

Development of the Science Plan

- Adaptive Management Work Group
 - Phoenix, Arizona
 - July 17, 2002

*Motion Passed by AMWG,
January 18, 2002*

- *Motion: In concert with RPA flows for native fish during 2002-2003 request that the GCMRC, in consultation with the TWG, design an experimental flow sequence that tests hypotheses for conservation of sediment. Report to AMWG in April 2002 on the proposed flow sequence.*

GCMRC and TWG Process for Treatment Scenario Development

- GCMRC Draft Flow Scenario 1.1 on 2/7/02
- Conference Call Hosted on 2/8/02 For Discussion
- Began Development of Frequently Asked Questions
- Respond to GCRG Memo of Inquiry 2/11/02
- AGFD & GCMRC Staff Met w/Lees Ferry Guides 2/12/02
- GCMRC Mailing to TWG members 2/15/02
 - **Draft Flow Scenarios 1.2, FAQ's, Corrected Fig. 1 (2/22/02)**
- GCMRC met with GCROA 2/21/02
- TWG Meeting 2/26-27/02

GCMRC and TWG Process for Treatment Scenario Development.....Continued

- Purposes agreed upon by TWG, 2/26-27/02
 - Includes working hypotheses and objectives
- Basic Concepts of Preliminary Experimental Design Supported by TWG & GCMRC 2/27/02 (**pending tradeoff analyses**)
- GCMRC Finalizes Design 3/15/02
 - Includes elements of needed research
- TWG Conf Call for Final Consideration 3/20/02
- Mailing to AMWG 3/22/02
- Experimental Flows Ad Hoc Meeting 4/18/02

April 24-25 AMWG Meeting



- Motion passed following presentation and discussion of experimental flow treatment recommendation

AMWG Motion-Recommendation

- GCDAMP adopt an experimental framework that includes Scenarios 1 through 4 and possibly other scenarios to benefit resources of concern with a twice a year evaluation of data by AMWG
- Implement Scenarios 1,3,or 4, as appropriate in WY2002-2003. Scenario 1 will be implemented in first year fall tributary inputs occur. Scenario 2 will be implemented in the next year that fall tributary inputs occur.

AMWG Motion...Continued

- Initiate all needed activities(consultation[include HBC], compliance, *development of a science plan*, public outreach, development of a captive breeding population of Grand Canyon Humpback Chub.)
- Direct the GCMRC in consultation with the TWG and SAs develop an experimental plan for long-term implementation.

GCMRC and TWG Process for Treatment Scenario Development.....Continued



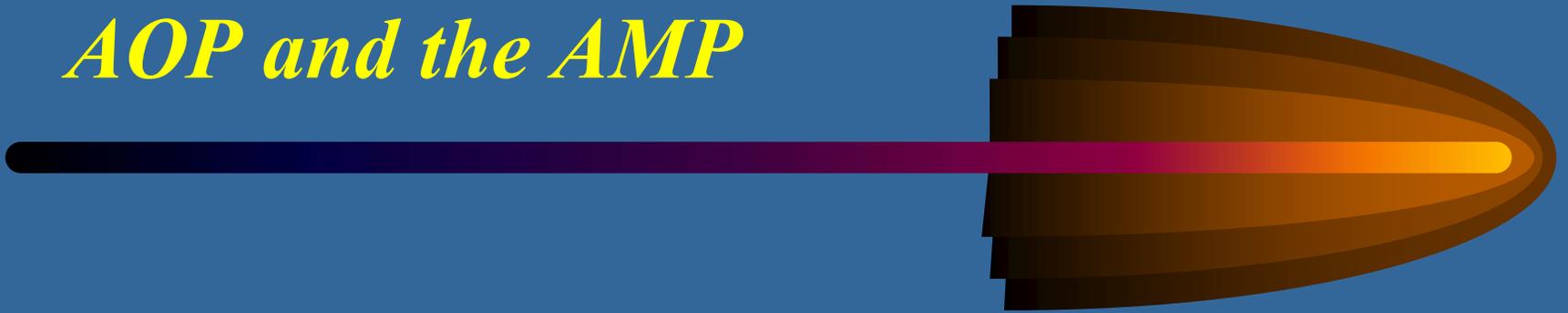
- AOP meeting Las Vegas 5/15/02
- Additional TWG consideration at regular meeting 5/16-17/02

AOP Meeting May 15, 2002



- Presentation by GCDAMP on Proposed Experimental Treatment

AOP and the AMP



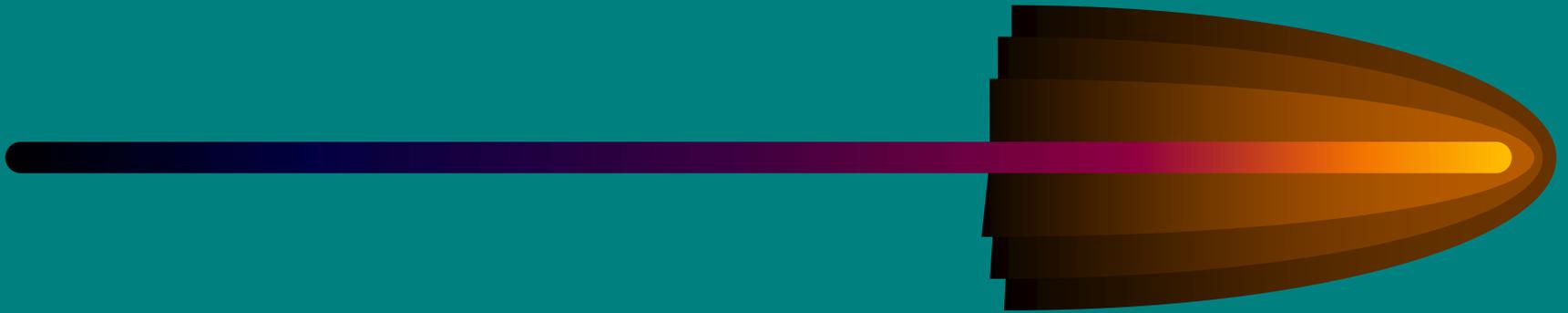
- “Separate and apart” dam operations processes
- AOP primarily concerned with Secretarial determinations and annual and monthly release volumes
- AMP primarily concerned with powerplant operations and effects of dam operations on downstream resources

The WY 2002 – 2003 experimental flow recommendation is intended to have two primary purposes



- **improve retention of sediment in the Colorado River Ecosystem**
- **benefit native fish populations (primarily Humpback chub)**

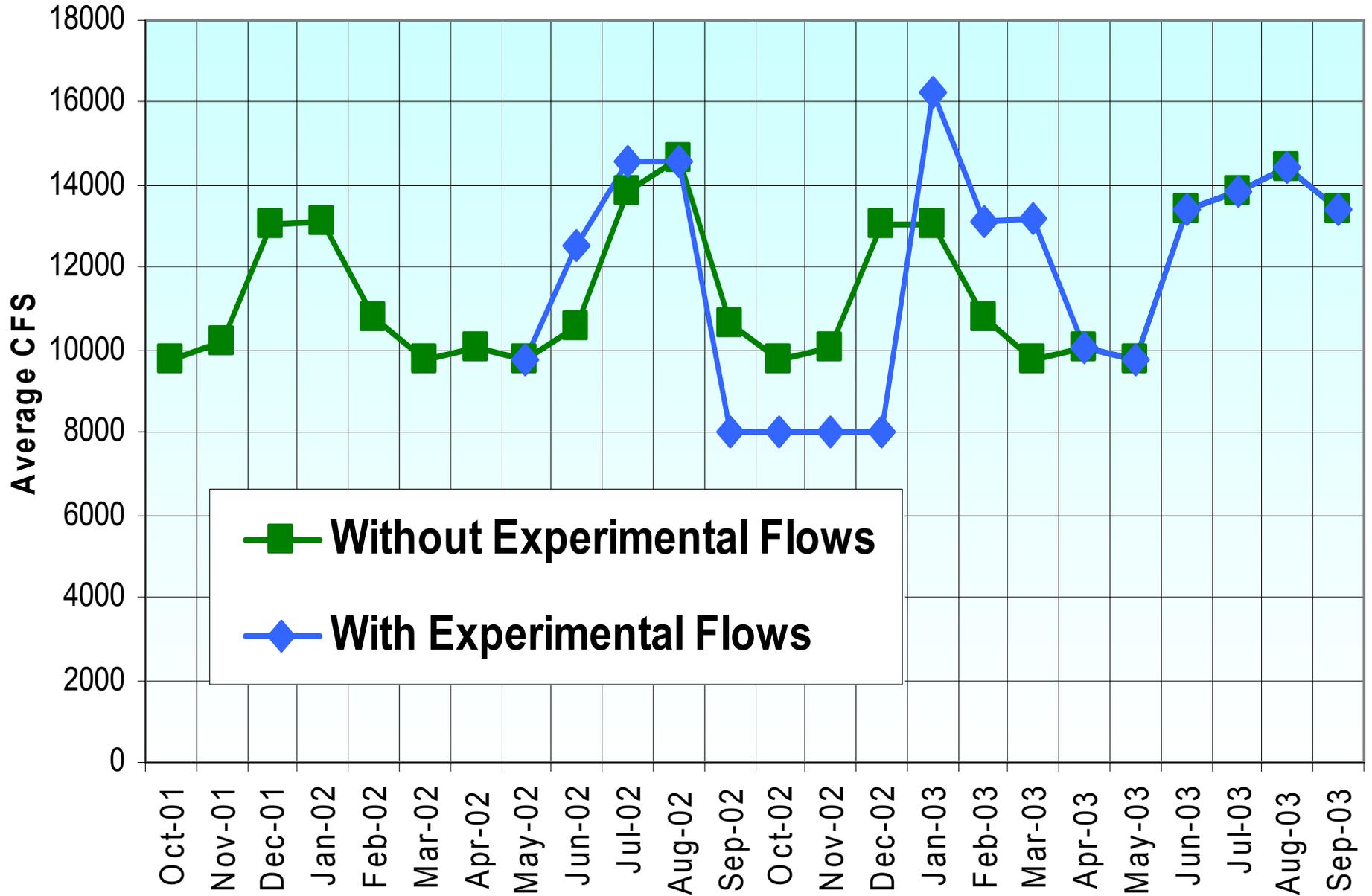
Specific Objectives



- ◆ **decrease downstream export of tributary input sediment from Marble Canyon**
- ◆ **increase short term retention of sediment stored in channel through low flows and long term retention of sediment in shorelines through BHBFs**
- ◆ **reduce non-native fish abundance and thereby improve survival and recruitment of HBC by reducing competition and predation**
- ◆ **improve and maintain habitat for young native fish**

Glen Canyon Dam Releases

Most Probably Hydrology (based on May 2002 Final Forecast)



AMWG Motion...Continued

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Process and Schedule for Development of Science Plan for Treatment Scenarios FY2002-2004

- Date Proposed Activity
- June 1, 2002 Science Plan Development Process begun by GCMRC
- June 14, 2002 GCMRC Internal Review and Development of Plan
- June 20, 2002 GCMRC emails Preliminary Draft Plan to Potential Workshop participants (AMWG, TWG, Science Advisors, PI's & Cooperators)

Process and Schedule for Development of Science Plan for Treatment Scenarios FY2002-2004

- June 21,2002 Conference call w/workshop participants focusing primarily on biological resource aspects of Draft Plan 2-4pm MDT.
- June 24, 2002 Conference call w/workshop participants focusing primarily on physical resource aspects of Draft Plan, 2-4pm MDT.
- July 1, 2002 GCMRC distributes revised Draft Science Plan to prospective workshop participants for review

Process and Schedule for Development of Science Plan for Treatment Scenarios FY2002-2004



- July 8, 2002 Conference call w/workshop participants to discuss additional comments on Draft Plan
- July 12, 2002 Deadline for written comments on Draft Science Plan due to GCMRC
- July 16, 2002 Revised Draft Science Plan for workshop discussion distributed by GCMRC

Process and Schedule for Development of Science Plan for Treatment Scenarios FY2002-2004



- July 17-18, 2002 *AMWG Meeting – Discussion of Science Plan development progress*
- July 18-19, 2002 *Workshop to discuss Draft Science Plan held following AMWG mtg.*
- July 26, 2002 Final Science Plan Document completed by GCMRC based on workshop.

The Science Plan Document

- Conceptual Framework for Science (Monitoring & Research) Associated with Experimental Flows & other Treatments
- Intended to Compliment Existing Research & Monitoring
- Will Require Additional Fiscal Resources
- Precise Details and Methodology Will Be Developed

The Science Plan Document

- Two-Year Science Plan Workshop
 - July 18-19, 2002
- Identify Omissions of Critical Elements
- Discuss & Consider Stakeholder Inputs

