenda Item
<b>Southwester willow flycatcher</b>		
2007	Southwestern Willow Flycatcher Monitoring and Research	Nothing new to report; not on the AMWG agenda.

The following presentations will be made during this agenda item:

**1. Introduction: Overview and Strategic Approach – Dennis Kubly**

The Bureau of Reclamation will present the approach to accomplishment of the conservation measures contained in the 2007 and 2008 BOs, including efforts to establish an inter-agency agreement identifying roles and how implementation of the conservation measures will be coordinated. Actions to be undertaken to fulfill the conservation measures include both flow and non-flow measures, thus it will be necessary to accomplish them under various authorities, some of which are outside the direct authority of the Bureau of Reclamation.

**2. Near Shore Ecology and Fall Steady Flow Science Plan – Matthew Andersen**

While substantial effort has been applied over the years to understanding humpback chub use of sandbar-mediated backwater habitats, less attention has been applied to other near shore, mainstem habitats. Because young humpback chub make extensive use of near shore habitats in the Little Colorado River, there is reason to believe they may also favor shorelines in the mainstem. GCMRC proposes that a cooperator be identified through a competitive process to work with GCMRC scientists to study biological and physical responses to fall steady flows and MLFF, focusing on the mainstem, near shore environment. GCMRC has prepared a solicitation for cooperative agreements. Because the cooperator will not be determined until after the new fiscal year, GCMRC has prepared a pilot study for August and September 2008. This timing will allow for GCMRC scientists to compare biological and physical resource responses to fluctuating and steady flows, contributing to our understanding of the transitions between flow patterns. The 2008 pilot study conducted by GCMRC will work in the Little Colorado River reach of the mainstem, focusing on talus and cut bank habitats. The pilot study is intended to gather preliminary data and pilot new techniques for studying young humpback chub and associated members of the fish community in Grand Canyon. GCMRC anticipates involving the cooperator in the development of a NSE/FSF study plan scheduled for delivery by July 1, 2009.

**3. Humpback Chub Translocations – Melissa Trammel and Glen Knowles**

In July 2008, 506 juvenile humpback chub were collected from the Little Colorado River by FWS, Arizona Game and Fish Department (AGFD), GCMRC and the Grand Canyon Wildlands Council. As a result of these efforts, 299 fish were PIT tagged and translocated from the mouth of the Little Colorado River upstream to above Chute Falls to augment an existing population above travertine dams. In addition, 207 juvenile humpback chub were flown via helicopter out of the canyon and transported to Bubbling Ponds State Fish Hatchery for quarantine treatments. These fish will eventually be translocated to Shinumo Creek, a tributary to the Colorado River in Grand Canyon National Park, for the purpose of establishing humpback chub in another tributary.

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