

UPDATE ON IN-CANYON HBC TRANSLOCATION IN GRAND CANYON NATIONAL PARK

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A. Project Overview

1. GCWC and SWCA working with NPS to plan and implement in-Canyon translocation of HBC
2. GCWC "white paper" on site selection and translocation plan, identifying the rationale for in-Canyon translocation
 - a. Shinumo Cr. selected over other tributaries as a pilot in-Canyon site due to habitat, non-native fish, and compliance issues
 - b. General plan outlined
 - c. NPS compliance needed
3. Completion of SWCA translocation research report, recommending Shinumo Cr.

B. Conference call with FWS on 22 June 2006

1. NPS, FWS, SWCA, GCWC issues
 - a. Translocation into Shinumo Cr. as an insurance population is "low-hanging fruit," easily accomplished logistically, and one of many important conservation steps that need to be undertaken and studied (GCWC and SWCA)
 - b. FWS favors Hualapai Ponds ex-situ propagation, and sees risks from uncertain genetics, site selection, habitat analysis, non-native predator load
 - c. NPS sees compliance to be a significant hurdle
2. **HOWEVER**, In-Canyon translocation has been recommended by FWS as the highest priority strategic approach
 - a. "Translocation of humpback chub to other tributaries in Grand Canyon may offer potential for augmenting mainstem aggregations, and some potential exists for creation or significant expansion of downstream aggregations. Translocation efforts to these tributaries may need to be accompanied by sizeable predator removal efforts to effect a change. Genetic risks to the main population of HBC in Grand Canyon appear to be minor.

It is recommended that if any of these actions are pursued, they be carried out with the priorities in mind of: 1) posing least potential for genetic harm to the wild population, and 2) having the best potential for promoting a self-sustaining wild population. This suggests that translocation might be a first priority, followed by supplemental stocking of wild caught age-0 fish, and as a last resort the release of

captive propagated fish. Maintaining fish in captivity for refugium purposes poses no genetic risks to the wild population, however, the release into the wild of captive reared individuals does pose numerous genetic risks that need to be seriously evaluated.” Van Haverbeke and Simmons (2004:6).

3. Genetics issues – How similar are HBC populations in GC?
 - a. Draft Douglas and Douglas HBC report indicates little to no difference among LCR and downstream populations
 - b. Conversation between Mike Douglas and William Leibfried confirm translocation from LCR to Shinumo Cr. is genetically acceptable.
 - c. Therefore, the genetics risks appear to be minimal
4. Predator control in Shinumo Cr.
 - a. SWCA efforts demonstrated a strong negative impact on non-native trout
 - b. The presence of healthy, self-sustaining populations of bluehead sucker and speckled dace in Shinumo Cr. indicate that native fish populations are persist there
 - c. Therefore, non-native predatory trout pressure on potential HBC translocations are not likely to prevent project success
5. Habitat quality
 - a. The reach selected for HBC translocation in the lower portions of the Shinumo Cr. drainage has suitable pool and run habitats, and the lowest gradient in the drainage.
 - b. Anecdotal investigations of the foodbase there indicate much higher concentrations than exist in the LCR (Oberlin et al. 1999; Stevens unpublished data).

C. Proceeding with Translocation

1. Proposal to NPS from SWCA to clarify these issues is nearing submission
2. Attempt the effort ASAP, preferably in 2006
 - a. Collect 300 live HBC YOY from LCR
 - b. Translocate via NPS helicopter to lower Shinumo Cr.
 - c. Release in batches of ca 50 fish in six locations
 - d. Follow up one month afterwards with a monitoring trip
 - e. Consider next steps

D. References Cited

- Oberlin, G.E., J.P. Shannon, and D.W. Blinn. 1999. Watershed influence on the macroinvertebrate fauna of ten major tributaries of the Colorado River through Grand Canyon, Arizona. *The Southwestern Naturalist* 44:17-30.
- Van Haverbeke, David R. and Robert L. Simmonds, Jr. 2004. The Feasibility of Developing a Program to Augment the Population of Humpback Chub (*Gila cypha*) in Grand Canyon. Document Number: USFWS-AZFRO-FL-03-007. Electronic Access: http://www.gcmrc.gov/library/reports/biological/Fish_studies/USFWS/vanhaverbeke2004a.pdf