

**Glen Canyon Dam Adaptive Management Work Group
Agenda Item Information
March 7-8, 2006**

<p><u>Agenda Item</u> Review of FY 2007-2008 Draft Budget and Workplan Preparation</p>
<p><u>Action Requested</u> √ Information item only; we will answer questions but no action is requested.</p>
<p><u>Presenter</u> Dennis Kubly, Chair, Budget Ad Hoc Group John Hamill, Chief, Grand Canyon Monitoring and Research Center</p>
<p><u>Previous Action Taken</u> √ By AMWG: At their August 2004 meeting, AMWG agreed to a 2-year budget and workplan development process that was recommended to them by TWG. <input type="checkbox"/> By TWG: <input type="checkbox"/> By an Ad Hoc Group: <input type="checkbox"/> Other:</p>
<p><u>Relevant Science</u> √ There has been no relevant research or monitoring on this subject. <input type="checkbox"/> The following describes the relevant research or monitoring on this subject:</p>
<p><u>Background Information</u> √ I have attached the background information to be included in the AMWG packet that is distributed 30 days before the meeting, and posted on the website.</p> <p>AMWG will be provided a synopsis of the ongoing planning process for developing the FY07-08 budget and workplan. Because the planning process relies on the AMWG priorities (among other inputs), the first attachment to this form is the AMWG priorities as approved in August 2004. A PowerPoint with a synopsis of the presentation is also attached.</p>

AMWG Program Priorities

Approved at the August 2004 AMWG Meeting

- Priority 1: Why are the Humpback chub not thriving, and what can we do about it? How many Humpback chub are there and how are they doing?
- Priority 2: Which cultural resources, including TCPs, are within the APE, which should we treat, and how do we best protect them? What are the status and trends of cultural resources and what are the agents of deterioration?
- Priority 3: What is the best flow regime?
- Priority 4: What is the impact of sediment loss and what should we do about it?
- Priority 5: What will happen when we test or implement the TCD? How should it be operated? Are safeguards needed for management?

Budget and Workplan

- Next meeting of SPG is Feb 21-23
- Workshop will occur to define experimental plan and select monitoring projects and research and development projects
- Projects will have estimated budgets
- Summary estimated budgets will be included in the March AMWG meeting

FY07-08 GCDAMP Budget Process

Dennis Kubly, BAHG Chair
John Hamill, GCMRC Chief

AMWG Meeting
March 8, 2006

GLEN CANYON DAM ADAPTIVE MANAGEMENT PROGRAM BUDGET AND WORKPLAN DEVELOPMENT¹

	2004 (Prior)				2005 (Present)								2006 (Present +1)								2007 (Present +2)																	
	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M				
Prior year GCMRC/BOR fiscal reports²																																						
GCMRC/BOR report to TWG and AMWG																																						
Prior and Present Year Updates																																						
GCMRC/PA/TWG Updates to AMWG																																						
Present Year +1/+2 detailed budget/workplan²																																						
GCMRC/BOR/PA draft budgets/workplans to BAHG																																						
GCMRC/BOR/BAHG draft budget/workplan to TWG																																						
TWG review and recommendation to AMWG																																						
AMWG review and recommendation to DOI																																						
Present Year +2 appropriations budget request																																						
GCMRC/BOR/BAHG prepare draft approps request for TWG																																						
TWG review and recommendation to AMWG																																						
AMWG review and recommendation to DOI																																						
Present Year +3 to +5 strategic analysis																																						
GCMRC/BOR/BAHG prepare draft for TWG																																						
TWG review and recommendation to AMWG																																						
AMWG review and recommendation to DOI																																						
GCMRC/BOR/PA implement Present Year +1 budget																																						

¹ Year +1 and Year +2 budget/workplans developed concurrently; review of Year +2 budget when it becomes Year +1 budget limited to criteria developed by BAHG and TWG

² Schedules assume AMWG meets in January and July; TWG meets at least quarterly as defined in their operating procedures

Fiscal Year Legend = ■ 04 ■ 05 ■ 06 ■ 07 ■ 08 ■ 09 ■ 10 ■ 11 ■ 12

Relationship to Science Planning

- Strategic Science Plan and the Research and Monitoring Plan are the foundation for budget and workplan development
- AMWG priorities are used as criteria for funding decisions
- Strategic Science Plan tiers from GCDAMP Strategic Plan
- Monitoring and Research Plan built on information needs and critical science questions

FY07-08 Science for GCDAMP

- Allocated largely to:
 - Core Monitoring
 - Research and Development
 - Experimentation
- Programs and resources funded within these categories
- Planning documents identifying strategies and processes are Strategic Science Plan and Research and Monitoring Plan



Core Monitoring Project Development

- Hierarchical approach—goals, management objectives, core monitoring information needs, parameters, metrics, sampling regime
- Sequence GCDAMP goals
- Sequence core monitoring information needs (CMINs)
- Define parameters and metrics to address CMINs
- Evaluate existing projects:
 - Suitable for CM? Parameters and metrics as desired?; Sampling regime provides desired precision? Adopt, modify, or move to R&D
- Design new projects where necessary
- Stay within budget

Goals Ranking Criteria

- AMWG priority
- Contribution to ecosystem function
- Number of CMINs in goal
- Contribution to fulfilling compliance
- Risk to resources if goal not met
- Status of knowledge for this goal

CMIN Ranking Criteria

- Addresses an AMWG priority
- Meets the definition of core monitoring element
- Addresses one or more MOs
- Contributes to meeting compliance needs
- Contributes information to critical ecosystem function or process
- Addresses significant aspects of one or more resources

Goal X CMIN Ranking

Rank 1 Goal	Rank 2 Goal	Rank 3 Goal	Rank 4 Goal	Rank .. Goal
Rank 1 CMIN	Rank 1 CMIN	Rank 1 CMIN	Rank 1 CMIN	Rank 1 CMIN
Rank 2 CMIN	Rank 2 CMIN	Rank 2 CMIN	Rank 2 CMIN	Rank 2 CMIN
Rank 3 CMIN	Rank 3 CMIN		Rank 3 CMIN	Rank 3 CMIN
	Rank 4 CMIN			Rank 4 CMIN

Research & Development

- Projects or techniques not ready for core monitoring
- Need time to develop and refine
- Fund as R&D to determine feasibility and utility
- Evaluate for movement to core monitoring when project and methods qualify using established criteria

Experimentation

- Long-term Experimental Plan (LTEP) using hybrid design potentially involving both management actions and treatments
- LTEP defined in 5-year planning segments; FY07-08 first years
- AMWG established experimental fund; assures commitment to active adaptive management
- Knowledge Assessment Workshop precursor
- Four proposals being evaluated by GCMRC
- Evaluated by Science Advisors through risk assessment
- AMWG recommendation, DOI approval, compliance and consultation

Ad Hoc Group Function

Science Planning Group has high overlap with BAHG membership and is serving a similar function, therefore it is proposed that

SPG will fulfill the BAHG function, at least for FY 07-08 budget development

FY07-08 Budget Process

Old	New
GCMRC/BOR/PA draft budget/workplan and present to BAHG	GCMRC/BOR/PA(CG)/HBCAHG/POAHG provide funding recommendations to BAHG (SPG)
BAHG evaluates draft budget/workplan with GCMRC and BOR	BAHG (SPG) evaluates and allocates to budget categories, e.g. CM,R&D, Experimentation
BAHG recommends draft budget/workplan to TWG	BAHG (SPG) recommends draft budget/workplan to TWG
TWG recommends budget/workplan to AMWG	TWG recommends budget/workplan to AMWG

FY07-08 Budget Schedule

Action	Date
BAHG (SPG) receives funding recommendations	January 2006
BAHG (SPG) evaluates and integrates into b/w	Feb-May 2006
TWG reviews draft b/w development	April 2006
BAHG (SPG) recommends draft b/w to TWG	June 2006
TWG recommends b/w to AMWG	June 2006
AMWG recommends b/w to SOI	July-August 2006

GCDAMP Estimated FY07 Budget

\$9,244,000 Power Revenues

\$1,502,000 Appropriated Funds

Bureau of Reclamation

\$905,000 Power Revenues \$502,000 Appropriated Funds

Administration	Programmatic Agreement	POAHG	Tribal Consultation
\$550,000	\$305,000	\$50,000	\$502,000

Adaptive Management Continuum

High
Uncertainty

High
Knowledge



Experiments
Monitoring

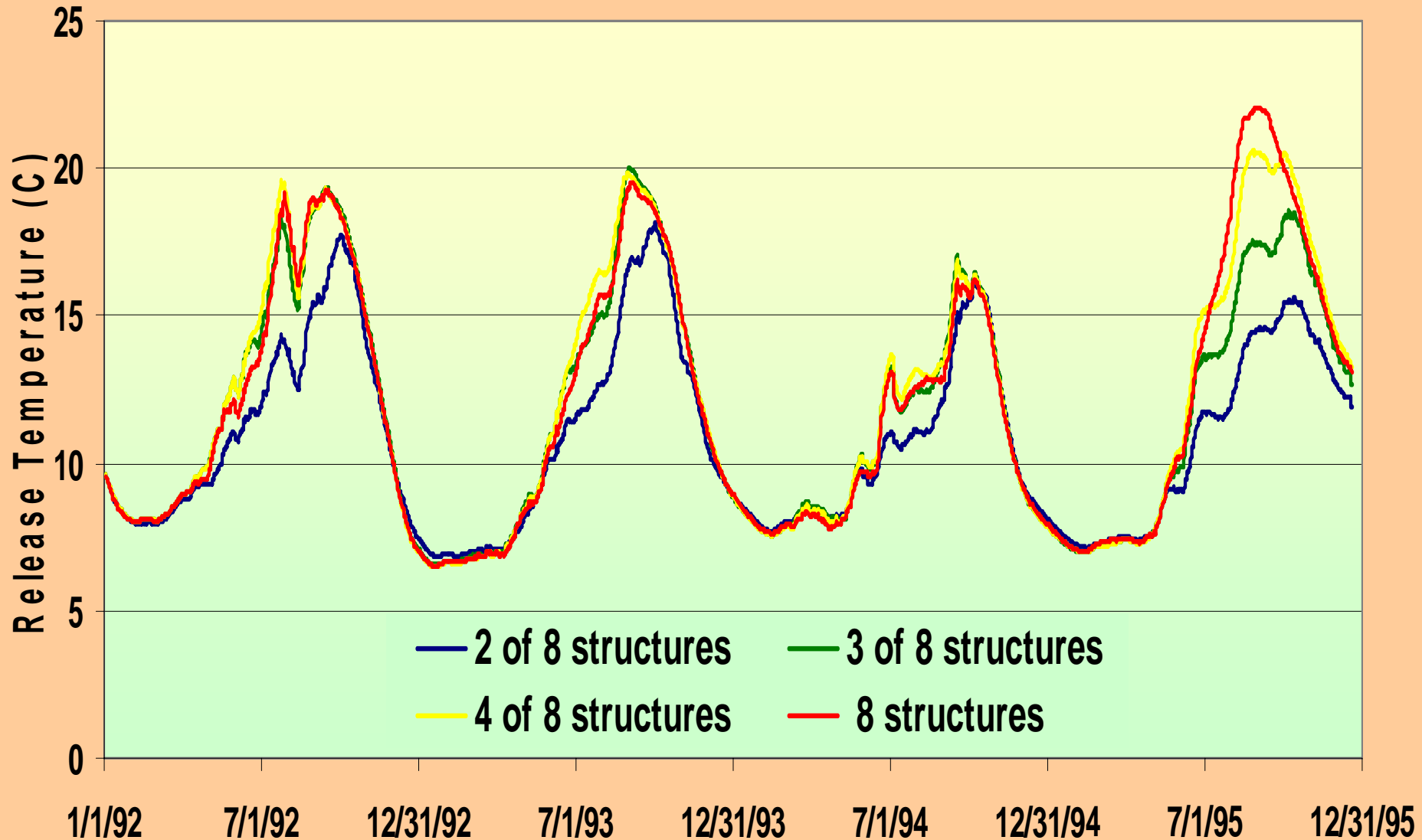
Management Actions
Monitoring

Policy Change
Monitoring

Learning By Doing

Alternative 4: Release Temperature

Modify Intakes



Budget and Workplan

- Next meeting of SPG is Feb 21-23
- Workshop will occur to define experimental plan and select monitoring projects and research and development projects
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- Summary estimated budgets will be included in the March AMWG meeting

FISCAL YEAR 2005 BUREAU OF RECLAMATION - INTERIOR
Reclamation Administration

Last Update

January 30, 2006

AMWG	Description	Budgeted Amount	Burden	Obligation	Expenditure	Under-expended or Over-expended
A.1	Personnel Costs - Labor	\$155,530	\$28,546	\$110,532	\$139,079	\$16,451
A.2	AMWG Member Travel Reimb.	\$13,390		\$7,602	\$7,602	\$5,788
A.3	Reclamation Travel	\$15,540		\$8,853	\$8,853	\$6,687
A.4	Facilitation Contract	\$21,000		\$21,000	\$23,567	(\$2,567)
A.5	Other	\$7,000		\$3,067	\$3,067	\$3,933
	Sum	\$212,460	\$28,546	\$151,055	\$182,168	\$30,292
TWG						
B.1	Personnel Costs - Labor	\$71,070	\$9,302	\$36,751	\$46,053	\$25,017
B.2	TWG Member Travel Reimb.	\$15,450		\$13,590	\$13,590	\$1,860
B.3	Reclamation Travel	\$15,510		\$7,673	\$7,673	\$7,837
B.4	TWG Chair Reimbursement/Travel	\$21,630		\$2,267	\$2,267	\$19,363
B.5	Other	\$2,000		\$1,653	\$1,653	\$347
	Sum	\$125,660	\$9,302	\$61,934	\$71,236	\$54,424
OTHER						
C.1	Compliance Documents	\$26,780	\$4,800	\$18,981	\$23,781	\$2,999
C.2	Contract Administration - Labor	\$25,750	\$5,476	\$22,329	\$27,805	(\$2,055)
	LCR Management Plan - Biol. Opin.	\$100,000		\$25,000		\$100,000
	Sediment Augmentation Feas. Study	\$75,000		\$51,097	\$51,097	\$23,903
	Public Outreach (Labor, Travel, etc.)	\$130,000 *	\$10,682	\$62,987	\$73,670	56,330
	Sum	\$357,530	\$20,958	\$180,395	\$176,353	\$181,177
Tribal Consultation - Cooperative Agreements w/Tribe:						
A.1	Hopi Tribe	\$82,400		\$82,400	\$82,400	\$0
A.2	Hualapai Tribe	\$82,400		\$82,400	\$82,400	\$0
A.3	Navajo Nation	\$82,400		\$82,400	\$82,400	\$0
A.4	Pueblo of Zuni	\$82,400		\$82,400	\$82,400	\$0
A.5	Southern Paiute	\$82,400		\$82,400	\$82,400	\$0
	Sum	\$412,000		\$412,000	\$412,000	\$0
Tribal Consultation - River Trips w/Tribes						
B.1	Hopi Tribe	\$15,000		\$15,000	\$15,000	\$0
B.2	Hualapai Tribe	\$15,000		\$15,000	\$15,000	\$0
B.3	Navajo Nation	\$15,000		\$15,000	\$15,000	\$0
B.4	Pueblo of Zuni	\$15,000		\$15,000	\$15,000	\$0
B.5	Southern Paiute	\$15,000		\$15,000	\$15,000	\$0
	Sum	\$75,000		\$75,000	\$75,000	\$0
	Tribal Subtotal	\$487,000		\$487,000	\$487,000	\$0
Programmatic Agreement Cultural Resources						
1	Reclamation Admin.	\$51,500	\$11,485	\$58,240	\$79,355	(\$27,855)
2	NPS-GRCA Monitoring Costs	\$206,000		\$206,000	\$206,000	\$0
3	NPS- GLCA Monitoring	\$28,840		\$28,800	\$28,800	\$40
4	NN & GLCA	\$100,000		\$0	\$0	\$100,000
5	GRCA Treatment Plan	\$250,000		\$250,000	\$16,050	\$233,950
6	Zuni Conservation Program Mitigation	\$10,000		\$0	\$0	\$10,000
7	TCP GIS Document	\$30,000		\$30,000	\$0	\$30,000
	Sum	\$676,340	\$11,485	\$573,040	\$330,205	\$346,135
	Total Sum	\$1,858,990.00	\$70,291	\$1,453,424	\$1,246,962	\$612,028

* includes carryover from FY04