Budget Ad Hoc Group (BAHG) Conference Call

June 17, 2013 (10:a – 12p, MDT)

Meeting Notes

BAHG Chair: Shane Capron
Facilitator: Robert Wheeler, Triangle Associates, Inc.

Participants:

Cliff Barrett, UAMPS
Kerry Christensen, Hualapai Tribe
Marianne Crawford, USBR
Kurt Dongoske, Pueblo of Zuni
Dave Garrett, Science Advisors
John Hamill, Federation of Fly Fishers
Leslie James, CREDA
Vineetha Kartha, State of Arizona
Robert King, State of Utah
Ted Kowalski, State of Colorado
John Jordan, TWG Chair
Glen Knowles, USBR
Don Ostler, States of New Mexico and Wyoming
Chris Schill, USGS/GCMRC
Jack Schmidt, USGS/GCMRC
Warren Turkett, Colorado River Conservation Board
Scott Vanderkooi, USGS/GCMRC
Mark Van Vlack, State of California
Mike Yeatts, The Hopi Tribe

Agenda and Review of Documents:
Bob Wheeler did a roll call.

Review Process documents.
Shane Capron referenced the background information sent out (***Attachment 1***) on June 13, 2013.

Review Revised Budget by GCMRC and Reclamation. (***Attachment 2***)
Due to sequestration, a 5.1% cut to the FY13 Budget is required which is $532,939. Cost savings due to travel restrictions and the following potential changes to the budget are proposed to cover sequestration:

- Facilitation budget for FY13 = $41,747 and for FY14 = 43,000; FY13 = $82,942 and FY14 = $85,430
    - The increase to facilitation is primarily a result of the three individuals from Triangle attending the Annual Reporting meeting in January 2013 and other additions to the original scope of work. They attended to become acquainted with the science and other programs that was being reported on.
    - Cost saving as a result of having TWG webinars rather than meetings can be reallocated to cover facilitation.
- Native Fish Conservation Carryover Fund for FY13 = $782,660 and FY14 = $1,321,139
    - Triggers for trout removal haven't been met for several years, consequently this fund has not been used. The 5.1% cut from sequestration ($532,939)when applied to this fund leaves $249,721 and insures that other projects are fully funded. If the sequester is applied in FY14 at 8% ($861K) it could again come from nonnative fish carryover, leaving $418,658 in FY 14. Reclamation won't know if sequestration will continue in FY 14 until next fiscal year (October 1).

  Tribal Participation in LTEMP EIS Process. Funding in the Reclamation Cultural Program has been reallocated to direct funds to tribes to provide tribal input in the EIS process.

Concerns:

- Webinars/conference calls.

- Some members feel the webinar format doesn't accommodate communication well but due to travel restrictions, it saves on travel dollars and the savings can be applied to other budget needs.
- LTEMP EIS expenditures for the FY11-12-13 budgets?
  - Glen will provide those on the TWG webinar next week.
- Develop concrete objectives for the October TWG meeting.
- A priority should be to have in-person science reporting (AR) meetings.
- Return to historical facilitation costs and allow for more in-person meetings.
- Facilitation for TWG meetings has not always been used
- Prepare "best" and "worst" case scenarios for the FY14 budget.
  - Glen will prepare two budgets for the TWG's review next week: (1) one with FY 14 8% cut, and (2) one without the 8% cut.
- Are funds available to do an HFE in FY14?
  - Yes.
  - Reclamation will be reporting FY 2012 HFE results to FWS before doing the next HFE.
- Status of Programmatic Agreement.
  - Reclamation is in the process of developing a new PA. The new PA is being done in conjunction with the LTEMP EIS in order to be consistent with the outcome of the LTEMP EIS and the ROD. When the PA is more complete, Reclamation will schedule a PA meeting with current and new PA signatories.

Dr. Schmidt reported they have ongoing evaluations from the November HFE on sediment and fish. Monitoring for the HFE is imbedded in the FY13-14 work plan which is also in the science plans for the two EAs. The natal origins study on trout in Glen Canyon has been ongoing through the winter, spring and summer. GCMRC's next reporting period is winter of 2014. He provided two PPTs, one FY13/14 specifics (***Attachment 3***) and questions/issues to ponder in developing the FY15/16 budget (***Attachment 4***).

Potential Budget Changes. Shane opened discussion on other suggestions for budget consideration:

1. **Increased aggregation sampling of HBC to reduce sampling errors in enumeration, improve detection levels for HBC in the mainstem to confirm estimates. (Davis)**
   Scott Vanderkooi reported that numbers of fish in aggregations increased in July and September. GCMRC has also been working with FWS and GCNP to increase mark recapture efforts at key aggregations and consider translocations to tributaries (Havasu and Shinumo). There is concern about the effects of over sampling so they will alternate sites. Bill Davis can bring up any other concerns on the TWG webinar next week.

   Action: No changes proposed.

2. **Look at additional or new capture points for tagging trout in the natal origins rainbow trout study to eliminate possible sample errors for ascertaining the degree of downstream movement. (Davis)**
   GCMRC has a robust sampling program around the LCR. AGFD will be doing electrofishing through the same reach. Dr. Schmidt said that Josh Korman's work is in the primary data collection phase and sampling should not be changed. Further consideration will be made in January 2014 when Josh Korman has a chance to analyze data from this year.

   Action: No changes proposed.

3. **What elements of the administrative history project require funding? Conduct a pilot effort on those elements in FY2014 and use the results to develop a more thorough undertaking in the next budget cycle, if warranted. (Stevens)**
   This is a new project and should be considered for the FY15-16 budget. The AHAHG should consider needs for funding, including review of the original administrative history report, and be prepared to provide input to the TWG in January 2014.

   Action: No changes proposed.

4. **Consider a base budget that would include cuts similar to the sequestration cuts to the experimental fund, but keep that money in the budget for other projects. (Hamill)**
   John Hamill noted the demand for doing NNFC is less than when the budget was put in place. Are there higher priorities for using these funds? Using NNFC funds is a gamble but we must be prepared should the need arise. The LTEMP EIS will likely bring about some changes in management approaches for trout and the native fishery. The NPS Fish Management Plan proposes new measures for managing those fisheries. Since there were no immediate projects waiting for funding we will leave the money where it is. If changes in the budget need to be made it provides flexibility but a cap should be established on the amount in the carryover fund.

   Action: No changes proposed, it was determined that without projects needing funding in 2014 that the money would be left in the carryover fund for the base case budget.

Budget Recommendation

The BAHG did not make any further changes to the 2014 budget beyond what was proposed by BOR/GCMRC in the base case budget and the budget modified for sequestration. The BAHG recommended that the TWG review both budgets and consider recommending the base budget without the cuts, but also providing the modified budget in case that needs to be implemented under sequestration.

Shane reminded everyone the next TWG Webinar/conference call will be held:

Date: Wednesday, June 26, 2013
Time: **9 a.m. (AZ/PDT) / 10 a.m. (MDT) / 1 p.m. (EDT)**
Telephone #: 866-916-4287 Passcode 5287707
URL: https://ucbor.webex.com/ucbor/j.php?ED=205387972&UID=0&PW=NNjAwYzFmZGU3&RT=MiM2

Call ended: 11:58 a.m. (MDT)

Glen Canyon Dam Technical Work Group

Budget Ad Hoc Group (BAHG)

Date: (Mon) June 17, 2013
Time: 9-11a (PDT & AZ), 10a-12noon (MDT)
Phone #: 877-932-7704
Passcode: 8410783

Background

At its August 2012 meeting, AMWG approved the FY 2013-14 biennial budget and workplan. LINK. AMWG approved a budget protocol which was updated with a "streamlined" budget table of actions (attached). Please note that the focus of this BAHG meeting and the TWG June meeting relates to changes to FY 2014 budget and not FY 15/16. Anne Castle, at the April AMWG meeting, specifically directed that discussions on FY15/16 budgets are not to occur at this point due to uncertainties in the overall budget process.

Consideration

The BAHG is instructed to consider potential changes to the FY 2013-14 budget, per the revised criteria for consideration of year-two of the budget per the "streamlined" budget process document (attached). The starting point will be modifications proposed by GCRMC and BOR to the budget, which will include budget changes due to sequestration. That budget will be provided to all BAHG members as soon as it becomes available.

Potential Changes

1. Increased aggregation sampling of HBC to reduce sampling errors in enumeration, improve detection levels for HBC in the mainstem to confirm estimates. (Davis)
2. Look at additional or new capture points for tagging trout in the natal origins rainbow trout study to eliminate possible sample errors for ascertaining the degree of downstream movement. (Davis)
3. What elements of the administrative history project require funding? Conduct a pilot effort on those elements in FY2014 and use the results to develop a more thorough undertaking in the next budget cycle, if warranted. (Stevens)

Agenda

1. Review process documents.
2. Review revised budget provided by GCMRC and BOR.
3. Discuss potential changes to the 2014 budget, consider if they meet the criteria for consideration.
4. Develop a recommendation for TWG.

GCDAMP BIENNIAL BUDGET PROCESS
Approved by AMWG on May 6, 2010

At its August 12-13, 2009 meeting, the Adaptive Management Work Group (AMWG) instructed the Technical Work Group (TWG) to terminate its deliberations on comparisons between rolling and non-rolling two-year budget processes and to develop a two-year non-rolling budget beginning in Fiscal Years (FY) 2011-12. This document describes the proposed two-year non-rolling budget approach and some of the history that led up to its development. The primary goal is to reduce the effort currently expended on the budget process while maintaining a high-quality adaptive management program.

> MOTION: AMWG directs TWG to develop a two-year, FY11-12 two-year, non-rolling budget; and that a description of that process be provided by TWG to AMWG at its next meeting.
> *Motion was passed by consensus*

1.0 Background

The previous budget process (two-year rolling budget) was approved by AMWG in 2004 and helped to provide structure for the budget process. Within that structure, the primary element was a biennial budget, work plan, and hydrograph (BWPH). Each budget year, the GCDAMP would roll the old second year of the previous BWPH into the new first year, and add a new second year. It was envisioned that the rolling BWPH would be accompanied by a 3-year outlook that would allow development of appropriations requests on federal budget schedules if the need arose to supplement hydropower revenues for the GCDAMP. It would also include a 5-year strategic outlook to coincide with revisions of major strategic documents such as the GCDAMP Strategic Plan, the Strategic Science Plan, the Monitoring and Research Plan, and Core Monitoring Plan (unfinished). The Core Monitoring Plan also factored into the BWPH in that core monitoring projects, as they became defined and adopted, were to be added to the rolling BWPH as largely fixed budget items.

The major components of the 2004 budget process were described as:

- BWPH with rollover of year-two into year-one of the next BWPH, and would include (yet undeveloped) criteria for reopening the budget
- Appropriations request for Federal agency budget or for Congressional write-in with a 3-year outlook
- Strategic 5-year outlook to forecast major changes, determine need for contingencies, and develop draft out-year projects
- Fiscal Reporting, mid-year and previous fiscal year
- Project Progress Reports, mid-year and end end-of-year reports
- Budget Spreadsheet and work plan
- Formation of the Budget Ad Hoc Group (BAHG)

Since the adoption of this process in 2004, the Glen Canyon Dam Adaptive Management Program (GDCAMP) implemented many aspects of the budget process (outlined above), especially those dealing with reporting, work plans, and budget spreadsheets. However, it was not until 2009 that the GCDAMP developed the first BWPH for FY 2010-11. During the development of the FY 2010-11 BWPH, some TWG members felt that the rolling budget process would not reduce effort spent on the budget and may have increased the amount of effort needed by the GCDAMP. Thus, an alternative to the rolling budget (i.e., non-rolling BWPH) was described in general terms to AMWG and adopted by the AMWG for the FY 2011-12 budget cycle (see AMWG motion above).

2.0 Description of a Two-Year Non-rolling Budget Process

The general approach is to use a budget development process similar to that taken by the Upper Colorado River Endangered Fish Recovery Program (Figure 2). The goal is to reduce the effort expended on the budget process while improving the effectiveness of the Grand Canyon Monitoring and Research Center (GCMRC), TWG, and AMWG. Generally, the GCDAMP would develop a two-year budget the first year of the process. Then, in the second year the GCDAMP would revisit only year-two of the budget and make relatively minor corrections to allow for changes in projects or potential important new starts not envisioned during the development of the two-year budget. The potential benefit is that effort may be saved in year-two of the budget process allowing for time and effort to be used on other endeavors of interest to the GCDAMP. This goal can only be achieved if we are successful in limiting changes to the year-two BWPH.

The major components of the two-year BWPH would include:

- Two-year budget spreadsheets, work plans, and hydrographs,
- Modifications of the year-two budget based on specific criteria,
- Fiscal reporting, including expenditures for the previous fiscal year (mid-year and end end-of-year reports),
- Project progress reports, including an annual reporting meeting in January, and
- Utilization of the BAHG to interface with the Bureau of Reclamation (Reclamation) and GCMRC in developing a draft BWPH, and to help the TWG develop budget recommendations for AMWG consideration.

Much of the rest of the process would be as described in 2004, such as reporting requirements, budget spreadsheets, work plans, and hydrographs would all be developed. TWG and GCMRC will hold an annual reporting workshop in January to review progress on the previous year's work plan.

3.0 Budget Process Components

The following describes the specific elements of the budget process and responsibilities.

3.1 Budget Principles

The BWPH will:

- Employ the adaptive environmental assessment and management approach to resources management that was developed by Holling (1978) and Walters (1986), and articulated in the Adaptive Management Program Strategic Plan (AMPSP) to include participation from the BAHG, TWG, and AMWG;
- Be consistent with the GCMRC Strategic Science Plan (SSP), Monitoring and Research Plan (MRP), and Core Monitoring Plan (when completed);
- Use a collaborative science planning process as described in the SSP and MRP (Figure 1); and
- Address GCDAMP priority questions, information needs, and the associated strategic science questions (SSQs) and using them to provide the primary basis for designing the science program;

The BWPH process will be most successful if the AMPSP, SSP, MRP, and Core Monitoring Plan are current and up to date. It is important that science planning and management planning occur currently as portrayed in Figure 1.

3.2 Priorities

All parties in the GCDAMP recognize the fact that not all funds needed and requested will always be made available. Prioritization of work is essential to the budgeting process. This is especially true as we move toward a budget that will include core monitoring and management actions. The Strategic Plan, including the Goals and Management Objectives and Desired Future Conditions when available, and especially the Information Needs (in sequence order) should serve as the basis for determining budget priorities. We anticipate that AMWG will review and update these periodically (e.g., every 5 years) to ensure they reflect new information and program priorities. Currently many of the documents have not been reviewed or updated for nearly a decade. At its basic level the budget should put core monitoring and high priority information needs ahead of other activities. TWG will provide an initial general BWPH recommendation to AMWG at its spring meeting and AMWG will provide feedback to TWG on budget priorities and general direction which the BAHG, TWG, and GCMRC will use in their development of a final recommendation to AMWG.

3.3 Budget Ad Hoc Group (BAHG)

TWG consideration of the budget and work plan has been facilitated by the BAHG, a small ad hoc group which has worked with Reclamation and GCMRC in past years. TWG will continue to utilize the BAHG to review the budget and work plan and to resolve difficult technical issues. The BAHG will work with Reclamation and GCMRC throughout the budget process and provide a liaison with TWG members. The BAHG will help Reclamation and GCMRC develop and bring to the TWG budgets that are prepared for full TWG discussion and recommendation to AMWG. Thus, technical issues and resolutions of major issues will be resolved to the extent possible before full TWG review. The TWG will give initial budget prioritization to the BAHG at its annual January reporting meeting. The BAHG will consider this input and the initial budget proposed by Reclamation and GCMRC and provide an initial budget recommendation to TWG at its late-winter meeting (e.g., March). The BAHG will then work with Reclamation and GCMRC through the spring and early summer to provide a final BWPH recommendation to the TWG at its summer meeting (e.g., June). In the second year of the BWPH this process will be truncated to consider only necessary changes to the budget for year-two (see section 3.8 below).

3.4 January Reporting Meeting

TWG, in coordination with GCMRC and Reclamation, will hold a reporting meeting annually in January to review progress on funded monitoring and research projects for the previous year. GCMRC and Reclamation will provide an annual report for each funded activity in the work plan. TWG will use this time to review and evaluate the progress of projects and to give direction to the BAHG in the development of the initial budget.

3.5 Mid-year and End of Year Fiscal Reporting Including Carry Over

Reclamation and GCRMC will provide mid-year and end of fiscal year reporting of expenditures and carry over to TWG and AMWG.

3.6 Budget Spreadsheet and Work Plan

Reclamation and GCMRC will coordinate to provide a budget spreadsheet for the BAHG to review in January of each year based on either a new BWPH or modifications to the second year of the BWPH. The spreadsheet will include expected costs for each project based on the priority setting provided by AMWG and discussions with the BAHG. This spreadsheet will be used by TWG to provide initial budget recommendations to AMWG. Reclamation and GCMRC will coordinate to provide a budget spreadsheet, work plan, and hydrograph to the BAHG in the spring of the first year of the BWPH development. The BWPH will be used by TWG to provide final budget recommendations to AMWG. During the second year of the budget, a full work plan would not be developed, rather a memo from GCMRC and/or Reclamation, outlining changes to the work plan would be provided in addition to a modified budget spreadsheet.

3.7 Hydrograph Development

The hydrograph of releases from Glen Canyon Dam emerges from a 24-month modeling study accomplished by Reclamation. Modeling outputs reflect anticipated inflows and reservoir storage to project annual and monthly dam releases. Daily fluctuations are predicated on agreements in the 1996 Record of Decision and the 2008 FONSI on dam operations. The TWG will be provided with Reclamation’s 24-month findings, recognizing that these projections change with each month, to advise them of the most probable future release scenarios. TWG members will provide a recommendation for the hydrograph within the BWPH to AMWG at their draft and final BWPH meetings.

3.8 Roles of GCDAMP Entities

- TWG Chair: The chairman of the TWG will endeavor to provide appropriate time for full discussion of the budget on the TWG agenda, and encourage Reclamation and GCMRC to provide budget documents to the TWG sufficiently in advance of meetings to allow for full review prior to TWG meetings.
- GCMRC: Develop budget spreadsheets and work plans in a timely manner that is responsive to Program Direction (SSP/MRP), and to TWG and AMWG requests and comments on draft documents.
- Reclamation: Develop budget spreadsheets, work plans, and hydrographs for their portion of the budget that is responsive to TWG and AMWG requests and comments on draft documents.
- AMWG: Review the initial budget at its spring meeting and provide input to Reclamation, GCMRC and TWG on priorities and general budget direction and development. Review the final budget recommendation from TWG at its fall meeting and make a final budget recommendation to the SOI.
- TWG: Review the initial budget spreadsheet and initial BAHG budget recommendations and formulate an initial budget recommendation to AMWG at its spring meeting. Review the draft final budget spreadsheet and work plan and make final budget recommendation at its summer meeting for AMWG review at its fall meeting.
- BAHG: Review the initial budget spreadsheet and draft final budget spreadsheet, work plan, and hydrograph with GCMCRC and Reclamation, and with input from the CRAHG, make modifications as necessary, and provide recommendations to TWG at its spring and summer meetings.
- Science Advisors: Participate in TWG and AMWG deliberations on the budget in coordination with the Executive Coordinator. Review the final work plan, budget, and hydrograph proposals submitted to the AMWG for review and provide written feedback to both GCMRC and the AMWG.
- Other Cooperators: Other agencies and cooperators that are conducting work relevant to the GCDAMP are invited to submit workplans for inclusion in the GCDAMP and report upon those workplans at the Annual Reports Meeting.

3.9 Criteria for Review and Revisions of the Year-two Budget

In order for this budget process to be successful in reducing the administrative burden on the GCDAMP it must have clear criteria for making changes to the year-two budget. The burden of an appropriate rationale for proposing a change falls upon the proposer to make a persuasive argument to the TWG. Proposed modifications to the budget will be prepared and distributed to the TWG two weeks ahead of a TWG meeting using an agreed upon format (to be provided by GCMRC). The TWG will determine if the argument meets the criteria agreed upon in this section. The following criteria will be used by GCMRC, Reclamation, and TWG in making recommendations to AMWG on changes to the year-two budget:

- Scientific requirement or merit: New information gained during the implementation of monitoring and research projects may result in a need to alter methods, scope, or timelines in the work plan or substantially alter or eliminate a project. This is a science-based need based on the experience of implementing an already approved project. This does not represent a shifting priority of individual GCDAMP members, but a scientific learning process which results in needed modifications to carry out the goals.

- Administrative needs: Administrative or programmatic changes may occur within the time-frame of an approved budget. Examples include the mitigation of an impact as a result of ESA consultation or tribal consultation, a change in the “overhead” charges of a federal or state agency, a significant reduction of the balance of the Colorado River Basin Fund or a failure to secure NPS permits for work in the Grand Canyon. As soon as an administrative event occurs that affects the budget, GCMRC (or relevant agency – such as DOI) will notify the TWG. Depending upon the magnitude or urgency of the event, the TWG Chair will add an agenda item to the next TWG meeting or convene a TWG conference call.

- Unfunded projects and carryover funds: In developing the budget, TWG will recommend a prioritized list of unfunded projects in the budget and work plan, such that in the case that funds are available in year-one or two beyond what was anticipated, those projects can be funded in that order. The TWG, at its next scheduled meeting will determine if there are other considerations regarding it’s prioritized list that should be considered when implementing those projects. These unfunded projects would also be considered for funding through the 3-year appropriated funds process.

- New initiatives: New initiatives or modifications to projects that may or may not be based on a scientific merit must be vetted through AMWG before they can be recommended by TWG in a final budget. New initiatives considered by the AMWG must be fully described and submitted to the AMWG in advance of an AMWG meeting. The TWG will discuss proposed new starts via the BAHG soon after the annual reporting workshop. The BAHG will consider those and if the BAHG finds merit in the proposal(s), and the TWG so recommends, those will be presented to AMWG by the TWG Chair at the next AMWG meeting. AMWG will consider whether to direct TWG to work on these new initiatives or whether to consider them during the next full budget cycle. Given that the budget will likely be fully accounted for, direction on where to locate the funds within the current budget will be requested from AMWG.

3.10 Strategic 3-year Budget Outlook

Annually, the GCDAMP would prepare a strategic 3-year outlook budget spreadsheet (no workplan) that describes major funding needs by program and any unfunded initiatives that are foreseen. This would help to determine whether the GCDAMP would seek funding, likely from federal appropriations, in addition to the hydropower revenues that provide the majority of funding for the program.

Table 1. Description of the approximate timelines for milestones and activities in the development of a biennial budget and consideration of changes to the second year of the budget.

Month	Year-One (development of BWPH)	Year-Two (changes to year-two)
December	GCMRC, Reclamation, and cooperators produce the annual project reports document	GCMRC, Reclamation, and cooperators produce the annual project reports document
January	Annual reports meeting (2 days) followed by 1-day TWG meeting to review TWG concerns and provide guidance to the BAHG. TWG reviews progress in addressing Information Needs and research accomplishments arising from the annual reports meeting and other information provided by GCMRC and Reclamation.	Annual reports meeting (2 days) followed by 1-day TWG meeting to review budget and provide guidance to BAHG on any potential changes to consider for year-two of the budget. TWG reviews progress in addressing Information Needs and research accomplishments arising from the annual reports meeting and other information provided by GCMRC and Reclamation.
February-March	GCMRC and Reclamation will provide initial biennial budget spreadsheet to the BAHG. BAHG meets to consider an initial budget recommendation to TWG focusing on priorities and major issues to be reconciled.	GCMRC and Reclamation will provide a revised budget spreadsheet (for year-two) and any modified project work plans to the BAHG. Abbreviated BAHG review of recommended changes based on the criteria will occur with a recommendation to TWG at its next meeting.
March	TWG meets to consider an initial budget recommendation to AMWG including consideration of a draft hydrograph provided by Reclamation. Consider priorities for funding, major unresolved issues, and guidance from AMWG on general direction.	TWG and SA will review BAHG recommended changes to year-two of the BWPH and make recommendations to AMWG. If no new initiatives that weren't already prioritized and funded with carry-over are proposed, then this can represent a final recommendation. If new initiatives that require AMWG initial review and changing priorities are proposed, then this would represent an initial proposal for AMWG review at their next meeting.
Early May	AMWG meets to consider TWG's initial budget recommendation and provide guidance to TWG on priorities, general direction, and guidance on any major unresolved issues.	AMWG meets to consider changes to year-two of the BWPH. If new initiatives are proposed by TWG, provide guidance to TWG on priorities, general direction, and guidance on any new initiatives. If TWG has proposed a final recommendation, then consider and provide a recommendation to the SOI if changes are needed.
May-June	GCMRC and Reclamation provides the work plan to the BAHG and SAs by early May for their consideration of a BWPH to TWG.	IF NEEDED: GCMRC and Reclamation work with the BAHG to implement new initiatives as requested by AMWG (based on TWG's recommendations).
Late June/Early	TWG meets to consider a BAHG recommendation, SA review comments,	IF NEEDED: TWG meets to consider year-two recommended changes and provide a

July	and hydrograph, for a recommendation to AMWG on a BWPH.	recommendation to AMWG.
Late August/Early September	AMWG meets to consider a BWPH recommendation from TWG in order to make a recommendation to the SOI.	IF NEEDED: AMWG meets to consider a BWPH recommendation from TWG in order to make a recommendation to the SOI.
September	SOI reviews the budget and work plan recommendation from AMWG.	If changes are recommended by AMWG, the SOI reviews the budget and work plan recommendation.

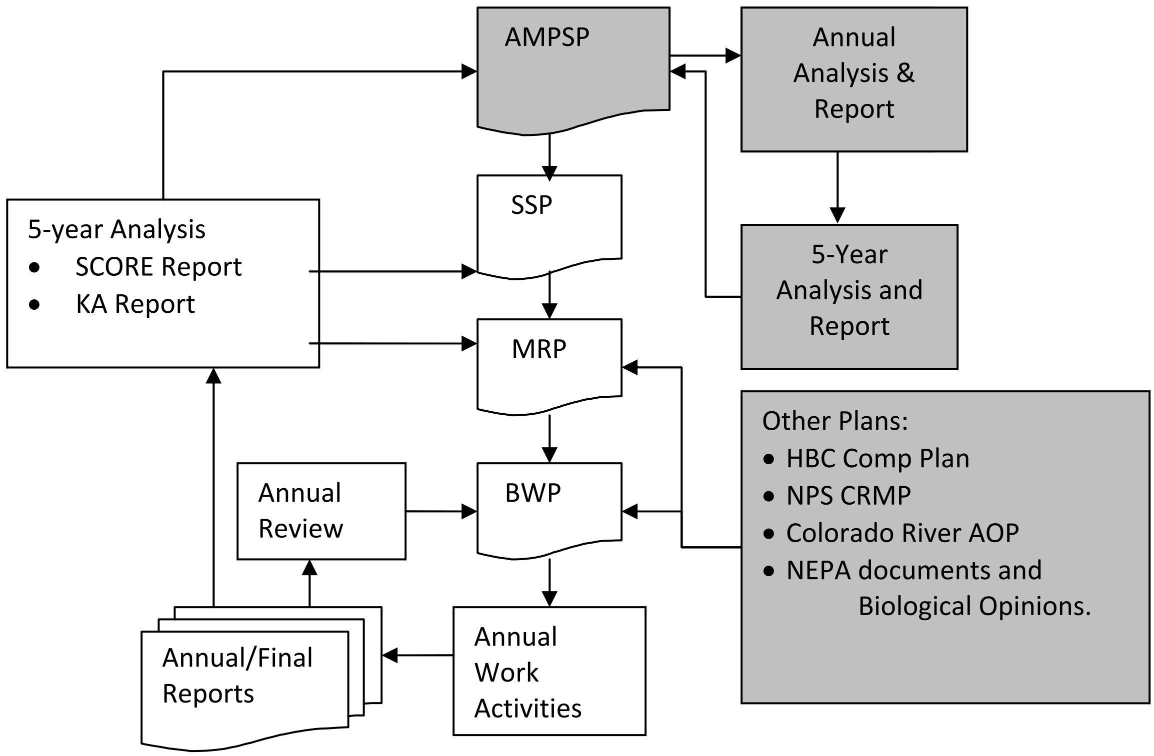


Figure 1. Collaborative science planning and implementation process from GCMRC's Strategic Science Plan. The Glen Canyon Dam Adaptive Management Program and the Department of the Interior have lead responsibility for the shaded boxes. The Grand Canyon Monitoring and Research Center has lead responsibility for the boxes that are not shaded.

Figure 2. Representation of the two-year budget process in the Upper Colorado River Endangered Fish Recovery Program (attached pdf).

Table 1. Approximate timelines for a streamlined process for development of a biennial workplan and budget (BWP), plus consideration of changes to the second year of the budget. Dates shown are estimated targets.

Month	**Year-1** (FY11) **(development of biennial workplan & budget)**	**Year-2** (FY12) **(consideration of year-2 of biennial workplan & budget)**
November	USGS produces GCMRC annual project reports document	USGS produces GCMRC annual project reports document
January	Annual reports meeting (2 days) followed by 1-day TWG meeting to review budget and provide guidance to GCMRC and BOR. TWG reviews progress in addressing Information Needs and research accomplishments.	Annual reports meeting (2 days) followed by 1-day TWG meeting to review GCMRC budget and provide guidance to USGS and BOR on any potential changes to consider for year-2 of the budget. TWG reviews progress in addressing Information Needs and research accomplishments.
February-	1. Based on a revised SSP/MRP, DOI establishes/updates general work plan priorities/hydrograph assumptions and communicates those to AMWG 2. USGS and BOR will meet will meet with the DOI family to solicit their input on DOI priorities and major issues to be reconciled. Any disagreements will be resolved by DOI in consultation with the DOI Family	USGS initiates internal review of BWP in relation to ASWS priorities and funding constraints. Identifies proposed revisions and analyzes scenarios/implications.
March	GCMRC and BOR will develop an initial biennial budget spreadsheet based on DOI priorities and input from (a) scientist and TWG provide at the AR meeting and (b) the DOI family.	USGS provides initial draft BWP spreadsheet for ASWS consideration.
April	TWG meets to consider and provide input on the initial GCMRC/BOR budget recommendation. Unresolved issues or conflicting priorities will be resolved by DOI in consultation with the DOI family	• USGS meets with the DOI family to solicit input on draft BWP. • USGS provides revised draft BWP and briefing to ASWS.
May	GCMRC and BOR provide a draft BWP to the TWG and SA for their review and comment.	• USGS provides draft BWP to the BAHG and SA for review. • BAHG meets to consider and provide input on the draft BWP.
June	TWG meets to provide input on the initial GCMRC and BOR budget recommendation and provide a recommendation to the AMWG.	• USGS provides a final draft BWP to the TWG and SA for review. • TWG meets to provide input on the final draft BWP.
July	GCMRC and BOR provides a final draft BWP to the AMWG for their review	USGS revises and provides final draft BWP to the AMWG for their review.
August	AMWG meets to provide input on the GCMRC and BOR draft BWPs and provide a recommendation to the SOI	AMWG meets to provide input on the final draft BWP and provide a recommendation to the SOI
September	SOI reviews the budget and work plan recommendation from AMWG.	SOI reviews the budget and work plan recommendation from AMWG.

Criteria for Review and Revisions of the Year-two Budget

In order for BWP development process to be successful in reducing the administrative burden on the GCMRC, BOR and the GCDAMP it must have clear criteria for making changes to the year-two budget. The burden of an appropriate rationale for proposing a change falls upon the proposer to make a persuasive argument. The following criteria will be used by GCMRC, Reclamation, and TWG in making recommendations to AMWG on changes to the year-two budget:

- Scientific requirement or merit: New information gained during the implementation of monitoring and research projects may result in a need to alter methods, scope, or timelines in the work plan or substantially alter or eliminate a project. This is a science-based need based on the experience of implementing an already approved project. This does not represent a shifting priority, but a scientific learning process which results in needed modifications to carry out the goals.

- Administrative needs: Administrative or programmatic changes may occur within the time-frameof an approved budget. Examples include the mitigation of an impact as a result of ESA consultation or tribal consultation, a change in the “overhead” charges of a federal or state agency, a significant reduction of the balance of the Colorado River Basin Fund or a failure to secure NPS permits for work in the Grand Canyon. As soon as an administrative event occurs that affects the budget, GCMRC (or relevant agency – such as DOI) will notify the TWG.

- New initiatives: New initiatives or modifications to projects that may or may not be based on a scientific merit must be vetted through DOI. DOI will consider whether to direct GCMRC/BOR to work on these new initiatives or whether to consider them during the next full budget cycle. Given that the budget will likely be fully accounted for, direction on where to locate the funds within the current budget will be requested from DOI.

Glen Canyon Dam Adaptive Management Program

FY 2013-14 Expenditures for the Bureau of Reclamation — Updated: **06/11/13**

	Description			FY12 w/3.9% CPI	FY13 w/2.0% CPI	FY14 w/3.0 CPI
AMWG						
	Personnel Costs - Labor & Burden			184,846	188,543	194,199
	AMWG Member Travel Reimb			14,756	15,051	15,503
	AMWG Reclamation Travel Reimb.			15,140	15,443	15,906
	Facilitation Contract			40,531	82,942	85,430
	POAHG Expenses - Labor, Burden, & Travel			59,305	60,491	62,306
	Other			8,509	8,679	8,940
	Subtotal			**$323,087**	**$371,149**	**$382,283**
TWG						
	Personnel Costs - Labor			92,045	76,667	78,967
	TWG Member Travel Reimb.			21,681	15,748	16,220
	Reclamation Travel			14,958	8,555	8,812
	TWG Chair / Facilitation			30,145	26,022	26,803
	Other			2,431	1,878	1,934
	Subtotal			**$161,260**	**$128,870**	**$132,736**
OTHER						
	Admin Support NPS Permitting			121,882	124,320	128,049
	Contract Administration - Labor, Burden, Travel			42,665	43,518	44,824
	Experimental Carryover Funds			507,679	515,000	0
	Integrated Tribal Resource Monitoring			152,583	155,635	160,304
	Non-Native Fish Suppression Contingency Fund			0	249,721	418,658
	Subtotal			**$824,809**	**$1,088,194**	**$751,835**
PROGRAMMATIC AGREEMENT ADMINISTRATION						
	Reclamation Administration and Travel			64,226	127,839	131,310
	Cultural Program Implementation			519,500	473,908	373,077
	Subtotal			**$583,726**	**$601,747**	**$504,387**
	Reclamation Power Revenue Costs Total			**$1,892,882**	**$2,189,960**	**$1,771,241**
	Reclamation Power Revenue w/o Carryover			**$2,152,632**	**$1,946,940**	**$1,874,486**
TRIBAL CONTRACTS (Appropriated Funds)						
	Hopi Tribe		$95,000			
	Hualapai Tribe		$95,000			
	Navajo Nation ($190K deobligated 7/19/10)		$95,000			
	Pueblo of Zuni		$95,000			
	Kaibab Band of Paiute Indians		$95,000			
	DOI Agency Appropriated Funds Total		**$475,000**			
	Total		**$475,000**	**$1,892,882**	**$2,189,960**	**$1,771,241**

RECLAMATION

Managing Water in the West

Overview of Reclamation FY 13-14 Budget

Glen Knowles

Bureau of Reclamation

Glen Canyon Dam Adaptive Management Program

June 17, 2013 BAHG Call

U.S. Department of the Interior

Bureau of Reclamation

Reclamation FY 2013-14 Budget
Proposed Changes

Sequestration – 5.1% cut to the FY2013 Budget = $532,939.

April 3 TWG Webinar – Cost savings to TWG Budget, but will be reallocated to fund facilitation.

Cultural Program – Updated, some funding has been redirected to fund tribes to work on LTEMP.

RECLAMATION

Reclamation FY 2013-14 Budget
Adaptive Management Work Group

	Description	FY12 w/3.9%	FY13 w/3.0%	FY14 w/3.0%
AMWG				
	Personnel Costs - Labor & Burden	184,846	190,391	196,103
	AMWG Member Travel Reimb	14,756	15,199	15,655
	AMWG Reclamation Travel Reimb.	15,140	15,595	16,062
	Facilitation Contract	40,531	41,747	43,000
	POAHG Expenses - Labor/Burden/Travel	59,305	61,084	62,917
	Other	8,509	8,765	9,028
	Subtotal	**$323,087**	**$332,781**	**$342,765**

RECLAMATION

Reclamation FY 2013-14 Budget
Adaptive Management Work Group

	Description	FY12 w/3.9%	FY13 w/3.0%	FY14 w/3.0%
AMWG				
	Personnel Costs - Labor & Burden	184,846	190,391	196,103
	AMWG Member Travel Reimb	14,756	15,199	15,655
	AMWG Reclamation Travel Reimb.	15,140	15,595	16,062
	Facilitation Contract	40,531	82,942	85,430
	POAHG Expenses - Labor/Burden/Travel	59,305	61,084	62,917
	Other	8,509	8,765	9,028
	Subtotal	**$323,087**	**$373,976**	**$385,195**

RECLAMATION

Reclamation FY 2013-14 Budget
Technical Work Group

TWG					FY 12	FY 13	FY 14
	Personnel Costs - Labor				92,045	94,806	97,651
	TWG Member Travel Reimb.				21,681	22,331	23,001
	Reclamation Travel				14,958	15,407	15,869
	TWG Chair / Facilitation				30,145	31,049	31,980
	Other				2,431	2,504	2,579
	Subtotal				**$161,260**	**$166,097**	**$171,080**

RECLAMATION

Reclamation FY 2013-14 Budget Technical Work Group

TWG				FY 12	FY 13	FY 14
	Personnel Costs - Labor			92,045	58,528	60,284
	TWG Member Travel Reimb.			21,681	9,165	9,440
	Reclamation Travel			14,958	1,703	1,754
	TWG Chair / Facilitation			30,145	19,170	19,745
	Other			2,431	1,252	1,290
	Subtotal			**$161,260**	**$89,818**	**$92,513**

Cost savings of April and June TWG Webinar = FY13 $76,279 / FY14 $78,567

RECLAMATION

Reclamation FY 2013-14 Budget
Other Costs

OTHER		FY 12	FY 13	FY 14
	Admin Support NPS Permitting	121,882	126,242	130,029
	Contract Administration Labor/Burden/Travel	42,665	43,945	45,264
	Experimental Funds	507,679	515,000	515,000
	Integrated Tribal Resource Monitoring	152,583	157,160	161,875
	Native Fish Conservation Carryover Fund	$0	$782,660	$1,321,139
	Subtotal	$1,084,559	$1,625,007	$2,173,308

FY13 5.1% Sequestration Cut = $532,939

RECLAMATION

Reclamation FY 2013-14 Budget
Other Costs *Revised*

OTHER		FY 12	FY 13	FY 14
	Admin Support NPS Permitting	121,882	126,242	130,029
	Contract Administration Labor/Burden/Travel	42,665	43,945	45,264
	Experimental Funds	507,679	515,000	515,000
	Integrated Tribal Resource Monitoring	152,583	157,160	161,875
	Native Fish Conservation Carryover Fund	$0	$249,721	$764,721
	Subtotal	$1,084,559	$1,092,068	$1,616,889

FY13 5.1% Sequestration Cut = $532,939

RECLAMATION

Reclamation FY 2013-14 Budget
Other Costs *2014 Sequestor*

OTHER		FY 12	FY 13	FY 14
	Admin Support NPS Permitting	121,882	126,242	130,029
	Contract Administration Labor/Burden/Travel	42,665	43,945	45,264
	Experimental Funds	507,679	515,000	0
	Integrated Tribal Resource Monitoring	152,583	157,160	161,875
	Native Fish Conservation Carryover Fund	$0	$249,721	$418,658
	Subtotal	$1,084,559	$1,092,068	$755,826

FY14 8.0% Sequestration Cut = $861,063

RECLAMATION

Reclamation FY 2013-14 Budget Cultural Program

CULTURAL PROGRAM	FY 12	FY 13	FY 14
Reclamation Administration and Travel	64,226	127,839	131,310
Cultural Program Implementation	519,500	440,620	406,419
Subtotal	**$583,726**	**$568,459**	**$537,729**
Reclamation Power Revenue Total	**$2,152,632**	**$2,692,344**	**$3,224,882**
Reclamation Power Revenue w/o CO	**$2,152,632**	**$1,909,684**	**$1,903,742**

Cultural Program Implementation

Fiscal Year	Treatment	Associative Values	NNMOA Consult	GCMRC Support	Tribal TEK Project	Implement LTEMP	Total
FY13	$66,000	$100,000	$10,000	$161,129	$15,000	$10,000	$362,129
FY14	$50,000	$30,000	$10,000	$156,129	$50,000	$40,000	$336,129

Activity	**2013**	**2014**
Subtotal (less GCMRC Sup. w/3.0%CPI)	207,030	185,400
DOI Overhead (35%)	72,461	64,890
GCMRC Support	161,129	156,129
Project total	440,620	406,419

RECLAMATION

Reclamation FY 2013-14 Budget Cultural Program *Revised*

CULTURAL PROGRAM	FY 12	FY 13	FY 14
Reclamation Administration and Travel	64,226	127,839	131,310
Cultural Program Implementation	519,500	473,908	373,077
Subtotal	**$583,726**	**$601,747**	**$504,387**
Reclamation Power Revenue Total	**$2,152,632**	**$2,196,661**	**$2,639,207**
Reclamation Power Revenue w/o CO	**$2,152,632**	**$1,946,940**	**$1,874,486**

Cultural Program Implementation

Fiscal Year	Treatment	Associative Values	NNMOA Consult	GCMRC Support	Tribal TEK Project	Implement LTEMP	Total
FY13	$49,940	$100,000	$0	$161,129	$15,000	$60,000	$386,069
FY14	$61,354	$30,000	$0	$156,129	$50,000	$14,706	$312,189

Activity	2013	2014
Subtotal (less GCMRC Sup. w/3.0%CPI)	231,688	160,742
DOI Overhead (35%)	81,091	56,206
GCMRC Support	161,129	156,129
Project total	473,908	373,077

RECLAMATION

Reclamation FY 2013-14 Budget
Tribal Participation

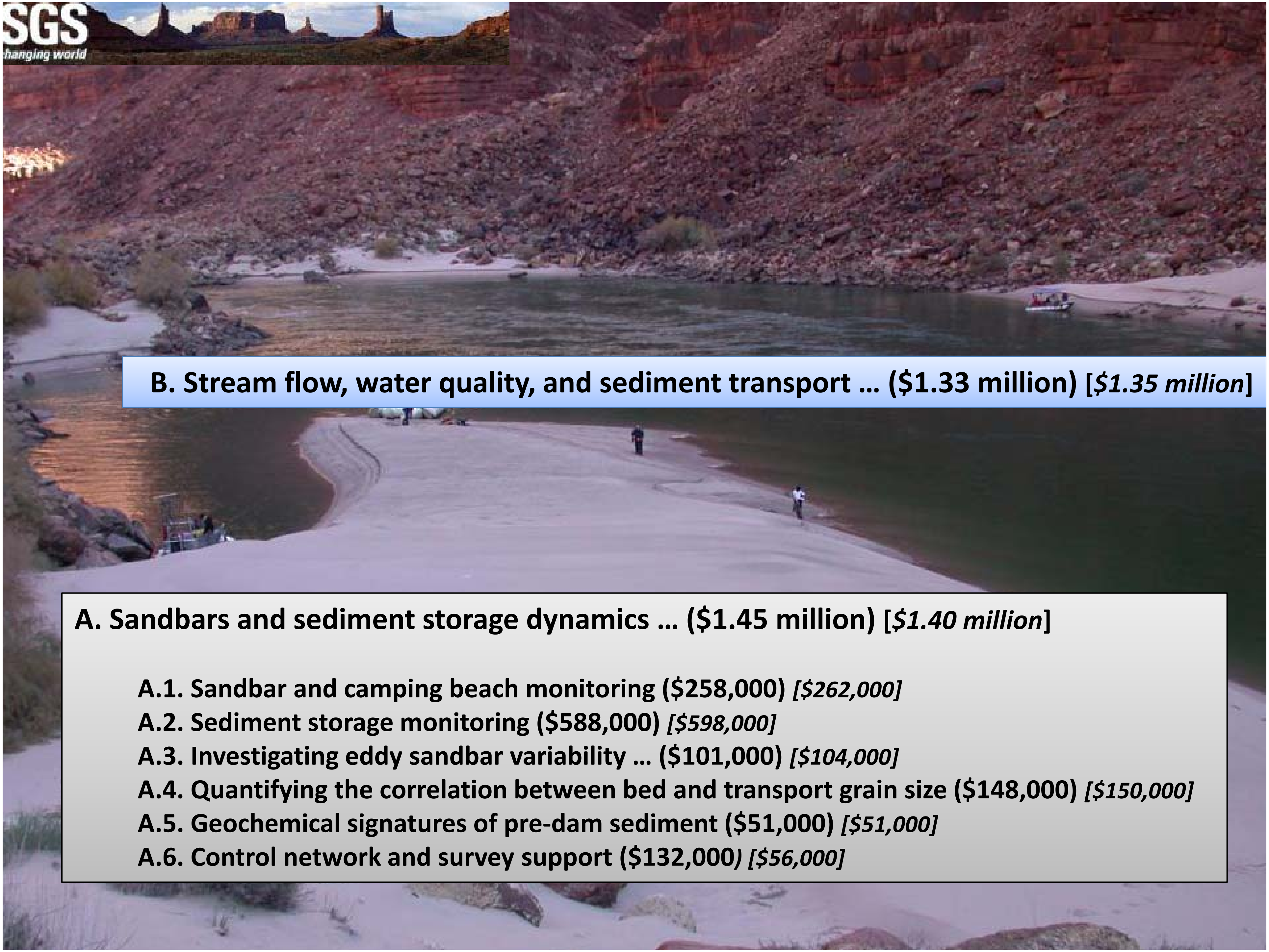
TRIBAL CONTRACTS			FY 2013	FY 2014
	Hopi Tribe		95,000	95,000
	Hualapai Tribe		95,000	95,000
	Navajo Nation		95,000	95,000
	Pueblo of Zuni		95,000	95,000
	Kaibab Band of Paiute Indians		95,000	95,000
Agency Appropriated Funds	**Total**		**$475,000**	**$475,000**

RECLAMATION

FY13/14 specifics

Jack Schmidt

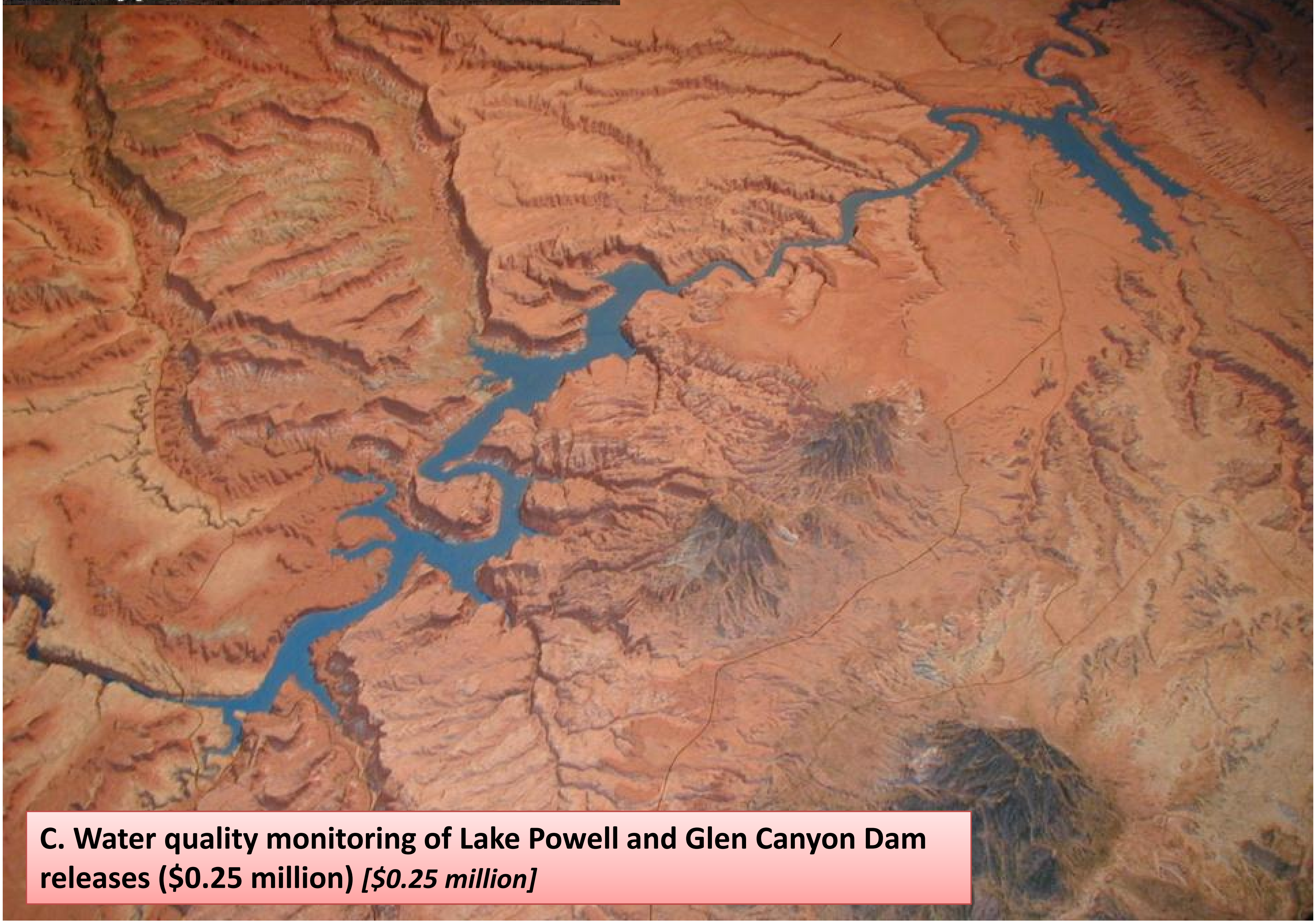
GCMRC



B. Stream flow, water quality, and sediment transport … ($1.33 million) [*$1.35 million*]

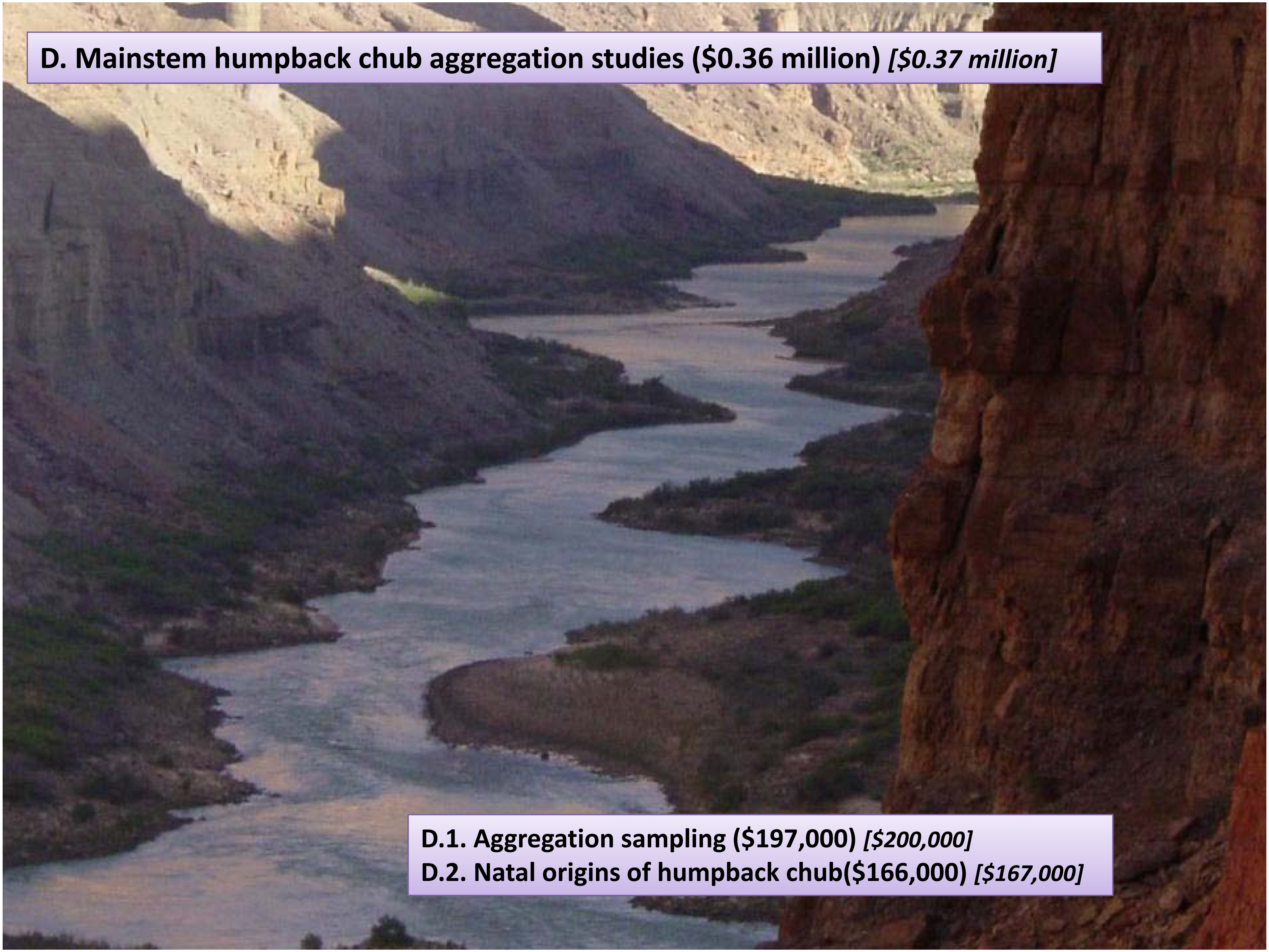
A. Sandbars and sediment storage dynamics … ($1.45 million) [*$1.40 million*]

- A.1. Sandbar and camping beach monitoring ($258,000) *[$262,000]*
- A.2. Sediment storage monitoring ($588,000) *[$598,000]*
- A.3. Investigating eddy sandbar variability … ($101,000) *[$104,000]*
- A.4. Quantifying the correlation between bed and transport grain size ($148,000) *[$150,000]*
- A.5. Geochemical signatures of pre-dam sediment ($51,000) *[$51,000]*
- A.6. Control network and survey support ($132,000*) [$56,000]*



C. Water quality monitoring of Lake Powell and Glen Canyon Dam releases ($0.25 million) ***[$0.25 million]***

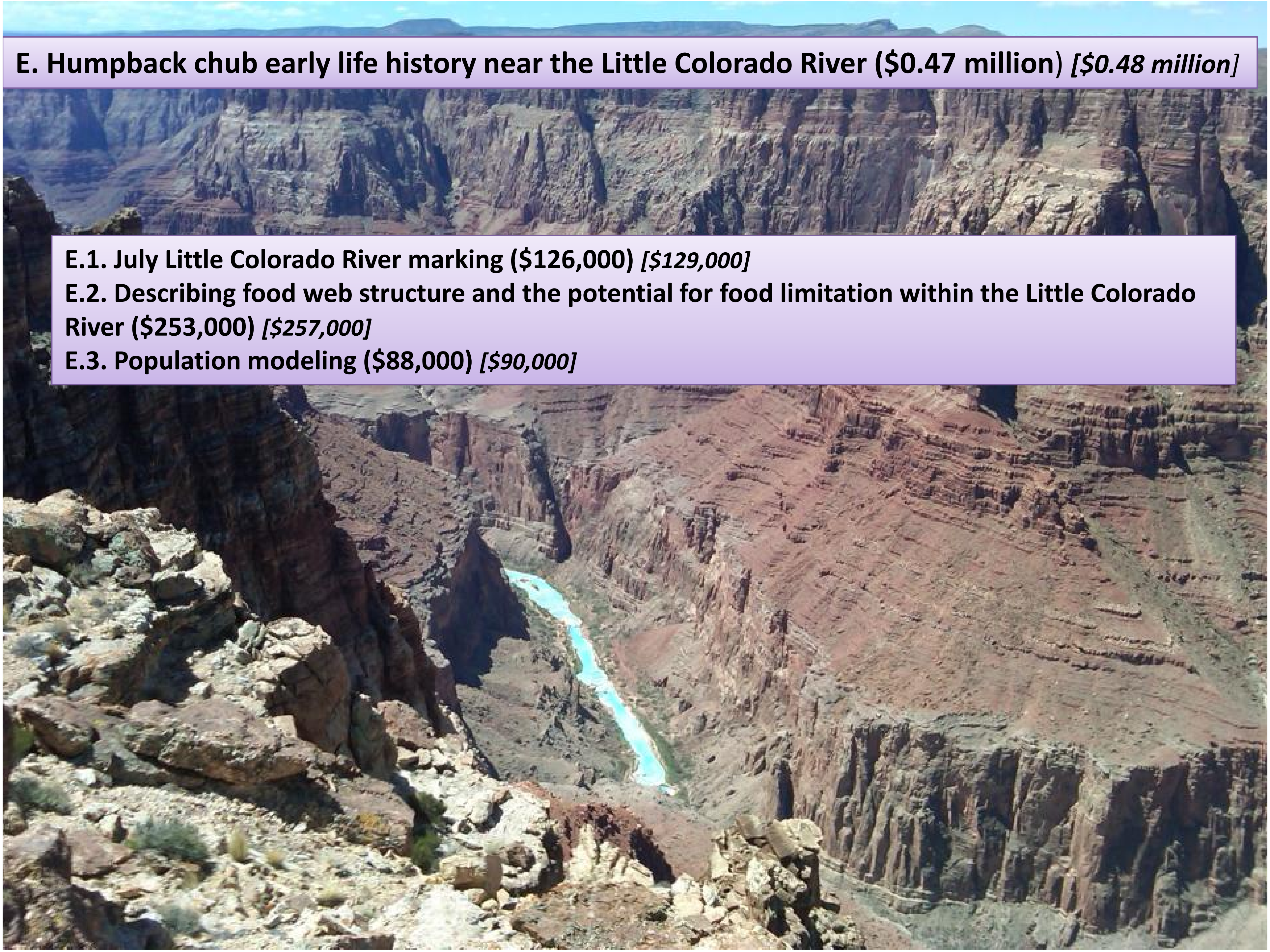
D. Mainstem humpback chub aggregation studies ($0.36 million) *[$0.37 million]*

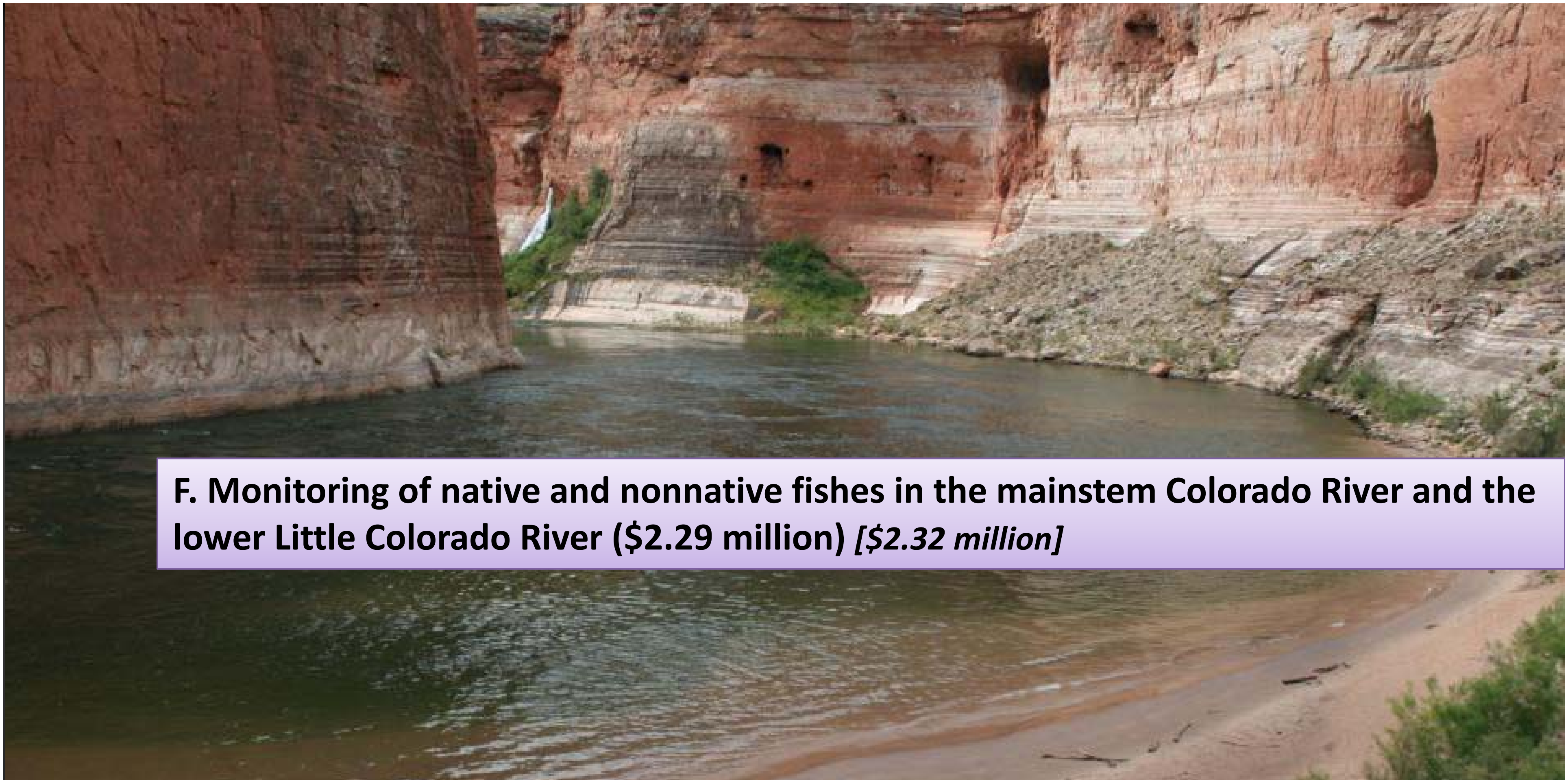


D.1. Aggregation sampling ($197,000) *[$200,000]*
D.2. Natal origins of humpback chub($166,000) *[$167,000]*

E. Humpback chub early life history near the Little Colorado River ($0.47 million) *[$0.48 million]*

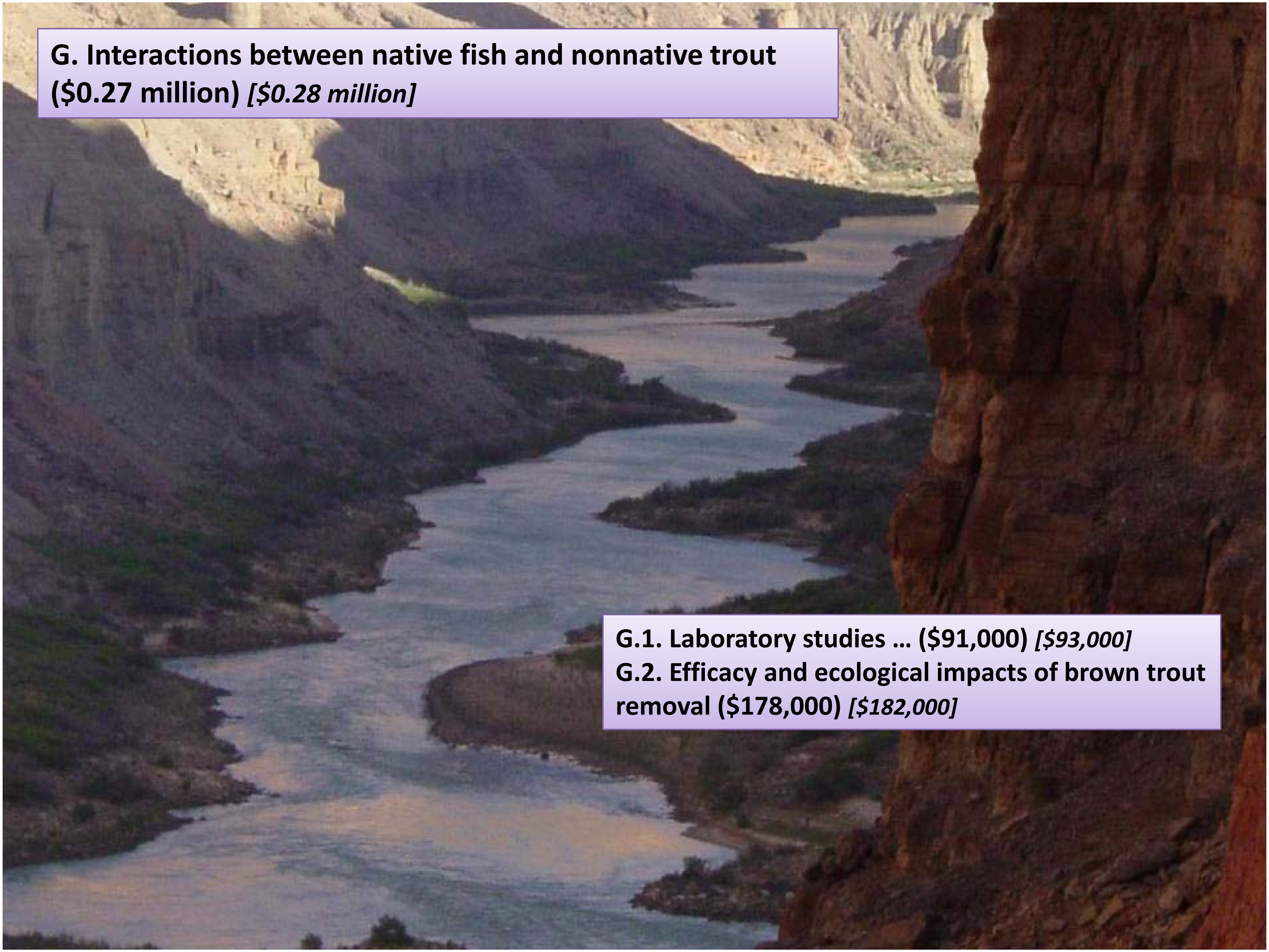
E.1. July Little Colorado River marking ($126,000) *[$129,000]*
E.2. Describing food web structure and the potential for food limitation within the Little Colorado River ($253,000) *[$257,000]*
E.3. Population modeling ($88,000) *[$90,000]*





F. Monitoring of native and nonnative fishes in the mainstem Colorado River and the lower Little Colorado River ($2.29 million) *[$2.32 million]*

F.1. Systemwide electrofishing ($214,000) ***[$217,000]***
F.2. Glen Canyon monitoring ($261,000) ***($264,000)***
F.3. Mainstem monitoring of native and nonnative fishes near the Little Colorado River; juvenile chub monitoring ($457,000) ***[$464,000]***
F.4. Little Colorado River monitoring ($805,000) ***[$811,000]***
F.5. Stock assessment and structured mark recapture model of humpback chub abundance ($20,000) [$20,000]
F.6. Detection of rainbow trout movement from Glen Canyon into Marble Canyon ($271,000) ***[$276,000]***
F.7. Food base monitoring ($266,000) ***[$272,000]***



G. Interactions between native fish and nonnative trout ($0.27 million) ***[$0.28 million]***

G.1. Laboratory studies … ($91,000) ***[$93,000]***
G.2. Efficacy and ecological impacts of brown trout removal ($178,000) ***[$182,000]***

H. Understanding the factors limiting the growth of rainbow trout in Glen and Marble Canyons ($0.60 million) *[$0.61 million]*

- H.1.Laboratory feeding studies ($37,000) *[$38,000]*
- H.2. Understanding the links among dam operations, environmental conditions, and the food base ($238,000) *[$244,000]*
- H.3. Developing a bioenergetics model for large rainbow trout ($135,000) *[$138,000]*
- H.4. Learning from other Tailwaters -- a synthesis ($143,000) *[$147,000]*
- H.5. Contingency planning for HFEs and subsequent rainbow trout population management ($43,000) *[$45,000]*

I. Riparian vegetation studies ($0.37 million) [$0.38 million]

I.1. Monitor vegetation and channel response using response guilds and landscape scale vegetation change analysis ($368,000) ***[$377,000]***

J. Monitoring Cultural Resources at a Small Scale and Defining the Large-Scale Geomorphic Context of the Processes Affecting Cultural Resources ($534,000) *[$540,000]*

J.1. Cultural site monitoring in Glen Canyon ($159,000) *[$162,000]*

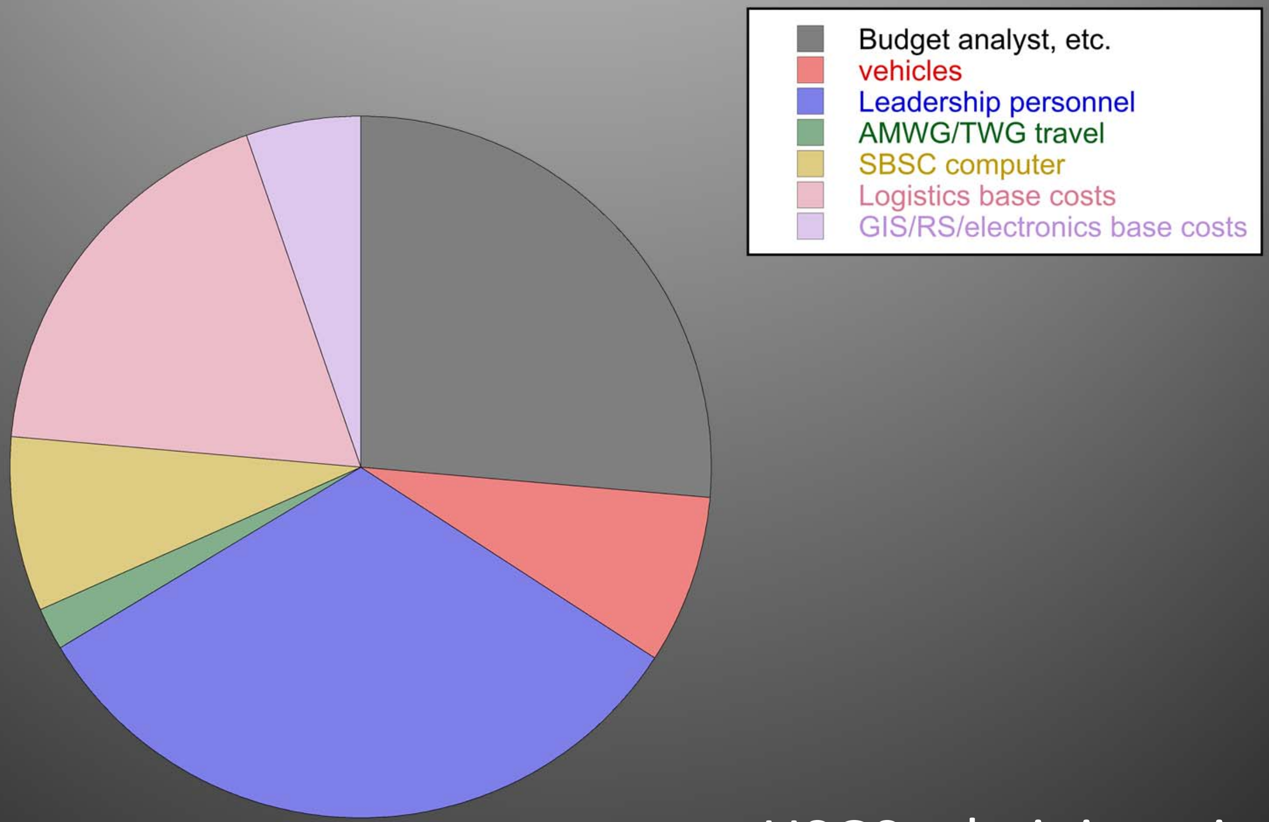
J.2. Monitoring of Select Cultural Sites in Grand Canyon ($189,000) [$191,000]

J.3. Defining the Extent and Relative Importance of Gully Formation and Annealing Processes in the Colorado River Ecosystem ($186,000) *[$187,000]*

GCMRC economist and research support
$221,000 *[$199,000]*

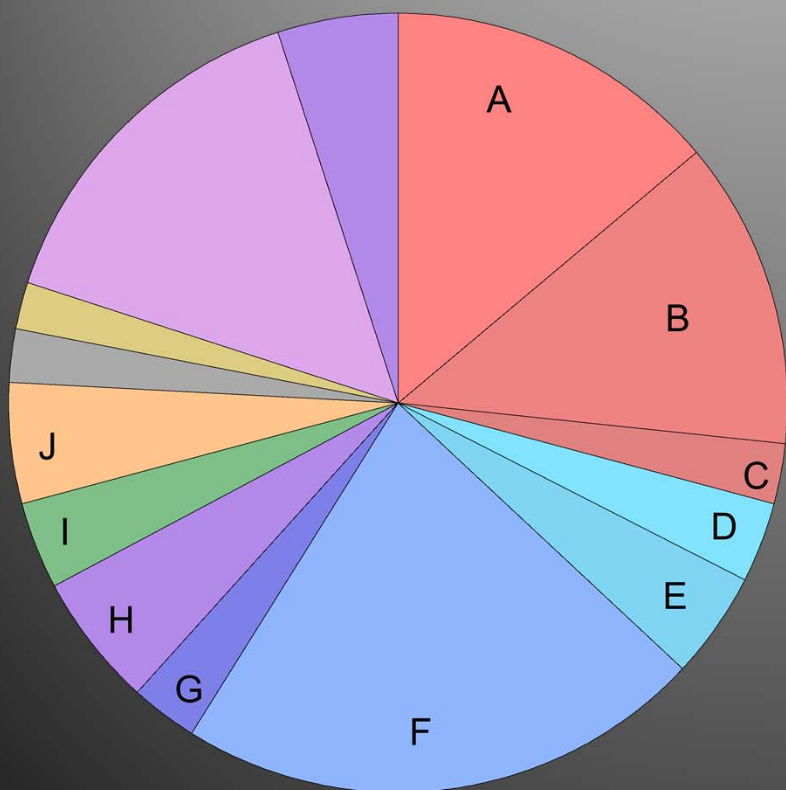
Independent Reviews *($27,000) [$28,000]*

Science Advisors *($172,000) [$165,000]*



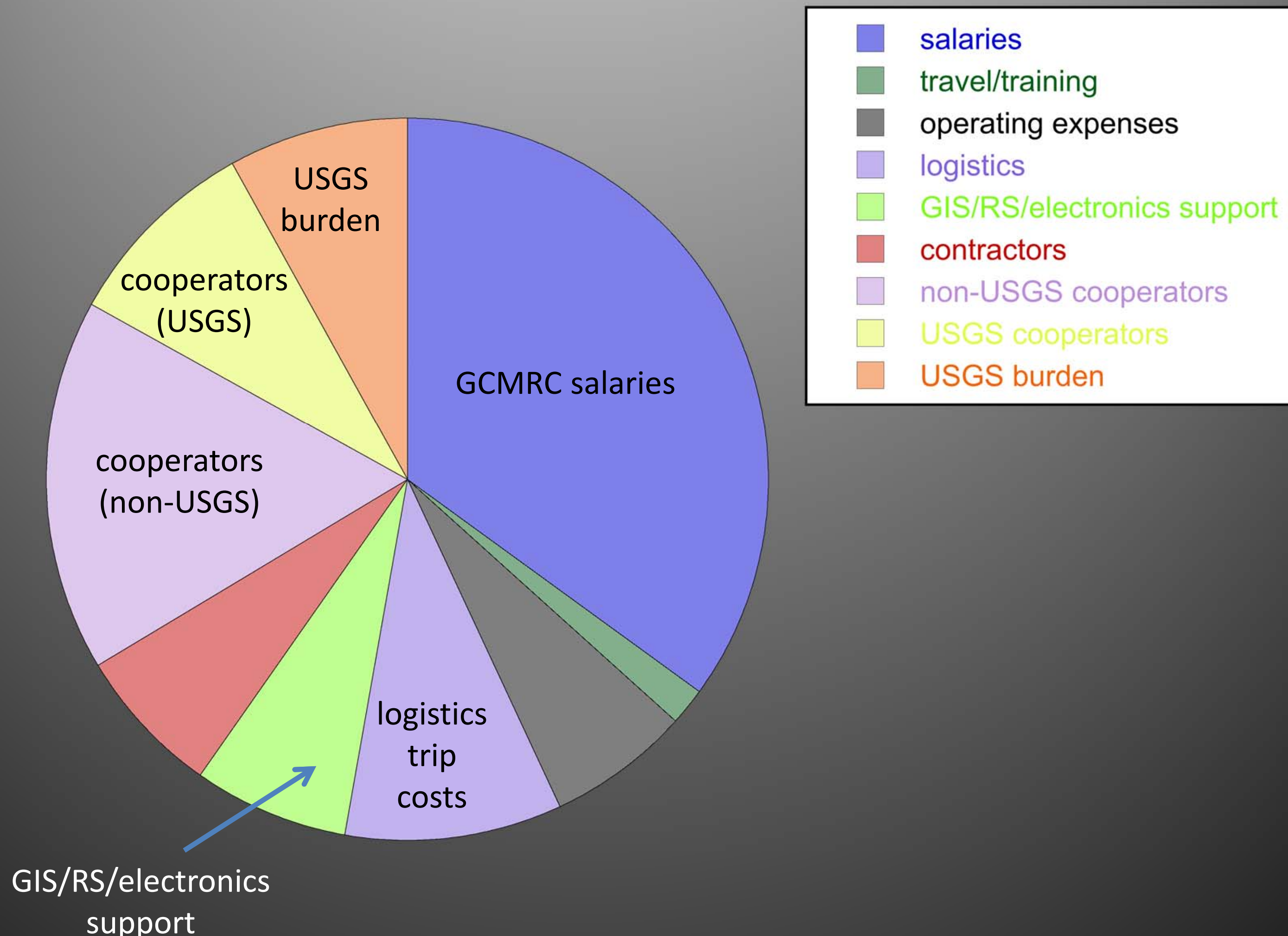
USGS administration costs
$1,570,000 *[$1,606,000]*
does not include indirect costs on projects

FY 13: $10,447,000 *[$10,441,000]*

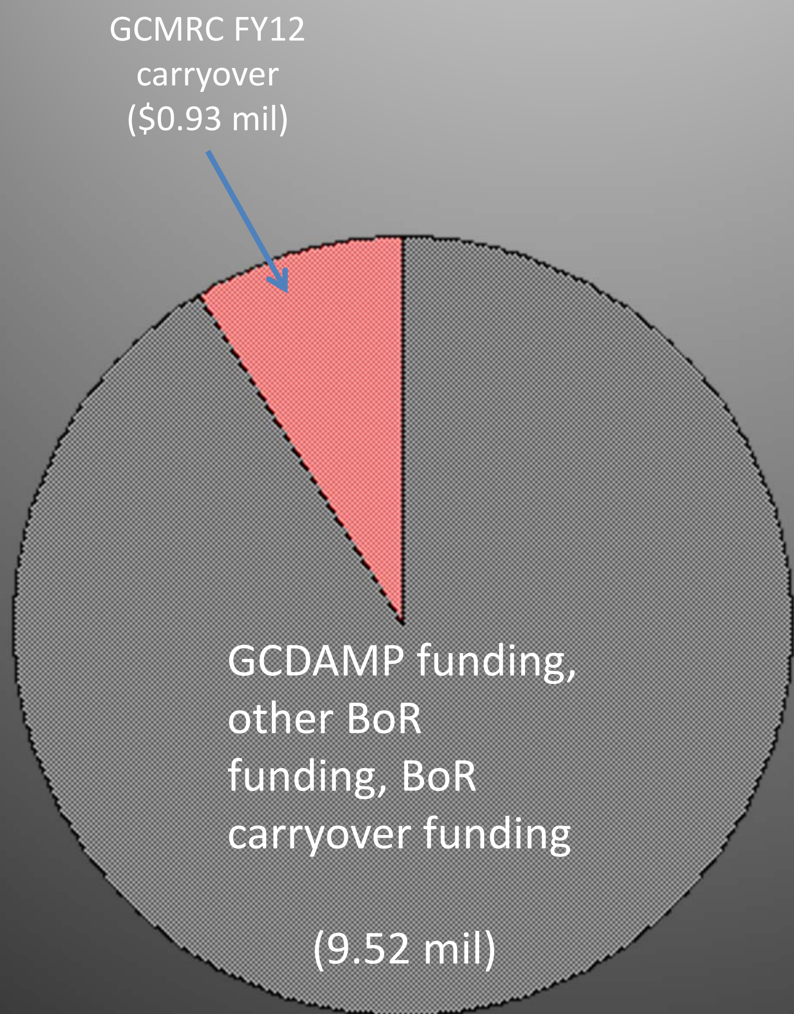


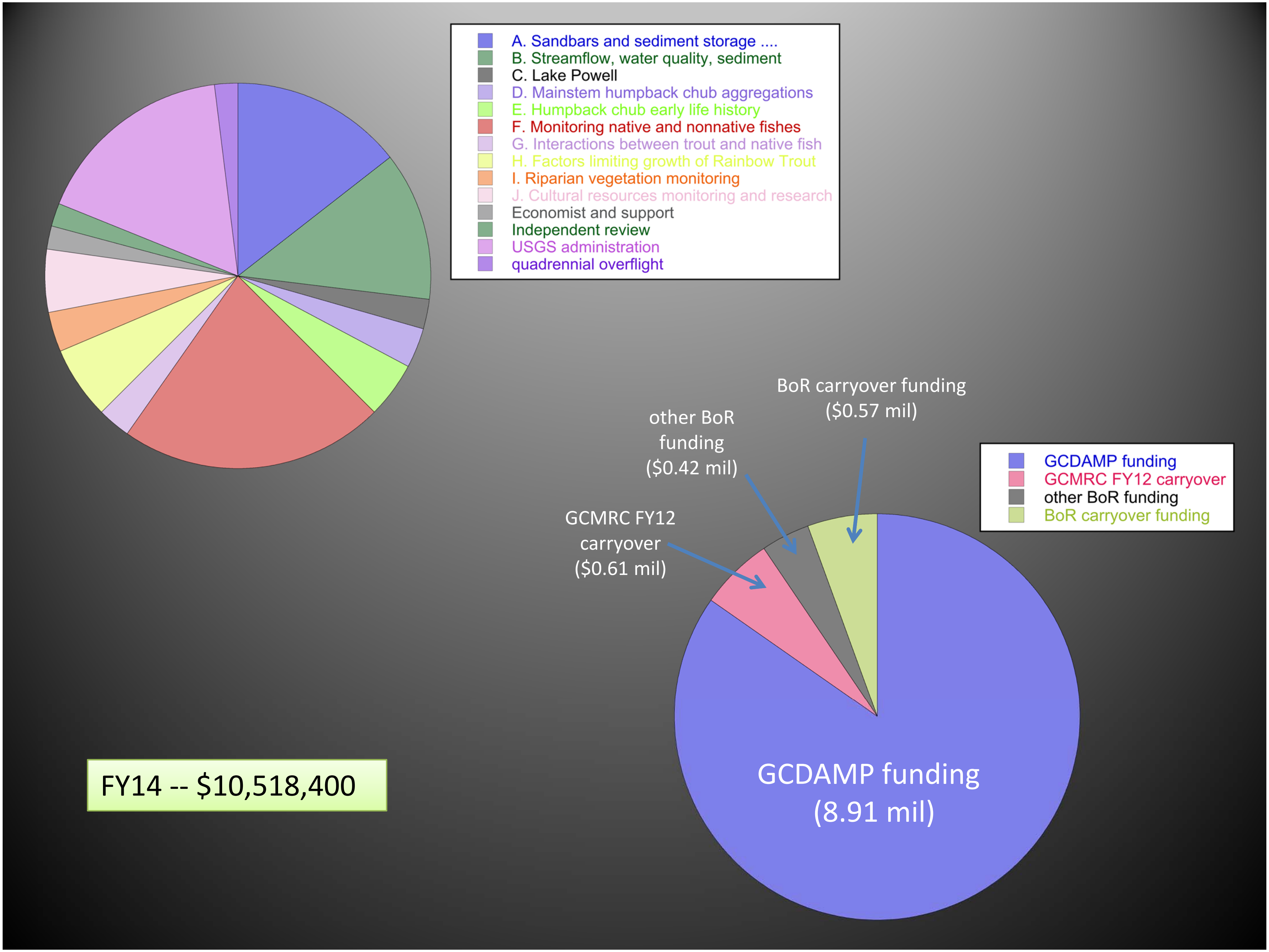
- A. Sandbars and sediment storage ....
- B. Streamflow, water quality, sediment
- C. Lake Powell
- D. Mainstem humpback chub aggregations
- E. Humpback chub early life history
- F. Monitoring native and nonnative fishes
- G. Interactions between trout and native fish
- H. Factors limiting growth of Rainbow Trout
- I. Riparian vegetation monitoring
- J. Cultural resources monitoring and research
- Economist and support
- Independent review
- USGS administration
- quadrennial overflight

FY13: general budget categories



Sources of funding for FY13

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G. Interactions between trout and native fish
H. Factors limiting growth of Rainbow Trout
I. Riparian vegetation monitoring
J. Cultural resources monitoring and research
Economist and support
Independent review
USGS administration
quadrennial overflight
BoR carryover funding ($0.57 mil)
other BoR funding ($0.42 mil)
GCMRC FY12 carryover ($0.61 mil)
GCDAMP funding
GCMRC FY12 carryover
other BoR funding
BoR carryover funding
GCDAMP funding (8.91 mil)
FY14 -- $10,518,400

moving forward

Some Questions/Issues to Ponder in Developing FY15/16 BWP

- ❑ Relation among FY13/14 BWP projects, 2004 Priority Science Questions, HFE Protocol EA, and NNFC EA. **Do the EAs and the associated FoNSIs redefine how GCMRC addresses the 2004 Priority Science Questions**?

- ❑ Have the 2004 Priority Science Questions been subsumed by the LTEMP process? **How is the development of the FY15/16 BWP to be guided by the LTEMP EIS?**

- ❑ **Have the expectations of the AMWG/TWG regarding monitoring and research needs been redefined?**

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Status of 2004 Priority Science Questions

moving forward

1) **Why are humpback chub not thriving, and what can we do about it? How many humpback chub are there and how are they doing?**
   a) Decade long focus on humpback chub population estimation and on humpback chub ecology indicates substantial improvement in humpback chub population
   b) FY13/14 BWP has a large focus on humpback chub ecology (4 projects)
2) **What is the best flow regime?**
   a) This is the focus of the HFE Protocol EA and of the LTEMP EIS now being planned.
3) **What will happen when we test or implement a TCD? How should it be operated? …**
   1) Temperature has been a major focus of GCMRC research regarding the food base and interactions between trout and chub.
   2) Temperature issues are being evaluated within the LTEMP EIS process.
4) **What is the impact of [fine] sediment loss and what should we do about it?**
   1) Project A is a comprehensive investigation of the distribution of fine sediment, and its results are being linked with resource attributes
   2) Other project reports linking fine sediment loss with campsite changes are overdue; specific linkages are being addressed in reports now being finalized.
5) **Which cultural resources, including TCPs, are within the APE, which should we treat, and how do we best protect them?**
   1) Project J3 specifically is linked with APE designation.
   2) Monitoring of specific cultural properties remains a controversial issue

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Questions, Expectations, Concerns

moving forward

Secretarial Directive concerning Environmental Assessments for (1) High-flow Experimental Releases, and (2) Non-native Fish Control (May 23, 2012: "I direct … USGS … to undertake coordinated implementation of the actions and commitments described and analyzed in the Environmental Assessments …")

2011 Desired Future Conditions Ad Hoc Group
(April 30, 2012: SoI directed AMWG "to utilize these DFCs to inform and guide the AMWG's future considerations")

General Science Plans for the Environmental Assessments

Assistant Secretary's Guidance Concerning Research and Monitoring Priorities in GCMRC science planning (March 31, 2011, memo)

Core Monitoring Plan (February 18, 2011, draft)

Monitoring and Research Plan (April 2009)

Priority Questions and Program Goals (August 2004)

moving forward

FY 13/14 Biennial Work Plan

spring/summer/fall 2013: *first field season*

fall/winter 2013: *data analysis and interpretation*

winter 2014: *Annual Reporting Meeting (January) focuses on interpretation of 2013 field season data in a broad scientific and management context*

spring/summer/fall 2014: *second field season*

fall/winter 2014: *data analysis and report preparation*

winter 2015: *Annual Reporting Meeting (January) focuses on preliminary final findings of FY 13/14 BWP*

FY 15/16 Biennial Work Plan

winter 2014: *receive stakeholder input based on Annual Reporting Meeting; work with AMWG/TWG and develop preliminary FY 15/16 work plan*

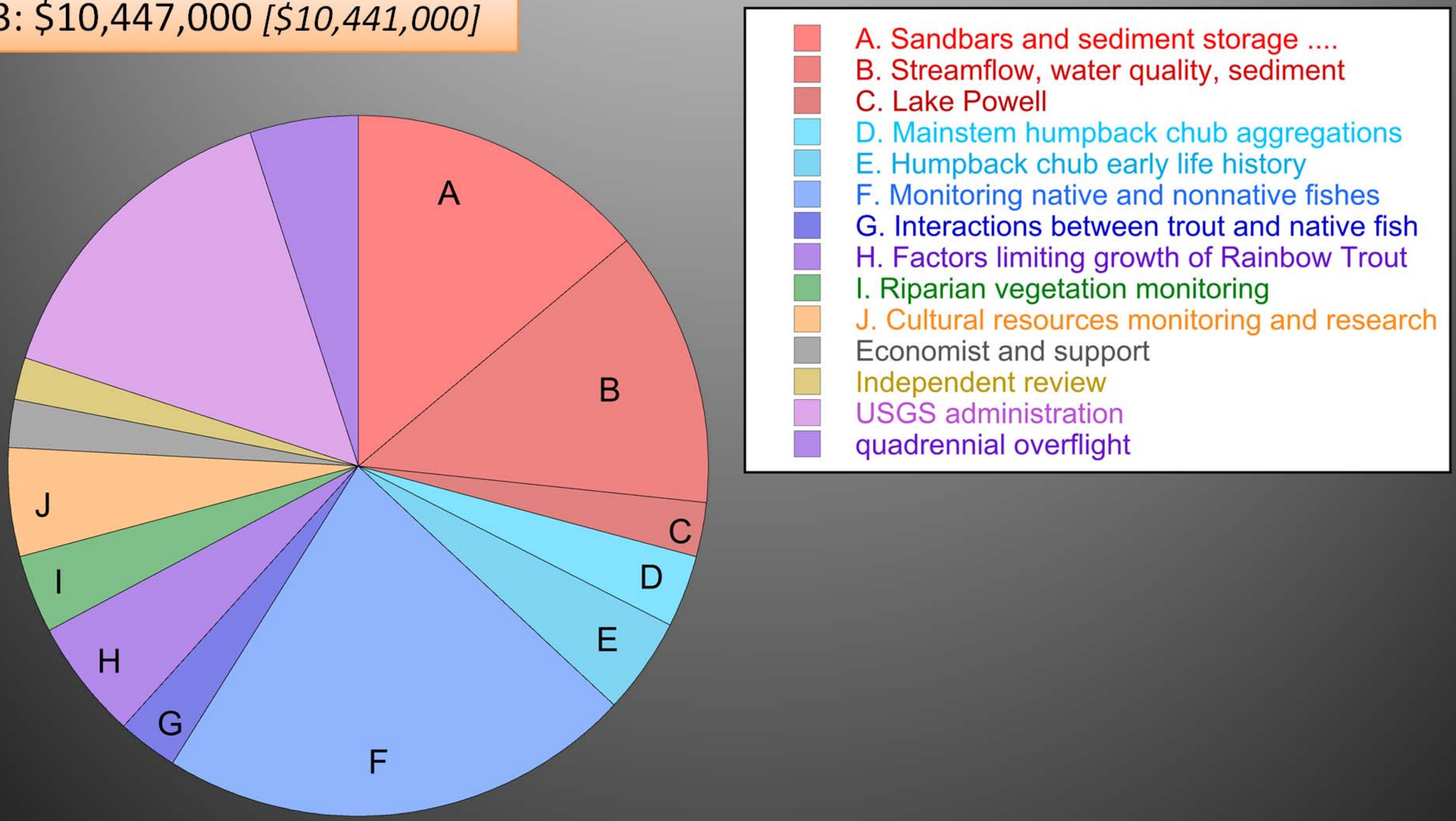
spring 2014: *BWP development in collaboration with TWG and TWG/BAHG*

summer 2014: *refinement of BWP; consideration by AMWG (August)*

fall/winter 2014: *budget/contract finalization*

FY 2013

FY 13: $10,447,000 *[$10,441,000]*



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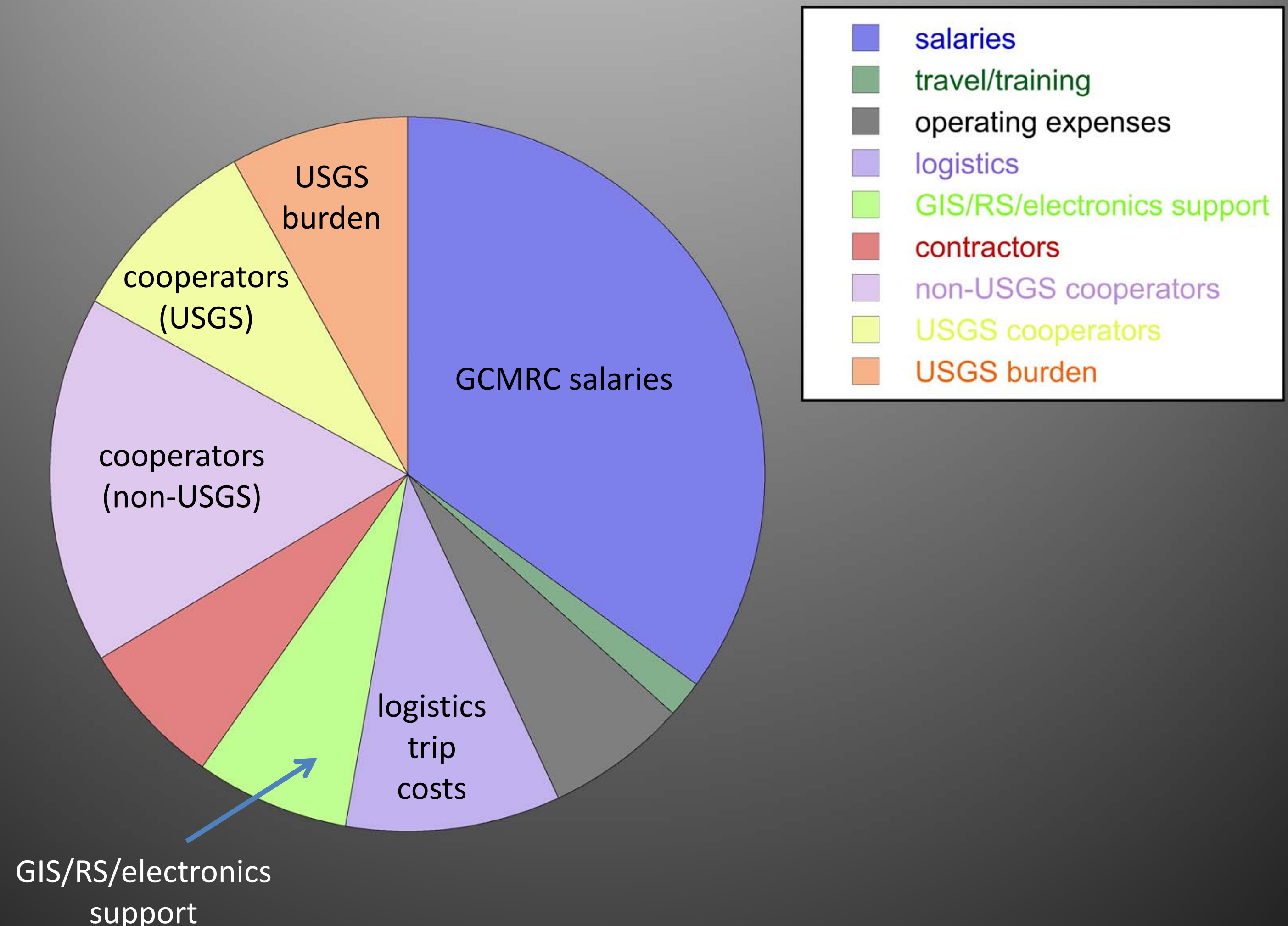
FY13: general budget categories

FY 2013



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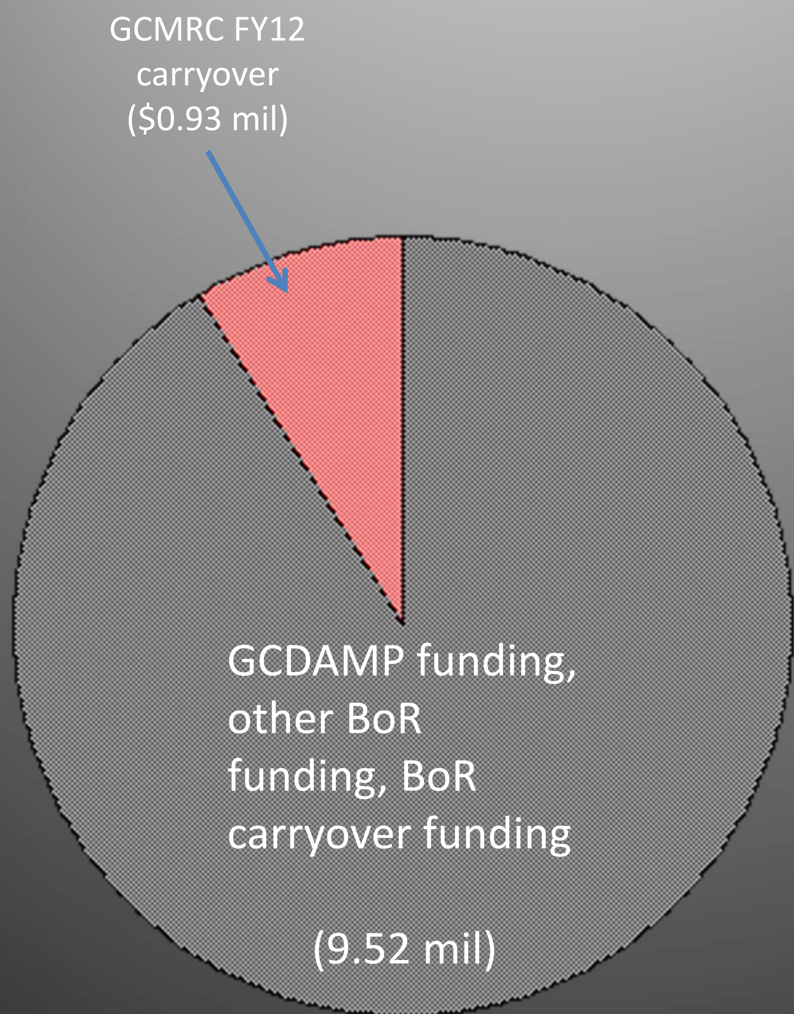
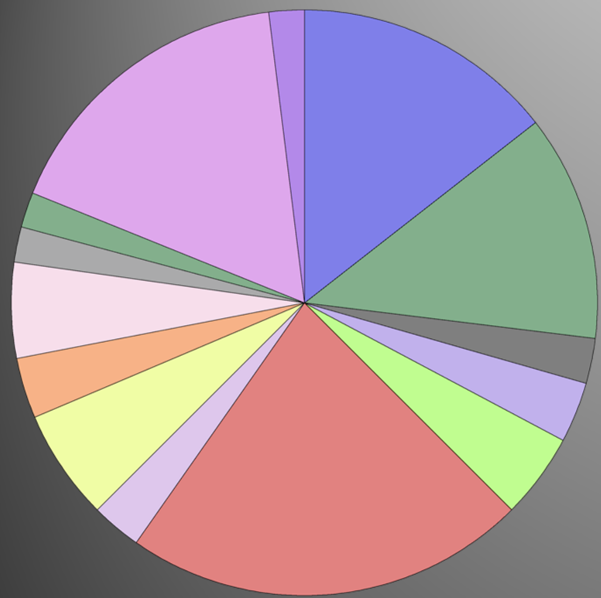
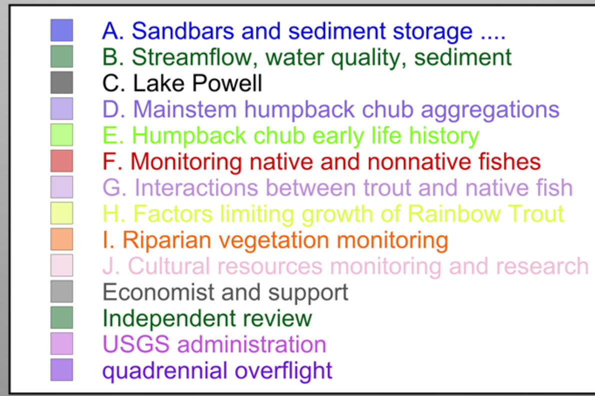
Sources of funding for FY13

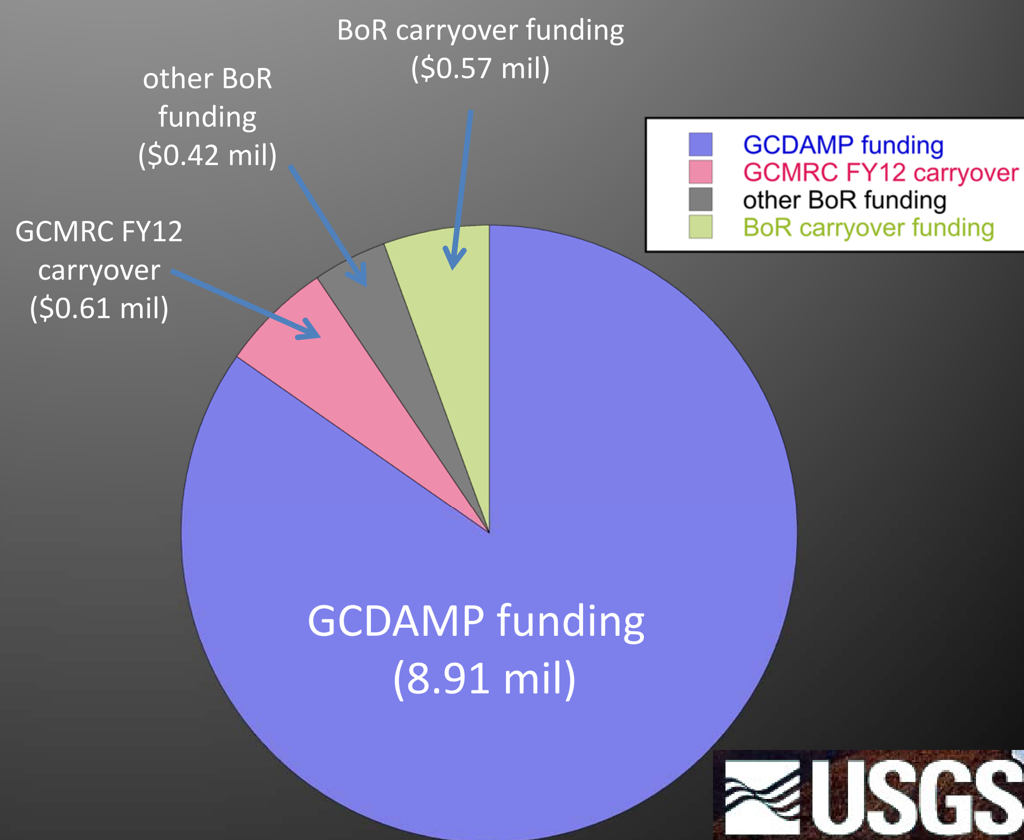
FY 2013



FY 2014







FY14 -- $10,518,400

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