

# Grand Canyon Adaptive Management Program Humpback Chub Comprehensive Plan



Glen Knowles  
TWG Meeting, Phoenix, Arizona  
October 1, 2003

# Brief History of the HBC Plan

- January 29, 2003 – AMWG forms Humpback Chub Ad Hoc Group to “consider action to implement a comprehensive research and management program for the HBC (and make) a recommendation to the AMWG.”
- After numerous meetings and conference calls, and presenting interim reports to May 28-30, 2003, AMWG and TWG meetings that help guide TWG FY 2004 budget recommendations, the HBC AHG completes its task...

# Brief History cont.

- The final “Status and Management Strategy for Humpback Chub in Grand Canyon” presented to AMWG on July 11, 2003, for August 13-14, 2003, AMWG meeting, including:
  - ◆ 21 detailed project proposals
  - ◆ FY 2004 Funding Recommendations Table which includes 2 projects without proposals
- AMWG uses plan in August meeting in developing FY 2004 budget

# GCDAMP FY 2004 Budget – HBC Plan Proposals

- Of 21 proposals recommended by the plan:
  - ◆ 7 were already funded in 2003 or funded in 2004 through DOI agencies
  - ◆ 14 are recommended by HBC AHG for FY '04 funding
    - ◆ 2 of these are fully funded in the FY 2004 budget
    - ◆ 9 are partially funded in the FY 2004 budget
    - ◆ 3 proposals are not funded

# July 2003 Science Advisor Review of the HBC Plan

- Provides input on HBC population debate
- Recommends creation of proposal to address possible interactive effects of various risks and management options in an ecosystem framework (i.e. temperature, flow, predation, parasites, hazardous risks)
- Recommends a discussion of:
  - ◆ Potential role of food limitation
  - ◆ Importance of turbidity
- Provides specific recommendations for project proposals

# Future needs of an HBC comprehensive plan or where do go from here?

- Adaptive management – keep the ball rolling
- Address Science Advisor comments on the plan
- Complete two proposals identified in HBC AHG funding table
  - ◆ Development of non-native stocking procedures
  - ◆ Investigate control of parasites and diseases
- Develop recommendations for 2005 and out years (i.e. revisit the timeline in the HBC plan)

**Appendix D. Draft timeline for implementation of project proposals in comprehensive humpback chub research and management plan.**

Revised 5/22/03

Recovery Goal Factor	Management Action	FY-2003	FY-2004	FY-2005	FY-2006	FY-2007	FY-2008	FY-2009	FY-2010
Demographic Criteria	Genetics	<--Assess Genetics Structure of ----> Grand Canyon HBC (P 01, 03) <--Dev Genetics Mgmt Plan (P 19)-->							
	Captive population	<-- Research Plan -----> <--Collect HBC--> <-- Maintain captive population for research and restoration if needed (P 02) -----> <--Short Term Grow-out Plan -----> <--Collect HBC--> <-- Remove, grow out, and replace HBC if needed -----> <--Captive Broodstock Plan (P 04)--> <--Collect HBC--> <-- Augment HBC if needed ----->							
	Translocations	<--Transl. --><--Translocate HBC above --><--Monitor and augment as needed to maintain genetic variability -----> Plan Chute Falls (P 05) <--Eval feas --> <--Bright Angel --><-- Monitor and augment as needed to maintain genetic variability -----> of other transl. transl. NEPA <-- Other trib --> <-- Monitor and augment as needed to maintain genetic variability -----> transl.							
	Develop LCR/Mainstem Pop Estimate of HBC	<--Conduct joint LCR/Mainstem Pop --> <-- Implement protocols -----> estimate and test model assumptions (P 17)							
Adequate Habitat and Range for Recovered Populations Provided	Temperature Control Device	<--Risk Assess--><--NEPA--><-----TCD Construction (P 06)--> <-- Test TCD -----> <-----Implement Pre-TCD Monitoring-----> <-----Implement TCD Evaluation/Monitoring----->							
	Use Dam Operations To Disadvantage NNF And Assist Native Fish	<---- Conduct / Evaluate Current ----> Exp Flows (P 07) <----Design Experimental -----><-- Implement Experimental Flow Program ----->							
	Sediment Augmentation	<----Evaluate Sed Augm (P 08)----> <-- Implement Augmentation if Feasible ----->							
	Manage Turbidity To Disadvantage NNF And Assist Native Fish	<--Feas Study--> <-----Implement Turbidity Management if feasible-----> <--Turbidity Exp--> (P 08)							

(P xx) refers to project numbers in Appendix C

Protection from Overutilization for Scientific Pur. or Recreation	Impacts of Recreation and Scientific Activities	<--Evaluate Threats--> <-- Implement actions to reduce threats from recreational and scientific activities ----->							
Adequate Protection from Diseases or Predation	Non-Native Fish Control	<--NEPA (NPS)--><--Remove non-native fish from mainstem and tributaries (P 10, 11, 12)----->							
	Control Invasive Species	<--Establish Baseline and monitor non-native fish below Diamond Creek (P 13)-----> <--Develop Invasive Species--> <-- Implement invasive species management plan -----> Mgmt Plan (P 14)							
	Parasites and Disease Control	<--Survey Parasites and Diseases, monitor, and if feasible, implement control program (P 15)----->							
Adequate Existing Regulatory Mechanisms		Several supporting regulatory mechanisms exist (e.g. NEPA, GCPA) and additional mechanisms could be established to protect habitat.							
Protection from Other Natural or Manmade Factors	Implement Toxic Spill Management / Prevention at Cameron Bridge	<--Collaborate with others --> <-- Implement spill response and pollution control plans (P 20, 21) -----> to develop spill response and pollution control plans							
	Review LCR Watershed Mgmt	<--Identify Threats--><--Collaborate with--><--Assist with implementing actions to decrease threats -----> to LCR LCRMOM to dev plan (P 16)							
Supporting Actions	Outreach Program	<-----Develop and implement outreach program (P 18)----->							
	Develop Recovery Implementation Plan	<-----Develop Recovery Agreements-----><-----Implement Recovery Action Plan----->							
Recovery Goal Factor	Management Action	FY-2003	FY-2004	FY-2005	FY-2006	FY-2007	FY-2008	FY-2009	FY-2010

# HBC Comprehensive Plan Future Needs cont.

- In summary, there is a need to update the plan and project proposals, and to provide technical recommendations to the AMWG for long term comprehensive planning for the humpback chub.
- Who should be tasked with this work?
- One possibility might be creation of an ad hoc group for HBC within the TWG.