

## BIOLOGY COMMITTEE MEETING SUMMARY

August 27-28, 2002

Salt Lake City, Utah

Biology Committee: Frank Pfeifer, Tom Nesler, Tom Pitts, John Wullschlaeger, Tom Chart, Mark Wieringa, Kevin Christopherson, Paul Dey, and Bill Davis. (John Hawkins participated in a short portion of the meeting via telephone.)

Other participants: Bob Muth, Angela Kantola, Chuck McAda, Pat Nelson, Gerry Roehm, Tom Czapla, Dave Soker, Jason Thron, Matt Andersen, Paul Badame, Julie Jackson, Tim Modde, Ray Tenney, Rich Valdez, John Hayse, and Kevin Bestgen.

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

1. Revisions / additions to the agenda - The agenda was modified as it appears below. Pat Nelson noted that videography was done this summer on ... and is available if anyone wants a copy.
2. Review summaries and action items from summary of July 24 meeting - The summary was approved as written. Action items review: Tom Pitts asked that George Smith consider the feasibility of a little more storage at Elkhead in lieu of the Steamboat lease (under the Yampa Management Plan). Gerry Roehm said Parks is considering that options and others. Tom Chart said funds for the Steamboat lease were transferred from Reclamation to Colorado State Parks this year; >George Smith will determine if the funds should be deobligated or carried over. Pat said he hopes to have the floodplain synthesis report out by mid to late September. >Bob Muth will talk to Matt Andersen about a joint letter to Todd Crowl (Program will accept the bonytail report as is, but we won't fund Todd to do work under the Program again.) Brent Uilenberg told Angela Kantola that due to the drought and associated extra work, they had not had time to prepare the floodplain program cost estimate. The Committee would like >Reclamation to provide that report at the same time or before the final floodplain synthesis report comes out. Mike Hudson's analysis of this year's and last year's Desolation humpback chub data, comparing 2 passes to 3 is expected to be part of his annual report on that project.
3. Late reports - The Committee reviewed and made necessary revisions to the late reports list. >Kevin Christopherson will check with Garn Birchell on the status of the report on juvenile and larval razorbacks in the floodplain (done as an addition to the levee removal project). >Angela Kantola will post the revised list to the listserver.
4. Program Director's proposal for a comprehensive, integrated approach to geomorphological research / monitoring - Bob Muth said he developed this proposal after a meeting to discuss what's known about the physical and biological processes in the Colorado and Gunnison rivers, current flow recommendations, and how all this fits into achieving recovery. Discovering that we don't have a clearly defined path as to how all this fits into recovery, Bob recommends developing a strategic plan that would guide future habitat research/monitoring activities. The Committee would like a summary

report on Osmundson's depth-to-embeddedness work to date (85c) (this will likely be requested as part of the proposed workshop). Tom Pitts said he'd like the Program to consider \$25-\$50K (which would be matched by the water users) for Musseter & Harvey, et. al. to continue their monitoring in FY 03. The Committee agreed with Bob Muth's proposal and recommended a placeholder for both 85c monitoring and any other geomorphology/ecosystem monitoring (e.g., Musseter & Harvey) for FY 2003. >Bob will get a proposal from Argonne as soon as possible. The Biology Committee will likely have a conference call to review a scope of work from Argonne.

5. Tributary issue paper - Gerry Roehm summarized the recommendations of his issue paper, adding that he doesn't believe a workshop is called for at this time. With regard to the Gunnison River PBO, Tom Pitts said he understands that Reclamation won't initiate the EIS until the Black Canyon water rights issues are resolved and that the water users want to see that EIS before they begin negotiating a PBO. (Mark W. said Western also wants to see the EIS first.) >The Program Director's office will ask Reclamation to make their position on the EIS clear. Tom Pitts recommends beginning work on the White/Duchesne sooner (in light of the Gunnison delay). Tom asked why the Price/San Rafael weren't included and asked that the issue paper include a specific recommendation on the Price/San Rafael. Existing biological opinions on the Price and Duchesne may already provide the needed coverage. >Gerry will revise the issue paper based on the Committee's discussion.
  
6. Update and discussion of recent findings at the Stirrup floodplain - Kevin Christopherson reviewed the results of the experimental work done at the Stirrup floodplain this year:

<b>Number of fish stocked</b>	<b>Low Density</b>	<b>High Density</b>	<b>Control</b>
Razorback suckers	60,373	457,193	1,000
Bonytail chubs	21,250	45,000	5,250
<b>Total</b>	81,623	502,193	6,250
Fathead minnows	75	81	0
Red shiners	42	37	0
Black bullheads	16	15	0
Green sunfish	12	18	0
Carp	4	3	0
<b>Total</b>	149	154	0

**Native fish capture data**

<b># razorbacks captured</b>	<b>359</b>	<b>1,709</b>	<b>118</b>
Population estimate (#)	403	1,622	<sup>a</sup> 118
95 % confidence (#)	+137	+ 445	Not applicable
Average length (mm)	69.5	58	68.7
Length Range (mm)	43 – 106	36 – 83	34 – 115
<b># bonytails captured</b>	<b>345</b>	<b>865</b>	<b>898</b>
Population estimate	363	859	<sup>a</sup> 898
95 % confidence	± 15	+ 122	N.A.
Average length (mm)	59	63	51.3

Length Range (mm)	40 – 85	51 – 85	41 – 73
<b><u>Nonnative capture data</u></b>			
Grams captured	25,059	20,350	N.A.
Population estimate (g)	28,396	19,954	N.A.
95 % confidence (g)	± 1,374	+ 5,041	N.A.
<b>Number Captured</b>			
Green Sunfish	18,419	14,909	<sup>b</sup> 54
Fathead minnows	11,939	7,779	<sup>b</sup> 22
Black bullheads	3,425	4,000	0
Red shiners	91	75	4
<b>Total</b>	<b>33,874</b>	<b>26,763</b>	<b>80</b>

<sup>a</sup> Population estimates were not necessary because all fish were removed from the 16' X 16' control pen.

<sup>b</sup> Some YOY nonnative fish escaped into the control pen through the mosquito screen.

The Committee was pleased to see the larval razorback and bonytail survival and commended Kevin and Tim and their crews on a job well done. Tim Modde presented a special cake to Bill Davis, in light of Bill's questioning that larval native fish could survive in the presence of abundant nonnative fishes.

7. Review of FY 2003 revised and new scopes of work - The Committee reviewed new and revised scopes of work for 2003.

104 - Accepted.

C-29 - The Committee suggested this scope of work needs more detail, noting that the current scope does not adequately document why \$60K is required to O&M the screen. >Reclamation/GVIC should provide details which fully justify the costs prior to Management Committee review on September 16.

C-18/19 - Tom Pitts asked that a total program cost be estimated. We need to understand both total anticipated cost and the relationship to effectiveness of screening, etc. (See previous conference call notes.) Questions were raised regarding what areas are covered by flow measurements, etc. >Tom Nesler will get the scope of work revised by September 6.

110 - Paul Dey asked if the humpback chub monitoring effort might be able to help detect effectiveness of this catfish removal. Bill Davis asked about the different approaches between this work and that proposed for the Colorado River. Bill also asked if we know which life stages we most need to target and how we will measure the effectiveness of this removal effort. Tim will add determining species composition in the reach above the Yampa Canyon and also add specificity regarding what components of the fish community will be monitored to determine effects. Tom Nesler said the scope also needs to note that fish will be salvaged in coordination with CDOW. Pat Nelson suggested that it would help the principal investigators of all the nonnative fish removal efforts if the Committee could provide consistent guidance on parameters for measuring effectiveness.

>Frank and Tim will revise the scope of work based on the Biology Committee's comments.

98b - Tom Nesler said the smallmouth bass removal will be controversial and CDOW would like the Program to first work with landowners to determine acceptance levels (e.g., access) and make sure we've done the best information and education we can before removal begins in April. Further, CDOW would like the Program to undertake a specific I&E task on all the nonnative fish removal in the Yampa River. Components would include: a) Determine accessibility and permission to trespass by landowners whose riverfront property is included within the study reach. b) Determine viability of objectives based on task #1 and modify as necessary to allow for restricted access/trespass limitations. c) Prepare information and education strategy and schedule implementation in advance of removal actions. d) Coordinate I&E plan and schedule with DOW Public Service and AQ staff in Moffatt-Routt-Rio Blanco counties. e) Implement I&E strategy in cooperation with DOW PS & AQ staff. >This will be discussed at the I&E Committee meeting in September. Ray Tenney recommended starting to work with the public on this at the Yampa Partnership meeting next week. Bob Muth cautioned that we want to be sure we're fully prepared before we make any presentations. >Gerry Roehm will mention the proposed expanded nonnative fish removal at the Partnership meeting next week. >Frank and Tim will revise the scope of work based on the Biology Committee's comments.

118 - No changes to this scope except it will start in FY 2003 instead of FY 2002. Accepted.

New: Green River nonnative fish removal - Bob Muth said he thinks this scope (or a separate scope) needs a stronger component for removing smallmouth bass from the Duchesne River (Frank said the Ute Tribe is interested in having the fish translocated into the new Elder's Pond. Kevin noted that the Elder's Pond screen won't prevent YOY smallmouth bass escapement, so it could become a source of escapement.) >Kevin and Frank will work with Dave Irving and Mike Montoya to prepare a separate scope of work for smallmouth bass and catfish translocation from the Duchesne. >Kevin will make minor modifications to this scope, also. Kevin encouraged the PD's office to be involved in their nonnative fish removal I&E efforts (which will involve all proposals going before the Wildlife Board [likely this winter] and regional advisory councils [which meet monthly]). Kevin said he'd like to see nonnative fish removal presented as an informational item to the advisory councils. Tom Pitts asked if support from Utah water users would be helpful and Kevin said he believed it would be.

New: Middle Yampa River smallmouth bass and catfish translocation - Tom Nesler said this scope needs to include a task to periodically monitor native fish composition/abundance. >John Hawkins will modify the scope based on the Biology Committee's comments.

New: Colorado River catfish removal - Paul Dey suggested 10 transmittered fish may be too few to be reliable in light of likely tag losses. Tom Nesler questioned whether

transmitters were necessary. Tom said CDOW would like to see an I&E component to this work, also, so that the public knows what we're doing and where the fish are going. (This should include a clear biological rationale for removal.) I&E tasks would include: a) Prepare information and education strategy and schedule implementation in advance of removal actions; b) Coordinate I&E plan and schedule with DOW Public Service and AQ staff in Mesa and Garfield counties; and c) Implement I&E strategy in cooperation with DOW PS & AQ staff. Paul Dey suggested a fourth objective for the study be to develop a catfish removal program. Bob Muth suggested reducing the size of the sampling reach if we already have data indicating catfish concentration areas. Frank questioned the budget for the final year of data analysis and report writing. Chuck said he's willing to examine that more closely. >Chuck will modify the scope based on the Biology Committee's comments.

New: Upper Colorado River Colorado pikeminnow population estimate - Tom Czapl commented that he doesn't see a need for final reports for populations estimates. Rather, what the Program needs is a point estimate and associated variance each year. Others countered that not having a final report would preclude interpretation, determining whether to use a closed or open population model, etc. Tom asked when final reports would be prepared for humpback chub estimates (given the three years on, two years off cycle). The Committee agreed that interpretation, etc. could be done within the third annual report. Tom Nesler asked about the cost. Chuck said this scope of work covers 4 passes by two crews over 170+ miles of river, and that benefits include overtime and vacation costs. Chuck said that vehicle rental time might be reduced. Chuck will reduce the report writing cost. If additional analyses are planned beyond just a more elaborate annual report, that will be put in a separate scope of work for the Committee's review. >Chuck will modify the scope based on the Biology Committee's comments.

22i: Middle Green River Colorado pikeminnow population estimate - This is an additional year on the middle Green so that it coincides with the lower Green River work. All the PI's listed on the scope need to see the information from this work before it is sent to the committees. Accepted.

New: Black Rocks humpback chub population estimate - The Committee discussed feasibility of longer-term evaluation of delayed mortality and decided that this could just cause additional stress. >Chuck will revise the scope of work, eliminate that task, reduce the cost of the final year to reflect no final report (just an enhanced annual report that year), and fix the labor cost in FY 2004. Chuck will break out the budget by task and year.

New: Westwater humpback chub population estimate - Utah will reclaim the boat purchased for USU's nonnative fish work, thus reducing the electrofishing boat cost. The final report should just be identified as an expanded annual report (report costs are appropriate.) >Utah will revise the scope of work.

New: Yampa Canyon humpback chub population estimate - Tom Nesler questioned the utility of the CPUE work planned in this scope. Bob Muth said it's included because

we're unsure if we can attain a traditional population estimate in Yampa and Cataract canyons. The current final report (Haines 2002, see below) should address what we'll do to address the recovery goal requirements if we can't get a population estimate with the expanded effort in Whirlpool Canyon outlined in this scope. >Frank and Tim will revise this scope of work and post it to the listserver by September 6.

**Revised scopes of work will be posted to the listserver by September 6. Any response comments should be posted to the listserver as soon as possible, since the Management Committee meets to discuss these on September 16.**

8. Review for approval: Haines, B. 2002. *Humpback chub monitoring in Yampa Canyon, 1998-2000* - Add a recommendation for how to increase recapture rates (see item #7, above). Kevin suggested snorkeling the pools this year to count fish since flows are so low. This could be complicated (rainstorms, distinguishing humpback from roundtail, etc.). >Tim said they'd try it. >Tim will add conclusions and revise the recommendations and they'll post this to the listserver by September 20. Some changes in the body of the report will also need to be made to match the recommendations.
9. Cataract Canyon humpback chub sampling - Most likely canceled this year due to low flows and the funds carried over to next year. >Mike Hudson will provide an estimate of any additional funds needed in FY 2003 by September 3. Rich Valdez said the flows need to be at least 4,000 cfs (preferably over 5,000 cfs) to conduct this work, and he believes it's unlikely that flows will come up that much even in October after the irrigation season.
10. Gunnison River Flow Recommendations - The Committee discussed Chuck's revised table of recommendations:

Draft peak flow recommendations for the Gunnison River near Grand Junction, Colorado — number of days per year that flows should exceed median ½ bankfull discharge (8,070 cfs) and median bankfull discharge (14,350 cfs) based on Pitlick et al. (1999).

Hydrologic Category	Expected Occurrence	Flow Duration <sup>a</sup>		Instantaneous Peak Flow (cfs) <sup>b</sup>
		Days/Year > 8,070 cfs	Days/Year > 14,350 cfs	
Wet	10%	60 – <b>100</b>	15 – 25	15,000 – 23,000 cfs <sup>c</sup>
Moderately Wet	20%	40 – <b>60</b>	10 – 20	<sup>d</sup>
Average Wet	20%	20 – <b>25</b>	2 – 3	<sup>e</sup>
Average Dry	20%	10 – <b>15</b>	0 – <b>0</b>	<sup>f</sup>
Moderately Dry	20%	0 – <b>10</b>	0 – <b>0</b>	<sup>g</sup>
Dry	10%	0 – <b>0</b>	0 – <b>0</b>	2,000 – 4,000 cfs <sup>c</sup>

Long-Term Weighted Average	20 – <b>32</b>	4 – 7	
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<sup>a</sup> Lower value in range is for maintenance of channel conditions, higher (**bold**) value in range is for improvement.

<sup>b</sup> Instantaneous peak flow should fall within range when given. When range is not given, instantaneous peak flow should equal or exceed 8,070 or 14,350 cfs according to criteria in flow duration columns.

<sup>c</sup> Recommended range for instantaneous peak flow within hydrological category; corresponds to observed range within category post Aspinall.

<sup>d</sup> Recommended peak of 14,350 cfs exceeds peaks observed in category post Aspinall; observed range — 9,120–13,200 cfs. Specific recommendations for an instantaneous peak flow will be developed by a work group based on antecedent conditions, reservoir elevation, and other parameters.

<sup>e</sup> Recommended peak of 14,350 cfs exceeds peaks observed in category post Aspinall; observed range — 6,260–9,460 cfs. Specific recommendations for an instantaneous peak flow will be developed by a work group based on antecedent conditions, reservoir elevation, and other parameters.

<sup>f</sup> Recommended peak of 8,070 cfs exceeds peaks observed in category post Aspinall; observed range — 6,360–7,670. Specific recommendations for an instantaneous peak flow will be developed by a work group based on antecedent conditions, reservoir elevation, and other parameters.

<sup>g</sup> Recommended peak of 8,070 cfs (in some years within category) exceeds peaks observed in category post Aspinall; observed range — 2,590– 6,040 cfs. Specific recommendations for an instantaneous peak flow will be developed by a work group based on antecedent conditions, reservoir elevation, and other parameters.

Chuck said these recommendations are the result of the recent conference call wherein the group discussed how to incorporate variability into the recommendations. Chuck recommends using a work group (patterned after Flaming Gorge) that would meet annually (after we have an estimate of snowpack and reservoir levels) and determine how the peak can be increased. Paul suggested that the work group would need more solid flow recommendations to work from (e.g.,  $\geq 14,350$  cfs in the moderately wet instantaneous peak flow column). Mark Wieringa expressed concern about having  $\geq 14,350$  cfs shown as a recommendation, but others said they would object if it weren't shown as a recommendation. Chuck said the recommendation for the wet category would be 15-25 days  $\geq 14,350$  cfs. Tom Pitts said the problem he has with the dry category is that 2,000 cfs may be more than is available in an extremely dry year. Chuck said 2,000-4,000 cfs provides a very small peak and temperatures that provide necessary biological cues. Kevin suggested that if we're in an extremely dry year where we're having trouble even meeting base flows, then we might be better off putting the water into the base flows instead of a small peak flows. Mark continued to express concern about recommendations that would lock the work group into a specific flow. John Hawkins said that having the work group flexibility is important, but that the recommendations should tell the work group what is important. The group needs a basis for making a decision on whether to provide higher flows for fewer days or slightly lower flows for a longer duration. Chuck clarified that the guidance is that in each of the categories, we need to hit these specific targets. Bob Muth clarified that we don't know the sediment movement tradeoffs between higher flows and longer duration. Bill Davis said he's not prepared to make a decision today (that wasn't on the agenda). Tom Nesler and Paul Dey said they're ready to move forward with the instantaneous peaks identified in the table so that Chuck can put his report into final draft form. Tom Pitts remained concerned with the 2,000-4,000 cfs dry year peak flow recommendation. Frank and others said they would be comfortable with  $\sim 900$  (base flow) - 4,000 cfs in the dry year. Tom Chart said

he would like the table to identify a 16,000 cfs instantaneous peak in the moderately wet year (based on Pitlick) to benefit the suspected spawning area on the Gunnison River. Tom Pitts disagreed. Kevin agreed with Tom Chart based on Pitlick’s bank full flow recommendation. The Committee took a break. Upon return, Tom Pitts said he and the CREDA and Western recommend that the instantaneous peak flows not be part of the recommendation but be dealt with in the report discussion as guidance for the work group. Frank recommended that the instantaneous peak remain in the recommendations (with the modification of the dry category to ~900 [base flow] - 4,000 cfs) , but have a range for the moderately wet instantaneous peak flow of 14,350 - 16,000 (and change to the wet category to 16,000 - 23,000 cfs). Tom Pitts said he’d like to leave the bottom end of the wet category at 15,000. Tom Chart said he doesn’t see a problem with the wet and moderately wet categories overlapping. Mark said he believes the recommendations should be the flow durations, with additional information in the text as to how you get to the instantaneous peak flows. Tom Pitts suggested calling the table “Draft peak flow recommendations and instantaneous peak flow targets for the Gunnison River.” The average wet category would be  $\geq 14,350$ , average dry  $\geq 8,070$ , and moderately dry  $\geq 2,600$ . The Committee agreed to incorporating the following into the report:

Draft peak flow recommendations and instantaneous peak flow targets for the Gunnison River

Hydrologic Category	Expected Occurrence	Flow Duration		Instantaneous Peak Flow Target (cfs)
		Days/Year > 8,070 cfs	Days/Year > 14,350 cfs	
Wet	10%	60 – <b>100</b>	15 – 25	15,000 – 23,000 cfs
Moderately Wet	20%	40 – <b>60</b>	10 – 20	14,350 – 16,000 cfs
Average Wet	20%	20 – <b>25</b>	2 – 3	$\geq 14,350$ cfs
Average Dry	20%	10 – <b>15</b>	0 – <b>0</b>	$\geq 8,070$ cfs
Moderately Dry	20%	0 – <b>10</b>	0 – <b>0</b>	$\geq 2,600$
Dry	10%	0 – <b>0</b>	0 – <b>0</b>	~900 – 4,000 cfs
Long-Term Weighted Average		20 – <b>32</b>	4 – 7	

- Floodplain habitat model - Rich Valdez went over the model and distributed a draft user’s manual. Common comments Rich received on the previous version of the model were suggestions to link the model to flows and to include a life history component. Rich said he didn’t link the model to flows because that would require a more site-specific approach and a much larger effort. Individual floodplains could be programmed in if we want, but that would increase the complexity of the model considerably. Tom Nesler asked Rich to program submodel C to allow for different combinations (hi/low) of survival and growth. Paul Dey suggested that Rich run some sensitivity analysis “games” to show how the different parameters affect the outcome of the model. Additional



parameters that the Committee would like to be able to change are: sex ratio; survival rate of drifting larvae (instead of just some distance downstream); survival rate of larvae entrained; survival rate in floodplain; and growth rate in floodplain. Length/weight ratio in Chart 1 is for males and females, which Rich may want to change to females only. Rich noted that in running the model, he arrives at hundreds of needed floodplain acres (not thousands or tens of thousands). Bill Davis and Tom Pitts asked how to program in a calculation of survival rates after the fish leave the floodplain and how many fish survive to spawning adults. >Rich Valdez will submit a scope of work for completion of the floodplain model.

12. Review for final approval: Hudson, M.J. 2002. *Centrarchid and Channel Catfish Control in the Middle and Lower Green River; 1997 and 1998* - Deferred to October 2 conference call.
13. Review for final approval: Bestgen, K.R., et al. 2002. *Status of Wild Razorback sucker in the Green River Basin, Utah and Colorado, Determined from Basinwide Monitoring and Other Sampling Protocols* - Deferred to October 2 conference call.
14. Review conclusions from Osmundson's Pikeminnow population estimate report (Proj. No. 22A2). The Committee accepted the revised conclusions; >Doug will finalize and distribute the report.
15. Update on drought / river flows - Deferred?
16. Schedule next meeting - The Biology Committee will have a conference call on October 2 at 10:00 a.m. to review a scope of work from Argonne and to discuss final draft reports deferred at this meeting. >The Program Director's office will arrange the call. The next meeting will be on December 10 (and possibly part of the 11<sup>th</sup>) in Grand Junction, perhaps in conjunction with a workshop with Argonne (on the 11<sup>th</sup> and 12<sup>th</sup>). >Tom Chart will try to get Reclamation's conference room reserved December 10-12.

### ASSIGNMENTS

George Smith will work with Colorado State Parks to determine if the funds transferred for release of water from Steamboat this year should be deobligated or carried forward.

Bob Muth will talk to Matt Andersen about a joint letter to Todd Crowl (the Program will accept the bonytail report as is, but we won't fund Todd to do work under the Program again.)

The Committee would like Reclamation to provide the floodplain program cost estimate at the same time or before the final floodplain synthesis report comes out in September.

Kevin Christopherson will check with Garn Birchell on the status of the report on juvenile and larval razorbacks in the floodplain (done as an addition to the levee removal project).

Angela Kantola will post the revised reports due list to the listserver.

Bob Muth will get a scope of work from Argonne for developing the habitat monitoring/research strategic plan as soon as possible. The Biology Committee will likely have a conference call to review a scope of work from Argonne.

The Program Director's office will ask Reclamation to make their position on the Gunnison EIS clear.

Gerry will revise the tributary issue paper based on the Committee's discussion.

Scope of work revisions (to be posted to the listserver by September 6, unless otherwise noted):

Reclamation/GVIC should provide details which fully justify the proposed FY 2003 costs of GVIC fish screen and passage prior to Management Committee review on September 16.

Tom Nesler will revise C-18/19.

Frank Pfeifer and Tim Modde will revise #110.

Frank Pfeifer and Tim Modde will revise 98b.

Kevin Christopherson and Frank Pfeifer will work with Dave Irving and Mike Montoya to prepare a separate scope of work for smallmouth bass and catfish translocation from the Duchesne.

Kevin Christopherson will modify the Green River nonnative fish removal scope of work.

John Hawkins will modify the middle Yampa smallmouth bass and catfish translocation scope of work.

Chuck McAda and Bob Burdick will revise the Colorado River catfish removal scope of work.

Chuck McAda and Doug Osmundson will revise the Colorado River pikeminnow population estimate scope of work.

Chuck McAda will modify the Black Rocks humpback chub population estimate scope of work.

Utah will revise the Westwater humpback chub population estimate scope of work.

Frank Pfeifer and Tim Modde will revise the Yampa Canyon humpback chub population estimate scope of work.

Information and education tasks required for upcoming nonnative fish removal efforts (Yampa River smallmouth bass removal, Green River nonnative fish control, and Colorado River catfish removal) will be discussed at the I&E Committee meeting in September.

Gerry Roehm will mention the proposed expanded nonnative fish removal at the Yampa Partnership meeting next week.

Kevin Bestgen will make sure that all of the PI's listed on SOW 21i see products of this work before it is submitted to committees, etc.

Vernal CRFP will try snorkeling pools on the Yampa this year to count humpback chub.

Tim Modde will add conclusions and revise recommendations on the humpback chub monitoring report and post to the listserver by September 20.

Mike Hudson will provide the Program Director's office an estimate of any additional funds needed in FY 03 for Cataract Canyon humpback chub sampling by September 3.

Rich Valdez will submit a scope of work for completion of the floodplain model.

Doug will finalize and distribute the Colorado pikeminnow population estimate report.

The Program Director's office will arrange a call conference call for October 2 at 10:00 a.m.  
(*Done.*)

Tom Chart will try to get Reclamation's conference room reserved December 10-12 for the next meeting and the habitat monitoring/research workshop.