

Glen Canyon Dam Adaptive Management Work Group
Agenda Item Information
December 5-6, 2006

Agenda Item

Development of Humpback Chub Refuges for the Lower Colorado River

Action Requested

√ Information item only; we will answer questions but no action is requested.

Consistent with the Humpback Chub Comprehensive Plan, the Fish and Wildlife Service (FWS) and National Park Service (NPS) are proposing a programmatic long-term humpback chub conservation initiative, implementing off-site refuges and rearing facilities as well as on-site translocations. We expect the first phase of the program to be implemented in the summer 2007 which will incorporate consideration of the specific project proposals brought forward last year (Hualapai Ponds refugia and Shinumo Creek translocation). This program will utilize appropriate NEPA compliance and the Genetics Management Plan to help guide implementation of this programmatic effort. The AMWG will be advised of our progress on this proposal at its spring meeting.

Discussion of current 2 proposals: One is led by the FWS with the Arizona Game and Fish Department and Hualapai Tribe to benefit humpback chub conservation by conducting an experiment to rear this species at the Hualapai Tribe's fish facilities. The second is to translocate this species in Shinumo Creek on Grand Canyon National Park, also using the Hualapai Tribal facility for holding purposes. These proposals recognize that the Hualapai Tribe is the determining entity in regards to approval of use of their facilities.

Presenter

Sam Spiller, Lower Colorado River Coordinator, Fish and Wildlife Service

Previous Action Taken

√ By AMWG:

AMWG recommended to the Secretary of the Interior (memorandum from Chairman M. Gabaldón, 7/01/02): "... Initiate all needed activities (consultation [include endangered Humpback chub], compliance, development of a science plan, public outreach, development of a captive breeding population of Humpback Chub from Grand Canyon)."

These proposals support this AMWG recommendation.

Relevant Science

√ The following describes the relevant research or monitoring on this subject:

Another endangered fish species, razorback sucker, has been successfully reared as reported by FWS, personal communication Dr. Charles Minckley, Parker, AZ. Razorback suckers were moved to the facility in February 2000 with the transfer of 2000 fingerlings from Willow Beach National Fish Hatchery. One pond was harvested in June 2003 (1 seine haul) taking 468 fish. All were in good condition and 108 of those greater than 30 centimeters (cm) were released into Lake Havasu. Additional razorbacks were harvested from this stock in June (N=583) and September (N=56) of 2005. This represents, at a minimum, a 50% survival rate of the fish stocked in 2000. In February 2006, a new lot of razorback suckers averaging 5 cm in total length were stocked. By September 2006 their mean size was 346 mm and 302 of them were transferred to Havasu National Wildlife Refuge to establish a population of this species in Beal Lake. Based on these activities, it seems apparent that the facility has been successful in holding and rearing razorback suckers despite a lack of active on-site management.

The FWS, Arizona Game and Fish Department (AGFD), Hualapai Tribe, and NPS believe this success warrants conducting an experiment to assess whether infrastructure can be developed to successfully rear Humpback Chub, as we believe there is no reason this facility could not hold, maintain, and rear other native Colorado River fishes to include humpback chub with increased management activities and partnership cooperation.

An evaluation of 14 prospective humpback chub refuge facilities (Childs, 2005) indicated that the Hualapai native fish facility was a suitable location to use as a refuge. See http://www.usbr.gov/uc/rm/amp/amwg/mtgs/05aug30/documents/Attach_06_000.pdf.

Childs, M. 2005. Humpback chub hatchery evaluation: Prospective refuge facilities. Final Report submitted to Arizona Game and Fish Department Heritage Program. May 2005, 58 pp.

Background Information

Project 1: Establishing a Refuge Population of Endangered Humpback Chub on Hualapai Tribal Lands.

FWS (Arizona Fishery Resources and Ecological Services Offices), in cooperation with AGFD, and the Hualapai Tribe propose to establish a refuge population of Grand Canyon humpback chub on the Hualapai Reservation to protect this species against possible future loss in its primary habitat in the Little Colorado River. Warm water deliveries during past years from Glen Canyon Dam due to reduced storage caused by drought, and the eventual operation of Glen Canyon Dam with a Temperature Control Device (TCD), have the potential to exacerbate the negative impacts of nonnative fish species on native fishes, including Humpback chub, by creating habitat more suitable for warm water nonnative fish and parasites in the Colorado River ecosystem.

The project will 1) refine the methods for transport of wild caught humpback chub to a refuge facility; 2) refine the methods for rearing humpback chub in captivity; and 3) establish a refuge population of humpback chub on the Hualapai Reservation for use, if necessary, in repatriating the Grand Canyon population in the event of a catastrophic loss.

Releases of reared Humpback chub at the Hualapai ponds would be managed in a manner consistent with the Humpback Chub Genetics Management Plan. This plan is presently being prepared under an agreement funded by the Bureau of Reclamation (signed 8/15/06) with the genetics analysis due for completion in March 2007. The first draft of the report pertaining to genetics management and captive propagation is due on 7/15/07, and the final is due 12/01/07 (preparer: Dr. Connie Keeler-Foster, Dexter National Fish Hatchery and Technical Center, Dexter, NM).

We propose to collect humpback chub during the summer months of 2007 and transport them via helicopter to the Hualapai ponds. The experiment will be conducted as a three party partnership (Hualapai Tribe, AGFD, and FWS) in consonance with the Hualapai Tribe, AGFD, and FWS Statement of Relationship to support contributions to native fish restoration (signed 5/09/05).

FWS has the support of their leadership and has completed a categorical exclusion in regard to NEPA compliance for Project 1.

Project 2: Humpback chub translocation in Grand Canyon: feasibility, and experimental design, final report

Planning for the Shinumo Creek Translocation project is being considered at this time.