

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

Agenda Item

Genetics Management Plan Update

Action Requested

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

Presenters

Dr. Connie Keeler-Foster, Research Leader, Dexter National Fish Hatchery and Technology Center,
Dexter, NM
Glen Knowles, Fish and Wildlife Biologist, U.S. Fish and Wildlife Service, Phoenix, AZ

Previous Action Taken:

√ By AMWG:

After being advised that, because of a change in the CPI, GCMRC would have \$188,000 in unprogrammed funds at the end of FY06, AMWG approved the following motion in March 2006:

To use \$50,000 in funds reprogrammed from CPI to support a HBC Genetics Plan, including a refugia plan and additional sampling.

Relevant Science

The Grand Canyon population of humpback chub is the most genetically diverse of the remaining populations and should be managed as a separate stock. The AMP has long recognized the need for a genetics management plan to guide efforts to translocate the species in Grand Canyon and for use in developing refuge facilities. Relevant science includes a recently finished report on the genetics of humpback chub (Douglas and Douglas 2007), accessible on the AMP website at:

http://www.usbr.gov/uc/rm/amp/twg/mtgs/07jun25/Attach_04.pdf

See Also:

Armstrong, D.P. and P.J. Seddon. 2007. Directions in reintroduction biology. *Trends in Ecology and Evolution* 23(1):20-25.

U.S. Fish and Wildlife Service. 2000. Policy Regarding Controlled Propagation of Species Listed Under the Endangered Species Act. *Federal Register* 96(183):56916-56922.

Background Information

Connie Keeler-Foster at Dexter National Fish Hatchery and Technology Center completed a draft Genetics Management Plan in December 2007. A panel of representatives from the Grand Canyon Monitoring and Research Center, Fish and Wildlife Service, and Bureau of Reclamation reviewed it. A second draft of the plan was completed in May of 2008 and reviewed again by this panel. The third draft, which should be complete by early September 2008, will be forwarded to the Science Advisors Executive Secretary who will lead a peer review of the document.

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- ◆ **March 2006** – AMWG approved motion to fund \$50,000 for development of a genetics management plan for humpback chub from carryover funds (CPI overage).
- ◆ Dr. Connie Keeler–Foster, U.S. Fish and Wildlife Service, Dexter National Fish Hatchery (GCMRC and BR review).
- ◆ A Genetic Management Plan for Captive and Translocated Endangered Humpback Chub in the Lower Colorado River Basin.

Genetic Management Plan Update

- ◆ **Translocation** – Reintroduction of wild caught individuals.
- ◆ **Refuge Development** – Creation of a refuge population to serve as a genetically representative source for augmentation in the event of catastrophic loss.
- ◆ **Captive Propagation** – Guidelines for captive breeding for augmentation and experimental use if necessary.
- ◆ **Augmentation** – Use of captive individuals for augmenting or reestablishing wild populations in the event of catastrophic loss.
- ◆ U.S. Fish and Wildlife Service – Policy regarding controlled propagation of species (2000, 65 FR 56916).

Genetic Management Plan Update

Schedule:

- ◆ **December 2007** – First draft, reviewed by GCMRC, FWS, BR).
- ◆ **May 2008** – Second draft, reviewed by GCMRC, FWS, BR).
- ◆ **September 2008** – Third draft, to Science Advisors Executive Secretary for peer review.
- ◆ **Winter 2008/9** – Present to TWG.
- ◆ **Summer 2009** – Present to AMWG.