

Glen Canyon Dam Adaptive Management Work Group (AMWG)
Minutes of April 12, 2001 Meeting
Phoenix, Arizona

Conducting: Stephen Magnussen, USBR (Chairperson)
Recorder: Linda Whetton, USBR

D R A F T

4/12/01 Convened: 9:30 a.m. **Adjourned:** 5:15 p.m.

Welcome and Introductions:

Stephen Magnussen introduced himself as the Secretary's Designee and Chairman of the AMWG. He welcomed the members, alternates, and visitors to the meeting.

Roll Call: The members introduced themselves and identified whether they were an appointed member or alternate. A quorum was established and attendance sheets were distributed (*Attachment I*).

MOTION: Approve the revised AMWG Operating Procedures.

Motion seconded.

Discussion: Rick Gold advised that changes made to the renewed Charter need to be included.

Public Comments: None

Call for question.

Motion carried.

MOTION: Approve the January 11-12, 2001, Meeting Minutes

Motion seconded.

One correction noted: page 3, restate to read: Amy and her group will prepare a motion relative to the concerns and present to the AMWG at tomorrow's meeting.

Motion carried.

Discussion: None

Public Comments: None

Call for question.

Motion carried.

Administrative Items:

1. Steve announced the AMWG member renewal letters were signed and mailed. If anyone hasn't received a letter, contact Linda Whetton.

2. Steve reviewed the Report to the Secretary which was prepared following the last AMWG meeting. He stated the President's budget was submitted to Congress on April 9, 2001. Within the Bureau of Reclamation's budget, the amount of \$7.975M was included as recommended by the AMWG. It was his understanding the USGS also included \$1M in their budget but the President chose not to include in his budget so there is no funding at the present time. Barry Gold added there was a discussion held

with Denny Fenn on Friday, and Denny is going to raise the issue with Chip Groat. It may also be brought up when the Dept. of Interior holds its budget

hearings. Kathleen Wheeler stated the overall USGS budget was cut by 15%. Last week Randy, Barry, and Steve briefed the Secretary on the Adaptive Management Program and the need for additional funds. Also attending that meeting was Tom Weimer, who was the Chief of Staff for Secretary Lujan and was in the Department when the AMP was started. After the meeting, Tom said he would personally communicate the issues to the budget office and would let Steve know the direction the Department wants to take with the AMP.

The Secretary will be presenting the Interior budget, with the exception of Reclamation's budget, on April 25. The Bureau of Reclamation hearings will be held on April 24 and 26.

Legislative Items. Ted Rampton reported there were two bills introduced on the Senate side, one from the Democrats and one from the Republicans. Senator Murkowski introduced S388 and S389 and Senator Bingaman introduced S596 and S597. The other day Chairman Barton introduced a bill to deal primarily with the California situation. Senator Murkowski is the Senate Chairman dealing with that and Senator Domenici is dealing with the Democratic side.

Rick Gold reported that Sen. Hansen has called for a hearing on April 26 which will include a discussion on the operation of Glen Canyon Dam. He said Reclamation has been involved in a number of recent briefings in regards to water, drought, and hydropower concerns.

Randy Seaholm stated in response to an issue which came up at the February TWG meeting as to whether or not TWG members should encourage lobbying for additional funding and appropriations for the AMP, the issue was presented to the Colorado Water Conservation Board and the Board passed a resolution (***Attachment 2***). The Board wants an opportunity to look at the proposed budgets for the AMP and GCMRC in the future and make their own decision whether or not it's appropriate to lobby for additional funds. The Board is somewhat frustrated with the amount of effort that has gone into the AMP over the years. When they look at the Strategic Plan, there are still a lot of information needs that are necessary, baseline data that hasn't been collected or collected in a manner that the science needs are adequate, and concerns about activities outside the program.

Leslie James said she testified at a Full House Resources Committee Hearing on March 7 about impacts of changes in operations at CRSP generating facilities, both from regulatory effects as well as market effects on power customers in the west. There will be another hearing on April 26 as the committee wants to hear more specifically about how operations have changed at GCD following the history of the Glen Canyon Environmental Studies, the EIS and ROD, how those changes are affecting power customers in the west, and are there opportunities or suggestions to help the energy situation. They will also be looking at transmission issues, regional transmission organization issues, and water and irrigation issues. She e-mailed her testimony to Barry and advised he could put it on the GCMRC list server if he wanted. Steve asked if the members wanted to read it and several indicated they did.

ACTION: Barry will send to Linda and she e-mail to the AMWG members. (Done 4/16/01)

Power Update. Dave Sabo reported the power marketing situation has gotten worse than what he reported in January. Power marketing prices in the third quarter were unbelievably high, over

\$600/MWh on the futures market along with a great vacillation in prices. Glen Canyon Dam had to be operated twice in March to respond to rolling blackouts in California. WAPA has been notifying the dam, Reclamation, and others in anticipation of blackout situations. Now if they are going into a potential Stage 3, WAPA notifies the dam ahead of time so the word can be spread. This was done once that he knows of but it didn't result in the actual operation of the dam.

They are anticipating at least 34 outages during the summer or 34 rolling blackout situations. They have also heard a lot about what is going on in the Northwest in terms of the hydro. Generally, because of the diversity exchange, the hydropower from the Northwest supplied California during the summer. There isn't going to be any hydropower this summer and Bonneville has been out on the market having to make purchases. Overall, it's looking rather grim. Everyone living in the west is going to be impacted by the pricing. He doesn't believe we will return to a normal situation for at least 4 or 5 years.

In anticipation of continued emergency operations at GCD, Dave has asked his staff to work with Reclamation to come up with a limit to provide X amount of megawatt hours to California in emergency situations. When they reach that threshold, they will no longer provide power out of Glen Canyon so they can ensure they have adequate water for the rest of the month. They are focusing on between 4-5 days of operations for emergencies during any one month period. They have also requested that California, in lieu of paying cash for power, return the energy. For example, if he were to sell power to them tomorrow at \$300 and then has to replace the power at \$600 when he goes to buy it, he is subsidizing California for their emergencies. If he simply has them return the energy, he keeps the CRSP customers whole and it continues to be California's problem.

TWG RETREAT UPDATE. Mary Orton provided a brief update on the TWG River Trip. The goal for the retreat was to work on two documents which ultimately become part of the Strategic Plan: 1) takes the vision and the goals and puts into a narrative that explains and clarifies what the vision is for the Grand Canyon if all the goals are ultimately achieved. A draft had been circulated and it was completely rewritten on the river. 2) The other is background material - philosophy, history, and process. A revised document will be mailed out next week to the TWG for comments back to the Ad Hoc Committee. The AHC will be meeting later this month to incorporate those comments.

STRATEGIC PLAN (Attachment 3). Mary reminded the AMWG that in the January meeting they looked at the qualitative targets for each of the management objectives and approved with some changes the qualitative targets for Goals 1-5, and 7. Today the AHC wants the AMWG to take action on qualitative targets for Goals 6, and 8-12. Comments were recorded on Flip Charts (***Attachment 4***).

MOTION. Adopt changes to Goal 2.

Motion seconded.

Public Comments: None

Discussion.

AMENDED MOTION: Approve changes to Goal 2 with "its" changed to "their."

Motion carried.

MOTION: Approve Goal 6.

Motion seconded.

Public Comments: None

Discussion.

Call for question.

Motion carried.

MOTION: Approve Goal 6 qualitative targets and the Riparian Issue Paper

Motion seconded.

Public Comments: None

Discussion.

Motion withdrawn.

AMENDED MOTION: Approve Goal 6 qualitative targets and Riparian Issue Paper, with a change to MO 6.3 - no significant loss of area.

Motion seconded

Discussion.

Public Comments: None

Call for Question.

Motion carried.

Mary said at the March TWG meeting, the TWG voted unanimously to recommend to the AMWG that the full document (*Attachment 5*) be approved in July. However, there were some changes made to MOs 8.1, 8.2, and 8.3, and Mary wanted the AMWG to be aware of them (*Attachment 6*).

MOTION: Approve Goal 8 qualitative targets with these changes:

- strike "fine" in element MOs 8.1 - 8.4
- adopt stage levels as suggested by TWG
- change old 8.4 (new 8.5) place to "shorelines above 25,000 cfs"
- strike the qualitative target in 8.1, 8.2, 8.3 in the qualitative target column

Motion seconded.

Discussion.

Public Comments: None

Call for Question.

Motion carried.

MOTION: Approve qualitative targets of Goal 9, deleting 9.5 qualitative target, first sentence (beginning "metric"), and including the TWG suggestion.

Motion seconded

Discussion.

Public Comments: None

Call for Question.

Motion carried.

Mary informed the AMWG that the first time they will see the vision narrative and other parts of the

Strategic Plan will be right before their meeting in July. She advised the AMWG members to

work very closely with their TWG members so their concerns are funneled through the Ad Hoc Committee on Strategic Planning and they will be ready to approve the documents in July.

MOTION: Adopt the qualitative targets for Goal 10

Motion seconded.

Discussion.

Public Comments: None

Call for Question.

Motion carried.

MOTION: Accept Goal 11 qualitative targets changing “and AMP and AMWG” to “as well as AMP” and add “(e.g., data recovery)”

Motion seconded.

Discussion.

Public Comments: None

AMENDED MOTION: Accept Goal 11 qualitative targets with the following changes:

- 11.1 Change “and AMP and AMWG” to “as well as AMP” and add “(e.g., data recovery)”
- 11.1 preserve register-eligible properties(e.g., TCPs, prehistoric and historic sites) ...
- 11.2 target is to manage (based on current cultural values) ...

Change “Perform some action” to “Manage”

- 11.3 ... meaningful tribal consultation ... by Native American traditional practitioners.

Motion seconded.

Public Comments: None

Call for Question.

Motion carried.

MOTION: Adopt qualitative targets for goal 12 with the following changes:

12.1 “...adequate socio-economic data for decision making”

12.3 “The target is implementation of the GCMRC Strategic Plan ...”

12.4 “The target is the implementation of the AMP Strategic Plan.”

12.6 ... delete the words “consistent with the attached definition of” and insert “that provide meaningful” and after “participation” delete “that” and insert “and”

Move definitions to the Glossary.

Motion seconded.

Discussion.

Public Comments: None

Call for Question.

Abstentions: 4

Comments:

Randy S - This is a difficult one to deal with. I’m not sure there is enough definition or guidance to accept the targets.

John S - I expressed my views before the vote and will let them stand.

Loretta - There was not enough discussion on the Programmatic Agreement.

Dave C - There was a great deal that wasn’t discussed. There are more questions than answers.

Robert B - I agree with Loretta with the suggestion the PA be included on 12.3. There is an advisory board that reviews all these reports and we do have a cultural person, an archaeologist, who does represent tribal views and at the same time tribal values are basically learned. Yes, there is a science advisory board on this. We don't go to school, we don't get degrees for it but we would like to have adequate PA representatives review these reports.

Motion carried.

AMENDED MOTION: Change 12.3 to read: The target is implementation of the GCMRC Strategic Plan that has been completed and agreed to by the Adaptive Management Work Group after review by the Science Advisory Board, the PA Signatories, and the TWG, and that will be subsequently be reviewed on a periodic basis.

Motion seconded.

Public Comments: None

Call for Question.

Abstentions: 2

Andre - Still unclear what IRPs are.

Rick J - I don't disagree at all with the importance of having input from the PA into the Plan. To me the ultimate responsibility for the plan rests with this group and so that language should identify us as being the people responsible for it and not another group. We could've added a number of other groups that have an interest and overlapping jurisdictions but they're not ultimately responsible for it. The value in the information is necessary but it's unnecessary to have them listed.

Motion carried.

Mary said the ad hoc group would like to know of any concerns they have on the full document (refer to Attachment 5) so they can discuss prior to the AMWG meeting in July. The ad hoc group will be meeting on April 30 so if there are any additional comments, they need to send them to her by **April 26, 2001**. Her e-mail address is mary@maryorton.com.

Leslie stated that in working on the vision, mission, goals, etc., an inherent conflict may have been created. For example, in Principle 7 she interprets that first, we will try and pursue actions that will benefit all resources; second, if that doesn't happen, then we will try and pursue actions that have a neutral impact; and third, if that can't happen, then we'll try and pursue actions that minimize negative impacts on resources. To her, the intent is pretty clear and it mirrors her interpretation of the EIS and ROD. She feels that some of the notes under the goals set up a hierarchy or a priority of resources. If a hierarchy is going to be set up, then the AMWG needs to have a meaningful discussion about that. If not, she suggested removing the notes from the goals. Mary said the ad hoc committee was asked to come up with ways to resolve conflicts between goals and this was their way of doing it. In anticipation of this discussion, Mary reviewed the document and pulled out every instance which indicated a hierarchy or an order of precedence in any of the goals. She passed out a chart (**Attachment 7**) as a means of trying to visually show her findings to the AMWG.

Mary asked each member to comment on what they felt should happen with the notes:

Larry Anderson	Let the ad hoc group look at it.
Wayne Cook	Let the ad hoc group look at it again.

Dave Cohen	Same
Amy Heuslein:	Pass
Andre Potochnik	I think the notes are important aspects but I think we should recraft them based on the conversations we've had here today.
David Harlow	I agree to let ad hoc group review.
Perri Benemelis	Agree.
Phillip Lehr	Agree.
Jerry Zimmerman	Recraft the notes.
Randy Seaholm	Would just as soon see the notes out.
John Shields	It's strikes me that if we go back to Mr. Loveless' work in terms of trying to provide guidance to this organization that we will find some material in there that would be helpful in whittling down these matters. It's a well crafted document and have information that will be helpful for daily use by both sides. We need to get to a clear understanding of it so therefore I appreciate and would support the efforts of the ad hoc group to dig into this more and encourage them to have all resources at hand, including the Guidance Document.
Brenda Drye	Pass.
David Wyaco	They're troublesome, take them out.
Nikolai Ramsey	I think there is some usefulness to having notes. From some of the criticisms I hear are pointing more toward the reductionist aspect of kind of on the wall analysis. A simple, straight forward statement. I think that they're true but they are misleading in a sense in a complex decision in this process. The notes need to reflect that. They don't need to be purposely vague but they should be clear in telling us what the context of the goals setting, what each goal is trying to achieve. I think we need to avoid being simplistic in a process that has a lot of different aspects of law in forming it. There is a very complicated co-parent that is possible.
Loretta Jackson	I think I would be comfortable if they were redrafted. I think all the goals are important. As mentioned before, if there is conflict then we should be able to resolve it and certainly I have my interests here too as well as everyone else. We all have to learn how to compromise.
Bruce Taubert	I prefer to take the ambiguity out of the goals and not to worry about the notes to define what my goals mean. Make the goals more simplistic and take the thought process of prioritization out of the goal.
Rick Johnson	Keep the goals and remand the notes to the ad hoc group for their recommendation.
Joe Alston	It seems to me that the notes are of limited value here and there may be some need for clarification so would ask the ad hoc group to review again. I see no advantage in trying to set priorities.
Rick Gold	I would observe that most of the notes tend to try and define what the ecosystem goals are and there is no definition of ecosystem goals in the Glossary and that's probably the right place if we need such a definition. Then I'd certainly minimize the notes. If we have to have some notes, then I would take out any reference to hierarchy.

- Leslie James I would suggest taking then notes out because I think they create more problems than they help illuminate.
- Dave Sabo I think Rick made a good suggestion but I would give another observation that what I've been trying to say and am not sure it came across is that by trying to set an order of precedence, you're establishing somebody's interpretation of what is higher and not necessarily taking into consideration all of the aspects that would go into that hierarchy and so I don't believe you can do it. I would assume that it's probably better to just remove the notes.
- Ted Rampton This has been a real interesting discussion and I'm torn both ways but I'm inclined to believe that the notes should go out because they're simply divisive and I think two things, the ad hoc group sometime has to go away for what have been going for 1-2 years so sometime the work has to be completed. It looks to me like this is another process that could keep going for a number of months and besides I think the AMWG can resolve the conflicts when the conflicts arise and I think that's the proper process where that ought to occur.

MOTION: Delete the "notes" from the Strategic Plan.

Motion seconded.

Discussion: None

Public Comment: (Jennifer Pitt) Just from the perspective of this process, I would say that the clearer you can be in articulating what this plan is leading you to in terms of future decisions, the better you're serving the public. The degree that the notes contain some of those definitions, the better they are in helping to articulate those points within the goals.

Call for Question.

Voting Results: Yes = 18 No = 6 Abstained = 0

Motion carried.

ACTION: Send comments to Randy Peterson or Mary Orton by April 26.

TEMPERATURE CONTROL DEVICE. Dennis Kubly made a PowerPoint presentation (*Attachment 8a*) on the status of the TCD. He also provided copies of the TCD Workshop Summary (*Attachment 8b*).

Barry Gold explained where the GCMRC is in developing the science plan (last six slides of above PP presentation). The GCMRC has been in the process of developing the monitoring program for the AMP through the review of existing activities, protocol evaluation panels, etc. They are going to have a PEP involved in this due to the way the timing has worked out and wanted to discuss some of the supplemental activities that one might not put into the monitoring plan if not thinking about the TCD.

The primary biological issues are the entrainment of fish from the reservoir and the reservoir dynamics, what might occur with respect to changes in productivity in Lees Ferry and downstream, potential for increased predation on native fish by introduced species, and the increased risk of exposure to disease and parasites for all fish and rainbow trout exposure to whirling disease. They have started to look at what the existing monitoring program might pick up and not pick up relative to those concerns. With

respect to fish monitoring, about a year ago they brought the monitoring program in-house so they could do some synthesis. Last year, as part of the LSSF, they implemented some experimental monitoring approaches that looked to be fairly robust and have been working with Carl Walters and a consortium of PIs to take a stock assessment approach. They are taking a PEP on the water May 8-15 and will be presenting the current plan for monitoring to them along with what has been done historically. They recently asked the TWG to provide any issues or questions they would like them to bring to the PEP. They will get that report back in July and then they will come back to a process they discussed at the last TWG and propose how they want to change the fish monitoring program based on those recommendations. They will specifically ask the PEP to consider some of the issues that have been raised about the TCD. They need to go back and look at Lees Ferry trout because that one is already finished and working with AGFD (contractor) on implementing the new monitoring plan over the next couple of years. They need to go back and look at what is not being captured in that monitoring plan that they might need to. They are not doing any monitoring for whirling disease which is something they need to look at and what can be done proactively. They should have something ready by September to bring forward on the development of the science which could be sent to the Bureau and the TWG for consideration and putting into the BA.

John Shields asked how much money was in the President's FY 2002 budget for the TCD. Rick Gold responded there is currently \$2M but when the TCD was first considered, it was for \$15M and three years to construct. Rick said every time the TCD is discussed, there is more uncertainty and the risks seem bigger. He has observed that perhaps there shouldn't be a rush to get it under construction. Larry Anderson questioned if additional research needed to be done to see how TCD's on other dams have functioned, what problems occurred, and what people were expecting/not expecting.

Adjourned: 5:15 p.m.

**Glen Canyon Dam Adaptive Management Work Group (AMWG)
Minutes of April 13, 2001 Meeting
Phoenix, Arizona**

Conducting: Stephen Magnussen, USBR (Chairperson)

Recorder: Linda Whetton, USBR

4/13/01 Convened: 8:00 a.m. **Adjourned:** 11:15 a.m.

Welcome and Introductions:

Stephen Magnussen introduced himself as the Secretary's Designee and Chairman of the AMWG. He welcomed the members, alternates, and visitors to the meeting.

Roll Call: The members introduced themselves and identified whether they were an appointed member or an alternate. A quorum was established and attendance sheets were distributed (Attachment 1).

BASIN HYDROLOGY - Roland Springer (USBR) presented several graphs depicting the basin hydrology:

Attachment 9a - Snow Map. It's been dry in the north and getting wetter in the south. The lowest snow content is in the upper Green River which has been 75% of average. It works down to the basins that feed into New Mexico, 110% of average so it looks really good in the south but further north it gets bad. They are seeing 50% and lower in the basins. Overall the Colorado River Basin is 90.4% of average. It has raised 11% in the space of one week.

Attachment 9b - Colorado River Basin Precipitation. Average precipitation has been 100%. In WY 2000, it started out really dry. October and November were less than 25% of average. It moistened up in January-March when it was in the 125% range. Then precipitation declined and it got really dry again. Some of the conditions we saw were very dry soils. This year it is looking a little different. Starting out last fall (Aug-Sep) we were about 100% so it gave us a good soil moisture base. Into Nov-Dec-Jan it dried off again and it has been pretty dry since then except February was a little bit above average. This month has turned out to be very positive with a heavy dose of precipitation. In overflights that have been done throughout the basin, the runoff has begun in the lower elevations. We're seeing increases in the streams and soils that are a lot wetter.

Attachment 9c - Upper Colorado Basin Snowpack Progression. At the beginning of the water year in November, we were 130% of average. There were some early storms and then it dried out. Since then it has been slow and steady hanging around 80% of average for the basin. As time progresses, that turns into a forecast that becomes less and less positive. Last week there was a 10% jump which should help conditions.

Attachment 9d - April Forecast of April-July Unregulated Inflow. Flaming Gorge had 52%, Aspinall 79%, and Navajo, 108%. That combined into a Lake Powell total of 75%.

Attachment 9e - Glen Canyon Releases. They took the forecasts and ran the 24-month study and found that total releases for the water year from Glen Canyon of 8.38 maf and that basically 150,000 acre-feet above the minimum of 8.23 maf. The minimum forecast happens we get down to an 8.23 maf

release year. The forecast we are looking at currently is just a little better. In July-August, the releases were 800,000 af which translates to 13,000 cfs. For the rest of the month we're at 600,000 acre-foot releases, which is 10,000 cfs average. There is still a lot of uncertainty in the forecast.

Attachment 7f - Projected Lake Powell Water Surface Elevations. Right now we're at about 3662 feet. According to the current forecast, the lake elevations will raise to about 3677. The minimum forecast pans out, actually decreasing further along. There are reasons for cautious optimism that the forecast and the actual runoff will increase somewhat even though the 10% increase in snowpack, this is late in the season so we might lose the extra snow to evaporation or soil moisture.

Bill Persons said they received some data on dam releases that indicated fairly common exceedences at a 1500 cfs per hour downramp since October. In the past they received notification of those and thought regulation had shifted to Hoover so those weren't happening and haven't received a notification or explanation to date. Clayton Palmer said a Statement of Work was prepared to look at regulation releases below GCD. Since they agreed to study that issue and look at the difference between catch releases and regulation, they moved regulation back to GCD so GCD is regulating and has been for a year. With respect to notification on when those exceedences occur, WAPA committed to the AMWG to notify them within 24 hours of any exceedences above 1500 cfs. That assignment was given to a student who has since graduated so the notifications haven't been sent for the past several months. WAPA posts all the hourly schedules and the downramps on their web site. Clayton said he will follow up on providing written notifications to WAPA.

Dave Sabo added that they still have some operational difficulties because of shifts in regulation between Hoover and Glen. There is an arrangement to share regulation off those two units and they are finding that at times more regulation is being shifted to Glen. It appears to them there is more regulation being carried right now on Glen than there should be. Dave said there is a study being drafted using the gages below the dam to quantify the difference between the measurements that are taken on the outflows to see if there is some measurable difference between the two and to also quantify what there really is in terms of a regulation impact. Clayton said that study was completed and a presentation made at the WAPA office last week. It will also be presented to the TWG at their meeting in May.

Roland mentioned there have been four power emergencies, one in September, one in February, and two on March 19-20. They call the GCD Control Room, who in turn calls the NPS Dispatch Office when those emergencies are going to happen. They also call three guides on the river. Joe Alston asked if Reclamation was going to improve the process because it hasn't worked very well. Randy said that as a result of internal discussions and with NPS, they have decided that WAPA will make one call to the dam because it is manned 24 hours a day and the dam will immediately call the Park Dispatch Office, who then has radio contact with all of its rangers. Within five minutes the Lees Ferry rangers should have real time notification. They also tried to put in a place a one hour lead time when the exceedences might occur. They are also investigating additional options such as a siren at the dam, or tying the river guides into a radio network. Terry Gunn has taken the lead on that but they haven't heard back from him. Bob Winfree said a poster was drafted to put up at the boat launch at Lees Ferry and other bulletin boards in the area so people are aware of potential power emergencies. The poster was sent via e-mail and he expects it will be posted in the next week or so. In addition, calls will be made to the three main outfitters.

TWG ACTIVITIES. Rick Johnson said there were three ad hoc groups that will be reporting today:

Budget Ad Hoc Group - Cliff Barrett reported that after a number of budget discussions, a TWG ad hoc group was formed in September 2000. He was elected chairman and the following members participated: Clayton Palmer, Randy Peterson, Wayne Cook, Robert Begay, Bill Persons, and Norm Henderson. They came up with four general categories of issues:

1) Process for budget review. They felt there was a need to identify the process, getting the budget reviewed, and establish consensus building so that by the time they got through with the whole process, everybody would buy into the budget.

2) Budget prioritization. The issue was if a budget is adopted and the money doesn't come through, you have to make adjustments. The TWG felt there was a need for putting together a process of prioritizing the budget so those decisions could be made in an open and agreeable manner among the AMWG and TWG.

3) Need for budget support. Once AMWG has recommended a budget to the Secretary, there needs to be some effort (lobbying) put forth to go through the Administration and Congress to show support for that budget.

4) Regular budget updates. Informing the TWG and AMWG on a regular basis on the status of the budget and how things are progressing through the budgetary process.

The ad hoc group reported to the TWG on February 14, 2001 (*Attachment 10*) and made a number of recommendations:

- Allow time in TWG and AMWG agendas to have good discussions. The budget item needs to be placed on the agenda at a time when most members are present to allow enough time to discuss.
- At every TWG and AMWG meeting, there would be an update where they are in the budget process. The conclusion they reached is that once the budget is prepared, there needs to be some alternative planning should they not get the funding. The USGS and BOR would establish a list of their priorities so the AMWG had some sense where cuts would be made.
- The TWG recommended that during the budget formulation process, there is a point that the budget discussions would be presented. Look to federal members of the AMWG to take message back to their agencies for support. At that point have members form a group to take back to Washington.
- The group recommended that AMWG be asked if they want the TWG to be involved in the budget process or just let the USGS and USBR do their own thing? The TWG adopted that recommendation so that needs to be dealt with today.
- Another issue was that of "conflict of interest" for those people who bid on work with the GCRMC. It was suggested the TWG, USBR, and GCMRC sit down with contracting officers and resolve on how to operate the program without conflict of interest in the bidding process.

AMWG members raised the following concerns:

- DOI Management Team concern for developing a prioritization list as opposed to a prioritization process in advance of pushing the budget forward.
- Insuring ample time for internal tribe discussions to take place before key meetings of AMWG and TWG on budget matters.
- Federal budgeting process, is it acceptable to AMWG?

- Need for developing guidelines and bringing back to the AMWG.
- Concern with FY 2002 budget because if USGS budget cuts hold through the deliberations with Congress, there is \$750,000 less in 2002. What programs to reduce?

MOTION: Direct the TWG to move forward with the Ad Hoc Report they approved at February 2001 meeting.

Motion seconded.

Discussion.

Public Comments: None

Call for Question.

Opposed: 1 (Randy Seaholm)

Abstained: 1 (Bill Persons)

Randy - I can support the review, the establishment of priorities, and direction at this point in time, but based on discussions I had with my Board they are not willing to support going back to this Congress and asking for additional appropriations this year.

Bill - Bruce Taubert hasn't seen the report and would probably be uncomfortable approving.

Motion carried.

Sediment Ad Hoc Group - Randy Peterson reported that about six months ago a memo was sent to Kathleen Wheeler (AS-WS) by a group of sediment researchers (Rubin, Topping, et.al). The one line conclusion of that memo was that one of the fundamental premises of the EIS was believed to be incorrect and that is there could be multi-year accumulation of sediment from tributary inputs retained in the main channel for deposition as beaches, high elevation sandbars using BHBFs. What they are saying is that if we thought keeping the flows below 20,000 cfs would be good enough to store the sediment in the main channel, that doesn't appear to be the case because the cutoff for storage retention seems to be 6,-8,000 cfs. The Sediment Ad Hoc Group met two days ago and one of the corollary conclusions was that dam fluctuations from very low flows to very high flows allow sediment inputs to be retained even if for just a 12-hour period at night. When flows were high, deposition of that sediment occurred in the eddies creating high elevation bars. By shrinking that, Ted Melis says there is optimized sediment transport out of the canyon. The flows aren't low enough for any main channel retention and not high enough for any high elevation bar building. Because of that, there is an increasing concern about the long-term trends of sediment storage in the canyon. There are some differences of opinion between the sediment researchers on how dire the prognosis is. Dave Rubin believes it will be a downward declining trend in terms of sediment storage and sees sediment augmentation as the only solution. Other researchers believe either by keeping flows very low, following tributary inputs, and then conducting a BHBF might work or by conducting a BHBF during the tributary inputs in the fall. The latter has a lot of political difficulties because it is outside the triggering criteria time frame of January-July when there would be a risk of spills and the states have expressed concern about conducting a fall BHBF.

They made a lot of progress in understanding what the sediment researchers were saying which led into the Experimental Flows Ad Hoc Group meeting held later that day. The Experimental Flows Ad Hoc Group will formulate some experiments related to some of those preliminary sediment conclusions. The Sediment Ad Hoc Group is preparing a report for the TWG. Matt Kaplinski has taken the lead on

writing that and it should be available by the end of May 2001. Once it is, it will be forwarded to the AMWG.

Experimental Flows Ad Hoc Group - Randy Peterson said the Experimental Flows Ad Hoc Group started out with the task to evaluate BHBFs and Biological Opinion flows. BHBF testing was felt to be important because while some things were learned in 1996, not enough was learned to tell them how to do BHBFs in the future when they are governed as management actions triggered under the triggering criteria. The concept is to perform more tests on BHBFs so they better learn how to operate the dam long term. It's a fundamental premise that these will be conducted independent of the triggering criteria. They in no way intend to inviolate or blow off triggering criteria long term but for a short period of time in the interim will use testing as a way to discover more things about them. They realized that probably the BHBF issue might be the simpler task to tackle first so they have been working on that and are about ready to move into the Biological Opinion flows. They have not had a thorough discussion with the TWG on what the group has proposed but basically are thinking about a couple of initial tests:

1. They would propose something greater than 45,000 cfs because most of the scientists recognized that the first test wasn't large enough to accomplish a lot of the other goals of the tests (scouring backwater return channels, scouring vegetation). It did build bars but the bars were at an elevation that was very similar to normal powerplant operations and those operations then ate into the bars reducing their life. They have talked about +/- 60,000 cfs, shorter time frame - maybe 1 or 2 days, and the test would explore the Rubin-Topping hypothesis. One test they're proposing would be following an 8.23 maf release year where the flows were low and stable as part of the Biological Opinion test flows. They are jumping ahead a little bit and haven't really defined them but expect that at least for one of those years in that test program, they are going to have a year that will look a lot like last year but it would probably go through the end of March, March to March. Their expectation is there would be a release as low as 8,000 cfs so when tributary inputs came in, they would just stay in the main channel for at least slightly coarser fractions than silts and clays. At the end of that 8,000 cfs period, they would conduct a BHBF. Dave Rubin believes that would have a high probability of success because those significant sediment inputs would then be available for resuspension, increase the concentration in the main channel, and allow any high elevation bars to be easily built.

2. The second is during a normal year, perhaps a 10-12,000 maf release year when a fall tributary input occurred, they would immediately following, if not during the event, raise the powerplant releases to 31,000 cfs (HMF) for just a few days and create those high elevation bars at the 31,000 cfs level. In normal powerplant operations they would be down lower and that sand could then be used the following January during the triggering period as a test to resuspend that sand, increase the concentration in the main channel, and create high bars at the 60,000 level.

Depending on the outcome of those two tests, they would likely propose a third test of perhaps as high as 90,000 cfs. Dave Rubin is not comfortable with that proposal and thinks the deposits available at 90,000 cfs are primarily pre-dam deposits, have a very limited life, and are not replenished. Because of the reduced sediment supply past Lees Ferry, it is quite likely that every time something is done like that, they will be mining those very high elevation sand deposits.

They group also explored the idea of how to store sediment in the fall and talked about HMFs and high fluctuating flows in the fall during tributary events but haven't focused on what the magnitudes might look like. The upper magnitude might obviously be 31,000 cfs but whether or not they would stay within the ROD and keep the data fluctuation at 8,000 cfs or whether to do some extreme testing has not been addressed. Their next step would be to get into the Biological Opinion flows and then they want to bring the whole thing back together because there are going to be some temporal timing issues: How long do you have to wait between tests? What if you do a Biological Opinion flow and have to wait three years to see if there is recruitment to see if your BO flow did any good? Can you find out something in the first year or two through larval fish work? He said it wouldn't surprise him if this test program be on the time frame of 10-20 years given all these things. Their goal is to package the whole thing together and then do NEPA and ESA compliance so there is no last minute crisis compliance activities. They would take their findings to the TWG who, in turn, would report back to the AMWG to seek a recommendation to the Secretary.

FY 2001 Aerial Overflights - Barry Gold made a PowerPoint presentation (*Attachment 11*). He stated there is a tight time frame in 2001 to confirm the LIDAR before proceeding. They have a reduced contracting period. In order to get a contractor who has the capability they are looking for to respond, they had to go through an emergency process which shortens the contracting window, reduces the time for response, and limits competition. The benefit of doing it now is they have the opportunity of implementing the spatially explicit and statistical sound monitoring sooner.

The current information suggests they not fly the LIDAR and the aerial photography in FY 2001. However, they are still proceeding under the assumption that something might happen that they could fly it. If they decide not to do it, Barry would like to have some discussion and concurrence from the AMWG in recognizing there may be a potential delay in implementing the kind of monitoring program that they are trying to get into place and the type of data they are trying to provide. He said a one-year delay may not be that critical in order to get the job done right. In 2002, they will be in a re-prioritization process and he wanted the AMWG to be aware that those funds would be carried forward for aerial photography and not used for something else. Consequently, they may still need to seek funding for some work already approved for FY 2002.

He would like to work with the power customers and WAPA to develop a strategy so they can fly it in June. September doesn't make sense for this type of data collection. If they made a decision to just fly the aerial photography this year, he questions if that is wise given the possibility of interrupted flows which might lead to having to replace that money next year and the costs could go up or down. On the other hand, they have some preliminary bids and it could go up next year so there is the possibility that they may require additional funds. Those are the issues the GCMRC is dealing with.

Barry said if the contract is voided by the end of April, no contracting costs would be incurred but if it isn't "killed" until May, then there would probably be a "kill" fee. They are trying to find out what that kill fee might be. He is also hoping for a stronger commitment from the AMWG to accomplish the goal in light of unknown obstacles.

FY 2001 AMP Budget Update - Randy provided an update on the status of AMP costs for FY 2001

(Attachment 12). Currently, AMWG expenditures are right on target with what had been anticipated. The TWG is a little over due to the amount of travel reimbursement as a result of more TWG and ad hoc meetings. There will be no money spent on SAB compliance documents and they are planning on transferring the \$40K to GCMRC to fund the LIDAR work. If it isn't done this year, then the funds will be carried over for next year to do it.

GCMRC Budget Update - Barry said they are tracking their obligations for this year and are on target with spending. They have letters of intent out or have completed the contracting work for the aquatic foodbase and the integrated terrestrial project. The cultural research work is at various stages, the contracts are still in the discussion process. They have released a contract for population genetics of humpback chub, which had been proposed last year and then got bidders who didn't work out so they put it out for bid again this year and have issued a contract on that. The native and non-native fish work is underway. They have let a contract on the trout work for three years. He just finished on the fine sediment storage. Part of that work is being done through the USGS-Arizona District and they met on Tuesday to resolve a fairly large budget discrepancy. They had a certain amount budgeted for that work and the USGS came in with a higher bid so they sat down and worked it out and are going to do the work with funds that are available. The only thing they haven't contracted for in the physical resources was the modeling work. The peer review panel recommended they not award to any of the bidders. They thought all the proposals were substandard and then they reviewed the RFP and felt it was a poor job in putting it out, so they revised, got their concurrence on it, and it was just reopened on April 9.

In the past they have carried money forward in the independent review panels because of a delay in getting the science advisors on board. Now that the SAB is on board, it appears all the money will be spent for this year on the IRPs. The only thing they anticipate carrying forward this year is possibly the remote sensing work. If by April or May the decision is made not to go forward, they will make a request at the July meeting to carry those funds forward to next year.

Leslie asked what will happen now since the supplemental money is not available to the GCMRC. Barry said when the President's budget went up to the Hill, it did not include the \$1M that was requested through appropriated funds. He was told by Denny Fenn that \$250,000 of that was put in for administrative support and the USGS is going to provide that from here on out as base funding to the program. It was \$760,000 identified with various science programs that was not included in the President's budget anymore. Barry plans to work with the Budget Ad Hoc Group to inform them of GCMRC's recommendations, discuss how to re-prioritize the funding, present it to the TWG, and then bring a recommendation to the AMWG in July.

ACTION: Barry will provide a handout (***Attachment 13***) which will be included as an attachment to the minutes.

AMP PUBLIC OUTREACH - Randy said this was put on the agenda as a method of rejuvenating the outreach group. He passed out copies of an e-mail message from Rick Gold which included a proposed public outreach program (***Attachment 14***). A group was formed about two years ago on the first river trip from a suggestion made by Mark Schaeffer but nothing has been done since. Rick

would like to have some input in terms of what should happen next - perhaps expand the group to accommodate additional volunteers and provide some tasks they would like to see the Outreach Group address. Rick Johnson said when he initially volunteered to work with the group there was some ability in the Grand Canyon Trust to do this type of work but he no longer has GCT as a resource and requested to be removed from the group. Clay Bravo said he would have Cisney Havatone contact Rick.

ACTION: Send comments to Rick Gold (rgold@uc.usbr.gov) by May 7, 2001.

OTHER COMMENTS:

Bill Persons said the Service is drafting new recovery criteria for native big river fishes and they are concerned about humpback chub and razorback sucker in the Grand Canyon. Some of the criteria may not agree with biological opinions that have been issued in the past and he thinks Bruce's question to the Service was whether they would reconsider those biological opinions when that recovery criteria is finalized and if Reclamation would re-consult. He thinks the big difference was the recovery criteria doesn't call for a second mainstem spawning population of humpback chub in Grand Canyon. David Harlow said the recovery plan and the goals will go through a public review process and then after consideration with the public comments, it will be finalized. If there is essentially significant new information, it can trigger re-initiation of consultation so Reclamation could request re-initiation of consultation at that time. Clay Bravo advised the Service should consult with the tribes before releasing any information to the public about potential impacts that may be caused to tribal resources. The Hualapai Tribe considers the fish in the Colorado River their resource and feel the Service should consult with them. They share resources between the Tribe and the State of Arizona. David said he would relay that information to the Recovery Program Office in Denver that those briefings have not been done and are being requested to do as part of their trust responsibility.

Adjourned: 11:15 a.m.

Next Meeting: **July 17** (9:30 a.m. - 4 p.m.) and **July 18**, 2001 (8 a.m. - noon)
Bureau of Indian Affairs, 400 N. 5th Street, Phoenix Conf. Rooms A & B
Hotel: Holiday Inn Express, 620 N. 6th Street, Phoenix, Arizona
Tel: 602-452-2020 (\$59 + tax)

Respectfully submitted,

Linda Whetton
U.S. Bureau of Reclamation

General Key to Adaptive Management Program Acronyms

ADWR - Arizona Department of Water Resources
AF - Acre Feet
AGFD - Arizona Game & Fish Department
AGU - American Geophysical Union
AMP - Adaptive Management Program
AMWG - Adaptive Management Work Group
AOP - Annual Operating Plan
BA - Biological Assessment
BE - Biological Evaluation
BHBF - Beach/Habitat-Building Flow
BHMF - Beach/Habitat Maintenance Flow
BHTF - Beach/Habitat Test Flow
BIA - Bureau of Indian Affairs
BO - Biological Opinion
BOR - Bureau of Reclamation
CAPA - Central Arizona Project Assn.
cfs - cubic feet per second
CRBC - Colorado River Board of California
CRCN - Colorado River Commission of Nevada
CREDA - Colorado River Energy Distributors Assn.
CRSP - Colorado River Storage Project
CWCB - Colorado Water Conservation Board
DBMS - Data Base Management System
DOI - Department of the Interior
EA - Environmental Assessment
EIS - Final Environmental Impact Statement
ESA - Endangered Species Act
FACA - Federal Advisory Committee Act
FEIS - Final Environmental Impact Statement
FRN - Federal Register Notice
Service - United States Fish & Wildlife Service
GCD - Glen Canyon Dam
GCMRC - Grand Canyon Monitoring and Research Center
GCNP - Grand Canyon National Park
GCNRA - Glen Canyon National Recreation Area
GCPA - Grand Canyon Protection Act
HBC - Humpback Chub (endangered native fish)
HMF - Habitat Maintenance Flow
HPP - Historic Preservation Plan
IEDA - Irrigation and Electrical Districts Association of Arizona
IN - Information Need (stakeholder)
IT - Information Technology (GCMRC program)
KAS - Kanab ambersnail (endangered native snail)
KAWG - Kanab Ambersnail Work Group

LCRMCP: Lower Colorado River Multi-Species Conservation Program
MAF - Million Acre Feet
MA - Management Action
MO - Management Objective
NAAO - Native American Affairs Office
NAU - Northern Arizona University (Flagstaff, AZ)
NEPA - National Environmental Policy Act
NGS - National Geodetic Survey
NHPA - National Historical Preservation Act
NPS - National Park Service
NRC - National Research Council
NWS - National Weather Service
O&M - Operations & Maintenance (USBR funding)
PA - Programmatic Agreement
PEP - Protocol Evaluation Panel
Powerplant Capacity - 31,000 cfs
Reclamation - United States Bureau of Reclamation
RFP - Request For Proposals
RPA - Reasonable and Prudent Alternative
SAB - Science Advisory Board
Secretary(=s) - Secretary of the Interior
SWCA - Steven W. Carothers Associates
TCD - Temperature Control Device (for Glen Canyon Dam water releases)
TCP - Traditional Cultural Property
TES - Threatened and Endangered Species
TWG - Glen Canyon Technical Work Group (a subcommittee of the AMWG)
UCR - Upper Colorado Region (of the USBR)
UCRC - Upper Colorado River Commission
UDWR - Utah Division of Water Resources
USBR - United States Bureau of Reclamation
USFWS - United States Fish & Wildlife Service
USGS - United States Geological Survey
WAPA - Western Area Power Administration
WY - Water Year (a calendar year)

LCR - Little Colorado River