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U.S. GEOLOGICAL SURVEY
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March 3, 2010

MEMORANDUM

To: Technical Work Group

From: John Hamill, Chief, Grand Canyon Monitoring and Research Center, Southwest Biological Science Center, US Geological Survey, Flagstaff, Arizona

Subject: Preliminary Fiscal Year 2011-12 Glen Canyon Dam Adaptive Management Program Budget

Attached is the subject preliminary draft budget for your consideration. The draft budget was developed based on guidance provided in the:

- Monitoring and Research Plan (MRP) to Support the Glen Canyon Dam (GCD) Adaptive Management Program (AMP) which was approved by the Adaptive Management Work Group (AMWG) in August 2007, and
- The March 2008 Environmental Assessment (EA) and related Conservation Measures included in the Fish and Wildlife Service Biological Opinion (BO) on the operation of GCD.

In addition, GCMRC considered input from the TWG provided at the GCMRC annual reporting meeting held in January 2010.

The proposed budget provides for the continued implementation of a number of ongoing projects included in the approved FY10/11 Work Plan and Budget.

The following fiscal assumptions were made in the development of the budgets:

- No carryover funds from FY10 due to expiring BOR agreement (06AA402439)
- 0% CPI increase in the FY11 budget over the FY10 budget
- 3% CPI increase in the FY12 budget over the FY11 budget
- Salaries increase based on expected OPM salary tables for FY11 and FY12; most other expenses increase by 5%
- BOR contributes \$493,500 to experimental fund in FY11 and \$508,305 in FY12
 - In FY10 and FY11, \$166,000 each year and in FY12 \$72,600 is drawn from the experimental fund to support increased logistics costs for the near-shore ecology project. However, it is anticipated that some or all of these costs will be covered by

appropriated funds. If this occurs, these funds would remain in the experimental fund and be available for possible HFE's in FY11 or FY12.

- Projected experimental fund balance at end of each year:
 - FY10: \$147,992 (\$313,992 if NSE logistics are covered by other source)
 - FY11: \$29,943 (\$361,943 if NSE logistics are covered by other source)
 - FY12: \$239,044 (\$543,644 if NSE logistics are covered by other source)
 - *See experimental fund summary in attached budget for details.*
- Alternative funding sources should be sought the following 2 ongoing management actions beginning in FY12: See deferred projects – management actions.
 - HBC translocation above Chute Falls BIO 2.M3.11
 - Mainstem NonNative Fish Control (aka: Mechanical trout removal) BIO 2.R16.11

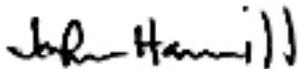
The budget also generally assumes that individual core monitoring plans will be approved according to the process defined in the MRP or the General Core Monitoring Plan, as revised (including AMP committee review and approval by the Secretary).

General descriptions of each of the ongoing projects can be found in the MRP; more detailed descriptions are contained in the FY 2010-11 AMP Work Plan and Budget. The primary work elements of each project, including major changes, are listed in the attached project summary table.

To achieve a balanced budget, a number of projects had to be scaled back or deferred to accommodate the budget shortfall incurred by the FY10 negative 1.3% CPI adjustment and the anticipated FY11 0% CPI adjustment. There are approximately \$2.6 million and \$2.8 million in deferred projects or project components in FY11 and FY12, respectively. These deferments and other adjustments are noted in the attached budget.

After considering recommendations from the TWG, AMWG and DOI agencies, GCMRC, consistent with our established process, will develop detailed work plans for each of the projects that will be submitted to the Budget Ad hoc Group, TWG and AMWG for final review and consideration.

Your participation in this review process is appreciated.



JOHN HAMILL
Chief, GCMRC

Attachments: (FY11-12 Project Summary Table FY11-12 Preliminary Budget)
cc: Secretary's Designee

FY11-12 Project Summary Table

Project	FY11 Comments	FY12 Comments
1. Food Base		
	Focus on completion of research, reports, PEP review, and development of core monitoring plan; All field sampling deferred	Implementation of core monitoring plan subject to approval
2. Native Fishes		
Mainstem & LCR Monitoring	Repeat FY10 monitoring, revise based on analysis of PEP recommendations; Defer increased mainstem monitoring	Repeat FY10 monitoring, revise based on analysis of PEP recommendations; Defer increased mainstem monitoring
HBC Translocation & Monitoring	Monitor HBC status above Chute Falls; Defer translocation	Project deferred; Assumes monitoring HBC status above Chute Falls and HBC translocation will be funded with an alternative funding source
Stock Assessment of Native Fish	Continued analysis of fish stock data; Complete & publish ASMR analysis	Continued analysis of fish stock data; No ASMR
Remote PIT Tag Reading	Operate & maintain equipment and analyze data; Defer expansion of the system	Operate & maintain equipment and analyze data; Defer expansion of the system
Near Shore Ecology	Implement project per work plan; Increase logistics funding	Implement project per work plan; Field work ends in October, 2011; Increase logistics funding for October river trip
Mainstem Nonnative Fish Control	Implement one LCR control trip (experimental fund); Defer 2 nd trip	Project deferred; Provide alternative funding source for 1 to 6 removal trips near LCR at \$150k per trip (as needed)
Nonnative Control Plan Science Support	Implement priority research & monitoring recommendations; Reduce staff support by 25%	Implement priority research & monitoring recommendations; Maintain FY11 staff support level
NEW Evaluation of Trout Movement, Natal Origins and Alternatives for Controlling Rainbow Trout Populations Near the LCR	Implement priority research projects within available budget (experimental fund)	Implement priority research projects within available budget (experimental fund)
Biometrics & General Analysis (Vice Coggins)	ASMR / modeling support	Deferred due to lack of funding
3. Extirpated Species		
	No funded projects	No funded projects
4. Rainbow Trout		
	Continue adult RBT monitoring;	Continue adult RBT monitoring;

Project	FY11 Comments	FY12 Comments
	Defer monitoring of early life stages unless HFE is conducted (subject to available funds)	Defer monitoring of early life stages unless HFE is conducted (subject to available funds)
5. Kanab Ambersnail	Continue annual monitoring	Continue annual monitoring
6. Springs / Riparian	Implement vegetation transect monitoring (assumes approval of core monitoring plan); Analyze 2009 imagery for vegetation change	Analyze 2009 imagery; Defer bird and/or arthropod monitoring
7. Quality of Water		
Lake Powell & Tailwaters	Continue monitoring; PEP review; Increase emphasis on analysis and modeling	Continue monitoring; Implement PEP findings; Increase emphasis on analysis and modeling
Downstream	Continue monitoring flow, temperature and sediment, etc.; PEP review	Continue monitoring flow, temperature and sediment, etc.; Implement PEP findings
Integrated Flow, Temperature & Sediment Modeling	Operate & maintain models; Defer further development	Operate & maintain models; Defer further development
8. Sediment		
	Evaluate channel mapping results; Additional mapping contingent on findings; Monitor sandbars area & volume	Resume channel mapping (contingent on FY11 findings & recommendations)
9. Recreation		
	Conduct biennial campsite monitoring; Continue river guide monitoring; Analyze campsite atlas data as part of integrated image analysis project; Update & maintain campsite atlas on website	Camp area field monitoring does not resume until FY13; Continue river guide monitoring; Analyze campsite atlas data as part of integrated image analysis project; Update & maintain campsite atlas on website; Campsite PEP review
10. Hydropower		
	Serve data via website; Annual report	Serve data via website; Annual report
11. Cultural		
	Implement pilot monitoring with reduced scope (fewer sites, etc), which may extend length of project	Implement pilot monitoring with reduced scope (fewer sites, etc), which may extend length of project
12. DASA		
Overflights	Contribute \$71k to overflight fund	Contribute \$129k to overflight fund
Oracle Database	Update & maintain database	Update & maintain database
Library Operations / Scanning	Maintain GCMRC library reduced to ½ time position; Defer online library system	Maintain GCMRC library reduced to ½ time position; Defer online library system

Project	FY11 Comments	FY12 Comments
GIS Support	Provide GIS support to GCMRC projects; Defer hiring term appointment (use student)	Provide GIS support to GCMRC projects; Defer hiring term appointment (use student)
Integrated Image Analysis & Change Detection	Coordinate analysis of 2009 imagery; Map & analyze sandbars, campsites, backwaters & vegetation	Final reporting of 2009 imagery; Plan for 2013 overflight
12. Planning		
Ecosystem Modeling	Working with senior ecologist, continue to update & refine ecosystem models, focusing on aquatic resources; Defer model expansion, publication of results, & MATA workshop	Working with senior ecologist, continue to update & refine ecosystem models, focusing on aquatic resources; Defer model expansion, publication of results, & MATA workshop
Knowledge Assessment & SCORE Report	Complete KA & initiate S.C.O.R.E. report	Finalize S.C.O.R.E. report
NEW Desired Future Conditions (DFCs)	Deferred due to lack of funding	Provides \$50k for facilitation & decision support to develop quantitative DFCs; Assumes matching funds from Reclamation's portion of budget
12. Support		
Logistics Base	Provide base logistics support to field operations	Provide base logistics support to field operations
Survey & Control Network	Provide survey support to GCMRC projects (through contract); Maintain & expand network as needed	Provide survey support to GCMRC projects (through contract); Maintain & expand network as needed
12. Administrative		
Operations	Continue to provide administrative support	Continue to provide administrative support
Program Planning & Management	Continue to provide planning & management support	Continue to provide planning & management support
AMWG/TWG Travel	Continue to provide funding to attend AMWG & TWG meetings	Continue to provide funding to attend AMWG & TWG meetings
Independent Reviews	Peer review all publications; Integrated Water Quality and Food Base PEP & KAS PEP	Peer review all publications; Campsite & Sediment PEPs
Science Advisors	Maintain current SA support	Maintain current SA support
Computer Systems Support	Maintain IT support for GCMRC	Maintain IT support for GCMRC
Synthesis of High Flow Experiment	Complete HFE synthesis by 01/01/11	