

Biology Committee Meeting
July 14-15, 2003
Grand Junction, Colorado

(Note for future reference: Grand Junction temperatures >100° F. created problems with power at Reclamation's office. The Committee moved their meeting to the Adam's Mark Hotel on Tuesday morning.)

Biology Committee: Frank Pfeifer, Tom Nesler, Tom Pitts, John Hawkins, Melissa Trammell, Tom Chart, Gary Burton, Kevin Christopherson, Kevin Gelwicks, and Bill Davis.

Other participants: John Wullschleger, Paul Dey, Chuck McAda, Pat Nelson, Gerry Roehm, Kirk LaGory, Dave Speas, Ray Tenney, Bob Muth, Angela Kantola, Chas Cartwright, Rich Valdez, Mike Hudson, Tim Modde, Al Pfister, Tom Czapl, and Gene Shawcroft.

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

Monday, July 14

1. Review agenda and assign a timekeeper; review previous meeting summaries/action items (April 23-24, May 14, May 15); schedule next meeting - The agenda was revised as it appears below. Angela Kantola presented Paul Dey with a plaque of appreciation for 5 years of Service on the Biology Committee, and also for serving as Committee chair. Kevin Gelwicks is replacing Paul on the Biology Committee. The meeting and conference call summaries were approved as written.
2. Review Reports List - The Committee reviewed the list and made comments/revisions. >Angela will post a revised list to the listserver.
3. Updates on nonnative fish control projects - Frank distributed a summary of fish captured. Northern pike electrofishing in the Yampa River was very successful and Frank hopes control reaches can be eliminated next year. Northern pike trapnetting in the Yampa also was successful. Most catfish captured (White, Green, and lower Yampa rivers) average 14-15" in length. Frank noted they saw a lot of smallmouth showing in Desolation (>100 caught on one trip). Tom Nesler said he believes we'll be able to put northern pike in Loudy-Simpson Pond next year. This is an old slough near Craig that doesn't appear to communicate with the river very often. John Hawkins recommended that we be sure that the public is made aware if we use Loudy-Simpson next year. Kevin Christopherson said they're seeing encourage results in their northern pike removal in the middle Green (much fewer captures now than in previous years). Two of the 23 pike they caught had stocked razorback suckers in their stomachs. Desolation catfish removal was to start today, but flows are too low, so they hope to try after irrigation season is over. Green River City takes their culinary water from the Green River and raised objections to Utah putting dead fish back in the river. Utah is working through that and their water quality people have confirmed it's not an issue because the nutrient load in the river is very low. John Hawkins said his crews handled and tagged ~470 northern pike between Craig and Deerlodge (38 were relocated, the remainder tagged and released). Due to permit approvals, etc., they could not relocate fish until the 3rd or 4th trip. About 1600 smallmouth bass and 400 channel catfish were tagged (<10 recaptures). The large number of pike recaptures should provide a good population estimate. Frank questioned whether Hawkins' crews began relocating northern pike as soon as they had permission to do so. Hawkins said most of the pike were caught outside the northern pike control areas. Chuck McAda said they've just begun their work between the Gunnison River and the state line. They've relocated ~180 catfish to Highline (and have tagged and returned about the same number to the river). Tom Nesler emphasized the

importance of a workshop in late November or early December to review the data (which needs to be presented by treatment/control reaches). >Tom Nesler will try to find a date that works for Colorado's area managers. A synthesis of the information presented at the workshop will be used in public relations efforts from December to spring. Pat agreed, noting that we promised at the public meetings that we'd provide them updates each year. Tom Nesler said the Elkhead escapement study has shown that most escapement from Elkhead is sand shiners or black crappie, and very few smallmouth bass. Tom said Colorado and the Service will be meeting this month to discuss how to control nonnative fish escapement when Elkhead is drawn down for enlargement. Bill Davis asked about turning over long-term nonnative fish control to the states.

4. Updates on other field/research activities

Larval RBS drift study - Kevin Christopherson discussed the results with the neutrally-bouyant beads (since so few larvae were available) at the Bonanza and Brennan floodplain sites (both breached on the upstream end). Brennan is much larger with considerably more water flowing in, yet many more beads were collected in Bonanza (emphasizing the importance of local hydrology). If we can determine why Bonanza entrained a larger number of beads, we may be able to engineer breaches to better entrain larvae. Tom Pitts asked if there's a relationship between percent of river flow entering the site and percent of beads entrained. >Kevin will provide more background on this study at the next meeting (perhaps with a Powerpoint presentation).

Larval RBS/BT wetland studies - Kevin Christopherson distributed a summary of the survival and growth of larval razorback and bonytail work. Nonnatives entered the study area naturally. Evaluation will be completed in mid-August and results should be available in September. Tim said they put ~700 razorback and ~500 bonytail per acre in each of their study ponds. The nonnatives are mostly larger, not smaller fish.

Population estimates - Kevin Bestgen distributed a summary and discussed lower Green River pikeminnow sampling. About 75% of pikeminnow captured this year were subadults, which is a little higher than previous years. Numbers are lower in some reaches, but the analysis isn't done yet, so Kevin can't yet say whether additional sampling would be useful. Mike Hudson noted that 2001 was the only year they were able to get into the flooded tributary areas in the Desolation reach. Kevin Christopherson said they haven't had the same experience in the middle Green, thus the lower number of fish sampled there don't appear to be related to sampling efficiency. Sampling effect is unknown at this point. The report on this study will be out in March. Chuck McAda said they caught fewer fish this year in the Colorado River than in the 1998-2000 timeframe (despite increased effort). Catch rates generally increased from the first pass to the fourth pass. Recaptures were down. Stocked razorback and bonytail also were captured.

5. Argonne's geomorphology report (approval of recommendations and discussion of implications for FY 03 as well as FY 04-05) - Kirk summarized the comments received and subsequent revisions. Trush thought specific hypotheses should be provided. He also suggested a conceptual model (already included in Table C-1). Kirk added text to clearly identify the scope of the report (noting that it will be up to researchers to identify hypotheses to be tested in the future). Schmidt thought the literature overview should have included greater evaluation of topics covered. Kirk said they did that for the highest priority topics. Schmidt also thought the reach-habitat scoring was reductionist; Kirk said that's not the intent and he added text to clarify. Tom Chart had comments that Kirk thought questioned some of the priorities (values) developed in the workshop, but didn't feel he could respond to those unilaterally. (Neither Kirk or Tom Chart thought Tom's suggested changes would change the overall scores much, however.) Both existing and potential use in the Upper Colorado River are presented, but this could be focused more

on potential use. In the Executive Summary, Tom Pitts questioned the term “at or near carrying capacity” as part of a criterion if we don’t really know what carrying capacity is. Kirk said that could be changed. The Executive Summary recommends that “studies incorporate experimental manipulation and testing of responses,” but Tom said he thinks we’ll be looking at the flow recommendations and seeing if expected results are realized. Kirk said this is two different scales, and both are called for and will add text discussing this. Tom strongly agreed with the recommendation to standardize research protocols and data collection techniques. Rich said he used the draft report to help him understand reach importance for razorbacks, and said it mostly seemed to fit with what he expected. He emphasized potential use because although some reaches may be really important to initiate recovery, other reaches may become more important as we get closer to recovery in the future. Bob Muth said he thinks we can get to the secondary information needs in the future as we get closer to recovery. Kirk agreed, noting that the spreadsheets are provided so that new information can be plugged in as it becomes available. Tom Nesler asked about the report’s call for the same kind of research at 3 or 4 different sites (e.g., connected backwaters and spawning sites). Bob Muth said he doesn’t see the same research being repeated for every reach. Tom Nesler asked what method we would use to monitor contribution to recovery (e.g., population estimates?). Kirk replied that ultimately that would be the measure. Some Committee members asked for more time to review the revised report. >Those comments are due to Kirk by August 8. >Kirk LaGory will provide his responses to the peer review comments to the Committee. Tom Pitts recommended that Program staff evaluate whether the scopes of work on hold for FY 03 (and also those proposed for FY 04-05) fit the recommendations in Kirk’s draft report. >The PD’s office will do that and provide recommendations to the Committee.

Tuesday, July 15

6. Razorback sucker habitat model (approval and discussion of critical data gaps) - Rich Valdez distributed a summary of the model (and disk copies of the model itself) and reviewed the project goals, objectives, key parameters, and results. Of the model parameters, we have the least information on percent of eggs surviving to hatching and percent of larvae surviving to emergence (the model uses 10% and 20%, respectively). Pat emphasized that some floodplain habitats are much better than others. The Committee discussed the model parameters and the effects of different values (e.g., different number of floodplains, two spawning sites, etc.) Rich showed the effect of proximity of floodplain to the spawning bar and said he believes there was more than one spawning bar in this area historically. Rich showed how two spawning sites would more than double the recruitment rate (which would increase the population). Rich noted that we also need more information on percent of larvae entrained at each floodplain. Rich said the diskette he provided allows variables to be changed (call Rich if you need to “unprotect” the protected areas). The Committee approved the model.
7. Review of draft FY 2004–2005 Work Plan - Bob Muth introduced the work plan. Bob noted that we need to move the due date for annual reports up ~3-1/2 weeks so that there’s time for adjustments to FY 04-05 work, if needed. (The PD’s office recognizes that in a few cases where work continues into late October/early November, the earlier deadline can’t be met.) The new due date would be ~ November 15 each year (November 14 this year). This also means that the annual reports need to contain meaningful information. Angela called the Committee’s attention to the tight budget for FY 04. Committee comments on the scopes of work are reflected below. See also the revised budget tables where a few additional comments were recorded and revised budgets are reflected.

Instream Flow -

- 8 Mike Hudson said the Price River gage is off now, but he believes the data is valuable (they saw the flows drop last year and were able to go there and document the fish kill). The gage would allow this documentation to continue. (Angela said the gage should be on; perhaps there is still some confusion about how the funding was provided.) Tom Chart asked if the Program would be interested in funding the temperature gage at Greendale just below Flaming Gorge. (Reclamation is funding it now [~\$2K/year], but may not be able to continue funding after another year or two.) Tom will let the Committee know if and when Reclamation will no longer fund the temperature gage.
- Geo \$200K was reserved for a placeholder (\$350K was estimated as a possible need, but given the budget limitations, the PD's office reduced the placeholder to \$200K). More funds might be available in FY 05.
- 115 Draft final report due to BC 9/1/04.

Habitat -

- C-4b Chuck said Reclamation did some silt removal one year with a backhoe, FWS used a pump to try to do that this year. Pat said Reclamation gets involved when there's a major amount of sediment/debris. Chuck said they've asked Reclamation to provide power to the outlet structure and to replace the heavy steel covers with aluminum, but they haven't done so, thus Chuck put it in the FWS scope of work. >Bob Muth will ask Reclamation to do this in FY 03 so that \$6.8K can be removed from the FY 04 budget for this project. If that doesn't happen and our overall budget is short, then Frank said he would recommend cutting funds for providing power to the outlet structure and replacing the grates. The Committee discussed the period of passage operation needed for endangered fish (and other native fishes).
- C-4c Chuck said the impeller and water meter were used last year and are important in low water years.
- C-5 With regard to the \$16.4K question, Tom Chart said the EA is still in draft and probably will be revised. Even after that there will be 404 permitting activity continuing. Tom Pitts seriously questioned the need for full-time contract administration on each of these construction jobs (and this is in addition to the \$400K for capital funds program management). >Tom Chart will investigate whether this level of funding is justified for contract administration (for all the construction scopes and the program management scope of work) and provide that information in advance of the July 31 Management Committee meeting. Tom Chart said Reclamation is in the RFP process on this and the other construction projects and doesn't have the information needed to breakout the budgets any further.
- C-29 Improvements to the GVIC fish screen are still being made; the screen won't operate until perhaps mid-August this year (operation will be revisited at that time).
- C-29a Given budget limitations, Frank questioned the priority of this work, noting these canals have been operating without screens since the 1900's (and now we are nearing completion of screens). Further, no budget should be required in 05, since the screen will be in place by then. Chuck agreed, but said the PBO

requires monitoring (which should be met once the screen is operational and we determine it's effectively preventing entrainment). After the screens are in place, the only need for monitoring would be if the screens weren't operated. Frank said the PBO requires monitoring the effectiveness of the screen, therefore he doesn't believe we need to do this work until the screen is in place. Tom Chart said he believes a salvage effort for the endangered and other native fishes is important in low water years when virtually the whole river is going into the canals. Bob Muth noted that fish salvage is an issue raised by FWS and will discuss this with them.

C-29b Frank Pfeifer also questioned the priority for this work. Tom Pitts suggested we not fund it. Tim Modde said they checked Tusher two years ago when they drained the canal and did not find fish (although they found fish when the canal was full). The Committee did not recommend this work. >In advance of the Management Committee meeting, Bob Muth will discuss the Committee's reasoning with Bob McCue and others in the Service.

GVP Tom Pitts asked why we would put a screen in and then monitor take. Tom Chart said it's linked to the PBO requirement to evaluate screen efficiency. Pat said he spoke with Al Pfister about this proposal and Al believes it only partially fulfills the PBO requirements (page 8, item #4) to monitor the amount of take. >In advance of the Management Committee meeting, Bob Muth and Frank Pfeifer will discuss this with Al Pfister and Bob McCue, since the design has changed and now will prevent entrainment of both adult and subadult fish (Brent Uilenberg and Terry Stroh should be involved in this discussion). The Committee did not recommend this work.

C-6 Floodplain Restoration - Tom Pitts asked how the management plans currently under development are reflected in these scopes of work. Bob Muth recommended that we consider approval of all the floodplain scopes tentative until the management plans are completed in September and we check consistency at that point.

EAS Bob Muth said he's discussed this work with the Service's Refuges division and they're adamant these funds are required. Believing there's no justification for this cost (and noting Refuges is only doing tasks 1 and 2a), the Committee cut the budget by \$25,000. The budget is not broken out by task and the annual report does not provide evidence of this level of work. Committee members noted that Refuges is responsible to achieve sufficient progress under the Recovery Program. >Bob Muth will discuss the Committee's concerns with the Service. Pat said Refuges believes a permanent full-time GS-9 employee is required to manage the easements.

BT/RZ Tim Modde said he has clarified the PD's office budget questions. Tim and Kevin said this and Utah's study are asking somewhat different questions (this study focuses on habitat, Utah's study focuses on predation), they are at different sites (and we need information from different sites) and at different scales.

RZ/BT (See comments above.)

RZ recr. Frank Pfeifer thought this was a good project. but said he doesn't believe age- 1 to age-4 fish are available for this work. The critical question this proposal would address is whether fish ideally need more than one year in the floodplain (and how the sites should be managed in terms of

encouraging fish to exit the floodplain). Perhaps the question could be answered adequately with age-0 and age-1 fish. >Kevin and Pat will make sure that age-1 fish will be available. Frank asked if this could be done at Stirrup using the fish already there. Kevin said that's possible. Pat noted that we won't know the number of fish in each age class we're starting with if we do that. The remote readers require use of the new, lower frequency PIT tags. Tom Czapla said he recommends switching over to using use this tag on all our stocked fish (razorback and bonytail), and noted that these passive monitoring stations also would allow us to know if stocked bonytail are using the floodplains after they've been in the river for awhile. The Committee left this in as a placeholder and supported in in concept, but asked the authors to consider the questions raised and revise the scope. Gary Burton asked for more explanation on the budget for task 3, noting that he didn't see how 180 days of labor, light traps, nets, and electrofishing parts fit into the described methods. >Kevin Christopherson will revise the scope of work.

RZ entr.

We don't know if the beads might be consumed by catfish, etc. (thus skewing the study results). Frank Pfeifer asked if percent entrainment is one of the critical variables in the floodplain model. Rich said no, but it may provide information about system hydraulics around floodplains and have management implications. Kevin agreed that it's important to find out if certain floodplains may entrain significantly more larvae (based on bead entrainment). Tom Pitts noted that we don't know whether the dispersal pattern of beads (non-mobile) is comparable to larvae (somewhat mobile and perhaps moving more alongside the shoreline). Kevin said they'd hoped to use larvae (in addition to beads) this year, but larvae weren't available. They would use larvae in addition to beads in the future if they are available. Rich Valdez said similar questions are being asked in the Rio Grande and elsewhere. Kevin Bestgen suggested using flannelmouth or bluehead larvae, but Christopherson said he doesn't know who would produce those and Tom Nesler added that there may be confounding life-history differences. Frank said he thinks there's a good chance we can get enough razorback larvae from the Ouray and 24 Road hatcheries, but if larvae aren't available, then the study should be postponed. Kevin said the reason for conducting the work for 3 years is to look at different flow stages. Tom asked Kevin to add to the scope of work a list of questions to be answered and the methodology to address each of these. >Kevin will revise the scope of work (which will reflect that the work would only go forward if the required flows and larvae were available – thus, it is shown as a placeholder). Bob Muth said he's still not certain this answers critical questions. Frank agreed with regard to refining the razorback model, but said he believes it may provide important information about how to configure and manage floodplain sites. Bob Muth questioned whether the Program would have funds to reconfigure floodplain sites. Pat said levees can be notched inexpensively, but if riprap, etc., is required, then it may be prohibitively expensive. Tom Chart suggested the study results might have implications for flow management (e.g., we might target flows to inundate specific sites at specific times, etc.). Tom Nesler suggested we might discuss this proposal and plan for the larvae through FY 04 and plan to do the work in FY 05. Melissa noted this would prevent taking advantage of high flows and larvae if both were available in FY 04. The Committee agreed to leave this SOW as a place holder and asked Kevin to revise the SOW to address the comments.

Nonnative Control -

- C-18 Tom Nelsner said the budget does cover completion of the final report in federal FY 05.
- C-20 Pat said that the net itself is estimated to cost \$92.5K. Cost for divers to remove the old net is ~\$2K and cost to install the new net is ~\$2K. Bob Muth wanted to know if the Committee would like a quick escapement study during the net replacement process to document the level of escapement of nonnative fishes from Highline Reservoir. If so, we could remove the old net and determine levels of escapement, and if we find levels that warrant continued screening, then we would put in a new net. Frank Pfeifer discussed the history of Highline Lake and explained that with the improvements in the Grand Valley canal, there is *no* reason to spill water from Highline Lake. However, because fecal coliform levels at Highline sometimes exceed health limits, the State of Colorado wants to be able to flush Highline to resolve that problem. Frank questioned the frequency of elevated fecal coliform levels and whether there might be other ways to address this problem besides spilling water from Highline. The Biology Committee recommended that the Management Committee look into these institutional issues. Rich asked how long the spills last when they occur (if just a few days, we might not want to invest in a net).
- 109 Kevin Christopherson will provide FY 05 costs for project #109. Bill Davis raised questions about when the States will take over long-term nonnative fish management and suggested this should be part of the conservation plans. Tom Nelsner stated that these early nonnative SOW were simply intended to evaluate methods and potential of success. However, the state management role does need to be identified in a management plan.
- 110 Nets don't have to be replaced each year, but 5 need to be purchased in FY 04 and a different 5 replaced in FY 05. These nets are more expensive than the ones in project #123. >Modde will clarify that the fish removed will either be killed or translocated (but all will be removed from the treatment reaches). Gary Burton said it seems reasonable to remove fish from both treatment and control reaches during the last pass and it would be good to do this in other removal efforts. Tom Nelsner said Colorado didn't agree this would maintain the study design from one year to the next. Frank said the scope is in error in this regard and will correct it. These will be good questions to raise at the workshop. Tom Chart noted that task 4, prepare a final report, also should address long-term management. This will be noted in the scope of work. Tom Chart suggested that someone with study design expertise attend the nonnative fish management workshop. Tom Nelsner agreed, especially if the control/treatment design does not seem to be working.
- C-31 >Tom Nelsner is still trying to determine if the \$12.5K is necessary or not.
- 98a John Hawkins said he didn't prepare an FY 04-05 SOW because he didn't know what the Program wanted for FY 04-05 (continuation of the control/treatment approach or a return to more "wholesale removal" of northern pike). Bob Muth recommended revising the scope of work to reflect continuation of the control/treatment approach. All the nonnative fish management scopes of work are subject to further revision pending the workshop. Frank noted that the pike population estimate portion should be removed for FY 04-05. >John will revise the scope of work.
- 123 >Kevin will revise the scope to address PD's office questions.

- 124 >Tim will review methods to make sure control and treatment reaches don't overlap.
- 125 >John Hawkins will revise the scope of work to reflect 04-05 work. The Committee discussed the potential impacts of removing both pike and bass from each treatment reach versus removing both from some reaches, bass from others, and pike from others on determining native fish response.
- 126 Paul Dey suggested collecting samples to analyze growth at some point should funds become available.

(General) Melissa asked if we should be concentrating the control/treatment efforts and the native fish response efforts in just a few rivers until we determine if we're having an effect or should we be evaluating this system-side (which is what we seem to be doing). Bob said the efforts are in very different river reaches. Frank suggested this should be considered in the workshop.

N-UT Frank asked if we need to do all three of these evaluations of nonnative fish control on native fish population studies simultaneously or pick a reach where we think we're having the most impact on nonnatives and evaluate the effects on native fish in that reach. Another question is whether we need to see if we're having an effect on the nonnative fish before we determine if that's having an effect on the native fish. Pat noted that we also need to consider the assurances we gave the public that we would evaluate the effects on native fishes. This scope really just establishes baseline data on native fish abundance. >Kevin Christopherson may revise the scope of work before the December workshop.

N-YR Bob Muth suggested focusing our efforts on this study rather than trying to evaluate native fish response in three different areas. Others countered that we need to get baseline data on the native fish community in the Colorado River. The Committee approved this scope of work.

N-CR Chuck said CDOW may have a part in this work also. Tom Nesler confirmed CDOW would play a role in evaluating native fish response in Colorado and it's in his budget (apart from Recovery Program funds). Tom Nesler would like to reserve final judgement on the need for this work in FY 04 until we know whether we've been able to have a depletive effect on the channel catfish with the FY 03 work. Rich Valdez questioned our ability to show an effect of nonnative fish management on the endangered fish in the short term, especially on a broad scale. Tom Nesler countered that he hopes we would see a response in the early age-classes of the native fish. Perhaps this scope should just try to establish baseline data on native fish abundance. Catfish removal may have more impact on razorback survival and establishment than on native fish response as a whole. >Chuck will discuss this work with Tom Nesler and Lori Martin, and if appropriate, provide a scope of work before the December workshop. Currently, no funding is shown in FY 04 or 05 for this work.

The Committee discussed these scopes of work and agreed to fund the Yampa one, but revisit the need for this work in Utah and the Colorado River as part of the nonnative fish management workshop, so these project remain placeholders.

N-WR Frank strongly objected to the seemingly endless requests for justifications for things like boat motors, noting that field managers can't possibly itemize every single item. Some flexibility must be maintained to address unexpected situations

(like the loss of \$7K of equipment [truck] in Vernal when it was hit in a head-on collision a few months ago). The Committee decided this scope should remain a placeholder until after the nonnative fish management workshop.

Propagation/Genetics - Tom Czapla introduced the scopes of work. The new PIT tags may be less expensive, but we will need to purchase new readers.

29b Frank said he thinks only about \$11K of the \$40K identified for well-field maintenance will be needed in FY 04.

C-7 Some additional funds might be needed if any of the Uintah Basin pond leases are up in FY 04. >Frank will check on that.

Research/Monitoring -

22f Kevin B. said the data have been used to guide duration of flow releases in '97 and '99. Data may be most useful in high flow years. Data are showing we're capturing razorback larvae after the flow peaks. (This could be indicating the peaks are currently mis-timed.) Pikeminnow data are directed more toward temperature. Tom Chart agreed. There's a work group that looks at operations on a day-to-day basis and in some years the data from the Recovery Program is plugged right into that. Kevin B. said the razorback data also provides the only available information that the stocked fish are starting to reproduce. (Thus stocked larval razorback should be marked with tetracycline.) Bob Muth countered that we know the periods of larval drift for pikeminnow. Bob recommended reducing the collection period so all we're trying to determine is when pikeminnow larval drift begins. John Hawkins suggested this kind of work may be very important for understanding razorback recruitment failure (and so perhaps more work is needed along these lines). The Committee recommended funding the scope of work as proposed.

121 Frank asked why we need to continue this work in the Gunnison. Frank also asked what radio-telemetry to determine where the fish are spawning will tell us. Pat said Rich's model indicates that if we can determine where razorbacks are spawning, we can determine where we need nursery habitat to increase larval survival. Tom Nesler said he thinks the larval sampling is worth pursuing but isn't sure we're ready to move into radio-tagging while we're still building the adult population. Bob Muth countered that the radio-tagging will be useful in the future. Tom Chart agreed. The Committee agreed to postpone the radio-tagging portion until FY 05 or later (depending on sampled larval densities) and cut part B (radio-tagging) for a savings of \$56.6K in FY 04. Chuck said they are getting distribution data from larval dip netting and light-trapping. >Chuck will revise the scope of work.

Population estimates - No comments except the Cataract Canyon humpback chub estimate is a placeholder (we don't yet know if we can get an estimate there).

N-UT (1A) Tom Czapla explained the difference between this study and 1B. Kevin said they did try to stay away from shocking in the "off years," so this study only includes netting and the one electrofishing pass recommended in the evaluating stocked fish workshop. Tom Czapla proposed looking at the database and deferring field work until FY 05. Kevin Christopherson asked how this would provide a survival estimate. Bob Muth said we just want to get survival information on the fish that have been recaptured so we can determine whether our stocking rates are adequate. The

Committee did not approve this work.

- N-FWS (1B) >Principal investigators will submit tagging data to Chuck McAda as quickly as they can. >Tom Czaplak will provide a summary of the data we have to date this winter, then we'll see if additional work is necessary. (Thus saving the \$10K on this proposed work.)
- N-Key The Committee agreed to wait until they see how useful the razorback computer interactive key proves to be. If this information is also used by the San Juan Program, perhaps they should help fund it.
- N-YOY Melissa said she believes this is valuable data; if a link can be shown later, we wouldn't want to have missed a year of data. Kevin Christopherson added that this study also collects baseline nonnative and native fish data. Frank countered that missing a year of data isn't that critical. Kevin recommends at the very least we continue the existing sampling (<\$20K). >Kevin will revise the scope of work to reflect maintaining the existing level of sampling (not expanded) and taking a hard look at the existing data. Bob Muth recommended reducing the pikeminnow drift sampling in 22f and applying those funds to reviewing the existing YOY data. Bob Muth suggested more funds would be needed to adequately review the data. The Committee added \$15K for this portion, for a total cost of \$50K.
- U-Guide Darrel wants to produce a new field booklet that includes the modifications. The Committee approved this work. >Tom Chart will ask the San Juan Program to find \$5K.

Conclusions

- >Angela Kantola will post revised budget tables to the listserv (and also provide hard copies to the Management Committee). She also will provide the Biology Committee's comments (above) to the Management Committee.
8. Duchesne River flow recommendations synthesis report (approval) - Tim reviewed the modifications made in the version he sent out on June 25. Tim discussed remaining issues CUWCD has, noting he's agreed on page 17 (and in two or three other places) to revise "if the flow recommendations are not met, the Duchesne won't contribute to recovery" to it "won't be used by pikeminnow." 8400 cfs in 10% of the years (vs. 1/10) needs to be changed in the executive summary. Tim said he also would add text noting that the flow recommendation applies from Randlett gage downstream. Tom Pitts said they want to talk to Tim about the translation from 8400 cfs-days to 8400 cfs. Tim agreed and said they'll work out something that is consistent with the 8400 cfs-days recommended by Dave and Jack. Melissa distributed comments from the Park Service, which especially question the cutoff date of June 30 for maintaining 115 cfs. Melissa recommended fewer transgressions of the 115 cfs after June 30. Tim said these recommendations focus on *maintaining* existing habitat and endangered fish use. Tim discussed the limited water available in the Duchesne and the Program's commitment to working within State water law. Tim said he could revise any language that suggests transgressions *should* occur to simply recognizing that transgressions *may* occur. Tim will add a statement saying that if there were fewer transgressions it would be better for the fish. Also need to clarify 50% of what. Tom Chart asked how we evaluate these flow recommendations into the future. Tim said he could add a recommendation for that. Tim also will add a paragraph noting that implementation of these recommendations will be based on formation of a group that will meet annually or more often, etc. The report references previous FWS flow recommendations, but does not say what those were. Tim

will fix that. >Committee members will provide any additional technical comments to Tim within 2 weeks. The Committee tentatively approved the report pending approval of changes >Tim will post to the listserver 2 weeks later. If there is no response within two weeks of when Tim posts the revised version to the listserver, the report will be considered approved.

9. Westwater HBC population estimate report - Final draft distributed; approval postponed until next meeting.
10. Propagation/stocking; report on new PIT tag readers - >Tom Czapla will post an electronic update on this.
11. Update on Lower Basin activities - Tom Czapla proposed deferring this discussion, but noted that Utah proposes pursuing population modeling such as is being done in the lower basin. >Committee members should review the materials David Speas posted on this prior to the next Biology Committee meeting.
12. The next Biology Committee meeting will be September in Salt Lake September 22-23 starting at 10:00 a.m on the 22nd and adjourning by 3:00 p.m. on the 23rd. Agenda items will include: a) review of Hudson's Westwater humpback chub population estimate report; b) presentation on Utah's larval razorback drift study; c) update on lower basin activities (and scheduling a 1-day workshop); and d) discussion of peer-review of scopes of work (few peer review comments were referenced by Biology Committee members during the foregoing review of proposed FY 04-05 scopes of work). Also, in association with whenever the next Biology Committee meeting is scheduled in Grand Junction, the Committee will schedule a tour of facilities such as GVIC, etc.
13. Other - Since Committee members and/or their e-mail addresses change so frequently, >the PD's office will put a page on the website that keeps the e-mail lists for each Committee current (and will put a note on the listserver when that page becomes active).

Adjourn 5:00 p.m.

ASSIGNMENTS

1. Angela Kantola will post a revised reports list to the listserver.
2. Tom Nesler will try to find a date in late November or early December that works for Colorado's area managers for a workshop to review nonnative fish management data.
3. Kevin Christopherson will provide more background on Utah's larval razorback drift study at the next meeting (perhaps with a Powerpoint presentation).
4. Biology Committee members will provide any additional comments on Kirk LaGory's geomorphology report by August 8.
5. Kirk will provide his responses to the peer review comments to the Committee.
6. The PD's office will evaluate whether the scopes of work on hold for FY 03 (and also those proposed for FY 04-05) fit the recommendations in Kirk LaGory's draft report and provide recommendations for 03, 04, and 05 to the Committee.
7. Bob Muth will ask Reclamation to provide power to the Redlands passage outlet structure and to replace the heavy steel grate covers with aluminum in FY 03 so that \$6.8K can be removed from the FY 04 budget for this project.

8. Tom Chart will investigate whether the level of funding Reclamation has requested for capital projects contract administration (for all the construction scopes in addition to the program management scope of work) is justified and provide that information in advance of the July 31 Management Committee meeting.
9. In advance of the Management Committee meeting, Bob Muth will discuss the Committee's reasoning for not funding fish salvage from Tusher Wash and Yampa diversions with Bob McCue and others in the Service. They also will discuss the need for fish salvage from the GVIC canal.
10. In advance of the Management Committee meeting, Bob Muth and Frank Pfeifer will discuss the Committee's decision not to fund the GVP passage evaluation with Al Pfister and Bob McCue (the design has changed and now prevent entrainment of both adult and subadult fish). Brent Uilenberg and Terry Stroh should be involved in this discussion.
11. Bob Muth will discuss the Committee's concerns about the proposed cost of easement management with the Service.
12. Kevin Christopherson and Pat will make sure that age-1 fish will be available for the razorback recruitment study. Kevin will revise the scope of work.
13. Kevin Christopherson will revise the razorback entrainment scope of work (which will reflect that the work would only go forward if the required flows and larvae are available).
14. Kevin Christopherson will provide FY 05 costs for project #109. Kevin also will clarify development of a long-term management plan.
15. Tim Modde will clarify in project #110 that the fish removed will either be killed or translocated (but all will be removed from the treatment reaches). He also will correct the error about all fish being removed on the last pass.
16. Tom Nesler will determine if \$12.5K is necessary for project #C-31 in FY 04.
17. John Hawkins will revise the scope of work for project #98a (updating it to FY 04-05 and deleting the pike population estimate portion).
18. Kevin Christopherson will revise scope of work #123 to address PD's office questions.
19. Tim Modde will review the methods in project #124 to make sure control and treatment reaches don't overlap.
20. John Hawkins will revise scope of work #125 to reflect 04-05 work.
21. Kevin Christopherson may revise the new scope of work to evaluate the effect of nonnative fish removal on native fish populations before the December workshop.
22. Chuck McAda will discuss evaluation of the effect of nonnative fish removal on native fish populations in the Colorado River with Tom Nesler and Lori Martin, and if appropriate, provide a scope of work before the December workshop.
23. Frank Pfeifer will determine if any of the Uintah Basin pond leases are up in FY 04 (thus requiring additional funds).
24. Chuck McAda will revise scope of work #121 and delete the radio-tagging portion.

25. Principal investigators will submit tagging data to Chuck McAda as quickly as they can so that Chuck can compile the data for evaluation of stocking success.
26. Tom Czapla will provide a summary of the data we have to date on stocked fish this winter, then we'll see if additional work is necessary to evaluate stocking success.
27. Kevin Christopherson will revise the YOY monitoring scope of work to reflect maintaining the existing level of sampling (not expanded) and taking a hard look at the existing data.
28. Tom Chart will ask the San Juan Program to fund \$5K of the \$15K cost to publish an updated larval sucker key booklet.
29. Angela Kantola will post revised budget tables to the listserver (and also provide hard copies to the Management Committee). She also will provide the Biology Committee's comments to the Management Committee.
30. Committee members will provide any additional technical comments on the Duchesne report to Tim Modde within 2 weeks. Tim will post to the listserver 2 weeks later. If there is no response within two weeks of when Tim posts the revised version to the listserver, the report will be considered approved.
31. Tom Czapla will post an electronic update on PIT tag readers.
32. Committee members should review the materials David Speas posted regarding a workshop on the age structure mark recapture model prior to the next Biology Committee meeting.