

RECLAMATION

Managing Water in the West

The Intersection of Science and Decision Making in the Glen Canyon Dam Adaptive Management Program

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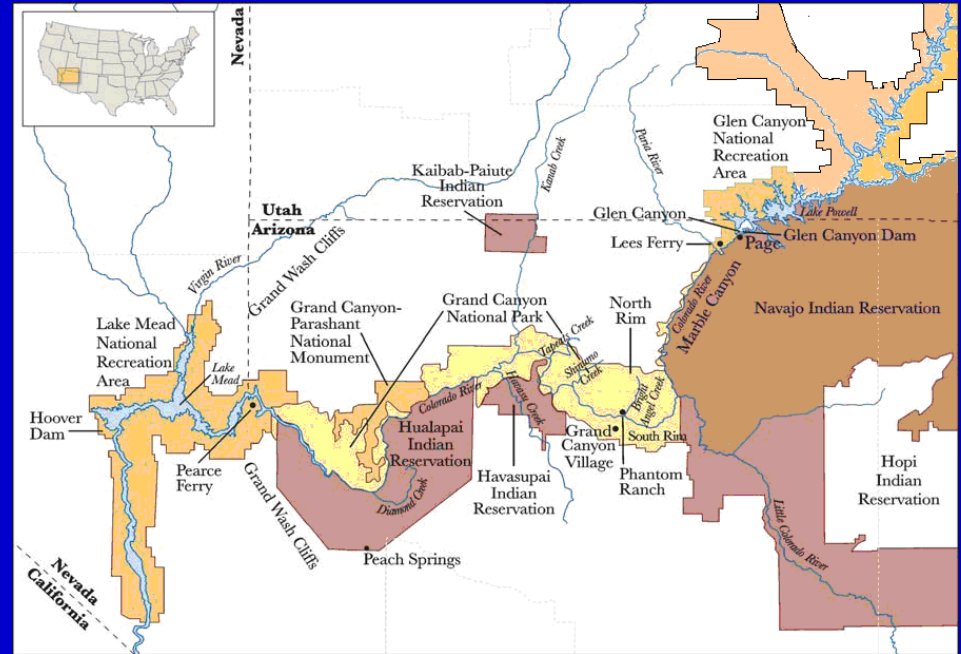
U.S. Department of the Interior
Bureau of Reclamation



Subject Matter

- GCDAMP Issues
- Program Goals
- Program Organizational Structure
- Success/Failure of Linking Science Learning with Decision Making

Glen Canyon Dam and Powerplant



- Completed 1963
- Located Page, Arizona
- Concrete Arch Dam
- 710 feet high
- 26.5 MAF Storage
- Eight Francis turbines
- 1,320 MW capacity



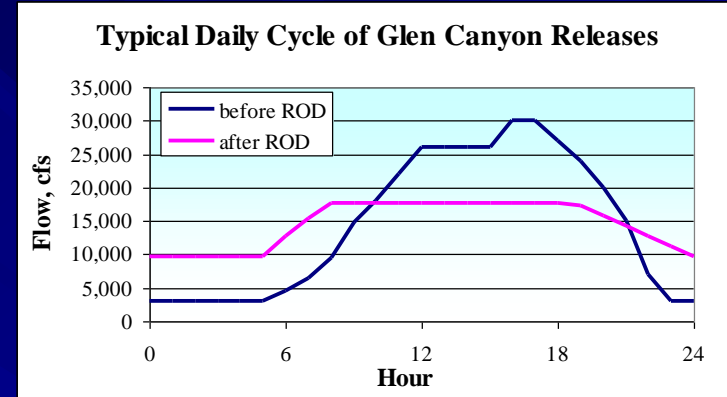
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Resource Conflicts Below Glen Canyon Dam

1952



Whitewater River Running



Hydropower Production

1995



Fine Sediment and Beaches



Cultural Resources



Sportfish and Endangered Fish



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Legal/Policy Background

- 1956 Colorado River Storage Act passed
- 1963 Glen Canyon Dam completed
- 1970s Initial concern over dam effects
- 1982 Reclamation agrees to evaluate effects
- 1989 EIS initiated on operation of GCD
- 1992 Grand Canyon Protection Act
- 1995 EIS completed, FWS Biological Opinion
- 1996 ROD signed
- 1997 AMWG FACA charter/GCDAMP officially begins

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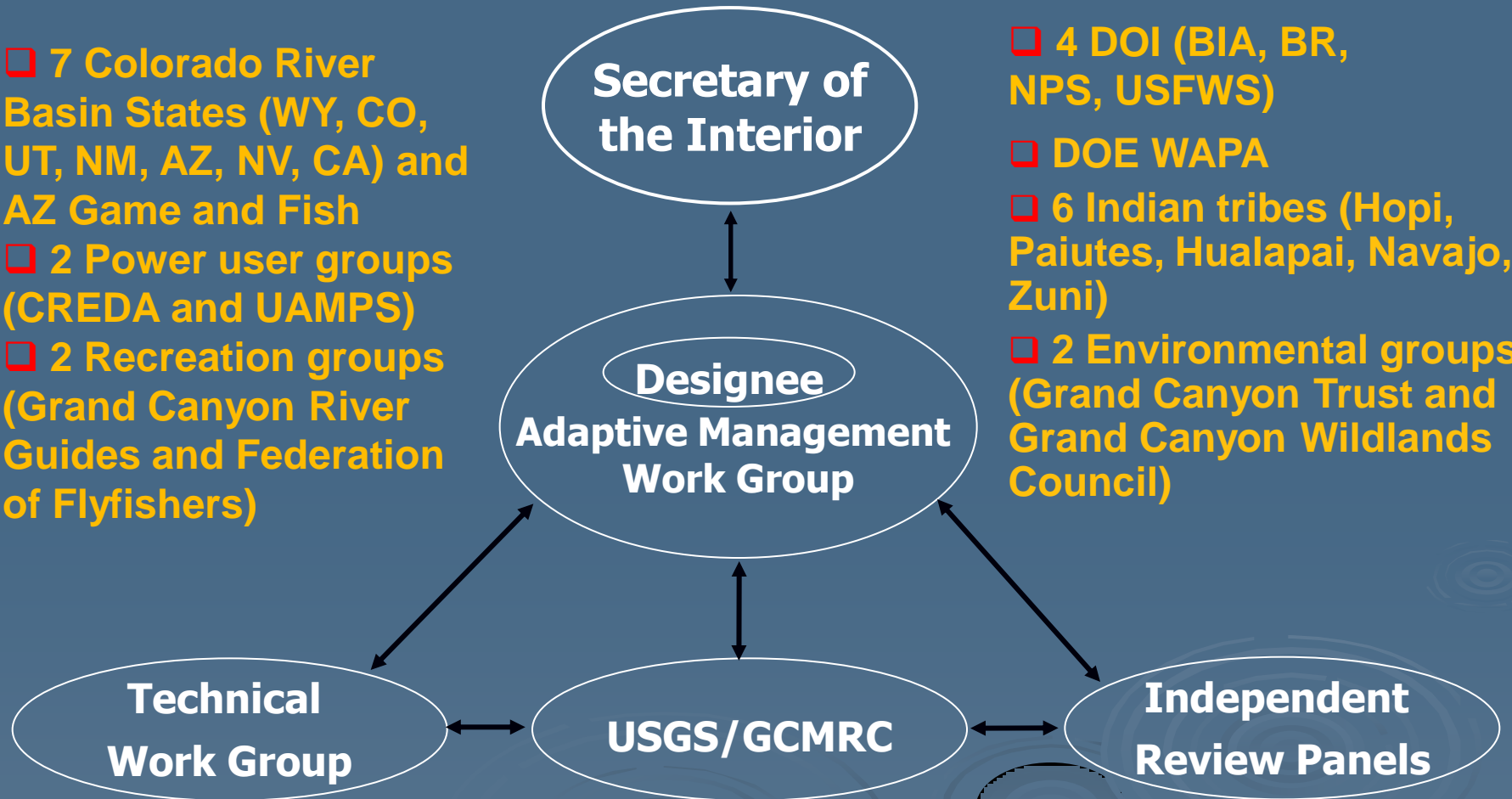
GCDAMP Goals

- ❑ Secretary Babbitt for the 1996 Record of Decision: “...the goal was not to maximize benefits for most resources, but rather to find an alternative dam operating plan that would permit recovery and long-term sustainability of downstream resources while limiting hydropower capacity and flexibility only to the extent necessary to achieve recovery and long-term sustainability”
- ❑ AMWG FACA Committee develops a mission, principles, goals and management objectives; most qualitative and begin with “maintain or attain”
- ❑ Desired Future Conditions being developed; the process serves as a mechanism for negotiations among stakeholders and provides them ownership in decision making

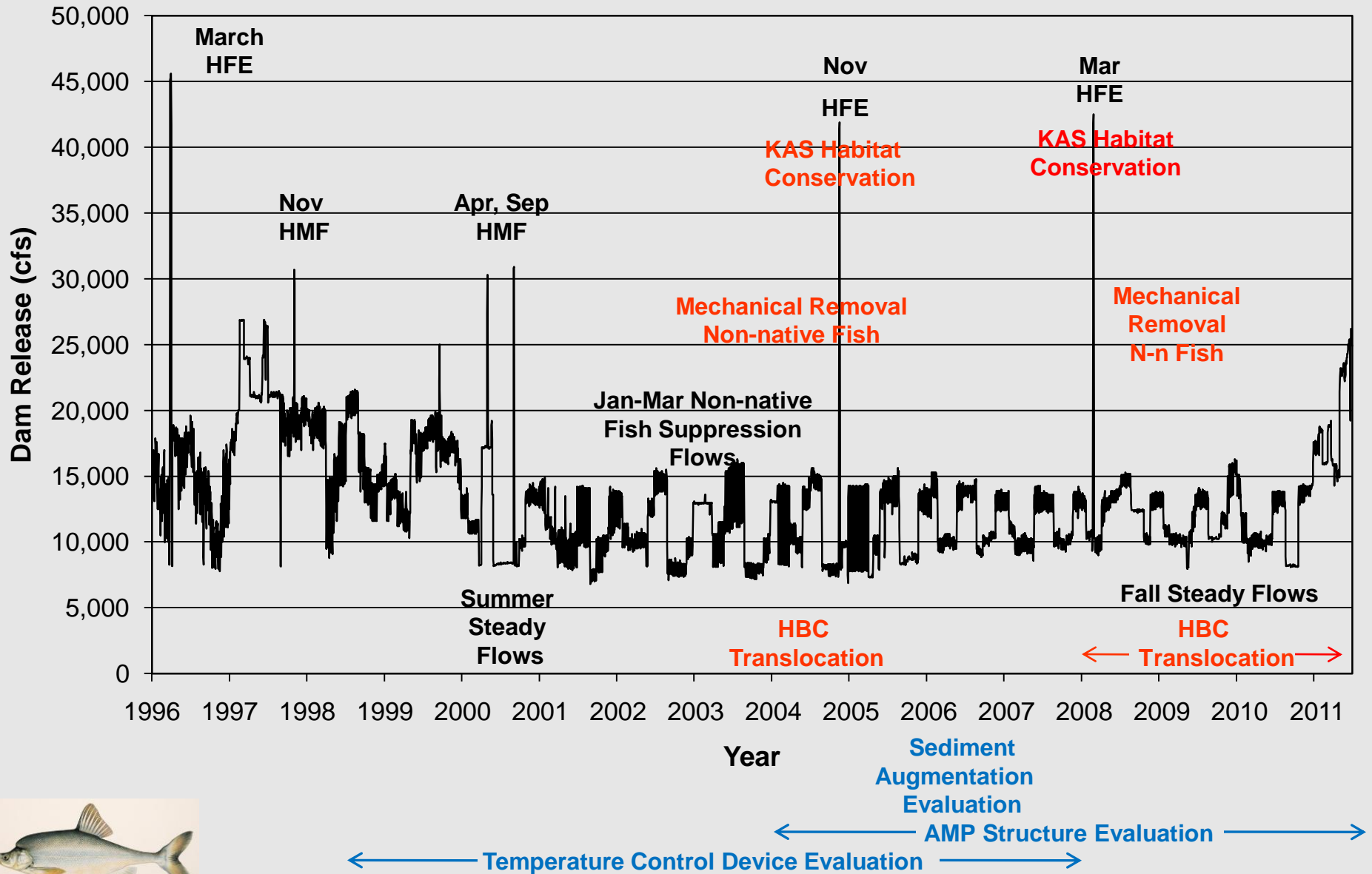
GCDAMP Governance Structure

- ❑ 7 Colorado River Basin States (WY, CO, UT, NM, AZ, NV, CA) and AZ Game and Fish
- ❑ 2 Power user groups (CREDA and UAMPS)
- ❑ 2 Recreation groups (Grand Canyon River Guides and Federation of Flyfishers)

- ❑ 4 DOI (BIA, BR, NPS, USFWS)
- ❑ DOE WAPA
- ❑ 6 Indian tribes (Hopi, Paiutes, Hualapai, Navajo, Zuni)
- ❑ 2 Environmental groups (Grand Canyon Trust and Grand Canyon Wildlands Council)



Glen Canyon Dam AMP 1996-2011



Learning Steps

- Tributary sand does not accumulate over years
- Timing of releases soon after sand inputs
- Magnitude and duration coupled to inputs
- High spring releases elevate trout production
- Trout dispersal is likely density dependent
- Trout important predators on endangered fish
- Kill trout? American Indian tribes object
- Tributaries may be important refuges for endangered fish

Communication Tools

- Science to Management
 - Strategic Research Plan, Monitoring and Research Plan, Science Plans, Budget and Workplan, Reports and Journal Articles, FAQ Sheets, Website
- Management to Science
 - Strategic Plan w/Management Goals & Objectives
 - NEPA, ESA, and NHPA R&M commitments
- AMP to Public
 - Public Meetings (FACA requirement)
 - Public Outreach Ad Hoc Group: Websites, FAQ Sheets, Publications, Recent News
 - NEPA Public Scoping and Document Review

Decision Processes

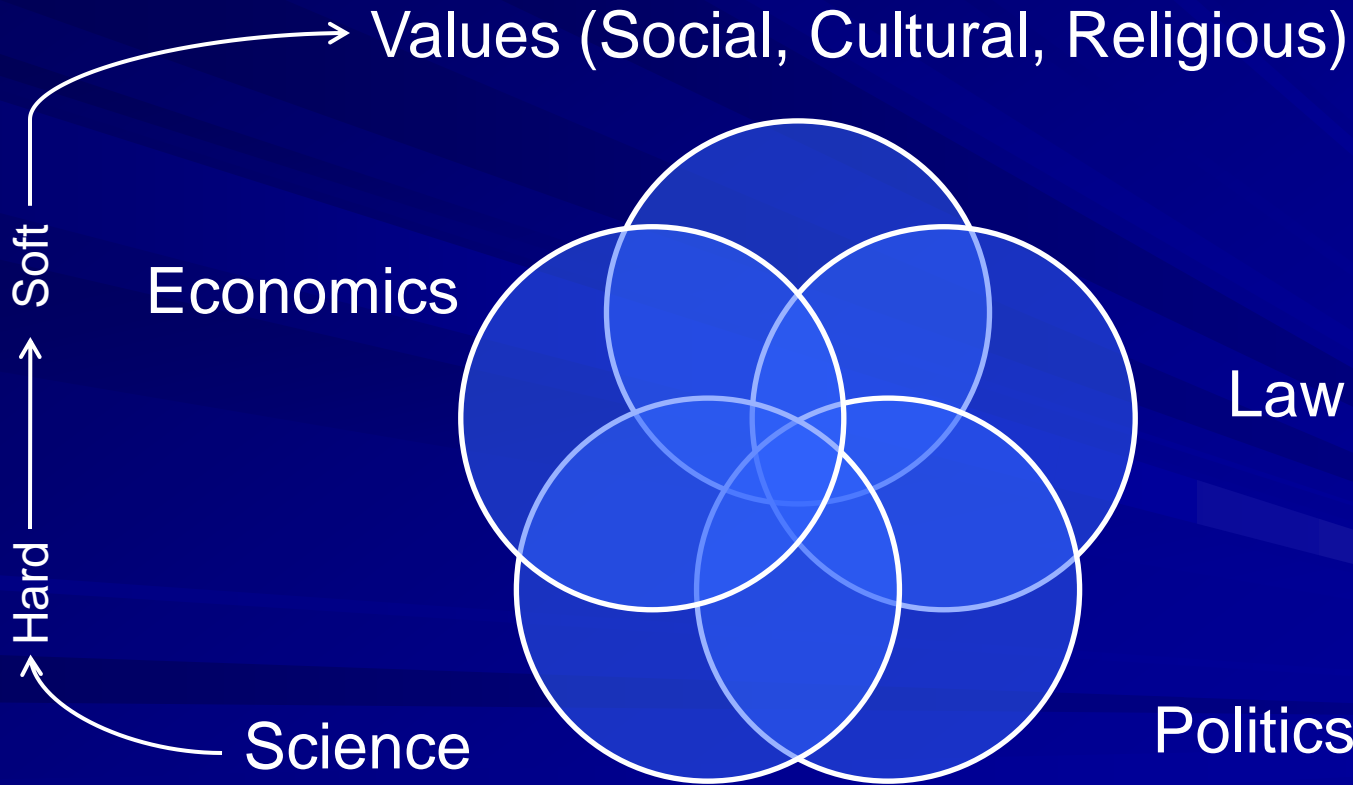
Biennial Budget/Workplan

1. GCMRC and Reclamation Budget and Workplan Proposal to Science Advisors and TWG
2. TWG Recommendation to AMWG
3. AMWG Recommendation to SOI
4. SOI Decision: Budget and Workplan Implementation? With Modification?

Expt/Compliance

1. Action Agency develops Proposed Action; GCMRC develops Science Plan
2. Review by Science Advisors, TWG, AMWG, Coop Agencies, Public Scoping
3. SOI Decision: Proceed with NEPA/ESA/NHPA Compliance?
4. Incorporate SP into Draft Compliance Documents
5. Modify with Cooperating Agency/Public Review
6. SOI Decision: Proceed w/Action?

Influences on AM Decisions



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Legal Challenges

The Trust seeks a broad and vague injunction . . . Such an injunction would provide little guidance to Reclamation. . . . To the extent such an order would mean that Reclamation must cut short the detailed and careful analysis and consultation currently under way with respect to nonnative fish control, ignoring concerns expressed by Native Americans and the input provided by other agencies and interested parties, the Court cannot conclude that such an order would be in the public interest. A deliberative but efficient process that includes all Colorado River stakeholders, as well as careful research and monitoring, is more consistent with the public interest.

Judge David G. Campbell, District Judge, July 27, 2011

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Policy Decision Making in DOI

News Releases July 5, 2011

- Reclamation Releases Environmental Assessment on a Protocol for Experimental High-Flow Releases from Glen Canyon Dam 2011-2020 for Second Public Review
- Reclamation Releases Environmental Assessment for Control of Non-Native Fish in the Colorado River 2011-2020 to the Public for Second Review
- Secretary of the Interior Salazar today announced that the Bureau of Reclamation and the National Park Service are starting the development of a Long-Term Experimental and Management Plan (Environmental Impact Statement) for Glen Canyon Dam

