

**ANNUAL REPORT ON THE HOPI TRIBE'S INVOLVEMENT IN THE
GLEN CANYON DAM ADAPTIVE MANAGEMENT PROGRAM
AND THE PROGRAMMATIC AGREEMENT
REGARDING HISTORIC PROPERTIES**

Period

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Prepared by

**Kurt E. Dongoske
Tribal Archaeologist
Cultural Preservation Office**

and

**Michael Yeatts
Hopi/GCMRC Archaeologist
Cultural Preservation Office**

Submitted by

**Kurt E. Dongoske
Tribal Archaeologist
Cultural Preservation Office**

Reviewed and Approved by

**Leigh J. Kuwanwisiwma, Director
Cultural Preservation Office
The Hopi Tribe**

Submitted to

**Dr. Barry Gold, Acting Chief
Attention: Ruth Lambert, Cultural Resources Program Manager
Grand Canyon Monitoring and Research Center
2255 N. Gemini Drive, Room 341
Flagstaff, Arizona 86001**

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Introduction

In 1991 the Bureau of Reclamation and the Hopi Tribe entered into a Cooperative Agreement No. 1-FC-40-10560, entitled Cooperative Agreement for Hopi Tribe Coordination with the Glen Canyon Environmental Studies and the Glen Canyon Environmental Impact Statement, as a means to allow for Hopi Tribal involvement in the technical programs. This involvement focused on the technical areas of archaeological resource studies, cultural resource coordination, ethnography, hydrology, and GCD-EIS coordination. The Hopi Tribe participated as a cooperating member of the Cooperating Committee directing the overall GCD-EIS program.

In 1992, the Bureau of Reclamation initiated the Section 106 process of the National Historic Preservation Act of 1966, as amended. This process identifies that any change in the operations of the Glen Canyon Dam is considered a federal undertaking and as such requires the identification, evaluation, and consideration of all historic properties within the area of potential effect of that undertaking. This process also mandates consultation with concerned Native American Tribes for the identification, evaluation, and treatment of historic properties of significance to these Native American Tribes. The Hopi Tribe participated in this process to identify, evaluate, monitor, and be an equal participant in the long term management of all historic properties, sacred areas, and areas of traditional Hopi cultural use and importance that are within the area of potential effect from the operations of Glen Canyon Dam. The Hopi Tribe is a Consulting Signatory to the Programmatic Agreement for the Glen Canyon Dam which specifically delineates the Section 106 compliance responsibilities of the Bureau of Reclamation.

The Hopi Tribe's concerns include not only cultural resource aspects, but also the impacts of operations of Glen Canyon Dam on the biological and physical processes and resources, including the endangered fish, in the mainstem Colorado River and in the Little Colorado River (LCR).

In March of 1995 the Final Environmental Impact Statement for the Operation of the Glen Canyon Dam was issued by the Bureau of Reclamation. On the following 30 September 1995 the Cooperative Agreement No. 1-FC-40-10560 between the Hopi Tribe and the Bureau of Reclamation was successfully concluded. The period beginning 01 October 1995 and ending with the Secretary of the Interior signing the Record of Decision for the Glen Canyon Dam Final Environmental Impact Statement on 09 October 1997 implementing the preferred alternative was considered a transition period. During this period, the Bureau of Reclamation entered into a Cooperative Agreement with the Cultural Preservation Office of the Hopi Tribe for the collection and analysis of cultural resources along the Colorado River, Glen and Grand Canyons below Glen Canyon Dam, Arizona. This was also part of the Transition Monitoring and Long-term Monitoring studies that were conducted to determine future options for operations of the Glen Canyon Dam.

This Cooperative Agreement identified a monitoring program that is designed to collect information for the Glen Canyon Dam Programmatic Agreement and the Glen Canyon Dam Transition Monitoring program to determine future cultural resource impacts related to the operations of the dam..

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The Hopi Tribe benefited from the augmentation of its informational data base on the cultural resource knowledge of the Colorado River which also provided an avenue for the dispersion of scientific information to the Hopi elders and general population.

Two major areas of monitoring and coordination were conducted under the transition monitoring agreement: 1) Cultural Resource Monitoring and 2) Transition Monitoring and Adaptive Management Coordination. The primary objectives of these work areas were to ensure that a consistent and appropriate level of monitoring of the cultural resources was maintained during the Transition Monitoring period and that the Hopi Tribe was provided the resources to adequately participate in the Transition Monitoring and Adaptive Management programs.

The Hopi Tribe's scope of work during the transition period included the monitoring of sacred places and resources of traditional cultural importance to the Hopi people within the Glen and Grand Canyons, and provide guidance and development of specific technical and cultural resource recommendations. The primary focus of the Hopi Tribe's involvement concentrated on providing a traditional Hopi perspective and related concerns within all aspects of the transition period in order to develop the appropriate monitoring, management, and research needs that are sensitive to a Hopi cultural perspective. On 31 December 1997, the Cooperative Agreement No. 1425-96-FC-81-30004 and entitled Glen Canyon Dam Transition Monitoring Program between the Hopi Tribe and the Bureau of Reclamation was successfully concluded.

In July of 1997, the charter for the establishment of the Adaptive Management Work Group, as specified in the Record of Decision, was executed. On 10 and 11 of September 1997, the Adaptive Management Work Group convened their first official meeting and formally began the adaptive management program for the operations of Glen Canyon Dam.

In order to continue the Hopi Tribe's active and equitable participation in the Glen Canyon Dam adaptive management program and the coinciding program implementing the Glen Canyon Dam Programmatic Agreement, the Hopi Tribe entered into a new Cooperative Agreement No. 98-FC-40-0140, entitled Cooperative Agreement for Cultural Resource Activities Associated with the Operation of Glen Canyon Dam with the Grand Canyon Monitoring and Research Center. The objective identified under this agreement is for the Hopi Tribe to conduct cultural resource activities to assist in the required monitoring and research activities associated with the assessment of resource impacts related to the affects of the Secretary's actions in the operation of Glen Canyon Dam.

Specifically, the Hopi Tribe is to provide assistance in the area of cultural resources to include, but not limited to, inventorying cultural resources, assessing impacts that may be related to the affects of the Secretary of the Interior's actions in the operation of Glen Canyon Dam, provide information related to assessment and treatment of traditional cultural resources, including archaeological sites, traditional cultural properties and places, ethnobotanical resources, physical and mineralogical resources, and historic resources.

According to this broad based objective identified in the cooperative agreement, the Hopi Tribe's annual report addresses the advancement and action that has been accomplished by the

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Cultural Preservation Office, on behalf of the Hopi Tribe, for the period beginning 01 October 1997 and ending 30 September 1998, encompassing the 1998 fiscal year, towards fulfillment of that objective. For the purposes of clarity, the Hopi Tribe's annual report is organized in terms of the progress made toward the completion of identified objectives defined within the Hopi Tribe's two funded proposals: Adaptive Management Program activities and Programmatic Agreement activities.

Adaptive Management Program

The overall objectives of the Hopi Tribe's participation in the adaptive management program is grouped into two broad areas: I. overall administration and participation in the adaptive management program (e.g., Adaptive Management Work Group, Grand Canyon Monitoring and Research Center, and the Technical Work Group,); and II. the collection and analysis of new information; this involves the implementation of a Hopi ethnobotanical research program and the subsequent development of the Hopi Tribe's long-term monitoring program..

Within the Hopi Tribe's overall administration and participation in the adaptive management program are three (3) identified broad objectives for fiscal year 1998: I. Maintain the Hopi Tribe's active role in the Technical Work Group and all engendered technical subgroups (e.g., Data Management Protocol, Information (planning) Group, the Selective Withdrawal Subgroup, etc.) developed by the Grand Canyon Monitoring and Research Center and/or the Bureau of Reclamation; II. Continue to provide management consultation, outside of the purview of the Programmatic Agreement, to the Bureau of Reclamation, the National Park Service, and the Grand Canyon Monitoring and Research Center concerning places and resources of traditional cultural importance within the context of a Hopi cultural perspective; and, III. Maintain an active role in the development and implementation of specific programs (e.g., cultural resources program and public education program) contained within the Grand Canyon Monitoring and Research Center. The following is a specific detailed account of the Hopi Tribe's activities directed at achieving these objectives.

Adaptive Management Work Group and Technical Work Group Meetings

On 2 & 3, October 1997, Kurt Dongoske, Hopi Tribe's Technical Work Group representative, and Mike Yeatts, Hopi Tribe's Technical Work Group alternate representative, attended a Technical Work Group (TWG) meeting held at the La Quinta Inn, Phoenix, Az. During this meeting, the TWG discussed various administrative business, one of which was the status of the TWG in terms of the Federal Advisory Commission Act. The Bureau of Reclamation reported that this issue was still being discussed with the Department of the Interior's solicitor. However, because the notice of this meeting in the Federal Register did not meet the time period specified under the Act, no final decision could be made during this meeting, but all decisions must wait until the November meeting.

Also at this meeting, the TWG informally appointed Robert Winfree, Grand Canyon National Park, as the Chairman and Bruce Moore, Bureau of Reclamation as Vice-Chairman; a position the Bureau of Reclamation will permanently hold. The TWG also discussed membership representation and an alternate. Alternates will be decided by the official TWG representative. The official TWG

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representative is appointed by each entity's respective AMWG member. The operating procedures of the TWG were also discussed and it was determined that the TWG needed a document that demonstrated how the group conducts business. Other topics discussed at this TWG meeting were the Beach Maintenance and Habitat Building Flow tentatively scheduled for October 1997; the Grand Canyon Monitoring and Research Center's Annual Report to Congress (content and format); the Grand Canyon Monitoring and Research Center's monitoring and research plans for FY98 and 99, and the need to review and revise the resource management objectives and their associated scientific information needs.

On 04 and 05 November 1997 Kurt Dongoske and Mike Yeatts attended the Technical Work Group meeting held at the La Quinta Inn, Phoenix, Arizona. The meeting was directed by Robert Winfree, Chairman. During this meeting it was determined that the Chairman's term would be one (1) year and extend from January to the following January with the transition occurring after the Adaptive Management Work Group's January meeting. It was also decided that the Vice-Chairman position would always be vested with a representative from the Bureau of Reclamation; this representative would be selected by the Bureau of Reclamation. Mr. Bruce Moore, Bureau of Reclamation, reported that the Technical Work Group is now considered an official FACA group and is subject to the conditions and protocols of FACA.

The Technical Work Group also considered the probability of a November 1997 experimental flow. A report on the proposed research and monitoring activities that would be associated with this experimental flow was presented by Dr. Ted Melis, Physical Resources Program Manager, Grand Canyon Monitoring and Research Center. Ms. Chris Karas, Bureau of Reclamation, presented a report on the Endangered Species Act compliance. Dr. L.D. Garrett, Chief, Grand Canyon Monitoring and Research Center provided reports on the State of the Canyon Resources report, the draft report to Congress, and the FY99 plan.

On 10 and 11 December 1997, Mr. Kurt Dongoske and Mr. Mike Yeatts attended the Technical Work Group meeting held at the La Quinta Inn, Phoenix, Arizona. Dr. Winfree, NPS, chaired the meeting. During this meeting the issue of payment for TWG members was discussed by the Bureau of Reclamation and determined that it was discretionary and that TWG members had to demonstrate a financial burden. However, Native American Tribes are compensated out of Bureau of Reclamation appropriated funds from their Native American Affairs office in Washington D.C. and not out of power revenues. Also, the frequency and location of Technical Work Group meetings was discussed and it was agreed that the meeting locations would stay within the greater Phoenix metropolitan area.

Ms. Pam Hyde, American Rivers, presented a report from the NEPA/ESA Coordination Task Group. The group suggests a programmatic approach to NEPA which would help facilitate a timely compliance with respect to planned high flow events and would also reduce the accompanying paperwork.

Dr. L.D. Garrett, Chief, Grand Canyon Monitoring and Research Center, presented a progress report on various topics. Some of the topics included the FY99 plan development; FY98 program and

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research project awards, Annual Report to Congress, and State of the Canyon Resources. Dr. Garrett also presented the idea of developing an independent Science Advisory Board for the Grand Canyon Monitoring and Research Center.

Mr. Bruce Moore, Bureau of Reclamation, presented a discussion on the Selective Withdrawal System. It is estimated that this system will cost fifteen (15) million dollars to construct and that the construction monies are being scheduled for the FY2000 and FY2001 budgets. He also indicated that the TWG could expect the draft Environmental Assessment to be out in 1998. Mr. Moore also presented a progress report regarding flood inundation and emergency response procedures.

On 14 January 1998, the Technical Work Group meeting, held at the La Quinta Inn, Phoenix, Arizona, was attended by Kurt Dongoske. The purpose of this meeting was to review specific issues that were to be addressed by the Adaptive Management Work Group during the next two days and what position the Technical Work Group had agreed to present. One of the issues discussed was the Kanab Ambersnail recovery program and the Arizona Game and Fish and the Fish and Wildlife Service's request to have the Technical Work Group recommend to the Adaptive Management Work Group support of the recovery program. Finally, issues surrounding the potential of a planned flood flow for Spring of 1998 were discussed.

On 15 and 16 January 1998, the Adaptive Management Work Group meeting was held at the La Quinta Inn, Phoenix, Az. The Hopi Tribe was represented by Mr. Leigh J. Kuwanwisiwma, designated Hopi representative to the Adaptive Management Work Group, and Kurt Dongoske and Mike Yeatts. During this meeting T. Moody led a discussion of Beach Habitat Building Flows in excess of 45,000 cfs and the resources effects matrix. The United States Fish and Wildlife Service gave a brief discussion of a programmatic approach to ESA compliance with flows greater than 45,000 cfs.

Dr. Garrett, Chief, Grand Canyon Monitoring and Research Center gave a presentation of the November 1997 high flow event. The GCMRC monitored thirty-three (33) sites during this high flow event which lasted only two (2) days with a peak at a little over 30,000 cfs. Some of the management lessons learned from this high flow event were that fine grain sediments did not move as fast as expected and that long sustained higher flows of 21,000 cfs or greater would rapidly erode the newly built beaches. Dr. L. Stevens, GCMRC, discussed the effects of the high flow on the biological resources. Stevens suggested that the AMWG view the high flows in the Colorado River ecosystem as a process of experimentation and cautioned against running a flood event for too long. Two of the six endangered species were considered during the high flow event, the humpback chub and the Kanab Ambersnail. The humpback chub did not appear to be effected by the high flow event; however, no more high flows will be planned in the fall until a fall/winter recruitment project is implemented. This would minimize any potential loss in a high flow event held in the fall. The Kanab Ambersnail was impacted by the portion of their habitat that extended below the flood stage was demolished and the snails inhabiting that area lost. Approximately 181 snails are estimated to have been lost due to this November high flow.

R. Peterson, Bureau of Reclamation, gave a presentation regarding the potential for a spring

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(March 1998) Beach Habitat Building Flow.

Dr. Garrett, Grand Canyon Monitoring and Research Center, gave a report on the activities of the Grand Canyon Monitoring and Research Center. He presented a status report on the Lake Powell program which will continue to monitor Lake Powell through FY98. The program will continue to perform additional assessments of existing Lake Powell data. Additionally, the program will develop management objectives and information needs to define future monitoring and research activities for Lake Powell. Dr. Garrett also presented an update on the 1997-1998 Annual Report to Congress. The annual report has been revised based on comments received from the Technical Work Group. Dr. Garrett also presented an update report on the Center's proposed remote monitoring technology program slated for FY2000.

On 17 February 1998, Kurt Dongoske attended a meeting of the Technical Work Group at the La Quinta Inn in Phoenix, Arizona. The Technical Work Group discussed the proposed program by the GCMRC for FY2000. Dr. Garrett proposed that the Center include a remote monitoring technology program for FY2000 that would cost an estimated one million dollars. The Technical Work Group entered a general discussion regarding the entire cost of the adaptive management program. Bruce Moore of Bureau of Reclamation, indicated that the cost of the Technical Work Group meetings were greater than anticipated because the Technical Work Group has decided to meet once a month to discuss the issues and charges given them by the Adaptive Management Work Group. Colorado River Energy Distributors Association (CREDA) expressed a interest to have the adaptive management program monies spent more on GCMRC programs and not necessarily on the specifics of an expanding GCMRC staff positions and overhead.

B. Moore introduced and handed out a draft paper, produced by the Bureau of Reclamation, discussing the Glen Canyon Dam Gate Extensions and the NEPA compliance associated with the extensions. Moore estimated that NEPA compliance would cost approximately 2-3 million dollars, most of which would go to cultural resource inventories around Lake Powell. The paper concludes that there is no need to put up the gate extensions.

Dr. Dave Truman, Bureau of Reclamation, presented an update on the temperature control device for the Glen Canyon Dam. Reclamation is in the process of preparing an environmental assessment (EA) and expects the first draft to be released before the first of the year. The current plan is to provide 60 days for the Technical Work Group to review and comment on the EA. Following Mr. Truman's presentation, the Technical Work Group expressed concerns related to the unknown impacts of the potential increased interaction between native and non-native fish as a result of warming the waters. Mr. Dave Cohen, Trout Unlimited, expressed serious concerns regarding the construction of the thermal withdrawal structure without seeing sufficient scientific modeling regarding the impacts of warming the water and the increased predation on the fish community.

Please note that the Hopi Tribe reviewed and commented on the draft Environmental Assessment for the temperature control device. In the Hopi Tribe's comments, it was noted that the documents assumption that all cultural resource concerns associated with the temperature control device were covered under the Glen Canyon Dam programmatic agreement was erroneous. The Hopi

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Tribe requested that a more comprehensive assessment of the potential impacts to cultural resources needs to be performed before the EA is finalized.

Mr. Tom Moody, Grand Canyon Trust, discussed Beach Habitat/Building Flows greater than 45,000 cfs and the appropriate compliance mechanisms to implement these types of flows. The Technical Work Group recommended convening an ad hoc group to address this issue and discuss the necessary fluctuations associated with a high flow event. The Technical Work Group indicated that the ad hoc group should come back to the Technical Work Group to define the issues and how close we are to resolving the identified issues.

On 17 and 18 March 1998, Mike Yeatts and Kurt Dongoske attended the Technical Work Group meeting held at the La Quinta Inn, Phoenix, Arizona. B. Moore of the Bureau of Reclamation presented an update on his Spillway Gate Extension paper. He received only two comments on the draft discussion paper and will continue to take comments up until 30 May 1998. Dr. Garrett gave a presentation on the last meeting of the Budget ad hoc group. The group made two revisions to the original budgets for FY98, 99, and 2000 and expanded the format to a four page document with more detail regarding each respective program.. Dr. L. Stevens presented a report on the State of the Resources ad hoc group and Dr. B. Gold presented a status report on the Science Advisory ad hoc group.

The afternoon of 17 March 1998 was dedicated to a presentation by Rebecca Tsosi, Arizona State University Professor of Law, regarding Federal Indian Law and the Trust Relationship. Dr. Tsosi's presentation was arranged and requested by Kurt Dongoske, Hopi Technical Work Group representative. Following Dr. Tsosi's presentation, Kurt Dongoske and Mike Yeatts presented the content of their draft discussion paper, *The Integration of the Glen Canyon Dam Programmatic Agreement with the Adaptive Management Program: A Discussion Paper*.

On 24 and 25 March 1998, Kurt Dongoske attended a meeting of the Technical Work Group's Management Objectives ad hoc subgroup. The meeting was held at the La Quinta Inn in Phoenix Arizona. The group agreed that the management objectives document is a product of the adaptive management program.. P. Hyde, American Rivers, suggested that the document was in fact two documents: a document that delineates the management objectives and a second document that defines the information needs for the management objectives by resource. The group went into a long belabored discussion regarding the appropriateness of the inclusion or exclusion of the Lake Powell program in the management objectives. The remainder of the meeting was devoted to reviewing each of the resource sections, their respective management objectives and information needs.

On 7 and 8 April 1998, Kurt Dongoske attended a meeting of the Technical Work Group which was held at the Arizona Department of Water Resources building in Phoenix, Arizona. During this meeting there were presentations by the Beach Habitat Building Flow Resource Criteria ad hoc group, the Management Objectives ad hoc group, and B. Moore regarding the Spillway extension discussion paper. K. Dongoske gave an update on the reaction of the Technical Work Group to the PA/GCMRC Integration paper produce by M. Yeatts and Dongoske. Dr. Winfree, GCNPS, gave a presentation on the Kanab Ambersnail stocking program.

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The morning of 8 April 1998 was devoted to a presentation of the scientific research and the state of knowledge regarding the physical resources program of the Grand Canyon Monitoring and Research Center.

9 & 10 June 1998, Kurt Dongoske attended a meeting of the Technical Work Group. The meeting was held at the Bureau of Indian Affairs offices in the Arizona Center building on 09 June and at the Arizona Department of Water Resources' conference room on 10 June in Phoenix, Arizona. During this meeting B. Moore indicated that there is concern by the Senate Appropriations Committee regarding the increasing expenditures associated with the adaptive management program and their desire to see expenditures kept at FY97 & 98 levels. Also discussed during this meeting were the issues the Technical Work Group wanted forwarded to the Adaptive Management Work Group for their review and approval at their next meeting.

B. Moore indicated that the proposed Glen Canyon Dam thermal withdrawal structure draft environmental assessment would be ready for distribution in a week or two. He also indicated that he needed final comments on the spillway extension discussion paper by Monday for finalization and that he was forwarding the discussion paper to the Adaptive Management Work Group for adoption.

The Technical Work Group also discussed the Beach Habitat Building Flow Science Plan/Funding Process report. Dr. Garrett indicated that the adaptive management process was not serving the stakeholders well in regard to the compliance issues. Garrett proposed to convene a subgroup composed of the responsible parties (i.e., BOR, AZ Game and Fish, US Fish and Wildlife Service, NPS, and GCMRC) to develop a workable plan for the implementation of a programmatic approach to compliance issues.

On 20 July 1998, Kurt Dongoske attended a meeting of the Technical Work Group. The meeting was held at the Embassy Suites in Phoenix, Arizona. The purpose of this meeting was to review issues that will be discussed by the Adaptive Management Work Group during their meeting on the following two days.

21 and 22 July 1998, Kurt Dongoske, Alternate Hopi Representative to the Adaptive Management Work Group, attended a meeting of the Adaptive Management Work Group held at the Embassy Suites in Phoenix, Arizona. During this meeting, the Adaptive Management Work Group covered a variety of administrative matters, such as: approval of Technical Work Group's operational procedures, approval of the Adaptive Management Work Group's charter renewal, and the use of electronic transfer of information regarding future meetings.

Dr. Winfree, Chair of the Technical Work Group, presented an overview of the recent Technical Work Group activities. These activities included the management objectives and information needs, approval of the science advisory board for the Grand Canyon Monitoring and Research Center, spillway gate extensions discussion paper, Beach Habitat Building Flow Triggering Criteria, and the program for the establishment of a second population of Kanab Ambersnail.

The second day of the Adaptive Management Work Group meeting was devoted to a

presentation of the assessment of effects of the Glen Canyon Dam operations on Lake Powell. Following this presentation, B. Vernieu presented the five year plan for Lake Powell monitoring and research proposed by the Grand Canyon Monitoring and Research Center.

23 July 1998, Kurt Dongoske attended a meeting of the Technical Work Group. The meeting was held at the Embassy Suites in Phoenix, Arizona. The purpose of this meeting was to develop a schedule to address the assignments that the Adaptive Management Work Group charged the Technical Work Group to accomplish. The assignments consisted of 1. assess the Lake Powell program, 2. Revise management objectives and information needs, 3. Review science advisory board, 4. Finalize and implement Beach Habitat Building Flow Resource Criteria, 5. Review existing and out year budgets to reduce redundancy and determine the respective federal and state agency costs and responsibilities, 6. Continue environmental compliance, tribal consultation, and other associated activities, and 7. Develop a subgroup to examine the criteria of the Record of Decision in relation to proposed Beach Habitat Building Flows, habitat maintenance flows, and test flows.

On 14 and 15 September 1998, Kurt Dongoske attended a meeting of the Technical Work Group held at the Embassy Suites in Phoenix, Arizona. During this meeting the Budget ad hoc committee reported on the Lake Powell program proposal and the Bureau of Reclamation's internal process of requesting funds from Congress. Dr. Coulam, new Regional Archaeologist for the Bureau of Reclamation, gave a presentation on the Programmatic Agreement and the projected out year budgets (FY2000-2004) developed by the signatories for work under the agreement. She also indicated that the Bureau of Reclamation is not in support of moving the programmatic program out of the adaptive management process. Additionally, she stated that the identification and evaluation of historic properties phase of the programmatic agreement had been completed and that the entire Grand Canyon has been determined eligible to the National Register of Historic Places as a traditional cultural property.

T. Morton, BOR, gave a presentation on the progress that the Compliance ad hoc committee has made in regard to planned high flow events.

The second day of the Technical Work Group meeting was devoted to a presentation of the Strategic Plan by the Grand Canyon Monitoring and Research Center.

Grand Canyon Monitoring and Research Center Subgroup Meetings

On October 1, 1997, Kurt Dongoske, Chair, convened a meeting of the Grand Canyon Monitoring and Research Center's (GCMRC) Data Protocol Working ad hoc group. The meeting was held at the Bureau of Reclamation's Central Arizona Projects Office in Phoenix, Arizona. Mr. Mike Yeatts representing the Hopi Tribe was also in attendance. The purpose of this meeting was to develop a preliminary outline for the development of the GCMRC's data protocol management document. A draft outline was developed and all pertinent legal documents that may affect the implementation of a data protocol was requested from each respective agency and entity in attendance. Additionally, an effort will be made between this meeting and the next to acquire other agency examples of data protocol management documents. Other recommendations of the Data Protocol

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Working ad hoc group consisted of drafting the protocol in a positive perspective where emphasis is placed on the criteria for gaining access to the GCMRC data rather than focusing on what data will be restricted, adding a dispute resolution clause, and developing additional criteria to access the GCMRC data if you are not identified as one of the predetermined accessible entities.

On 15 October 1997 Kurt Dongoske and Mike Yeatts met with Dr. Barry Gold, Biological Resources Program Manager and Ruth Lambert, Cultural Resources Program Manager, Grand Canyon Monitoring and Research Center at the Center offices in Flagstaff, Arizona. The purpose of the meeting was to provide the Center with clarification regarding a Hopi Tribe comment letter on drafts of the Lake Powell Program results and the Annual State of the Canyon Resources Report both produced by the Grand Canyon Monitoring and Research Center.

On 06 November 1997, Kurt Dongoske chaired a meeting of the Grand Canyon Monitoring and Research Center's Data Management Protocol Advisory Group. The meeting was held at the La Quinta Inn, Phoenix, Arizona. To date this was the last meeting of this ad hoc group. Currently, Mr. Dongoske is generating the first draft of the Data Management Protocols and anticipates circulating this draft to the subgroup for comments in late 1998.

On 03 December 1997, Kurt Dongoske attended a meeting of the Grand Canyon Monitoring and Research Center's Planning Group held at the La Quinta Inn, Phoenix, Arizona. The purpose of this meeting was to discuss the FY99 Annual Monitoring and Research Plan. Dr. Barry Gold presented the biological program plan which includes a lot of work on the Biological Opinion. Also, the group discussed the protocols for evaluating scientific research and identified a need for independent outside scientific peer review. Dr. Garrett presented the proposed work associated with the socio-economic program. Ms. Lambert presented the cultural resources program's proposed activities. Mr. Cliff Barrett, CREDA, wanted a "better sell" on the description of the programmatic agreement activities that are categorized under the Grand Canyon Monitoring and Research Center's cultural resources program. Dr. Ted Melis presented the proposed physical resources program for FY99.

On 28 January 1998, Kurt Dongoske attended a management objectives and budget meeting of the Technical Work Group held at the La Quinta Inn, Phoenix, Arizona. The purpose of the meeting was to reach agreement regarding the current structure of the management objectives and then step down the management information needs by each identified resource. Much of the discussion during this meeting centered around the scope of the FY2000 program and its associated budget. Western Area Power Administration (WAPA) was concerned that the eight (8) million dollar budget proposed by the GCMRC was too high and WAPA wanted to see it reduced to seven (7) million. Also, WAPA was not happy with the inclusion of the Lake Powell program in the FY2000 program and budget because it hadn't been approved yet by the Adaptive Management Work Group. Additionally, WAPA wanted an articulated breakdown of the \$353,000 slated for the GCMRC cultural resources program that was in excess of the monies slated for the programmatic agreement program. WAPA requested to see the GCMRC cut their overhead and allow more funds for actual field research.

On 10 February 1998, Kurt Dongoske attended a meeting of the GCMRC's science advisory board ad hoc group at the GCMRC in Flagstaff, Arizona. The group reviewed the GCMRC's need for

a science advisory board and how that would differ from the existing GCMRC review panels (i.e., independent peer review process and the National Academy of Sciences). The group discussed what the stated purpose of the science advisory board would be and tentatively decided that it should provide comprehensive scientific oversight for the Adaptive Management Program, provide broad based scientific guidance, and ensure quality science.

On 23 April 1998, Kurt Dongoske attended a meeting of the GCMRC/TWG Management Objectives ad hoc subgroup. The meeting was held at the Bureau of Indian Affairs office in the Arizona Center building in Phoenix, Arizona. The purpose of the meeting was to walk through an exercise on prioritizing the management objectives and their information needs. This effort will help the GCMRC develop their FY2000 program and budget.

Between 19 and 21 May, Mike Yeatts participated in a workshop to develop a conceptual model for the Grand Canyon ecosystem that was held at the GCMRC offices in Flagstaff, Arizona. This meeting was held following a TWG meeting to allow the TWG members to review and comment on the development and scope of the model and to then allow work sessions with the modelling core group to continue the model development.

Hopi Ethnobotanical Research

The second area of the Hopi Tribe's active participation in the adaptive management program encompasses the collection and analysis of new information concerning resources of cultural significance to the Hopi people. One component of this second area of participation is the development of a Hopi ethnobotanical research program. During the Hopi field work for the Glen Canyon Environmental Studies project, it was assumed that if natural resources are important to the Hopi they would have Hopi names. Therefore, during the GCES/Hopi research an effort was made to collect as many Hopi names for plants and animals as possible during the research river trips; however, it should be noted that ethnobiological resource identification was never the sole research activity, so the attention of the Hopi cultural advisors was never focused exclusively on plants and animals. Resources were generally identified as an adjunct of other research activities, such as inspection of archaeological sites or hikes to natural features.

Specifically, the Hopi Tribe proposed to close this existing data gap by performing the necessary ethnobotanical research to identify specific plants and plant locations, within the river corridor of the Glen and Grand Canyons, that are of significant traditional cultural importance.

Progress on the Hopi ethnobotanical research effort began late in FY98, partially due to the extreme delay in the Grand Canyon Monitoring and Research Center's review of the proposal, decision to fund, and the transfer of funds to the Hopi Tribe. Due to the late award of funding for the Hopi FY98 work plan, the scheduling for the ethnobotany project has been pushed back by nearly one year. As such, progress on the ethnobotany portion of the Hopi proposal has been focused on preparation of activities for the initial field work.

Scheduling of the first river trip and obtaining all necessary permits for the project has been

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accomplished. The personnel, including the Hopi cultural advisors, who will be participating on the first river trip have been identified and the principle sampling locations determined. Further, all recording forms have been created and reviewed by the appropriate individuals and arrangements have been made for archiving the plant specimens that are to be collected.

Between 16 and 28 September 1998, the Hopi Tribe conducted the first of two river trips aimed at identifying Hopi ethnobotanical resources along the Colorado River corridor below the Glen Canyon Dam. In addition, aspects of Hopi participation as a signatory to the Programmatic Agreement regarding the operation of Glen Canyon Dam were conducted.

A total of 13 personnel participated in the river trip; eight associated with the Hopi Tribe's research, and five crew members. The personnel were as follows:

Mike Yeatts, Project Archaeologist and co-Principal Investigator
Dr. T.J. Ferguson, Consultant Anthropologist and co-Principal Investigator
Micah Lomaomvaya, Hopi Researcher
Max Taylor, Hopi Cultural Advisor
Wilton Kooyahoema, Hopi Cultural Advisor
Merwin Kooyahoema, Hopi Cultural Advisor/photo documentation
Bradley Balenquah, Hopi Cultural Advisor
Orville Hongeva, Hopi Cultural Advisor
Dirk Prattley, Boatman
Glen Rink, Boatman
Lynn Rhoder, Boatman
Peter Weiss, Boatman
Andrea Hollar, Nurse/Cook

A total of fifty-two (52) plant specimens were identified during the field work. Samples of fifty (50) plants were collected for additional research on the Hopi Indian Reservation and for use as voucher specimens. Collections were made at nineteen (19) separate locations, including five which are also locations being studied by researchers at Northern Arizona University as part of the long-term monitoring of vegetation dynamics (see Table 1 below).

Table 1. Locations Where Plants Were Collected

Location	Number of Species	River Mile
North Canyon	2	20.5
South Canyon	6	31.5
Vasey's Paradise	1	31.75
Redwall Canyon	1	33
43 Mile Beach*	11	43

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Saddle Canyon	5	47**
Little Colorado River	3	61**
Cardenas Marsh*	2	71
Furnace Flats Site	1	71.5
Nevilles Rapid	1	75
Phantom Ranch	1	88**
123 Mile Beach*	5	123
Below Fossil Rapid	2	125.5
Deer Creek	2	136**
Havasu Canyon	1	157**
184 Mile	1	184
194 Mile Beach*	2	194
Granite Park*	3	209
213.5 Mile	1	213.5
Three Spring	1	215.5

* Locations where vegetation monitoring is being conducted.

** Collection location in side canyons away from corridor.

All of the species identified are consistent with those that were identified during the Hopi/GCES ethnohistorical/ethnographic research with several new species being recorded. A complete species list will be compiled once final determinations have been made on the collected specimens.

Recording of information on each plant was conducted sequentially: the entire group would discuss one species before moving onto the next specimen. This was to ensure that entire discussions could be captured and information not missed due to side discussions. The recording of information was divided among Dr. Ferguson, Mr. Yeatts, Mr. Lomaomvaya, and Mr. M. Kooyahoema. Dr. Ferguson and Mr. Lomaomvaya focused on recording the Hopi cultural information on the plants, while Mr. Yeatts collected the locational and habitat information. Both Dr. Ferguson and Mr. M. Kooyahoema photographed the plants. At times, audio recordings were made in order to get the correct pronunciations. If the diagnostic characteristics used for identifying the plant were present, Mr. Yeatts collected and pressed the plant samples for use in the subsequent research phase to be conducted on the Hopi Indian Reservation and as voucher specimens. For those plant species without diagnostic characteristics present (generally flowers), collections will be made during the spring river trip.

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In the five areas examined that are also receiving vegetation monitoring by the Northern Arizona University program, the research team examined the different micro-habitats in order to get a complete inventory of plants known to Hopi. Only at the first occurrence of a given species was a collection record made. In the subsequent study locations, a listing of those species that had been previously recorded was kept, but no additional collections were made.

In addition to the research focused on Hopi ethnobotany, ten areas were visited relating to the Hopi Tribe's participation in the Programmatic Agreement program. These included resource locations, offering locations, and archaeological sites where work is proposed or has been conducted. From the discussions at these locations, it appears that the approach being followed for remediation at sites is satisfactory to the Hopi. Further, no suggestions for changes in management approaches needed to address any resource degradation were made.

An additional component of this second area of participation is the development of a Hopi long-term monitoring program. This Hopi monitoring program will incorporate the results of the ethnobotanical research with corollary data collected from activities identified in the Hopi Tribe's proposal under the Glen Canyon Dam Programmatic Agreement and will include locations and resources to be monitored, monitoring frequencies, classes of information to be recorded during the monitoring episodes, and other protocols for maintaining a consistent, applicable data base. An ancillary part of this task will be the development of a monitoring data management system that will be maintained by the Cultural Preservation Office. Further discussion of this is presented in the second section of this document.

Glen Canyon Dam Programmatic Agreement Program

The overall objectives of the Hopi Tribe's participation in the Glen Canyon Dam Programmatic Agreement can be grouped into two broad areas: I. overall administration, management, and review of the Programmatic Agreement and its components (e.g., Historic Preservation Plan, Monitoring and Remedial Action Plan, monitoring and remedial action reports); and, II. the collection of monitoring data regarding the effects of dam operations on cultural resources important to the Hopi Tribe and identified within the scope of the Programmatic Agreement and the mitigation of potential adverse effects to these resources.

Area I: Administrative and Management Components

Meetings and Committees

The identified first objective has been principally accomplished through the Hopi Tribe's participation in the meetings of the signatories to the Programmatic Agreement and through the review and comment on the National Park Service's cultural resource monitoring reports and annual report. The principal Hopi representatives to the Programmatic Agreement meetings are Kurt Dongoske and Michael Yeatts. The following are the specific activities accomplished during FY98 towards completion of this objective.

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On 28 October 1997 Kurt Dongoske and Mike Yeatts attended a meeting of the signatories to the Glen Canyon Dam Programmatic Agreement held at the Bubo Center on the campus of Northern Arizona University, Flagstaff, Arizona. The meeting was chaired by Dr. Signa Larralde, Regional Archaeologist, Upper Colorado Region, Bureau of Reclamation. During this meeting several issues were discussed: the status of the Cooperative Agreements with the National Park Service and the respective tribes, public education components of the Programmatic Agreement and the Grand Canyon Monitoring and Research Center, the Historic Preservation Plan, the traditional cultural property designations for the Grand Canyon, the compliance with the Native American Graves Protection and Repatriation Act for excavations at Furnace Flats, the status of the FY98 spike flow, and the status of the National Park Services' annual trip reports.

Ms. Ruth Lambert, Cultural Resources Program Manager, Grand Canyon Monitoring and Research Center, discussed the status of the Cooperative Agreements and the Center's contracting process. She indicated that letters of intent to fund (pre-award letters) were faxed to the tribes 24 October 1997 authorizing the incurrence of costs not to exceed 25% of the FY97 amount funded to the tribes. Ms. Lambert also indicated that the Center would need a four (4) month period to finalize the FY98 tribal proposals and develop the three (3) year Cooperative Agreements.

Dr. Larralde reviewed the status of the Historic Preservation Plan. Dr. Larralde indicated that she has received the outside peer reviewers' comments and now must decide on how to integrate those comments into a new draft of the Historic Preservation Plan. Dr. Larralde suggested that the best way to accomplish this integration of the reviewers' comments was to decide which comments needed to be integrated and then turn the actual revising of the next draft of the Historic Preservation Plan over to SWCA, Inc. Environmental Consultants. She hoped that this would expedite the generation of the final draft of the Historic Preservation Plan and anticipated that it would be out by the first of next year (January 1998).

Ms. Jan Balsom, Cultural Resources Manager, Grand Canyon Monitoring and Research Center, discussed the status of initiating consultation with the Arizona State Historic Preservation Office regarding the determination of eligibility on properties identified as traditional cultural properties by the participating tribes. As of the date of this meeting the Bureau of Reclamation has received letters regarding traditional cultural property identification and eligibility determinations from only three tribes: Hopi, Zuni, and Hualapai. The National Park Service is taking the lead in the determination of eligibility of traditional cultural properties, rather than the Bureau of Reclamation, because the National Park Service is the land managing authority. Ms. Balsom anticipated initiating consultation with the Arizona State Historic Preservation Officer sometime in December.

Dr. Larralde addressed the issue of compliance with the Native American Graves Protection and Repatriation Act regarding the planned excavations at the Furnace Flats archaeological site. She suggested that someone from Hopi should be along on the data recovery trip to assist in making determinations regarding the appropriate treatment and handling of human remains. Also suggested that Mr. Yeatts, Mr. Dongoske, and Ms. Lisa Leap, NPS Archaeologist, develop a burial treatment plan for review at the next Programmatic Agreement meeting.

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21 August 1998, Kurt Dongoske and Mike Yeatts attended a meeting of the Signatories to the Glen Canyon Dam Programmatic Agreement. The meeting was held in Bilby Hall on the campus of Northern Arizona University in Flagstaff, Arizona. This was the first meeting chaired by Bureau of Reclamation, Upper Colorado Region's new Regional Archaeologist, Dr. Nancy Coulam. A major focus of this meeting was the Bureau of Reclamation's request for proposals from the participating Native American Tribes and the Grand Canyon and Glen Canyon National Park Service for FY99 work under the Programmatic Agreement. As a part of these proposals, Dr. B. Winfree, Grand Canyon National Park Service, gave a presentation concerning the National Park Service process of permitting research in the Canyon.

R. Lambert, Cultural Resources Program Manager, Grand Canyon Monitoring and Research Center, gave an update on FY98 cooperative Agreements with the Center.

Dr. Coulam briefly discussed the Historic Preservation Plan. Currently, she feels that the plan is not specific enough to handle all the expected data recovery plans. She would like to see a plan and a process for specific data recovery efforts developed. R. Ahlstrom, a consultant hired by the BOR, is continuing to revise the HPP into another draft for review by the signatories to the PA.

Education

Another aspect of objective I, identified in the Programmatic Agreement, is public education. The Hopi Tribe was active in this area during FY98 on two fronts. The Cultural Preservation Office has established an educational outreach program at NAU and actively incorporates educational opportunities presented through the Programmatic Agreement into the operation and goals of this program. As a second avenue, the Hopi Tribe is interested in seeing that information collected through the Programmatic Agreement is disseminated to the largest possible public audience, including the Hopi public.

Toward this end, Mike Yeatts and Kurt Dongoske have established a branch of the Cultural Preservation Office within the Department of Anthropology at Northern Arizona University. During this reporting period, Mr. Yeatts has moved portions of his office from the old Glen Canyon Environmental Studies offices to the Anthropology Department at Northern Arizona University. However, Mr. Yeatts is continuing to maintain an office, on a part-time basis, in the Grand Canyon Monitoring and Research Center. Mr. Yeatts continues to establish the general organization of the office and, in conjunction with the Anthropology Department, has developed an informational brochure explaining the organization, structure, and goals of the Hopi/NAU program. Additionally, Mr. Yeatts working with Dr. Vasquez and Dr. Downum have produced the first annual progress report on the Hopi/NAU program.

Organize and Archive Hopi/Glen Canyon Environmental Studies Records

The Cultural Preservation Office, utilizing a portion of the internship funding, employed a Hopi student from the Anthropology Department at the University of Arizona to process the records from the Hopi Glen Canyon Environmental Studies Program for the Cultural Preservation Office

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Archives. This collection consists of the correspondence and other material generated by the Hopi Tribe's participation in the development of the Glen Canyon Dam Environmental Impact Statement as a cooperating agency. It also includes the research materials, including primary and secondary references, ethnographic interviews, and final reports, produced as part of the Hopi ethnohistoric/ethnographic research project.

Initially, the Hopi intern conducted a basic assessment of the project records to determine the scope, content, and original arrangement of records. The project records didn't appear to be in any specific order, so it was decided to develop a plan for the arrangement of the material, assigning series numbers to the various types of material. The intern then arranged the records and discarded duplicate and non-archival material. Cataloguing the research materials by author, title, and date was also performed. The intern then produced a finding aid, which includes the database catalog, an administrative history, and a scope and content note. Finally, each folder was assigned a call number, re-folded the material in acid-free folders, labeled each folder, and completed final arrangement of collection. The intern also prepared the annotated bibliography with bookmarks for hyperlinks to and from the catalog.

The completed draft catalog and bibliography were then proofread and converted to HTML format so that it can be read with any Web browser. This format will allow active linking between catalog entries and the bibliographic annotations. The final catalog was then transferred to CD-ROMs and distributed to the appropriate parties (i.e., Bureau of Reclamation and the Grand Canyon Monitoring and Research Center). A copy of the Hopi Glen Canyon Environmental Studies Program catalog on CD-ROM is appended to this report.

Another educational forum related to the programmatic agreement that the Hopi Tribe participated in was a symposium entitled "Successful Tribal/Agency Partnerships: On-the-ground Examples" held at the twenty-second annual National Indian Timber Symposium hosted by the White Mountain Apache Tribe at Hon-Dah, Arizona on 23 June 1998. Kurt Dongoske presented a paper entitled "Dances with Feds: Managing Cultural Resources Through Federal/Tribal Partnering: The Glen Canyon Dam Example" in a sub-forum entitled, "Cultural and Archaeological Resource Protection Agreement Between Four Southwestern Tribes, Bureau of Reclamation, National Park Service, Arizona SHPO, and The Advisory Council on Historic Preservation." The sub-forum was organized by Dr. Signa Larralde, former Regional Archaeologist for the Bureau of Reclamation. The proceedings of the symposium are published in *Evolving Partnerships in Trust Management*, Twenty-Second Annual National Indian Timber Symposium: Final Proceedings. Intertribal Timber Council, Portland Oregon, pp. 94-100. A copy of Dongoske's published paper is appended to this annual report.

Area II: Research and Monitoring Components

The second objective identified under the Programmatic Agreement is the collection of monitoring data regarding the effects of dam operations on cultural resources important to the Hopi Tribe and identified within the scope of the Programmatic Agreement and the mitigation of potential adverse effects to these resources. This objective is addressed by the Hopi Tribe through three (3) specific tasks: Development of a Hopi Monitoring Program, Geo-referencing sites of importance to Hopi, and participation in the implementation of remedial activities.

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The Hopi Tribe considers all ancestral puebloan archaeological sites to be places of traditional cultural importance and to contain shrines if they represent habitation sites. As such, a considerable amount of effort is expended by the Cultural Preservation Office in reviewing and commenting on the monitoring and suggested remedial action reports generated by the National Park Service. Through this commenting process, the Hopi Tribe ensures that their traditional concerns and recommendations for the appropriate management and remedial measures for the protection of these important places are considered in any proposed activities. This objective is also partially accomplished through the Hopi Tribe's continued participation in the implementation of the Glen Canyon Dam Programmatic Agreement and attending meetings of the signatories to the Programmatic Agreement. See above for more detailed description of the activities associated with the Programmatic Agreement.

Hopi Monitoring Program

One of the tasks identified under this objective is to actively develop a Hopi monitoring program to assure the effective management and preservation of Hopi sacred sites and resources of traditional importance. The development of this program requires a level of knowledge of the fundamental desires of the Hopi Tribe for cultural resources in the Grand Canyon as well as an education of traditional Hopi Tribal members as to the procedures and processes employed in monitoring resources. To this end, meetings and field work have been utilized to develop the program.

On 11 October 1997, at the monthly meeting of the Hopi Tribe's Cultural Resources Advisory Task Team (CRATT), a number of the September 1997 Hopi river trip participants discussed the river trip for the other CRATT members. The majority of the discussion took place in Hopi, and summarized the participants impressions of the river trip. Leigh Kuwanwisiwma began by posing the general question to the CRATT of what does the Hopi Tribe want to concentrate on in the Grand Canyon. He noted the need to maintain long term participation in the monitoring and that a specific task that required completion was a study of the Hopi ethnobotany.

Mr. Loren Sekayumtewa, representative from the village of Hotevilla, noted that the Hopi Cultural Preservation Office should provide a better introduction on how to act in the Canyon to avoid spiritual repercussions; perhaps a discussion with elders and spiritual leaders prior to a trip would be an important pre-requisite to all river trips. If the trips into the Canyon are not conducted appropriately, there could be negative impacts both to the Hopi families of the participants and to the more general public.

On 14 October 1997, Leigh J. Kuwanwisiwma, Director of Cultural Preservation Office and the Hopi Tribe's AMWG representative, met with Kurt Dongoske and Mike Yeatts to discuss the outcome of the September 1997 river trip and the Hopi Tribe's long-term monitoring and research program. The meeting took place at the Cultural Preservation Office in Kytosmovi, Arizona. Leigh Kuwanwisiwma was concerned that a compatibility be maintained between the Programmatic Agreement activities and the activities carried out by the Grand Canyon Monitoring and Research Center. Concerning the specific work activities of the Hopi Tribe, Leigh expressed continued participation with the National Park Service's monitoring program as well as the review of the results

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of other groups monitoring activities to ensure that these monitoring efforts are adequately addressing the resource issues of concern to the Hopi Tribe. In the future, the Hopi Tribe may want to consider increasing monitoring efforts in specific areas where there are access routes to the river corridor. Examples of these areas include 30 mile/South Canyon, Eminence Break, Grandview, Bright Angel, Little Colorado River, etc. The concern of the Hopi Tribe is related to historic access to the Grand Canyon and use of the natural resources that were historically present in these areas and which may still be in use today. Additionally, data gaps in ethnobotanical information was a priority that needed to be filled in order to assure that the monitoring of specific resource concerns are not being overlooked.

As a result of the September 1997 river trip and the two subsequent meetings at Hopi, it appears that most of the long-term resource monitoring goals of the Hopi Tribe can be accomplished through three fundamental efforts: 1) review of technical reports by other agencies and groups, including electronic access to scientific information regarding Canyon resources contained at the GCMRC, 2) participation by appropriate representatives of the Hopi Tribe on selected National Park Service monitoring river trips and other appropriate river trips, and 3) continued coordination with the National Park Service in remedial activities, including the continuation of the leadership role in data recovery efforts at those archaeological sites that are in danger of losing scientific information. Additionally, it may be necessary to make periodic river trips with traditional Hopi consultants in order for them to maintain an effective working knowledge of the efforts being undertaken in the River Corridor and to make broad assessments of the overall health of the Grand Canyon from the perspective of the traditional Hopi culture.

One aspect that was clearly articulated by the Hopi Consultants throughout the September 1997 river trip and the subsequent meetings was the need for the Hopi Tribe to remain actively involved in the management and decision-making process surrounding the adaptive management program and the functioning of the Grand Canyon Monitoring and Research Center.

The majority of the information necessary to develop a long-term Hopi monitoring program has now been collected; only the information from the ethnobotanical study (discussed above) is necessary to complete development of the monitoring program. The program is to be finalized in 1999.

Geo-Referencing Sites of Hopi Concern

This has been an ongoing task that the Hopi Tribe has been pursuing since 1997. Because the information is being collected on an opportunistic basis rather than by scheduling separate river trips specifically to collect this information, progress is slow.

During the past year, the biggest emphasis was placed on taking the existing data and entering it into electronic form (spreadsheet format). In addition, locational information derived from sites that had been topographically mapped was also integrated into the data base. To date, 73 data points have been obtained for 57 separate sites. This information was provided to SWCA for inclusion into the overview of cultural resources that they are compiling for the Grand Canyon Monitoring and Research Center. The effort to continue collecting site locational information on an ad hoc basis is proposed in

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FY99.

Participation in Remedial Activities

During FY98, the Hopi Tribe participated in both field and report preparation aspects of remedial action activities for sites that are being impacted by the operation of Glen Canyon Dam. From 22 February - 02 March 1998, M. Yeatts participated in a stabilization trip in conjunction with the Grand Canyon National Park Service. On the portion of the trip that Mr. Yeatts represented the Hopi Tribe, the primary work focus was on the Palisades complex of sites (principally AZ:C:13:99 and AZ:C:13:100).

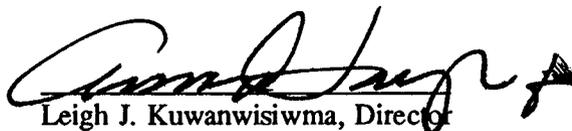
From 16 to 25 April 1998, M. Yeatts participated in the excavations that were conducted at AZ:C:13:010. This work included the excavation of three partial rooms and a number of cists. In preparation for the data recovery activities at this site, M. Yeatts participated in the development of the excavation plan, including research issues to be addressed. As samples that were recovered from the site are processed, M. Yeatts will also be involved in the report preparation detailing the excavations at the site. This activity will take place in FY99. Finally, the Hopi Tribe is coordinating the processing of the chronometric samples recovered from AZ:C:13:010.

Additionally, during FY98, the remedial activities report write-up of the five sites excavated in 1997 was completed and sent out for comments.

The report detailing the testing activities at AZ:C:09:051 is still being prepared. Samples that were collect during the testing project were to be sent for analysis by the Park Service in conjunction with samples from other Park Service projects. Due to a mixup however, these samples were not sent for analysis until the summer of 1998, and have not yet been returned. Once they are received, the report will be finalized.

The above summarizes the Hopi Tribe's involvement as a stakeholder in the implementation of the Glen Canyon Dam Adaptive Management Program and as a consulting signatory in the implementation of the stipulations identified in the Programmatic Agreement on the Operations of the Glen Canyon Dam as of 30 September 1998. If you should have any questions concerning this progress report or if you need additional information please contact Mr. Leigh Kuwanwisiwma, Director, or Mr. Kurt Dongoske, Tribal Archaeologist, at 602/734-2441, extensions 751 and 761, respectively.

REVIEW AND CONCURRENCE



Leigh J. Kuwanwisiwma, Director
Cultural Preservation Office
The Hopi Tribe

**Records of the Hopi Glen Canyon Environmental Studies Project
Finding Aid**

Collection Number:

RC5

Extent:

12 linear feet

Processed by:

Stewart Koyiyumptewa, 1998

Wendy Holliday, 1998

Provenance:

The Hopi Tribe. Records of a Hopi Cultural Preservation Office project.

Arrangement:

The collection was received without apparent order, with the exception of some general series. The archivists imposed order by arranging folders by subject and chronologically within these series.

Restrictions and Copyright:

Much of the collection consists of documents related to the drafting of the Environmental Impact Statement for the Operation of the Glen Canyon Dam. As such, much of the material lies within the public domain. Another large portion of the collection consists of research materials, including excerpts from books and articles. The copyright status of each work has not been researched. It is the researcher's responsibility to procure permission to reproduce any copyrighted work in the collection.

A small portion of the collection includes Hopi privileged and esoteric religious information. This material is restricted. Permission to view this material must be obtained from the Cultural Preservation Office Director.

Administrative History:

On July 27, 1989 the Secretary of Interior announced that the Bureau of Reclamation would prepare an Environmental Impact Statement (EIS). The purpose of the EIS was to determine if the operation of the Glen Canyon Dam had any impact on the downstream ecological, environmental, or cultural resources within the Glen Canyon Recreation Area and the Grand Canyon National Park.

The Hopi Tribe became involved in the Glen Canyon Environmental Studies (GCES) in order to ensure the protection of cultural resources and heritage within the

Grand Canyon. The resources within and around the Grand Canyon are crucial to the Hopi Tribe's longevity. Such resources include archaeological sites, religious shrines, springs, and native plant and animal species. The Hopi Cultural Preservation Office (HCPO) represented the Hopi Tribe as a cooperating agency. Representatives from the HCPO attended meetings and provided written comments to express the Hopi Tribe's concerns for the resources in the study area. The Hopi Tribe was one of the first American Indian tribes to gain status as a cooperating agency.

The Bureau of Reclamation also funded a major project to research, document, and monitor Hopi cultural resources in the Grand Canyon . The goals of the research were to 1) document the cultural importance of the Grand Canyon to the Hopi people; 2) to record Hopi traditional and clan history related to the Grand Canyon; 3) to identify plants and animals in the Grand Canyon that are culturally significant; 4) to explain Hopi beliefs and values regarding cultural resources within the Grand Canyon; and 5) to present recommendations for the management of cultural and natural resources within the study area.

The research team conducted interviews with 72 Hopi and Tewa individuals to gather information on the history and significance of cultural resources in the study area. Researchers also reviewed primary and secondary historical sources on the Hopi people and the Grand Canyon. Between 1991 and 1995, the staff of the HCPO, professional consultants, members of the Hopi Cultural Resources Advisory Task Team, and other Hopi individuals conducted five river trips within the canyon. On these trips, the Hopi team located and monitored cultural resources to ensure their proper protection. Throughout the project, the Hopi Cultural Resources Advisory Task Team participated as representatives of villages, clans, and societies and provided advice, recommendations, and guidance to the Hopi Cultural Preservation Office regarding the project.

The final results of the Hopi Glen Canyon Environmental Studies Project include two reports: 1) a confidential report submitted to the Bureau of Reclamation for the preparation of the *Operation of Glen Canyon Dam Final Environmental Impact Statement*; and 2) a public report by T.J. Ferguson, *Öngtupqa niqw Pisisvayu (Salt Canyon and the Colorado River): The Hopi People and the Grand Canyon* (1998).

Scope Note:

The collection consists primarily of correspondence and reports received by the Hopi Tribe in their role as a cooperating agency for the Glen Canyon Dam Environmental Impact Statement. Subjects include the operation of the Glen Canyon Dam, dam flows, endangered species, and non-use economic values. These materials date generally between 1990 to 1996.

The other major portion of the collection is the research material, including primary and secondary source materials, compiled for the Hopi Glen Canyon Environmental Studies Project and subsequent reports. This portion of the collection contains detailed information on Hopi prehistory and history in the Grand Canyon area, as well as information on the significance of the Grand Canyon to the Hopi people. These materials date from the 1850s to the 1990s.

Content Outline:

Series 1. Correspondence -- **Series 2.** Subject Files -- **Series 3.** Hopi Glen Canyon Environmental Studies Project: Research Materials -- **Series 4.** Hopi Glen Canyon Environmental Studies Project: Final Work Products.

Contents:**Series 1. Correspondence**

- RC5/1/001: Correspondence, 1990-1992
Re: [Western Area Power Administration] EIS
- RC5/1/002: Correspondence, 1991-1993
Purpose and Needs Statement
- RC5/1/003: Correspondence, 1991-1993
Purpose and Needs Statement
- RC5/1/004: GCES General Correspondence, 1991-1996
- RC5/1/005: Correspondence: Meeting with Native American Tribes Involved
with Glen Canyon Environmental Studies, June 22, 1992
- RC5/1/006: Correspondence: National Research Council, 1993-1994

- RC5/1/007: Correspondence: General Comments on Test Flow and Monitoring, 1994-1995
- RC5/1/008: Correspondence: Comments on Draft [EIS], 1994-1995
- RC5/1/009: Correspondence: Bureau of Reclamation, General, 1995

Series 2. Subject Files

2.01 Interim Flow

- RC5/2.01/001: Interim Flow Exception Criteria, 1990-1991
- RC5/2.01/002: Interim Flow Exception Criteria, 1990-1991
- RC5/2.01/003: Interim Flow Exception Criteria, 1992
- RC5/2.01/004: Interagency Agreement Between [Western Area Power Administration] and [Bureau of Reclamation] for Interim Flows, November 5, 1991
- RC5/2.01/005: Environmental Assessment of the Glen Canyon Interim Flows, 1991-1992
- RC5/2.01/006: Hualapai Tribe's Resolution Concerning the Interim Flows, 1991-1994
- RC5/2.01/007: Interim Flow Monitoring, 1993-1995
- RC5/2.01/008: Final [Environmental Assessment] and [Finding of No Significant Impact] on the Glen Canyon Dam Interim Operating Criteria

2.02 Cooperative Agencies Meetings

- RC5/2.02/001: Cooperating Agencies Meeting, November 9 and 10, 1992
- RC5/2.02/002: Cooperative Agencies Meeting, 1993
- RC5/2.02/003: Cooperating Agencies Meeting, May 26 and 27, 1993
- RC5/2.02/004: Cooperating Agencies Meeting, October 13 and 14, 1993
- RC5/2.02/005: Cooperators Meeting, 1993-1994

RC5/2.02/006: Cooperative Meeting, August 9, 1994
Programmatic Meeting, August 10, 1994

2.03 Scoping Letters

RC5/2.03/001: GCD-EIS Scoping Comments, Final Analysis Reports, March 12, 1990-May 4, 1990

RC5/2.03/002: GCD-EIS Scoping Final Analysis Report on Comments, March 12, 1990 through May 4, 1990

RC5/2.03/003: GCD-EIS Scoping Letters from Organizations, September 1990

RC5/2.03/004: GCD EIS (Public Information Publication) Scoping Report, 1990-1991

2.04 GCES Non-Use Values

RC5/2.04/001: Non-Use Economics, 1991-1994

RC5/2.04/002: Non-Use Economics, 1991-1994

RC5/2.04/003: Non-Use Economics, 1991-1994

RC5/2.04/004: Non-Use Economics, 1991-1994

RC5/2.04/005: Non-Use Values, 1993-1995

RC5/2.04/006: Non-Use Values, 1993-1995

RC5/2.04/007: Phase II-Passive-Use Values, July 12, 1994

RC5/2.04/008: Draft Summary Report, GCES Non-Use Values Committee, May 8, 1995

RC5/2.04/009: Draft Final Report of the GCES Non-Use Values Study, July 12, 1995

RC5/2.04/010: GCES Non-Use Values Final Study Summary Report, September 8, 1995

RC5/2.04/011: Final GCES Non-Use Value Report, September 8, 1995

2.05 Operation, Management and Monitoring

- RC5/2.05/001: Colorado River Management, 1993-1994
- RC5/2.05/002: Colorado River Management, 1993-1994
- RC5/2.05/003: Colorado River Management Work Group, 1993 and 1995
- RC5/2.05/004: Public Comment for Operation of Glen Canyon Dam, Draft EIS, 1994
- RC5/2.05/005: Public Comments Analysis Report, August 1994
- RC5/2.05/006: River Preservation Issues, 1990-1991
- RC5/2.05/007: GCD-EIS "The Ninth Alternative", August 12, 1992
- RC5/2.05/008: Glen Canyon Alternatives, 1990-1993
- RC5/2.05/009: Cultural Resources-EIS, 1990-1992
- RC5/2.05/010: Recreation EIS, no date
- RC5/2.05/011: Human Use of Affected Natural Resources, February 2 and 3, 1993
- RC5/2.05/012: Long Term Monitoring, 1992-1995
- RC5/2.05/013: Long Term Monitoring, 1992-1995
- RC5/2.05/014: Transition Workgroup Meeting, Operation of Glen Canyon Dam, 1995
- RC5/2.05/015: Transition Monitoring Program, Grand Canyon/Glen Canyon, 1995
- RC5/2.05/016: Transition Monitoring Program, Grand Canyon/Glen Canyon, 1995
- RC5/2.05/017: Transition Monitoring Program, Grand Canyon/Glen Canyon, 1995
- RC5/2.05/018: Hopi Interim Flow Monitoring, 1991-1996
- RC5/2.05/019: Comments on the 3rd Draft of the Long Term Monitoring in the Glen Canyon Proposal, 1993

2.06 Endangered Species

- RC5/2.06/001: Endangered Fish EIS, Chapter IV, 1990
- RC5/2.06/002: GCES Non-Native Fish Studies, 1991-1994
- RC5/2.06/003: Endangered Species, Glen Canyon Dam, 1993
- RC5/2.06/004: Draft Biological Opinion, U.S. Fish and Wildlife, 1993-1994
- RC5/2.06/005: Draft Biological Opinion, U.S. Fish and Wildlife, 1993-1994

2.07 Glen Canyon Dam Environmental Impact Statement

- RC5/2.07/001: GCD-EIS Writing Team, 1990-1991
- RC5/2.07/002: First Draft, Operation of the Glen Canyon Dam EIS, April 29, 1991
- RC5/2.07/003: Second Draft, Operation of the Glen Canyon Dam EIS, July 1991
- RC5/2.07/004: Fourth Draft, GCD EIS, October, 1991
- RC5/2.07/005: Fifth Draft, GCD EIS, January 1992 (also includes correspondence, 1991-1992)
- RC5/2.07/006: Sixth Draft, GCD EIS, 1992-1994
- RC5/2.07/007: Meeting of the GCD EIS-Cooperating Indian Tribes, April 6, 1993
- RC5/2.07/008: Glen Canyon Dam EIS Videotape Script, October 5, 1993
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- RC5/2.07/010: Operation of Glen Canyon Dam Re: Summary EIS March 1993 (also includes correspondence, 1992-1994)
- RC5/2.07/011: GCES/EIS Reports, 1992-1996
- RC5/2.07/012: GCES/EIS Reports, 1992-1996
- RC5/2.07/013: Preliminary Draft EIS Comments, 1993-1995
- RC5/2.07/014: GCD EIS Comment Letters Assigned, no date

2.08 Grand Canyon River Trip

- RC5/2.08/001: River Trip Information, 1990-1994
- RC5/2.08/002: GCES River Trip: Grand Canyon, September 30, 1993 through October 10, 1993
- RC5/2.08/003: NPS-GCES River Trip, May 2-9, 1994
- RC5/2.08/004: GCES River Trip: Participants, October 5-9, 1994
- RC5/2.08/005: GCES Joint Hopi/Zuni River Trip, May 15-23, 1995
- RC5/2.08/006: Grand Canyon River Trip, September 12-19, 1995

2.09 Institute of The NorthAmerican West

- RC5/2.09/001: The Institute of the NorthAmerican West, 1991
- RC5/2.09/002: The Institute of the NorthAmerican West, 1991-1996
T.J. Ferguson, Director, Southwest Programs
- RC5/2.09/003: The Institute of the NorthAmerican West, GCES Monthly Report, 1993-1994

2.10 Hopi/Little Colorado River

- RC5/2.10/001: Hopi/GCES and the Little Colorado River, 1990-1995
- RC5/2.10/002: Hopi Little Colorado River Cultural Inventory, 1991

2.11 Miscellaneous

- RC5/2.11/001: FY92-GCES Budget Problems
- RC5/2.11/002: Scientific Information Management Coordination Group, 1991-1994
- RC5/2.11/003: Southern Paiute Consortium, Correspondence, 1992-1993
- RC5/2.11/004: Navajo Nation Historic Preservation, Department Proposal for GCES, Correspondence, 1991-1992
- RC5/2.11/005: GCES/National Research Council, Meeting with Tribes, June 24, 1993

- RC5/2.11/006: GCES/Hopi Water Resources, 1990-1996
- RC5/2.11/007: Jane Bremmer, GCES and the Hopi Water Rights Team, 1990-1992
- RC5/2.11/008: Glen Canyon Environmental Studies Workshop, October 5-6, 1992, Irvine, California
- RC5/2.11/009: Agreement between National Park Service and NAU to establish a Cooperative Park Resources Studies Unit, GCES/NAU, October, 10, 1988
- RC5/2.11/010: Hydrologist-GCES, 1989-1991
- RC5/2.11/011: Grand Canyon National Park, World Heritage Site, October 26, 1979 (Includes newspaper article, September 6, 1992)
- RC5/2.11/012: Press Releases and Miscellaneous Material, 1994
- RC5/2.11/013: Miscellaneous material on archaeological, water, and other GCES studies, 1988-1990
- RC5/2.11/014: Miscellaneous materials on archaeological, water, and power resource studies, 1991-1993
- RC5/2.11/015: GCES Geographic Information System Work Group, 1992-1994
- RC5/2.11/016: GCES/Hopi Cultural Resources Advisory Task Team.
- RC5/2.11/017: Newsletters, 1990-1995
- RC5/2.11/018: Newsletters, 1990-1995

Series 3: Hopi Glen Canyon Environmental Studies Project: Research Materials.

3.1 Primary and Secondary Source Materials included in the Annotated Bibliography

RC5/3.1/001 through RC5/3.1/415

Arranged alphabetically, then chronologically, by author. See digital catalog or archivist for specific citations.

3.2 Additional Primary and Secondary Source Material

RC5/3.2/001 through RC5/3.2/291

Arranged alphabetically, then chronologically, by author. See digital catalog or archivist for specific citations.

Series 4: Hopi Glen Canyon Environmental Studies Final Work Products

- RC5/4/001: *Öönga, Öngtupka, niqw Pisisvayu (Salt, Salt Canyon, and the Colorado River), The Hopi People and the Grand Canyon*, 1995 draft copy with comments
- RC5/4/002: *Hopi Ethnohistory and the Grand Canyon: Annotated Bibliography*, November 15, 1995
- RC5/4/003: *Öngtupqa Niqw Pisisvayu (Salt Canyon and the Colorado River): The Hopi People and the Grand Canyon*, (Final Public Report), March 10, 1998