TWG Budget Ad hoc Group
GCMRC FY06 Budget and Work Plan Development
Question/Response Table

General Comments (and GCMRC's Draft Responses, 04/27/05)	
General 1 **(Norm Henderson)**	**As specified by the AMWG, two '06 budgets must be prepared. One with experimental actions and one without experimental actions.**
GCMRC's Response to General Comment #1	In response to the AMWG motion and request from the BAHG, two versions of the FY 2006, budget tables were prepared by the GCMRC staff. These versions assumed that a DOI burden rate of 15% would need to be applied to the science funds, unless a special pass-through rate is approved for FY 2006. The **Non-Experimental** version reflects a strategic effort to reprogram the $791,000 (gross total with burden), originally proposed in the GCMRC's 2002 Experimental Plan design as the fourth year of mechanical removal, into other non-experimental efforts, as per the recommendations of the Budget ad-hoc group. On the basis of discussions with the BAHG chairperson, it appears that the main recommendation for reprogramming these funds is to have them carried forward into the FY 2007-08, period for use in supporting experimental treatments implemented once the Experimental Plan is completed and approved. The **Experimental** version of the plan includes experimental elements (both flow and non-flow) that are recommended by the GCMRC staff and its cooperators on the basis of: 1) science knowledge gained since the experimental treatments began in 2003, 2) the strategic design of the GCMRC's original experimental plan (2002), 3) existing environmental compliance, 4) agreed upon "conservation measures" associated with the experimental compliance, and 5) the fiscal reality of the projected budget for FY 2006.
General 2 **(Norm Henderson)**	**The GCMRC's 2006 Draft Workplan and Budget must be viewed as a provisional budget given that a great deal of planning is underway to establish program priorities in both research and monitoring. Given this, there should be a caveat included at the front of the workplan and budget that states that program elements included may be modified based on the outcome of this planning effort (sometime before FY-2006). If we can't make changes in '06 based on this planning analysis, it calls into question the rationale for going forward with our planning effort.)**
GCMRC's Response to General Comment #2	Owing to the fact that the FY 2006, draft work plan and budget will not be approved until nearly the end of the FY 2005 fiscal year, there is little time prior to FY 2006 to make changes prior to implementation in October 2005. Therefore, GCMRC believes that any changes that are required in the draft plan should be clearly identified by the TWG at its June 2005 meeting, well before approval of the work plan and budget by the AMWG in August 2005. The projects that are recommended by the TWG to the AMWG and forwarded onto DOI as recommended actions for

<table>
<tr><td></td><td>implementation in FY 2006, need to be fully resolved prior to the August 2005, AMWG meeting.</td></tr>
<tr><td>General 3

(Norm Henderson)</td><td>Related to this planning effort, the 2006 workplan and budget should better clarify what is proposed by GCMRC as core monitoring and what is proposed as research (also include a table of ID acronyms). Currently several elements are specified as core monitoring in the workplan and budget but are not included in the 2006 provisional CMP (e.g., fine sediment storage and KAS). Some elements described in the workplan as core monitoring are actually a combination of core monitoring and R&D (e.g., downstream fish monitoring). Some elements are listed as core monitoring in the CMP are not listed as core monitoring in the workplan (e.g., survey and control). Some elements listed as core monitoring in both the CMP and workplan have different budget amounts (e.g., Lees Ferry trout). Finally, some elements within the workplan are identified as core monitoring in the past but have been terminated in ’06 (e.g., Streamflow and SS transport) with no explanation. Below is a table that summarizes many of these inconsistencies.
<table>
<tr><th>Item</th><th>’06 Budget spreadsheet Line #</th><th>’06 Budget spreadsheet $</th><th>’06 WP $</th><th>‘06 Provisional CMP $</th></tr>
<tr><td>Lake Powell Monitoring</td><td>158</td><td>215,250</td><td>215,250</td><td>445,500</td></tr>
<tr><td>Downstream WQ and sediment mass flux</td><td>62</td><td>1,113,373</td><td>1,113,373</td><td>1,104,000</td></tr>
<tr><td>Fine sediment storage</td><td>63</td><td>294,688</td><td>294,688</td><td>Not inc</td></tr>
<tr><td>Lees Ferry trout monitoring</td><td>90</td><td>118,450</td><td>118,450</td><td>184,000</td></tr>
<tr><td>KAS</td><td>87</td><td>221,260</td><td>221,260</td><td>Not inc</td></tr>
<tr><td>Survey operations</td><td>130</td><td>148,523</td><td>148,523</td><td>100,000</td></tr>
<tr><td>Control network</td><td>132</td><td>176,813</td><td>176,813</td><td>100,000</td></tr>
<tr><td>Airborne RS</td><td>77</td><td>94,415</td><td>94,415</td><td>138,000</td></tr>
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<tr><td>GCMRC’s Response to General Comment #3</td><td>The main reason there are inconsistencies between the FY06 budget and the FY06 core monitoring plan is because the definition of core monitoring is not static and has changed since the FY06 budget was prepared. Furthermore, the FY06 budget lacks sufficient funding flexibility to accomplish all the identified core monitoring elements for even the “green projects” that are not considered to be within the FY06 Provisional Core Monitoring Plan. We are addressing the discrepancies by including a paragraph and table within the FY06 Provisional Core Monitoring Plan that identifies the pieces of each project that will be funded in the FY06. The two projects previously described as “Streamflow and SS transport” and Downstream Quality of Water” have been integrated into one unified effort in the FY 2006 work plan and their budgets have both been reduced over the amounts that were approved in FY 2005. Including GCMRC salaries, the total of the combined FY06 project, now listed as “Downstream Quality of Water and sediment mass flux” is less than the total Core Monitoring components of the individual projects, plus associated salaries, as listed in the FY 2005 approved budget. It is only because the DOI</td></tr>
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	burden and the GCMRC salaries are now included in the combined project that the total cost for the project seems greater than the sum of the two projects described in the FY 2005 work plan and budget.
General 4 **(Norm Henderson)**	**GCMRC burden is listed as 15% in the '06 budget. In the past two years two rates have been used (15% and 6%), and in 2003, a flat 6% was used. GCMRC has indicated that it is requesting that the burden rate be reduced to a flat 6% for 2006 and feels somewhat confident that the USGS Director may grant the waiver. It would seem that GCMRC should identify the amount that would be saved and where the funding would be used if a flat 6% burden rate were allowed. Specifying the savings be used for experimental actions might be a good way to justify the reduced rate.**
GCMRC's Response to General Comment #4	On the basis of the GCMRC's understanding of which project elements could qualify for a special "pass-through" rate of 6%, the original draft work plan (March 2005, edition) budget included this reduced burden rate for only a subset of projects and was not applied to GCMRC salaries or projected contract costs. To avoid creating a false sense of fiscal relief, the GCMRC believes that the most conservative approach to take in making budget projections, is to apply the special rate to only those project costs that have previously been approved for the "pass-through" until such time that a final decision is reached on whether or not the reduced rate will be applied to all science costs (see response to General Comment #1, above). However, in an attempt to provide the BAHG with additional budget information relating to this sensitive and critical issue, the GCMRC has prepared two additional versions of the budget spreadsheets using the proposed alternate burden rate of 6% for all of the GCMRC science funding. While there is a substantial fiscal relief provided by making this change to the FY 2006, there is absolutely no basis at this time for assuming that this discounted rate will be approved for use in FY 2006 on all science funds. These alternate versions are provided as means to promote discussion among the BAHG, but in no way are indicative of a budget policy change to an across the board reduction in the DOI burden rate for the 2006 fiscal cycle.
General 5 **(WAPA)**	**I do think the Core Monitoring Team and GCMRC need to discuss what is included in core monitoring. For example, is core monitoring just data collection and looking at trends or is it also separate full data analysis? Should the separate full data analysis show as separate project components?**
GCMRC's Response to General Comment #5	The core monitoring activities are focused on data collection and the required data processing necessary to extend a time series for the resources in question. Interpretive analysis or synthesis of the existing data must be done as a separate and additional research activity. Annual updates included in future editions of the SCORE report would be developed by GCMRC staff using the extended time series for a given resource response. In this sense, there is a continuation of some level of interpretive evaluation. Additional elements of a time series tied to experimental research would need to be reported within the context of the given treatment or project.
General 6 **(WAPA)**	**Please include for each line item whether or not it is power revenues and which is not. Example is line 94 vs. line 159.**

GCMRC's Response to General Comment #6	Please note that everything in the budget above line 156 is derived from power revenue, with the exception of line #94 (temperature and habitat monitoring), which was inadvertently included in this section of the budget. This project will be moved below the line to join the other non-power revenue line items.
General 7 (WAPA)	**The differences between red and blue are unclear. Does the blue mean potentially unfunded, up for discussion or are they completed? May need more colors or better clarification.**
GCMRC's Response to General Comment #7	For greater clarification in the budget sheet, all cells in Column A of the spreadsheet that both contain a project number AND are highlighted in BRIGHT GREEN, are recommended by the GCMRC for budget approval and implementation during FY 2006. In revising the draft work plan, an additional section will be added to Chapter 1, describing the status of all other projects that are listed in the budget table, but not associated with the above two criteria.
General 8 (WAPA)	**Show line items as completed if done and for what year it was completed. Don't list it as a zero. Example is line 112.**
GCMRC's Response to General Comment #8	See above response for General #7.
General 9 (WAPA)	**The findings and recommendations of the geomorphology (February 2005, workshop recommendations) need to be identified in the budgeted projects.**
GCMRC's Response to General Comment #9	Please recall that the FY06 workplan reviewed by BAHG in April was written prior to the geomorphology workshop. We will incorporate the information from the workshop and address these recommendations in the next version of the work plan.
General 10 (WAPA)	**Page 130 Task Groups** **Are these funded? Are there tasks for them in 06? Clarify why they are discussed.**
GCMRC's Response to General Comment #10	These Task Groups are not formally funded and no specific tasks are identified for the FY 2006 period. Any additional costs associated with such activities would need to be covered under the AMWG/TWG requests category, or from a funded project specific to the required Task Group activity.

Question Number	Questions/Comments on Individual Budget Line Items
11 (BAHG)	**Line 19 (Public Outreach)--In the Reclamation budget section, there are no funds identified for Public Outreach. Is this because we expect the carry-forward to exceed the $75,000 limit identified by AMWG?**
BOR's Response to Comment #11	Yes, at the present rate of expenditures we anticipate the Public Outreach group, which has been allocated $130,000 thus far, will have in excess of $75,000 available at the end of the fiscal year.
12 (BAHG)	**Lines 37-52 (Tribal Consultation)--What additional information is available on purpose and products for tribal funding as requested by TWG?**
BOR's Response to Comment #12	The Reimbursable Service Agreement from the Department of the Interior identifies four areas of endeavor for the tribes to undertake for this funding under the GCDAMP: (1) evaluation of resource management issues, (2) tribal monitoring of canyon resources, (3) attendance at meetings, and (4) government-to-government consultation.
13 (Norm Henderson)	**Line 62 (Integrated downstream water quality monitoring) – The workplan (page 64) discusses fine sediment mass balance. This discussion specifically relates to mass balance within Marble and Grand canyons. Discussions with GCMRC have revealed that Glen Canyon may not be the sacrifice zone originally assumed regarding sediment storage and may actually respond as the ROD model had predicted. As I understand it GCMRC will begin studying mass balance within the Glen Canyon reach in more detail in coming years. This fact should be reflected in the workplan for 2006.**
GCMRC's Response to Comment #13	This additional activity is partly referred to in the description of "lesser tributary" monitoring (Water Holes Canyon). Additional efforts to capture suspended-sediment data at the Lees Ferry gage on an event basis will be included in the draft revision for the FY 2006 plan. Additional main channel sampling of suspended-sediment transport at the Lees Ferry gage site will come at additional cost to the Downstream Quality-of-Water project, but it is currently hoped that these activities can be covered within the currently proposed FY 2006 budget amount, owing to the use of automated pumping sampler technology that can now be controlled by two-way, satellite telemetry system that has been innovated by the GCMRC's Physical Science program. This is potentially one example of our ability to do more with less in the mass balance of sand effort, owing to technological innovation.
14 (WAPA)	**A.2/A.3** **Part A - Crosswalk to Core Monitoring does not work. Maybe due to misunderstanding from use of different names. A green CM project, Streamflow and SS Transport is shown as unfunded.** **Part B - It would help to use the same terms/names for monitoring components and project names. Otherwise, it is very difficult to track across years, from table to narrative and to other plans.** **Part C - It would help to have subsets or indents under each project; e.g. A2 or A3 showing cost and component name. We would like the costs for individual**

	components of A2 and a better description. **Part D - Are projects with EXP also still being done at some level of normal monitoring? Seems like some of the EXP work is still being done.** **Part E - Seems like $1.1 million cost is high, need more information to understand what it all is.** **Part F - Unclear how the budget reflects the data analysis for the close out of FIST and the analysis of the Nov 04 high flow. Please split out the costs for this. Showing any analysis as an indented project with its own costs would be helpful. Having the high flow analysis in 06 seems late. Analysis for experiments should happen more quickly. In the future, it would be good to show the analysis budgeted with the experiment.**
GCMRC's Responses To Comment #14	The above comment is multi-part and lengthy. These will be addressed separately as follows: A) This project has been folded into the Downstream Integrated Quality-of-Water project, as described in the draft text of the work plan, but the draft plan sections related to the fine-sediment monitoring/EXP and the suspended-sediment mass balance will be reviewed and revised to better clarify the activities and timelines related to these budget items. B) Comment noted and will be taken into consideration during draft revision in this and other sections. C) This information is broken out in the budget table for the project in the text of the draft work plan. Further breakdown can also be shown in the budget spreadsheet if that is helpful and promotes clarity. D) The EXP projects are note being done unless the line item in the budget is associated with a project number and the cell in column A of the spreadsheet is highlighted in BRIGHT GREEN (see footnotes in the revised budget sheets). E) This is only a portion of the total cost for this project that the GCMRC estimated on the basis of an estimate from the Arizona District for the core-monitoring described in the draft Core-Monitoring plan. This amount reflects the costs for continuing the Quality-of-Water efforts (including measurements of surface water (stage and discharge), temperature, specific conductivity and suspended-sediment transport in the Paria (near Lees Ferry) and Little Colorado Rivers (near Cameron and above the confluence), and at four sites along the main channel of the CRE, between Lees Ferry and Phantom Ranch (river miles 0, 30, 61 and 87). F) Some preliminary analyses and reporting occurred on the November 2004, Experimental High-Flow (reports to the TWG and AMWG) within a few months of the event. However, full data processing of all samples and data, plus completion of peer-reviewed final reports for the various physical science project elements cannot be accomplished in less than one year (by September 2005). Additional time and funding is needed by the fine-sediment storage change and sand mass-flux projects in FY 2006, to fully accomplish the analysis and reporting objectives. For instance, remotely sensed data from the May 2005 over flight will not likely be available for

	analysis by GCMRC staff or cooperating scientists until the end of FY 2005. Results of the March 1996, test were completed and published between January 1998 and May 1999. The GCMRC plans to continue providing managers with preliminary updates on 2004 test results throughout FY 2005 and 2006, until final reports are approved and distributed.
15 WAPA)	**DASA** **-Doing the analysis for the Nov 04 high flow in 06 seems late. Also, won't the Science Symposium in October address the high flow? It would be better to have the information sooner in case nature cooperates with the potential for another experiment. Otherwise, it would not make sense to run another high flow. Budgets need to include analysis for experiments ASAP.**
GCMRC's Response to Comment #15	See Response to #14, above.
16 (BAHG)	**Line 77 (Air-Remote Sensing)--Are the FY 06 funding amounts for this effort correct now that it has been decided to conduct the system-wide over flight in FY 05? Is the FY 05 budget amount correct?**
GCMRC's Response to Comment #16	Yes, the FY 2006, budget amounts in the spreadsheet reflect the implementation of the May 2005, over flight.
17 (WAPA)	**A7, Line 80, work plan says 05 and 04 budgets were $80k not $160k. The table in the plan does not match with the budget table. If the $80k is correct, should reduce the $160k for freeing up money for other projects.**
GCMRC's Response to Comment #17	The draft plan text for project A.7 and associated budget table will be revised to match the budget spreadsheet. The disparity arose from the fact that the full GCMRC salaries were not included in the budget table shown in the FY05 annual plan, but these salary costs and indirect costs are included in the FY 2006 totals.
18 (WAPA)	**Line 81, channel mapping, is the analysis still ongoing for this project or is it completed?**
GCMRC's Response to Comment #18	The channel mapping efforts that started in 2001, are still underway during FY 2006. Bathymetry data collection and processing has been completed, but the task of combining the bathymetric data with 2000 terrestrial LiDAR data are still being completed towards development of full-channel geometry in reaches of Glen, Marble and eastern Grand Canyon that have been fully mapped. Those areas that have been completed are available for use by the sediment modeling team in support of predictive sediment simulations.
19 (BAHG)	**Line 87 (KAS and SWWF)--Funding for this project is increasing from $79,000 to $221,260. The budget table shows marked increases in both outsourced labor and GCMRC salaries. What is the cause of these increases?**
GCMRC's Response to Comment #19	As described in previous years annual plans, the KAS project was restricted to the KAS project and the budget reflected the work associated with this project $79,000. This included outsourcing for field work, agreement oversight by the terrestrial biologist, survey support to measure habitat, and logistic support. At the same time

	the KAS project was going on in previous years, there was also a terrestrial monitoring program occurring that incorporated the SWWF work. Support for SWWF work includes outsourcing field component, logistics support and oversight of the work by the terrestrial biologist at GCMRC. Starting in FY05, the terrestrial program was reduced to vegetation monitoring (2 trips/year), SWWF surveys (3 trips/year) and a tribal monitoring component. A greater portion of GCMRC's terrestrial biologist's salary was covered within this project. The cost of these efforts is $200,000 less than in FY04. In FY06, terrestrial monitoring has been cut to only cover endangered species compliance monitoring, which means that the cost of SWWF is included in the outsourced science labor, logistics support and permitting. The cost of the terrestrial biologist position is included in this total project cost. Relative to previous years, the total terrestrial program has sustained a reduction in budget and scope from $632,000 to $221,260, approximately a 65% cut in this program. In FY06, this means that there will be no monitoring of riparian birds, except SWWF, vegetation, or other wildlife.
20 (WAPA)	**Bioscience** **B1, line 87, there is not justification for the significant increase. Without justification, it needs to be reduced to fee up money for other projects.**
GCMRC's Response to Comment #20	See response to comment #19, above.
21 (BAHG)	**Line 88 (Aquatic Foodbase - Monitoring)--This line item is identified as Core Monitoring, yet our understanding is that it is research directed at identifying methods and metrics for monitoring application. Funding has increased from $248,000 in FY 04 to a requested $460,575 in FY 06. What justifies this increase in funding? Also, the TWG was informed by Jeff Lovich that a project like this would not be undertaken without a NSF level proposal being developed and submitted to the TWG. We do not believe that this has been done and would like to receive the proposal for review.**
GCMRC's Response to Comment #21	Recall, that the budget was developed prior to the CMP ad hoc group deciding to restrict the CMP to the green projects, hence the notation in the budget line as CM. This is an easy adjustment. With respect the budget increase, the increase represents $80,000 in burden and the salary of the aquatic biologist that will be working in a cooperative effort with researchers to be identified through the RFP process. The costs for the program in FY06 are relatively unchanged since 2004, if burden is added to each of these years: • FY04 $248,000 + 60,000 + 59,000 + burden = $422, 050. • FY05 $315,000 + 59,000 + burden = $430,00 • FY06 $400,500 + burden = $460,575 (this is $17,675.00 more than the COLA at 3%)

	In past years, the salary for the aquatic biologist was shared between fishery work and the aquatic food base program. In FY06 the salary is tied solely to the aquatic food base. This project is being put out in FY2005 as an RFP. As such the project will receive proposals from outsides sources that will be subject to peer review. The review is anticipated to occur in August 2005.
22 (Norm Henderson)	**Line 88 (Foodbase) – The budget and workplan indicates that funds have been or will be expended (in '04 and '05, respectively) yet the description of the project indicates that the RFP will be issued in '05 and implemented in '06. It is unclear how the '04 funds were utilized and if the RFP is obligated in '05, how will the '06 funds be utilized?**
GCMRC's Response to Comment #22	In FY2004 the budget for food base monitoring was reduced to support experimental flows work which included primary production and carbon flux, food base impacts of fluctuating flows and experimental high flows (EHF). The program manager at the time, Steven Gloss, initiated a research program for a carbon budget that utilized a portion of these funds to test methods to measure productivity. The total budget in FY04 associated with food base work was $367,000. The EHF money and remaining money in the food base monitoring project was intended for carry forward into FY05. As a result of shortfalls associated with overhead rates, this money was used to cover these expenses in FY04. In FY05 the budgeted amount for food base work is 315,000. The funds in FY05 are being allocated for the RFP and to cover the aquatic biologist position. In FY06, the proposed budget is intended to support the RFP that is funded in FY05 for a second year. This is a multi-year project involving 2 field seasons to account for variability. Funds to be available to researcher/cooperators is approximately 200,000/year for approximately two years.
23 (WAPA)	**B2, line 88, Should be RES not CM. It is unclear how 05 $ were spent and how 06 will be spent if issuing an RFP in 08. For 06, are there any river trips? How much will it cost to develop the long term monitoring protocols? Please show how the $460k is divided by project components.**
GCMRC's Response to Comment #23	We can change the CM to RES. In 05 the dollars are being spent to pay salary for the aquatic biologist's position at GCMRC and to be obligated to a research team following the release of an RFP in May and subsequent review and award in August of 2005. The intent of this initiative is to develop monitoring protocols so that an RFP for monitoring of food base can be released in FY08. The money budgeted in FY06 will support a multi-year effort to develop a monitoring approach. This would be the second year of funding for this project. The budget table (Excel spreadsheet) provides an indication of how the $460,000 is allocated, including ~ $215,000 to outside researches identified through the RFP process (project components may include drift sampling methods, stable isotope techniques to identify utilized food resources by fish and methods to quantify primary productivity), logistics (approximately 4 trips/year), and the aquatic biologist salary.
24 (WAPA)	**B3, line 89, change from CM to RES. Narrative mentions "remaining funds" for long term monitoring program. Clarify costs related to this and other**

	aspects. There seems to be two components to this: one for monitoring on the river and one for developing a monitoring program. Please show costs for each.
GCMRC's Response to Comment #24	The downstream fish project includes a CM component which is HBC in the LCR. So this is a hybrid project of sorts. Costs for HBC in the LCR include approximately $350,000 for outsourced labor and logistics. Mainstem monitoring, though not part of the FY06 CMP include mainstem salmonid monitoring. This monitoring supports the mechanical removal effort to help track system wide trends associated with Salmonids below the Paria River. The cost for this work is approximately $100,000 with additional costs for logistics for 2 trips/year, one of which takes out at South Cove to cover the below Diamond Creek stretch of river. The remaining budget would be associated with testing monitoring methods like using an underwater camera, alternative capture gear or radio tag scanners. In the budget there is a line item of $20,000 which is for net replacement, PIT tag purchases ($3.00/tag) and equipment repair associated with electrofishing gear. Included in this budget overall are salaries for a fisheries biologist and technician. The technician ensures that equipment is in good repair and ready for all fish trips.
25 (WAPA)	**B4, in tight budget years, such as 06, can this be reduced?**
GCMRC's Response to Comment #25	B4 is a core monitoring project in FY06. The budget allocated in FY06 is already reduced to a value less than what GCMRC recommends for this project to be whole for core monitoring. The current budget does not include snorkel survey work, and there is no specific salary for oversight by GCMRC for this project. Reducing the project costs more would eliminate the utility of having a monitoring project associated with the Lees Ferry Trout fishery.
26 (BAHG)	**Line 94 (Temperatures and Habitat Use Monitoring)--This project, which is not proposed for funding in FY 06 is listed as experimental, yet its title indicates that it is monitoring. Also, our understanding is that the work done in this project is to collect data to be used in the TCD evaluation. Why is it being dropped, and how does it differ from what is being done under downstream water quality monitoring?**
GCMRC's Response to Comment #26	These funds are Section 8 funds under the discretion of the Bureau of Reclamation. We have discussed this line with the HBC ad hoc group and their recommendation is that this be kept below the line of AMP dollars to reduce confusion. These funds are associated with the TCD project.
27 (Norm Henderson)	**Line 99 (Mechanical removal) – The workplan (page 88) specifies that "the need for this work to accompany implementation of other experimental factors…" Please indicate what other experimental factors must be implemented in order to make this a viable workplan element. If these factors are not included in the budget is it the recommendation of GCMRC that mechanical removal not be implemented in '06?**
GCMRC's Response to Comment	As indicated in the original experimental design provided to the AMWG in 2002 as well as numerous interactions with the TWG, AMWG, and various ADHOC groups of both, attempting to discover which factors are most influential in controlling HBC

#27	recruitment logically includes exploring the affect of temperature, dam operations, and non-native interactions. These factors should be explored in a long-term experimental framework. Without attempting to control these other likely important factors in a rigorous design will seriously degrade our ability to determine the effect of non-native control on HBC recruitment dynamics. We do not necessarily recommend that mechanical removal not proceed in '06, but again, that decision should be framed in the context of the LTEP.
28 (WAPA)	**B6, can we reduce the number of trips from six to four? Then, reprogram dollars.**
GCMRC's Response to Comment #28	This is ill-advised in the context of experimentation to determine the effect of non-native control on HBC recruitment dynamics since it potentially changes the severity of the treatment and therefore the response. Council from the science advisors early on in the development of this project advised to implement a treatment magnitude as large as possible to have the greatest likelihood of measuring an effect. Additionally, changing the severity of the treatment potentially results in a changed experimental design limiting options for LTEP planning, and ultimately the ability to determine the effect of non-native control on HBC recruitment dynamics. With the above points in mind and a clear understanding that at the present time the science cannot clearly answer the question of whether or not mechanical removal is benefiting HBC recruitment dynamics, there is no reason that managers cannot embrace mechanical removal as a management action that should be implemented at whatever scale they deem appropriate. Though funds for a management action may need to be provided from sources other than AMP funds.
29 (BAHG)	**Line 101 (Translocation of HBC)--No funds are identified for this conservation measure. Will it not be accomplished?**
GCMRC's Response to Comment #29	That was an oversight and will be added to the budget/workplan as per a discussion with the HBC ad hoc group.
30 (BAHG)	**Line 106 (Concurrent Estimates HBC)--The BAHG would like information on what products or efforts were funded in FY 04 ($250,000) and FY 05 ($200,000) under this line item. No information is provided in Table B.5 of the workplan or in the accompanying text. We can not determine whether the request for FY 06 is justified without this information.**
GCMRC's Response to Comment #30	Funds in FY04 were used to cover costs associated with the Santa Barbara workshop that reviewed sampling methods and population estimate models used in Grand Canyon and the upper basin. The remaining funds were intended to be carried forward into FY05, but were used to cover costs associated with overhead costs charged by USGS. Funds in FY05 are being used for simulation modeling as directed by the Secretary's designee. They are also being used to ensure that other HBC projects are completed, or initiated like the disease and parasite work, fall seining trip, and translocation associated with the biological opinion conservation measures. The disease and parasite work was to be fully funded in FY05 with carry

	forward from FY04. These funds were not available for carry forward in FY05 in association with overhead costs. The translocation work associated with the biological opinion was not budgeted for beyond monitoring work. In FY05 it is planned that an additional translocation take place in July. The fall seining trip, though part of the downstream fish monitoring program requires additional funding to complete which the downstream fish budget does not currently have.
31 (Norm Henderson)	**Line 106 (Concurrent population estimates) – The workplan (page 86) suggests that no funds were expended in '04 or '05 and does not discuss or suggest any past efforts yet the budget identifies specific amounts ($250,000 and $200,000 respectively). Please clarify how the past dollars were spent or if unspent why they would not be available for '06 uses.**
GCMRC's Response to Comment #31	See responses to comments above.
32 (WAPA)	**HCA** **B5, line 106, kept this line item in, the 05 simulation will tell us what to do in 06.**
GCMRC's Response to Comment #32	No response needed.
33 (BAHG)	**Line 123 (Integrated Archaeological Monitoring)--The budget for this work has increased from $235,000 to $391,000, but the methods and protocols are not yet developed. What justifies this increase in funding?**
GCMRC's Response to Comment #33	Over the years, the amount of money directed at cultural resources monitoring has been cut back repeatedly, to the point that the NPS River Corridor Monitoring Program is now receiving about half of what they received when they began the monitoring efforts. While cut backs may be justifiable in some respects, the current funding is not adequate to provide credible, unbiased, information related to status and trends in archaeological site condition over time. As explained in the FY06 work plan project description, GCMRC is proposing to follow through with one of the 2000 PEP recommendations by refocusing monitoring of cultural resources so as to better meet the needs of the AMP for quantifiable, replicable information about rates and amounts of erosion occurring under different dam operating scenarios. One part of the proposed approach will entail repeat systematic mapping of a random sample of sites within the river corridor. Mapping will measure changes in gully lengths, widths and depths as well as volumetric change (changes in surface topography relative to an established baseline map.) We already know that archaeological sites occur in a wide variety of topographic and sedimentological settings, therefore we need to start with an adequately sized sample of sites to ensure that the variability in erosion rates will be adequately represented. We are starting with a sample of 40 sites, which represents about 12.5% of the approximately 318 NR eligible sites within the previously defined Area of Potential Effect. After we have collected data for a few years, we may be able to adjust and refine the sample size based on the variability encountered. We are also proposing to continue

	collecting some of the same legacy data that the NPS feels is essential to meet their internal needs for Section 110 compliance, but we will be refocusing the data collection strategy so that the data are no longer skewed towards the most heavily visited and most threatened sites, and we will be refining the data fields so that the data are not redundant or artificially weighted and so the data leads logically to an objective condition rating that will be suitable for assessing trends in resource condition over time. The budget is based on the amount of field work and data processing necessary to achieve this end result.
34 (WAPA)	**Socio-cultural Program** **C1, line 123, Should be RES not CM. Costs are too high since the monitoring effort is expected to be reduced.**
GCMRC's Response to Comment #34	See previous response. The monitoring effort for cultural resources is not expected to be reduced until after the treatment plan for Grand Canyon has been developed and implemented; this is not likely to occur until sometime after FY06.
35 (BAHG)	**Line 124 (Integrated Tribal Values Monitoring)--Is the GCDAMP structured to monitor tribal values or resources of importance to the tribes? Is this funding intended to be an entitlement for the tribes or will it be administered through a competitive process by GCMRC? How was the amount of funding determined when, as we evidenced at the last TWG meeting, the tribes are not in agreement on the objectives for this monitoring or the methods that would be employed? If the tribes are not in agreement, how is this monitoring considered to be integrated? Based on the description in the workplan, it appears that TCPs need to be identified before there can be agreement on what resources need to be monitored. Will this be done in advance of FY 06 funding being allocated?**
GCMRC's Response to Comment #35	Currently, five stakeholders in the AMP (not including the Tribes) receive money from the science program to monitor or conduct research related to resources of that are of particular concern to their agencies or interests: AZGF, FWS, NPS (both GRCA and GLCA), BOR, and GCRG. Whether or not this constitutes entitlements has never been addressed by the program but probably should be. It is unrealistic to suggest that other entities should evaluate the resources that the tribes themselves value for their cultural significance; however, GCMRC intends to hold the tribes to same standards of accountability as other stakeholders who receive non-competitive funding through this program. The six tribes that participate in the AMP come from different backgrounds, speak different languages, have different traditions and different traditional lifestyles, histories, and values, so there has never been an intention or expectation that all tribes should monitor the same resources in the same fashion. The fact that they do not have a single unified approach is therefore a non-issue. The integration relates to the fact that the tribes are monitoring multiple resources (arch sites, plants, mineral sources, etc.) for multiple purposes (Section 106, GCPA, developing their internal science capacity, reaffirming their traditional relationships with the canyon, etc.) in an integrated fashion, rather than as three or four separate programs that require separate funding, separate river trips, etc. TCPs need to be identified to meet the requirements for Section 106 compliance under the PA, but NR eligible TCPs are not the only resources of concern to the tribes. The

	evaluation of TCPs will be done according to whatever timeframes the BOR decides are appropriate to this endeavor, since BOR is the lead agency for 106 compliance in the AMP.
36 (Norm Henderson)	**Line 124 (Tribal values monitoring) – The workplan (page 95) specifies that tribal monitoring efforts will be "piloted" in 2006 and no funding is identified in the following year. This seems to suggest that the program will in an R&D phase during FY-2006. Given this, the element should probably be listed as a research element for 2006 (not core monitoring). The priority of this research effort will be discussed in the GCMRC research plan now being developed.**
GCMRC's Response to Comment #36	Only one year of funding is identified because the BAHG insisted that the FY06 budget needed to be a one-year budget, rather than a two year budget as originally proposed by GCMRC. Also, please recall that the FY06 workplan reviewed by BAHG in April was written prior to the redefinition of core monitoring as being only applicable to projects that were already PEP'd, piloted, peer-reviewed and fully implemented (a decision made at the March CMT meeting). Until there is clear agreement on what is or is not considered to be "core monitoring", and TWG members come to full agreement on what the final core monitoring plan will contain, redefining these projects as research seems premature. We can note in the budget sheet that these are projects undergoing R&D for CM if that makes everyone more comfortable.
37 (WAPA)	**C2, cost seems high and premature since don't have solid proposals from tribes. Only solid proposals should be considered for funding. Would it be possible to issue an RFP and have responses from tribes for evaluation?**
GCMRC's Response to Comment #37	GCMRC received draft proposals from four of five tribal entities in 12/04. The lowest monitoring proposal was for about $60,000 per year, and a couple of proposals came in considerably higher than that figure. The FY06 budget identifies about $50,000 per tribe for monitoring, with the idea that some savings could be achieved by strategically combining river trips, by collaborating with other monitoring efforts where possible, and by supplementing the monitoring budgets with some of the funding that is coming to the tribes for general program participation.
38 (BAHG)	**Line 125 (Integrated Campsite Monitoring Program)--We question the cost of this project, $221,996 in FY 06, particularly since it can be viewed as part of the fine sediment storage monitoring (A.3) under physical sciences. GCMRC should look closely at whether better integration of these two efforts will not allow cost savings.**
GCMRC's Response to Comment #38	This project is separate from the FIST, although some of the same players are involved in both efforts. The FY06 project is attempting to accomplish several different tasks within a fairly compressed time frame (two years): 1) create a baseline inventory of mapped campsites in a GIS that will serve multiple program and multiple agency needs for years into the future, 2) continue monitoring the NAU campsites using the same monitoring methods that been used for the past sever years, while 3) simultaneously testing and evaluating alternative methods (such as the sand area change detection methods piloted by Mike Breedlove), and 4) continue the photographic record of beach changes through the Adopt-A-Beach effort. The

	baseline mapping effort, which comprises a large chunk of the FY06 budget, has been identified as a long-term need of this program for years. It is absolutely essential that we define current camp areas in an orthorectified GIS environment, so that changes in campsite area, topography, vegetation encroachment, and other attributes can be readily evaluated in the future system wide via analysis of remote sensing data.
39 (Norm Henderson)	**Line 125 (Campsite inventory) – This project is not listed as a green element in the CMP and it shouldn't be assumed that it will be developed in 2006.**
GCMRC's Response to Comment #39	Please see previous response. Also, please recall that the FY06 work plan reviewed by BAHG in April was written prior to the RE-definition of core monitoring in FY06 as being only applicable to projects that were already PEP'd, piloted, peer-reviewed and fully implemented (this decision was made at the March CMT meeting). Until there is clear agreement on what is or is not considered "core monitoring", and the TWG comes to agreement on what the final core monitoring plan will contain, redefining these projects as research seems premature. We can note in the budget sheet that these are projects undergoing R&D for CM if that makes everyone more comfortable.
40 (WAPA)	**C3, not CM, it is RES. How does the recreational PEP in 05 fit into this recommendation? We need the PEP to define what should be done. The cost seems high for a research project to determine core monitoring. When this monitoring is done, we would like to know if visitor use increases erosion at campable beaches.**
GCMRC's Response to Comment #40	See responses to Items 28 and 29. We would be happy to factor in the effects of visitor use in evaluating erosion at campsites in a future monitoring program. Helen will apprise the PEP reviewers that this is an interest of an AMP stakeholder.
41 (WAPA)	**Logistics Support** **D1, for the first note, is the cost also showing somewhere else and double funded? This needs clarification. How does the burden apply to this?**
GCMRC's Response to Comment #41	Project D1 Budget Table in the GCMRC workplan reflects a breakdown of full logistics costs. Actual logistics costs are distributed to each project line item in the budget table, only direct logistics costs (equipment replacement & salaries) are listed in the budget table line for logistics and therefore NOT double funded in the budget table. Burden charges are applied appropriately in the budget table.
42 (Norm Henderson)	**Line 130 and 132 (survey and control network) – It is difficult to understand how survey and control network elements are considered core monitoring. Given that there is a great deal of emphasis no given to ISTAR imagery that is already orthorectified, what is the justification or rationale for additional funding for its continuation?**
GCMRC's Response to Comment #42	The mission of these two distinct yet related projects is to provide spatial data in support of scientific investigations within the Grand Canyon CRE. These services are required in support of Core Monitoring projects regardless of whether the data is collected conventionally or by remotely sensed technologies. As such, the positional accuracy of each dataset must be well defined *locally* (at a specific site or along a

	short river reach) and *regionally* (throughout the length of the CRE). The data must be correctly and consistently referenced to the National Spatial Reference System (NSRS) for reliable use in Geographical Information Systems (GIS). The results of a rigorously tested control network determines local and network accuracies of each spatial data set, validates that contractors are meeting their stated accuracy requirements, and assures GCD-AMWG is making decisions based on realistic and reliable spatial data. Defining this hierarchy is critical since diverse methods are used to determine positions, including remote sensing, conventional ground-based optical methods, and the Global Positioning System (GPS). It is important to note that these efforts are required by the Federal Geographic Data Committee (FGDC) as per Executive Order 12906 and Office of Management and Budget Circular A-16. Corrections to budget table D2 in the workplan will be adjusted as noted.
43 (WAPA)	**Part A - D2, correct the table, DOE 15% for 02, 03, 04 and 05, they should be moved to the totals.** **Part B - D2/D3, are the control point databases and the geodectic control network the same? We noted that on page 113, the title is consequences of 05 funding, this should be 06. It should be corrected other places in the document. On page 113, should "preserved" be changed to "unnecessary?"**
GCMRC's Responses to Comment #43	Part A - Minor corrections to the workplan text (05 to 06 and "preserved" to "conserved") will be adjusted as noted. Part B - The control point database and geodetic control network are two distinct yet related projects. Both are required to provide spatial data in support of Core Monitoring projects. The control point database includes the results from geodetic control network adjustments (similar to NGS datasheets), but also organizes previously determined coordinates for each station. For instance, there are substantial coordinate shifts (up to 2 meters) from GCES era control work as compared to most recent GPS results; indeed many of these datasets have been simply referenced to an ambiguous local coordinate system. These coordinate errors then apply to all spatial data referenced to these positions. The control point database accurately referenced to the geodetic control network is essential to the GIS because it will allow researchers to perform spatial analysis of previously or historically collected spatial data (along with all associated errors) with the most recent data referenced to the National Spatial Reference System. <u>REFERENCES:</u> **Federal Geographic Data Committee (1998) FGDC Content Standard for Digital Geospatial Metadata, version 2, FGDC-STD-001-1998, 90 pp. [available online at http://www.fgdc.gov/standards/documents/standards/metadata/v2_0698.pdf]** **Federal Geographic Data Committee (1998) Geospatial Positioning Accuracy Standards, FGDC-STD-007.2-1998, Federal Geographic Data Committee,**

	Reston, Virginia, USA, 128 pp. [available online at http://www.fgdc.gov/standards/documents/standards/accuracy/] **Federal Geographic Data Committee (2000) Content Standard for Digital Geospatial Metadata Workbook, Version 2.0, 122 pp. Federal Geographic Committee, c/o USGS, Reston, VA, 126 pp. [available online at http://libraries.mit.edu/gis/teach/workbook_0501_bmk.pdf]** **Federal Register (1994)Volume 59 Number 71, pp17671-17674 Coordinating Geographical Data Acquisition and Access: the National Spatial Data Infrastructure. http://www.fgdc.gov/publications/documents/geninfo/execord.html** **Office of Management and Budget Circular A-16 (2002) National Spatial Data Infrastructure[available online at http://www.whitehouse.gov/omb/circulars/a016/a016_rev.html]** **For additional information, please contact:** Keith Kohl Survey Technician (928) 556-7371 Grand Canyon Monitoring and Research Center U.S. Geological Survey 2255 N. Gemini Drive Room 418 Flagstaff, AZ 86001 kkohl@usgs.gov www.gcmrc.gov
44 (WAPA)	**Information Office** **E1, change title for E to match the title in the budget table. Remove some of the narrative in this section since it is now red.**
GCMRC's Response to Comment #44	Title has been changed to match. Second comment not addressed since it pertains to the CMP per conversation with Mary Barger on 4/27.
45 (BAHG)	**Line 137 (Systems Administration)--This project, like others, identifies constraints caused by reduced funding (Reduced funding will result in the possible loss of scientific data due to backup equipment failure and lack of storage capacity), yet, in fact, increased funding is advocated for the project compared with FY 05. In this example, GCMRC salaries increase by nearly $50,000, $5,000 is added for training, and a burden of 15% is applied. Several places in the workplan contain statements like "In FY06 a significant reduction in available funds has occurred compared to the prior fiscal budget", yet comparison of the funds available on line 203 shows that FY06 funds exceed FY05 funds. Please resolve the disparity between the statement and the funds**

	table. It is also difficult in this project, as in others, to compare total costs when burden is not allocated over projects in the past as it is for FY 06.
GCMRC's Response to Comment #45	The net systems administration budget has increased only slightly from FY05 to FY06. The apparent increase indicated in the FY06 budget table is the result of three things: 1. Project travel and training, an increasing need because of new technology and federal regulations, was increased from zero to $5,000. 2. The true costs of salaries is projected in FY06. In previous years the salary estimates were under funded. The contractors' salaries are added in and the base salary of $80,000 was increased to a more accurate estimate of $112,000. 3. Unlike FY05, in FY06 the project need was established and the burden added to it. In essence, the increase is less than $30,000 when burden is accounted for. The systems administration account is considered to be fully funded in FY06 at the amounts indicated in the budget table. References to insufficient funding in the systems administration description are hypothetical for the purpose of illustrating the effect of budget shortfalls.
46 (WAPA)	**E2, 04/05 costs for the table and the narrative don't match. Please correct.** **-We don't understand the reference to footnote 2 in the table. Please clarify.** **-It is unclear if the internet and web bullets on page 120 are related to E1 which is shown as unfunded. How is E1 different?**
GCMRC's Response to Comment #46	04/05 budget numbers in the table and narrative have been corrected so that they match. Somewhere along the line footnotes were converted from numbers to asterisk. However, this one was not converted. It has been corrected. E1 is an overview of the Information Office. Bullets on page 120 (in E2) are a more detailed description of this overview. E1 and E2 refer to the same activity.
47 (WAPA)	**Line 138, what happened with this line item? Was the computer bought?**
GCMRC's Response to Comment #47	This line item refers to computer support (not a specific computer) needed to service additional staff and equipment related to experimental flows. This cost is re-occurring and has been folded into the systems administration budget in 06.
48 (WAPA)	**Admin Support** **F1, USGS local network shows under system administration also. Is this a double count? Make sure the table and numbers all match. Justification for costs is identical for the 05 work plan, but there are significant changes. Please provide a more detailed justification.**
GCMRC's Response to Comment #48	Much of the difference between FY05 and FY06 can be attributed to the burden rate of 15%. In FY05, the gross request was $638,600 and burden has to be subtracted from that amount. In FY06, the gross amount is $726,570 that, with burden subtracted, equals $631,800 – less than what the FY05 planned budget called for

	with no burden deducted. The GCMRC Systems Administration budget includes the network charges directly associated with the GCMRC system. The costs in the Administrative Operations budget are for the Flagstaff Science Center system expenses with which GCMRC must integrate. These charges include telecommunications as well as IT and total approximately $153,000. In FY06 the costs of vehicle leasing and maintenance are increased to represent a more accurate number (approximately $56,500; and facilities and maintenance costs are reduced to a minimum estimate of $75,000. I attempted to reduce the administrative costs as much as possible to provide more funding for science activities.
49 (BAHG)	**Line 146 (Program Planning & Management)--We found that several of us could not identify all GCMRC program managers. Would you please identify them for the TWG in your budget presentation this year.**
GCMRC's Response to Comment #49	**GCMRC Program Managers are:** Physical and Modeling Science Programs, BioSciences Program, SocioCultural Program, Information Program and Logistics Support Program (five total).
50 (WAPA)	**F2, if this covers salaries for Program Managers, why are salaries showing up in Project narratives? As example, project C1. Is this double coverage?**
GCMRC's Response to Comment #50	The GCMRC staff salaries related to accomplishment of the specific projects (not including the non-Program Managers), are associated with the individual project budget tables, as well as the net and gross totals shown in the budget spreadsheet.
51 (BAHG)	**Line 147 (TWG/AMWG Participation)--The budget for this line is reduced from $46,350 to $17,250. Is the reduction merely a change in accounting? If so, where are the reallocated dollars included?**
GCMRC's Response to Comment #51	In FY06, the salaries associated with AMWG/TWG participation were removed for Program Managers; those salaries are included in Program Planning and Management (line 146). For other personnel, the salary costs are included in their project-associated salaries. Ultimately, only travel costs are included for FY06.
52 (BAHG)	**Line 148 (Independent Reviews)--There is a reduction from $272,000 to $201,250 in this line item. It is not clear to us how these funds are divided between ad hoc independent reviews and the Science Advisors. The latter group is spending more time assisting GCMRC, TWG and ad hoc groups. We would like to be assured that they are adequately funded for this increased effort.**
GCMRC's Response to Comment #52	The reduction in funding was initially input in an effort to create more funding for science related activities; ideally, the funding for this item would remain stable or increase. In light of the additional work that has recently (April 2005) been discussed with the Executive Secretary, this project is under funded. GCMRC recommendation: If additional funds should become available in association with a non-experimental version of the plan, a portion of the funds should be considered for use in covering the Independent Review shortfall.
53 (Norm	**Line 159 (TCD) – No details on this element (WP page 89) are provided to justify the use of the $200K.**

Henderson)	
GCMRC's Response to Comment #53	These funds are Section 8 funds under the discretion of the Bureau of Reclamation. We have discussed this line with the HBC ad hoc group and their recommendation is that this be kept below the line of AMP dollars to reduce confusion. These funds are associated with the TCD project.

T. Melis, GCMRC: 4/27/05