

From: Linda Whetton

To: Albert Sr., Carleton; Alston, Joe; Anderson, D. Larry; Beckmann, Darryl; Begay, Steven; D'Antonio, John R.; Drye, Brenda; Gabaldon, Michael; Jackson, Loretta; James, Leslie; Kuharic, Rod; Kuwanwisiwma, Leigh; Lehr, Phillip; Oelschlaeger, Max; Palmer, Clayton; Potochnik, Andre; Rampton, Ted; Ramsey, Nikolai; Shields, John; Spiller, Sam; Steffen, Mark; Taubert, Bruce; Werner, Bill; Zimmerman, Gerald

Date: 8/8/2005 12:25:48 PM

Subject: AMWG Documents and Request for Comments

By now you should've received your AMWG meeting packet in preparation for the AMWG meeting to be held on August 30-31, 2005. In order to be fully prepared for the FY06 budget discussion, we would like to have your budget questions sent to Mary Orton (mary@maryorton.com) with a cc: to me (lwhetton@uc.usbr.gov) by **August 19, 2005**. This will give the presenters time to be prepared with detailed answers to your questions, and to plan the time adequately. TWG members spent many hours studying and deliberating the budget in advance of their recommendation to AMWG to accept it, and they may be able to answer many of the AMWG questions. Therefore, AMWG members are encouraged to discuss the budget and workplan with their TWG members.

Please note the following:

1. You will note in your AMWG packet that, for each agenda item, there is a cover page that tells you (a) who the presenters are, (b) any previous action taken by AMWG, TWG, an Ad Hoc Group, or another related body, (c) the action requested from AMWG at the upcoming meeting, and (d) background information or a synopsis of the presentation, or both. We hope this is helpful to you as you prepare for the AMWG meeting."

2. FY05 Expenses: The cover sheet indicates that the approved budget process was attached, but it was not. It is attached to this message for replacement/inclusion in your meeting packet (under the Budget tab) and copies will be provided at the meeting. Both Reclamation and GCMRC will provide updated third quarter expenses at the meeting.

3. FY06 Budget and Workplan: The cover sheet has placeholder language for the action a TWG group took on Monday, August 1, concerning Project C.2., "Synthesize Tribal Monitoring Programs Results...." This document has been updated and is also attached to this message. Copies will be also be brought to the meeting for inclusion in your packets.

4. Also attached to this message is information on the upcoming GCMRC Symposium to be held October 25-27, 2005 at the Fiesta Inn Resort, Tempe, Arizona.

CC: Barger, Mary; Cross, Jeffrey; Fenn, Denny; Harris, Christopher; Johnson, Rick; King, Robert; Lee, Leona; Moon, Diane; O'Brien, John; Orton, Mary; Ostler, Don; Persons, Bill; Peterson, Randall; Powell, Linda; Seaholm, Randy; Steffen, Tim; Stevens, Larry; Yeatts, Michael

**Glen Canyon Dam Adaptive Management Work Group
AMWG Meeting Agenda Item Information
August 30-31, 2005**

<u>Agenda Item</u> FY06 Budget and Workplan	<u>Day and Time</u> August 30, 3:15-5:00 (shared)
<u>Presenters</u> Norm Henderson, TWG Chairman: Recommendation from the TWG Dennis Kubly, Chief, Adaptive Management Group: BOR Budget Ted Melis, Acting Chief, Grand Canyon Monitoring and Research Center: GCMRC Budgets	
<u>Previous Action Taken</u> <ul style="list-style-type: none"> √ By AMWG: In March 2005, AMWG approved the following motion: To direct TWG to bring FY06 budget options to the next meeting, with and without an experiment; . . . √ By TWG: TWG approved the following three motions at its June 2005 meeting. <ul style="list-style-type: none"> 1. Convene a meeting among GCMRC, the tribes, Reclamation, and other stakeholders to identify a scope of work (which will be inserted into the '06 Budget and Work Plan) for tribal monitoring into the overall program and add \$50K (if necessary) from the experimental flow fund to the project (C2). 2. Add \$50K to Downstream Fish Monitoring below Diamond Creek (B9 in Budget and Work Plan) taken from experimental flow fund/TCD/MSCP (B9 in Budget and Work Plan) depending on turbidity/feasibility and warm water workshop and existing data analysis. 3. Accept this beautiful budget. 	
<u>Action Requested</u> <ul style="list-style-type: none"> √ Information item, plus discussion. (The budget decision will be made during the second day.) 	
<u>Background Information</u> <ul style="list-style-type: none"> √ I have attached the background information to be included in the AMWG packet that is distributed 30 days before the meeting, and posted on the website. √ If I bring updated handouts to the meeting, I will also bring a digital file of those handouts for posting on the website. <p>Attachment Attached is the FY06 workplan and budget as recommended by TWG to the AMWG for recommendation to the Secretary of the Interior. The third motion that TWG passed, as noted above, recommends this budget to the AMWG for approval, and that motion passed unanimously.</p> <p>Note that, in the attached budget, Appendix A is the budget with the experiments and Appendix C is the non-experimental budget.</p> <p>Presentation The presentation at the AMWG meeting will begin with the TWG Chair, Norm Henderson, explaining the actions the TWG took. Then Dennis Kubly and Ted Melis will respond to questions from AMWG members about the budget and workplan.</p> <p>Request to AMWG Members AMWG members are requested to send their questions and concerns about the budget to Mary Orton</p>	

(mary@maryorton.com) with a copy to Linda Whetton (lwhetton@uc.usbr.gov) by August 19, 2005. This will give the presenters time to be prepared with detailed answers to your questions, and to plan the time adequately. TWG members spent many hours studying and deliberating the budget in advance of their recommendation to AMWG to accept it, and they may be able to answer many of the questions AMWG members have. Therefore, AMWG members are encouraged to discuss the budget with their TWG members.

TWG Motion on Tribal Monitoring

The first two motions passed by the TWG, as listed above, deserve some explanation. The first reads as follows:

“Convene a meeting among GCMRC, the tribes, Reclamation, and other stakeholders to identify a scope of work (which will be inserted into the '06 Budget and Work Plan) for tribal monitoring into the overall program and add \$50K (if necessary) from the experimental flow fund to the project (C2).”

Background. At the TWG meeting, when considering project C2 (Synthesize Tribal Monitoring Programs Results, 1995-2005), the tribes proposed a different scope of work and an additional \$50,000, to be taken from the experimental flow fund. (The experimental flow fund is intended to be a carry-forward to support the Phase II (long-term) Experiment.) The TWG's response, as described in the above motion, was to agree to recommend to the AMWG an additional \$50,000 for this project, as long as the tribes, Reclamation, GCMRC, and other stakeholders developed and agreed to a detailed scope of work.

Recommendation to the AMWG. A group of TWG members, BOR staff, and GCMRC staff met in accordance with the TWG motion. With the GCMRC staff participating in the discussion but not in the agreement (per their policy), the group agreed to recommend to the AMWG that a new scope of work (attached, page 3) would be added to the existing scope of work for project C2 (a synthesis of past tribal monitoring) for the FY06 proposed budget and workplan with the funding amount of \$125,000, with the proviso that BOR will administer the contracts to save overhead. Note that for future years, the tribes have committed to integrate their tribal monitoring efforts into the regular core monitoring and research funding processes by participating in the plans development process as soon as they receive their FY05 participation funding.

TWG Motion on Downstream Fish Monitoring

The second TWG motion reads as follows:

“Add \$50K to Downstream Fish Monitoring below Diamond Creek (B9 in Budget and Work Plan) taken from experimental flow fund/TCD/MSCP (B9 in Budget and Work Plan) depending on turbidity/feasibility and warm water workshop and existing data analysis.”

The meaning of this motion is that, if the listed criteria were met, \$50,000 would be transferred from the experimental flow fund (and perhaps other sources: TCD, MSCP) to support this project. The criteria could not be applied at the time of the meeting, because their outcome was not known. For example, the turbidity of water at time of sampling can not be known in advance, the warm water workshop will not be completed until this autumn, and data analysis from the most previous river trip in this reach is still being accomplished.

Project C.2. Synthesize Tribal Monitoring Programs Results (1995-2005) and conduct an Integrated Tribal Resource Monitoring Program: a comprehensive tribal resource monitoring proposal from the Hopi Tribe, Hualapai Tribe, Navajo Nation, Southern Paiute Consortium, and Zuni Tribe.

FUNDING HISTORY	Fiscal Year				
	2002	2003	2004	2005	2006
Outside Science/labor	75,000*	75,000*	75,000*	—	125,000
<i>Logistics Field Support</i>	**	**	**	**	**
<u>Project Related Travel/Training</u>	—	—	—	—	—
<i>Operations/Supplies</i>	—	—	—	—	—
GCMRC Salary (student intern)	—	—	—	—	—
<u>Project Subtotal</u>	—	—	—	—	125,000
DOI Customer Burden (6 to 17%)	—	—	—	—	—
Project Total	—	—	—	—	125,000
% Total Outsourced	—	—	—	—	100%

*Funding in 2002-2004 provided through GCMRC as part of terrestrial monitoring

**Logistics costs paid through appropriated dollars administered by Reclamation

A. Synthesize Tribal Monitoring Programs Results (1995-2005)

Principal Investigators: TBD

Statement of Problem: The five tribal groups participating in the Glen Canyon Dam Adaptive Management Program have cultural traditions associated with Grand Canyon that extend back many hundreds of years. Many of the same resources are valued by multiple tribes for different reasons. Resources valued by the tribes include many of the same prehistoric and historic sites that are also valued by the National Park Service and the general public for their informational and potential interpretive values. In addition to archaeological sites, the Tribes value specific locations (geologic landmarks, springs, shrines), biological resources (specific plants and animals), and minerals in the Colorado River Ecosystem that are important to their traditional cultures. Many of the sites and landmarks qualify as traditional cultural properties under the National Historic Preservation Act, although formal determinations of eligibility have not been completed. Numerous native plant and animal species in the CRE have been identified by the Southern Paiute, Navajo, Hualapai and Hopi people as having significant cultural value because they were traditionally used or are currently used in ceremonies, as medicines, and in daily

living. (Jackson, 1993; Lomaomvaya, 1999; Southern Paiute Consortium and Bureau of Applied Research, 1997). Above and beyond these individual resources, however, the Tribes value Grand Canyon as a whole for its uniquely important role in their Nations' histories and spiritual lives.

Since the mid 1990s, three of the five tribal entities participating in the GCD-AMP (Southern Paiute Consortium, Hualapai, and Hopi) have monitored some of their traditionally-valued resources at selected locations in the river corridor in conjunction with annual tribal river trips funded by the DOI agencies through the GCD-AMP. Methods are highly variable between the various programs, as one would expect given the diverse cultural backgrounds and interests of the Tribes involved in the AMP.

In 2001, GCMRC attempted to engage the Tribes in the development of a long-term terrestrial ecosystem monitoring program (TEM) to incorporate tribal needs for information about non-Register eligible plant and animal resources of cultural importance. This attempt met with only limited success. Although representatives from Southern Paiute, Hualapai, and Hopi attended most TEM meetings, and representatives from Hopi and the Southern Paiute Consortium participated on TEM river trips, only the Hopi Tribe provided specific input to GCMRC about how current data collection strategies could be modified or supplemented to meet their specific needs for information. Hualapai and Southern Paiute representatives indicated that their needs could not be met through the TEM program as currently designed, because the resources of interest to them are tied to specific, culturally important locations in the river corridor, while the TEM program relies on a randomly selected sample of study sites, none of which overlap with specific locations of interest to the Tribes.

Currently, three of five tribal entities engaged in the GCD-AMP are conducting monitoring programs of one kind or another in the CRE. Most of these programs monitor one or more tribally-identified TCPs, plus archaeological sites, plant and mineral resources. In April, 2005, representatives from these three tribes met with staff from GCMRC and NAU's Center for Sustainable Environments over the course of a three day workshop to articulate the goals and objectives of current tribal monitoring programs and receive feedback on how to align tribal monitoring objectives more closely with those the GCD-AMP. One outcome of the workshop was a recounting of the history of tribal monitoring within the GCD-AMP, and the processes and internal deliberations that led to the current configuration of the various tribal monitoring programs. In FY06, GCMRC will continue to work with the Tribes to implement workshop results and modify current protocols necessary to meet the specific needs of the GCD-AMP. As a step in this direction, the following proposed project will result in three synthetic reports,

one from each of the tribes (Hopi, Hualapai, and Southern Paiute) currently engaged in actively monitoring resources in the CRE. The reports will summarize the results of tribal monitoring conducted since completion of the GCD-EIS and provide the GCD-AMP with a formal assessment of resource conditions from individual tribes' perspectives, based on the past ten years of tribal monitoring work in the CRE.

Management Objectives Re: Monitoring TCPs and other Tribally Valued Resources

MO #	Objective
11.1	Preserve historic properties in the area of potential effect via protection, management, and/or treatment (e.g. data recovery) for the purpose of federal agency compliance with NHPA and GCD-AMP compliance with GCPA.
11.2	Preserve resource integrity and cultural values of traditionally important resources within the Colorado River Ecosystem.
CMIN #	Question
11.1.1	Determine the status of historic properties under Record of Decision operations. (11.1.1a. Determine periodically whether the essential physical features are visible enough to convey their integrity or retain their information potential)
11.1.3	What are the thresholds for impacts that threaten the integrity and eligibility of historic properties? (11.1.3a. Are the current monitoring programs collecting the necessary information to assess resource integrity?)
11.1.4	How effective is monitoring, and what are the appropriate strategies to capture change at an archaeological site – qualitative, quantitative?
11.2.1	Are the traditionally important resources and locations for each tribe and other groups being affected?

Proposed Program: At a workshop sponsored by GCMRC in April 2005, tribal representatives from Hopi, Hualapai and the Southern Paiute Consortium collaborated with facilitators from Northern Arizona University's Center for Sustainable Environments to assess their current monitoring programs in terms of their relevance to GCPA and the GCD-AMP goals, as well as their relevance for meeting tribal information needs. (Representatives from the Navajo Nation and Pueblo of Zuni were asked to participate in this workshop also but were unable to do so.) The participating Tribes were asked to articulate rationales for using specific approaches and methodologies, as well as define the resource values that they consider important to monitor and preserve. The tribes did so by describing their chosen approaches to monitoring in terms of both traditional cultural perspectives, as well as in relation to the perceived changing needs and directions received from the BOR, PA, and GCD-AMP over the past ten years.

In FY06, as a foundational step towards developing a long term plan for monitoring tribal interests in the CRE, the tribes that are actively monitoring resources in the CRE will produce synthetic reports describing the history of their respective monitoring programs, the methodologies employed, information needs satisfied (both Tribal needs for information, as well as information needs identified in the AMP Strategic Plan) and summarizing the results of their monitoring work over the past ten years. These synthetic reports will serve a function similar to the SCORE Report, but will reflect the values and issues of principal concern to each individual Tribe. These synthetic reports will summarize baseline condition information and current trends in tribally valued resources to serve as the foundation for future tribal monitoring programs.

Expected Products:

- 1) Comprehensive synthesis of monitoring work conducted by each tribe since 1995 (one report from each of the three tribal entities actively engaged in monitoring CRE resources), including a complete history of monitoring work conducted by each tribe in the CRE, methods used, results obtained, and recommendations for future management of Glen Canyon Dam and the CRE based on the past ten years of monitoring work.

- 2) Formal presentations to TWG and AMWG in the summer of 2006, presenting a synopsis of the final synthetic report, summarizing monitoring results, and providing recommendations to TWG and AMWG based on those monitoring results.

B. Integrated Tribal Resource Monitoring Program: a comprehensive tribal resource monitoring proposal from the Hopi Tribe, Hualapai Tribe, Navajo Nation, Southern Paiute Consortium, and Zuni Tribe

Principle Investigators: To be determined by the individual participating tribes and the Bureau of Reclamation through contract.

Statement of Problem: Tribal groups have been integrally intertwined with the Grand Canyon from time immemorial. This is reflected in the traditional understanding of the Grand Canyon, its resources, and their spiritual and cultural values. As these resources change, it can have direct effect on the traditional practices of these cultures. And because the changes can rarely be evaluated by someone not knowledgeable in the traditional practices, it is only through tribally initiated, culturally relevant monitoring programs that data pertaining to cultural values can be

obtained and appropriately evaluated. In recognition of this, and based on the previous tribe research, the Grand Canyon Monitoring and Research Center (GCMRC) has funded three tribes (Hopi, Hualapai and Southern Paiute Consortium) under the Terrestrial Ecosystem Monitoring (TEM) program (approximately \$25,000 per year from 2001 to 2004) to develop culturally relevant programs to monitor terrestrial resources of importance to each tribe including ethnobotanically important plant resources, wildlife populations, beaches, tributaries and water conditions. The TEM program worked to identify trends in the conditions of culturally important resources affected by dam operations, to evaluate the effects of management actions on these resources, and to devise emergency protective measures when needed. Because each tribe has a unique cultural identity and unique concerns regarding resource properties in the Colorado River corridor, it is more accurate to say that the TEM program was comprised of three distinct tribal TEM programs. Tribal TEM programs may include conducting interviews with their tribal elders regarding the status of culturally important resources in the Colorado River ecosystem, monitoring the health of those resources, and identifying and/or implementing mitigation actions that may reduce the effects of dam operations on resources of interest to each tribe.

These initial monitoring studies produced ethnobotanical reports, reports on population trends of avian, small mammal and reptile communities, changes in the vegetation community, and assessments of ecosystem health were produced, all linked through their basis in the traditional tribal knowledge of the groups that produced them. Following this preliminary round of integrative studies, the intent was to expand the formal monitoring efforts to the remaining tribes. Unfortunately, this has not yet occurred. Given that the TEM program was not recommended for funding in 2006, studies implemented under the Tribal Resource Monitoring (TRM) program become increasingly imperative. An entire ecological zone and the resources within it and that rely on it will not be monitored. The TRM program may provide the only ongoing source of information to the Adaptive Management Program regarding the terrestrial components of the ecosystem. In addition, the TRM program is the only program that will provide information regarding tribal perspectives on resource condition, potential future flow regimes, appropriate management actions and monitoring approaches.

This project should not be confused with funding that tribes receive for participation in the AMP program and are administered by the Bureau of Reclamation. Apart from the funding of a single river trip (which originally was targeted for Section 106 compliance purposes), the participation

funding has generally been used by the tribes to participate in the AMP program in an equitable, fully engaged manner. This includes attendance at meetings, review of information generated in support of the AMP program, obtaining the service of technical experts to assist the tribes in areas that they lack specialists, etc. Because of overall funding limitations, tribes have had to also draw on these funds in order to support some of their field efforts, but these should not be considered the principle purpose for these funds.

Summary Project Description: In Fiscal Year 2006, all five tribes (Hopi, Hualapai, Navajo, Southern Paiute Consortium and Zuni) are interested in participating in the TRM program. Because each tribe has a unique regard for the resources in Grand Canyon and have unique historical experiences and reverences for the resources in Grand Canyon, the Cultural Resources ad-hoc committee decided that the best approach to monitor terrestrial resources of interest to the tribes was for each tribe to develop their own approach to their monitoring program. Other approaches were considered at the ad-hoc meeting held on June 30, 2005 at GCMRC. One of the other approaches that was considered was to have a single river trip from Lee's Ferry to Lake Mead where elders and staff from each tribe would be interviewed by a journalist and discussions would be held on the river at specific locations regarding resource condition, flow regimes, potential future flow regimes and possible management actions. The journalist would then compile a report relating the results of the interviews and discussions that were held. In addition, a photographer would begin to establish a photographic record of the resources of concern at specific locations for future comparisons. The report and photographic record would then be disseminated to the TWG and AMWG for their consideration with presentations from each tribe at appropriate AMP meetings. Through discussions among tribal representatives, however, it was decided that a "one size fits all" approach would not be appropriate and that it was unlikely that the tribal elders would openly express their ideas and feelings in the presence of other tribal representatives. For this reason, it was decided that the best approach was to draw on the original proposals submitted by the tribes late in 2004 as these proposals truly represented what the tribes felt was the best approach to address the unique cultural needs for tribal resource monitoring and the program as a whole. Below is a summary of the activities to be accomplished by each tribe in 2006. More detailed descriptions of the proposed activities can be found in the original proposals that were submitted to GCMRC in 2004. These proposals can be obtained by contacting the appropriate tribes.

Component 1: Hopi Tribe

The Hopi Tribe's Long-term Monitoring Program utilizes a combination of firsthand examination of resources in the Grand Canyon in conjunction with information provided through other monitoring programs to evaluate the health of the Grand Canyon ecosystem from the traditional Hopi perspective. The program was developed out of the four-year integration effort with the TEM program. Its foundation is the recognition that Hopi cultural values for resource health can best be incorporated at the level of data analysis rather than through data collection; if appropriate data on culturally important resources is collected by a GCMRC monitoring program, then it can be independently evaluated by the Hopi Tribe within their traditional knowledge system.

The Hopi approach to resource evaluation uses standardized survey instruments that record the perceived health of target resources from the Hopi perspective. Direct observation of the resources at fixed and changing locations by a small number of Hopi investigators is used to provide both direct, detailed information regarding resource health and also provides a baseline for assessing the surveys conducted at Hopi. The majority of the response is obtained at Hopi through formalized presentations describing the states of culturally important resources and then getting feedback through survey instruments. This approach was developed to address by practical limits (permits, number of trips, cost, etc.) and cultural structures on Hopis entering the Grand Canyon and yet obtain representative, statistically valid information. The results are used to inform management recommendations, recommend changes to the AMP monitoring program, and research needs, and it will be used to develop long-term trend data of resource health from the Hopi perspective.

Component 2: Hualapai Tribe

The Hualapai Tribe proposes to monitor ethnobotanical resources at five locations from National Canyon to Lake Mead. In addition, cultural resources and traditional cultural properties are monitored at various locations during the ethnobotanical river trips. We also propose to monitor avian, small mammal and reptile populations at five locations below Diamond Creek. The wildlife population monitoring occurs on three river trips while the ethnobotanical monitoring occurs on two river trips. The methods used are standard intercept transects for ethnobotanical and vegetation resources, avian point counts, small mammal trapping and reptile transect surveys. The deliverables include a report on ethnobotanical vegetation trends, a report on the status of cultural resources and traditional cultural properties and a report on wildlife population trends. In addition there will be presentations on the ethnobotanical, cultural resources and wildlife monitoring results. These reports will relate how current dam operations are influencing

the resources of concern to the tribe, and there will be recommendations as to the design and implementation of future management actions and experiments. In addition to the common objectives listed below, this work addresses MO 12.9, IN 12.1, and RIN's 11.1.5, 11.2.1, 11.2.2, 11.2.3, 11.2.4, 12.1.1, 12.2.1, 12.2.6, 12.3.2, 12.3.3, 12.7.1, 12.9.1, 12.9.2 and 12.9.3.

Component 3: Navajo Nation

The Navajo Nation has not been extended funding for Terrestrial Ecosystem monitoring for resources of concern to the Navajo Nation within the Glen and Grand Canyon corridors, as indicated in this budget proposal for Integrated Tribal Resource Monitoring Program. Keeping this in mind, the Navajo Nation proposes to investigate and develop a Resource Monitoring Plan.

This undertaking will investigate the various impacts to the natural, historic, and cultural resources of concern to the Navajo Nation in the Glen and Grand Canyons. The findings of this investigation will be compiled and will dictate the direction for future phases of a Resource Monitoring Plan and how to approach resource monitoring for Navajo significant resources.

Also important for consideration is the discussion of land jurisdiction and permitting for access and trespass as it relates to preservation of resources on Navajo Nation lands that are directly impacted by river and recreation traffic. Several areas for resource monitoring must be carefully researched in the development of a Resource Monitoring Plan. The Navajo Nation would require annual financial commitments for the foreseeable future in order to develop an effective monitoring program. The proposed amount of \$25,000.00 will serve as start-up funds and with continued support, a Resource Monitoring Program can be implemented by which regular monitoring can occur and reports may be submitted for management consideration.

Component 4: Southern Paiute Consortium

The Southern Paiute Consortium (SPC), on behalf of the Kaibab Band of Paiute Indians and the Paiute Indian Tribe of Utah, has participated in the AMP since its inception. In 1995, the Consortium began the development a monitoring program to gather the data necessary for assessing whether or not Management Objectives related to the preservation of resource integrity and cultural values of traditionally important resources with in the Colorado River Ecosystem (MO 11.2) and the protection and maintenance of physical access to traditional cultural resources (MO 11.3) were being met (see Stoffle et al. 1995, SPC and BARA 1996-2004). When the program was first begun, its history, development, and goals were described (e.g., Austin and Bullets 1996a, 1996b). Yet, after a decade of Southern Paiute tribal

participation in the transition to the AMP and the AMP, little is known about whether these Management Objectives are being fulfilled.

This proposal seeks to address Management Objectives 12.7 and 12.8 and the following research questions:

RIN 12.7.1 How effective are the current strategies to achieve tribal consultation?

RIN 12.7.2 How well do the current strategies to achieve tribal consultation meet legal and AMP protocols?

RIN 12.8.1 How well does the current tribal participation in the AMP research and long-term monitoring programs meet tribal needs and desires?

The research will be conducted using ethnographic methods, combining participant observation, formal and informal interviews, and a questionnaire. The research will involve tribal leaders, current and former coordinators of the SPC, tribal members who have participated in research and monitoring activities of the SPC, and scientists and federal agency representatives who have interacted with Southern Paiute tribal representatives in consultation.

Researchers from the Bureau of Applied Research in Anthropology will train and work directly with SPC personnel to conduct this investigation. The research will be conducted in three phases: (1) do scoping interviews, assemble of list of persons to be included in the study, develop interview and questionnaire protocol; (2) administer interviews and questionnaire, conduct participant observation at AMP meetings, SPC monitoring activities and meetings, and tribal council meetings where SPC representatives are sharing information about the monitoring program and findings; and (3) analyze and synthesize data, prepare written report of findings for the SPC, tribal councils of the member tribes, and the AMP.

Component 5: Zuni Tribe

The overall goal of the Zuni Monitoring Program is to develop a means of collecting credible data, either in a quantified or qualified format, which represents a Zuni traditional perspective on the status of resources of cultural concern within the Colorado River ecosystem. Another goal of the program is to develop a method of presenting the Zuni monitoring data that is useful and interpretable to the Grand Canyon Monitoring and Research Center without compromising the culturally sensitive aspects of the data.

Because the Zuni Tribe has not had a tribal resource monitoring program in the past, we want to focus on the development of a monitoring program that designs protocols for to examine plant, animal, mineral, locations and other resources of importance to the tribe (to be identified during program development). This program will be developed through ethnographic research with the Zuni Cultural Resource Advisory Team to identify those specific resources that can be monitored and act as a Zuni cultural barometer to determine the health of the ecosystem. This will also incorporate the need to develop a schedule of questions that solicit Zuni traditional perspectives from the Zuni cultural advisors regarding the overall health of the ecosystem. This portion of the program addresses Management Objective 11.2.

The Zuni monitoring program also addresses Management Objective 11.3 to maintain and improve physical access to the Colorado River ecosystem for Native American traditional religious practitioners. The Zuni monitoring program will provide data relative to this MO through the development of a schedule of questions that solicit the Zuni Cultural Advisors' impressions regarding access and use of the Colorado River ecosystem as part of their participation in the monitoring program.

Management Objectives Associated with Cultural Resources:

MO # Objective

11.1 Preserve historic properties in the area of potential effect via protection, management, and/or treatment (e.g. data recovery) for the purpose of federal agency compliance with NHPA and GCD-AMP compliance with GCPA.

11.2 Preserve resource integrity and cultural values of traditionally important resources within the Colorado River Ecosystem.

11. 3 Protect and maintain physical access to traditional cultural resources through meaningful consultation on GCD-AMP activities that might restrict or block physical access by Native American religious and traditional practitioners.

12.2 Attain or improve monitoring and research programs to achieve the appropriate scale and sampling design needed to support science-based adaptive management recommendations.

12.3 Integrate and synthesize cultural and environmental data to increase an understanding of the past and for ongoing interactions of humans within the CRE.

12.7 Attain and maintain effective tribal consultation to ensure inclusion of tribal values and perspectives into the AMP

12.8 Attain and maintain tribal participation in the AMP research and long-term monitoring activities.

CMIN # Question

11.1.1 Determine the status of historic properties under Record of Decision operations. (11.1.1a Determine periodically whether the essential physical features are visible enough to convey their integrity or retain their information potential)

11.1.3 What are the thresholds for impacts that threaten the integrity and eligibility of historic properties? (11.1.3a Are the current monitoring programs collecting the necessary information to assess resource integrity?)

11.1.4 How effective is monitoring, and what are the appropriate strategies to capture change at an archaeological site – qualitative, quantitative?

11.2.1 Are the traditionally important resources and locations for each tribe and other groups being affected?

Consequences of FY06 Funding Recommendations:

Funding of this program will provide for the re-establishment of databases that are of importance not only to the individual tribes, but to the program itself. The recommendations resulting from these monitoring activities will provide input into future management and operational decisions. If not funded, the program will not adequately obtain reliable data regarding resource and system health from the traditional cultural perspective.

Implications of Experimental vs. non-Experimental Budgets: None

Status and Schedule: Research and monitoring activities will be carried out over the entire course of the year. Each tribe may undertake one or more river trips as necessary to address the specifics of their monitoring protocols; these trips may vary seasonally from year to year. The river trip logistics will be funded out of the tribal participation funding that is being administered by the Bureau of Reclamation.

Expected Products/Deliverables: An annual report will be produced providing an overview of the projects activities and results. It will include an evaluation of the system health from the participating tribe's traditional perspective and make recommendations for necessary changes to the operations of the dam, recommendations for other management actions, and recommendations for changes to the monitoring program when warranted. In addition, each of the participating tribes will develop individual technical reports as appropriate based on their specific negotiated scopes of work. Information generated in the project will also be given the opportunity to be presented at appropriate AMP meetings including AMWG, TWG, and science symposia. In this way, the TRM will truly be integrated into the overall adaptive management program.

Integration: This project is one of the most truly integrated projects and assessments of Grand Canyon Ecosystem health that is to be conducted by the AMP. It collects data on virtually the entire range of resources in the Grand Canyon ecosystem and evaluates them within a holistic framework. The true integration of the tribal program into the overall AMP comes in the form of 1) data that show ecosystem trends, 2) recommendations as to future flow regimes, experiments, management actions and monitoring approaches, 3) information communicated directly by knowledgeable tribal members regarding resource condition and flow regimes, and 3) presentations to the TWG and AMWG concerning the results of the monitoring efforts and recommendations for future actions.

C. Integration of Tribal Resource Monitoring into Core Monitoring and Research Plan Development

Tribal monitoring and research will be integrated into the GCDAMP core monitoring and research plan development during the remainder of FY 2005 and FY 2006, beginning with the receipt of FY 2005 funds by tribes for participation in the program. Tribes will work with the Science Planning Group, GCMRC and the Science Advisors to integrate their monitoring and research needs into the monitoring and research planning documents that will serve as the foundation for funding determinations in subsequent years. Criteria used for core monitoring and research will be applied universally and equitably across all resource areas identified in the goals of the GCDAMP during this process.

