

**Minutes of
Technical Work Group Meeting
September 7-8, 1999 Meeting
Phoenix, Arizona**

FINAL

Presiding: Bill Persons, AGFD

Committee Members Present:

Clifford Barrett, CREDA
Andres Cheama, Pueblo of Zuni
Kerry Christensen, Hualapai Nation
Dave Cohen, Trout Unlimited
Wayne Cook, UCRC
William E. Davis, EcoPlan Assoc./CREDA
Kurt Dongoske, The Hopi Tribe
Brenda Drye, So. Paiute Consortium
Christopher Harris, ADWR
Norm Henderson, GCRA
Amy Heuslein, BIA

Rick Johnson, GCT
Robert King, UDWR
Phillip S. Lehr, Colo. River Comm./Nevada
Don Metz, USFWS
Randy Peterson, USBR
Bill Persons, AGFD
Matt Kaplinski, GCRG
John Shields, WY State Engineer's Office
Mindy Schlimgen-Wilson, American Rivers
Robert Winfree, NPS

Committee Members Absent:

Nancy Hornewer, USGS
Alan Downer, Navajo Nation
Randy Seaholm, CRCB

Alternates Present:

Mary Barger, WAPA

Alternate For:

Clayton Palmer, WAPA

Other Interested Persons Present:

Debra Bills, USFWS
Steven Carothers, SWCA
Nancy Coulam, USBR
Barry Gold, GCMRC
Ruth Lambert, GCMRC

Ted Melis, GCMRC
Anthony G. Morton, USBR
Barbara Ralston, GCMRC
Tom Ryan, USBR

Recorder: Linda Whetton, USBR

MEETING OPENING AND ADMINISTRATIVE ITEMS

9/7/99: Convened: 9:30A

Adjourned: 4:30P (due to fire alarms)

9/8/99: Convened: 8:00A

Adjourned: 3:00P

Welcome and Introductions: The Chairperson welcomed the TWG members, member alternates, and guests. All introduced themselves. The Chairperson reviewed the ground rules for the meeting and name plates were distributed. Linda Whetton will be taking minutes.

Attendance: Attendance sheets were distributed. (Attachment 1 - List of Attendees)

Review/Approval of Agenda: The Chairperson went over the agenda for today's meeting. Cliff Barrett asked how things are coordinated with issuing grants for work to be done in the canyon by the GCMRC.

Review of Minutes: The Minutes for the July 20-22, 1999 are still being prepared. They should be ready for review by TWG members at the next meeting on October 22, 1999.

SWCA Synthesis Report (Attachment 2) - Rich Valdez began his presentation by stating that there were two contracts awarded to the SWCA, one of them was for SWCA to develop a hydrograph for an experimental flow to benefit the humpback chub in the Grand Canyon. It's related to the low steady summer flow RPA element of the Biological Opinion. The second contract was to develop a plan for establishing a second population of humpback chub downstream of Glen Canyon Dam in the Grand Canyon. SWCA is working on these two projects simultaneously because to some degree they are related. SWCA is also involved in developing recovery goals for the four endangered fish for Fish and Wildlife Service Region 6 for the entire Colorado River Basin so this is consistent with that work.

Rich stated there is no report at this time but wanted to report on the progress thus far. The project was started in March 1999 and the completion date will be February 2000. The team met for two workshops - one in April and one in June. SWCA generated a draft report which GCMRC has recently reviewed. They received GCMRC's comments on the preliminary draft and are in the process of incorporating those comments. The revised draft is due the end of this month. SWCA is going to produce a scientific review draft and a TWG draft which will be mailed about the first of October. They will conduct a scientific review on both those reports during the months of October and November, and in December they will be incorporating those comments. SWCA is also preparing an agency review draft as well just to make sure that all the agencies, but especially the Service and Reclamation, know what is being said in these documents. That will also take place as part of the scientific/TWG review process. SWCA is asking for formal review by the scientific review board but are not asking for a formal review by the TWG. The final report will be ready the end of February 2000.

TWG members discussed where they should go from here. They recognized that the missing

component to all of this is the baseline monitoring issue. It was decided that if more discussion was required, members could meet with Randy or Debra after the meeting. The question was raised as to whether another ad hoc group needed to be formed to address all the issues but no motion was made.

KAS Expert Panel Review of Goals and Questions (Attachment 3) - Bill Persons mentioned that Jeff Sorensen has been working to put together a Kanab ambersnail review panel. He distributed a handout which contained the questions that were put together with input from the TWG and noted that there is also a schedule of meetings on the last page. Bill said that there were some concerns made by ambersnail researchers about the nature of some of the questions and Jeff had wanted to send the questions around again to see if there were any specific concerns or issues from TWG members that Jeff Sorensen could answer. He apologized if this was the first time that members had seen the questions. Jeff said that if there were any questions or comments to e-mail those to him or Bill Persons. The review panel workshop will be held on December 1-2 at the Phoenix Zoo Stone House Group Pavilion in Phoenix, Arizona. More details are on the last page of the handout.

FY 2000 BHBF Compliance - Randy Peterson stated three items were placed on the agenda to facilitate some group discussion on the issue of compliance, specifically on the idea of a planned effort to meeting our Section 7 responsibilities but also to address the issue of experimentation in the AMP. Experimentation facilitates research that is directed toward unknown things discovered through the monitoring program. In other words, if monitoring reveals gaps in information then research is done to increase understanding. Sometimes it is difficult to perform these experiments if they have to wait for specific triggering events, back-to-back treatments, or within the year treatments. He wanted to have a brief discussion on how things might be done differently with the goals of meeting the requirements under the Endangered Species Act and creating a more efficient learning process in terms of research and experimentation.

Debra Bills said she has recommended to Reclamation in the past to formulate some sort of native fish team for this purpose. Such issues as the TCD, establishing the second population of chub, the low steady flows, and when to do a BHBF could be formulated into a 3-5 year plan on what you might want to see happen. Her reason for recommending this to Reclamation was based on the KAS (Kanab ambersnail group). That group is very focused, informed, and they're up to speed on literature and monitoring and can recommend program direction for the next 3-5 years. She believes that if there were a native fish group, perhaps some of the fishery issues could be prioritized and organized into some type of plan.

Programmatic Compliance - Tony Morton questioned whether our expectations with the programmatic compliance approach are realistic. Tony said he wanted to emphasize again to the TWG that the programmatic compliance document does not provide compliance for specific actions but puts you another step toward that process. Individual compliance on specific actions is still required.

The group discussed the low flow test and the fact that they can't be planned well in advance. Low release years of 8.23 MAF are governed by the "Law of the River." Concern was expressed about having flexibility in implementing the experiment so that these things can be planned and also have sufficient time to design a specific experiment. The suggestion was made to develop a very specific program of research for the next three years to address what we really need to know, high priority actions that are justified, and then deal with the issue of flexibility and operating criteria. The suggestion was made to form a small group to meet with the GCMRC to make a first cut on an experimental flow regime.

FY 2001 GCMRC Work Plan (Attachment 4)- Barry Gold began by noting that they are doing something different from what they did last year. Rather than sending a first written draft to comment on, a decision was reached to give a presentation with all the details, get input, draft a plan, and send it out for comments, and then plan for a discussion at the next meeting. The GCMRC is trying to act on one of the recommendations of the National Research Council to develop an integrated science plan. This plan was developed in GCMRC as a group rather than for individual program managers. Barry added that since they are not quite at the integration level, they are starting to move away from programs and talk about the characteristics of what's going on in different research projects.

They intend to continue with conceptual monitoring activities in 2001. The slides presented the rationale for the action and then described some of the activities expected in 2001. They wanted to do conceptual modeling initially because it would provide an ability to test scientific hypotheses. It is being used as a framework for understanding the ecosystem, an aid to them in selecting the parameters to be monitored, and as an hypothesis screening tool. They want to look at trend analysis in vegetation, water quality linkages, work to better define the geomorphic framework submodel, and the larval drift algorithm. Currently GCMRC is relying on Josh Korman and Carl Walters to accomplish these tasks through contract modifications. GCMRC wants to bring the capability in-house and get their staff trained to further develop the model.

Ted Melis discussed the physical resource program. Panel members were selected in the summer of 1998 to convene the first PEP workshop for this program. They received an interim report from that group based on the presentations from the scientists under contract with GCMRC. The second part of the two-part review was held in Flagstaff last week. The first field trip last year was to look at Lees Ferry down to Badger Rapids to talk about the geomorphology of Marble Canyon. The second field trip this year was actually a tour of the dam and a float trip through Glen Canyon. The purpose for doing this was to show the panel members that there is not one continuous river geomorphology from the dam down to Lake Mead. There are actually different reaches, different geomorphologies that both influence the hydrology and sediment transport. They are expecting a formal report from the panel by the end of October 1999. That report, in conjunction with others, will be the basis for drafting a long-term monitoring plan this winter, specifically reflecting the needs for water and sediment resource monitoring long-term.

The long-term monitoring plan will be tied closely to research. Ted said he would give more details on the history of long-term monitoring and long-term monitoring design at tomorrow's meeting.

Barbara Ralston provided some highlights as to what has gone on in the last year in terms of monitoring and research. The Kanab ambersnail populations have been monitored since about 1995 on a consistent basis. One of the things they know is that they vary in population size seasonally so does their habitat vary. Since interest in the Kanab ambersnail has increased, researchers have started surveying for new populations and are completing genetics work that will clarify the relationship between the Vasey's Paradise population and those populations in the Kanab, Utah area.

Southwest willow flycatcher monitoring has also taken place on a regular basis in the Grand Canyon. It appears that there are pairs mating in the Grand Canyon so habitat does not appear to be the limiting factor for survivorship or success of those birds.

A Lake Powell assessment was completed, with the resulting conclusion that the reservoir and downstream water quality are linked. The location of the release withdrawal from the dam affects water quality as well as temperatures, and so operations affect both the reservoir and downstream water quality parameters. Likewise, dam operations have an effect on the aquatic food base as seen in the benefits associated with modified low fluctuating flows. A report from the Arizona Game and Fish Department indicates that trout have significantly benefitted since implementing interim flows as well as modified low fluctuating flows.

Lastly, some genetics research was completed on the humpback chub. This work involved chub throughout the Colorado River Basin and indicates that there is intergression between the bonytail and humpback chubs. When trying to develop species level relationships of humpback chub at the populational level, it doesn't appear that there are very distinct differences between those populations.

Barbara went on to explain other parts of the biology program - terrestrial ecosystem monitoring, the aquatic monitoring segment, and finished up on some proposed research ideas.

Research activities for FY 2000 are going to be completing research that was initiated during 1999. For example, the RFP for humpback chub genetics should be funded this year and it is anticipated that it will be a two-year project. The pilot study for trophic linkages looking at vegetation structure, bird occurrence, and insect communities should be finished in 2001, and the food web dynamics would also be completed by 2001. She proposed initiating work on native and non-native competitive interactions and evaluating spawning substrates in Glen Canyon Reach, basically looking at the spawning beds. They should also be initiating a side-scan sonar pilot project, which data could be used to see if there are changes in spawning substrates from year to year.

For the cultural resource program, Ruth Lambert reported that all of the current project reports are still outstanding:

- Data Synthesis Project Report which is in its second draft and is being amended and adjusted by the contractor and is due in November 1999.
- Steve Willey is working on a flow and deposition model which is due November 1999.
- The Geomorphic Erosional Report on Testing a Geomorphic Hypothesis by Richard Hereford is due in November 1999.
- A report by Bill Stewart on recreational preferences focusing on camping beaches is due in December 1999.
- There are also two tribal projects: the Hopi Tribe is an Ethnobotanical monitoring project and the Southern Paiute Consortium doing an education project. Those reports are due about December 1999.

There was some discussion about the tribes' inability to access various models and information because they don't have computers or Internet access. Ruth said that one of the things in the FY 2000 plan is looking at the capabilities of tribal technologies. She thought there was \$35,000 in the FY 2000 budget in cultural resources to look at what tribes have in terms of their technological capabilities. Barry suggested that this issue be discussed at a future TWG meeting. He said that it is not the role of the GCMRC to provide technology to any of the stakeholder groups, whether it be the tribes or non-governmental organizations that do not have adequate technology. They recognize the need but also view the limits which have been put on this program which are specific to monitoring and research activities. Amy commented that since the GCMRC is proposing some programs to evaluate the needs then those needs should be brought forward to the TWG for discussions and on to the AMWG. A decision could then be made on the budget as to where to make those additions or changes.

Action: Place tribal technology issue on the agenda for a future TWG meeting.

Meeting adjourned at 4:30P (due to fire alarms)

September 8, 1999

Presiding: Bill Persons, AGFD

Committee Members Present:

Clifford Barrett, CREDA
Andres Cheama, Pueblo of Zuni
Kerry Christensen, Hualapai Nation
Dave Cohen, Trout Unlimited
Wayne Cook, UCRC
William E. Davis, EcoPlan Assoc./CREDA
Kurt Dongoske, The Hopi Tribe
Brenda Drye, So. Paiute Consortium
Norm Henderson, GCRA
Amy Heuslein, BIA

Rick Johnson, GCT
Robert King, UDWR
Phillip S. Lehr, Colo. River Comm./Nevada
Don Metz, USFWS
Randy Peterson, USBR
Bill Persons, AGFD
Matt Kaplinski, GCRG
John Shields, WY State Engineer's Office
Mindy Schlimgen-Wilson, American Rivers
Robert Winfree, NPS
Fred Worthley, CRBC

Committee Members Absent:

Nancy Hornewer, USGS
Alan Downer, Navajo Nation
Randy Seaholm, CWCB

Alternates Present:

Mary Barger, WAPA

Alternate For:

Clayton Palmer, WAPA

Other Interested Persons Present:

Nancy Coulam, USBR
Barry Gold, GCMRC
Dennis Kubly, GCMRC

Ted Melis, GCMRC
Anthony G. Morton, USBR
Tom Ryan, USBR

Recorder: Linda Whetton, USBR

GCMRC-Information Technology Program - Mike Liszewski began his presentation by displaying a conceptual diagram that outlines the Information Technology Program. The ITP has been divided into the following areas: Information Management activities, Data Collection activities, Data Analysis activities, and Data Dissemination activities. Under each of those activities are various functions of the ITP that ultimately provide information to not only the AMWG and TWG, but also to principal investigators and the public at large. (Refer to Attachment 4, pages 46-52).

One step towards data dissemination is GCMRC's new ftp server: Ftp to gcmrc.gov to access this data.

Continuation of FY 2001 GCMRC Workplan - (Refer to Attachment 4, pages 53- 57)

Bob Winfree asked if GCMRC was planning to include minimum requirement evaluations in the peer review process. Barry responded that the focus has always been on the scientific approach. Barry said that Bob's concern is that as the Park moves more to looking at managing the river as a potential wilderness, it poses some interesting questions to researchers and the approaches they take to answer research questions. They have not said in the FY 2000 RFP's that a proposal that had an approach which passed minimum tool use requirements would be rated higher than a proposal that didn't. Perhaps they need to coordinate with the Park Service and develop that for 2001 because currently the proposals are rated only on technical merits. Bob said he felt there was a real disconnect in the process.

Action: Put on agenda for a future TWG meeting:

- Amy would like to have some discussions regarding the tribal lands that are not wilderness areas but are within the Canyon. It's up to each of those tribes to determine whether or not they should be consulted regarding mechanized equipment or activities on those pieces of property.
- Bob said that he could make a presentation on Wilderness Act policy and current management of the park.

Review of the FY 2001 GCMRC Budget (pg. 57) - Barry Gold

Barry answered questions from TWG members regarding the FY 2001 GCMRC Budget. Barry said he would like to get agreement on the process for completing the plan and moving to closure.

Kurt said he was somewhat confused with the whole budget process. Back in June 8-9, 1999, there was a presentation on the 2001 budget and funding for the Programmatic Agreement (PA) and tribal support. To come to agreement for passing the bottom line of \$7.85 million, the TWG recommended to the AMWG to accept the FY 2001 budget with an ad hoc committee of the TWG to draft budget line item details, with special consideration given to funding tribal participation and cultural compliance issues. In order to do that, the TWG was waiting for the

Bureau to provide some specification on what it would cost to remain in compliance with the PA. That information has not been forthcoming so the subgroup was never convened. At the AMWG meeting, there were also concerns, a lot by the tribes, regarding the bottom line of \$7.85 million. There was a vote, 10-9 in favor of passing the bottom line. If Kurt is correct in the AMWG protocols for operating procedures, it's not a simple majority but a 2/3 majority to pass the recommendation. It seemed to him that even though Stephen Magnussen thought that the motion had passed, there may some question as to whether it really passed or not. Kurt appreciates the work the Center has done but until the TWG understands how much money is going to have to be allocated for the PA work, there is some question as to whether the programs that are being proposed for 2001 and their associated budgets are actually going to be viable. If there is going to be more money requested for the PA, perhaps some of the Center's budget will have to go toward that compliance. Kurt expressed concern that no one has gone back to address those issues and yet the TWG is still moving forward with the 2001 budget. He expressed frustration with the whole budget process.

Barry responded that the presentation they were asked to give was on the 2001 Annual Plan for the GCMRC. He said that the one thing that shows up which relates to Kurt's issue is they moved \$73,000 out of their operations and personnel account to restore PA funding to \$973,000. Barry stated that the way the budget process works, there has been an "above the line and below the line." He suggested that perhaps there is a better way of integrating the funding.

Kurt said he would like to see more communication with the TWG on the budgeting process. He questioned if the Bureau has conformed with the \$7.85 million as the bottom line for 2001 even though there was some disagreement. Randy responded saying that the Bureau had put this number in their budget documents that go to Congress. With respect to progress on the "above line costs," the Bureau has scheduled a PA meeting for Sept. 20-21 to discuss these issues and he is confident that we'll be able to define the scope of compliance that is required for the PA as a result of that meeting. The Bureau has also followed up on the Mark Schaefer letter seeking appropriated funds for tribal participation. When we have received responses to that letter, the AMWG will have the data to make some decisions regarding the tribal participation issue.

Kurt questioned whether or not the vote should be recognized as having support of the AMWG. Randy said he would check on the answer to that question. Randy said he felt the process was still the right process to follow. It has taken some time to get all the parties together to have the PA meeting. Nancy Coulam tried diligently to do that and Sept. 20 was the first available date that everyone could meet. They will follow the process to conclusion by December.

Action: Amy recommended that the ad hoc group that volunteered to be involved meet to resolve this issue. The PA group meets on Sept. 20-21.

Amy asked if a process could be put in place where GCMRC would meet with the tribes three to four times a year recognizing that the information from those meetings with the tribes (in a government to government relationship) is brought back and shared with the TWG. GCMRC has a trust responsibility to the tribes. If there are impacts or questions that the tribes may have,

they then would have the opportunity to sit down with GCMRC to discuss it in a government-to-government relationship before bringing back to the TWG.

Barry reviewed the upcoming schedule for :

Sept. 7-8	TWG Meeting
Sept 22	Comments due to GCMRC
Oct 22	Mail Draft Plan for TWG review
Nov 5	Comments due back to GCMRC
Nov. 19	GCMRC will mail a Response to the Comments
Dec 7-8	TWG- Discuss Response to Comments
Dec 20	Send final to the AMWG

Barry said he would have the schedule typed up and sent out to everyone.

Amy questioned if there would be an opportunity for the tribes to sit down with GCMRC personnel and discuss any concerns they might have. Barry said he couldn't speak to everybody's schedules but felt that they should be able to have that meeting.

Barry mentioned there were two more items he wanted to bring to the TWG's attention:

1. There is a Temperature Control Device Symposium which was tentatively scheduled for Oct.14-16. However, there is a proposal to move it to November but the dates have not been decided upon. We're working against a target of needing to get everything done on this, reviewing the monitoring and research plan, and re-evaluating the comments that came on the EA so it can be brought to the proposed April AMWG meeting. By slipping this from October to November, the feeling is that we can still meet the dates. As soon as those dates are set, we will notify the TWG.
2. Desert Fishes Council meetings are October 16-21, 1999.
3. Tailwater Trout Symposium scheduled for April 25-28, 2000 in Page, Arizona.

AMP Strategic Plan - Randy said this was put on the agenda to have a purposeful discussion about the Strategic Plan. At the last AMWG meeting Rob Arnberger described a need for the TWG to continue work on the plan while the AMWG ad hoc group continued to work on goals and MO's. By the end of this discussion some type of small ad hoc team could be formed to begin reviewing the December 8 draft of the Strategic Plan and revising and reworking those first three chapters so that by the time the AMWG ad hoc group completed its work that we would have a good start on the Strategic Plan as well.

Barry reported that the AMWG Goals Ad Hoc group met on August 27 and drafted a set of goals that stepped down from the vision statement and have a conference call scheduled for Sept. 13. Barry said that the process has been delayed in order to gain consensus on the goals. He is concerned about getting closure in order to move forward. He reminded people that under the

old budgeting process, we were working under a protocol where in July they brought the bottom line budget number to the AMWG. The next due date would be July 2000. That means that we have a lot of work between January and July to get there. He is concerned that we have a new strategic plan in place by January or at the latest at the March meeting to allow this budgeting process to function properly. The GCMRC is going to move forward to develop a 2002 budget and get long-term monitoring on the ground.

AMWG Ad Hoc Team - Wayne Cook reported that the AMWG ad hoc team had met. The members on the team were: Mary Orton, Ted Rampton, Rick Johnson for Geoffrey Barnard, Andre Potochnik, Don Bay for Clay Bravo, Jerry Zimmerman, and Wayne Cook. They developed and combined goals into riverine, riparian, social-cultural, and administrative resource categories. They talked about a wide range of goals - food base, native species, the concept of maintaining viable populations, river otter, self-sustaining populations, competition and predation between natives and non-natives, and how sediment affects other resources. In some cases, they started thinking about management objectives that might fit under those as a test to see whether or not they had the goals correctly framed.

Their team comments on the draft goals will go to Mary Orton by September 10, a conference call will be held on September 13th, and they anticipate that between September 13 and 20 the goals will be mailed out in advance of the next AMWG meeting on October 21. The next step is to review and modify the Management Objectives under the goals.

Barry recommended that two ad hoc groups be formed, one that is going to be small committee to start fleshing those elements in the Strategic Plan that don't relate to MO's and IN's and the other would be focused on developing MO's after the AMWG meeting on October 21.

Motion: Form two ad hoc groups. The first one would be charged with development of reviewing and revising MO's and the other with developing the Strategic Plan. Motion passed.

MOs and INs Ad Hoc Group:

- a. review and revise existing MOs as necessary
- b. develop new MOs where necessary
- c. develop management action to meet objectives
- d. recommend process for prioritizing INs
- e. coordinate with Center on INs

a, b, c due by January 1 --> presentation to AMWG at January 2000 meeting
d, e, due Spring 2000

Strategic Plan Ad Hoc Group:

Look at Strategic Plan for the AMP, looking at the GCMRC's Plan and using that as guidance.

A draft will need to be done by mid-December.
Present something to the AMWG or mail draft plan by April 2000 meeting

MOs and INs Ad Hoc Group

Matt Kaplinski
Cliff Barrett
Bill Davis
Kurt Dongoske
Rick Johnson
Mary Barger/Clayton
Bob Winfrey
Don Metz
Mindy Schlimgen-Wilson
Barry Wirth or GCMRC person
Wayne Cook
Bill Persons
Randy Peterson

Strategic Planning Ad Hoc Group

Cliff Barrett
Bill Davis
Kurt Dongoske
Norm Henderson
Don Metz
Barry Wirth or GCMRC person
Wayne Cook
Randy Peterson

Rick Johnson volunteered to get both groups started.

Score Report - Due to time limitations, Barry suggested people go to the GCMRC website and read it.

Report on Recent Sediment Inputs, Monitoring, and PEP Workshop - Ted gave an update on what's been happening this summer in terms of tributary flows. It has been an exceptional summer of monsoons which has had a great impact on sediment inputs and mainstem sediment balance. Four separate events occurred during the past few months which produced Little Colorado River peak flows greater than 3,500 cfs in the Moenkopi Wash, and two of the four exceeded 5,000 cfs.

Ted gave an update on the PEP workshop held last week. This was the second workshop he has held, with the ultimate goal to get a final review report within the next two months to help construct a draft long-term monitoring plan. The PEP workshop panel will review that draft as well as the Technical Work Group, then after some revision and discussion, Ted will start constructing some RFPs with staff at GCMRC to focus on long-term monitoring components of the physical resource program. The goal is to implement this monitoring plan in FY 2001 as a 5-year monitoring effort, at the end of which time, GCMRC will reconvene the Review Panel and reevaluate the program.

The 1999 NRC report saw a lot of benefits to the conceptual modeling exercise during the last year and a half. The conceptual model gives us a good chance to look at things that change over

the course of decades to a century.

Ted felt that the overall objectives of the physical program in terms of research and monitoring comes down to the sediment budget, specifically relative to dam operations. Sediment monitoring needs to be supported and provides key data for other resource areas and other scientists throughout the program. Within the concept of linking resource areas, we need to have the required key variables. He can come up with some of those but needs help from the biologists and social scientists to help him identify what those key variables that need to be recorded and to what degree of error can be measured and recorded and still be useful. This is always a big problem - the scale issue. Whatever is decided, monitoring needs to be done consistently and maintained for a long period of time or its value decreases.

Report on the PEP Sediment Workshop - Ted Melis began by saying he had done a Glen Canyon field trip. Ernie Pemberton and others showed that after the dam was closed in 1963, there was a major scouring of the tailwater reach of about 2-3 meters based on the cross-sections that were tracked between 1956 and 1976. They have reason to believe that because of some unusual flooding events from ungauged tributaries since 1990, some of the pools in the Glen Canyon reach are actually filling up with sand again. The sand dredged up from the bottom appeared to be abundant and bright orange. It didn't look like pre-dam sand which led them to believe that tentatively, subject to more synthesis work, there are fine sediment resources to manage in the Glen Canyon reach.

Ted provided brief details on each workshop presentation. A report will be distributed to the TWG in November after he gets it from the panel. Ted will proceed with drafting a long-term monitoring and research plan in detail and share it with the TWG.

Compensation for the TWG Chair - Randy proposed an agreement with the Grand Canyon Trust to not exceed \$25,000 for compensation to Rick Johnson for next year's work as TWG chair. This number is a little higher than in the past because they are proposing to involve him substantially more in assignments and activities.

Glen Canyon Dam Operations - Tom Ryan addressed Glen Canyon Dam operations for September. Inflows to Lake Powell were above average in August, about 190% of average, so September releases will stay at levels similar to those in August, averaging about 19,000 cfs. There is going to be one notable exception to that on September 20-21. There is maintenance occurring at the Aspinall Unit in Colorado (Morrow Point, Blue Mesa, and Crystal Dams). Those powerplants will basically be off-line for power production or nearly so. There will also be a special low flow release occurring the same day. As a result, on September 20 and 21, WAPA will be short in terms of their ability to meet its firm load demand so Glen Canyon Dam releases will be increased to nearly 25,000 cfs, but the operating criteria of the ROD will not be violated. The details are being finalized and a Press Release will be sent out and posted on the Internet.

Experimental Flows Ad Hoc Group Progress Report (Attachment #5) - Bill Persons said they

had a meeting on July 20 to screen a list of 33 different experiments that the TWG came up with in a brainstorming session - see page 4. He did some preliminary screening, sent out an e-mail for comments and incorporated those into the report. The original task was to develop an array of flow experiments and draft proposed actions for future water years so that the programmatic compliance could be completed. He sought clarification from the TWG as to what this ad hoc group should do next. The feedback he received from the compliance group was this wasn't specific enough. Bill made an attempt to prioritize them but received limited feedback.

Action: Bill will take the list back to the ad hoc group and attempt to prioritize again.

TWG Effectiveness -Ad Hoc Group - Due to time, this item was deleted from agenda.

TWG River Trip - Rick Johnson

In the last TWG meeting the idea of doing a TWG river trip was discussed. Some positive results could be the bringing of people together on issues and helping people understand the sites and issues on which researchers were working. Most felt it would be worthwhile, but several expressed concern over the cost and appropriateness of the trip. There was discussion on whether an alternative trip could be set up to achieve the same goals. Barry said he was holding a meeting in October with the PI's to schedule the research trips and until that occurs, he isn't prepared to look at the availability of boats and equipment to do the trip. Barry said that an 8-day trip for group this size would cost approximately \$15-20,000.

Action: Barry will report back to the TWG on possible dates and anticipated costs.

Amy said she sensed there were some concerns by members on doing a river trip. She suggested that members provide their pros and cons to Rick and be prepared to discuss at the next meeting.

Action: Submit comments to Rick and he'll provide feedback at next meeting. Rick's e-mail is: johnson@flagstaff.az.us

Public Comment and Wrapup - None

Next meetings:

AMWG Meeting, October 21 (9:30 a.m. to 4:30 p.m.)

TWG Meeting, October 22 (8:00 a.m. to 3:00 p.m.)

Held at: Bureau of Indian Affairs Office
12th Floor, 400 North 5th Street
Conference Rooms A & B