

**Technical Work Group  
Phoenix, Arizona  
March 14, 2001**

**Presiding:** Rick Johnson, Chairperson

**FINAL**

**Committee Members Present:**

Robert Begay, Navajo Nation  
Perri Benemelis, ADWR  
Kerry Christensen, Hualapai Tribe  
Dave Cohen, Trout Unlimited  
Wayne Cook, UCRC  
Jonathan Damp, Pueblo of Zuni  
William Davis, CREDA  
Kurt Dongoske, The Hopi Tribe  
Brenda Drye, So. Paiute Consortium  
Norm Henderson, GLCA

Nancy Hornewer, USGS  
Pamela Hyde, Southwest Rivers  
Matt Kaplinski, GCRG  
Phillip S. Lehr, Colo. River Comm./NV  
Don Metz, USFWS  
Bill Persons, AGFD  
Randall Peterson, USBR  
Nikolai Ramsey, GCT  
Robert Winfree, GRCA

**Committee Members Absent:**

Cliff Barrett, UAMPS  
Christopher Harris, CRBC  
Amy Heuslein, BIA  
Robert King, UDWR

S. Clayton Palmer, WAPA  
D. Randolph Seaholm, CWCB  
John Shields, WY State Engineers Office

**Alternates Present:**

Gary Burton  
Wayne Cook

**For:**

S. Clayton Palmer, WAPA  
John Shields, WY State Engineers Office

**Other Interested Persons:**

Paul Barrett, USFWS  
Tom Czapl, USFWS  
Joe Falbo, Attorney  
Barry Gold, GCMRC  
Loretta Jackson, Hualapai Tribe  
Dennis Kubly, USBR  
Lisa Leap, NPS

Mike Liszewski, GCMRC  
Henry Maddux, USFWS  
Ted Melis, GCMRC  
Mary Orton, The Mary Orton Company  
Jennifer Pitt, Environmental Defense  
Tom Ryan, USBR  
Michael Yeatts, The Hopi Tribe

**Recorder:** Linda Whetton, USBR

## **Meeting Opening and Administrative Items**

**Convened:** 9:35 a.m.

### **Welcome and Administrative:**

The Chairperson welcomed the TWG members, alternates, and guests. All introduced themselves. A quorum was established and attendance sheets (*Attachment 1*) were distributed.

### **Action Items:**

Carried over from Jan. 9-10, 2001 Meeting:

1. Clayton will send a copy of the Draft LSSF Report to Barry Gold and Randy Peterson - Not done. Gary Burton said it cost \$55M in purchased power this year but only \$16-24M was attributed to the LSSF test. Clayton Palmer will report the results at the Science Symposium as well as present to the TWG in May.

### **Items from Last Meeting:**

1. Barry said he received some responses regarding needs for the TWG River Trip. For those individuals he didn't hear from, he is assuming they don't need anything.
2. PEP Diagrams → on the agenda for today.
3. Barry sent out copies of the IWQP Report as well as posted to the GCMRC web site.
4. Randy said a report on the Secretary Designee's letter will be part of the Legislative Updates today.
5. LIDAR aerial photography questions were posted to the TWG Discussion forum web site as well as mailed to the TWG members and alternates. It is also on today's agenda for further discussion.
6. Randy said he couldn't post the questions to the discussion forum but is working with Mike Liszewski on getting the problem fixed. However, the questions were sent to the Experimental Flows Ad Hoc Group and the Sediment Ad Hoc Group.

TWG Discussion Forum Update. Mike said he got the discussion forum operational about a week ago. It has been working for some but not for others. He asked for specific problems and will address those in the next two weeks. He provided a revised set of instructions (*Attachment 2*).

**MOTION:** Move to approve the February 13-14, 2001, Minutes.  
Pending one correction, the minutes were approved without objection.

**Legislative Updates:**

1. Secretary Designee's Letter to Secretary. Last Friday, Steve Magnussen sent a letter to the Secretary reporting on the AMWG meeting in January 2001. The letter was signed by Steve and is currently in the Assistant Secretary-Water & Science (AS-WS) Office. He anticipates it will be signed this week and then will go on to the Secretary. Copies were provided to the assistant secretaries in the Department, the eight DOI agency heads involved with the AMP, as well to all AMWG members. The letter summarizes the recommendations made by the AMWG. In addition, it included a 2-page addendum which went into greater detail about each of the recommendations. Randy, Steve, and Barry are also writing a briefing paper they will present to key officials in April explaining the importance of the AMP. The President's budget will be released on April 4<sup>th</sup> and they feel it is a good time to make a case for the program, before Congress starts to debate the President's proposals.
2. Reclamation Letter to WAPA. Randy reported that around Dec. 8, 2000, WAPA sought comments on a proposed rate increase to CREDA for CRSP power. The rate increase was initiated by WAPA running out of money and needing to raise additional cash to keep from going deficit. Key to that decision was whether this year's hydrology was going to be dry or wet and if some type of repeat of last year's low steady summer flow test was going to be run which would further add financial pressures to the basin fund. WAPA asked Reclamation, as part of their public comment period, to give them some sense as to the nature of this year's hydrology. The Experimental Flows Ad Hoc Group had its first meeting about that time and it was the sense of the group that because of the inability to monitor the effects of some type of experimental flow this year for the Biological Opinion, they recommended that type of test not be conducted. Randy passed out copies of a letter from Reclamation to the WAPA (*Attachment 3*) which relayed that information to WAPA. WAPA then made its own decision about what to expect from revenues from this year as a result of an expected low release year from Glen Canyon Dam.
3. Murkowski Bill Language. Randy said he didn't know anything more about the bill. Wayne Cook said he thought introduction of the bill was scheduled within the next few days. Randy will continue to track the status of the bill and inform the TWG accordingly.
4. Tribal Funding. No action has been taken on the proposed draft letter coming from the Asst.

Secretary, Policy, Management, and Budget allocating to each of the departmental agencies in this program their share of approximately \$400K for Government to Government consultation. This will also be part of the briefing and discussion in early April.

5. California Power Crisis. Randy said he didn't have any further information to offer.

Barry mentioned a recent article published on the front page of the Arizona Republic which didn't accurately state the facts about this program. He wondered if it was the feeling of the TWG to make a response to the paper or contact the reporter and give him the correct information. Pam said she would be willing to talk with the reporter and asked if any other members wanted to join her. Randy said this might also facilitate getting out timely information about the economic impacts of such things as a test because had that paper been available in December, the newspaper article would have had a very clear description of what caused the \$55M loss. Gary said he will discuss the issue with Clayton.

6. AMWG Renewal Letters. Randy reported the AMWG membership renewal letters have been in the Department for over a month. They have cleared all the required reviews and are in the Secretary's office waiting for signature. Reclamation has advised them on a weekly basis of the importance of getting the letters signed and sent before the next AMWG meeting in April.

**Strategic Plan** - Mary Orton informed the members that the latest version of the Strategic Plan (*Attachment 4*) was provided with the meeting packet materials. She handed out two other documents: Rework of Riparian Issue Paper (*Attachment 5*) and the Comments and Response Table from the February meeting (*Attachment 6*). She also said the Definitions weren't ready but would be discussed at a later date. She pointed out that the Strategic Plan document still has some redlining. On page 4, there are two changes to goals that the AMWG asked the Ad Hoc Committee to take a look at in their January meeting. The AHC is going to propose the redlined language back to the AMWG for change. All the AMWG changes that they made and approved in January are in there and are not redlined. The only other redlining is in Goals 6, and 8-12, which resulted from comments at the last TWG meeting. She said the AHC is ready to recommend this to the AMWG for their approval at the April meeting and the committee would like to have the TWG's concurrence in that recommendation; concurrence meaning support for moving forward using this document as a guide to future actions and that all concerns have been addressed, discussed, and considered both by the TWG and the AHC. Mary asked for additional comments which were recorded on flip charts (*Attachment 7*). She said the AHC has agreed to meet over lunch and discuss any changes and then bring back to the TWG.

Writing Assignments for the River Trip. Mary said there are two major things they want to do during the retreat: (1) focus and resolve philosophical differences in the Vision Narrative, and (2) focus on the

narrative portions of the Strategic Plan apart from vision mission, goals, objectives; the narrative portions that have to do with philosophy and history, background, etc. She asked the members to identify those areas where they have philosophical differences so they can be resolved on the river.

Mary reported the AHC met over lunch. They suggested the following changes:

MO 8.3 - split "at some place" to below 5,000 cfs  
between 5,000 and 25,000 cfs

MO 8.2 - Change "place" to from 5,000 to 25,000 cfs

MO 8.1 - Change "place" to below 5,000 cfs

MO 9.5 change "at some place" to 2:

- CRE in Grand Canyon NP
- CRE below GCD in Glen Canyon NRA

Mary said the document will be going to AMWG as it is written plus an addendum which will say the AHC supports the above changes.

**MOTION:** TWG supports the AMWG Ad Hoc Group in recommending the Goals and Management Objectives as modified today.

Motion seconded.

Discussion: None

Public Comments: None

Voting: Yes = 20 No = 0 Abstained = 0

Motion carried.

Writing Assignments - Narratives. Mary directed the members to read the section under "Environmental Scan" located in the AMP Strategic Plan, History of the Adaptive Management Program (*Attachment 8*). There is a note indicating this portion will be expanded with additional ideas and comments from both inside and outside the AMP. She also passed out copies of the "GCD AMP Strengths, Weaknesses, Opportunities, and Threats (SWOT) Report (*Attachment 9*). She asked the members to read it and noted there were some very positive comments about the process. One of strongest was on the diversity of participants and the inclusionary nature of the process as well as the enthusiasm and dedication by the participants. Also, the level of open discussion was praised almost uniformly. Internal dissemination of information was also a positive point. There were also a number of concerns that were expressed regarding trust among the participants, the issue of outside lobbying, lack of resolution of conflict, lack of action, public outreach, etc. She suggested the TWG look at how to

build the strengths that were identified to address the weaknesses, whether it is done by the TWG as a whole or within the AHC. Randy said that the intent was to include some of the ideas in the Environmental Scan portion into the Strategic Plan. Mary said the document may be given to the AMWG at their next meeting.

Randy thanked everyone for their involvement in the writing assignments. A one-page insert on the NPS Institutional Scope (*Attachment 10*) was distributed. In preparation for the river trip, the AHC would like comments or philosophic viewpoints on any or all of the sections of the Strategic Plan. He feels it would be helpful for the facilitators to know ahead of time what the issues are. Mary would like comments sent to her by close of business on Monday, March 19, 2001.

**ACTION:** TWG members to provide comments on the Vision Narrative and SP Narrative - by section and a brief description of philosophical differences (a sentence) to Mary by close of business on March 19, 2001. Mary's e-mail address: [mary@maryorton.com](mailto:mary@maryorton.com)

Gary Burton explained that an alternative vision statement (*Attachment 11*) was sent in too late by the Grand Canyon River Guides to be included in the "AMP Narrative of Desired Resources." (*Attachment 12a*). Rather than trying to incorporate in a rush fashion, he sent it out separately. He said the Draft Version 2.0 is not a consensus document but was put together from comments he received. It hasn't changed from the last TWG meeting with the exception of a few grammatical edits. He also provided a document (*Attachment 12b*) which included all the alternatives for all the sections, goals, and management objectives. He said there were several issues brought to his attention which need to be discussed on the river trip.

**ACTION:** Gary will send an e-mail message listing issues he has received that need to be addressed on the river trip to Mary by the COB on Monday, 3/19.

Pam Hyde questioned if the document is going where the group wants it to go? If it goes on to be a narrative description, she's not sure if things are matching up, that is, if the vision narrative matches what the vision/mission/goals/MOs together provide. It may not be giving a description of what is wanted. She suggested stopping the use of words and use pictures instead, to get some artistic rendering of what we want the system to look like. Barry said he also shared Pam's concerns and finds weakness in the description and resource areas, the words seem more general. Mary suggested they send their comments to her.

**Hydrology Update.** Tom Ryan reported the basinwide snowpack is currently 84% of average (*Attachment 13a*). The year started out quite wet, October thru the first part of November was above average and then went into a dry pattern, got a little bit back in December, and then trailed off for January. It's been holding steady. There haven't been any big storms, just little movements of

moisture in the basin to keep it around 84% of average (*Attachment 13b*). The inflow forecast for Lake Powell for April thru July is 80% of average, 6.2 maf. Last year on April 1, there was an 85% of average forecast for April thru July and ended up with 54% of average. In 1999, the April 1 forecast was for 62% of average, and then ended up at 99% of average. He showed the timeline for precipitation (*Attachment 13c*) and how it has gone month by month through the basin. We had a really dry period last Spring and Summer and then went above average in Aug-Sep-Oct, which was important for replenishing the soil moisture. They take their forecast inflow and put it into their planning model and come up with monthly releases. Right now in WY 2001 the planned releases are 8.564 maf which is very close to an 8.23 maf release year. The pattern in the most probable scenario for the rest of the year is very close to an 8.23 maf release pattern. They will not go below 8.23 maf. If we do go wet, there is a 10% chance of the maximum probable playing out. Even under the maximum probable, the operation is governed by equalization so they don't fill even under a maximum probable. There is a less than 10% chance that the reservoir will be filled this year (*Attachment 13d*). He also showed a graph depicting the projected April releases (*Attachment 13e*), the ROD hour to hour releases they would have on weekdays and weekends. On weekdays it will be going from 6,800 up to about 12,800 which is the 6,000 cfs allowable range. In May, the range shifts down a little where the proposed ROD operation will be between a low of 6,100 cfs to about 12,100 cfs.

**LIDAR Discussion** - Mike Liszewski said they are going to move forward with the LIDAR over flights for 2001. Whether the flights are conducted depend on a couple of issues, one of which is whether or not they feel they have a contractor who can provide the data that meets the specifications needed for the intended use of the data. He provided a schedule summarization of the delivery schedule (*Attachment 14*). He asked if further clarification was required on any of the questions/answers which were sent out on the LIDAR contract.

Bob Winfree said he was unclear as to whether the contractor did not collect the data that was needed or whether they're not processed. Mike said the contractor did not collect the data in a manner that allowed them to meet the specifications. They have dealt with the contractor but are not in a position to recoup funds from the loss of that data. Barry explained some of the steps which were involved in dealing with the contractor but eventually GCMRC was advised by lawyers in the Department that they didn't have a case.

Pam said she felt it was inappropriate in a program that has been developed under the GCPA that a major part of the ongoing management program at Glen Canyon Dam and Grand Canyon is being compromised. Power does not have the right to say you can't run the flow at a level that makes your data accurate. She can see considerations about other aspects of the program that aren't under the normal operating criteria but finds it very hard to understand what is the potential difference in accuracy between running at the established flows that have been set up for doing the overflights and getting that information and running it at some in-between flow where some modifications may have to be made to

the data to ensure we have a dataset that we can operate under. Kerry concurred with Pam and asked if Reclamation could go to Congress and get the money to pay WAPA to run it at 8,000 cfs.

Randy stated that every year three days of steady flows are allocated for an aerial overflight and that has been in existence for decades. Typically, it's done over a Labor or Memorial Day weekend to try and minimize the costs and during periods of reasonable power rates. The economic impacts of those three days of steady flows isn't very high because they're done on a Sunday. If a LIDAR overflight were done, those three days would probably be extended another three days so typically the incrementally increase in a normal year wouldn't be that great. Because of the power rates this year, the increases are on the order \$1.5M for those extra three days and that's assuming the flights are flown at 12,800 so the anomaly created by the power market right now has changed the dynamic by which the power customers are agreeable to going along with some type of flow situation. He has talked to CREDA over the past few days and they recognize the aerial photography is an annual thing and part of long-term monitoring and even with the high power rates, it's something that needs to be done every year or the dataset is lost. It seems like the real focus is on the flow level. Does 12,800 cfs work or does it have to be 8,000 or 15,000? That's a technical question for the GCMRC to answer.

Pam asked if there was a way to increase power revenues that would offset losses to the basin fund. Wayne said it would take two weeks to relax the constraints on load following and more regulation could be transferred to power during that period of time and the revenue would be produced very quickly. It would be relatively easy to make that month come out revenue neutral. Randy said in an effort to try and maximize the ability right now, WAPA is taking the ROD limits to their full extent, the full 6,000 cfs spread is what they are scheduling in the future whereas before it wasn't quite that. There is no action outside of that which WAPA can take to increase the revenues.

Pam said there were two alternatives: (1) to look at what Matt was suggesting in terms of what the possibility is for taking the acquired and existing dataset for the reach down to Phantom and adding on to that, and (2) look at what it would take to adjust releases outside of the 6.5 day period during that same month to minimize or eliminate the cost to the power resource. She suggested finding out how many days or hours, the time scale of flows fluctuating beyond the current ROD constraints, it would take to reach certain levels of impact or some type of reduction, maybe 25%, 50%, 75% or rate neutral. She asked if the alternatives could be explored and the information provided back to the TWG in a timely manner.

Robert Begay expressed concern about how power rates would impact Navajo Nation customers and suggested Gary ask Clayton about that as well.

Randy commented that WAPA has decided not to implement a rate increase based on its current financial situation. It has avoided that by passing through all additional purchased power costs of their

customers directly to the customers and not even bothering with the basin fund. That means that during a low release year, it can't generate enough to meet all its customers' demands so it will have to go out, buy additional power, and charge the customers directly for it. The extension of this aerial photography flight from 3 to 6.5 days will cost about an additional \$1.5-2 million to CREDA customers.

**ACTION:** Gary Burton will call Montrose and see what would happen if there were fluctuations outside the ROD and what economic impacts would occur. Gary will bring a response to the TWG tomorrow morning.

**Recovery Goals.** Randy introduced Tom Czapla from the Recovery Program (USFWS in Denver) and Henry Maddux, State Supervisor with the Recovery Program out of Utah. Henry said the presentation they will be giving has been taken to federal, state, and other organizations. Tom Czapla is the Propagation, Life History Monitoring Coordinator for the Recovery Program and has the responsibility for overseeing the development of the recovery goals.

Tom said the FWS has the responsibility to develop recovery plans for listed species. The FWS tries to update the recovery plans as necessary and the recovery goals that are in draft now basically supplement and amend the existing recovery plans. Region 6 (Denver) has responsibility for all four species throughout their entire range. They began this process almost two years ago as a call from participants in the Upper Basin program as well as Congress as they were looking for funding and funding authorization to develop specific criteria, basically a checklist that people could use so they would know when they got to recovery. It's been a long process and has involved federal, state, other agencies, and scientists. The Recovery Program has been given the assignment from FWS to develop these. They hired a consultant, Rich Valdez, to work on them along with Tom Czapla and Bob Muth in developing and revising the recovery goals. The goals have been reviewed by the regional director, the solicitor's office, and are still undergoing some minor technical edits as well as incorporating issues from the road trip. They will be published in the Federal Register by the end of the month and will be posted on the Upper Basin web page as well as on the San Juan program's web page. He distributed some HBC refrigerator magnets containing the web address. He said he would send an e-mail message out as soon as the information is available in the Federal Register and posted to the web pages. It will be sent out for a 45-day public review and after that it will probably take another three months to go through the public comments and come up with a final. He advised that things could change between now and when the final plan comes out because they expect a lot of comments. When it comes out in the Federal Register, they will also brief congressional staffs from the seven basin states as well as work with Regions 1 and 2 of the USFWS on media releases. He distributed copies of the Briefing Schedule and Executive Summaries, (*Attachment 15a*) as well as copies of the PowerPoint presentation (*Attachment 15b*). Tom presented the slides and answered questions.

**ACTION:** Linda will send the TWG e-mail addresses to Henry.

**Sediment Ad Hoc Group Update:** Ted Melis said the Sediment Ad Hoc Group was established as a result of a presentation he and Dave Rubin made to the TWG last November based on a memo submitted to the GCMRC with recommendations on sediment conservation. As a result of that presentation, the ad hoc group was formed to help the TWG formulate a response to the memo. The first meeting was convened in February and the second meeting was held yesterday. They have had some very good discussions and prepared a timeline and an outline for the draft response. Several people in the group will be taking turns writing the response. Matt Kaplinski has taken the lead to write the first draft. Their plan is to have the draft sent out before the river trip and hope to spend some time on the river trip talking to the TWG and ad hoc group about it. Their goal is to get a final draft to the authors of the memo for their comments in conjunction with the Science Symposium in April and then have a final draft ready for presentation to the TWG at the May meeting.

Kurt Dongoske said that shortly after the Sediment Ad Hoc Group was formed, the TWG re-formed its charge to the Experimental Flows Ad Hoc Group to have the Experimental Flows Ad Hoc Group coordinate with the Sediment Group to develop a scenario or a suite of flows and asked if he was planning on doing that. Ted said they are trying to and scheduled yesterday's meeting to coincide with the Experimental Flows Ad Hoc Group so they are starting to promote that interaction. Ted said they plan on having at least one to two meetings before the May meeting and if there were people who haven't been able to attend the first two meetings but want to be involved, they should contact him.

**Experimental Flows Ad Hoc Group:** Randy reported the Experimental Flows Ad Hoc Group has had two meetings and one conference call and said it was beneficial to follow after Ted's sediment meeting because they were able to identify a number of questions and concerns about the Rubin/Topping hypotheses that might relate to experimentation. In fact, several of the questions and ideas related to alternate mechanisms for sediment conservation in the canyon. They are considering those as they formulate a program of experimentation. They have also started to link the concepts of the Biological Opinion flows with the BHBF tests as well. In general, they're looking at BHBF testing at a level greater than 45,000 and in one case linked with an 8.23 maf release year Biological Opinion test flow, and in another year linked with a moderate release year in which a HMF were run in the Fall immediately following tributary events. Thus, being able to compare the effectiveness of using main channel storage of the very low flows during the biological opinion flows as a place to store sand to then build sandbars through BHBFs vs. eddy storage that's put in place by an HMF in the Fall and then running a BHBF the following Spring. There are a number of things left to do including consideration of all resources, not just sediment as they talk about the implications of these types of flows. They hope to have some scenarios sketched out in time for the Conceptual Modeling Workshop to be able to apply the conceptual model to, not only to the BHBF tests but also various levels of HMF flows in the Fall as a mechanism for conserving tributary inputs. They expect by April-May to have the BHBF issue locked in and will then turn their attention to the Biological Opinion flows but are trying to consider both

at once.

**Adjourned** 4:55 p.m.

**Technical Work Group  
Phoenix, Arizona  
March 15, 2001**

**Committee Members Present:**

Robert Begay, Navajo Nation  
Perri Benemelis, ADWR  
Kerry Christensen, Hualapai Tribe  
Dave Cohen, Trout Unlimited  
Wayne Cook, UCRC  
Jonathan Damp, Pueblo of Zuni  
William Davis, CREDA  
Kurt Dongoske, The Hopi Tribe  
Brenda Drye, So. Paiute Consortium  
Norm Henderson, GLCA

Nancy Hornewer, USGS  
Pamela Hyde, Southwest Rivers  
Phillip S. Lehr, Colo. River Comm./NV  
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Bill Persons, AGFD  
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**Recorder:** Linda Whetton, USBR

## **Meeting Opening and Administrative Items**

**Convened:** 9:35 a.m.

### **Welcome and Administrative:**

The Chairperson welcomed the TWG members, alternates, and guests. All introduced themselves. A quorum was established and attendance sheets (Attachment 1) were distributed.

**LIDAR Discussion (cont.):** Mike Liszewski said he created a couple of tables (Attachment 16) as a result of discussions held yesterday and will post them to the TWG Discussion Forum web site. Mike explained the orthorectification process and talked about the products available from LIDAR.

Bob Winfree asked if it is appropriate to go above the ROD if it means more costs. He wants to see the costs minimized in order to redo the overflights but doesn't want the flows to go above the ROD. He's not sure the GCMRC is able to determine the effects of what one week will be.

Randy said he computed the costs of 8,000 cfs using the same methodology that is used to calculate the \$2.7M and he got less than \$1M for the whole 6.5 days and it's because the average costs in September are nearly equal to the on-peak costs in June. There is no loss by moving June on-peak water into September. He asked if it makes sense to wait until WAPA can provide precise feedback. It might be a case that they might not even be able to find the power anywhere for those June on-peak deliveries. That's the feedback Jeff Ackerman provided a month ago. We just can't release less than 12,800 in June. Randy said he doesn't know if it's economics or availability but questioned if it made sense to sort out some of the issues before moving forward. Randy said initial discussions with WAPA was that there was no way they could release only 8,000 cfs in June so they never pursued it. They pursued the 15,000 cfs and the 12,800 cfs but found that 15,000 cfs was too expensive and that the 12,800 cfs was probably 2/3 the cost. Tom said it was his understanding that because of the financial crisis, the status of the basin fund, WAPA wouldn't have the dollars to go out and buy the replacement costs in June.

**River Trip Update.** Barry Gold passed out copies of the river trip roster (*Attachment 17*). He went over the specifics of the trip, weather, gear list, carpooling arrangements, etc. He said March is the wettest month of the year and advised members to pay close attention to the gear list. He went over the plans for take out off the river. There shouldn't be any problems getting down and through in the times proposed, however, the river is unpredictable and it is not uncommon for the end of March to get some rain and for Diamond Creek to flash. In which case, they might have the luxury of doing the entire system and may need to have a contingency plan. He said he will work with those people coming from Phoenix and suggested that some of them carpool to Flagstaff. He will make

arrangements to have their vehicles available at Diamond Creek when they come off the river. Barry said he will send out a final agenda on Friday, 3/16, with a list of issues.

**PEP Compliance Diagrams.** Dennis Kubly presented another iteration of the GCD AMP Communication Network diagram (*Attachment 18a*). He acknowledged Kurt's insight into the AMP Communication diagram that there are three levels and that the first level which involves scientists, ad hoc committees, and where GCMRC is sort of the information gathering synthesis part of the communication network. As you move up into the AMWG, DOI management team, through the Secretary's designee, there is an infusion of that information into recommendations that are formulated at that level. Then there is the decision-making part with the Secretary and Asst. Secretaries sending those decisions back down as recommendations.

He then presented the PEP Process diagram (*Attachment 18b*). It is more linear than it was before and starts with the GCMRC developing the PEP using a database they've compiled with a large number of individuals who have indicated a willingness to serve as peer reviewers. GCMRC also inquires of the TWG and cooperating scientists whether or not there are relevant questions or issues that should be addressed by a particular panel in whatever program they are evaluating. The composite of that information is then used to select the panel and develop the set of questions that they're going to address. Of course, the management objectives, the other information that has been created in the adaptive management process, is also infused. It's a concern to GCMRC that the panel stays on track so they want to give them guidelines to ensure that they are in fact evaluating the program that is of interest to us all. The PEP convenes to review the protocols and during the course of that evaluation they may have unanswered questions that can be clarified by GCMRC in the course of their meeting, reviews are presented with information by the participating cooperating scientists, by GCMRC staff, they're again taken through the conflict of interest procedure. They are also taken out into the field to see the area they are evaluating. They go on a river trip, they go up on Lake Powell, visit Lees Ferry and perhaps talk to anglers or trout guides. From that, they have the information to sit down and begin their deliberations and from that effort comes a report to the GCMRC. Then a presentation is made by the PEP panel chair to the TWG and then the TWG also receives a copy of the report. That's the first feedback loop from the panel to the AMP members. GCMRC assesses that report and makes a set of recommendations that they think need to be incorporated and changes in the program, and seeks feedback from the PEP chair during the course of that process. The TWG also reviews the recommended changes and provides a concurrence or exceptions to the recommendations that GCMRC has advocated for. From that interaction, GCMRC develops the revised long-term and annual plans of operation for that particular program, based on the TWG's comments. At this point GCMRC may again want to inquire of the PEP chair their response to the GCMRC and TWG's recommendations. In the end, GCMRC and TWG recommend the revised long-term and annual plans to the AMWG. Dennis said he would like comments on the diagram but realizes that since it is difficult to read from the screen, it might be better to have the TWG respond once they receive the hard copy.

Dave Cohen asked how the Science Advisory Board fits into the processes. Dennis said the SAB would certainly come into the process along with the PEP chair in providing response. He hasn't been involved in the SAB deliberations so wasn't sure how to include them. That is something that will have to be addressed as well. Barry responded that SAB is committed for a limited number of days a year and they will have to sort out how to allocate those days. He thought it would be a good topic of discussion with the science advisors at the first meeting.

Barry said he and Dennis tried to look at what's been done and what needs to be done. He was surprised to see that some critical steps have been bypassed. It appears they've gone from getting the PEP recommendations to modifying the long-term or annual plan without getting recommendations from the TWG. They put in a couple of boxes to strengthen that part of the dialogue and process.

**ACTION:** Dennis will have the diagrams posted to the TWG discussion forum web site as well as on the USBR web site on Monday. He would like feedback from the TWG within the next three weeks.

Rick asked if the group wanted to wait until they had the diagrams completed or if they wanted to start implementing some of the review that is in the review to bring to the AMWG. They agreed to start working with them. Rick recorded the PEP panels which have been completed thus far:

PEP's that have been done:

KAS Panel  
Sediment  
Cultural  
IWQP  
Terrestrial  
Trout  
Aquatic Foodbase/Native Fish → occurring in May

Rick asked if there was one they wanted to run through the process. Barry recommended they use the IWQP because that is the one that just came out. Their proposal is to bring recommendations to the May TWG meeting and have the members review the additional boxes. He also suggested that the Aquatic Foodbase/Native Fish be added as it will begin on May 8 and the TWG could follow the process from start to finish. It would be a more formal process than they've done in the past. The GCMRC would need the TWG's input by the first week in April. Barry said the TWG could come back to the other PEP's which have been completed but felt it was important to accomplish what they could on the IWQP. Barry said the previous ones were already modified in the annual plan and had been brought to the TWG. He and Dennis realized in working with the diagrams that the other boxes

need to be added because when the 2001 (in the case of the Physical PEP) and 2002 annual plans (in the case of Terrestrial and Trout PEPs), were presented, the TWG had already reviewed those plans and recommended adoption. However, the TWG wasn't aware that changes had been made from what had been the past monitoring program. Now they need to go back and write a document to explain that but it's having the time to go back and write it given all that is happening right now. Pam asked if he had a time frame. Barry said he could go back and talk with GCMRC staff about a schedule.

**ACTION:** Barry and his staff will prepare a schedule explaining how they took the PEP panel recommendations and used those to make modifications in the long-term monitoring plan.

**ACTION:** Barry will send out an e-mail requesting comments on the IWQP for comments to be received by April 15.

**Section 7 Compliance.** Discussion was halted until Dennis could provide paper copies.

**Science Week.** Barry reminded everyone that the Science Week is coming up in April. He also said he hasn't heard from everyone on the Modeling Workshop and would send out a reminder this Friday. The Modeling Workshop will start on Tuesday, April 24 at 10 a.m., go through 5 p.m. on Wednesday, April 25. The Science Symposium will start on Thursday, April 26 at 8 a.m., will have a poster session on Thursday evening, and then will end on Friday at noon. For those interested in staying through Saturday morning, they will start the meeting of the science advisors at 8 a.m. through 1-2 p.m. on Sunday afternoon.

**Status and Trends in Lees Ferry Fishery.** Bill Persons gave a PowerPoint presentation (*Attachment 19*) which had also been given at the TCD Workshop and included some of the data provided for the State of the Colorado Ecosystem (SCORE) Report. The AGFD are providing information on four different parameters for the SCORE Report that relate back to management objectives for the trout fishery. One of the management objectives for the trout fishery is a population estimate. They collected a population estimate in 1990 and 1998 and will be doing it again in 2001, but are using catch per unit effort or catch per unit electrofishing as a surrogate in trying to establish that relationship so he can report on CPUE. They have management objectives for relative condition or relative weight, growth, and Proportional Stock Density. He will also provide an update on natural recruitment.

**Temperature Control Device Workshop Update.** Dennis passed out copies of the Preliminary Findings of the TCD (*Attachment 20a*). This was also sent out to the AMWG in preparation for their meeting in April. It is still preliminary because he hasn't received feedback from the people who were there. A summary was sent out to the participants and the presenters with an opportunity for them to

comment on the answers to questions provided in the presentations and to respond to other statements as well. That process is still ongoing. There were 26 individuals from a variety of government, colleges, etc. He apologized to the tribes for not involving them in this workshop. Dennis proceeded with a PowerPoint presentation (*Attachment 20b*).

Dennis will be meeting with the science engineers on April 11 to determine how long it will take to construct the TCD. He and Barry will make a presentation to the AMWG on April 12. He couldn't say when the EA will be completed until he has met with the engineers. Norm asked how the EA will work. Randy replied that it will portray the effects, pros and cons, and present a science plan to monitor those so it is in some ways a conveyance document to the Secretary of what the facts are. Along with that, they will seek an AMWG recommendation to the Secretary on the issue so she can look at the facts as presented in an EA and know what the AMWG thinks about those facts and the risks involved.

**LIDAR Discussion (cont)** Gary said the bottom line for 6.5 days of 8,000 cfs flow in early June would be between \$5-5.4M depending on what day you start in the week. These are rough estimates since they don't know what the releases will be in June, what the market or basin fund is going to be in June, and what the allocations to customers are going to be in June. If they were allowed to use the 8,000 cfs fluctuation, as opposed to the 6,000, in a little over three weeks they would recover \$4.5M. If they did this for a week, for 6.5 days in the early part of June, it would take the rest of the month to try and recover the costs and not all costs could be recovered. The problem for WAPA is not the cost itself, it's a liquidity/cash flow issue: (1) They didn't get the \$40M back from last year, and (2) they are taking a loan out from the Upper Basin and customers for \$25M but it is only to cover their obligations for April and May. Right now the basin fund will go deficit in May. By law, that can't be done so they are working as hard as they can to make sure that doesn't happen. They've been directed by their administrator to not purchase power they don't have money for.

Gary said it's not WAPA's intent to stand in the way of research and monitoring, collecting good data, and maintaining consistency of data sets. Therefore, they have been in negotiations over the 12,800 cfs. If 12,800 cfs is no longer something they can do, then the suggestion is to get back with Reclamation, GCMRC, and WAPA and work it out. There is some flexibility: (1) go to 15,000 cfs because that's one of the data levels that we've collected historically, (2) do 8,000 cfs we would have to push it off to some extent, or (3) moving the 8,000 cfs, 6.5 day flow to possibly early July. The situation may improve by early July. Gary suggested Reclamation, GCMRC, and WAPA to go back and see what options they can come up with that will make the 8,000 cfs flow work.

**ACTION:** Staff from Reclamation, GCMRC, and WAPA will get together next week and will send an e-mail to the group on their decision.

**Note:** A memorandum dated March 13, 2001, from Christine Karas, Subject: Kanab Ambersnail Working Group Response to the Expert Panel Review (*Attachment 21*) was made available to TWG members.

Future agenda items:

IWQP discussion/concurrence  
LIDAR follow-up  
Hydrology  
Narrative - off the river trip  
Strategic plan - off the river trip  
TCD update  
Legislative updates  
President's budget  
WAPA status of basin fund  
LSSF econ. Report  
MSCP activities - overlap reaches - RZB and SWWF  
AGC report (Argonne)  
Sediment AHC response  
Experimental Flows AHC  
FY 2003 budget

Public Comments: None

**Adjourned** 11:55 A.M.

**Next Meeting:** May 30-31, 2001  
Bureau of Indian Affairs , 2 Arizona Center , 400 N. 5<sup>th</sup> Street , Phoenix AZ

**Hotel:** Holiday Inn Express & Suites, 620 N. 6<sup>th</sup> Street , 602-452-2020  
**Block closes: May 7, 2001**

### General Key to Adaptive Management Program Acronyms

ADWR - Arizona Department of Water Resources	Association of Arizona
AF - Acre Feet	IN - Information Need (stakeholder)
AGFD - Arizona Game & Fish Department	IT - Information Technology (GCMRC program)
AGU - American Geophysical Union	KAS - Kanab ambersnail (endangered native snail)
AMP - Adaptive Management Program	KAWG - Kanab Ambersnail Work Group
AMWG - Adaptive Management Work Group	LCR - Little Colorado River
AOP - Annual Operating Plan	LCRMCP: Lower Colorado River Multi-Species Conservation Program
AS-WS - Asst. Secretary - Water & Science	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	Secretary(ies) - Secretary of the Interior
ESA - Endangered Species Act	SWCA - Steven W. Carothers Associates
FACA - Federal Advisory Committee Act	TCD - Temperature Control Device (for Glen Canyon Dam water releases)
FEIS - Final Environmental Impact Statement	TCP - Traditional Cultural Property
FRN - Federal Register Notice	TES - Threatened and Endangered Species
FWS - United States Fish & Wildlife Service	TWG - Glen Canyon Technical Work Group (a subcommittee of the AMWG)
GCD - Glen Canyon Dam	UCR - Upper Colorado Region (of the USBR)
GCMRC - Grand Canyon Monitoring and Research Center	UCRC - Upper Colorado River Commission
GCNP - Grand Canyon National Park	UDWR - Utah Division of Water Resources
GCNRA - Glen Canyon National Recreation Area	USBR - United States Bureau of Reclamation
GCPA - Grand Canyon Protection Act	USFWS - United States Fish & Wildlife Service
HBC - Humpback Chub (endangered native fish)	USGS - United States Geological Survey
HMF - Habitat Maintenance Flow	WAPA - Western Area Power Administration
HPP - Historic Preservation Plan	
IEDA - Irrigation and Electrical Districts	

WY - Water Year (a calendar year)