

Glen Canyon Dam Adaptive Management Work Group  
**FINAL Meeting Minutes**  
July 17-18, 2002

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

July 17, 2002  
Convened: 9:35 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 asked for any comments to the April 24-25, 2002, Meeting Minutes. There were several edits noted and the recorder will make the changes and finalize the minutes. Without objection, the minutes were approved
2. Membership Updates: Mike said the paperwork to appoint Clayton Palmer and Pam Hyde as official AMWG members is still being processed in the Department.
3. Pamela Hyde asked what the status was on the Annual Report to Congress. Randy Peterson said comments were reviewed, revisions made, and the report was sent to Washington DC approximately three months ago. Since the report will be sent from the Secretary to the Congress, the Department has final revision authority. Pam questioned if the AMWG would be allowed to comment on the report before it goes to Congress. Randy said he didn't think so but the comments were also forwarded with the report to the Secretary. Pam requested that copies of the report be provided to the AMWG members.

**Action:** Reclamation will send a copy of the Annual Report to Congress to the AMWG members.

**Proposed Reorganization of GCMRC:** Anne Kinsinger (USGS) publicly thanked Dave Busch for the excellent job he has been doing as acting chief for the GCMRC for the past three months and then wanted to explain the reorganization of GCMRC. The USGS is in the process of planning for a new biological research center which will include the GCMRC. While the USGS has biological science centers in California, Oregon, Washington, Alaska, and Hawaii, they have felt for some time there was a gap in their research program in the southwest. They are planning to create an integrated focus on the Colorado Plateau and Sonoran desert areas by having biological research division science centers in Flagstaff, Moab, and Tucson report to a new biological research center that includes the GCRMC. The three incoming units will be about the same size as the current center so they will be doubling their USGS presence in the southwest. She wanted the AMWG to know of her personal commitment that the USGS will be fencing off the GCMRC program in terms of both personnel and resources dedicated to the adaptive management program. In terms of administrative support, the offices that will be joining the GCMRC are whole and have their own administrative personnel.

Denny will be coming on in August and that's when the USGS will be finalizing their decisions about the particular personnel issues. Because Denny's job will be larger than the current GCMRC Director position, they have secured funding for a deputy director position. The roles haven't been sorted out with respect to the Grand Canyon program, but this change guarantees the Adaptive Management Program will probably get more attention at the executive level than

the program has been getting in the past. The USGS will bring issues to the AMWG, TWG, and others to make sure they are achieving their organizational goals as well as bring additional disciplinary resources to the table. With the reorganization, the USGS will now have people with expertise in avian ecology, soil processes, vegetation ecology, and ecosystem restoration. From an ecosystem-wide perspective, the USGS feels this reorganization makes a lot of sense.

**Status of Recommendations** – Mike said he informally sent the recommendations from the last AMWG meeting to the Secretary's office immediately following the meeting and reported there have been quite a few high level meetings concerning those recommendations, especially the flow recommendation. Because he didn't feel comfortable sending those informally, he has developed a process by which he will transmit future recommendations to the Secretary in a formal, but much faster, manner. He distributed copies of his July 1, 2002, memo to the Secretary (**Attachment 2**) which included the AMWG's recommendations from the April 24-25, 2002, and January 17-18, 2002, meetings. He didn't add any commentary or suggestions in the memo but did include footnotes to support the recommendations. The memo is currently being reviewed within the Department with respect to legal, science, technological concerns and officials are well aware of the timing issues with respect to the experimental flow and subsequent NEPA requirements.

**Experimental Flows** – Randy said the purpose for today's discussion on experimental flows would be twofold: 1) make sure everyone has a clear picture of what the proposed experiment is, and 2) provide an update on the compliance activities. He said at the April AMWG meeting there were still some undefined pieces of the experiment that the TWG had considered so discussions have continued. (Refer to TWG Recommendation, **Attachment 3a** and Science Advisor's Report, **Attachment 3b**). He proceeded with a PowerPoint presentation (**Attachment 3c**) and explained it's important to understand that this is a 2-year native fish experiment and regardless of what happens to sediment inputs in the next two years, flows will be conducted along with other management actions, i.e., non-native removal to benefit the native fish. If sediment inputs occur from the Paria River, they will also overlay those two years with experimental flows to conserve sediment as well. Furthermore, if the inputs occur 5, 6, or 8 years down the road, the experiment consists of two years of flows to benefit native fish and when those Paria inputs occur, the sediment conservation flows would be conducted. This makes NEPA compliance a little more complicated because it is an undefined period of time depending on when those Paria inputs occur.

Randy presented a Timing Diagram (**Attachment 3d**) and reported that Reclamation has not been given permission to begin formal Section 7 consultation with the Fish and Wildlife Service. They have had discussions with the Service on the proposed action, both in terms of sufficient progress and with respect to the test. They have also commenced the preparation of a NEPA document and think it can be ready by early August. A 30-day review period will be provided for public input after the Draft EA is issued.

**GCMRC Science Plan Coordination Workshop** – Dave Bush distributed copies of the agenda for the workshop (**Attachment 4**). He said GCMRC views this as a very important step in moving forward with the planning effort and getting input from stakeholders and science advisors in the technical realm. They hope to deal with the plan in a conceptual way and somewhat independent of the flows discussion. He feels it will be helpful to think of the discussion on the flows as being an examination of the treatment and the tone they hope to set in the science plan workshop is one of looking at the effects. They will be looking at hypotheses and study designs that have been formulated to gain insight on those hypotheses. They have been involved in a number of conference calls and received input from science advisors on the treatment scenarios.

**Update on Science Plan** – Steve Gloss said there has been a lot of interplay between the treatment scenarios (**Attachment 5a**) and the development of the science plan and feels they have made reasonable progress. He presented a PowerPoint presentation (**Attachment 5b**) and distributed a copy of the third version of the “Two Year Science Plan” (for discussion purposes only).

**FY 2004 Budget and Work Plan (Attachment 6a)**– Randy referenced the AMP Summary sheet and said the total budget requested for FY 2004 is a little over \$11 million, of that \$2.2 million is being requested from appropriations; \$309,000 from Lake Powell O&M funds for Lake Powell water quality monitoring; and \$8.5 million from power revenues, which is within the cap imposed by the 2001 appropriations bill. Of the \$2.2 million, \$1 million is for experimental flows and the rest of the appropriations are for various science activities, along with \$475,000 for tribal involvement, participation, and consultation issues. He said program administration costs have not changed substantially in the past three years. There hasn't been any money spent on preparing compliance documents in the past but with the experimental flow program, he anticipates much of the budgeted money will be used in FY 2003. If there is unspent money in any of the categories, he would propose shifting that money into the experimental flow fund as part of Reclamation's end-of-year accounting. Randy said the costs for cooperative agreements with the tribes and river trip logistics are the same as for previous years and will be paid for through the appropriations of the five DOI agencies.

Nancy Coulam said Reclamation has committed to keeping their costs down to \$50,000 a year. Item #3 is the lion's share of the PA funds and includes the Park Service's monitoring with \$28,000 going to Glen Canyon and \$201,000 going to Grand Canyon. The remaining item is to contract for a treatment and monitoring plan that will guide the resolution of adverse affects of dam operations on historic properties. The \$50,000 next to the Completion of the HPP is for a number of sub-plans and that will be contracted out and will depend on how much gets done in 2003.

Randy said the experimental flows fund of \$1.5 million is between two funding sources - \$500,000 from funding for power revenues and \$1 million requested through the USGS appropriations process. The current balance of the fund is approximately \$500,000 and will be used to finance any monitoring or research necessary to ensure that the purposes of the program are being met. When the 2003 budget year starts, there will be an additional \$500,000 of power revenues placed in that account so by the time any experimental flows might occur in 2003, there will be about \$1 million to dedicate to that activity.

Steve Gloss said they have been through several presentations on the 2004 work plan and referenced comments from the TWG (**Attachment 6b**) and comments from the Budget Ad Hoc Group which were discussed at the May TWG meeting. Comments and changes were incorporated into the current revision.

Comments/Concerns raised by AMWG members/alternates:

- Amount of spending on aerial photography (James)
- Increased funding, no emphasis on controlling costs, need to phase out programs, and increased administrative costs in numerous projects (Kuharich)
- Consider adding elements to new research project for interactions between native and non-native fish (Hyde)
- Priority of spending on HBC vs. captive breeding program, consider other options for HBC - reintroduction, augment existing populations (Cross)
- Get money from FWS for a cooperative effort (Seaholm)
- The AMP needs to go after more money (James)

- Need for public outreach funds (Wirth)
- Multi-year budget for monitoring portion → consider only new things (Palmer)
- Confusion with AMP Summary page and page 31 (Shields)  
(Update: Page 31 revised and copies distributed at the meeting -> **Attachment 6c**)

There was further discussion on whether the AMWG could wait on approving the budget until some of the projects could be re-evaluated and possibly re-prioritized. Rick Gold suggested the bottom line be approved because it does give some flexibility to re-prioritize if the AMWG believes it is necessary. The details could be worked out by the TWG or the Budget Ad Hoc Committee.

**MOTION:** Approve the bottom line of the FY 2004 budget.

Discussion: None

Public Comments: None

Voting results: Yes = 18 No = 0 Abstained = 3

Motion passed.

Comments:

John Shields (abstaining): It seems to me that list of concerns has got to be amended. My concern is not including management actions such as refugia. It's the notion that we have spent 1/12 of a \$1 million on a study to determine if it is feasible to raise HBC in captivity and then stock them in the wild. I think we know the answer to that. I also have a concern about the decision support system and have yet to hear any real justification for why we need it. I got a lot more information out of the discussion today about what that would attempt to do and maybe we ought to just be honest and say feasibility analysis of whether captive breeding can be done in the Colorado River vs. calling it a captive breeding program.

Rod Kuharich (abstaining): I can't support an 11.2% increase in the budget particularly during these economic times. That's a tough one for me particularly the kind of budgets I've been looking at and the across the board cuts I've been facing. The second is the experimental flow. To do it in the drought year that we're having even though it falls within the volumes of water, the 8.23 delivered downstream - it just seems to be flaunting this activity. The third reason is the sediment science. I've always had a problem with that.

Jerry Zimmerman (abstaining): I would echo what Rod said. We have a budget deficit in California of \$27 million and we're taking big hits in each of the departments. We've gone through and each year we go through the exercise of what are the priorities, what can you cut. There have been a number of issues raised and I don't see the justification for supporting it at this point in time and because of that, I don't think I could support the budget increase without some sort of justification.

**Non-native Fish Control** – Bill Persons (AGFD) distributed copies of the “Non-Native Fish Control Ad Hoc Group Report” and “Evaluation of Capture Methods and Diet of Large Non-native Fishes in the Little Colorado River” (**Attachment 7a**). The TWG was tasked with developing a 2002-2006 research monitoring management work plan related to the management objectives of the August 17, 2001 Strategic Plan. Rick Johnson was the chair of that group and when he resigned from the TWG, Bill said he was appointed the chair. The group hasn't had a meeting and he doesn't have a lot to report on progress on putting together the research and monitoring and management plan. They have an outline and he hopes the group will get back on track this summer. The members of that group include: Gary Burton, Jeffrey Cross, Bill Davis, Norm Henderson, Dennis Kubly, Andre Potochnik, and Nikolai Ramsey. He thought the group could meet after today's meeting and set up a time to meet or have a conference call. Since he didn't have a plan to present, he provided a status on the following:

- Bright Angel Weir Evaluation – He talked briefly with Jeff Cross and this is still on track. He understands that Jeff has some funding from Reclamation and possibly some other

outside funding. They have received a couple of proposals from outside contractors to go in and do the work. They are evaluating those and going through some of the compliance activities and hopefully come up with a categorical exclusion. It's his understanding that the plan is to be in the field this fall with a temporary weir, capturing and removing brown trout from Bright Angel Creek and evaluating that methodology.

- Mechanical removal near the mouth of the LCR is in the experimental flow work plan and shows a schedule and outline of activities that are supposed to take place around the mouth of the LCR. In August and September trips are scheduled and trying to get compliance activities done right now so the trips on the water and do that removal.
- Non-native fish control - Waiting for the Secretary's approval as well as approval of the budget.
- Channel Catfish. He said they went in by helicopter on June 18 and sampled with larger mesh nets that have been used in the past in the Little Colorado. Their objective was to see if they could catch the fish. They used some catfish stink bait (floor sweepings from a cheese factory that was allowed to ferment in the sun for several weeks). They caught relatively few catfish and carp. Between the nets and angling, they only caught 31 catfish and 3 carp. They were also concerned about adverse impacts to native fish, primarily HBC. They didn't hurt any HBC and caught a couple and both were small enough that they could've gotten through the mesh. They did kill a couple of flannelmouth suckers with a 2-inch mesh net so if they are going to recommend this for either long-term monitoring or future applications, we'll have to be careful with that. He proceeded with a PowerPoint presentation on Channel Catfish (**Attachment 7b**).

Bill said he wasn't sure if there is a method that will be effective long-term for removing catfish. He didn't know if he could recommend a dedicated trip to spend two weeks trying to catch catfish if it could be paired up with an ongoing monitoring trip. For a dedicated effort, it was relatively expensive to get 100 lbs. of catfish out and said the total project cost was around \$23,000. The catfish effort was funded with appropriated funds from Reclamation.

**Public Outreach** - Barry Wirth (USBR) distributed copies of a Status Report (**Attachment 8**). He reviewed what was discussed at the last AMWG meeting and in doing so realized there were some very fundamental questions that hadn't been answered by the AMWG: What is the expectation for public information and outreach? Why are we doing it? What do we want to do? Who is going to do the work? How are we going to pay for products? Some of the people who formed the initial Public Outreach Subcommittee are no longer involved with the program. Barry produced a draft of options for outreach options that he intended as starting point for discussion. The AMWG had never established who the members of the subcommittee would be, who would do the work, or whether there was an expectation that Reclamation's Public Affairs Office would be doing the work, much like a contractor to the AMWG with the AMWG providing the direction, setting the expectations, reviewing the product, and then essentially releasing the product in AMWG's name.

In addition to the above concern, Barry said he had many of the same questions about doing the public information for the pending experimental flow Environmental Assessment. Is there an expectation that the Bureau of Reclamation, as the action agency who is writing the EA, also do the public involvement? Is there an expectation that the AMWG wants to be part of that public involvement process and participate in any activities that are in support of that EA? Do we hold public meetings tied to that EA so we have an opportunity to interact with the public? If we have public meetings, displays will need to be put together. Who will put the displays together? Should a newsletter be produced by the action agency with assistance from the other federal agencies, most notably the Park Service and USGS? Should the newsletter be heavily driven

by contributions from people outside the bureaucratic realm, some of the researchers doing the sediment and fisheries research?

Barry feels the AMWG needs to discuss the costs associated with this effort as soon as possible and asked if it was time to re-identify a new subcommittee and then have that group decide if they are going to be doers or more of a director committee – setting the direction, setting the objectives, helping to define the message.

Comments/concerns from AMWG members, alternates, and public:

- Need for coordination of public outreach among other programs in the Upper and Lower basins (Bill Davis)
- Focus getting information to the “lay public (Wirth)
- Tell the story of the AMP coming out of the 1995 EIS (not much visibility of the AMWG). If AMWG wants it done, they need to commit resources to get it done. (Gold)
- Get other agencies to collaborate with Reclamation (as the lead agency) on preparing/distributing products out, put something in the budget, and make sure AMWG has members tasked to assist in the development of products (Hyde).
- Original intent was to get the information out about the program and lobby Congress for funds to help supplement the AMP budget (Rampton)
- There is a strong linkage with the Upper Basin Program. The Upper Basin has an Information and Education (I&E) Committee that produces brochures and documents which become the tools of those who go back to Congress in lobbying for more appropriations. (Gold)
- If public information is important to the program, then funds need to come out of the program (James).
- The message should also have a national focus because the Grand Canyon is so visible to so many people in this country.
- Need to re-introduce the public to what the GCD AMP is and tell them where we’re going and what does it mean to them (Winfree).
- Hualapai Tribe was approached by an attorney last week and today they’re having an oversight hearing on science in Washington DC in front of the Senate Select Committee and they wanted to represent us so we could discuss our issues. The Hualapai Tribe wasn’t prepared because they felt it wouldn’t be in this process so they passed on that invitation. Sacred sites in the Grand Canyon are always at the core of their concerns when they sit at the AMWG table. (Jackson)
- Need unification on what the GCD AMP message is (Henderson).
- There may be more of a message based on the work that been done on the goals and objectives. (Wirth)
- Invite the public to AMWG meetings particularly when important topics are going to be discussed (Spiller)
- Reclamation doesn’t want to presume to do the work because some stakeholders may not want a “bureaucratic” viewpoint → need for AMWG’s view (Gold)
- Identify the public you want to reach, decide on a simple message, and get it out. (Anderson)
- Need for funding the program. The time is right to get into appropriations. Reclamation could probably find \$25,000 in 2003 and in 2004. (Peterson)
- The web is the way to go because brochures tend to get outdated. Consider making a presentation to the CRWUA. (Shields)
- Need a process and a committee to work on the message. (Gold)
- A team of federal employees participating in a year long leadership development program have offered to help the AMP to develop outreach projects on non-native fish control programs. They approached the Bureau of Reclamation and talked about various issues. That group proposed to talk to the AMWG to identify what issues are important to you about the non-native fish control program and put together fact sheets, question and answer documents, things like that and make them available to the Bureau. (Winfree)

Pam said there were a few members already identified on the group and wondered if others wanted to be involved and then is that as far as that group goes or do they become a long-term outreach committee. Barry said that in a sense of balance that group is missing any representation from any of the tribes, power customers, and states. One of the other questions Barry had is whether the subcommittee members would be speaking for the group they represent, or speaking for the broad interest. Pam suggested that perhaps the TWG put together a group to develop a message and a suggestion for products so that the stakeholders are okay with the process.

Current Public Outreach Committee membership:

Pam Hyde (Southwest Rivers)  
Bill Persons (AZ Game and Fish Dept.)  
Andre Potochnik (Grand Canyon River Guides)  
John Shields (WY State Engineers Office)  
\_\_\_\_\_ (Fish and Wildlife Service)  
\_\_\_\_\_ (National Park Service)  
Barry Wirth (Bureau of Reclamation)

**Action:** AMWG members should contact Barry Wirth ([bwirth@uc.usbr.gov](mailto:bwirth@uc.usbr.gov) / Phone: 801-524-3774) if they're interested in participating on the Public Outreach Committee.

Charge for the Group: Figure out what their scope of work will be and how they're going to do it. The group should bring a Scope of Work to the next AMWG Meeting (January 28-29, 2003).

**Adjourned:** 5 p.m.

Glen Canyon Dam Adaptive Management Work Group Meeting  
July 17-18, 2002

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

July 18, 2002  
Convened: 8:00AM

**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.

**Basin Hydrology** – Tom Ryan presented several hydrologic graphs (**Attachment 9**):

2002 Upper Colorado Apr-Jul Inflow – The last two years were dry but this is a severe dry year in the Upper Colorado River Basin. These are the April-July forecasted inflows from the July mid-month forecast: Flaming Gorge 28%, Blue Mesa, 22%, Navajo at 6%, and Lake Powell at 15%. It has been extremely dry in San Juan River Basin. These are unregulated inflow numbers and are record breaking for Lake Powell, Navajo, and Blue Mesa, exceeding the 1977 lows that were seen in that year.

Aggregate Upper Colorado River Basin Precipitation – WY 2002 - Precipitation has been significantly off with the only real period of moisture was after Thanksgiving into the first week of December and it has just stayed dry.

Water Year 2002 Lake Powell Unregulated Inflow – The purple line is our unregulated value. This is what we have observed for 2002.

Water year 2001 Lake Powell Unregulated Inflow – Just as a comparison, last year we were looking at a relatively dry year that we would characterize as a moderately dry year. There was a runoff and so quite a difference between last year and this year.

Water Year 2002 Lake Powell Inflow Compared to 1977 – This is a comparison of unregulated inflow in 1977 and 2002 and are very similar. We're probably going to have about 3.2 maf of unregulated inflow for WY 2002. In 1977 we had 3.5 for the whole water year. There was a monsoon in 1977 and an increase of base flows at the end of the water year.

Colorado River at Lees Ferry Synthesized Natural Flows – WY 1934 – This takes us to natural flows. While we break a record in terms of unregulated inflow into Lake Powell, if you look at the depletion data and compare depletions from WY 77 compared to 2002, the depletions are higher this year. We don't know exactly what they're going to be, probably on the order of a magnitude of 3.2 maf, roughly the same as the unregulated inflow which is a natural inflow of approximately 6.4 maf at Lees Ferry. They have synthesized the natural flow datasets for 1934, 1977, and 2002. When you look at the natural flow, 2002 does not break the record. It's the third driest in the last 100 years, exceeded by 1977 which was approximately 6.0 maf natural flow and by 1934 which was 5.6.

Lake Powell – Lake Mead Storage Sept 30, 1999 – We had a pretty good year in 1999 and a high monsoon season, so not only did they fill the system but kept it full right into the beginning of 2000.

Lake Powell – Lake Mead Storage April 1, 2003 (Projected) – This is where we're projected to be in September with the system at 64% of capacity.

Glen Canyon Dam Average Releases – Next spring before the runoff, system storage at least Lake Mead/Lake Powell combined storage will be 58% of capacity with Powell down to 52% of live storage. The storage is filled back up by filling them both because there is an equalization provisions in the operating criteria. It will be a mild El Nino year, a mild El Nino year so it's likely that we'll see some higher than average precipitation/snowpack in the San Juan in lower portions of the basin. In terms of what the effects of our soil moisture deficit, the effects of three years of drought, they are projecting most probably hydrology to be 86% of average for Lake Powell. So with average precipitation temperatures, you would still have below average runoff. Everything is biased to the low side.

Lake Powell Water Surface Elevations – Just highlighting there is no change in where Lake Powell will end up with or without the experimental flow. It's an 8.23 maf release year. Elevation next March is projected to be down to 3,608 feet. The last time we were at the level was in 1973 when the dam was filling.

Program Scope – Randy Seaholm distributed copies of the first draft of a discussion paper (**Attachment 10a**) that he had prepared in response to a motion that was made at the April AMWG meeting and goes to what was Issue #3, Information Needs and Process for prioritization. The AMWG struggled a lot with this particular motion and the end result was the formation of an ad hoc committee to make a recommendation to AMWG regarding criteria for management objectives and information needs determined inappropriate for the AMP and report back to the AMWG at the July meeting. Randy said this is just a status report and the group will need a final recommendation by January 2003. This paper is to start discussion purposes but he thought it did a good job of laying out where he thought the states were at collectively in the AMP process. This issue is more than just a funding issue for the basin states, it goes a long way to determining when the program may ultimately be completed. He is not looking to make new criteria or re-visit issues that are old. He is trying to rely on things that have been done in the past and from that standpoint, he thinks there is only one criteria for determining what is in and out of the program right now and that's whether or not this has an impact on dam operations. The first part of the paper quotes Section 1802a of the Grand Canyon Protection Act. It refers to Section 1804 of the Act relates to nothing more than to Glen Canyon Dam operations. They also visited this issue some time ago and the AMWG asked Scott Loveless (Solicitor's Office) to provide a Guidance Document (**Attachment 10b**, presented to AMWG on 1/20/00). The second and third pages are the authorization section out of that document. He said he wanted to touch briefly on some of the things that were said in that Guidance Document and some of those are **bolded** in the paper.

Pam said she had a tremendous problem with even having this presentation made because there was quite a discussion at the last AMWG meeting about whether to look at what's in and out of the AMP and what was the appropriate method. There was a decision that we should refer this to an ad hoc group and what that ad hoc group should do was discussed at some length and that discussion resulted in a vote to develop criteria for determining what would be in and out of the program. She said the AMWG has heard before what the states' think is out of the program and Southwest Rivers was very much a part of the last AMWG meeting discussion. She felt an ad hoc committee should be formed to develop some criteria.

Randy asked which members/alternates would like to be on the committee. The following volunteered to participate on the AMWG In/Out Ad Hoc Group: Robert Begay, Wayne Cook, Kurt Dongoske, Lloyd Greiner, Norm Henderson, Pamela Hyde, Phil Lehr, Clayton Palmer, Randy Peterson, (**chair**) **Randy Seaholm**, John Shields, Christopher Harris/Jerry Zimmerman, Don Metz/Sam Spiller, and Bruce Taubert/Bill Persons.

**Action:** Interim report to the AMWG due October 2002

**Action:** Final Report due January 28-29, 2003 AMWG meeting

**Information Needs (INs)** – Kurt Dongoske reminded the AMWG that at the April meeting they recommended a process for the TWG to place the INs in sequence order. This was not a prioritization exercise but a sequence exercise meaning that certain INs need to be acquired before other ones are addressed. Kurt proceeded with a PowerPoint presentation (**Attachment 11a**). The purpose for doing the INs exercise is to propose to the GCMRC direction from the AMWG on which INs are to be worked on first. The goal is to have the AMWG approve the INs sequencing at the January 2003 meeting. The AMWG also approved that the Core Monitoring INs (CMINs) and Affects INs (AINs) would not be a part of this sequencing process but would focus on the Research INs (RINs) and Supporting INs (SINs). At the TWG May 16, 2002, meeting, the TWG did the paired comparison of 16 RINs and put them in sequence order. Mary Orton will continue this process at the TWG meeting in August. If there are certain RINs that the group is really divergent on, they will be discussed further and do a fatal flaw analysis of the way they were sequenced at that meeting as well. He advised that if anyone hasn't submitted their comments to Mary, they do so by July 23, 2002.

**Cultural PEP Review** - Mary Barger said in March 2000, there was a Cultural PEP river trip that did not address the monitoring aspects from GCRMC and Section 106 compliance for the National Historic Preservation Act (NHPA) for the Bureau of Reclamation. The PEP Report was finalized and sent to the TWG and AMWG in June 2000. In January 2001, the AMWG approved some of the recommendations from the PEP through the budget cycle so the PEP was well received for the most part by all the people who were involved. When the recommendations came out, they were meticulously reviewed but for the most part everyone agreed that the PEP recommendations were good. There was a TWG ad hoc committee formed in October which was primarily comprised of the PA signatories and the following TWG members: Robert Begay, Kurt Dongoske, and Matt Kaplinski. Mary was the chair for the group. Mary proceeded with a PowerPoint presentation (**Attachment 11b**).

Kurt said the TWG had an extended discussion on the report but ultimately accepted the ad hoc group's report through a motion (**Attachment 11c**). The TWG established a standing Cultural Resources Ad Hoc Committee, however, the charge for that committee has yet to be defined and the membership hasn't been formed yet but both issues will be addressed at the next TWG meeting.

Bob Winfree stated there were three documents that weren't included in the TWG Ad Hoc Report the last time it was distributed: 1) NPS Comments, 2) Advisory Council comments, and 3) Grand Canyon River Guides comments. Kurt also said the Hopi Tribe comments weren't included. (Update: All four documents were added to Attachment 6a of the TWG May 16-17, 2002 meeting minutes and also posted to the TWG meeting web page on 7/26/02.)

**TWG Ad Hoc Aquatic PEP Review** – Dennis Kubly said his presentation was made to the TWG at the May meeting. He reviewed the process on how the protocol evaluations will be handled: The draft report from the PEP panel went to GCMRC, they constructed a set of draft responses, and then sent those to the ad hoc group. He proceeded with a PowerPoint presentation (**Attachment 11d**), a combination of responses from the GCMRC and ad hoc group.

**Selective Withdrawal** – Dennis Kubly read from page 4 of the handout (**Attachment 12a**) and asked the AMWG to keep those recommendations in mind as he goes through his PowerPoint

presentation (**Attachment 12b**). Comments were recorded on flip charts (**Attachment 12c**). Dennis said he would like to get the preliminary risk assessment completed in six months.

Comments from AMWG members, alternates, and public:

- Suggest formal risk analysis (Hyde)
- What kinds of information are required to prepare a predictive model for biological/physical interactions (Hyde)
- element of B.O. should be addressed in NEPA analysis (Spiller)
- Is construction of TCD within scope of the AMP? (Kuharich)
- need to address financial side of decision in light of risk/uncertainty (Gold)
- What is the risk in doing nothing? (Alston)
- need contingency in 2003 workplan for a natural temperature experiment that may occur as a result of the current Lake Powell drawdown.
- add criteria → is it desirable to increase maintain reproduction/recruitment? (there are 4 other HBC populations) (Palmer)
- include potential use of TCD to fatally affect salmonids below Paria in EA (Steve Gloss)
- risk analysis should reflect all factors (Spiller)
- we should prepare for potential consequences of continuing drought (Ramsey)
- should consider other actions (sediment augmentation) in combination with TCD (Ramsey)
- include other factors (pg. 3 of write-up) in factors for consideration, including operational scenarios and address those in the EA → feeds into risk analysis (Persons, Palmer)
- need to address irreversible harm in gaining knowledge through experimentation (Hyde)
- need timeline for EA, preliminary risk assessment in 6 months, design/construction (Persons)
- concern over recognition of importance of power generation (Kuharich)
- assure consultation with tribes (Jackson)
- include turbidity with temperature control (public citizen ?)

### **Wrap-up and Agenda Items**

- in/out interim reporting before the next AMWG meeting
- possibility of Oracle database
- information needs
- tribal consultation plan
- cultural resource report
- TCD risk assessment
- TWG/GCMRC response to SA comments
- outreach/non-native updates
- budget ad hoc report '04
- update on the Colorado River Management Plan
- Experimental Flow Update
- GCMRC Reorganization
- 2000 LSSF reports (formal)

**Attachment 13:** Memo from Randy Peterson to AMWG Members and Alternates Dated August 14, 2002, Subject: Annual Report to Congress.

**NEXT AMWG Meeting:** (Tues-Wed) January 28-29, 2003

**Adjourned:** 1:10 p.m.

Respectfully Submitted

Linda Whetton  
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	

