



United States Department of the Interior

U.S. GEOLOGICAL SURVEY

SOUTHWEST BIOLOGICAL SCIENCE CENTER

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MEMORANDUM

May 23, 2008

To: Glen Canyon Dam Adaptive Management Work Group

From: Andrea E. Alpine, Center Director
John Hamill, Chief, GCMRC

Subject: GCMRC's FY 08 mid year expenditure report

Attached for your review and discussion at the May 23, 2008, AMWG meeting is GCMRC's FY 08 mid year expenditure reports for the approved (1) GCMRC FY 08 work plan and (2) 2008 Science Plan for the High Flow Experiment. There are no significant budget issues to report at this time. A limited amount of un-obligated FY 08 funds may be available for expenditure in FY 09; a more precise estimate will be available in the fall of 2008. Some of the expected carry over funds are built into the FY 09 preliminary budget that will be reviewed by the AMWG on May 23.

Also attached is a table showing impacts of the 2008 High Flow Experiment on activities included in the FY 08 work plan. In summary, a number of projects will be delayed because of the significant amount of time needed to develop, implement, and report the results of the HFE in 2008 and 2009. Barring new or unexpected developments, we intend to complete the activities by the revised schedule identified in the attached table.

We will be at the AMWG meeting to address any questions you have about the mid year expenditure report or impacts of the HFE on FY 08 work plan activities.

Attachment (3)

FY-08 Annual Work Plan Funding

	FUNDING
USBR Power Revenues (Capped)	
• Approved FY-08 Budget Annual Work Plan	\$7,595,253
• Carry over funds from FY-07	\$ 362,268
Total FY-08 Power Revenue (Capped)	\$7,957,521
BOR (IWQP Lake Powell)	\$ 212,631
BOR (TCD)	\$ 125,000
USGS Appropriations	\$ 984,000
Total FY-08 Funding	\$9,279,152

Table. FY 08 work plan projects or activities impacted by 2008 high flow experiment

FY 08 PROJECT #	FY 08 PROJECT NAME	FY08 FUNDING AMOUNT	SCHEDULED DUE DATE	REVISED DUE DATE	COMMENTS
ADM 12.A4.08	Independent Reviews and Science Symposium - Trout and HBC PEPs	\$90,301	March 1, 2008	March 1, 2009	Funding of \$44,934 will be carried forward
BIO 2.R5.08	Nonnative Control Planning	\$109,016	1 Jan 2008 - Delivery of short-term plan	August 1, 2008	No budget impact
BIO 2.R11.08	Native Fishes Habitat Data Analysis	\$28,994	1 Jan 2008 - Submittal of manuscript on humpback chub at 30-mile	August 1, 2008	No budget impact
PHY 7.M1. 0	Integrated Quality-of- Water Monitoring (Downstream of GCD)	\$883,024	4TH QUARTER FY 2008 – Various technical reports	End of Second Quarter of FY 2009	No budget impact
PHY 8.M1.08	Long-term Monitoring of Changes in Sediment Storage	\$130,929	4th QUARTER FY 2008 - Consistent with recommended monitoring protocols, channel mapping rescheduled for Spring 2009 with completion of data processing and delivery deferred until end of FY 2009	End of Second Quarter of FY 2009	Funding of \$72,342 will be carried forward and used for integrated sediment, temperature, and flow model development
REC 9.R3.08	Compile Campsite Inventory and GIS Atlas	\$86,179	4th Quarter FY 2008 - Final products (completion deferred until FY 2009)	End of 3 rd quarter of FY 2009	Funding of \$24,383 will be carried forward and used for Assistant's salary (GS5)

FY 08 PROJECT #	FY 08 PROJECT NAME	FY08 FUNDING AMOUNT	SCHEDULED DUE DATE	REVISED DUE DATE	COMMENTS
CUL 11.R1.08	Cultural Monitoring R&D Project	\$468,009	2nd Quarter FY 2008 - final reports on FY 06-07 assessment work and LiDAR testing (completion deferred until end of 3rd Quarter FY 2008). Spring field work (deferred to September 2008)	End of 3 rd Quarter of FY 2008. Revised due date for pilot monitoring plan, end of 4th Quarter of FY 2008	\$25,000 Logistical funds will be carried forward to FY09
N/A	General Core Monitoring Plan	\$0	3/1/2008	draft report to be presented to TWG in 09/08; report finalized by 12/08	Project assigned to W Halvorsen, USGS, Tucson
N/A	FY 07 Annual Project Report	\$0	2/1/2008	None	No budget impact
N/A	Initial Socio Economic PEP	??	4/1/2008	??	
N/A	Terrestrial Veg Core Monitoring Evaluation Report		06/01/2008	09/01/2008	No budget impact

TABLE 2

	A	B	C	D	S	T	V	AE	AF	AG	AH	AI	AM	AN
1	Grand Canyon Monitoring and Research Center													
2	Fiscal Year 2008 Annual Work Plan													
3	Actual Expenditures and Projected Carryover as of May 10, 2008													
4	Grand Canyon Monitoring and Research Center Project Descriptions	GCMRC Internal Account Numbers	GCMRC INTERNAL CS ACCTS	GCMRC Approved FY08 Gross Budget (Incl Burden)	GCMRC NET Funds Available (After Burden)	Total Burden Assessed FY08	Overall Burden Rate FY08	FY-T-D Commitments & Obligations in FY08	FY-T-D Expenditures in FY08	Total Commitments, Obligations & Expenditures in FY08	% USED to Date in FY08	Projected Additional Spending to End of FY08	Projected GROSS Carryover to FY09	Comments
5														
7	Goal 1 Food Base													
8	Aquatic Food Base (FY07--FY09)	9395-BNEFA	BNE14	513,630	454,522	60,441	13.3%	243,176	159,699	402,875	88.6%	51,648	-	
10	Impact of Flow - Aquatic Food Base	9395-BNEFC	BNE15	72,700	59,559	11,807	19.8%	52,826	6,733	59,559	100.0%	-	-	
11	Subtotal Goal 1:			\$ 588,330	\$ 514,081	\$ 72,249	14.1%	\$ 296,002	\$ 166,431	\$ 462,433	90.0%	\$ 51,648	\$ -	
12	Goal 2 Native Fishes													
13	LCR HBC Monitoring Lower 15km (HBC Population Est; Ongoing)	9395-BNENA	BNE24	407,680	380,057	27,623	7.3%	-	43,634	43,634	11.5%	336,423	-	
14	LCR HBC Monitoring Lower 1,200m; (Ongoing)	9395-BNENB	BNE25	73,088	67,157	5,931	8.8%	53,750	8,500	62,250	92.7%	4,907	-	
15	HBC Monitoring Above Chute Falls; (Ongoing)	9395-BNENC	BNE26	79,652	70,784	6,472	9.1%	-	15,000	15,000	21.2%	55,784	-	
16	Monitoring Mainstem Fishes (includes Diamond Down; Ongoing)	9395-BNEND	BNE27	518,436	451,695	51,283	11.4%	278,597	130,795	409,392	90.6%	42,303	-	
17	Nonnative Control Planning (FY07--FY10)	9395-BNENE	BNE28	109,016	90,979	18,037	19.8%	-	48,966	48,966	53.8%	42,012	-	
18	Nonnative Control Pilot Testing (FY07--FY10)	9395-BNENF	BNE29	121,579	107,135	14,444	13.5%	49,479	32,987	82,466	77.0%	24,670	-	
19	Stock Assessment of Native Fish in Grand Canyon (FY07--Ongoing)	9395-BNENG	BNE30	41,392	34,544	6,848	19.8%	-	34,530	34,530	100.0%	14	-	
20	Abundance Estimation Procedures (FY07--Ongoing)	9395-BNENH	BNE31	41,392	34,544	6,848	19.8%	-	15,152	15,152	43.9%	19,392	-	
21	Bioenergetics Modeling (FY07--FY10)	9395-BNENI	BNE32	41,392	34,544	6,848	19.8%	-	-	-	0.0%	34,544	-	
22	Native Fishes Habitat Data Analysis (FY07--FY10)	9395-BNENK	BNE33	28,944	30,655	6,077	19.8%	-	10,980	10,980	35.8%	19,675	-	
23	Trammel Net Effects (FY07--FY09)	9395-BNENL	BNE34	38,458	36,250	2,208	6.1%	36,250	-	36,250	100.0%	-	-	
24	Remote PIT Tag Reading (FY07--FY09)	9395-BNENM	BNE35	34,624	42,106	2,583	6.1%	27,477	4,600	32,077	76.2%	10,029	-	
25	Test Sonic Tags (FY07--FY09)	9395-BNENN	BNE36	76,366	68,270	8,096	11.9%	39,595	6,249	45,844	67.2%	22,426	-	
27	Subtotal Goal 2:			\$ 1,612,019	\$ 1,448,720	\$ 163,299	11.3%	\$ 485,148	\$ 351,393	\$ 836,541	57.7%	\$ 612,178	\$ -	
31	Goal 4 Rainbow Trout													
32	Status & Trends of Lees Ferry Trout (Ongoing)	9395-BNETA	BNE45	135,072	126,961	8,111	6.4%	124,181	2,780	126,961	100.0%	-	-	
34	Subtotal Goal 4:			\$ 135,072	\$ 126,961	\$ 8,111	6.4%	\$ 124,181	\$ 2,780	\$ 126,961	100.0%	\$ -	\$ -	
35	Goal 5 Kanab Ambersnail													
36	Monitor Kanab Ambersnail (FY95--FY10)	9395-BNEKA	BNE17	34,340	30,530	3,810	12.5%	18,192	12,337	30,530	100.0%	-	-	
37	Subtotal Goal 5:			\$ 34,340	\$ 30,530	\$ 3,810	12.5%	\$ 18,192	\$ 12,337	\$ 30,530	100.0%	\$ -	\$ -	
38	Goal 6 Springs/Riparian													
39	Vegetation Mapping (FY07--FY10)	9395-BNEVA	BNE47	108,785	90,787	17,999	19.8%	-	57,050	57,050	62.8%	33,737	-	
40	Vegetation Transects (FY07--FY10)	9395-BNEVB	BNE48	89,686	81,645	8,041	9.8%	-	20,069	20,069	24.6%	2,276	71,056	Carry over approved in FY-09 Budget for Cooperator
41	Vegetation Synthesis (FY07--FY10)	9395-BNEVC	BNE49	68,485	59,447	9,038	15.2%	-	7,604	7,604	12.8%	51,843	-	
42	Subtotal Goal 6:			\$ 266,956	\$ 231,879	\$ 35,078	15.1%	\$ -	\$ 84,723	\$ 84,723	36.5%	\$ 87,856	\$ 71,056	
43	Goal 7 Quality-of-Water													

TABLE 2

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4	Grand Canyon Monitoring and Research Center Project Descriptions	GCMRC Internal Account Numbers	GCMRC INTERNAL CS ACCTS	GCMRC Approved FY08 Gross Budget (Incl Burden)	GCMRC NET Funds Available (After Burden)	Total Burden Assessed FY08	Overall Burden Rate FY08	FY-T-D Commitments & Obligations in FY08	FY-T-D Expenditures in FY08	Total Commitments, Obligations & Expenditures in FY08	% USED to Date in FY08	Projected Additional Spending to End of FY08	Projected GROSS Carryover to FY09	Comments
44	Water Quality Monitoring Lake - Powell & Tailwaters (Budget presented below; FY07--FY09)	9395-BNEQA	See Below Goal 17 Separate Fund	-	-	-	-	-	-	-	-	-	-	
45	Integrated Quality-of-Water Monitoring (Downstream of GCD; FY07--Ongoing)	9395-BNEQB	BNE39	883,024	794,074	88,950	11.2%	8,541	643,821	652,362	82.2%	141,712	-	
46	Modeling Support Linked with Integrated Quality-of-Water Monitoring (FY07--FY08)	9395-BNEQC	BNE41	116,877	109,178	7,699	7.1%	-	67,437	67,437	61.8%	41,741	-	
47	Subtotal Goal 7:			\$ 999,901	\$ 903,252	\$ 96,649	10.7%	\$ 8,541	\$ 711,258	\$ 719,799	79.7%	\$ 183,453	\$ -	
48	Goal 8 Sediment													
49	Longterm Monitoring of Changes in Sediment Storage	9395-BNESA	BNE44	130,929	115,994	14,934	12.9%	14,325	23,879	38,204	32.9%	17,416	72,342	C/O to FY09 for Integrated Flow, Sediment Transport and Temperature, and Modeling Development
50	Subtotal Goal 8:			\$ 130,929	\$ 115,994	\$ 14,934	12.9%	\$ 14,325	\$ 23,879	\$ 38,204	32.9%	\$ 17,416	\$ 72,342	
51	Goal 9 Recreational Experience													
52	Sand Bar and Campable Area Monitoring (FY07--FY11)	9395-BNERA	BNE42	146,778	134,148	12,630	9.4%	-	116,686	116,686	87.0%	17,462	-	
53	Compile Campsite Inventory and GIS Atlas (FY07--FY08)	9395-BNERC	BNE43	86,179	74,786	11,393	15.2%	-	14,989	14,989	20.0%	39,448	24,383	C/O to FY-09 for GS5 Assistant's Salary
54	Subtotal Goal 9:			\$ 232,957	\$ 208,934	\$ 24,022	11.5%	\$ -	\$ 131,675	\$ 131,675	63.0%	\$ 56,910	\$ 24,383	
55	Goal 10 Hydropower													
56	Monitor Power Generation and Market Values under Current and Future Dam Operations (FY07--Ongoing)	9395-BNEHA	BNE16	18,998	15,855	3,143	19.8%	-	13,187	13,187	83.2%	2,668	-	
57	Subtotal Goal 10:			\$ 18,998	\$ 15,855	\$ 3,143	19.8%	\$ -	\$ 13,187	\$ 13,187	83.2%	\$ 2,668	\$ -	
58	Goal 11 Cultural													
59	Research & Development Toward Core Monitoring (FY07; Note 10)	9395-BNECA	BNE52	468,009	434,960	33,049	7.6%	-	58,695	58,695	13.5%	351,265	29,956	C/O for logistics (river trip postponed until FY09)
61	Subtotal Goal 11:			\$ 468,009	\$ 434,960	\$ 33,049	7.6%	\$ -	\$ 58,695	\$ 58,695	13.5%	\$ 351,265	\$ 29,956	
62	Goal 12 High Quality Monitoring, Research & Admin													
63	Preparation for Monitoring Data Acquisition (Remote Sensing; FY07--Ongoing)	9395-BNEDA	BNE08	260,000	253,131	6,868	2.7%	-	-	-	0.0%	34,644	260,000	C/O to FY-09 Acquisition for Monitoring Data (Overflights)
64	Grand Canyon Integrated Oracle Database Management System (FY07--Ongoing; Note 7)	9395-BNEDB	BNE09	178,607	156,426	22,181	14.2%	-	31,487	31,487	20.1%	124,940	-	
65	Library Operations (FY07--Ongoing)	9395-BNEDC	BNE10	42,635	35,581	7,054	19.8%	-	-	-	0.0%	35,581	-	
66	Legacy Analog Data Conversion (Analog to Digital - Reports & Imagery) (FY07--FY11)	9395-BNEDD	BNE11	78,736	66,283	12,454	18.8%	-	21,372	21,372	32.2%	44,911	-	
67	GIS Support for Integrated Analyses and Projects, GIS Lead (FY07--Ongoing; Note 7)	9395-BNEDE	BNE12	227,515	201,335	26,180	13.0%	-	52,361	52,361	26.0%	148,974	-	
68	Integrated Analysis and Modeling - Mapping Shoreline Habitat Changes (FY07--08)	9395-BNEDF	BNE13	115,888	109,236	6,652	6.1%	-	-	-	0.0%	109,236	-	
69	Subtotal Goal 12 DASA Portion:			\$ 903,382	\$ 821,992	\$ 81,389	9.9%	\$ -	\$ 105,220	\$ 105,220	12.8%	\$ 498,286	\$ 260,000	
71	Survey Operations (Ongoing)	9395-BNELB	BNE19	102,417	85,472	16,945	19.8%	-	47,299	47,299	55.3%	38,173	-	
72	Control Network (Ongoing)	9395-BNELC	BNE21	134,823	114,579	20,243	17.7%	-	68,071	68,071	59.4%	46,508	-	
73	Logistics Base Costs (Other costs dispersed throughout projects; Ongoing)	9395-BNELD	BNE20	126,691	105,730	20,961	19.8%	-	52,367	52,367	49.5%	53,363	-	
76	Subtotal Goal 12 Support Portion:			\$ 363,931	\$ 305,781	\$ 58,149	19.0%	\$ -	\$ 167,737	\$ 167,737	54.9%	\$ 138,043	\$ -	
80	Administrative Operations (Ongoing)	9395-BNEAA	BNE01	228,363	195,624	32,739	16.7%	42,446	87,314	129,760	66.3%	28,364	44,934	Fish PEP to be conducted in FY-09 using FY-08 C/O.
81	Program Planning & Management (Ongoing)	9395-BNEAB	BNE02	1,059,438	884,154	175,284	19.8%	23,518	482,649	506,167	57.2%	377,987	-	
82	AMWG/TWG Meeting Travel Funds (Ongoing)	9395-BNEAC	BNE03	18,077	15,086	2,991	19.8%	-	5,364	5,364	35.6%	9,722	-	
83	Independent Reviews (not including Science Advisors & Exec. Director)	9395-BNEAD	BNE04	90,301	79,695	10,605	13.3%	32,800	46,895	79,695	100.0%	-	-	

TABLE 2

	A	B	C	D	S	T	V	AE	AF	AG	AH	AI	AM	AN
4	Grand Canyon Monitoring and Research Center Project Descriptions	GCMRC Internal Account Numbers	GCMRC INTERNAL CS ACCTS	GCMRC Approved FY08 Gross Budget (Incl Burden)	GCMRC NET Funds Available (After Burden)	Total Burden Assessed FY08	Overall Burden Rate FY08	FY-T-D Commitments & Obligations in FY08	FY-T-D Expenditures in FY08	Total Commitments, Obligations & Expenditures in FY08	% USED to Date in FY08	Projected Additional Spending to End of FY08	Projected GROSS Carryover to FY09	Comments
84	Executive Director of Science Advisors Review and Coordination; includes Science Advisors' Expenses (Ongoing)	9395-BNEAF	BNE06	214,200	207,714	6,486	3.1%	40,000	-	40,000	19.3%	167,714	-	
85	2008 Science Symposium (Intermittent)	9395-BNEAG	BNE07	29,750	26,482	3,268	12.3%	16,482	-	16,482	62.2%	5,025	5,961	C/O will be applied to speakers' fees in FY09
86	GCMRC Component of SBSC Sys Admin Support (FY05 Ongoing)	9395-BNEAE	BNE05	202,300	169,657	32,643	19.2%	-	95,216	95,216	56.1%	74,441	-	
87	Subtotal Goal 12 Administrative Portion:			\$ 1,842,429	\$ 1,578,412	\$ 264,015	16.7%	\$ 155,246	\$ 717,438	\$ 872,684	55.3%	\$ 663,253	\$ 50,896	
88	Subtotal Goal 12:			\$ 3,109,742	\$ 2,706,185	\$ 403,553	14.9%	\$ 155,246	\$ 990,395	\$ 1,145,641	42.3%	\$ 1,299,582	\$ 310,896	
89	GCMRC Power Revenue Total Projected FY 2008:			\$ 7,595,253	\$ 6,737,351	\$ 857,898	12.7%	\$ 1,101,635	\$ 2,546,754	\$ 3,648,389	54.2%	\$ 2,662,977	\$ 508,633	
90														
91	BOR APPROPRIATED AND OTHER PROGRAM COSTS													
92	Water Quality Monitoring - Lake Powell & Tailwaters (FY07-09) (Agreement #05AA402385)	9395-BNEQA	BNE38	226,659	189,159	37,501	19.8%	-	80,839	80,839	42.7%	108,319	-	
93	Total Lake Powell & Tailwaters:			\$ 226,659	\$ 189,159	\$ 37,501	19.8%	\$ -	\$ 80,839	\$ 80,839	42.7%	\$ 108,319	\$ -	
94	Environmental Research Agrmt (Temperature Control Device-TCD) Task 1 : A Test Using Artificial Streams (Agreement #06AA402575)	9395-BNEWE	BNE51	67,711	63,565	4,146	6.5%	40,000	-	40,000	62.9%	23,565	-	
95	Environmental Research Agrmt (Temperature Control Device-TCD) Task 2 : Three-Dimensional Modeling of Water Temperatures for Near shore Environments on Colorado River Below Glen Canyon Dam (Agreement #06A402575)	9395-BNEWC	BNE50	57,704	48,157	9,547	19.8%	40,000	-	40,000	83.1%	8,157	-	
96	Total Temperature Control Device:			\$ 125,415	\$ 111,722	\$ 13,693	12.3%	\$ 80,000	\$ -	\$ 80,000	71.6%	\$ 31,722	\$ -	
97														
98														
99	FY 2007 CARRY FORWARD NOT MET BY FY 2008 FUNDING													
100														
101	LTEP-EIS Program Work	9395-BNEY1		65,000	54,246	10,754	19.8%	26,214	23,120	49,334	90.9%	4,912	-	
102	Preparation for Monitoring Data Acquisition (Remote Sensing; FY06, FY07 Carry Forward)			340,000	283,747	56,253	19.8%	-	-	-	0.0%	-	340,000	C/O for Monitoring Data Acquisition (Overflights)
103	Impacts of Various Flow Regimes on the Aquatic Food Base	9395-BNEY2		17,500	14,605	2,895	19.8%	14,605	-	14,605	100.0%	-	-	
104	Longterm Monitoring of Changes in Sediment Storage	9395-BNEY3		63,394	52,906	10,489	19.8%	-	-	-	0.0%	-	63,394	C/O to FY-09 for Modeling Project
105	Enhancing the Conceptual Ecosystem Model of Identify Critical Ecosystem Interactions and Data Gap	9395-BNEY4		100,000	83,455	16,545	19.8%	-	-	-	0.0%	83,455	-	
106	Low Steady Summer Flows - Data and Research Compilation, Synopsis and Synthesis	9395-BNEY5		100,000	83,455	16,545	19.8%	-	-	-	0.0%	83,455	-	
107	Total FY 2007 Carry Forward:			\$ 685,894	\$ 572,414	\$ 113,481	19.8%	\$ 40,819	\$ 23,120	\$ 63,939	11.2%	\$ 171,822	\$ 403,394	
108														
109	TOTAL ALL FUND SOURCES:			\$ 8,633,221	\$ 7,610,645	\$ 1,022,573	13.4%	\$ 1,222,454	\$ 2,650,713	\$ 3,873,167	50.9%	\$ 2,974,840	\$ 912,027	

TABLE 3

	B	C	E	S	T	V	AE	AF	AG	AH	AI	AM	AN
1	Grand Canyon Monitoring and Research Center												
2	Fiscal Year 2008 High Flow Experiment												
3	Actual Expenditures and Projected Carryover as of May 10, 2008												
4		HIGH FLOW EXPERIMENT Project Descriptions	GCMRC Approved FY08 Budget - Gross (Incl Burden)	GCMRC NET Funds Available (After Burden)	Total Burden Assessed FY08	Overall Burden Rate FY08	FY-T-D Commitments & Obligations in FY08	FY-T-D Expenditures in FY08	Total Commitments, Obligations & Expenditures in FY08	% USED to Date in FY08	Projected Additional Spending to End of FY08	Projected GROSS Carryover to FY09	COMMENTS
5	Experiment Studies - Power Revenue Funds												
6	EXP 1.C	Responses of sandbars and selected cultural sites to a future BHBF test (Sandbar Fate: Topographic and Grain-size Responses)	316,082	293,486	22,596	7.7%	259,996	774	260,770	88.9%	32,716	0	
7	Sub-total 1.C Sandbar Fate:		\$ 316,082	\$ 293,486	\$ 22,596	7.7%	\$ 259,996	\$ 774	\$ 260,770	88.9%	\$ 32,716	0	
8	EXP 1.D	Monitor physical and biological aspects of backwater and other near shore habitats in June (Spring Backwater Monitoring)	451,461	886,349	126,836	14.3%	150,000	597,939	747,939	84.4%	138,409	0	
9	Sub-total 1.D Backwater Habitat:		\$ 451,461	\$ 886,349	\$ 126,836	14.3%	\$ 150,000	\$ 597,939	\$ 747,939	84.4%	\$ 138,409	0	
10	SUB-TOTAL EXPERIMENT STUDY 1. SEDIMENT:		\$ 767,543	\$ 1,179,835	\$ 149,432	12.7%	\$ 409,996	\$ 598,713	\$ 1,008,709	85.5%	\$ 171,125	1	
11	EXP 4.A	Effects of future BHBF tests on rainbow trout early life stage survival, and the distribution, mortality and potential downstream movement of age-1 fish in the Lees Ferry reach (Rainbow Trout Redds Study)	97,231	91,650	5,581	6.1%	91,650	-	91,650	100.0%	-	-	
12	Sub-total 4.A Rainbow Trout Redds:		\$ 97,231	\$ 91,650	\$ 5,581	6.1%	\$ 91,650	\$ -	\$ 91,650	100.0%	\$ -	-	
36	TOTAL EXPERIMENT - BOR Agmt #06AA402439:		\$ 864,774	\$ 1,271,485	\$ 155,013	12.2%	\$ 501,646	\$ 598,713	\$ 1,100,359	86.5%	\$ 171,125	1	
37	Carryover to FY09		561,726	-	-	-	-	-	-	-	-	-	
38	Total Experiment Studies - Power Revenue Funds, BOR Agmt # 06AA402439		\$ 1,426,500	\$ 1,271,485	\$ 155,013	12.2%	\$ 501,646	\$ 598,713	\$ 1,100,359	86.5%	\$ 171,125	1	
39													
40	Experiment Studies - Temperature Control Device Funds												
41	EXP 1.A	Reach scale changes in the fine-sediment mass balance and grain size during a future BHBF test (Sand Budgeting)	313,212	281,502	31,710	11.3%	-	238,405	238,405	84.7%	43,098	(0)	
42	Sub-total 1.A Sandbar budgeting:		\$ 313,212	\$ 281,502	\$ 31,710	11.3%	\$ -	\$ 238,405	\$ 238,405	84.7%	\$ 43,098	(0)	
43	EXP 1.B	Studies of eddy-sandbar hydrodynamics, sediment transport, and bathymetry during a future BHBF test (Sandbar Deposition Rates)	103,797	93,808	9,989	10.6%	62,672	21,106	83,778	89.3%	10,030	0	
44	Sub-total 1.B Eddy-sandbar studies:		\$ 103,797	\$ 93,808	\$ 9,989	10.6%	\$ 62,672	\$ 21,106	\$ 83,778	89.3%	\$ 10,030	0	
45	EXP 1.C	Responses of sandbars and selected cultural sites to a future BHBF test (Sandbar Fate: Topographic and Grain-size Responses)	288,098	262,900	25,198	9.6%	-	140,496	140,496	53.4%	122,404	-	
46	Sub-total 1.C Sandbar Fate:		\$ 288,098	\$ 262,900	\$ 25,198	9.6%	\$ -	\$ 140,496	\$ 140,496	53.4%	\$ 122,404	-	

TABLE 3

	B	C	E	S	T	V	AE	AF	AG	AH	AI	AM	AN
4		HIGH FLOW EXPERIMENT Project Descriptions	GCMRC Approved FY08 Budget - Gross (Incl Burden)	GCMRC NET Funds Available (After Burden)	Total Burden Assessed FY08	Overall Burden Rate FY08	FY-T-D Commitments & Obligations in FY08	FY-T-D Expenditures in FY08	Total Commitments, Obligations & Expenditures in FY08	% USED to Date in FY08	Projected Additional Spending to End of FY08	Projected GROSS Carryover to FY09	COMMENTS
49		SUB-TOTAL EXPERIMENT STUDY 1. SEDIMENT:	\$ 705,107	\$ 638,210	\$ 66,897	10.5%	\$ 62,672	\$ 400,006	\$ 462,678	72.5%	\$ 175,532	2	
50													
51	EXP 2.	Evaluate effect of future BHBF tests on riparian plant community development at multiple surface elevations and depositional environments: are open patches more susceptible to exotic species colonization and establishment than sites with existing vegetation	42,709	35,643	7,066	19.8%	-	7,896	7,896	22.2%	27,747	(1)	
52		SUB-TOTAL EXPERIMENT STUDY 2. RIPARIAN VEGETATION:	\$ 42,709	\$ 35,643	\$ 7,066	19.8%	\$ -	\$ 7,896	\$ 7,896	22.2%	\$ 27,747	(1)	
53													
54	EXP 3.	Aquatic Food Base Studies (Lower Trophic Levels)	216,903	190,473	26,430	13.9%	6,025	105,063	111,088	58.3%	79,385	0	
55		SUB-TOTAL EXPERIMENT STUDY 3. AQUATIC FOOD BASE:	\$ 216,903	\$ 190,473	\$ 26,430	13.9%	\$ 6,025	\$ 105,063	\$ 111,088	58.3%	\$ 79,385	0	
56													
57	EXP 4.A	Effects of future BHBF tests on rainbow trout early life stage survival, and the distribution, mortality and potential downstream movement of age-1 fish in the Lees Ferry reach (Rainbow Trout Redds Study)	130,371	118,126	12,245	10.4%	81,350	35,667	117,017	99.1%	1,109	(0)	
58		Sub-total 4.A Rainbow Trout Redds:	\$ 130,371	\$ 118,126	\$ 12,245	10.4%	\$ 81,350	\$ 35,667	\$ 117,017	99.1%	\$ 1,109	(0)	
59	EXP 4.B	Evaluate effects of a future BHBF test on adult rainbow trout distribution in Glen and Marble Canyons (Rainbow Trout Studies - Juvenile and Adult Distribution)	110,648	93,588	17,059	18.2%	-	93,588	93,588	100.0%	-	0	
60		Sub-total 4.B Rainbow Trout:	\$ 110,648	\$ 93,588	\$ 17,059	18.2%	\$ -	\$ 93,588	\$ 93,588	100.0%	\$ -	0	
61		SUB-TOTAL EXPERIMENT STUDY 4. RAINBOW TROUT:	\$ 241,019	\$ 211,714	\$ 29,304	13.8%	\$ 81,350	\$ 129,255	\$ 210,605	99.5%	\$ 1,109	0	
62													
63	EXP 5.	Evaluate effects of a future BHBF test on water quality of Lake Powell and Glen Canyon Dam releases (Lake Powell)	35,274	29,438	5,836	19.8%	-	17,217	17,217	58.5%	12,221	(1)	
64		SUB-TOTAL EXPERIMENT STUDY 5. LAKE POWELL:	\$ 35,274	\$ 29,438	\$ 5,836	19.8%	\$ -	\$ 17,217	\$ 17,217	58.5%	\$ 12,221	(1)	
65													
66	EXP 6.	Kanab Ambersnail compliance monitoring and mitigations for ambersnails and habitat following criteria outlined in the USFWS Biological Opinion.	16,316	14,273	2,043	14.3%	-	8,548	8,548	59.9%	5,725	-	
67		SUB-TOTAL EXPERIMENT STUDY 6. CONSERVATION MEASURES:	\$ 16,316	\$ 14,273	\$ 2,043	14.3%	\$ -	\$ 8,548	\$ 8,548	59.9%	\$ 5,725	-	

TABLE 3

	B	C	E	S	T	V	AE	AF	AG	AH	AI	AM	AN
		HIGH FLOW EXPERIMENT Project Descriptions	GCMRC Approved FY08 Budget - Gross (Incl Burden)	GCMRC NET Funds Available (After Burden)	Total Burden Assessed FY08	Overall Burden Rate FY08	FY-T-D Commitments & Obligations in FY08	FY-T-D Expenditures in FY08	Total Commitments, Obligations & Expenditures in FY08	% USED to Date in FY08	Projected Additional Spending to End of FY08	Projected GROSS Carryover to FY09	COMMENTS
4													
68													
71	EXP 8.	Logistics activities in support of experimental studies - direct costs (not included in project estimates)	122,673	102,377	20,296	19.8%	19,306	83,071	102,377	100.0%	-	(0)	
72	SUB-TOTAL EXP ERIMENT STUDY 8. LOGISTICAL SUPPORT:		\$ 122,673	\$ 102,377	\$ 20,296	19.8%	\$ 19,306	\$ 83,071	\$ 102,377	100.0%	\$ -	(0)	
73	Total Experiment Studies - TCD Funds, BOR Agmt #06AA402575:		\$ 1,380,001	\$ 1,222,128	\$ 157,874	12.9%	\$ 169,353	\$ 751,057	\$ 920,410	75.3%	\$ 301,719	1	
74													
75	Experiment Studies - National Park Service Funds												
76	EXP 1.D	Monitor physical and biological aspects of backwater and other near shore habitats in June (Spring Backwater Monitoring)	400,000	333,820	66,180	19.8%	-	299,944	299,944	89.9%	33,876		
77	Total Experiment Studies - NPS Funds, NPS Agmt #F8210080003:		\$ 400,000	\$ 333,820	\$ 66,180	19.8%	\$ -	\$ 299,944	\$ 299,944	89.9%	\$ 33,876	-	
78													
79	GCMRC High Flow Experiment Total All Fund Sources FY08:		\$ 3,206,501	\$ 2,827,433	\$ 379,067	13.4%	\$ 670,999	\$ 1,649,714	\$ 2,320,713	82.1%	\$ 506,720	2	