



Draft BHBF Science Plan

Comments/Responses/Discussion

Grand Canyon Monitoring and Research Center
June 25, 2007 Technical Work Group Meeting

Outline

- Overview of BHBF Science Plan Development
- Review by Science Advisors
- TWG Review - Summary of Concerns, Questions and Comments
- *Discussion of Steps for Moving Ahead*

Basis for Further BHBF Testing

- BHBF is an element of each of the SPG Options and is likely to be a LTEP element
- Has potential to benefit a number of resources and promote learning
 - Sediment
 - Near shore aquatic habitats (backwaters, others?)
 - Terrestrial habitats (new and old riparian zones)
 - Cultural Resources (archeological sites; native plants valued by the Tribes)
 - Camping areas for recreation

Summary of Comments - BIOLOGY

Comment: Additional fish and backwater monitoring is needed

Response: GCMRC proposes to add a spring backwater seining trip

Comment: More information needs should be addressed

Response: BHBF plan is subset of AMP work plan, so not all information needs will be addressed

Comments: Citing displacement of nonnative fishes in small desert rivers is inappropriate

Response: The hypothesis that nonnative fishes will be disproportionately displaced by high flows in the Colorado River is worth testing

Summary of Comments – PHYS/MOD

Is the Concept of the Revised Triggering tied to an Approved Document?

- Basis for Revised Sediment Triggering Developed by SPG Process – See EXP Assessment

Not Sure About How Revised Sediment Triggering Works (including LCR & Paria)?

- Upstream Sand Inputs are Weighted More Than Downstream Inputs

Agreed Upon Approach for Evaluating Sediment Outcome of Testing is Still Needed

- Future Desired Conditions for Fine-Sediment Habitats Must Still be Defined

How Specifically is the Proposed Timing Identified for the Next Test?

- Late Winter to Early Spring

Summary of Comments – PHYS/MOD

How is this Proposed Sediment Test Different/Same Compared to the 2004 Test?

- Similar Hydrograph, but Later Timing to Allow Some Sand Redistribution First

If 2004 Results Suggest That More Sand is Needed, Then How is This Achieved?

- Determine Whether or Not The Benefit of 2004 Is Cumulative With Next Test

How Many of These Tests Are Needed to Fullfill Management's InfoNeeds?

- This Still Depends on Outcome of Answering “Flow Only...” Question

Summary Comments – Aeolian process

1. Summary comment: Effects of aeolian processes can be negative as well as positive and can confuse the interpretation of the archaeological record.
 - **Response: Agree, but potential preservative benefits warrant further evaluation since this is one of few potential mechanisms available to offset erosion and reduce run-off**
2. Summary comment: Benefits of aeolian sediment in preserving sites are stated as facts, rather than as hypotheses.

Response:

- **Draut and Rubin documented low elevation sand transported by wind to higher elevation archaeological sites**
- **Draut and Rubin documented that increasing the available sand supply after a BHBF can result in increased transport of sand under same wind conditions**
- **Need for further study is clearly acknowledged in the plan; information needs are formulated as hypotheses in Project 1.C**

Summary Comments – Aeolian Process

3. Summary comment: \$618,00 to measure changes in aeolian transport rates or gully infilling at archaeological sites is a waste of money.
 - Response: \$618,000 covers all of Project 1.C:
 - integrated, multidisciplinary approach to tracking effects of sediment storage
 - measures sand storage above and below the 8,000 cfs level throughout CRE
 - quantifies changes to backwaters, campable area, and archaeological sites

Summary Comments – Tribal Resources

1. Summary comment: No effort to include consideration of Tribal concerns in the science plan.

Response:

- Native riparian species are important cultural resources for all tribes
- Project 2 evaluates effects of BHBFs on native and non-native vegetation
- Hualapai and Zuni concern for potential impacts of a BHBF on Glen Canyon site is identified as a compliance need in the plan
- Agree that not every topic of potential interest to every stakeholder (tribal or otherwise) was or could be addressed by the plan

Summary Comments – Cultural Resources, General

1. Summary comment: GCMRC conflates the term cultural resources with archaeological resources. You are only concerned about archaeological sites.

Response:

- GCMRC staff aware of the different meanings of these words
 - We avoid using them as synonyms unless it is appropriate to do so
2. Summary comment: No consideration given to potential negative impacts of BHBFs on cultural resources
- Response: Potential negative impacts addressed through compliance

Summary Comments – Economics

1. Summary comment: GCMRC doesn't have the capacity to conduct economic trade-off analyses or evaluate impacts to societal values so eliminate these issues.
 - Response: GCMRC is fully prepared to enlist expertise to conduct these types of economic analyses in the future if the AMP recommends we do this.
2. Summary comment: You state that an economic analysis of BHBFs has not been completed; we disagree.
 - Response:
 - Experimental options analysis of economic impacts of BHBFs (2006) was a financial impact analysis specific to hydropower financial impacts; this is not the same as an economic analysis of BHBF impacts.
 - Plan will be revised to reflect that a financial analysis was completed in 2006.

Proposed Next Steps

- GCMRC respond to remaining comments
- Further TWG review (ad hoc work group)??
- TWG recommend to the AMWG that the WY08 hydrograph include the option of conducting a BHBF subject to (a) the sediment trigger being met, and (b) finalization of BHBF Science Plan and acceptance by the Secretary of the Interior.
- TWG recommendation on the budget implications of implementing a BFBF Science Plan in 2008.