

Glen Canyon Adaptive Management Work Group (AMWG)

FINAL

**Minutes of July 21-22, 1999 Meeting
Phoenix, Arizona**

Presiding: Stephen Magnussen, USBR (Chairperson)

Recorder: Steven Lloyd

7/21/99: Convened: 9:35 a.m. **Adjourned:** 3:54 p.m.

7/22/99: Convened: 8:00 a.m. **Adjourned:** 12:07 p.m.

Welcome and Introductions

Stephen Magnussen introduced the four new members of the AMWG: Brenda Drye, Southern Paiute Consortium; Arden Kucate, Pueblo of Zuni; Peter Evans, State of Colorado; and Mary Orton, American Rivers.

Paul Atkinson is here representing the Phoenix television station, KAET. He will be creating a program on the Glen Canyon Adaptive Management Program (AMP).

On the recent AMWG river trip, the acting Deputy Secretary for Interior, David Hayes, challenged the group with making an additional public relations effort for the Adaptive Management Program. A small AMWG group was formed and Reclamation has contracted with Scott Jackson from Salt Lake City to photograph portions of today's meeting for use as part of this effort.

Council member Cisney Havatone of the Hualapai Tribe was introduced. The committee members, member alternates and visitors were welcomed to the Adaptive Management Work Group meeting.

Roll Call (Attachment 1-Sign-in Sheets)

The members introduced themselves and identified whether they were an appointed member or an alternate. A quorum was present on both days and the Chairman declared the meeting to be official.

Review/Approval of Agenda:

Recommendation: On motion duly made, seconded and carried, the agenda was approved. There were comments from the group that we need to spend more time on the guidance document and less on the vision statement.

ADMINISTRATIVE BUSINESS

Approval of January 1999 Meeting Minutes: (Sent to members on June 22, 1999). Questions on the straw vote were raised as to why there was not more discussion of the outcome. Suggested that results of the vote be added to the minutes. Results passed unanimously.

Discussion

The minutes should reflect what was discussed in the meeting and not be verbatim. Action items should be highlighted in a dark **bold** font so they are easy to spot within the text. This will allow the group to readily review and identify completed items.

Recommendation: On motion duly made, seconded and carried, the draft minutes of the last meeting were approved as revised. The minutes will be finalized.

AMWG Vision Statement: (Sent to the members on June 21, 1999) Mary Orton. Mary discussed the drafting of the vision statement while on the river trip. She felt everyone was very helpful in developing the vision statement. (Attachment 2 - Vision Statement Presentation by Mary Orton.) She presented the vision statement (see pre-meeting documents) and explained why various pieces were included. She talked about comments made by the members and how they helped craft the vision statement. The group also talked about definitions of various words in the vision statement (i.e., ecosystem, biodiversity).

Recommendation: A motion was made and seconded to approve the vision statement.

Discussion. Leslie James stated the vision statement is very good. The Hopi Tribe questioned how we would mitigate for adverse impacts. They are concerned that the vision language does not adequately address the issue, and that the use of scientific methods in the canyon does not seem to include the scientific monitoring efforts of the tribes over many centuries.

Rob Arnberger quoted the statement made by Bill Persons on May 5, 1999, concerning the TWG's need for a vision statement in order to develop priorities in the monitoring and research plan. He questioned if the vision statement met the needs of the TWG that were articulated in that memo. Bill responded that he felt it was a start and was something that was needed. The vision statement should be taken with Scott's guidance document and expanded with goal statements, management objectives, and information needs.

Peter Evans commented that there did not seem to be a lot of room for humans in the Grand Canyon ecosystem. The first and second paragraphs mention humans in the canyon but he feels the definitions should be specific. He also questioned the term "adaptive ecosystem management process" and asked if that included humans as well. It troubled him that we don't often see human needs in this statement other than as recreational and spiritual/sacred concerns. It was decided that the vision statement adequately captures the human aspect in a number of different venues.

Vote: The vote was carried unanimously to adopt the vision statement.

Motion: Geoff Barnard made a motion that the AMWG charge the TWG to move forward with developing definitions, goals, and objectives with an appropriate time frame before the next meeting.

Motion: Chris Harris made a motion for the AMWG to form a subcommittee to

accomplish the definitions and goals.

The group discussed the defining of terms of in the vision statement which need further clarification. Some of these were identified by the group (ecosystem integrity, natural biological diversity, affected by Glen Canyon Dam, Colorado River ecosystem, partnership and law, adaptive ecosystem management, and natural processes). After some discussion on including definitions, the issue was put to a motion.

Revised Motion: No definitions will be included in the vision statement. Motion carried.

Revised Motion: The AMWG will form an ad hoc group to address the goals and objectives which flow from the vision statement. Motion carried.

The following members will form an ad hoc group to work on goals and objectives: Geoff Barnard, Ted Rampton, Andre Potochnik, Mary Orton, Wayne Cook, Clay Bravo, Jerry Zimmerman, Amy Heuslein. The name of the group will be the Strategic Planning Ad Hoc Group. Mary Orton will convene the group at the next break. The work should be accomplished in the next two months so that the draft documents can be sent out.

Pamela Hyde suggested to the ad hoc group that what comes out of the group should not just be a piece of paper but something that gives the GCMRC as well as the AMWG some sense of where you want to get in terms of an adaptive management process.

Special Presentation.

Stephen Magnussen presented an award to Serena Mankiller for her efforts in the AMP. Barry Gold presented her with a cash award.

AMP Guidance Document: (Sent to the members July 1999) - Scott Loveless.

Scott stated that he has been honored to work with and participate in this effort. This version of the guidance document was meant to be final. He discussed the comments received. The Law of the River has not been changed by the Grand Canyon Protection Act. The GCPA gives more detail on the operations of the Glen Canyon Dam and is very specific as to what was not amended. Discussed changes to pages 3 and 4. Statements in this document are not intended to be policy making but to clarify.

Comment from the Hualapai dealing with the boundary of their tribal lands. Scott referred to a previous decision of the Solicitor which has addressed this issue. In reference to a question on whether dam operations in excess of 45,000 cfs requires NEPA compliance, Scott responded in the affirmative. If experimental flows are conducted, then NEPA probably wouldn't be required but before it can be adapted as part of the permanent operating criteria, certainly NEPA would have to be accomplished.

The question was asked what the next step was in the process - does this document become some part of a departmental guidance document and where do we go from here. Stephen replied that he thought he would just issue it under his signature to the AMWG members and indicate that

this was a guidance document for the Department and it wouldn't go any further.

Scott received one comment from the Hopi Tribe. He referred the AMWG members to page 8 of the document, the paragraph above Other Program Relationships, the third to last sentence in regards to "... consultation requirements under NAGPRA" He was informed that the programmatic agreement covers consultation requirements of NHPA, not NAGPRA.

Referring to Page 5, Amy Heuslein asked where the document speaks to state or tribal laws. Scott said he didn't address that, focusing on the federal laws within the national park. He said that if anyone has some suggestions, he would like to see them. Amy believed it should be investigated because there are certain activities they are proposing to do with federal funding that may have a bearing on state or federal issues or monies.

Page 2, para. 1: Clay Bravo disagreed with the language restricting GCPA mitigation of adverse impacts and improvement of downstream resources to NPS resources. Scott said that since he was going to amend the document, he would review that question.

Page 3, bottom of the page, the wording "within the two park units" occurs. Scott will also look at this statement.

Treaties and executive orders should be included as part of the "law" under which all federal agencies have a special responsibility to Native Americans. Scott will make the wording more specific.

The Hopi representative commented that Hopi's interests are not limited due to their lack of lands adjoining the Colorado River, and stressed the importance of the LCR to the Colorado River ecosystem.

Scott will make revisions and then send out final under Stephen Magnussen's signature. The intent is to finalize this document.

National Research Council Report: Barry Gold introduced Jim Wescoat, Professor of Geography at the University of Colorado at Boulder, who specializes on water policy issues. Jim introduced Steve Glaus from University of Wyoming. The committee also had six other scientists representing the fields of geomorphology, anthropology, economics, systems engineering and fisheries. Jim provided an overview of the NRC and how it works. When charged to review an issue, the NRC develops the report and sends it back to the NRC report review committee who determine if the report covers the requirements of the review.

Their committee addressed asked two key questions:

- 1) Is the Strategic Plan likely to meet the requirements of the Grand Canyon Protection Act, the Glen Canyon EIS, and the Record of Decision? The guidance document was designed to say

what some of the requirements are. Some subsidiary questions are - how well does the long-term strategic plan respond to Adaptive Management Program issues? Is the GCMRC functioning effectively in the AMP? How well does the strategic plan incorporate past research knowledge, and how well does it respond to past reviews of GCES, particularly by the NRC?

2) What are the weaknesses in the long-term plan and how might they be remedied through long and short-term science elements?

Jim's presentation responded to these questions in three broad areas: 1) strategic planning and adaptive management issues, 2) science program issues, and 3) organizational and budget resource issues.

Strategic Planning - The Committee's first and most important observation was the importance of building upon the salience and value of the strategic plan that the GCRMC has produced to date. Build upon the value of this strategic plan, identify strategic priorities for the next 5 years (building explicitly upon experience of the past 2 years), manage geographic scope (considering ecosystem processes, management alternatives, funding sources, and stakeholder interests), examine decadal time scales (relate 5-year plan to multidecadal ecological and social processes), and plan for increasing public interest in GCMRC programs (in terms of education, outreach and participation).

Adaptive management issues of concern were: 1) definitions and roles, 2) core adaptive management experiment, 3) issues of vision, 4) management objectives and information needs, 5) contingency planning, 6) decision support systems and scientific bases for trade-off analysis, and 7) independent science review. Not everyone had a clear definition of what adaptive management is and it would be useful to develop this and other definitions. The group needs to clearly articulate the core adaptive management experiment. The adoption of the vision statement addresses the NRC report concerning vision. The GCMRC should work with the TWG to develop a revised set of MOs and INs. The two levels of review currently in place are thought to be working well. The SAB should not be a subcommittee of the AMWG and should not have formal constraints on the issues relevant to its charge. For difficult or controversial issues, the NRC recommends the decision support systems and scientific bases for trade-off analysis. Mary Orton asked for examples and more specific information on trade-off analysis. The whole purpose of the trade-off analysis is to ask what kinds of methods, tools, and procedures are sound from a policy standpoint. It's often the case there is a reluctance to address those questions early on in the process but ultimately as hard decisions arise, the tools are required.

The program also needs to build in contingency planning. The committee thought there was a meaningful link between contingency planning and adaptive management.

The second category of comments and recommendations relate to the science program itself. The committee recognized that the strategic plan, particularly the revised 1998 strategic plan, had

a very heavy emphasis on the philosophy of ecosystem monitoring. The would encourage the Center to develop and accelerate its implementation of long-term ecosystem monitoring. The most important report comment is the importance of advancing long-term ecosystem monitoring programs in the canyon.

For the physical resources program, there were three recommendations made: 1) to complete the sediment budget, 2) to develop a long-term sand budget for Glen and Marble canyons that would focus on tracking the transport of tributary sediment inputs through Marble Canyon, and 3) to evaluate the potential sediment conservation effects of BHBFs for larger flows in all months. This recommendation comes out of the committee's observations and appreciation of the way the Center and the Technical Work Group handled the Cook Moody proposal. With the back and forth of research design issues, it was perhaps one of the most inspiring exchanges from a science and experimental design standpoint.

Jim went on to talk about the biological resources programs. This is where much of the ecosystem science integration is happening and where the efforts are being made to draw together the different natural sciences approaches to monitoring and research. There is a substantive contribution that this program is making and it is closely linked with the philosophy of the monitoring chapter in the Strategic Plan. The three main recommendations were 1) a synthesis of the existing biological knowledge and research literature would be highly profitable, 2) the committee urged there be a shift from some of the individual species oriented emphases of the MOs and INs, to more ecosystem monitoring of communities within the canyon, and 3) the strategic plan should address possible biological effects of future temperature control experiments.

The Socio-cultural program made a promising change between the 1997 and 1998 versions of the strategic plan. The 1997 plan dealt with cultural resources and socio-economic as separate programs and they were linked under a broader resource program, socio-cultural resources in the 1998 draft. There were some interesting ideas of trying to bring the dialogue of the socio-economic and cultural resources together. The Committee urged there be an effort to coordinate the two programs, provided there are sufficient resources available and also urge for further coordination of the cultural resources sub programs because in addition to the research and monitoring under the cultural resources programs, the individual and other tribal program don't presently seem to be as fully integrated as they could be.

The committee made three recommendations: 1) the tribal projects and reports seem to provide some possible ideas and innovations that will be relevant for a wider range of social groups that the cultural resources program could be looking forward to including and a broader analysis of cultural values associated with the Grand Canyon; 2) the committee felt that the types of evidence coming out of the cultural resources studies have relevance for a longer term perspective on what adaptive management means in the Grand Canyon, and 3) given the kinds of innovations the Committee saw happening in the tribal studies and projects, they recommended broader tribal involvement in other resource program (biological, physical, and information

technology). They urged that resources for tribal participation in these other realms of monitoring, research, and scientific communication be attained but not at the cost of other cultural resources, monitoring, and research already underway.

The Hualapai commented that they needed to be involved at a higher level. They believe that the Grand Canyon resources are tribal resources. They feel the non-use values and the cultural resource components are very important. There should be greater opportunities for the tribes to participate at all levels. Limiting the AMP actions to the limits of the park boundaries limits the program. They are concerned with the resources. The BIA feels there is still a need for a position at the GCMRC for a cultural resource representative.

The Committee made several recommendations for socio-economic resources. The AMP should develop expertise in non-market valuation of ecosystems and their services, seek to understand the degree to which ecosystem features and activities are valued, seek funding for original research to measure Grand Canyon ecosystem values, using scientific sampling of all stakeholder groups, and develop a socio-economic and cultural basis for evaluating experimental outcomes. The NRC did not consider the separate responsibilities and relationships between agencies. Charley addressed the fact that other agencies might have responsibilities for many of the activities of this program. Rob Arnberger explained that the NPS doesn't look at the river as some kind of insulated, rather in the context of the total park. He said that to measure peoples' views or what they see as value relative to the river and not in the context of the entire park, argues against why the entire park was set aside. He sees the NRC's focus as being extremely narrow in the context of what this group is chartered to do and not as broad as it needs to be relative to the fact that the river lies within one of the nation's national parks. The National Park Service has responsibility for answering these questions and delving into those issues in a broader context.

Use of economic analysis in trade-off analysis may not fit all situations, such as in non-use values. There may be a need to monitor how non-use values change over time. Barry asked why aren't there groups looking at studying the socio-economic issues. Jim also echoed this concern.

Organizational and budget issues. There were recommendations that came out of two aspects of the NRC's charge: 1) in the review of the strategic plan, the group felt that it was necessary to consider some of the organization and budgeting issues that would affect the ability of the GCMRC, in its long-term strategic plan, to fulfill the requirements of the institutions that were mentioned; 2) there was a question as to whether the GCMRC was functioning effectively in the Adaptive Management Program. Each of these seemed to warrant some consideration of organizational and budget issues of which came through the process of review.

While reviewing operational relationships and responsibilities, the NRC hopes the GCMRC will be involved in that so that the roles of science and adaptive management can be as fully represented by the science center as possible. When this is done, disproportionate oversight of

the GCMRC should be avoided so as to not distract from monitoring and research.

Regarding the institutional home issue, the GCMRC should be housed within a premier science organization committed to physical, biological, and social inquiry. This would be the highest priority. It should enable them to work effectively with all management agencies and be able to communicate scientific program issues and results with a management team at the Assistant Secretary level independent from any single stakeholder management organization.

The question of what is a premier science organization was asked. Jim said that one example is the USGS, with the exception of social inquiry. No organization fits the bill perfectly. Use of a model like a national lab might be considered, which would be independent. The NRC is not familiar with the political issues concerning location of the Center.

For GCMRC structure and staffing, the NRC felt that a senior scientist would be able to articulate the kinds of experimental design that require a high level of synthesizing, understanding of the canyon ecosystem, and a long-term research background that would help to articulate the core adaptive management experiment.

Stephen said that it was his thought that when they went out and recruited Dr. David Garrett to replace Dr. Duncan Patten, he was basically filling that role of a senior scientist and head of the GCMRC. Jim said that Dave Garrett was an example of someone with an enormous breadth of talents but if you ask if any one individual to be an active ecosystem scientist, an effective program coordinator, and then someone with a strong understanding of adaptive management policy processes, that is too much to expect from one person. Someone who would be able to speak on behalf of the experiments being undertaken with a great depth of scientific experience would complement the GCMRC director's role.

Funding and Budget. The committee was very sensitive to the fact that some of the recommendations would involve new resources, new investments, and new staff. The committee said the GCMRC would be well served by multiple streams and sources of funding. The committee recommended that the funding base be broadened insofar as possible from other agencies but also creatively from other foundations, and from collaborative research. The NRC recommended using hydropower revenues to support core research, monitoring and adaptive management program activities.

Information technology program. Users should be surveyed to determine needs. Assign higher priority to data archiving. Expand and accelerate data and information delivery via the world wide web. Manage computer system administration independent from canyon-specific activities. Begin to plan and develop a computerized decision support system.

Clay Bravo mentioned that there are some AMP stakeholders who can't access the web sites. There are concerns and interest in what is going on in the canyon and there needs to be a better outreach program to get the information distributed.

When asked if the NRC could prioritize their recommendations, Jim responded that they have chosen not to with the thought that they will be woven into the strategic plan.

The NRC summary. Discussion centered around what should be done with the report. Some recommendations deal with the GCMRC and other are to the AMWG. One option would be to assign the GCMRC to work on their recommendations, and then form an ad hoc group to address the recommendation directed to the AMWG. They would then present a status report in October and then make a final report in January. The GCMRC should attend the ad hoc group meetings. It was also suggested to work on everything together. The Center should make a first response to the NRC report and then meet with the ad hoc group. The NRC would be available for comment/clarification but are unfunded.

Stephen suggested the Center could take a first look at all the recommendations in the NRC report, interface with an ad hoc group to be formed, and ultimately that ad hoc group will bring it to the entire AMWG for further discussion and clarification. The ad hoc group will be called the Downstream Ad Hoc Group and will be comprised of the following people: Dave Sabo, Dave Cohen, Leslie James, Charley Calhoun, Rob Arnberger, Chris Harris, Clay Bravo, Bruce Taubert, Wayne Cook, Geoff Barnard, a GCMRC representative. Barry Gold will convene the group.

Public Comment: No public comment.

Wrap Up:

Meeting Adjourned until July 22, 1999 at 8:00 a.m.

July 22, 1999

Welcome and Administrative:

Members and alternates introduced themselves and it was confirmed there was a quorum.

Bruce Moore was presented a plaque and thanked for his efforts in working with the Adaptive Management process and for chairing the Technical Work Group.

Denny Fenn from the USGS reported on the status of the selection of a new GCMRC Chief. They are trying to finalize the selection by mid September. After the selection that person will need department approval because it is a senior level position.

Technical Work Group

Overview of Activities and Report on Action Items:

(2 Handouts - AMWG Assignments to TWG; Report from the Technical Work Group on Adaptive Management Work Group Tasks). Stephen Magnussen introduced Bill Persons who talked about the TWG procedural changes.

TWG Operating Procedures Change:

Bill Persons said one of the tasks was to improve the TWG's effectiveness and use the operating procedures to do that. There were six tasks assigned by the AMWG at the January 1999 meeting, and one of those was to review the TWG's effectiveness. The TWG recognized there had been some problems in dealing things in a timely manner. The TWG suggested that 1) the TWG compensate the Chair (max. of \$20K), 2) clarify the roles of the Chair and Co-chair, 3) use trained facilitators when discussing difficult issues, 4) if consensus can't be reached, then forward a minority opinion to the AMWG, and 5) use Robert's Rules to help meetings run more smoothly. An ad hoc group was formed to explore more ways for the meetings to be more effective as this is seen as an ongoing process.

Clay Bravo talked about the presence of politics in the TWG. Rob Arnberger felt that infrequent meeting of the AMWG is possibly the reason for this. He thinks that more meetings of the AMWG will help. Bill reminded members that it is up to the chair to cut off those kinds of discussions. If they're not on the agenda, they shouldn't be discussed.

Robert Winfree commented that there are a lot of inappropriate delegations which have been given to the TWG that has taken an employee out of a technical work group into a quasi policy group. It has allowed some level of mischief to occur and he feels the AMWG needs to develop some ad hoc committees to do the work and limit what is sent to the TWG. The AMWG should ensure their representatives are attending meetings with technical assignments and carry less political concerns of their stakeholder groups. AMWG members should attend meetings of the TWG to see what is going on.

Assignments: The TWG is working on completion of a strategic plan by December. Mary Orton felt that there should not be a lot of work completed before the AMWG completes the goals and objectives. The Ad Hoc group will meet Aug 27th. Clay Bravo felt there was significant work that can be accomplished by the TWG on management objectives while the AMWG ad hoc group is working on goals. Bob Winfree talked about the EIS resources and desired results being a target. The TWG can make progress working from this document.

While it is felt that the Strategic plan needs to follow the goals and objectives developed by the ad hoc group, it also follows that the goals and objectives need to follow the EIS. Scott Loveless recommended that everyone should read pages 54-57 of the EIS and table II-7. That is the target.

The TWG will continue compliance activities relative to a 2000 BHBF.

There will be a KAS expert panel put together for a workshop on Dec 1-3.

Integrated Water Quality Management Plan: Barry Gold (Attachment 3: Response to comments on GCMRC integrated water Quality Program (IWQP) Draft of May 10, 1999). The AMWG instructed the TWG to divide the monitoring activities in Lake Powell. The divided activities in the three categories, white (being appropriate), gray, and black (not being appropriate).

The TWG recommended the AMWG adopt the IWQP document dated 6/24/99. (In September 2000 the TWG will review the FY2001 activities.)

The GCMRC has a downstream water quality program. They have a significant investment in equipment for monitoring Lake Powell. They have determined that it is more cost effective to do the work in-house. Some members felt the AMWG should look at whether this work should be contracted out. Clay Bravo feels that some of these projects should be offered to tribes to allow them to be more involved and better informed. Leslie James wanted a better breakdown on the elements, who is doing what, and the cost for each.

Recommendation: On motion duly made, seconded and carried, the IWQP was approved.

Discussion: There is a need to approve this plan because it covers work in the FY2000 plan. We are not that far away from the FY2000 work which begins in October. Charley said that we need to be sensitive to the statements of the AMWG with respect to competition. The group should only approve the IWQP for FY2000.

Clay Bravo asked what we were going to do with the information we have collected. Barry explained that dam operations have an affect on water quality. There are a myriad of information needs that call for water quality information parameters. If water quality resource changes are noted, then questions need to come back to the TWG to determine what to do about the changes.

Vote: 19 in favor of the motion; 3 not in favor of the motion. Motion carried.

Tribal Participation: (Handout: Memorandum from Mark Schaefer to the heads of the Interior agencies calling for funding of tribal participation, July 19, 1999.) Charley Calhoun said he was tasked to look into funding sources to insure tribal participation. He did that with a meeting in February with the other federal agencies and tribal representatives. The tribes have asked for a minimum of one full-time person to participate in the AMWG and TWG meetings and also to participate in special compliance activities such as the PA, KAS, and other critical efforts.

Clay Bravo said that he made it clear to the agencies involved in the meeting in Flagstaff that from a Hualapai standpoint, that he didn't think from a technical standpoint that one full-time person at the TWG person was sufficient for the Hualapai Tribe.

Nancy Coulam said the bottom line in the report is that at the moment tribal participation dollars are still some unresolved. The Mark Schaefer letter has had no response. It's going to take a little bit of time to know where we stand. There is also the issue that \$973,000 includes both the tribal participation line item and cultural resource compliance. There are a number of issues in cultural resource compliance for FY 2000 and FY 2001 that are not resolved right now. She is going to have a meeting probably in September to resolve those issues.

Even without the AMP there would still be a need to perform PA compliance. Bruce Taubert expressed concern for taking away dollars from the AMP when PA work would be done whether or not there was an AMP. Clay Bravo feels that the tribes should be more involved in the program. Leslie James still would like to see more breakdown or detail. She also hopes that the other agencies will come forward to assist in the tribal participation effort. The Hualapai feel they should be involved in each of the resources. Nancy said that when we're talking about tribal participation, we need to recognize that tribal concerns are far broader than compliance in the NHPA. That has perhaps been implicit in the past but she thinks that by having a line item that states tribal participation, we are acknowledging that the tribes have additional concerns than NHPA, consultation, and compliance. They hope to clarify those issues in part just by the way it's listed out in the budget and they do acknowledge they have specific needs for government to government consultation with the tribes. Charley said Reclamation is committed to funding its share of full tribal participation.

BUDGET

Approval of FY2000 Annual Plan: (Handout FY2000 Proposals)

Barry Gold said that as part of their process, the TWG approves the bottom line, then works with the GCMRC over time to get the final elements of the plan together. They received tentative approval on June 25, 1999, of the budget plan contingent on the TWG being able to see how GCMRC responded to all of their comments. The GCMRC sent out another draft which was approved by the TWG. It was recommended that GCMRC go ahead and implement the FY2000 plan. Their mechanism for doing that was to continue the ongoing agreements.

Work Plan for FY 2001:

The AMWG needs to approve the bottom line of \$7.85M. Barry explained the individual line items for the FY 2001 program elements. The recommendation from the TWG is that bottom line of \$7.85M should be approved.

Recommendation: Motion was made that the AMWG approve the Work Plan Costs for FY2001.

Discussion. Barry was asked to talk about what was going to happen programmatically as a result of the increases. Barry said he told the TWG in previous meetings that the \$700,000 is what the GCMRC estimated for basic cost for long-term monitoring of the physical resources. The three elements that were proposed to start in 2001 were model development activities related specifically to sediment transport, things that were talked about during the EIS period but weren't fully accomplished, and trying to get closure on sand transport for the main channel of the river. Line item V (tribal participation funding) is at \$0 currently but that may change as a result of the Schaefer letter. The Hopi Tribe expressed concern for compromising existing tribal support because of the Schaefer letter. Ruth gave a brief description of the proposed increases for cultural resources in 2001. The Hopi Tribe doesn't want the AMWG to think that the tribes are just interested in cultural resources. They are interested in completion of the HPP. What level are resources are going to be made available to the tribes? Without that level of detail, the Hopi Tribe cannot vote to recommend this budget.

The budget process is currently underway and before this groups meets again a budget number needs to go forward in Reclamation's FY 2001 budget. The five federal agencies need to commit in their budgets the \$475,000 required for tribal participation.

Proposal to show the \$475,000 as an appropriations line item separate from power revenue funds consistent with the Schaefer letter.

Recommendation: A motion was made and seconded to show \$475,000 as an appropriated line item.

Discussion:

Footnote should be made that the FY 2001 PA funding would be set at \$973,000.

Nancy said the Historic Preservation Plan is not in place and it is unclear how many dollars we'll need. She said that as they move into mitigation they are talking about fairly large budget items, given the logistical costs and the number of historical properties they have to deal with. They could be looking at about \$1 million a year in mitigation alone. The \$973,000 for FY 2000 includes tribal participation of \$475,000 and preparing the HPP to carry them through the next 5-10 years.

Recommendation: Amended motion for the \$475,000 to be added to the bottom line of appropriated dollars and not to the power revenue dollars.

(Vote: 9 yes; 6 no; the amended motion failed for lack of a 2/3 majority of those voting)

Substitute Motion: The AMWG endorses the overall budget request of \$7,858,000 for AMP, \$300,000 for O&M, and \$785,000 for appropriations. (FY2001 Budget) with details to be presented at a future AMWG meeting (January 2000). Motion failed.

(Vote: 11 yes; 7 no; 1 abs)

The National Park Service wanted to go on record that they abstained. Bruce Taubert said that this is the third year the budget presentation is again inadequate. The Hualapai and BIA also felt that it did not meet the needs of tribal participation. The Southern Paiute Consortium also voted no because they need more clarification on the budget; more involvement in the AMWG is an important issue for their tribe since they signed the PA and it appears that the funding is declining and they have to make adjustments. They need more clarification so they know what they will have to deal with in the year 2001.

There was a proposal made to have an ad hoc group formed to work with the USBR and the GCMRC on development of the budget details.

Recommendation: Motion was made that a work group be put together to work with the GCMRC, the TWG, and USBR to assist in the development of a January presentation. Motion seconded and carried.

The Ad Hoc Budget Presentation Group will consist of: Bruce Taubert (Convener) Members: Bruce Taubert, Mary Orton Sam Spiller for Renne Lohofener., Dave Cohen, and Clay Bravo.

Basin Hydrology and Potential BHBF (handout- Glen Canyon Releases) - Tom Ryan reported the following: 1) Water year 1999 is turning out to a very average inflow year at Lake Powell, 2) we never reached our BHBF triggering criteria this year, and 3) our total release volume for the year will be about 11 million acre-feet, well above the minimum of 8.23 million acre-feet. We came into December with average snowpack conditions and then went into a very dry period with the snowpack over the next 6-8 weeks really dropping down by mid January. We had average precipitation for about a month but then in late February through March experienced an extremely dry period in the Upper Colorado River Basin. Showed the three hydrology scenarios showing maximum, average, and minimum probable releases. Elevation for Lake Powell peaked last Sunday at 5 feet from full.

GCMRC REPORT

1999 BHBF Planning: Barry Gold. When the Bureau saw the Lake Powell reservoir elevation and inflows rise significantly, they called the GCMRC and told them there might be the possibility of a BHBF this year so the GCMRC put in process to try to develop a monitoring and research plan for a BHBF. As it turned out, no BHBF was triggered but the GCMRC opted to go follow through with it as an exercise to see how things would work out. They will prepare a report and present it to the TWG for discussion. Each year is going to be unique but it is difficult to plan in such a short time frame, both in terms of types of research and the cost of research.

They have been using a cost figure of \$1M but it could cost above \$1M if lead times were short.

There was some discussion regarding contingency planning and budget considerations but it was decided that this should probably be put on a future agenda.

Recommendation: The AMWG Ad Hoc Budget Presentation Group should look at contingency planning and make it a part of their presentation in January.

Status of Strategic Plan: Barry needs to keep working on the strategic plan in order to have something in place by January.

Science Advisory Board: Individuals have been contacted and resumes requested in order to get members to serve on the board, but it has been difficult to find interested applicants.

Experimental Flow Ad Hoc Group Bill Persons (Handout- Experimental Flows Ad Hoc Group Progress Report - July 20, 1999). Bill said the group has been trying to come up with an array of different experimental flows to shorten the compliance time before running experimental flows. The group brainstormed and came up with about 34 different flows that people thought they might like to see as experiments. They selected criteria to use to evaluate those flows. They mailed out a ballot to the Experimental Flow Ad Hoc Group (22 people), 9 people responded. They didn't think that was enough to move forward with. They discussed it again two days ago to further screen those experiments. A suggestion was made that we build a decision tree based on forecasts, whether it would be a high water year, medium water year, or low water year. In looking at how the forecasts come out, this could be a very complicated decision tree. They are hoping to send two to three options for experimental flows to the Section 7 Compliance Team so they can proceed with compliance issues.

ENVIRONMENTAL COMPLIANCE. Tony Morton said they received two charges from the AMWG January meeting. The first one was to plan for a BHBF for March and April at 44,000 cfs. They felt that the compliance for that would relatively be straight forward and determined it would be non-jeopardy status for the endangered species. They carried over the incidental take statements from the 1996 experiment and that Biological Opinion. The Service issued a letter of concurrence in early March and we were ready to go with a March-April flow if triggered. The second charge was for a BHBF in May-June-July and also consider the possibility of post-flood regimes of flows, specifically fluctuating flows and see what the impacts to resources to that might be. The TWG met in February at the Grand Canyon, discussed this proposal, and determined that it would not be the best scientific approach to go ahead and evaluate the post regime flow in that manner. They decided to pursue a May-June-July flow at 44,000 cfs for 2-4 days. Reclamation prepared a biological assessment and submitted that to the Service in mid-March. They received a draft biological opinion in late May and a draft final biological opinion in early June. Reclamation decided not to finalize that opinion pending to see if the hydrological criteria would be triggered or not. As Tom said earlier, that did not happen and it is not likely to happen so they anticipate terminating that formal consultation process shortly after today's

meeting.

Bill just went over what the approach is for the programmatic compliance process. They anticipate that once the TWG recommends a proposed action for that, they will start compliance and that will probably about 8-12 months to complete that process.

GLEN CANYON DAM TEMPERATURE CONTROL DEVICE Randy Peterson.
Reclamation has finished its compilation of comments on the original draft of the Temperature Control Device Environmental Assessment. Under the direction of Charley Calhoun and Rick Gold, Randy will be leading this effort on the next round of the environmental assessment. Reclamation recently hired a Grand Canyon biologist, Dennis Kubly, to serve as the lead in this effort. Randy passed out a schedule for this compliance effort (Glen Canyon Dam Temperature Control Device Proposed NEPA Document Completion Schedule). Reclamation intends to form an interdisciplinary team comprised of resource experts, both within and outside the Bureau. The purpose for this is to use the best science possible as they continue to work on the NEPA document. The intent is produce the next draft by December-January. Randy also proposed a special April 2000 meeting of the AMWG solely for this issue. In anticipation of that, a draft EA will be issued to the AMWG members in March and Reclamation will be looking for a recommendation from the AMWG in the July 2000 meeting.

PUBLIC COMMENT - No comments from the public.

WRAP-UP - Stephen suggested the group take a look at scheduling future meetings. Talked about the AMWG meeting on a quarterly basis. We will have a meeting in October at which time we will hear back from the Strategic Planning Ad Hoc Group on goals. The Downstream Ad Hoc Group will also provide a status report. A normal meeting will be held in January (probably 1-2 days) and then an April meeting devoted primarily to the TCD. Perhaps the meetings in October and April could be 4-5 hour meetings.

Next Meeting Dates and Locations: The next meeting will be October 21, 1999 starting at 9:30 a.m. and ending at 4 p.m.

January 20, 9:30 a.m. - 5 p.m. and January 21, 8 a.m. - 12 noon

April 5, 2000, 9:30 a.m. - 4 p.m. Temperature Control Device

Possible Agenda Items for January Meeting:

1. Process for distribution of fund for AMP work
2. Budget
3. AMP Strategic Plan
4. Downstream AHG (Rec: Response to NRC Rpt).
5. Discussion of component of the PA - is it the same every year, how does it change?

6. Compliance
7. Contingency planning (discussion)
8. Potential BHBF recommendation based on the resource criteria

Public Comment: The Chairman requested comments from the public at the end of major topics. Any comments made are contained in the text of these minutes.

Adjourn: There being no further business, the Chairman adjourned the meeting at 12:07 p.m. on July 22, 1999.

Key to Adaptive Management Program Acronyms

ADWR - Arizona Department of Water Resources	IN - Information Need (stakeholder)
AF - Acre Feet	IT - Information Technology (GCMRC program)
AGFD - Arizona Game & Fish Department	KAS - Kanab ambersnail (endangered species list - snail)
AGU - American Geophysical Union	KAWG - Kanab Ambersnail Work Group
AM - Adaptive Management	LCR - Little Colorado River
AMP - Adaptive Management Program	LCRMCP: Little Colorado River Multi-Species Conservation Program
AMWG - Glen Canyon Adaptive Management Work Group	MAF - Million Acre Feet
AOP - Annual Operating Plan	MA - Management Action
BA - Biological Assessment	MO - Management Objective
BE - Biological Evaluation	NAAO - Native American Affairs Office
BHBF - Beach/Habitat-Building Flow	NAU - Northern Arizona University (Flagstaff, AZ)
BHMF - Beach/Habitat Maintenance Flow	NEPA - National Environmental Policy Act
BHTF - Beach/Habitat Test Flow	NGS - National Geodetic Survey
BIA - Bureau of Indian Affairs	NHPA - National Historical Preservation Act
BO - Biological Opinion	NPS - National Park Service
BOR - Bureau of Reclamation	NRC - National Research Council
CAPA - Central Arizona Project Assn.	O&M - Operations & Maintenance (USBR funding)
cfs - cubic feet per second	PA - Programmatic Agreement
CRBC - Colorado River Board of California	PEP - Protocol Evaluation Panel
CRCN - Colorado River Commission of Nevada	Powerplant Capacity - 31,000 cfs
CREDA - Colorado River Energy Distributors Assn.	Reclamation - United States Bureau of Reclamation
CRSP - Colorado River Storage Project	RFP - Request For Proposals
CWCB - Colorado Water Conservation Board	RPA - Reasonable and Prudent Alternative
DBMS - Data Base Management System	SAB - Science Advisory Board
DOI - Department of the Interior	Secretary('s) - Secretary of the Interior
EA - Environmental Assessment	SWCA - Steven W. Carothers Associates
EIS - Final Environmental Impact Statement	TCD - Temperature Control Device (for Glen Canyon Dam water releases)
ESA - Endangered Species Act	TCP - Traditional Cultural Property
FACA - Federal Advisory Committee Act	TES - Threatened and Endangered Species
FEIS - Final Environmental Impact Statement	TWG - Glen Canyon Technical Work Group
FRN - Federal Register Notice	UCR - Upper Colorado Region (of the USBR)
FWS - United States Fish & Wildlife Service	UCRC - Upper Colorado River Commission
FY - Fiscal Year (Oct 1 to Sept 30 each year)	UDWR - Utah Division of Water Resources
GCD - Glen Canyon Dam	USBR - United States Bureau of Reclamation
GCMRC - Grand Canyon Monitoring and Research Center	USFWS - United States Fish & Wildlife Service
GCNP - Grand Canyon National Park	USGS - United States Geological Survey
GCNRA - Glen Canyon National Recreation Area	WAPA - Western Area Power Administration
GCPA - Grand Canyon Protection Act	WY - Water Year (a calendar year)
HBC - Humpback Chub (endangered native fish)	
HMF - Habitat Maintenance Flow	
HPP - Historic Preservation Plan	
IEDA - Irrigation and Electrical Districts Association of Arizona	