

Long-Term Experimental Plan Ad Hoc Meeting
 September 14, 2004
 BIA Conference Room A
 Phoenix, Arizona

Attendees: M Barger, N Henderson, J Lovich, D Garrett, P Garrett, G Burton, T Melis, H Fairley, C Kincaid, M Liszewski, G Knowles, D Kubly

Action: Present results of meeting to TWG Sep 27-28

- I. Review of hybrid design and interpretations
- II. Identify management actions and treatments that would be included in the design (brainstorming level):
 - a. Mechanical Removal as conducted at present and a research and development of new approaches to mechanical removal, including mainstream and tributaries
 - b. Warming of water with a TCD no earlier than 2007
 - c. Dam releases
 - 1. High probability of 8.23 years in near future (5-7 yrs)
 - 2.
 - d. HBC translocations and augmentation
 - e. Sediment and turbidity augmentation
 - f. HBC habitat enhancement in LCR
 - g. Fish disease and parasite control measures
 - h. Vegetation removal (ongoing by NPS in FY 04)
 - i. Repatriation of native species
 - j. Transgenic fish
 - k. Biocontrol (related to g and j)
- III. Known and unknown effects: example evaluation professional opinions of attendees
 - a. Mechanical removal

Actions and Treatments					
	Mech Removal	TCD	Dam Releases	Chub Augment	Sed/Turbidity
Trout	Reduces #s (both) and size structure (RBT only) locally & temporarily				
Native Fish	U; need R&D on capture & effects				
HBC	U; need R&D				

	on ms capture & effects				
Non-native fish	Reduce #s of carp; need R&D				
Recreation	U				
Cultural	Known TCP neg; mitigated				
Socioeconomic	U; anecdotal information on negative				
Sediment	K; no effect				
Hydropower	K; no effect				
Terrestrial Resources	U; bird food base??				

Actions and Treatments					
	Parasite Control	Repatriation	Veg Removal	Biocontrol	Transgenic Fish
Trout					
Native Fish					
HBC					
Non-native fish					
Recreation					
Cultural					
Socioeconomic					
Sediment					
Hydropower					
Terrestrial Resources					

- IV. Criteria for Assessment of “Known Effects” and “Unknown Effects”
- a. Quality of Information (expert opinion, agency reports, peer-reviewed journal; need to establish hierarchy of acceptance for sources of information)
 - b. Quantity of information (has experiment been done more than once; same results if so?)
 - c. Level of risk to resource; if risk is high, consider carefully; opportunity cost
 - d. Cost of implementing action (short-term and long-term; relate to risk)
 - e. Evidence exists for Grand Canyon vs. evidence exists for other comparable systems

- f. Has a knowledge assessment been done for this interaction (cause and effect relationship)

V. Process and Schedule

- a. Define actions and treatments—Begun 9/14/04; continue at TWG meeting Sep 27-28, finish by Oct 20—LTEP Ad Hoc, GCMRC, TWG, Professional experts
- b. Establish criteria for known and unknown effects—December 2004—LTEP Ad Hoc, GCMRC, TWG
- c. Knowledge assessment—February 2005—GCMRC, Cooperating Scientists
What is it? Aggregation of information gathered from studies in Grand Canyon and on other related systems
- d. Conduct workshop—March 2005—GCMRC, LTEP Ad Hoc
Process: GCMRC will produce a synthetic (but brief) document (c:knowledge assessment) of the proposed actions/treatments and their effects prior to the workshop; they will provide presentations and be available to respond to questions on the assessment; the criteria will then be applied to the actions/treatments by workshop participants, who include subject matter experts (scientists and managers), experimental design experts, and biostatisticians, to determine whether actions/treatments belong in the known effects or unknown effects category; following this determination workshop participants will provide input to GCMRC on the selection of experiments and the design of those experiments.
Purpose: Evaluate knowns and unknowns; provide input to GCMRC for development of the LTEP at level of defining treatments
- e. TWG Update and Input—May 2005
- f. Draft plan—July 2005—AMWG review—GCMRC
- g. Science advisor risk assessment—October 2005
- h. TWG Review—November 2005
- i. Finalize plan—December 2005—AMWG review—GCMRC
- j. Recommendation to Secretary—January 2006—AMWG
- k. Begin compliance if DOI accepts—January 2006—Action agencies