

Glen Canyon Dam Adaptive Management Work Group
FINAL Meeting Minutes
January 28-29, 2003

Conducting: Michael Gabaldon, USBR
Recorder: Linda Whetton, USBR

January 28, 2003
Convened: 9:34 AM

Welcome and Introductions: Michael Gabaldon 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 a member or alternate. A quorum was established and attendance sheets (***Attachment 1***) were distributed.

Administrative Items:

1. Mike reviewed the three action items from the last AMWG meeting. In reference to #2, Mike said Barry Wirth is still seeking a chairperson for the Public Outreach Committee. If any of the members are interested in serving in that capacity, they should contact Barry directly (801-524-3774).

2. Bruce Taubert said after receiving the AMWG agenda, there were changes made to the agenda as well as additional documents sent for inclusion in the meeting packets. He reviewed the AMWG Operating Procedures and suggested the AMWG do a better job of adhering to them. In particular, #5 Agenda, it states: "At least 30 days prior to any meeting of the AMWG, a draft of the proposed agenda and related information will be sent to the group members." He doesn't think there has always been 30 days to deal with the attachments. He would like to have more time to read the meeting materials and talk with his staff so he is better prepared for the meeting. Under #6 Voting, it states: "The maker of a motion must clearly and concisely state and explain his or her motion. Motions may be made verbally or submitted in writing in advance of the meeting. Notice of motions to be made by any member of the AMWG should be announced in the Federal Register and presented on the agenda." He also doesn't feel that has been happening. He is not so concerned that motions are listed in the Federal Register but that they should be given to the AMWG members early enough so they have sufficient time to confer with staff. The Chairman responded that it is hard to handle motions that come in at the last minute but concurred that motions and other meeting documents need to be in place well in advance of meetings and that the Operating Procedures be reviewed on a regular basis.

3. Mike welcomed Pam Hyde and Clayton Palmer as official AMWG members.

4. Mike said there was a request to move the budget discussion from 3:45 today to the first item on today's agenda. Hearing no objections from the members, the change was made.

MOTION: Move to approve the July 17-18, 2002 Meeting Minutes.

Motion seconded.

Discussion: None

Pending three minor edits, the minutes were approved without objection

Legislative Updates. Randy Peterson reported there has been very little action on the comprehensive energy bill in the last year, however, Congress has committed to addressing it in this session. The current format of the bill seems to have dropped the hydropower optimization clauses that might affect Glen Canyon releases. There has been some discussion about the controversial aspects of renewable energy, conservation, etc. which have probably delayed passage of the bill. As soon as the conference committee takes that up, Reclamation will keep the AMWG apprised of any developments.

Budget – Randy Peterson reported that at the July 2002 meeting, the AMWG passed a bottom-line total of \$11,014,000 but directed the TWG to specify the various line items. Over the course of the past few months, the TWG has gone through several iterations and proposed some changes. Most of the changes were in response to funding needs for the experimental flow effort and mechanical removal of non-native fish. When the TWG met in the fall of 2002, it wasn't very clear to them how the Budget Ad Hoc Group had come to its conclusions so the Budget AHG developed some rationale and included some budget tables (**Attachment 2**) to help explain the changes. Most of what happened in that process was to reduce some of the line items in order to free up funding for the experimental flow proposal. Unfortunately, there was a shortage of about \$1 million in carrying out that experiment and mechanical removal so they had to do make some significant adjustments. The adjustments included seeking a significant increase in appropriations in 2004 as well as 2003. It meant that some of the research proposals that had originally been categorized as being funded by appropriations would be eliminated in terms of directing those appropriated dollars toward the experimental flows. In addition, there were some items in the use of power revenue portion of the budget which were also reduced to free up money for experimental flows. There was a lot of discussion with the TWG.

The President will release the FY 2004 budget in just a few weeks. The AMP budget does not break down the funds by line item/cost so there is flexibility in responding to current monitoring and resource needs. Within the last week the USGS has changed some of their overhead accounting procedures which will affect the 2004 budget. As such, the TWG feels it is premature to seek a recommendation at this point.

Denny Fenn provided a brief history on USGS budgeting practices. He said Chip Groat, Director of the USGS, has struggled to try to bring the USGS together as one bureau. There are four principal scientific disciplines in the USGS – the water resources, geologic, national mapping, and the biological resources discipline. To some degree, the history of the USGS says each of those major disciplines have been funded by Congress and acted to a large degree as an independent unit with disciplinary or divisionary policies rather than one major overarching USGS policy. In trying to establish some common business practices, he has launched into what has now turned out to be a 3 ½ year process of trying to reform the agency from the inside. One of those discussion issues has been the issue of overhead rates or assessments on partnership funding that comes into the bureau. The water resources division charges one rate, generally the highest rate, sometimes 46-47% in some districts but it varies from state to state or district to district based on the cost for operating in that particular state. One subset of that issue of assessment policy is relative to DOI sister agencies. The National Biological Service, which was merged into the USGS in 1996 to form the Biological Resources discipline in the USGS, has had a policy since the very first day almost 10 years ago when it was created by Sec. Babbitt of charging zero percent overhead against Interior bureaus.

In trying to create a uniform policy of assessment for all USGS disciplines with each DOI partner, the Department arrived at a policy that is going to charge 15% across the board against any DOI funding coming into the bureau. That policy has been vetted through the Secretary, the House Appropriations Committee, the Senate Appropriations Committee and has been given the green light to put in place. This means the Biological Resources program which has historically for the last 10 years charged zero percent overhead will now start assessing 15% on DOI monies including the GCMRC money that comes into the bureau. The other disciplines which have charged higher rates will now have to drop their rates to 15% and so for a given agency working with the USGS across the board, they will make money in one area but be charged more to work with the biological discipline. Of that 15%, 11% is going to be assessed by the Director's office to run the entire bureau and the GCMRC will be required to charge a 4% assessment rate.

Denny said he applied for a waiver from that assessment charge based on the justification that was included in paragraph seven of Mark Schaefer's 2000 letter announcing the transfer of GCMRC into the USGS but was informed about 10 days ago his appeal was rejected. He explained the 4% can be disposed of fairly quickly in that GCMRC actually direct charges against the monies on all of its overhead costs. They don't assess any money against it. If the bookkeeping system being put in place requires them to charge that 4%, they will simply un-direct charge that equivalent amount so that it ends up as a zero. If he can't waive, they'll keep that as a net sum zero change by simply direct charging the same equivalent amount of money less and then charging those costs against the 4%. The 11% will be new charges against the power revenues coming into GCMRC. GCMRC is going to have to adjust the FY 2004 budget by \$730,000 because there is that much less operating funds to do science and monitoring than we had before. They didn't feel that in 7-8 days they had time to do a really good job and had no time to vet it through the TWG and the Budget AHG or come to the AMWG with any formal recommendation. Denny said he spoke with the Director last week and since the AMP already has an approved FY 03 and are already a third of the way into fiscal year, it was decided not to charge the 11% because it would be a breach of ethics and confidence with the AMWG. However, effective October 1, 2003, that policy will be in place.

AMWG Member Questions/Comments:

- Discuss business practices and not give as much money to GCMRC. (Taubert)
- Discuss option of having Reclamation process GCMRC contracts. (Heuslein)
- Reclamation will charge overhead for contract administration work. (Gold)
- Need to start cutting back on some of the administrative costs. Consider cutting USGS loose because the \$730,000 is non-productive money. (Kuharich)
- Need to review the Strategic Plan to identify program priorities. (Heuslein)
- Need to reduce the amount of overhead the AMP pays before reducing expenditures to meet the overhead USGS is imposing. (Hyde)
- What would the USGS' response be if they were asked if they had capability of \$730,000 of additional appropriations? (Gold)
- Is there any way to deal with the overhead charge through an assessment of costs so we can approve an overhead budget? Why does it cost \$730,000? What do we get for \$730,000? (Alston)

Randy has talked with Denny about the USGS doing the procurement work and Reclamation issuing the contracts. They have also questioned whether the AMP is effectively using the \$9-11 million per year - what work should be adjusted, frequency of monitoring, administrative and overhead charges, tribal funding, etc. Randy asked if there were any AMWG members who wanted to participate with the TWG Budget Ad Hoc Group and the GCMRC in working on the budget. Bruce Taubert asked for a clear statement on what the group intends to do and present it at tomorrow's meeting.

Action Item: Randy Peterson will draft language for an AMWG charge on the 2004 budget and present at tomorrow's meeting.

Update. Randy presented the following: "The AMWG charges GCMRC, the TWG Budget Ad Hoc Group, and the TWG to analyze and recommend a 2004 budget that addresses the increase in USGS overhead rates that affect the AMP. This analysis should include ways to reduce the effect of the overhead charge, as well as a complete evaluation of AMP business practices."

Experimental Flows – Steve Gloss said on Dec. 6, 2002, Secretary Norton approved the experimental flow treatments that began on January 1, 2003. He gave a PowerPoint presentation, "Experimental Flows Status Update" (**Attachment 3a**). Steve said they have encouraged and received tribal participation interest in all the mechanical removal trips. All tribes plan to send people on the trips and participate in the mechanical removal process. The first delivery of fish to the Hualapai Tribe will be on January 31 and is being coordinated by the Hualapai Cultural Resource

Program. They expect to deliver about a ton of fish remains along with 20 of the 15-gallon carboys. There is quite a lot of excitement and interest in the whole project. Steve distributed copies of "Researchers Study Effects of Trout Removal and Fluctuating Flows on Native Fishes in the Grand Canyon" information page (**Attachment 3b**).

Sediment Resources - Ted Melis reported that even though they didn't get the sediment trigger of the Paria River they had hoped for, some sediment components of the experiment were implemented. He proceeded with a PowerPoint presentation on the "Sediment Resources of Experimental Flows" (**Attachment 4**).

Bright Angel Weir Results – Jeff Cross said they are testing the feasibility of a weir to catch trout that are migrating out of the mainstem into Bright Angel Creek to spawn. The contractor for the project is SWCA and the work was funded by the Bureau of Reclamation and the National Park Service. He said literature was handed out to people who were down at Phantom Ranch and they also talked with people who came by the weir. It was fairly controversial among some people who came down to fish. They had some vandalism by hikers and fishermen who would remove some of the weir rods at night. Once they talked with the people and explained what was being done, they seemed to understand. Jeff is trying to secure funding to run the weir for a couple of years but before implementing, they will do NEPA compliance and go through a public information process. Bruce added that as part of the public process, it would be important for all the agencies involved (AGFD, NPS, etc.) to coordinate their responses to the public.

FWS Feasibility Proposal for HBC Augmentation – Steve Gloss said he wanted to update the AMWG on where they are on the feasibility of developing a captive breeding/refugia population concept for humpback chub. GCMRC asked for a proposal from the FWS to address the issue. The proposal was distributed to the TWG in December 2002 (**Attachment 5a**) with comments due to GCMRC by Feb. 10, 2003. He proceeded with a PowerPoint presentation (**Attachment 5b**). Steve hopes to go forward with the proposal at the February TWG meeting.

AMWG Comments:

- Concur with developing a feasibility study but also need to look at a mechanism to get them out of the river and put them in a holding facility in 2003 and then take action in 2003. (Taubert)
- Need to be cautious in taking fish out of the canyon and consider what can be done for HBC that leave them in the canyon rather than putting them in a holding facility. (Hyde)
- Perhaps some HBC should be harvested and let the feasibility study go forward. We shouldn't take fish unless we know enough about the feasibility questions that have been posed. (Cook)
- Need to assign the TWG or a group of TWG members and specialists to look at what factors are involved and then make a determination for establishing a captive breeding population if necessary. Need to do as much as we can to abate this downward trend. (Spiller)
- Would like to see the feasibility study include work done in the upper basin. (Palmer)
- Need a level of discussion on sustaining HBC habitat so we don't have to rely on a refugia population. (Alston)
- Don't know if we can continue to make up enough individuals no matter what is done in the system to maintain a large enough breeding stock to keep the population going. (Taubert)

Action Item: Bruce Taubert and Sam Spiller will draft a motion relative to the feasibility of removing HBC from the river for captive breeding purposes.

Non-Native Fish Control – Bill Persons distributed copies of the "Draft Plan for Non-native Fish Control in the Colorado River Ecosystem" report (**Attachment 6a**). He reviewed the charge to the ad hoc group and believed the focus of the AMWG discussion was non-native fish control in the Grand Canyon. The group recognized there were other issues affecting native fish that required attention but did not feel the AMWG intended this group to take on the larger charge of MO 2.5.

They see this charge as requiring a larger more comprehensive plan for aiding native fishes and the non-native control plan they worked on would become part of that larger plan when it is created. Bill proceeded with a PowerPoint presentation (**Attachment 6b**). He referenced a letter to the Editor of the AZ Republic (**Attachment 6c**) in response to an article written by Lisa Force (**Attachment 6d**) as a follow up to an AZ Republic article (**Attachment 6e**) and stated how important it is to make the public aware of what the adaptive management program is doing. He would like the AMWG to approve the ad hoc report. He anticipates there will be additional discussion on the recommendations in the report.

Geoff Barnard said the Grand Canyon Trust is very appreciative of the report and the experimental work that is underway. He said the report is a limited approach because the AHG didn't look at MO 2.5. The GCT has a wrap-around motion that includes some of their concerns. He asked the chairman if Nikolai Ramsey and Rick Johnson could make a few comments on the humpback chub prior to actually introducing the motion.

Wayne Cook suggested the AMWG approve the report before discussing any other motions.

MOTION: We approve the report from the Non-Native Fish Control AHG Report in regard to native fish in the canyon.

Motion seconded.

Discussion: Pam questioned if the AMWG should listen to GCT first because some of the recommendations listed in their report may conflict with what GCT is proposing. Because there was already a motion on the floor, the Chairman said he would not entertain another motion.

Voting Results: Yes = 18 No = 0 Abstaining = 0
Motion passed.

The chairman recognized Nikolai Ramsey from the Grand Canyon Trust. Nikolai said GCT's intent in putting forth a motion was to start a process whereby they can take a more comprehensive approach to addressing the plight of the HBC. The language in recommendation #8 of the AHG report suggests that everything should be done to restore the HBC. He read the GCT proposed motion (**Attachment 7**). They believe the work needs to begin comprehensively not sequentially. While the Non-native Fish Control AHG is a needed activity, HBC numbers are declining rapidly and there isn't enough time to do evaluations of one management tool before moving on to the next. The GCT would like to have their motion addressed as is and asked that a special process be set up so they can address the issue comprehensively. He said the person leading their effort was Rick Johnson (GCT) and asked Rick to comment on the motion.

Rick Johnson stated the motion had two parts: Part 1 is a methodical review of all the threats to native fish in the CRE and review management actions to increase recruitment and decrease mortality of native fish and put them in sequence order. Part 2 identifies actions to be initiated.

Geoff said he would like the AMWG to schedule a special session on or about March 15 of this year to consider the motion. In the interim an AMWG ad hoc group with assistance from GCMRC could develop modifications, additions, amendments, and recommendations to bring to the AMWG relative to the motion.

AMWG Comments:

- Concern about the cost of a separate meeting and GCT's Notice of Intent letters. (Kuharich)
- Take the topics to the TWG meeting in February and have them prepare a comprehensive plan. (Palmer)

- There is a real urgency to do something for the chub (Spiller)
- Consider current funding requirements and how they will change program priorities. (Gold)
- Pair down the list and have the TWG address in February along with INs and MOs. (James)
- Can the Science Advisory Board review the motion and provide advice? (Taubert)
- We have to do something for the HBC now! (Barnard)
- Grand Canyon Trust's litigation is on the recovery goals. (Hyde)
- The recovery goals were adopted by the FWS and they apply nationally. I find it somewhat offensive that this letter is filed, that there is no sending of it out to AMWG members. It's not on the agenda, we all just sort of hear about it. From the standpoint that we should all work together as a team, we have one of our team players going off and doing their own thing. It's not really conducive to having good working relationships. I didn't hear in the presentations what has spawned this motion being drafted at this point and being presented today. I didn't see any GCT participation on the non-native fish report. This is one of the things addressed in GCT's motion but yet they didn't feel strongly enough to participate in the development of the report. (Shields)

MOTION: AMWG meet in special session on or about April 1, 2003, to consider the proposal made by the Grand Canyon Trust concerning a comprehensive research and management program for the HBC and other native fish, and in the interim that the TWG and an ad hoc committee of AMWG, GCMRC, and science advisors develop recommendations, additions, or amendments to that proposal and report to AMWG at the special session.

Motion seconded.

Call for question on the motion.

Voting Results: Yes = 16 No = 3 Abstaining = 2

Vote on the motion.

Voting Results: Yes = 4 No = 18

Motion defeated.

Sam Spiller (voting no): I want to be able to discuss both of the motions.

Leigh Kuwanwisiwma (voting no): I have a question or concern regarding the recommendations, additions, amendments without also the consideration of costs.

AMENDED MOTION: AMWG meet in special session on or about April 1, 2003, to consider actions to implement a comprehensive research and management program for the humpback chub, and in the interim an ad hoc committee of AMWG, TWG, GCMRC, and science advisors develop recommendations and report to AMWG at the special session.

Motion seconded.

Voting Results: Yes = 17 No = 0 Abstaining = 3

Motion carries.

Loretta Jackson (abstaining): We're always changing things and always reacting. I think that members have gone through this process before and have been here for years and all of a sudden this is thrown at us and we're reacting to it and in the meantime there are still a lot of other things that we have to do, other priorities that we have. To me this is redundant.

Geoff Barnard (abstaining): I simply feel our proposal should have been the starting point for the discussion.

Leigh Kuwanwisiwma (abstaining): I still have the same general question about this particular effort right now in terms of factoring in the upfront costs.

The AMWG created the Humpback Chub Ad Hoc Group (HBC AHG) with the following members: Geoff Barnard, Wayne Cook, Amy Heuslein, Pam Hyde, Leslie James, Rod Kuharich, Bruce Taubert, Clayton Palmer, John Shields, and Sam Spiller (chairperson).

Action Item: Sam Spiller will develop a purpose statement for the newly formed HBC Ad Hoc Group relative to the motion passed at today's meeting and schedule meetings in preparation for an in-depth discussion with the AMWG at the April 1, 2003, AMWG meeting.

AHCIO Report – Randy Seaholm reviewed the five recommendations listed in the ACHIO AHG memorandum (**Attachment 8**) sent out on January 24, 2003. Randy asked the other AHG members if they had any additional comments. Pam said the AHG still needs to address some of the examples and how they will fit under certain categories. She also pointed out that under 3b they will still need to discuss how these things get funded. Bruce said he would like to see some of the dialogue the AHG had so the AMWG could understand where they had disagreement and how decisions were made. He would like to see a “minority report” (how the members voted on certain issues). Randy said those would be included in their final report.

Motion: Move for approval of the ACHIO Report and recommendations.

Motion Seconded.

Discussion: Andre Potochnik asked how the process was going to be done and whether it was going to be done as the full AMWG or the AHG. Randy responded that the ACHIO AHG would like to ask each AMWG member if they would like to add to the list of about 40 concerns and then they would focus on that list and bring to the TWG, go through the process there, and then prepare a written report and bring forward to the AMWG for consideration.

Public Comments: None

Voting Results: Yes = 21 No = 0

Motion passed.

Randy Peterson presented Randy with an “IN/Out Burger” t-shirt for his hard work in chairing the ACHIO AHG and thanked Leslie James for buying it.

Information Needs. Mary Orton said the next step in the Information Needs process is a recommendation from the TWG that was dependent upon the ACHIO AHG Report just approved by the AMWG. She said the first part of the report (**Attachment 9**) reminds the AMWG that at the April 25, 2002 meeting, they directed the TWG to use a paired comparison process for putting the information needs in sequence order, that they then approve the INs they had consensus on, and to finish their work on the INs in time for a recommendation at today’s meeting. The TWG put the Information needs in sequence order, did a fatal flaw analysis and made some changes to that sequence order after having had a chance to look at it, and made quite a few amendments to the INs. At the November 7, 2002, TWG meeting, they following motion was passed:

The Technical Work Group has sequenced the entire set of Information Needs as directed by the AMWG. The TWG is unable to recommend approval of the INs, absent the criteria for what is in and out of the program. Therefore, the TWG recommends that this list be approved by AMWG only after it has been subjected to AMWG-approved criteria for what is in and out of the AMP.

Mary went on to say that with the ACHIO recommendation there are now categories (funding issues) and criteria (information needs) that may be inappropriate for the plan. As referenced in the “Action Taken on the Strategic Plan by the TWG document,” the TWG amended quite a few INs as they went through them, as well as added/deleted some. They finished the sequence order, newly sequenced some INs, and also changed some around. She asked if the AMWG wanted to take action today or if they wanted to wait until the criteria has been applied or if they were comfortable approving the INs as they are now. The AMWG decided to wait until the criteria has been applied.

TCD Risk Assessment. Dave Garrett said he was here to provide risk assessment information, do some preliminary scoping, and get information from the AMWG on a couple of areas that the scientists had on approaches to be taken or constrained. He gave a PowerPoint presentation (**Attachment 10**).

AMWG Comments:

- Completed report will have to include a number of assessments – financial, environmental, etc., because it will be the only product available. (Gold)
- Need for answer to be in matrix format with a clear recommendation. (Shields)
- Advise using previous reports vs. re-creating the wheel. (Hyde)

Dave concluded by saying that he still thinks the GCD AMP is a wonderful process. He has worked with other groups who aren't as successful in working with each other and he is pleased to see the AMWG operating so well.

EA Risk Assessment – Dennis Kubly said the background information that has been provided to Dr. Garrett and the science advisors has been a great resource for improving the EA. It will be very important for the AMWG to make a recommendation at the July 2003 meeting. The EA will be finished by the end of September along with having the reviews done so a completed report should be available by the end of the year.

Colorado River Management Plan Update – Jeff Cross said the public scoping process closed on November 1, 2002, and they received 15,000 comments. They are analyzing the comments and hope to have a scoping report ready next month. They have a contractor who is going to do a series of expert panels and stakeholder workshops beginning tomorrow through the remainder of the week. There is an expert panel that starts tomorrow at 2-9 p.m. and will be on carrying capacity, group size, and seasonality. On January 30, there will be two stakeholder workshops, one on the spectrum of opportunities and one on the private permit system. On January 31, 2002, there will be an expert panel on allocation of resource use among user groups. All the expert panels and stakeholder workshops are meeting at the Arizona State Capitol Tower, Governor's Protocol Room, 1700 W. Washington, 2nd floor, in Phoenix. The sessions are also being broadcast to the Cline Library, Northern Arizona University in Flagstaff, Arizona. Their target is to have a draft EIS available in the summer for public comment and review.

Overview of Science Advisors Recommendations – Denny Fenn distributed copies of his PowerPoint presentation (***Attachment 11a***) along with the Science Advisors Report. (***Attachment 11b***). He reviewed the recommendations from the report.

Pam said she wanted to reiterate her concerns in how the final determinations in the Science Plan were made, that the final cut was made with GCMRC in concert with the Budget Ad Hoc Group and she understands that the budget implications that were arrived from GCMRC to work with that ad hoc group to make those determinations. As both a TWG and AMWG member, she is concerned that decisions on what was to be studied was determined only by the Budget Ad Hoc Group and that it wasn't brought to either the TWG or AMWG. She would like to recommend in the future that GCMRC make an attempt to bring that to the TWG.

Adjourned: 4:55 PM

Glen Canyon Dam Adaptive Management Work Group
January 28-29, 2003

Conducting: Michael Gabaldon, USBR
Recorder: Linda Whetton, USBR

January 29, 2003
Convened: 8 AM

Welcome and Introductions: Michael Gabaldon 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 a member or alternate. A quorum was established and attendance sheets were distributed.

Humpback Chub Ad Hoc Group Update - Sam Spiller said he checked with the HBC AHG and the first meeting will be February 12, 2003, and the second meeting date (if needed) will be March 12, 2003. He read the purpose of the HBC AHG: "To develop recommendations and report at the April 01, 2003 Special Meeting of the Glen Canyon Adaptive Management Work Group, regarding consideration of actions to implement a comprehensive research and management program for the Humpback Chub."

Feasibility Study Update – Bruce Taubert said that at yesterday's meeting they had a discussion of the feasibility study for removal of some HBC from the river for captive breeding purposes. He talked with Sam and also with Joe Alston and they have decided not to make a motion but have set up some meetings to look at things they might want to start to do now that will make it easier to facilitate an opinion later. One big concern is environmental compliance and what can be done now rather than waiting for a decision in July and then starting the process. Their goal would be to remove the chub during September-October time period as they will have people in the field and there are young-of-year available at that time. Bruce said they would invite anyone who wants to attend the meeting but the three agencies (NPS, FWS, and AGFD) that have charge over will need to do the environmental compliance. If they decide to remove chub out of the river, they can do so without clearance from the AMWG just as long as they don't use funds from the AMWG process to do the removal. They will have a parallel process that will allow the three agencies to make that decision whether or not they want removal and it will also meet the time constraints of the evaluation to determine if it is feasible from the AMWG's perspective.

Pam questioned whether the work Bruce was proposing for the three agencies could be integrated into what the HBC AHG would be doing. She would like to see the agencies look at issues in terms of need, compliance, what's necessary to do, and what kind of comprehensive actions would be taken for the HBC. She feels there are *ripple effects* and doesn't think it makes sense to have two separate groups. Bruce said that as soon as the information is developed, they will send it out. She suggested the information be brought to Sam's group but Bruce said the information wouldn't be ready that soon. Bruce said the information would be reported back to Reclamation and they could disseminate it to everyone.

Budget Update - Randy Peterson presented the AMWG charge for the 2004 Budget: "The AMWG charges GCMRC, the TWG Budget Ad Hoc Group, and the TWG to analyze and recommend a 2004 budget that addresses the increase in USGS overhead rates that affect the AMP. This analysis should include ways to reduce the effect of the overhead charge, as well as a complete evaluation of AMP business practices."

2000 Low Steady Summer Flow (LSSF) Reports – Denny said he will present an overview of where they are on the LSSF studies and what results were obtained. The final plan for that effort was approved in April 2000 and the projects were implemented during the summer and early fall of 2000. Some of the preliminary results were presented at the 2001 Science Symposium. There

were a total of 18 different studies that were funded by \$3.5 million. At this point in time, there are nine final reports that are completed and nine still pending but should be completed within the next 3-4 months. They divided the 18 studies into 4 categories: physical resources, biological resources, two Lake Powell studies and economic and recreational studies. Denny said the information is based on the SWCA Report and that if anyone wanted a copy of the report, they should contact him. He proceeded with a PowerPoint presentation (**Attachment 12**).

Action Item - Wayne Cook requested a copy of the SWCA Report be sent to him.

There was some discussion regarding the slide entitled, "Economic Impacts to Power Customers." Denny said the hypothesis being tested was that economic impacts to power customers will not differ significantly from economic impacts in normal daily operations. Clayton Palmer said WAPA didn't receive peer review comments until last month but WAPA concluded it did cost \$21 million to run that study. Clayton said the slide should read "Financial" impact because it was an impact to WAPA only. Leslie James differed with Clayton and said there are impacts directly to the power customers because the power customers are obligated under long-term power contracts to pay the costs that are incurred by WAPA but the financial impact is to WAPA, the basin fund and therefore the treasury. It's a flow through to the customers. The customers pay all of WAPA's and Reclamation's costs to the Colorado River Storage Project so an impact to WAPA is to the customer. WAPA has the obligation to replace the lost hydropower in order to meet contract deliveries. When the flows are down 5-8,000 cfs, WAPA has to go out on the power market and buy all that power to make up those deliveries. It's an impact to the basin fund which is basically WAPA's pocketbook, the cost of the purchases are a cash flow impact and they have to pay the cash to make the purchases when the basin fund gets to a certain low level. Clayton said that if WAPA is flush with cash, then an experiment has financial impact to WAPA, it does not trickle down to the customer. In this particular case and during the experimentation prior to the EIS, WAPA ran out of cash and so the effects did trickle down. There shouldn't be an impact to customers if WAPA planned better and kept a greater cash balance.

Bruce asked whether GCMRC could provide executive summaries of the reports on a quarterly basis. Denny said they will set that process in motion but also said the reports are available on GCMRC's web site.

Basin Hydrology – Tom Ryan presented the following graphs (**Attachment 13**):

UC River Basin Precipitation, Oct 2001-Dec 2002 – The drought continues. This graph shows precipitation in the Colorado River Basin for the last 15 months. It was a very dry year in 2002 and ended the water year with a wet month of September but very significantly below average precipitation throughout the year. There has been no precipitation in the basin for the past two and a half months.

Lake Powell Unregulated Inflow, WY 2002 – The peak inflow occurred in September from the monsoonal tropical storm moisture received then.

Snow Conditions – This is the third year in a row where it's looked favorably in November and then everything dried out. Basinwide snowpack is 70% of average right now. The area around the Upper Colorado, the roaring fork, and the Gunnison is a little bit better than the rest of the basin but the aggregate is 70%.

Lake Powell Unregulated Inflow, WY 2003 – There was a record low inflow for the history of Lake Powell in December and it will probably do it again this month. During extended drought periods, the base flows are significantly below average levels. Three things will be needed to break the drought this year: fall moisture, above average snowpack, and more favorable spring conditions. In

water years 2000, 2001, and 2003, all had very dry springs with lots of winds and whatever snow that came in was lost through evaporation and sublimation.

2003 Upper Colorado Apr-Jul Inflow – This slide depicts the forecast around the basin. The January mid-month is 69% of average but almost certainly that is going to go down when we get the February forecast because there were such dry conditions in January. There are some storms coming through later this week and hopefully will help a little bit but he will almost guarantee that come next week, we'll be seeing a lower forecast than 69% for April-Jul for Lake Powell.

Glen Canyon Hourly Releases Data Source SCADA – This is what we're doing with the experimental flow regime. The goal is to try to keep it as consistent as possible. There are some deviations in terms of being replicated day in and day out but it is pretty close. There are 9 hours a day at 20,000 cfs, 8 hours a day at 5,000 cfs, with the remaining hours transitioning up and down.

Glen Canyon Dam Releases Based on Jan 2003 Inflow Projections – This is the forecasted release pattern for the remainder of the year. It's almost certainly going to be a 8.23 maf release year. Things would really have to be turned around very quickly and have a very wet February-May to see enough water such that it would trigger equalization releases. Tom pointed out that like last year, they're wiring September to be a low flow release month so they have a placeholder in case they get the Paria River sediment input during the summer or fall and still be able to maintain our 8.23 maf release year. If the sediment does occur, you wouldn't have a high flow schedule and wouldn't have any flexibility with meeting your 8.23 criteria.

Lake Powell Water Surface Elevations – This slide show where the elevations are headed. The trend is not up and looking at the most probable scenario of losing more storage at Lake Powell. Under the current forecast, the water year will end 7-8 feet below where it did last year. This is based on the January forecast so when this is revised, the elevation will be a little bit lower.

602(a) Storage – Tom Ryan said he would explain what Reclamation is proposing to do as well as provide some background on what 602(a) storage is and try to clarify how it works and how it affects operations at Glen Canyon Dam. He gave a PowerPoint presentation (**Attachment 14a**) and distributed copies of the Federal Register Notice (**Attachment 14b**).

Oracle Database - Mike Liszewski said he wanted to give a quick update on the Oracle database. They have been able to make substantial progress on the Oracle database since they entered into a cooperative agreement with the Center for Data Insight on the NAU campus. They are going to have several aspects of the database ready for demonstration within the next couple of months and will schedule a time to do that. He said there were a number of reports generated as part of the remote sensing initiative – five reports that have been completed so far. The reports are also available on the GCMRC Library website or people can contact him and he'll send them a hard copies. There are three additional reports coming out by the end of February. In addition, there were two other handouts, one was a bibliography of all reports generated from the inception of GCMRC since 1997 (**Attachment 15a**) and a revised aerial photography inventory that listed all of the overflights (**Attachment 15b**).

SW Science Center / GCMRC Update – Denny Fenn said GCMRC currently has two vacant positions, one is the Cultural Resources Director vacated by Ruth Lambert and the other is the Deputy Director. Ruth has been doing some part-time work for the GCMRC from her new home in Durango CO but has announced her firm resignation date from GCMRC will be February 21, 2003. The vacancy announcement was advertised in multi-disciplines (archaeology, anthropology, and sociology) internally as well as externally. He has the certification list now and there are nine very good applicants from all three of the disciplinary skills on the list. He hopes to make a selection within the next 3-4 weeks. The SW Biological Center Deputy Director position will be advertised

soon, both internally and externally. The vacancy announcement will be open for a month. He anticipates filling that position by spring.

Amy asked for an update on how the SW Biological Center is organized. Denny said that SW Biological Science Center is made up of four field stations that have previously been part of other segments of the organization. The biggest component of it is the GCMRC which used to report back to him when he was stationed in Virginia. The other three units are the (1) Colorado Plateau Field Station, which is stationed at NAU in Flagstaff, (2) the Sonoran Desert Field Station, which is stationed at the University of Arizona campus in Tucson, and the (3) Canyonlands Field Station which is located in Canyonlands National Park in Moab, Utah. The four units and the field leaders of those units report directly to him as the Director of the Center.

Public Outreach Program – Amy Heuslein said she wanted to discuss the memo (***Attachment 16***) sent by Barry Wirth in which he asks for AMWG representation for a public outreach ad hoc group, identification of an ad hoc chair, and the feasibility of meeting with the ad hoc group during the week of May 12 to begin identifying outreach objectives. Rick Gold said there are only four people who have volunteered to be on the committee (Pam Hyde, Bill Persons, Andre Potochnik, and John Shields) and asked the other two Federal agencies (NPS and FWS) to provide names to Barry so the work can begin. Joe Alston said he thought their public affairs person had been in touch with Barry and said her name was Maureen Oltrogge. Sam Spiller said he would do some checking and report back to Mike and Barry.

Miscellaneous Updates:

GCD AMP web site. Randy Peterson announced the new Glen Canyon Dam Adaptive Management Program web site <http://www.uc.usbr.gov/envprog/amp/index.html>. There are still some documents which need to be added to the Resource Issues page but those should be available within the next few months.

AMWG River Trip – Randy said they have tried over the last month to try and organize a river trip for the top Interior leadership to be able to accompany the AMWG on a Grand Canyon river trip. Randy asked if there was any interest in the Department for doing that, an opportunity to meet with the directors and commissioners of Water and Science and Natural Resource protection agencies within the Department. They will give the people in Washington a couple of choices – sometime in April or probably late August/early September. They really wanted to expand the late March/early April time frame so they could see the differences in the fluctuating flows and ROD flows but they may have the same opportunity in late fall. Reclamation will be in touch with the AMWG on possible dates.

Science Symposium Update - Denny reported the Science Symposium has been rescheduled to October 28-30, 2003 in Flagstaff. Additional details will be sent at a later time.

Next AMWG Meeting:

April 1, 2003 (9:30 a.m. – 5 p.m.)
Bureau of Indian Affairs
400 N. 5th Street, 12th Floor, Conf. Rooms A&B
Phoenix, Arizona

July 2003 AMWG Meeting: It was decided to wait on scheduling dates pending outcome from the HBC AHG report.

Action Item: Linda Whetton will send an e-mail message to the AMWG members polling their availability for a day and a half meeting during the month of July.

Submission of Agenda Items – Mike asked the members to submit any agenda topics, motions, etc., ahead of time so everyone has an opportunity to review and be prepared to discuss. (Update: In order to publish these in the Federal Register, they need to be submitted to the Chairman at least two months prior to a scheduled meeting.)

Adjourned: 10:30 a.m.

Respectfully submitted,

Linda A. Whetton
U.S. Bureau of Reclamation

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