

Biology Committee Meeting
November 27, 2006, Grand Junction, Colorado

Biology Committee: Tom Chart, Tom Pitts (morning only), Gary Burton, Melissa Trammell, Kevin Gelwicks, Krissy Wilson, Dave Speas, and Tom Nesler. CREDA and the environmental groups were not represented.

Other participants: Dave Irving, Pat Nelson, Tim Modde, Tom Czaplá, Chuck McAda, Angela Kantola, George Smith, Tyler Abbott, Bob Muth, John Pitlick, Heather Patno, Ellen Hamann, Trina Hedrick, Leisa Monroe, Rich Valdez, and Craig Walker.

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

Monday November 27

CONVENE 10:30 a.m.

1. Review/modify agenda – The agenda was modified as it appears below.
2. Approve [October 3, 2006 meeting summary](#) - On page 4 under item # 8, Craig Walker requested addition of “and suggested that keeping these fish may provide a good opportunity to test propagation methods” after “Craig Walker agreed.”
>Angela Kantola will post the revised summary to the listserver.
3. Review assignments from October 3, 2006 meeting - The Committee reviewed assignments from previous meetings (as were listed in the meeting agenda). Completed assignments and those still pending can be found in the assignment list in Attachment 1.
4. Approve October 16, 2006 conference call summary – Delete “sand shiner” from the list of species found in the Stirrup wetland. >Angela Kantola will post the revised summary to the listserver.
5. Review/approval of Pitlick report “Channel monitoring to evaluate geomorphic changes on the main stem of the Colorado River” – George Smith introduced John Pitlick. This 15- and 18-mile reach channel monitoring was done primarily during drought years, with only 2 years of bypass flows during the monitoring period. The report also focuses on naturally occurring flows. The report was completed about a year and a half ago and the revised report was sent out last February. Tom Pitts distributed extensive comments at the meeting, which John had not had an opportunity to review. John said coordinated reservoir operations (CROS) added some flow to the peak (1,000 – 2,000 cfs, or 10-15% of total flow), but the natural hydrology provides the bulk of the peak flow, and the difference is difficult to tease out of the geomorphology. Tom Pitts noted that what we don’t know is what 2,000 cfs does in addition to a 17,000 or 20,000 cfs

flow. Therefore, we still don't know under what hydrologic conditions we should augment flows with CROS. John said that adding 2,000 cfs to the spring peak definitely has an effect, but we may not be able to measure that effect or describe precisely how it changes channel morphology. Tom Pitts asked at what threshold we should augment flows. John explained that sediment transport is highly non-linear, but we will get more "bang for our buck" augmenting at higher flows than lower flows, and it's best to add as much water as possible in as short a time as possible. However, if the flow recommendation hasn't been met in several years, an addition of 2,000 cfs at any flow level is helpful. John will add this sort of description to the text (explaining the benefits of augmenting flows when not meeting one of the thresholds shown on page 52, etc.) George Smith said the Program currently implements CROS when projected flows are between 12,500-23,000 cfs. John will discuss the expected effects of augmentation over this flow range (perhaps including quantitative examples of flow magnitudes, duration, and expected sediment transport). Tom Pitts said any additional guidance for augmenting flows will be helpful. If the impact can't be measured below some threshold, that should be stated (Tom noted that this doesn't necessarily imply flows shouldn't be augmented below that threshold, however). John emphasized rocks and cobbles moved at all four flows shown on page 24, but were quickly replaced, so there is geomorphic *activity*, but not necessarily *change*. Tom Pitts noted that the methods allude to the shortcomings of monitoring techniques, but should be made more specific. Also, John will clarify the units in a footnote to table 6 on page 50. >John will revise the report, add Tom Pitts' comments and his responses to the appendix, and post the report to the Biology Committee by early January, then the Committee will have 2 weeks to respond.

6. Stocking of excess razorback sucker – Pat Nelson updated the Committee on possible chemical treatment and the subsequent stocking/recruitment evaluation study. Pat said that using rotenone at the Stirrup to prepare it for stocking excess razorback (for recruitment study) was considered, but this couldn't be done by the end of October. Pat said they also considered lowering the water level by pumping so Stirrup could be more effectively sampled, but BLM felt this would require NEPA compliance. After discussion with Mike Montagne and others, they decided to stock all 23,000 excess razorbacks into five hatchery ponds the last week of October. Hopefully a high percentage of these fish will survive overwinter so they can be stocked after the Stirrup is reset next spring before runoff. Pat said a possible option is to do programmatic NEPA (and intra-Service Section 7, and possibly public meetings) to cover a variety of options (pumping, rotenone, etc.) in the future. Pat asked for any input Committee members may have in terms of options that should be covered. >Bob Muth said the Service and BLM (and other agencies) need to discuss this as soon as possible. Melissa said since public perception is the primary concern, it might help to hold public meetings to explain why the action will be covered under a categorical exclusion (this is basically what the Park decided to do with the humpback chub captivity research). Tom Pitts pointed out we need to distinguish between the need for NEPA on major construction projects versus operational activity such as draining a pond,

- etc. (As Tim Modde pointed out, these sites have been drained before without a need for NEPA compliance.) Tom Chart suggested that use of rotenone may also need to be covered in collecting permits, however. Melissa said the new CFR on NEPA categorical exclusions coming out in the next year may be helpful.
7. Update on progress to [standardize electrofishing fleet](#) – Pat Martinez reviewed work to date. They found a source of heavier-walled stainless-steel spheres for ~\$100 each (plus the cost of having holes plasma-cut so the spheres will sink). They've begun testing at Highline Lake with Lori Martin's boat, testing various settings on the Smith-Root GPP 5.0 and various size anodes. (They've also developed a way to simulate water conductivity on land using baseboard electric heaters.) The key setting on the Smith-Root GPP 5.0 is the high range/low range; which doesn't have the results intuitively expected (the higher range setting doesn't necessarily put more power in the water). Since the GPP 5.0 doesn't have voltage or current meters, they are testing a ~\$300 meter that clamps on the output cable. In April, they will begin working with crews on the river and comparing those boats to a "standard boat." Pat said this is both an effort to standardize and optimize the electrofishing fleet. Tom Czapla asked about electrofishing rafts, and Pat said they want to work out protocol for hard-bottomed boats first, then determine how it may be applicable to rafts.
 8. Update on preparations for Annual Researchers Meeting – Chuck McAda said he's received about seven submissions for presentations. Pat Nelson said he's talked with a number of people involved in nonnative fish projects outside the basin (e.g., Peter Sorenson on fish pheromones, Terry Hubert on Great Lakes sea lamprey control, and Ann Kapuscinski who's been studying the feasibility of genetic techniques for managing nonnative species in the Gila River) who would like to make presentations, but this might require more time than we have available at the researchers meeting. Angela Kantola said she hopes to participate on a Service web conference this week to test out this system; web-conferencing might be a good way to arrange these presentations. >Chuck will send a specific invitation to the researchers meeting to Matthew Andersen of the Adaptive Management Program and to Sam Spiller.
 9. Green River flow request and research needs – Dave Speas said if the Program wants to request flows that depart at all from the flow recommendations, Reclamation would like to see that by the end of January or the first half of February, at the latest. The entrainment study is in wrap-up; are there any other studies that will need to be addressed? Trina Hedrick said she believes we got good results from the entrainment study this year, so we shouldn't need to repeat it in 2007. Gary Burton reminded the group of the lesson learned last year to address several possible hydrological conditions with any request. Tom Chart suggested we may want to let the TWG know of plans for a future recruitment study. The Committee tabled this discussion until the end of tomorrow's meeting with the Water Acquisition Committee on the Green River Study Plan. Dave noted that the TWG also would need to know of any special baseflow requests.

Dave distributed copies of a straw-man operational plan for floodplain wetlands, noting that Dan Alonso has reviewed it. Dave said the intent of the plan is to bring the floodplain management plan to an annual operation plan level and to do so in a way that wouldn't require additional funds. Dave asked for >comments from Pat Nelson and the Committee and suggested the Committee discuss this at their next meeting. Tom Chart said he'd provided some input on the draft and agreed we need this kind of operational plan. Rich Valdez suggested building contingencies into the plan (e.g., what to do if the water quality drops precipitously and fish die, etc.). Tom Nesler agreed it's important to have operational plans for each site, but we also need to be sure we're planning and evaluating razorback sucker growth and recruitment on a system-wide level. >Dave will post an electronic copy of this to the listserver.

10. Preparation for nonnative fish control workshop – Pat Nelson said he's been working on the agenda with the workshop committee and it was posted to the listserver last Wednesday. This year we'll take a slightly different approach in that instead of each principal investigator making a presentation, they'll provide a 1-page summary of their work and we'll be looking at more of a big picture, discussing target criteria, and using sub-basin breakout groups. Rich Valdez added that the Implementation Committee's directive to develop a specific nonnative fish control plan for the Yampa River is a driving force behind the structure of this year's workshop. Tom Nesler emphasized the importance of seeing the information from each study before the workshop. Pat Nelson will send out the annual reports by the end of this week. Rich said time has been built into the agenda for open discussion with the PI's about their summaries. Dave suggested designating leaders for the breakout groups in advance of the workshop; >Pat agreed and will contact people this week to ask them to lead specific sub-basin groups. >Pat will send a specific invitation to Matthew Andersen of the Adaptive Management Program and to Sam Spiller. Tim Modde gave a presentation on what he'd hoped to accomplish with a workgroup meeting on nonnative fish (see attachment #2 for excerpts; complete copies available by request from Tim_Modde@fws.gov). Tim said he believes we've overemphasized tactics at the expense of strategy and that we need a plan of action (strategy) to achieve a specific smallmouth bass removal goal. Most of our smallmouth bass removal rates are less than harvest rates in sustainable smallmouth bass sportfisheries. Bruce Haines' modeling show that we can steadily decrease numbers of adults within a year, but unless our removal rate is >65%, the number of juveniles will increase and actually add to the predation load on small fish (as well as provide recruits to enter the adult life stage). Tim gave examples of the number of passes required to exceed a 65% harvest rate at different capture probabilities. If we could affect smallmouth bass *recruitment*, we could decrease numbers of both adults and young fish. Tim outlined questions for discussion based on this information. Rich Valdez cautioned against hanging our hat on a 65% removal rate, since that number has been derived indirectly. One thing we can do is to determine what kind of field data we can collect to directly populate stock recruitment models. Determining how we can be more

efficient at removing fish needs to be a focus of the upcoming workshop. Kevin Gelwicks suggested providing some of this information at the beginning of the workshop. Bob Muth and Tom Nesler both suggested that a follow-up meeting of field folks along the lines of what Tim has suggested may be useful after the workshop. The Committee agreed. Craig Walker observed that our ability to receive new information (e.g., what we're doing isn't working) and shift our plans is the very crux of adaptive management. Dave Speas expressed concern about PI's having time to adequately analyze data between the field season and the workshop in order to accomplish this kind of adaptive management.

11. Nonnative fish criteria – Tom Chart noted the Committee reviewed the interim criteria at the last meeting, and had the northern pike criteria fairly well set. For smallmouth bass, we were considering a response criterion of 20-30% native fish in low-velocity habitats, but needed to review the data on which that was based. A 1985 report reported upper Yampa low-velocity habitats had 20-30% native fish, with a much higher (50-60%) native fish percentage in Yampa Canyon, and other datasets seemed to support these numbers. However, closer examination showed variation with different hydrologic conditions. Given that we're trying to develop *interim* criteria at this point, however; Tom said they're now reviewing data collected just before and during the smallmouth bass expansion, and recommending a 3-part interim criteria consisting of: number of large smallmouth bass in the main channel of the river; percent composition of YOY smallmouth bass in connected low-velocity habitats; and native fish response in low-velocity habitats. (Tom Nesler emphasized the need to keep this third part in the criteria.) Melissa Trammell added that we also need to look at Mark Fuller's 1998 seining data as soon as those data are entered and available. This topic will be a part of the nonnative fish workshop as well as on the next meeting agenda.
12. Update on plans to bring young of year chubs into captivity – Tom Czapla said he's been working with the Park Service and Melissa has met with them and revised the proposed research project. Melissa expects comments from Dinosaur in early December. It appears that no EA will be required (categorical exclusion because this is a research project). With regard to public notification, Melissa said the Park wants to be sure that the states support the project and that the county commissioners have had opportunity to review and comment.
13. Update on work to develop a white paper on options for changes to bonytail stocking plan – Tom Czapla said he's analyzing 2005 and 2006 information and >will provide the analysis to the ad hoc work group and work with them to develop recommendations for potential modifications to the stocking plan. Tom anticipates having something back to the Biology Committee after January. Krissy noted that 28,000 excess bonytail voluntarily spawned in the Wahweap ponds (parentage unknown) were destroyed last year, so as we review the stocking plan, we should revisit how we do (or don't) want to use excess fish in the future.

14. Review reports due list – Angela Kantola distributed copies of the revised list. >The Program Director’s office will review and correct the dates for humpback chub population estimate reports. >Tom Nesler will check on the status of the Elkhead Lake and Yampa River aquatic management plans. Trina said she’ll have the Starvation Reservoir report to the Committee by December 8. >Angela Kantola will update the list and post it to the listserv.
15. Research framework SOW – Technical content hasn’t changed; just the schedule. If >Committee members have any comments, those should be submitted to Rich Valdez by December 8, then the Program Director’s will post the updated scope of work to the web.
16. Next meeting – Conference call with Management Committee on January 3 from 1-4 p.m. to discuss outcomes of the nonnative fish workshop and next steps. The next meeting is January 19th from 7:30 a.m. to 2:00 p.m. in Grand Junction following the researchers meeting. The primary topic will be revisions to the Green River Study Plan (the main item); as time allows, other agenda items will include: review of the scope of work to analyze survival rates of stocked razorback sucker; review of revised nonnative criteria, discussion of the draft floodplain operational plan, finalizing a decision on whether or not to stock pikeminnow above Price-Stubb before passage is completed (if decision has not already been finalized; Czaplá researching), discussion of the fish handling protocol and its use, revisions to the report review procedure, and review/approval of the Starvation report and Modde’s Yampa Canyon smallmouth bass report. To the extent those items can’t be covered, the Committee will schedule a follow up conference call or web conference (dates will be suggested when the January 19 meeting agenda is sent out).

Gary Burton said Heather Patno has been named Western’s alternate on the Biology Committee and will represent them until someone is hired to replace Gary, who is retiring in early January. The Committee thanked Gary for his dedicated service (the Management Committee presented an appreciation plaque to Gary last week).

ADJOURN 4:20 p.m.

Attachment 1
Assignments from November 27, 2006, meeting (Grand Junction)

Update on assignments completed or underway:

Tom Nesler will provide George Smith information on the relative abundance of the species in Colorado reservoirs and whether those species have been detected in downstream sampling (this may take awhile, however). *This work is underway: CDOW has appointed Ellen Hamann to work on this. Pat Martinez said Ellen has been making reservoir site visits and they will be reviewing reservoir operations history and assessing escapement risks and provide the information to George Smith.*

John Hawkins will give Pat Nelson an idea of what sort of update is needed for State Parks folks in advance of the next nonnative fish sampling season. *Hawkins has written up requests from State Parks folks and will share with Pat Nelson. Parks would like information ahead of time; perhaps field personnel can talk to them in advance. Pat said John provided him a list of concerns, etc. and he and John will be meeting with Parks.*

George will make that clear in the GIS scope of work that fish capture data would be password-protected to prevent improper use. George also will talk to Dave Campbell how the similar GIS effort is working out in the San Juan program. Pending; GIS SOW deferred to 2007. *George said the site is password-protected and the contract is in the works.*

Assignments carried over from previous meetings:

1. The Service and Program Director's office will prepare description of the intended process, time frame, and lower basin involvement for the 2007 recovery goal review (perhaps a scope of work). *Pending (Service R6 & R2 discussing draft strategy).*
2. The Committee needs to make a decision regarding stocking or translocating and monitoring pikeminnow before Price-Stubbs passage is complete. *Chair/Program Director's office will review past discussions and place on the next Biology Committee meeting agenda.*
3. Tom Pitts will ask the WAC to adopt a report review procedure similar to the Biology Committee's. Pending. *Tom Pitts will recommend changes to the Program Director's office for discussion at the next Biology Committee meeting.*
4. John Hawkins and Tom Czapla will develop specific recommendations for the use of the fish handling protocol for review at the next meeting. John Hawkins is continuing to update the protocol. By mid-October John Hawkins and Tom Czapla will survey PI's for any new information and to see if they have any training needs. *Tom and John put together this survey with responses due 11/3, Tom also sent a reminder and has received some responses, Tom will work on*

getting responses from the remaining researchers; this will be on the next Biology Committee meeting agenda.

5. Utah will work with Pat Nelson to submit/revise scopes of work to address white sucker removal. *Pat said Trina is proposing a separate pass for white sucker with Utah funds. Also during their removal of smallmouth bass under the Recovery Program, Utah will remove white sucker as they are encountered. One question is whether this would dilute our smallmouth removal efforts (hopefully not). Pat will cross-check with Bestgen's 3-species report (and the Lodore report) to determine if the mainstem Green River should be the focus for white sucker removal.*
6. Kevin Bestgen and Rich Valdez will update the research framework scope of work with current due dates, etc. and provide that to the Biology Committee. *Rich e-mailed this scope of work to the Committee; the technical content hasn't changed; just the schedule. If Committee members have any comments, those should be submitted to Rich Valdez by December 8, then the Program Director's will post the updated scope of work to the web.*
7. Program staff will discuss how Mike Carpenter's time-series monitoring of sediment deposition and erosion at the Jensen Bar can be tied into the USGS SWMS work. *Pending. George will be meeting with USGS folks to discuss this..*
8. The Program Director's office will continue to pursue analysis of stocked razorback sucker and get a scope of work developed. Principal investigators will need to submit their data with their annual reports). *Bob Muth sent out a scope of work from Kevin Bestgen that is out for peer review; the Biology Committee will review this at their next meeting.*

New Assignments:

1. Angela Kantola will post revised summaries of the October 3 meeting and October 16 conference call to the listserver. *Done.*
2. John Pitlick will revise the channel monitoring report, add Tom Pitts' comments and his responses to the appendix, and post the report to the Biology Committee by early January, then the Committee will then have 2 weeks to respond.
3. The Service will discuss Program activities with BLM and other agencies (e.g. NPS, BOR) to develop guidelines for the type of activities (e.g., major construction versus operational) requiring NEPA compliance.
4. Chuck McAda will send a specific invitation to the researchers meeting to Matthew Andersen of the Adaptive Management Program and to Sam Spiller.
5. Dave Speas will post an electronic copy of the draft floodplain operational plan to the

listserver and request comments from Pat Nelson and the Biology Committee.

6. Pat will contact potential leaders for nonnative workshop subbasin breakout groups this week so that we'll have these leaders designated in advance of the workshop.
7. Pat will send a specific invitation to the nonnative fish workshop to Matthew Andersen of the Adaptive Management Program and to Sam Spiller.
8. Tom Czapla will finish analyzing the 2005 and 2006 bonytail information, provide that analysis to the bonytail stocking ad hoc work group, and work with the group to develop recommendations to the Biology Committee for potential modifications to the stocking plan by early February.
9. The Program Director's office will review due dates for humpback chub population estimate reports.
10. Tom Nesler will check on the status of the Elkhead Reservoir and Yampa River aquatic management plans.
11. Angela Kantola will update the reports due list and post it to the listserver.

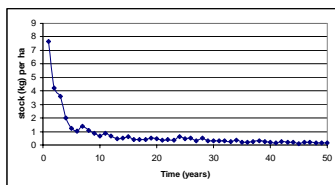
Attachment 2 (From Tim Modde's Nonnative Fish Presentation)

Comparison of smallmouth bass exploitation rates from managed fisheries with removal rates from RIP smallmouth bass removal program.

Percent Harvest Exploitation Rates		
Rates	Location	Reference
33	Iowa	Paragamian 1984 NAJFM
44	Ohio	Marinac-Sanders and Cole 1981 NAJFM
45	Wisconsin	Hoff 1995 NAJFM
46	Indiana/Illinois	Petersen and Kwak 1999 Applied Ecology
53	Wisconsin	Neumann and Hoff 2000 NAJFM

Percent RIP Removal Rates			Number Depletion Passes
Rates	Location	Year	
11-21	Yampa Canyon (DNM)	2004-05	4-5
21-31	Green River (Whirlpool)	2004-05	3
15	Green River (Splt-Deso)	2004-05	3
3-16	Colorado River (Grand Val)	2006	3
69-115	Little Yampa Canyon	2004-05	8+
97-194	Lily Park	2004-05	5

At our current sampling efficiency, how much effort is needed to cause a "population crash", i.e., removal of >65% of adults.



Prob. Capture Number of Passes Required

0.03	35
0.06	17
0.12	8

What do we need to discuss?

- Given adult exploitation rates between 0.2 and 0.6, is it better to reduce adults or juveniles? Which condition would have least affect native fishes? (Would the preferred action change over time, and if so, what conditions would cause it to change?)
- Is it realistic to expect significant increases in the probability of capture in each reach? Examine what it would take to reduce total biomass or age-1 fish to a low level.
- Are there strategies that can help us achieve greater reductions under certain sets of conditions, (e.g., simultaneous removal of adult and immature lifestages during years of high flows to maximize the losses in recruitment and adult displacement).
- Once stock size is greatly suppressed, what is required to keep them suppressed? How long can we hope to suppress a "crashed population"?
- Is the nonnative threat great enough to consider management actions thought to be too drastic a few years ago? What is the risk assessment?
- What kind of information should we collect to monitor removal success and improve accuracy of predictions.
- Is there a need for understanding the processes related to nonnative fish abundance and can we adapt our management to modify those processes.?