

Glen Canyon Dam Adaptive Management Work Group Meeting
FINAL Meeting Minutes

Conducting: Michael Gabaldon, Secretary's Designee
Facilitator: Mary Orton

March 3, 2004
Convened: 9:35 a.m.

Committee Members:

Joe Alston, NPS
D. Larry Anderson, UDWR
Darryl Beckmann, USBR
Perri Benemelis, ADWR
Amy Heuslein, BIA
Pamela Hyde, Gr. Canyon Wildlands Council
Loretta Jackson, Hualapai Tribe
Leslie James, CREDA
Arden Kucate, Pueblo of Zuni
Rod Kuharich, State of Colorado

Phillip Lehr, Colo. River Commission/NV
Clayton Palmer, WAPA
Andre Potochnik, GCRG
Ted Rampton, UAMPS
Nikolai Ramsey, Grand Canyon Trust
John Shields, WY State Engineer's Ofc.
Bruce Taubert, AGFD
Mark Steffen, Federation of Fly Fishers
Gerald Zimmerman, CRB/CA
VACANT, Kaibab Band of Paiute Indians

Committee Members Absent:

Robert Begay, Navajo Nation
John R. D'Antonio, State of New Mexico

Leigh Kuwanwisiwma, The Hopi Tribe

Alternates Present:

Marklyn Chee
Wayne Cook
Mike Yeatts
Sam Spiller

For:

Robert Begay, Navajo Nation
John R. D'Antonio, State of New Mexico
Leigh Kuwanwisiwma, The Hopi Tribe
State Supervisor, USFWS

Interested Persons:

Jan Balsom, NPS/GRCA
Mary Barger, WAPA
Gary Burton, WAPA
Kerry Christensen, Hualapai Tribe
Lew Coggins, USGS/GCMRC
Nancy Coulam, USBR
Jeff Cross, NPS/GRCANP
Amy Cutler, USBR
Tom Czapla, USFWS
Jonathan Damp, Pueblo of Zuni
Bill Davis, CREDA
Phil Davis, USGS/GCMRC
Kurt Dongoske, CREDA
Helen Fairley, USGS/GCMRC
Larry Fisher, USIECR
Lisa Force, Grand Canyon Trust
James Froij, artist
Carol Fritzinger, USGS/GCMRC
Steve Gloss, USGS/GCMRC
Lloyd Greiner, UAMPS
Christopher Harris, CRB/CA
Norm Henderson, NPS
Glen Knowles, USFWS
Dennis Kubly, USBR

Mike Liszewski, USGS/GCMRC
Jeff Lovich, USGS/GCMRC
Mark McKinstry, USBR
Ted Melis, USGS/GCMRC
Anthony Miller, Colo. River Comm./NV
Mary Orton, The Mary Orton Company
Dave Otis, USGS/Iowa State Univ.
Bill Persons, AGFD
Randall Peterson, USBR
Barbara Ralston, USGS/GCMRC
Ken Rice, USBR/GCD
John Ritenour, NPS/GLCA NRA
Tom Ryan, USBR
Manuel Savala, Kaibab Paiute Tribe
Randy Seaholm, State of Colorado
Joe Shannon, NAU
Dan Shein, private citizen
Rob Simmonds, USFWS
Bob Snow, DOI Solicitor's Office
Chris Updike, NAU
Brad Warren, WAPA/SLC
John Weisheit, Living Rivers
Barry Wirth, USBR

Meeting Recorder: Linda Whetton, USBR

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.

Mark Steffen said he wanted to clear up any misconceptions that he was affiliated with the Lees Ferry Fishing Guides. While he appreciates their knowledge and experience, he does not represent them in his position as an AMWG member. He represents the Federation of Fly Fishers and more directly the Northern Arizona Flycasters in Flagstaff.

Administrative Issues.

1. The chairman announced that this would be Wayne Cook's last meeting as an AMWG alternate for the states of New Mexico and Wyoming. He said Wayne has been with the AMWG for a long time and thanked him for all his hard work in the Adaptive Management Program.

Review and approval of Minutes from August 12-13, 2003, Meeting. Pending several corrections and without objection, the minutes were approved.

Legislative and Program Updates:

1. **Energy Policy Act.** Leslie James read an excerpt from the American Public Power Association newsletter regarding the status of Energy Bill (S2095). The original bill was submitted with a \$30 billion cost. Sen. Pete Domenici of NM introduced a lower cost version of about \$14 billion. It could be heard as early as next week but most are speculating it won't be until after the Senate returns from recess March 22. There may not be time to hear it at all. Randy Peterson said the Domenici bill contains the hydropower efficiency increase provision as did the House bill a few years ago. If that passes, the Departments of Energy and Interior will be directed to evaluate the potential for increasing hydroelectric generation at Federal facilities.

2. **Tribal Funding Participation.** Randy Peterson said Reclamation recently received a copy of a memo (**Attachment 2**) from P. Lynn Scarlett, Asst. Secretary, Policy Management and Budget, DOI, which renews the directive to the Federal DOI agencies in the AMP to provide funds for tribal participation and government-to-government consultation. Reclamation has been unable to prepare the contracts because it lacked clear authority but this memo fixes the problem. He expressed appreciation for the patience of all those involved in the effort and indicated that Reclamation will move quickly to prepare the cooperative agreements as soon as funds are received.

3. **Cultural Resource Cooperative Agreement.** Randy Peterson reported he, John Ritenour, and Jeff Cross of GCNP have developed an agreement to protect the cultural resources in the Grand Canyon. He distributed copies of a draft memo (**Attachment 3**) explaining their approach.

Leslie James asked if the Area of Potential Effect (APE) issue had been resolved. Randy said the agreement addresses how a treatment plan would be developed for Federal actions by the Park Service and Reclamation related to the National Historic Preservation Act (NHPA) in Glen and Grand Canyons. It's not intended to address all details but rather to lay the foundation for development of the treatment plan of those sites being adversely affected by agency actions. Once the treatment plan is in place, they will treat those sites in compliance with NHPA. Randy said the agreement initially intends to define responsibilities for those funding sources.

However, because scientific evidence will be a factor, the agreement allows for adjustment on a site-by-site basis based on the best scientific information. This year they will develop a treatment plan in Glen Canyon, and if the FY 2005 budget passes, they will begin work next year in Grand Canyon. He asked the members to review the agreement and if they had any comments to get in contact Jeff, John, or him.

Review of the Agenda: The chairman advised a change in the agenda. The Public Outreach discussion scheduled for 4:15 would be switched with the items scheduled for 1-1:30. The Chairman also advised there would be a five-minute presentation from a member of the public added to the agenda as well.

AMWG Effectiveness. The chairman said there has been considerable discussion on the AMWG Charter language, procurement issues, conflict of interest concerns, and timing of Federal Register notices. Because some of the issues are legal in nature, Bob Snow (DOI-Solicitor's Office) was invited to attend today's meeting. The chairman cautioned that Bob probably wouldn't be able to provide answers to the members but he would note their concerns and respond at a later meeting. The chairman suggested using the AMWG Charter (**Attachment 4a**) and the AMWG Operating Procedures (**Attachment 4b**) for their discussion.

Procurement/Conflict of Interest Concerns. Bob said he wanted to get a better sense of the procurement and conflict of interest concerns the AMWG members had. He said his general approach would be to try and opine as to what the legal requirement is so as to empower the AMWG to address the issues itself. He asked the members for specific concerns. Bruce Taubert said he was concerned that fewer projects were being let for bid. AGFD used to handle more than \$1 million in projects associated with the Grand Canyon, and they are down to about \$150,000. Pam Hyde said she wanted to ensure that GCMRC was held to the same standards for work performed in-house as for work that was sent out to bid. She was concerned about the potential conflict of GCMRC developing the RFP and then doing the work. Jeff Lovich said that since the USGS is not a voting member of the AMWG or the TWG, they don't have that level of conflict.

Federal Register Notices. Pam Hyde said she was concerned about getting notices published in the Federal Register in a timely manner. There have been exceptions invoked recently and she believes the AMWG is on very shaky ground in holding AMWG/TWG meetings without sufficiently noticing them so the public can participate. Bob responded that the Department of Interior has implemented a new policy requiring all notices be reviewed by the Secretary's Office which as has created significant delays. Bob said the Washington Office staff is working to resolve the timing issues. The chairman asked if the AMWG has any flexibility with respect to publishing notices in the Federal Register if they conduct business via a conference call in order to make a recommendation to the Secretary. Bob said he would research that issue as well and report back to the AMWG.

Notification of TWG Agendas. Bruce requested that in the future all TWG agendas be sent to the AMWG so they are informed as to what the TWG is working on.

ACTION ITEM: Linda Whetton (meeting recorder for TWG meetings) will provide future TWG agendas to the AMWG.

ACTION ITEM: AMWG members should submit additional comments they have on the Federal procurement process and conflict of interest concerns to Bob Snow by Friday, April 2, 2004, through Mike Gabaldon at mgabaldon@do.usbr.gov with a cc to Linda Whetton at Reclamation (lwhetton@uc.usbr.gov).

Tribal Consultation Plan. Loretta Jackson said it has been hard for some of the tribes to come to some of the meetings because of the funding issue but reminded the DOI agencies that they are committed to reviewing the Tribal Consultation Plan and providing comments to her.

GCMRC Updates – Jeff Lovich said that Dave Garrett would participate by telephone. Jeff said that he is committed to sending the GCMRC electronic newsletter on a regular basis to keep the AMWG informed of what is being done at GCMRC. The inaugural issue, recently e-mailed to the AMWG, is primarily an update on the experimental flows activities.

2003 Experimental Fine-Sediment Update Between Lees Ferry and Phantom Ranch - Ted Melis said his presentation was an outcome of the motion passed by the AMWG two years ago for a six-month update on GCMRC's experimental activities, preliminary results, and final results, etc. He gave a PowerPoint presentation. (**Attachment 5**)

Mechanical Removal Reach: Original Experimental Design. Lew Coggins said that many of his past presentations can be found on the GCMRC web page, including one given on mechanical removal at the Science Symposium held last October. He gave a PowerPoint presentation. (**Attachment 6**).

Reorganization of GCMRC – Jeff Lovich said he has only been on duty as the chief of GCMRC for about seven months. He said GCMRC is trying to be as effective as possible and to ensure their science is of the highest quality and integrity. He addressed some of those issues in his PowerPoint presentation on the reorganization of GCMRC (**Attachment 7a**).

Strategic Planning for GCMRC. Jeff gave a PowerPoint presentation on the GCMRC Strategic Plan. (**Attachment 7b**). Pam Hyde said she hoped that the AMWG AHG on Strategic Planning could work with GCMRC on their strategic plan. Jeff also reported that Steve Gloss would be preparing a draft SCORE Report later this year.

Core Monitoring. Due to the limited time on the schedule, Jeff provided copies of his PowerPoint presentation on the Core Monitoring Plan (**Attachment 7c**) and said that if there were any questions or comments, the AMWG should send them directly to him at the GCMRC. Joe Alston noted that a comprehensive core monitoring approach that included monitoring, overflights, and river trips makes sense, but it will have a cumulative impact. He noted that there would need to be a public process to assess all impacts of the program.

Implementation of Study Plan Requirement for GCMRC. Jeff gave PowerPoint presentation (**Attachment 7d**).

In response to a question, Jeff said these are separate plans. He envisions a strategic plan that is largely focused on how GCMRC operates. The Core Monitoring Plan will be a product of the AMP – the AMWG's charge to GCMRC on what resources are of such value and concern to recommend a long-term core monitoring program using the same methodology year after year. The Long Term Experimental Plan is also a separate document.

Clayton questioned whether each plan would follow another or be worked on concurrently. Jeff said it didn't matter how the reports were worked on. He feels development of the GCMRC strategic plan is his top priority and that the other reports are going to require substantial input from the AMWG and TWG. As the chief of GCMRC, he needs to have some level of discretion to manage the science and feels with the reorganization, the integrated science approach will serve the program better.

Update & Overview on Recent MATA Activities. Ted Melis said that a little over two years ago the AMWG instructed the GCMRC to proceed in a planning process for experimental treatments and an experimental design, and to do so fairly quickly. GCMRC came to the AMWG in April 2002 with an experimental plan which they have been implementing. The will of the AMWG was to implement the first of several possible scenarios or treatments in that plan. Questions arose later as to whether it was truly the long-term design that reflected the desire and will of the group in terms of resource management. GCMRC came back to the group with an idea for using Multi-Attribute Trade-off Analysis (MATA) as a process for revisiting the plan and perhaps improving it and having it fully reflect the will of the group in terms of its long-term experimental commitment. He said he wanted to provide a review of what's been happening in the past nine or ten months and proceeded with a PowerPoint presentation (**Attachment 8a**). He provided copies of the MATA December 2003 Work Report (**Attachment 8b**) which described how the consequence table was produced. He said there would be more detail in a future report.

Pam Hyde commented that there needs to be some significant refinement in what's gone on so far before any conclusions can be drawn and that perhaps some of Ted's conclusions were a little premature. She asked if the group was at the point where they could work on their own without having to pay for a facilitator's time, and also asked how the effort would fit into the bigger long-term experimental design. Ted said there were two phases proposed. The first one has been completed, and wondered if the group had learned enough and could continue on its own without the use of an outside facilitator. He said there was concern on the part of those who participated that this process need to have more solid documentation before any decisions could be made about any experimental design. Ted said he thinks they're at the point to go back and revisit a better documented report. Clayton suggested to the chairman time be put on the agenda for further discussion in order for the AMWG to give some direction on the development of a long-term experimental plan. The chairman said he would consider adjusting the agenda after lunch.

Recommendations on a new direction for Foodbase Monitoring (PPT) – Jeff Lovich gave a brief overview via a PowerPoint presentation (**Attachment 9a**) of some events that have occurred with respect to a long-term foodbase monitoring program and would also present a new direction for the foodbase work they're recommending (**Attachment 9b**) based on comments from the 2001 Aquatic PEP Panel Review and the Science Advisors (**Attachment 9c**).

Dave Garrett said he would provide an overview of what the Science Advisors have been working on. Between the phone connection and Dave's sore throat, it was difficult to hear him. He provided a written report. (**Attachment 9d**).

Proposed Motion Language. The chairman said that Pam Hyde and Clayton Palmer have been working on motion language for the AMWG to consider on the subject of experimental actions, and asked Pam to explain.

Pam said they wanted the AMWG to consider not working to develop some new experiment for the short-term, but instead agree to continue what is being done until a long-term experimental design can be completed. Clayton also recommended not having a stand-alone experiment for water year 05, but instead developing a long-term program of experimental actions.

ACTION ITEM: Pam and Clayton will bring a motion to tomorrow's meeting and further discussion will occur at that time.

Public Outreach Ad Hoc Group (POAHG) Update - Pam Hyde distributed copies of the Public Outreach Ad Hoc Group Report (**Attachment 10a**) that was presented to the TWG on February 3, 2004. Pam reported that the TWG accepted the report and forwarded their recommendations to the AMWG. However, the question of whether the AMWG or TWG should be doing public outreach remains undecided. Pam provided copies of Project 18 from the Humpback Chub Comprehensive Plan (**Attachment 10b**) and directed the AMWG to the goals and objectives of the project. She also passed out copies of a six-page report (**Attachment 10c**) prepared by Barry Wirth in 2001 which explained different methods for developing public outreach products and the associated costs.

Barry Wirth advised that the AMWG needs to deal with issues relating to long-term educational products and outreach and also how to handle emerging news. Speaking on behalf of the other PIOs, he feels they would all be very supportive in helping the AMWG develop the products they want and also better coordinate on news/press releases.

After discussion, it was decided that public outreach would be done at the AMWG level. The chairman disbanded the original AMWG public outreach group and created a new one with the following members: Amy Heuslein (co-chair), Pam Hyde (co-chair), Darryl Beckmann (Bureau of Reclamation), Marklyn Chee (Navajo Nation), Cisney Havatone (Hualapai Tribe), Andre Potochnik (Grand Canyon River Guides), John Shields (Wyoming State Engineers Office), Mark Steffen (Federation of Fly Fishers), Bruce Taubert (AGFD), and Mike Yeatts (Hopi Tribe). Leslie James also indicated that CREDA would provide a participant's name.

POAHG Charge: To develop a single, consistent, and coordinated outreach program. AMWG needs to develop a process by which it can agree on the intent and content of all press releases and other outreach mechanisms.

Humpback Chub Methodology Panel Review. Steve Gloss said an independent panel review of HBC sampling and population estimations methods in Grand Canyon and the Upper Colorado River Basin was funded by the GCD AMP. Because of the different methods used for sampling and estimation in the AMP and in the upper basin, the HBC AHG recommended to the TWG than an independent peer review panel be convened to evaluate the methods. The TWG concurred with that recommendation and included it in the FY04 budget.

The independent panel review was conducted on November 6-7, 2003. Jim Kitchell, panel chair, stipulated that panel members would have no prior involvement in any fishery issues on the Colorado River Basin, and would have high quality expertise in fields like biostatistics, population estimation procedures, population ecology, and population dynamics. Steve gave a PowerPoint presentation on different methodologies (**Attachment 11**).

Steve introduced Dr. Dave Otis, who is a member of the faculty of the Dept. of Animal Ecology at Iowa State University, and leader of the Cooperative Fish and Wildlife Research Unit. He developed a set of computer algorithms (program CAPTURE), which is the most widely used fish and wildlife closed population estimation computer program. It's also the program of choice being used in the Upper Colorado River Basin endangered fish program. Dr. Otis summarized the conclusions and recommendations of the panel. (**Attachment 12**). The recommendation from the panel is for the GCMRC to continue to use and improve the ASMR sampling and estimation methods in Grand Canyon, and for the Upper Basin to continue to use their present closed population mark-recapture approach.

Upper Basin Perspectives. Tom Czapla said his attendance at today's meeting was as a representative of the U.S. Fish and Wildlife Service and not to provide an Upper Basin perspective. He distributed copies of a letter (**Attachment 13a**) signed by FWS Regions 2 and

6, and the Arizona Game and Fish Department that requested that the GCDAMP concurrently test the ASMR approach and the closed population mark-recapture approach used in the Upper Basin. He said at issue is what the Service considers a reliable estimate and what was written into the recovery goals. The Service would consider reliable an estimate that is based on a multiple mark-recapture model and that has the closed population multiple-mark recapture estimators. They feel there is that lack of geographic closure for Humpback Chub in the Little Colorado River while they're being sampled during the spring season. As the FWS and an agency in the Department of Interior, they are requesting the AMWG look at a concurrent estimate – using both methodologies - to be taken during the fall. Questions and answers were recorded (**Attachment 13b**).

Discussion followed. Clayton Palmer said he supported the letter, and suggested that additional scientists and some people who have a stake in the outcomes should be consulted. Bruce Taubert supported paying for both estimates to determine if the ASMR method is valid. If it is, it can be used exclusively in the future. Nikolai Ramsey said that the independent scientific panel showed that ASMR is the best method to use in the Grand Canyon, and we should use it as the best available science.

Dennis Kubly suggested a compromise if the Service would conduct the concurrent estimate in the spring and move the fall sampling that's presently done by GCMRC into the spring. This would make it a four-pass sampling, with four passes in the mainstem and in the LCR at the same time. The only difference would be the time of year. The Service has concerns for impacts on fish and assumedly they would address those through the permitting process. To do so would relieve the administrative burden that the Park Service has and it would decrease the amount of funding from the AMP.

Steve said there is roughly \$400,000 available this year and next year for this project that GCMRC and the TWG have recommended be allocated to implementation of the panel's findings and not the concurrent estimates. If four mainstem trips are done at approximately \$100,000 per trip, that would take the entire remaining amount in the 04 and 05 budget. In addition, they would need about \$100,000 of funds not identified right now to add two additional trips in the fall in the LCR. They could be done by either finding new money or foregoing spring sampling in the LCR, for example. Steve said that GCMRC would have to contract this effort out and there are some significant potential impacts on the mechanical removal effort because it overlaps with the timing of this effort with respect to equipment and personnel. There is also an issue of permitting with the GCNP because Sept. 15 is the start of the non-motorized season.

Darryl said it would be important to have the budget discussion first and suggested postponing any decision until the budget discussion tomorrow. The Chairman concurred and suggested the members review the documentation and be prepared to discuss at tomorrow's meeting.

PUBLIC COMMENT:

Living Rivers – John Weisheit from Living Living Rivers and the Colorado River Keeper addressed the AMWG. He explained that Living Rivers is a 501(c)(3) non-profit organization that represents at least 250 groups working in coalition internationally. He referenced the letter (**Attachment 14**) which he distributed, which is also posted on the Living Rivers website: <http://www.livingrivers.org>. They are requesting a supplemental environmental impact statement and highlighted eight reasons why they feel this needs to be done. They don't see any positive benchmarks of success in this program, and are seeing indicators going in the wrong direction. He said they are concerned about the drought, the low level of the reservoir, and how this might change the dynamics of the ecosystem in the Grand Canyon. He invited members to contact him at the break or at his office anytime to answer questions.

HBC Comprehensive Plan – Sam Spiller provided an update with regard to the Humpback Chub Comprehensive Plan. He said Dennis Kubly offered to finalize some of the remaining projects and that task should be completed by mid-May with a final report for the next AMWG meeting. Sam said the Service feels AMWG should consider looking at the comprehensive plan and consider funding those proposals which may support recovery. If there were any AMWG members who agreed, they should be prepared to discuss how to fund the projects.

Dennis Kubly said at the last TWG meeting they discussed whether or not the document should serve as a part of a foundation document for a recovery program and asked if the Service would be amenable to receiving it. He also asked if the AMWG would be amenable to sending it through to the Secretary. If so, the TWG could provide a draft letter to that effect for the AMWG to review and forward. Sam responded that if the AMWG feels it is appropriate to submit the HBC Comprehensive Plan or parts of it to the Secretary with a recommendation that it be presented to the Regional Director of the FWS in Albuquerque, he felt that would be entirely appropriate.

Basin Hydrology – Tom Ryan said the drought in the Colorado River basin is not yet over but they are seeing some recession of the extreme and exceptional categories. The Colorado River is the center of the driest portions of the west. However, things are getting better with current snowpack in the Colorado River basin at 96% of average. He gave a PowerPoint presentation (**Attachment 15**).

Glen Canyon Powerplant 5-Year Maintenance Plan 2004-2009. This slide depicts the maintenance schedule with the most significant work focused on turbine runner replacements which represents an intense time commitment and significant downtime. Tom cautioned that not all eight units will be available over the next five years, and that sometimes only six units would be available. Darryl Beckmann cautioned that there is no more room to defer the work. If something happens with another unit, it would be possible to essentially lose that 20,000 cfs capability. Clayton Palmer asked if there was flexibility in the maintenance schedule at the Glen Canyon Dam powerplant if there were two sediment triggers in a row. Ken Rice, Glen Canyon Dam Powerplant Manager, said that with the maintenance they are doing right now and the way it has been scheduled with a contractor, a lot of maintenance is already locked in place. However, there may be some flexibility in swapping the units around.

Steve Gloss asked how the schedule would be affected if the TCD units were placed on top of the dam. Ken said the TCD would have to match up with some generator maintenance, and they need to be involved in deciding which units the TCD would go on because of the maintenance schedule so as to minimize downtime.

Temperature Control Device Update – Dennis Kubly asked the AMWG to read the scoping letter (**Attachment 16a**) distributed in today's meeting packets identifying Reclamation's intent to prepare an environmental assessment for modification of two penstocks on Glen Canyon Dam. This is pursuant to the recommendation that AMWG made last August following the science advisors risk assessment. The science advisors had advocated a "test as you go" process and actually would have preferred some way to temporarily modify Glen Canyon Dam. Reclamation challenged its engineers to do that. They came up with several designs, all of which were considered too risky to the powerplant. The decision was made to do a modified "test as you go" approach that would alter two units, test for a period of three years or possibly four, and then make iterative decisions on modifications.

The engineers were also asked to do a feasibility level design analysis on an external frame temperature control device quite similar to the one that is on Flaming Gorge Dam. This would

allow operation and delivery of warm water all the way down to the penstocks. Dennis presented several graphs (**Attachment 16b**) from modeling work done by Amy Cutler.

Dennis said that Reclamation initially thought the environmental assessment would be done fairly quickly and that a draft would be ready for the AMWG to evaluate by the next meeting. However, because of schedule conflicts, they now intend to have a draft by April 2005. Another reason for delaying the draft was in order to do additional modeling to determine the prospects for warm water releases from GCD without a TCD, due to the low level of the reservoir.

Dennis said Ted Melis would present information on the existing monitoring and the projected studies that might be implemented, whether or not the higher release temperatures occur, and the studies that should be in progress when the TCD is built if the decision is made to modify the dam. Questions and answers were recorded (**Attachment 16c**).

Bruce Taubert said he thought the TCD could be turned off so there would be no danger of over-building. He felt the Bureau should build the entire 8-unit TCD, not just for two units, and that AWMG should discuss further.

GCD Release Temperatures. Ted Melis presented information on thermal monitoring currently in place below the dam, as well as other current water quality work. He introduced Susan Hueftle, GCMRC's coordinator for the downstream Integrated Water Quality Program. Ted said there was a location map and table in the handout which gives the specific details of all the different parameters they are measuring below the dam throughout the ecosystem. He gave a PowerPoint presentation (**Attachment 16d**).

Ted said they are currently in the planning phase of monitoring for nearshore temperatures. His current understanding is that the kind of operation they would see in September, unless they get an input from the Paria River that causes flows to flatline at 8,000 cfs vs. 6,500-9,000 cfs, is probably going to be a relatively low fluctuating flow regime like they've seen in the past two years. Another possibility is potential overflights with infrared thermal scanners to try and map in two dimensions the surface temperatures of the river in the nearshore habitats, just the backwaters. He said that kind of work probably bears the most results if they have a constant flow regime.

Susan said she had intended to present information on the downstream warming they saw last year, as well as projections for the temperatures they think they'll be seeing in the next couple of years. However, due to time constraints, she will make that presentation (**Attachment 16e**) available for posting to the AMP web site. She reported that they did see a downstream warming experiment and it definitely responded to the different levels of discharge. She said the peak temperatures came out of the dam again in November but they saw temperatures downstream peaking around Sept. 4 and Mile 60. They also saw temperatures upwards of 15 degrees Celsius, about 3 degrees above average.

Remote Sensing & Aerial Overflights. Ted presented a few slides (**Attachment 17**) on the remote sensing initiative that has been occurring for the past three or three and one-half years. He introduced Phil Davis to present information on the overflight monitoring scheduled for spring. Phil said a final report has been completed and is currently being reviewed.

Clayton Palmer said it was his understanding that GCMRC is waiting for some decision by the Park Service about whether the three flights being proposed are going to be permitted. If they're going to be permitted, then WAPA needs to discuss which days they'll occur.

Ted said that while they are dealing with the logistics and permitting with the NPS, they also have some issues with the contractors and are trying to coordinate a time when they're available and actually able to fly. GCMRC is still trying to implement the flights by the end of May.

Ted added that the general draft proposal for long-term monitoring with remote sensing is to do the systemwide overflights on a biennial schedule. They aren't proposing any remote sensing until 2006, unless there is a high flow experiment or some unusual condition that would require additional monitoring. Rather than requesting the permits and low flow options every year for whatever number of days, the proposal now is to do everything that covers all the needs but do it less frequently.

Joe Alston said the presentation implied that the Park Service was holding things up. He said it was his understanding that the latest proposal was received by the Park just last week. While intrigued with the technology, the Park would like to spend some time understanding what the tradeoffs and cost benefits are. Ted said he wanted to go on record that GCMRC is not implying that the Park is holding up anything. They just wanted to present the issues at today's meeting and inform the AMWG that they're at that point for this mission to proceed and need to move forward. Jeff Cross added that GCMRC has a permit to do the fixed wing flight at 8,500 feet. He said the change from work done in the past is that the Park is moving from testing into implementation. The Park has granted short-term tests in the past under research categorical exclusions but the current proposal must go through the environmental compliance process that the Park does for all projects. The Park has 45 days from the time the permit request is entered into the system to make a decision on whether or not to issue a permit. Because GCMRC's proposal is a multi-year, long-term proposal, it is going to take longer to work through the Park's compliance process.

Adjourned: 5:40 p.m.

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Kurt Dongoske, CREDA
Helen Fairley, USGS/GCMRC
Lisa Force, Grand Canyon Trust
James Froij, artist
Carol Fritzing, USGS/GCMRC
Steve Gloss, USGS/GCMRC
Lloyd Greiner, UAMPS
Christopher Harris, CRB/CA
Norm Henderson, NPS
Glen Knowles, USFWS
Dennis Kubly, USBR
Mike Liszewski, USGS/GCMRC

Jeff Lovich, USGS/GCMRC
Ron Maldonado, Navajo Nation
Mark McKinstry, USBR
Ted Melis, USGS/GCMRC
Anthony Miller, Colo. River Comm./NV
Jerry Nelson, Anglers Unlimited
Mary Orton, The Mary Orton Company
Dave Otis, USGS/Iowa State Univ.
Bill Persons, AGFD
Randall Peterson, USBR
Barbara Ralston, USGS/GCMRC
Ken Rice, USBR/GCD
John Ritenour, NPS/GLCA NRA
Tom Ryan, USBR
Manuel Savala, Kaibab Band of Paiute Indians
Randy Seaholm, State of Colorado
Joe Shannon, NAU
Dan Shein, private citizen
Rob Simmonds, USFWS
Chris Updike, NAU
Brad Warren, WAPA/SLC
John Weisheit, Living Rivers
Barry Wirth, USBR

Meeting Recorder: Linda Whetton, USBR

Welcome and Introductions: Michael Gabaldon introduced himself as the Secretary's Designee and Chairman of the AMWG. He welcomed the members, alternates, and visitors to the meeting.

Roll Call. The members introduced themselves and identified whether they were a member or alternate. A quorum was established and attendance sheets were distributed.

Approval of December 17, 2003, Conference Call Minutes. Pending corrections, the minutes were approved without objection.

Approval of January 29, 2004, Conference Call minutes. Pending corrections, the minutes were approved without objection.

New Issues.

1. Mike Liszewski announced that GCMRC is going to be re-designing its website and wanted to invite AMWG and TWG members to participate in that effort. The team will be comprised of 5-6 people and requires no web development experience. Any AMWG/TWG members who are interested should contact Mike.
2. The DOI agencies need to develop the interagency agreements to proceed with tribal funding for tribal consultation and participation in the AMP. DOI stakeholders should contact Nancy Coulam with Reclamation to start that process.
3. DOI stakeholders need to review the Tribal Consultation Plan and provide written statements regarding agency expectations of the tribes to Nancy Coulam.

Planning for AMWG Retreat. The chairman asked for retreat agenda items. The following were provided:

- AMP Effectiveness (Hyde)
- TCD expectations and projections, etc. (Taubert)
- GCMRC Strategic Plan
- Budget development process (Kuharich)
- Revisit the AMP history and build better functionality and trust amongst stakeholders – what's in the Charter, the ESA, GCPA, power commitments, etc., so we have a strong foundation from which to run our meetings, get advice to GCMRC, have the AMP Strategic Plan that has been approved by the Secretary inform the GCMRC (Ramsey)

An ad hoc group was established to develop a draft agenda and plan the logistics of the retreat. Those members include: Amy Heuslein, Pam Hyde, Nikolai Ramsey, Sam Spiller, Mark Steffen, and Bruce Taubert. Mary Orton will also assist.

AMWG Retreat Date: (Monday) June 28 and (Tuesday) June 29

The chairman said he would check into whether the public should be invited to the meeting in accordance with FACA regulations and will advise the Retreat AHG accordingly.

Mike announced that Mary Orton will be contacting some of the AMWG members regarding the AMP process in preparation for the retreat.

TWG Budget Presentation. Norm Henderson explained how the TWG deliberated on the FY05 budget (**Attachment 18a**) via a PowerPoint presentation (**Attachment 18b**). He said many items were discussed at length and so if there was anything noteworthy about a particular discussion, it was noted in the comments section. The TWG reached consensus on most items in the budget but there were still some concerns: PA activities and the uncertainty of NHPA responsibilities (**Attachment 18c**), the TCD and the time frame when it would be completed and what was going to be involved with the testing (**Attachment 18d**), remote sensing (**Attachment 18e**) GCMRC's proposed change on foodbase monitoring, and concurrent population estimates - HBC estimates where the TWG recommended or approved a change in scope in the project from the concurrent population estimates to a implementation of the expert panel recommendations for HBC (**Attachment 18f**). The TWG could not reach consensus on three out of the 150 budget items, two revolving around sediment augmentation and turbidity and the Bright Angel non-native fish removal project. Where consensus couldn't be reached, a vote was taken. The budget was passed by consensus so no one felt strongly enough about particular budget items that they were willing to vote against them.

New Motion language. Before proceeding with the budget discussion, the chairman asked Pam to present the motion she and Clayton had prepared. Pam read the following:

MOTION: AMWG charges the Science Advisors, the GCMRC, and the TWG jointly to develop a long-term experimental flow program that responds to the AMP Strategic Plan and incorporates existing legal requirements to be completed and brought to the AMWG by January 2005. The Science Advisors, GCMRC, and the TWG will bring a draft of the program to the AMWG at a Fall 2004 meeting, and the AMWG will decide at that meeting whether additional recommendations to the Secretary for flows in WY05 are necessary. AMWG requests that compliance on a January 2005 long-term experimental flow program be targeted for completion and the program implemented by July 2005.

AMWG Comments.

- *Is it a reasonable expectation for the AMWG to ask the Science Advisors, GCMRC, and the TWG to reprioritize their work? Are we capable of making decisions given that we have to do long-term experiments that will actually help the HBC? (Taubert)*
- *GCMRC has already done some work related to a research design for experimental flows. Delaying development of an experimental flow program may result in lost opportunities. A lot of the details associated with development of a long-term experimental plan haven't been worked out. I prefer GCMRC and TWG work together in providing information to the Science Advisors and that the Bureau of Reclamation "shepherd" the process. (Palmer)*
- *Will the budget need to be adjusted to accommodate the schedules, costs, etc., for the Science Advisors? (James)*
- *How will the MATA process be applied to the long-term experimental flow program? (Potochnik)*

Jeff Lovich said GCMRC talked with the TWG about rescheduling or postponing some work (i.e., implementation of TCD) and deferring some actions that are scheduled for FY04 because the Center needs a minimum of six months to develop the strategic plan, the long-term experimental plan, and the core monitoring plan. He said deferring work on the core monitoring might be a possibility.

- *I'm not comfortable postponing any action on the TCD. The TCD was considered a high priority at the last AMWG meeting and I'm not in favor of asking GCMRC to put less effort into it. Jeff said that one of the things that GCMRC has been discussing with Reclamation is doing some of the pre-TCD experimentation. If they get warmer water coming into the system, it would feed into their understanding and planning for future TCD experiments and monitoring. (Taubert)*
- *Based on information provided yesterday that the magnitude of temperature changes are not going to come to pass, then one really needs to re-evaluate what to do and the various implications. If the scoping and NEPA compliance works well then Reclamation's construction schedule wouldn't begin for 2-3 years. You're not going to have steel bolted to the front of that structure in the next 4 or 5 years, 4 years maybe. We'll have it full by then so you'll have some challenges. You need to think about the practical applications of 2005 and so a decision has to be made as to whether or not you continue to go ahead with the winter load following to disadvantage trout. There are also some decisions that have to be contemplated in the fall of 2005 that we just need to have a lot more examination of between now and the fall of 2004. The Center can't wait until January or July of 2005 to decide what's going to happen. (Cook)*
- *In the set of three proposals that the TWG considered for 05, two of those proposals had a combination of steady and low fluctuating flows during September and October to look at effects on native fish in rearing habitats. We would like you to consider those flows and we would advocate that very little, if any, additional compliance would have to be done to undertake that release pattern. (Kubly)*
- *We need a long-term experimental approach that comes from what is it we need to know in order to have the best set of operating criteria to be able to meet the responsibilities of the Secretary in the GCPA. We've got an EA on an experimental flows for two years that will follow us through whatever sediment trigger there is this fall, whether there is one or not, but then we need to be able to say the next action is going to be determined by this process of determining a long-term experimental design. The only thing we've got in this language that doesn't say that is that thing that says in the fall the AMWG will decide whether additional recommendations to the Secretary for flows in 05 are required. If for some reason we don't think we can go straight from this set of two year flows and the EA that covered that to another long-term experimental design, then in the fall we'll decide what stopgap measure we need to cover that short period between those two and I think we need to leave it that way. (Hyde)*
- *I don't know how this actually relates to experimental flows but I just want to remind the group that SASF is a concern to the FWS in regard to the '95 opinion and the group should weigh that for what that means compliance-wise. (Spiller)*
- *I think when we did the LSSF in 2000, there was a result that there were too many trout in the system now because the water was low and warm. The AMWG reacted to that and decided not to go there again because it wasn't good for the chub. If we're going to go forward with sort of an ad hoc informal decision to not do these kinds of low flows in the future, we should have some kind of a document from the science center that says why SASF or low flows don't work for recovering chub rather than going on this kind of assumption that it doesn't work. (Potochnik)*
- *The SASF people will probably remember in the RPA that it actually requires that there is not sufficient progress made in implementing that which includes some summer and fall steady flows, that we switched to an SASF regime in 1998 so we're somewhere down the road here and I think we're kind of in an ambiguous place where FWS hasn't made it absolutely clear that we're missing the boat on SASF. The 2002 letter that they wrote to the regional director at the Bureau of Reclamation said that they haven't made sufficient progress but they understand the complications and the ambiguities resident in the non-native fish issues which Andre alludes. I'd just like to heighten this issue and make sure the FWS is working with the process to get the sufficient progress on the SASF and so that we clarify some of these ambiguities and we're going to need the science to help on this. (Ramsey)*

Clayton added that the program of experimental flows needs to be based on the science that exists today and what needs to be tested in order to make a determination if MLFF needs to be altered, achieves the knowledge that needs to be achieved, so that at the end of this set of

experiments they know if there is a need to make a recommendation to the Secretary of the Interior on some other operating regime.

Jeff said they still need to vet the process for the biennial budget process through the AMWG and get assurance that that's the right direction to proceed, complete/defer the SCORE Report, work on the TCD research plan development, and start work on three PEPs scheduled for the cultural program for this year. He just wanted the AMWG to be aware of the increased staff workloads with respect to the above assignments. Pam said she was sympathetic to all the work that GCMRC has to do and suggested that perhaps she and other AMWG members and/or alternates may be able to assist in working on some specific projects.

Bruce asked if the changes in workload for GCMRC would result in a change in the implementation of the TCD. Dennis told him that the construction schedule for the TCD is driven more by the funding schedule than anything else. Reclamation put in an over target request for FY06 that's under consideration right now which would be the first year in which funds would be available. As such, they wouldn't know anything until October 2005. Since it might also involve a reduction in the number of units, Reclamation is going to have to look at how construction fits with the maintenance schedule.

The facilitator read the motion again (below) and asked if there were any objections to adopting the language by consensus.

MOTION: AMWG charges the Science Advisors, the GCMRC, and the TWG jointly to develop a long-term experimental flow program that responds to the AMP Strategic Plan and incorporates existing legal requirements to be completed and brought to the AMWG by January 2005. The Science Advisors, GCMRC, and the TWG will bring a draft of the program to the AMWG at a Fall 2004 meeting, and the AMWG will decide at that meeting whether additional recommendations to the Secretary for flows in WY05 are necessary. AMWG requests that compliance on a January 2005 long-term experimental flow program be targeted for completion and the program implemented by July 2005

No objections. Language was accepted.

MOTION passed.

Concurrent test of Upper Basin (continued from yesterday). The Facilitator said the next decision needed by the AMWG was on concurrent population estimates of HBC because it had budget implications.

Steve Gloss said there was \$250,000 available in FY04. In FY05 there is \$200,000, and about \$50,000 of that has already been spent as planned on by the independent panel review so there is \$400,000 available between FY04 and FY05. GCMRC wouldn't be able to start the field work until spring 2005 so that leaves them with \$400,000 to accomplish the field work. However, they're concerned that there might not be enough funds to implement some of the modeling and simulation ideas upfront which could be very helpful in planning on how to implement the field work. They held some preliminary discussions last evening with Dave Otis and Rob Simmonds (FWS). Rob has been asked by Regions 2 and 6 to chair a committee and reminded the AMWG that the committee will be charged with developing the criteria which would be used to evaluate the comparison between the Upper Basin closed population estimates and the ASMR approach. GCMRC staff are not comfortable with reallocating the fall trips to spring and would like to maintain the four-trip monitoring program and add two additional trips in the spring. They think there are enough funds in that project if they roll over the 04 funds to 05 to do this one time

right now in 05. He reminded the AMWG of what Dave Otis said about not relying on just one year for a comparison. However, if they do six trips rather than four in the LCR proper, one issue of concern is the increased handling of fish in the LCR proper otherwise GCMRC, AGFD, SWCA, and FWS who are all our fishery cooperators have the necessary permits from the applicable agencies. They would still need to get additional permits from the Park for more trips.

Pam said she wasn't clear if there was any money programmed in the 2004 budget for the work. She asked what line item Steve was referring to. Steve said it was line #91, project A126, Implement HBC Expert Panel Review Recommendations. Pam said the TWG actually wanted that money to go to implementing the expert panel recommendations so she sees this as a change to the budget. Steve agreed with her and said there wouldn't be any change in the total budget but there needs to be an explicit recognition needs to be made that they're changing the scope of this project. He had some concerns because the money was to cover field work and they're concerned that it won't allow them to do some of the things the panel recommended. If the AMWG endorses the compromise that was tendered yesterday, then they go in a slightly different direction. Steve said that Rob is putting together a committee to develop the evaluation criteria for the comparability of the two methods and doing some simulations will part of that. Steve said he would have to work with Jeff, Ted, and GCMRC staff to see exactly how they want to implement that if they can work somewhat informally with the panel or if they need to do a competitive request for proposals but the intent is to do as much of the panel recommendations as they can.

Norm asked Steve what wouldn't be done if the money was used to do concurrent population estimates. Steve said one of the things that clearly wouldn't be done is holding doing a series of workshops jointly with the upper basin. He would like to see if there is any potential for FWS to provide some support, financial and in-kind, so they will be requesting that FWS and states that participate up there provide personnel to participate in the sampling trips to keep the costs down and use those savings to do some of the simulations. He said the workshop is the big thing. Some of the Jolly-Seber comparisons that were on the recommendations have already been done voluntarily by one of Carl Walters' post-doctorate students so some of that will continue.

Darryl asked what the additional cost would be if they implemented all of the panel's recommendations. Steve said he thought the additional cost would be between \$300K-400K because they have \$200K that was predicated on doing just two trips.

Comments:

- *The concern I have is that you're going to have a fish killing operation going on down there. You're going to have 14 ton trips. You're going to have equipment that is going to be stored. You're going to have helicopters. It's going to be a little MASH unit down there. Is there a way that we can consolidate all of those efforts and try to minimize the impacts? (Alston)*
- *I'm really uncomfortable with going against with what the report recommendations were. The fish handling issue scares me and we'll file a minority report if we go the other way. I think the Secretary needs to know that we paid \$50,000 for recommendations that dictated where's the best available science is and it's the ASMR model that includes marked recapture, multiple passes, make it more robust, to be consistent with the recovery goals and it would be less expensive than this regime and it would be less handling of the fish. It just makes total sense. (Ramsey)*
- *I just wanted to bring up the tribal concerns about the possible accumulative effects in the LCR. I know that the Navajo, the Hualapai, and Hopi have concerns in this area and we want to make sure that the agencies know that we have traditional cultural properties that need to be considered and it*

*does need to have some type of consultation meeting with the tribes before initiating any of this.
(Jackson)*

Budget Discussion (cont)

The facilitator suggested the members indicate which line items presented concerns to them after which they would discuss and try to reach consensus.

Lines 23-38 (Tribal Consultation). Sam said that if the money is needed for FY04, then he needs to have his agency transfer the money. He asked how the \$80K is broken out. Mike Yeatts said there were only three tribes identified under the terrestrial monitoring river trips so two tribes wouldn't have river trips this year.

Lines 42-45 (NPS Monitoring Costs). Clayton said that WAPA submitted some comments on the monitoring and treatment issues and at the last TWG Meeting Reclamation said they would deal with the issues through their negotiated agreement with the Park Service. He reminded the AMWG that at yesterday's meeting, they were presented with that negotiated agreement between the Bureau of Reclamation and the Park Service and there are several parts of it that he is uncomfortable with. He objected to the expenditure because that agreement specifically uses power revenues to treat cultural resource properties and adverse effects above 97,000 cfs. He believes a treatment plan should be developed but was under the impression that power revenues would not be used for treatment above 97,000 cfs and the memo states they will be. He objected to \$250,000 being spent on a canyon treatment plan.

Leslie also expressed concern for the comment on line #43 which states that work be reduced as a result of implementing the 04 treatment plan. From her understanding, she felt there was some redundancy and asked if the line item was going to be reduced. John Ritenour said that line was put in there if they were able to complete the Cooperative Agreement with the Navajo Nation Archaeology Dept. and NPS complete a treatment plan for Glen Canyon. He said that was included in the line item #44 for the Glen Canyon Reach. Within those two funding years, 04 and 05, with the treatment plan done, there would probably be funds to actually carry out some of the treatment. If the treatment is completed, then they thought the monitoring costs would be reduced substantially. John said the treatment plan should be done sometime in FY05.

Joe added that he hadn't reviewed the memo but felt the 97,000 cfs line was obviously a point of significant contention. He said the agreement is a work in progress and felt that involving the science advisors to determine what's causing impacts to the sites and then providing some sort of alternative dispute resolution process may alleviate some of the concerns

Line 77 (Temperatures and Habitat Use Monitoring). Bruce said there was \$200K slated for FY04 and \$150K for FY05. Since the fiscal year is almost over, he wondered if any money had been spent for line A12. Steve said there was no expenditure of money under that line item in FY04. It was contingent upon a sediment trigger. He referred Bruce the "EXP" in the second column which means it is tied to experimental flows and that's specifically tied to a sediment trigger so the funds haven't been used so far but there's a chance they may be used in the early fall of 04. Bruce said that he would like to the \$200K as a very potential carry forward.

Ted said the sediment experiment consists not just of the experimental high flow but also additional monitoring but also additional monitoring around the triggers as well as the 3-month experimental fluctuating flow period so the intention in 04 is the same as in 03. They are spending \$200,000 of the \$420,000 to do the experiment short of the experimental high flow. If

the experimental high flow does occur, then all \$420,000 would be spent so that the non-experimental high flow carry over is projected to be \$220,000.

Steve said the original intent was to look at the effects of low steady fall flows on temperature and habitat use modeling and he thought the reasons it's not carryover is they're going to implement some form of that evaluation this fall whether there are sediment inputs or not, some modeling and some temperature monitoring.

Dennis added that's one of the reasons why they asked for consideration of low steady low fluctuating flow combinations in September and October because in that last month the funds would be expended. It really is tied to the hydrology. Line 163 gives the sum of the carryover dollars, \$941,000.

Line 80 (Spawning Redds & Suppression Mechanisms) and Line 81 (Food Base Impacts of Fluctuating Flows). Bruce said it looks like the evaluation of suppression mechanisms in 80 and 81 are gone so there will be no program too suppress spawning of trout in 05 and there is no need to gather information for a baseline in a non-suppression year. Steve replied there was a presumption that there wouldn't be any fluctuating flows next year. He thinks the decision with respect to the first item, the suppression mechanisms, is more a case of what was conducted for two years. He thinks they'll have a reasonable closure on that, and whether there are fluctuating flows or not, they don't need to pursue that project, that the core monitoring done by AGFD in the Lees Ferry Reach will be sufficient to determine the recruitment issues up there. Steve said the food base is less related to the fluctuating flows per se but more related to the overall effort of wrapping everything in the foodbase in this current budget into this new direction that the SAB and Jeff described yesterday.

Line 84 (HBC Refugium Plan). Bruce said he would like to recommend that the program retain the \$40K in 04 for HBC refugium and that it be used to evaluate the new Hualapai hatchery or to obtain a number of HBC in the wild this year to put into the Hualapai facility if it meets requirements that the FWS had in their report 6 months ago so they can start working out the ins and outs of actually raising small HBC to a larger size. He stated the Genetics Management Plan has nothing to do with the issues of culture surrounding raising the young fish.

Dennis said it was originally funded at \$100,000 in 05 but that was moved out and the \$40,000 was intended to replace it because the assumption was that the refugium plan would await the delivery of the Genetics Management Plan which was looked upon by the HBC Ad Hoc Group as the foundation document for all subsequent actions on HBC.

Nikolai said he wondered if the Hualapai Hatchery was consistent with FWS regulations that habitat issues be addressed to the absolute point of no return before going to hatchery-raised fish. He reminded Bruce that the AMWG has heard that the ASMR model showing a population estimate of 4,000-5,000 fish and MVP remains 2100. He doesn't feel the program is at a point where they need to be thinking of dumping fish and raising that whole host of introducing parasites, mixing genetics, introducing hatchery-raised fish into a wild population, and all those issues.

Bruce cautioned that the program can't wait until it's a crisis before determining if the fish can be cultured. He would like to use the \$40,000 to ensure that it meets FWS criteria.

Jeff Lovich asked if members are going to recommend changes in the 05 budget, are they also going to be required to recommend where that money is going to come from. Bruce said he would like to add \$40K to line 84. Mary asked if he was proposing to change the FY04 budget. Bruce said he was proposing not to take the TWG's recommendation. He reads it as there is \$40K in FY04.

Pam said she recalled that the \$40K wouldn't be spent in 04 because the Genetics Management Plan wouldn't be completed and felt that something should be put in the potential 04 carryover column that says \$40,000.

Norm commented that if the money were moved, then Bruce is proposing not to do a refugium plan but instead applying it to culturing fish on Hualapai lands. Bruce said he didn't see the difference. As he understood it, the refugium plan is to meet the requirements of the feasibility study for FWS. He suggests using the \$40,000 this year to look at the Hualapai Hatchery to see if it meets the requirements of the feasibility study of the FWS, then a refugium plan has been done and the genetics plan would implement the refugium plan at that site-specific place. By leaving the money in 04, the task has been accomplished in 04 vs. 05.

Dennis asked the AMWG to look at line item #101, Feasibility of HBC Augmentation. He said that report, which is from the study being referred to by Bruce, is looked upon as important to complete before deciding whether to move to propagation. Dennis said the TWG didn't know about the Hualapai effort but they did know that the HBC AHG agreed that the Genetics Management Plan was a foundation document and that it needed to precede any other actions and that's the objection the TWG is raising. He added that often the TWG's deliberations are not made evident to the AMWG except when Norm stands up and talks about the numerous meetings, numerous hours and in this particular instance. Dennis said he just wanted to emphasize that the TWG did not have Bruce's proposal available to them in making their recommendations on the budget.

Pam commented that if the Genetics Management Plan is completed in FY04 and there is still time to do the refugium plan in 04, the money would be spent in 04.

Bruce said he is suggesting they not wait for the Genetics Management Plan, but go ahead and develop a refugium management plan.

Pam said that was not an 05 budget issue and should be off the table for further discussion.

Line 93 (Genetics Management Plan). Bruce said this line item (FWS to fund Genetics Management Plan) made no sense to him and questioned why the AMP doesn't give the FWS some money to get the plan done.

Line 97 (Bright Angel Non-Native Fish Removal). Mark Steffen said he strongly objects to the Govt. killing fish anywhere other than the LCR Confluence. He also objects to exterminating the entire Bright Angel Creek trout fishery. He also expressed frustration that someone in the Park is killing fish right now in Tapeat's Creek and Shinomo Creek and Kanab Creek without telling anyone at all. No public notice at all.

Line 142 (AMP Public Outreach). Bruce said he liked the authority if there is carry forward of \$85,000 not spent in 04 to add that to the base amount of money in 05 to be spent for the exact same purpose.

Comments:

- *When the GCMRC sees money that could be carried over, in particular on scientific projects, they need to use some discretion to re-program that money where it's needed. I think that's been a question that has come up as to how money that is carried over gets re-programmed and I think that that we should be clear that the AMWG should have some purview over deciding how to re-program carry over money from year to year. (Hyde)*
- *I don't know what the process is but this did become an issue and it was related to the remote sensing conference call that we had a while back in which we had some money from a failed mission in 03 that we wanted to re-program into using for collecting digital aerial photography data. We would like some clarification on that as well because we made a good faith effort to try and use money that was originally programmed for remote sensing to do better remote sensing and there was some significant concern about that. The whole issue went away when we determined that the sensor we needed to implement that was not available so it's an issue I would like clarification on as well because we would like to think that we have some level of discretion to re-program money in terms of getting better science with the original intent of that funding but if you want us to raise our hands every time we have a dollar left over, that may be a little difficult. I would like to know where the discretion is. (Lovich)*

Jeff Cross pointed out that line item 97, the Bright Angel Creek non-native fish suppression projects, is not using AMP dollars. The project was included in the recommendation from the HBC AHG and is funded separately by Park Service.

Mike Yeatts said he wanted to recommend not dropping the \$250,000 (line 45, Canyon Treatment Plan and Implementation) because that is a critical component of the development of the cultural resources program down there and it runs exactly parallel with what's going on with all the endangered fish research and the management plan for that. This is to look at the site, assess them in relation to their research value and impacts of them. It isn't necessarily the implementation of work on it. If the impacts turn out to be due to something that's not related to dam activity, it wouldn't be funded by it and that's exactly parallel with what's going on with the HBC management plan. There is a lot of activities in there that really aren't related to the operation of the dam. It's the presence of the dam just changed the system down there so we're recognizing that to recover them, we're going to have to take some other activity. This is the plan to assess what those activities might be. It's not the plan that actually implements them and so without having that plan in place and it keeps getting put off, we're just going to get further down the road for compliance and still not have a plan in place so I would argue that this needs to be in there.

Budget Wrapup. The facilitator asked for any additional comments before proceeding to a vote.

Line 45 (Canyon Treatment Plan and Implementation). Leslie James said CREDA was somewhat comfortable until they saw the letter yesterday and for them it's a prioritization issue as well as a scope of the program issue and what the Bureau's obligations are under 106, etc. They were fairly comfortable proceeding along until they received the letter from Reclamation yesterday.

Andre asked for clarification on the \$250K and whether that money will be used toward development of an HPP and not for actually going out and doing recovery. Mike responded that it was his understanding that this is to go through and look at the sites that are down there. They have a research design so they can look at what can be addressed at the different sites

and fit it into a bigger concept to address things and to also look the threats to all those sites which hasn't been done comprehensively and use that as a prioritization for the management of the sites down there. Now, what we're going to find is probably some of the sites, the impacts on them, aren't related to the operations of the dam but they need to be included in assessment of what can be addressed down there that guides the research and so the actual implementation of any activities is going again to be where determining who is funding becomes an issue. They need the comprehensive plan in order to successfully plan.

Jeff Cross said the \$250K is for the treatment plan. The implementation would call on those sources of funds for the implementation of the treatment plan. Dennis added the mention of implementation is because the cost of the plan is not known a priori. If there are dollars left over beyond the development of the plan, then they would feed into implementation.

Clayton said he has been supportive of the preparation of a treatment plan and believes it is essential. He objected to BOR and NPS cutting a deal before the treatment plan is finished because it seems to presume the outcome of the treatment plan. Clayton said he would be willing to approve the budget contingent on addressing the issues of the use of power revenues for dam operations at a later date. He said WAPA will be contacting the BOR on this issue.

Leslie added that CREDA would also be willing to vote to approve the budget but wanted a little more assurance that their concerns would be addressed. Darryl said he would get with Leslie and Clayton and work through the issue.

There were four proposals to amend the TWG-recommended budget. The AMWG members agreed to consider each proposal separately. They further agreed to incorporate those proposals that received at least a two-thirds majority into a final motion to approve the budget and send it to the Secretary of the Interior with a recommendation for approval.

1) Motion: To accept reprogramming of Line 91 to allow for concurrent multi-pass mainstream, mainstem and mark-recapture and LCR population estimates in the spring.

Motion seconded.

Discussion points captured on flipchart:

- Jolly-Seber comparisons have already been done.
- ASMR model will continue even with reprogramming.
- Concern about handling fish in general, and in particular in spring during spawning – GCMRC will address this concern.
- Consultation is needed with tribes and FWS.
- This will involve three to four land-based LCR trips (helicopter in) plus three to four mainstem river trips.
- The recommendation of the expert panel to hold workshops with the Upper Basin will not be accomplished with this reprogramming.

Voting Results: Yes = 19 No = 4 Abstaining

Motion passed.

2) Motion: To direct GCMRC to do as much simulation modeling as possible [vis-à-vis the two fish counting proposals] and report to AMWG at its Fall (October) 2004 meeting.

Motion seconded.

Discussion.

Voting Results: Yes = 17 No = 0 Abstaining = 1

Motion passed.

3) Motion: To carry over any leftover funds in Line 142 (public outreach) from 2004 for the same purpose in 2005.

Discussion.

Motion passed.

4) Motion: To eliminate Line 97, Bright Angel Non-Native Fish Removal, in the amount of \$167,000.

Discussion.

Motion failed.

Final vote on the full budget

Motion: To approve the TWG-approved budget as distributed to the AMWG, with the following changes:

- To reprogram the budget amount in Line 91 to allow for concurrent multi-pass mainstream and mark-recapture mainstem and LCR population estimates in the spring.
- To direct GCMRC to do as much simulation modeling as possible [vis-à-vis the two fish-counting protocols] and report to AMWG at its Fall 2004 meeting.
- To carryover any leftover funds in Line 142 (public outreach) from 2004 for the same purpose in 2005.

Voting Results:

Yes = 22

No = 0

Abstaining = 0

Motion passed.

Motion: Modify Line 84 in the 2004 Work Plan (line 84 in the proposed 2005 budget) to evaluate the Hualapai Tribe's fish facility to see if it is in compliance with the USFWS feasibility study and, if so, to work on culture techniques for the HBC.

Motion seconded.

Discussion.

Voting Results:

Yes = 18

No = 2

Abstaining = 1

Abstaining: (Mike Yeatts) I don't have enough information. Not sure we're in 2004.

Motion passed.

Loretta added that the Hualapai Tribe would like the FWS to visit their fish facility and determine if it is a good facility or whether improvements are needed.

Letters Distributed at the Meeting:

- From Environmental Defense Fund (**Attachment 19a**)
- From Sierra Club (**Attachment 19b**)
- From Grand Canyon Wildlands Council and Grand Canyon Trust (**Attachment 19c**)
- From Grand Canyon River Guides (**Attachment 19d**)

A Minority Report (**Attachment 20**) opposing concurrent estimates of HBC was sent to Secretary Gale Norton on June 30, 2004.

Adjourned: 12:10

Next AMWG Meeting:

Monday, August 9, 10 AM - 5 PM
Tuesday, August 10, 8 AM - 5 PM
Wednesday, August 11, 8 AM - 3 PM

Location (moved on 7/7/04) to:

Hyatt Regency Phoenix
122 N. 2nd Street
Phoenix AZ

General Key to Adaptive Management Program Acronyms

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