

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

Agenda Item

Near Shore Ecology Update

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

N/A

Relevant Science

✓ The following describes the relevant research or monitoring on this subject:
The Near Shore Ecology project is attempting to assess young humpback chub use of all available mainstem near shore habitats immediately downstream of the mouth of the Little Colorado River, where the biggest Grand Canyon population of humpback chub occurs. Current capture information, subject to review and revision, suggests that young (less than 3 years old) humpback chub are using all available habitats, but the largest captures are found along talus slopes. The initial data support the conclusion of Coggins and Walters (2009) that the Grand Canyon humpback chub population is increasing. Modeling conducted by GCMRC and cooperators under the guidance of Walters in the early months of 2010 suggests that the Little Colorado River may have a carrying capacity, meaning that the humpback chub population cannot grow without bound. The exact limits of this carrying capacity are the subject of ongoing investigations. The same modeling effort, combined with nearshore ecology results to date, suggest that humpback chub are moving back and forth between the Little Colorado River and the mainstem during the early years of their life. Cooperators have a method to rigorously investigate this movement using otoliths (inner ear bones). Sampling otoliths requires sacrificing the fish; because of concerns raised by Native American stakeholders, the taking of approximately 200 young humpback chubs for this purpose has not yet been permitted, subject to ongoing consultation with tribal members.

Background Information

Humpback chub use of all near shore habitats has received limited investigation to date, with the exception of backwater habitats. This project attempts to build on the work of Converse and others (1998) and Korman and others (2004) who investigated young humpback chub use of all available habitats. The Near Shore Ecology project began with a pilot trip in August 2008. The full implementation of the project began in July 2009 with four field trips per year, including full

participation of the cooperators, led by William Pine from the University of Florida. The July 2010 trip has been completed.

The near shore ecology protocols were described in the response of the cooperator to the competitive solicitation, and were distributed to TWG in approximately March 2009. The statement of work was peer-reviewed by an external panel (including the NPS, FWS, and Reclamation) and the cooperator responded to reviewer comments. Protocols are included in each year's work plan, most recently the FY 2011-12 biennial work plan.

The sacrificing of approximately 200 humpback chub less than 200 mm has been proposed to investigate young humpback chub movement in and out of the Little Colorado River. This activity was included in the initial response to the solicitation received in 2008 and was reviewed by DOI participants in the review panel. This activity has not yet been permitted.

For more information, contact Matthew Andersen, GCMRC Biological Program Manager, mandersen@usgs.gov, 928.556-7379.