

Biology Committee Meeting Draft Summary

Biology Committee: Dave Irving, Melissa Trammell, Pete Cavalli, Krissy Wilson, Dave Speas, Tom Pitts, and Tom Nesler. Western Area Power Administration, Colorado River Energy Distributors Association and the environmental groups were not represented at the meeting.

Other participants: Tom Chart, Angela Kantola, Bob Muth, Tom Czapla, and Cassie Mellon.

Assignments are indicated by “>” and at the end of the document.

**Monday, August 18**

*CONVENE 1:00 p. m.*

1. Review/modify agenda – The agenda was modified as it appears below. Angela Kantola presented Pete Cavalli with a plaque of appreciation for Kevin Gelwicks in thanks for his participation in the Recovery Program and his service to the Biology Committee.
2. Approve Biology Committee meeting summary for June 13, 2008 and conference call summary for [June 25, 2008](#). Angela Kantola said Koreen Zelasko submitted clarifications on the summary of in the June 13 meeting summary; the Committee approved those changes. Angela also corrected the spelling of Quent Bradwisch’s name. Angela will post the [revised June 13 summary](#) to the listserver (*done*). The June 25 summary was approved as written.
3. Confirm next Committee chair and start date – A rough outline of past Committee chairs:

1996-1997	FWS	Frank Pfeifer
1997-1998	WAPA	Gary Burton
1998-1999	BOR	Larry Crist
1999-2000	FWS	Frank Pfeifer
2000-2001	WAPA	Art Roybal
2001-2002	WY	Paul Dey
2002-2003	BOR	Tom Chart
2003-2004	UT	Kevin Christopherson
2004-2005	NPS	Melissa Trammell
2005	CO	Tom Nesler (half-year)
2005-2006	BOR	Dave Speas
2006-2007	WY	Kevin Gelwicks
2008	UT	Krissy Wilson (1+ year)
2009	FWS	<i>Dave Irving</i>

Dave Irving assumes Committee chairmanship on January 1, 2009; the Committee elected Melissa Trammell as vice chair (Melissa will fill in for Dave when/if he’s unavailable due to detail assignments).

4. Review assignments from June meetings – See Attachment 1.

5. Review reports due list – Angela distributed a revised version of this list and the Committee made revisions; Angela will post a revised list to the fws-coloriver listserv (*done*).
6. Nonnative Fish Subcommittee (NNFSC) updates – Tom Chart said Shane Capron has withdrawn from the NNFSC due to other commitments in the Grand Canyon.
  - a. Prioritization of recommendations from previous workshops –The NNFSC has suggested this be incorporated into a basinwide Nonnative Fish Implementation Strategy patterned after the recently approved Yampa River Nonnative Fish Strategy, but the Program first needs to prioritize the list. The NNFSC attempted to prioritize the list before the Biology Committee’s June 13 meeting, but realized members had taken different approaches to prioritization. The Biology Committee discussed Dave Speas’ approach for a second, more standardized attempt at prioritization, and how phases are addressed. With regard to the recommended programmatic synthesis, Tom Nesler emphasized that Colorado is expecting a full, external peer review of our nonnative fish control program to determine if our current approach is working. Dave Speas agreed, noting that the data now are all in one place and the NNFSC would like to see a programmatic synthesis analyze these data and help answer this and related questions. Melissa suggested that peer review of a basinwide strategy may be more important to Colorado than peer review of the synthesis. Bob Muth said we might want to request peer review of the Yampa strategy now, but Dave Speas said that if the purpose of the synthesis is to hone in on the strategy, peer review of the Yampa strategy may be premature. Melissa added that we’re doing more nonnative fish control than anyone else in the world (with the possible exception of Australia), thus, what we get out of peer review may be somewhat limited. >The NNFSC will continue to refine the outline for the synthesis (which will form the basis for RFP’s) and provide that to the Biology Committee for review. Tom Pitts suggested defining questions regarding effectiveness when we develop scope(s) of work for synthesis. Dave Speas reminded the group that in addition to RFP’s, we also can use RFI’s (requests for information). Tom Pitts suggested prioritization per Dave Speas’ spreadsheet be done separately for: 1) items we’re conducting now; 2) items we’re going to do regardless; and 3) items we’ve yet to implement (with the third being the most important to prioritize since ongoing items already ranked fairly high). Tom suggested that cost and timing should be secondary considerations; perhaps one ranking of new items solely on the basis of effectiveness would be appropriate. >The NNFSC will work on prioritizing items yet to be implemented and provide that to the Biology Committee. This, then, will feed into a basinwide strategy.
  - b. CDOW upper Yampa “strategy” (Billy Atkinson report) – Tom Nesler said Atkinson’s report on what he’s done is not a strategic document, so Tom is working with it to clean it up, add the needed strategic elements, and work through those with CDOW. >Tom Nesler will provide this to the Biology Committee by September 18 (Tom Chart’s birthday) so that the Program will understand CDOW’s approach.

- c. Nonnative fish workshop content/format – The NNFSC suggests an alternative approach this year wherein the principal investigators (PI's) gather in December to discuss their data, 2008 observations, and to start working on their integrated smallmouth bass, northern pike, and native fish response presentations (similar to the approach we settled on in 2007). Prior to that meeting, the Biology Committee would provide specific direction and expectations of those presentations. This PI workshop would be open to any interested parties. The three finalized presentations would be presented during a nonnative fish management session at the Annual Researcher's Meeting in January (with adequate time for open discussion on plans for FY 2009). This would provide time for exchange of ideas amongst the PI's and more time for them to collaborate on their final presentation. The Management Committee has asked that the PI workshop be held December 9-10, followed by PI briefings to the Management Committee on December 11. Biology Committee members expressed concern about this short timeframe and the proposal to have the PI's make presentations to the Management Committee before the Biology Committee. Bob Muth and others clarified that the Management Committee doesn't expect full-blown presentations, just time for the Management Committee to meet with the PI's where the PI's can brief the Management Committee and give them an overview of work in each area (smallmouth bass, northern pike, and native fish response) and the key findings they believe are emerging from their work. Dave Speas believes this approach defeats the purpose of giving the PI's more time to work on their presentations. Tom Chart and the Program Director's office will clarify the kind of briefings/discussion the Management Committee is looking for (general -- not a distillation of the previous two days of the PI workshop). Tom Chart may make the presentation to the Management Committee with the PI's there to add to that and answer questions, etc. The Management Committee's request is *not* meant to change what the PI's workshop is about or cause the PI's to spend their workshop time preparing for their briefing/discussion with the Management Committee (nor is it intended to be any kind of presentation of final results).
- d. Update on July 15-17 demo project to remove nonnative fishes from middle Green River nursery backwaters – Over the three days, 13-15 “volunteers” from UDWR, FWS (including the Program Director's office), NPS (active and retired), and Argonne conducted multiple seine hauls in 11 backwaters on the Green River near Jensen (RM 295 – 260) , removing 91 pounds of nonnative fish. Bob Muth said he believes this was a very worthwhile learning experience to see the backwaters at this time of year and it may lead to a proposal for similar, more rigorous efforts to deplete nonnative fish in selected backwaters next spring in order to improve conditions for young pikeminnow in the middle Green River (perhaps depleting the backwater and keeping it blocked until the young pikeminnow begin drifting down). The backwaters themselves appeared to be in very good shape. Trina's native fish response work in some of these same areas later this year will provide additional data.
- e. Sponsorship of nonnative bio-control symposium – The NNFSC supports this international symposium, scheduled for June 1-4, 2009 in Minneapolis, which will address the potential and risk assessment of genetic bio-control of established

invasive finfish species. Tom Chart said the symposium is intended to start building a program to determine the feasibility of bio-control in large river systems. The NNFSC thought it would be good to send some folks to the symposium; the Biology Committee agreed and endorsed the symposium, also. Reclamation will be providing \$20K from the lower basin (under the shortage sharing EIS) for this symposium and could facilitate transferring Recovery Program funds if the Program decides to provide a financial contribution. >Tom Chart will follow up on what the funding needs are and get back to the Program.

- f. Update on weir SOW (presentation at previous BC meeting by Leisa Monroe, UDWR), comments submitted by Brett Johnson, CSU – Based on Brett’s comments, Dave Speas suggested we think carefully about placing a weir where it won’t be easily buried and where our data indicate bass are moving. Tom Chart and Bob Muth suggested that the second level synthesis may provide better information on smallmouth movement data. Krissy said UDWR feels strongly about this potential tool and is continuing to investigate how weirs might be applicable to nonnative fish removal (an engineering firm is making a field visit tomorrow). Melissa suggested considering operating the weir in the winter, since fish may be moving in between our field seasons.

## **Tuesday, August 19**

*CONVENE 8:30 a. m.*

7. Update on White and Price river flow recommendations – Tom Chart referred to the memo from the Program Director’s office dated August 15 (see Attachment 2). Dave Irving provided a scanned copy of the [final White River recommendations report](#) to Angela, who will get it posted on the Program’s website (*done*). Within the next month, >the Service and Program Director’s office will provide the Committee a draft addendum to the White River report that will present the measured flow requirements in a historical hydrologic perspective. The addendum will focus on the two higher flow requirements in order to maintain the passage flows for Colorado pikeminnow as often as possible. Tom Pitts said he doesn’t believe it’s appropriate for the addendum to recommend where the water to meet these flows would come from. The Committee asked about water quality; this could be an issue, and the Service should consider it in Section 7 consultations. Oil and gas development are increasing depletions from the White River; if oil shale development became a reality, depletions could take nearly all the river’s flow. The Committee discussed the Schmidt and Orchard draft report on peak (channel maintenance) flows; >the Program Director’s office will research where we left this report and recommend whether to have it reviewed by the geomorphology panel. Bob Muth said he also will review how White River flows are treated in the Green River flow recommendations report. For the Price River, the Program Director’s office proposes to use the information currently available to >develop a position paper on Price River flow recommendations for Committee review. Melissa Trammell disagreed with the characterizing the Price River as a lower priority, since it is occupied habitat (at least seasonally, if not beyond). Tom Pitts and others emphasized the need to consider the level of importance of the Price River to overall recovery. Dave Speas said he believes Reclamation wants to complete the Narrows project to divert 5,400 af from the Price

River and there may be oil and gas projects which could accelerate that project. Reclamation would like the Program to get as close as possible to flow recommendations for the Price. Melissa said that at minimum, we need to maintain passage flows and keep the river from going dry. Krissy said UDWR is interested in ways they might maintain flows in the Price River. As for seasonality, Krissy emphasized that there are resident, year-round populations of both flannelmouth and bluehead suckers in the Price River. Work on these species through the Three Species plan and Desert Fish Habitat Initiative may provide funding for projects which could reveal new information about the endangered fishes in the Price River.

8. Recovery goals update – Tom Czapla said the draft revised goals were sent out to stakeholders in the seven Basin states at the end of June with comments due September 2. However, some stakeholders in the lower basin didn't get the drafts until July, so the deadline may be extended. After stakeholder comments are reviewed and incorporated as appropriate, a notice of availability of the draft goals for public comment will be published in the Federal Register. Dave Speas asked about the role of the Recovery Team in reviewing the draft revised recovery goals. Tom Czapla and Chuck McAda suggested that the most direct way for agencies and others to make their comments on the draft goals is to do so directly rather than through a Recovery Team or a committee.
9. Discussion of Gila species at Ouray and Mumma hatcheries (identification, disposition of roundtail, timeframe, potential propagation plan, etc.) – Bob Muth recalled the history of this effort: based on reports of Haines and others, we had concerns about decline in Yampa Canyon humpback chub and the Program agreed to try to capture juvenile *Gila* and bring them into the hatcheries to test survival. Survival is >90% at Ouray NFH and 99% at Mumma. The fish have grown to ~4" at Ouray and ~3" at Mumma. The fish have survived well and are thriving at both hatcheries (kudos to both Ouray and Mumma!). Bob said the fish look good and some at Ouray had some morphometric characteristics consistent with humpback based on "the art of seeing well;" however, at this size that technique may not be reliable. The fins of many of the fish he examined were not as large as he would expect and the meristics didn't necessarily match (although about half of the fish that died appeared to be humpback based on those characteristics). Bob doesn't believe we'll know for sure how many humpbacks we have until the fish are a little larger (probably another year), so we need to continue to hold them. Melissa said we need to let the Park know that. >Dave Irving will call the Mantle Ranch landowner to give him an update on this project (since the Ranch's cooperation made it possible for the Service to get the fish out to the hatchery quickly). Bob Muth said if we decide to establish a Yampa humpback chub broodstock, we will need to sample as many other areas as possible (including Island Park) and bring in more fish. Tom Czapla has asked Ouray to capture and raise surrogates (red shiners) to satisfy Utah disease protocols should it be appropriate to take more *Gila* from the wild this year; the Committee gave this the go-ahead. Melissa said she expects the Park will want to see some sort of a plan for the fish (e.g., Program decision that we need to develop a broodstock that will require more fish, etc.). A letter or position paper explaining that might suffice. The Committee discussed the need to develop a Yampa humpback chub broodstock and agreed to proceed with this (at both hatcheries). Melissa reminded the Committee that the Park would like the roundtail back; Tom Nesler said CDOW and the Park need to discuss this in light of plans for those fish as broodstock under Three Species conservation and

Colorado's Management Use agreement with the Park (>Tom Nesler and Melissa will work on this). Bob Muth suggested we also may need to conduct some genetic analyses on the fish we're holding as soon as they've reached adequate size. >The Program Director's office will move forward to establish this broodstock using young fish. >Tom Czapla will work with Melissa on a letter to the Park.

10. FY 09 Work Plan – Angela Kantola distributed the current FY 09 work plan budget table.

- a. Stirrup SOW – Trina addressed issues encountered this year and increased the budget for two additional antennae and higher pumping costs. Tom Czapla strongly endorsed this project and Trina's modifications to the scope. The Committee approved the revised scope. Dave Speas suggested that the technical details learned should guide us in future applications of this technology.
- b. Cataract Humpback SOW – Tom Czapla said the scope needs minor technical edits, but he supports the approach. With regard to “probable violations of modeling assumptions” Dave Speas said he's not sure this is correct; >Krissy will ask Paul to look at that. Dave suggested conducting some seining during this work to look for bonytail reproduction; the Committee supported that (doing ray counts, not preserving the fish). Tom Czapla suggested that a final report is not necessary; the Committee agreed. >Tom Czapla will work with Krissy and Paul Badame to finalize this scope of work.

11. Fish website – Chuck McAda called attention to his e-mail of August 15 and asked Committee members to try out the [GIS fish website](#) and provide their input. Krissy said she found it *very* useful and a good tool for giving presentations to management, etc.

12. Schedule next meeting – The Committee will meet by web conference on October 30 (1-4:30) and 31 (8:30 – noon). Krissy and Angela will work to develop a “consent agenda” to identify items the Committee can concur on without discussion at the beginning of the meeting; Committee members will flag items they want to discuss on a draft agenda. The principal investigator's nonnative fish workshop will be December 9 & 10 in Grand Junction (open to anyone interested). The Management Committee meets December 11). The annual researchers meeting will be hosted by CDOW in Grand Junction January 13<sup>th</sup> and 14<sup>th</sup> followed by a BC meeting on the 15<sup>th</sup>. Annual reports will be due November 14<sup>th</sup>. The [Colorado River Basin Science & Resource Management Symposium](#) is November 18-20<sup>th</sup> in Scottsdale. DFC is November 12-16<sup>th</sup> in Cuatro Ciénegas, Mexico.

13. Other items – Tom Nesler said he approved the job announcement to backfill his former position today and it should hit the streets tomorrow. In response to the smallmouth bass captured in the Gunnison River at the Redlands diversion, CDOW had three boats sample six 2-3 mile sections of the Gunnison River above Redlands (for a total of 13 of the ~40 miles between Escalante and Redlands [downstream of the Uncompahgre River]). Most of the 3100 fish captured were bluehead and flannelmouth suckers and roundtail chubs. No smallmouth bass were captured. Seven pit-tagged razorback sucker and two small bonytail also were captured.

*ADJOURN 11:15 a.m.*

## Attachment 1

### **Assignments carried over or modified from previous meetings:**

1. Bob Muth will call Dave Campbell regarding options for compatibility between databases since the SJRIP is moving their database to FWS. 7/16: *Bob Muth said Dave agrees this is a good idea and will be getting back to Bob on how to proceed.* 1/17, 4/15, 6/13: *In progress.* 8/18: *UCREFRP database now in good shape, so that should accelerate this project.* (Ongoing; this will be taken off the list after this meeting.)
2. Shane Capron will get a firm commitment from Clayton Palmer and Kirk LaGory re: Western's contribution for additional report costs for this project 85f (sediment monitoring) in FY 2009. 10/31: *Program Director's office has verbal commitment; will seek firm commitment.* 1/17: *Bob Muth will check with George Smith re: his conversation with Clayton Palmer.* 1/29: *Program Director's office e-mailed Clayton, et al requesting confirmation;* 2/15: *Shane said we should have confirmation within a couple of weeks.* 4/14: *Western has indicated they are committed to providing \$32,600 in FY 09; e-mail confirmation requested; follow-up e-mail sent to Clayton 8/7/08.*
3. Tom Czapla will work to get the questions regarding what hatchery repairs are needed at Grand Valley resolved as soon as possible. 10:31: *Grand Junction working to get cost estimates; \$44.4K funds placeheld.* 1/17: *Chuck said that a larger de-humidifier would be too costly; their current plan is to repair the walls so they can withstand the humidity. The Biology Committee expressed interest in a full solution. >Chuck will provide the full estimate to Tom Czapla. >Bob Muth will discuss the possibility of using capital funds with Brent Uilenberg.* 2/15: *Reclamation & FWS working on getting this contracted; dehumidifier will be installed first, then walls will be repaired.* 3/31: *Reclamation waiting for report from an HVAC mechanical engineer on what's needed for dehumidification. Due to oil and gas activity in the Valley, they've had difficulty getting anyone to work on this relatively small project.* 6/13: *Contractor visited site June 5; appraisal study pending.* 7/22: *Report and initial cost estimate provided mid-July; BOR & USFWS discussing construction and contracting options.*
4. \*Tom Nesler will see if CDOW can provide a report on Billy Atkinson's work on pike in Catamount and the river below. Update provided at nonnative fish workshop; workshop participants recommended CDOW provide some kind of management plan. 1/17: *Billy will provide a Catamount pike removal document/strategy by the end of February.* 4/15: *Nesler will provide update at BC.* 4/28: *Tom has reminded Billy that this is overdue and will try to get it to the BC as soon as possible.* 6/13: *Nesler just received the draft today and will provide it to the BC by the end of July.* 8/18: *Tom Nesler will provide Billy Atkinson's upper Yampa "strategy" report to the Biology Committee by September 18.*
5. The Program Director's office will work with CDOW and Sam Finney on the potential for designing a permeable, hydrologically-stable (gravel?) berm to prevent northern pike access to the oxbow slough, and then clean it out once and for all. 2/15, 4/15: *Pending.* 4/28: *Chart has discussed with Nesler and with the Partners for Wildlife Program, also. Will focus on this summer/fall.* 6/13: *CDOW will be contacting the landowner regarding access, if they are amenable, then CDOW and Program will determine a feasible solution (before the end of*

spring runoff). 8/18: Tom Chart said Sherm will try to get someone from CDOW on this as soon as possible. The Biology Committee would like a date certain on this; >Sherm Hebein will accelerate this.

6. Tom Nesler would like to know if there are enough adult native fish remaining in the Yampa River to detect a native fish response. He will discuss ways of determining this with Kevin Bestgen and Tom Chart. 4/15, 4/28: Nesler, Bestgen and Chart will review existing information and consider fisheries investigations in Yampa tributaries (to determine if there is a seed source of native fishes). Once Chart and Nesler and Bestgen determine the scope of effective monitoring, CDOW and the Program can discuss whether this would be funded by CDOW outside by the Program or if the Program would also provide funding. 6/13: Pending. 7/11: Chart e-mailed Bestgen & Nesler re: scheduling a call. Tom Nesler agrees with Kevin Bestgen's approach as outlined in the e-mail Tom Chart forwarded to the Biology Committee on 8/14/08. 8/18: Tom Nesler noted he is still interested in looking at the tributaries. This will be taken off the list after this meeting.
7. Tom Chart will review the latest draft of the nonnative fish stocking procedures and get comments back to the States no later than February 15, then Krissy, Kevin, Tom, and the Service will submit it for agency review (one month review time). 2/15: Dates need to be modified. 4/14: Group discussing a few more revisions before seeking agency approval. 4/28: Krissy said a bill passed in Utah's latest legislative session (the Aquaculture Revitalization Act) took away Utah's ability to issue a COR to anyone with a private pond; Krissy will provide language incorporating that within two weeks. Kevin Gelwicks should have comments back from Wyoming by early June, but doesn't expect anything substantive, and will try to expedite their comments. Tom Chart said Tom Nesler realized we may have missed stipulations that would apply to private pond owners within critical habitat outside the 100-year floodplain. Krissy will review that; she thought that a private pond outside the 100-year floodplain would still be covered if it had the potential to connect. Melissa suggested including language regarding extending and revising the document; Tom Nesler said we're on a 5-year revision schedule. 6/13: A subgroup met yesterday, Wyoming has reviewed and provided comments, and Utah also has reviewed it. Further streamlining is underway. 7/11: Utah and Wyoming have reviewed; Colorado and FWS reviewing (FWS comments due 9/5/08). Colorado has shared the draft Procedures with their legal counsel and expects to provide any comments within two weeks. Krissy said Utah's legal counsel still needs to review this.
8. Krissy Wilson will send Rich Valdez the information that UDWR worked on some years ago which is similar to what Rich has been entering into the [research framework database](#). 4/28: Krissy has located the information and will review and provide it to Rich. 6/13: Krissy said the files didn't have the information she thought they did; however, she found a file of references she will send to the PD's office, and she'll also check some additional files. 8/18: Krissy hasn't been able to find any additional files; this will be taken off the list after this meeting.
9. Researchers are to submit all their nonnative fish data to Chuck McAda by April 1 (the Program Director's office will sent out an e-mail notification on this). 4/28: Tom Chart said Chuck had only received data from Tim Modde ten days ago. Trina said they're making sure their data is in the right format. Tom Chart said that at a minimum, he would like the data

sent to Chuck even if it's in the old format. >Tom Nesler will check on Lori's data; >Krissy will check on Moab's data. All the data on captured nonnative fish should be submitted, not just data on tagged fish; >Chuck will make sure the correct data are submitted and work with principal investigators if anything is missing. 6/13: Krissy said Utah has submitted their data. Tom Chart said Tim Modde submitted Vernal's data; Tom will get with Chuck to determine what data are still needed and e-mail the PI's. Tom Nesler will check on Lori's data. Sherm suggested cross-checking with CDOW's data system to be sure all data is in both places (Chuck's database and CDOW's). 7/11: Data have been submitted by Vernal CRFP, Badame, Hedrick, Hawkins, Bestgen, Bestgen/Zelasko and Burdick. 4 August 2008: Harry Vermillion submitted an extract from ADAMAS in the appropriate format to Chuck McAda on August 4th. The extract included Colorado River data from 2003 and 2007; Gunnison River data from 2007; and Yampa River data from years 2004 - 2007. 8/18: The NNFSC will review status of the data with Chuck and Travis after the Biology Committee meeting.

10. The Program Director's office will modify Rich Valdez' technical assistance scope of work as needed to accommodate the initial work on the second-level nonnative fish management synthesis. 4/14, 6/13, 7/25, 8/18: Pending.
11. Tom Nesler will check on the status of revision of the Yampa River Aquatic Management Plan. 4/14: Colorado's new completion date is May 1, 2009. (In the interim, CDOW will need to produce an Upper Yampa River strategy to assist the Program in our prioritization of 2009 field activities. This strategy should ultimately be incorporated into the Aquatic Wildlife Management Plan for the Yampa River Basin. 4/28: Tom Nesler said they don't plan to provide a formal strategy, but will describe what they [primarily Billy Atkinson] are doing down through Steamboat and with regard to isolating sloughs in Sam Finney's reach. See #6, above.)
12. The PD's office needs to schedule a humpback chub population monitoring workshop. Pending (the Program Director's office will discuss this with Rich Valdez); a workshop might also include discussion of humpback chub broodstock.
13. The Program Director's office and CDOW will send letters of thanks to Sherriff Tim Jantz for the use of the Craig Justice Center Ponds for nonnative fish translocation. Pending.
14. Krissy Wilson will find out if Paul Badame got photos of the 96mm bonytail he captured on the lower Green River. 8/18: Krissy said no photo was taken because the camera had been stolen and was not available on this trip.
15. The Program Director's idea will polish the draft spreadsheet for tracking annual observational fish capture information and recommend how it be maintained and distributed. 8/18: Tom Czapl is maintaining this and will provide it to the Biology Committee at the end of each sampling season (and provide updates on anything particularly significant in the interim). This also should include information that might otherwise be lost (e.g., significant number of humpback chub observed as part of a nonnative fish removal study, etc.)
16. Tom Czapl will determine how many bonytail the Program may need from Wahweap and talk to Quent about the number of fish he expects to have and how many are needed at

Iceberg Canyon in 2009 (probably hundreds to a thousand). 8/18: Tom Czapla let Quent know they could have up to 1,000 bonytail for Iceberg Canyon, if needed. Melissa said she'd discussed the utility of PIT-tagging these fish so they can be tracked if they were to leave the Canyon; the Committee agreed to provide PIT tags this year only.

### **New Assignments:**

1. The NNFSC will continue to refine the outline for the second-level synthesis (which will form the basis for RFP's) and provide that to the Biology Committee for review. The NNFSC will work on prioritizing items yet to be implemented and provide that to the Biology Committee, also.
2. Tom Chart will follow up on funding needs for the nonnative bio-control symposium and get back to the Program.
3. Within the next month, >the Service and Program Director's office will provide the Committee a draft addendum to the White River report that will present the measured flow requirements in a historical hydrologic perspective. The Program Director's office also will research where we left Schmidt and Orchard's draft report on peak (channel maintenance) flows and recommend whether to have it reviewed by the geomorphology panel. The Program Director's office will use the information currently available to >develop a position paper on Price River flow recommendations for Committee review.
4. Dave Irving will call the Mantle Ranch landowner to give him an update on work to raise *Gila* in captivity (since the Ranch's cooperation made it possible for the Service to get the fish out to the hatchery quickly). CDOW and the Park need to discuss the future of the captive *Gila* in light of plans for those fish as broodstock under Three Species conservation and Colorado's Management Use agreement with the Park (Tom Nesler and Melissa will work on this). The Program Director's office will move forward to establish a Yampa River humpback chub broodstock using young fish. Tom Czapla will work with Melissa on a letter to the Park.
5. Tom Czapla will work with Krissy Wilson and Paul Badame to finalize the Cataract humpback chub scope of work and include some seining during this work to look for bonytail reproduction. Krissy will ask Paul to review the "probable violations of modeling assumptions" language, which may be incorrect.

## MEMORANDUM

Date: August 15, 2008

To: Biology Committee

From: Program Director's Office

Subject: Proposed Approach to Finalizing Flow Recommendations for the Price and White Rivers.

### Background

#### *White River –*

Water depletions in the White River drainage are considered relatively minor, currently estimated to be 5% of the annual yield. A draft report, *Haines, B., D. Irving, and T. Modde. 2003. White River Base Flow Study, Colorado and Utah, 1995-1996* was approved by the BC at a February 10-11, 2004 meeting. Tim Modde revised the draft report as per BC recommendation and the report was finalized as Haines et al. 2004. The authors identified three base flow requirements which corresponded to Colorado pikeminnow passage and riffle productivity. More specifically, they determined that: a) flows > 300 cfs were required to pass Colorado pikeminnow over all measured riffle transects; b) when flows dropped to 161 cfs 50% of riffle wetted perimeter is lost (productivity would be severely compromised); and c) at flows of 400-500 cfs 95% of riffle wetted perimeter is available (near maximum productivity). The following recommendations were made:

- Until additional information becomes available, we recommend continuation of the current flow patterns to protect the adult Colorado Pikeminnow population in the White River
- Conduct a study that includes seasonal flow needs of Colorado pikeminnow including base flow needs, thus permitting determination of flow regimes that will maximize preferred habitats.

The authors recognized the following shortcomings / uncertainties:

- Study flows were not as varied as hoped (ranging between 339 and 552 cfs), therefore estimates of various habitat type areas were suspect. However estimates of riffle wetted perimeter were thought to be more useful.
- The authors used pikeminnow Habitat Suitability curves developed on the Yampa River; the authors felt curves developed on the White River would have been more useful.
- This study focused on base flow habitat use; seasonal flow requirements should have been developed. A companion study to determine channel maintenance flows was conducted (Schmidt and Orchard 2002) but never finalized by the Program.

### *Price River –*

Two major water development projects (Scofield Reservoir and the Price / San Rafael Salinity Project) currently deplete approximately 52% of the annual average flow of the Price River. Interest in identifying the flow needs of endangered fish in the Price River was triggered by two events: a) the proposal of a new water project (Price Narrows) that would further deplete 5,400 ac-ft from the Price River drainage, and b) the collection of 21 Colorado pikeminnow, in 1996 and 1997, in the lower 88.5 miles of the Price River. In addition to the captures of endangered fish the Utah Division of Wildlife Resources reported strong concentrations of other native fish species in the Price River (Cavalli 1999). Unfortunately the long standing USGS gaging station at Woodside, Utah was inoperable during 1996 and 1997 and therefore comparison between fish habitat use and flow was compromised. UDWR initiated a follow up study during 2004 and 2005 to strengthen the basis for a flow recommendation, however during those drier years only one pikeminnow was collected. Based on transect work at various riffles throughout the Price River, UDWR determined that a flow of 53 cfs would be required to allow unrestricted passage of adult Colorado pikeminnow. That metric served as the basis for a minimum flow recommendation presented in a draft report (Walker et al 2006). The Program Director's office (George Smith) provided their review of that draft report in February 2007. The BC discussed the draft report on April 23-24, 2007, and a determination was made that sufficient data were lacking for a base flow recommendation. The BC and the PD's office recommended that UDWR work with George Smith to build a recommendation based on historical hydrological data (from the Price River or a surrogate drainage).

### **Proposed Approach**

#### *White River –*

First, we have a Recovery Program approved base flow recommendation for the White River. We intend to draft an addendum to that report that supports the finding of those authors by presenting their measured flow requirements in a historical hydrologic perspective. Based on relatively minor historical development in this drainage and the high use by Colorado pikeminnow we recommend a slightly different approach here than in the Price River. We view the White River as critically important to the recovery of the endangered fish, which is consistent with the Program's review of the Importance of Tributaries (Tyus and Saunders 2001). We understand the shortcomings associated with the Haines et al. study, but feel the riffle data as it pertains to both fish passage and productivity are relatively strong. Therefore our addendum will do the following:

- Focus on the two higher flow requirements, i.e. maintain 300 cfs to provide unrestricted passage throughout the river and recognize the importance of flows between 400-500 cfs to maximize productivity. Based on the resident population of Colorado pikeminnow and their migratory nature we believe it is critical to maintain the passage flows as often as possible.
- Haines et al 2004 determined that 50% of riffle wetted perimeter was lost when flows drop to 161 cfs. This 50% wetted perimeter metric has factored heavily into base flow recommendations on the Duchesne and Yampa Rivers. However, based on the relatively unaltered hydrology in the White River we do not believe it is necessary to present this metric in the context of a minimum flow recommendation. We will recognize that flows

< 200cfs have occurred at a very low frequencies during periods of extreme drought in the past and will likely occur with similar or slightly higher frequencies (due to climate change and / or proposed demand for human development) in the future.

- We will include a historical analysis of average monthly flows collected at the Watson, Utah gage to put both the passage (300 cfs) and riffle productivity (400-500cfs) metrics into perspective.
- Schmidt and Orchard (2002) identified channel maintenance flows for the White River. We will explore options of resurrecting that report perhaps via the Geomorphology Panel. It would be helpful to incorporate a spring component to the White River flow recommendations.
- We will recommend that water managers seek flexibility in current operations (admittedly very limited) and as part of any proposed projects to ensure that both passage and productivity flows occur at current frequencies into the future.
- The Program is open to further analysis of available data or field investigations if the BC thinks they are necessary to strengthen these White River flow recommendations.

#### *Price River –*

We do not have Recovery Program approved flow recommendations for the Price River. We envision developing a Recovery Program Position Paper (or some other construct) on endangered fish flow requirements in the Price River. That position paper will consider the following:

- As mentioned in George Smith's review of UDWR's draft report and as discussed at the February 2007 BC meeting data are limited on which to base a flow recommendation.
- Based on the amount of historical development (52%), the types of habitat that were likely available under pristine conditions, and limited availability of options to restore flow in the lower Price River drainage we view the Price River as less important than the White River to the recovery of the endangered fish (consistent with Tyus and Saunders 2001).
- The Price River provides important seasonal habitat for Colorado pikeminnow during wetter years. The extent of their seasonal use even in wetter years remains uncertain.
- The Price River provides important seasonal habitat for other native fish species. The extent of their seasonal use even in wetter years remains uncertain.
- The identified flow necessary to provide passage (53 cfs) is defensible and will be referenced in the position paper.
- We will include the surrogate hydrological analysis (done by G.Smith and UDWR using the San Rafael drainage) to characterize the hydrology on the Price River during 1996 and 1997 when pikeminnow were present but the Woodside gage was offline.
- We will include a historical average monthly flow exceedence analysis of the Woodside gage to put the synthesized 1996 -1997 Price River hydrology as well as calculated passage flow into a historical perspective.
- We will recommend that water managers seek flexibility in current operations and as part of any new projects to ensure that passage flows are maintained at least at current frequencies into the future.
- At this time, the Program is reluctant to expend additional funds for further analysis or field investigations on the Price River.