Upper Colorado River
Endangered Fish Recovery Program

August 19, 2010

Biology Committee Draft Summary
Holiday Inn Hotel and Suites, Grand Junction, Colorado, August 17–18, 2010

Biology Committee: Melissa Trammell, Dave Speas, Michelle Shaughnessy, Pete Cavalli, Krissy Wilson, Shane Capron, Tom Pitts, Brandon Albrecht, and Tom Nesler. CREDA was not represented at the meeting.

Other participants: Pat Martinez, Tom Chart, Tom Czapla, Angela Kantola, Leisa Monroe, Sherm Hebein, Dean Riggs. Steve McCall (Wed.). By phone: Jana Mohrman and John Hawkins.

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

Tuesday, August 17

CONVENE: 12:30 p.m.

1. Review/modify agenda – The agenda was modified as it appears below.

2. Approve Biology Committee May 6-7 meeting summary, review reports due list. Angela Kantola said she received two corrections: one to the location of the next meeting; and one to the list of the small group working on Tusher Wash risk assessment in the assignments list. The Committee had no other changes. Angela posted the revised summary to the fws-coloriver listserver. The Committee reviewed the reports due list; >Angela will send out a revised reports due list.

3. Report review, Upper Yampa River northern pike and smallmouth bass translocation (98a, Martin) – Pat Martinez provided three additional comments:

   - Add a phrase to the Methods or Results to better clarify "capture event" and to distinguish it from "fish captured". This terminology appears throughout the report, including tables and figures. In Table 24, for example, column headings include both categories, while column heading in Table 25 report only capture events. This will aid readability and interpretation of data.

   - References to specific river reaches in the text of the report, and in its tables and figures use reach numbers, river miles or local names for river sections and reach descriptions to identify locations where data was collected. This becomes a bit confusing and it appears that using river reach numbers would be the most consistent means to identify specific reaches since they are sequenced from upstream to downstream. Names of locations can still be used and are helpful, but they are not as specific and may not be as easily recognized by readers unfamiliar with the Yampa River. Also, refer readers to Table 1 within the caption of Figure 1.

- The report contains minor errors that require correction and several minor wording edits are offered for the author's consideration. These edits are provided by line or page number below.

The Committee expressed their appreciation for this complex report and approved it contingent upon incorporation of the above recommendations. >Colorado will incorporate these comments and finalize the report (in about a month in light of field season).

The Committee concurred with Utah's recommendation that for the next round of synthesis reports, we need to make the Program's expectations very clear to both PI's and peer reviewers. Andre's work will provide important input to this. Tom Nesler said CDOW learned from this report that multi-year synthesis reports are really beyond the scope of their field biologists' available time. If a contractor or someone else is going to take their data and write it up, the field biologists need to be aware of that going into the project. The Program Director's office emphasized the need for authors to provide electronic versions which can be commented on directly (via track changes or through Adobe, but preferably through track changes in Word [if a Word file like this is too large, the embedded Excel files can be compressed]). >Angela Kantola will add this to the report format and re-post that to the web, and also put this as a note in the scope of work format for FY 11 and beyond. >Requirements/process for the next round of synthesis reports should be discussed by the Nonnative Fish Subcommittee and at the upcoming nonnative fish workshop.

4. Update on draft project #85f sediment report – Jana Mohrman said the sediment study has gone through peer review (and the Committee should have received those comments) and the author is working to address comments and add a list of major findings. >Jana will make sure the BC also received Tom Pitts' and Dan Luecke's comments. Jana will arrange a webcast with the author and the Biology and Water Acquisition committees (scheduling via a Doodle request). Once the report is revised, it will go to the Biology and Water Acquisition committees for final approval. Dave Speas commented, that as Tom Pitts' has said, the report doesn't relate the data/findings well to backwater habitat and spawning bars (as was identified under objectives in the scope of work). Dave recommended that the Committee more closely scrutinize future scopes of work to judge whether proposed methods are likely to meet stated objectives. Tom Pitts believes this report does not answer whether the flow recommendations are achieving their desired purposes for habitat year-round, which is a question we need to answer. Dave agreed that the report has identified long-term trends in sediment transport that we'll want to consider in evaluating the flow recommendations. Melissa Trammell suggested it might be helpful to have another conversation with Bob Muth and George Smith about how they see the report results and how those can guide us in future evaluation of flow recommendations; >Jana Mohrman will contact Bob and George.

5. Price-Stubb PIT-tag monitoring station – Tom Czapla said the monitoring station was installed last week. BioMark will be working with CRFP on data download methods. Dave commented that this should help answer questions about whether fish are using the passage, but he hopes it may provide additional information, as well; Krissy concurred, noting how these arrays are being used in other parts of the country for trend analysis, abundance, etc. Tom noted our thanks to the Kokopelli Fruit Stand at the Cameo exit which provided a staging area for the installation.

6. Nonnative Fish Activities and Subcommittee (NNFSC) update

   a. Biocontrol symposium update – Pat Martinez said the symposium was quite significant, even historic, and included presentations on a number of valuable references. Pat reviewed methods of genetic control:
   Sterile release: reproductive interference
   - sterile male: chemical or radiation induced; mate with fertile females
   - triploidy: thermal or pressure induced; mostly sterile (triploid females)
   Chromosome set manipulations: population reduction
   - sterile triploid males: anueploid; non-viable progeny; population reduction
   - Trojan-Y chromosome: sex:ratio distortion; female extinction
   Gene-based recombinant DNA: GMOs; population eradication
   - inherited construct: autocidal; "breed to extinction"; "daughterless carp"
   - conditional lethality: inducible mortality; environmental or artificial trigger

   Pat said more is known about the triploidy approaches and considerable expertise is available, but transgenic methods are further out, particularly in light of regulatory requirements. FDA appears open to considering these proposals, but it will take time. Currently there's a bit of a patchwork of regulations, both state and Federal, to consider. Dave noted that some of the techniques discussed at the symposium take a *long* time (e.g., 70 years) to wipe out a population, so their use in eliminating nonnatives to protect endangered species will be limited. Sterile male technology perhaps has the greatest potential. Pat described a good example of integrated pest management for sea lamprey. The Recovery Program isn't in a position to do any field testing at this point, but Pat thinks we should encourage CDOW's work with triploid walleye, for example. Perhaps one of our hatcheries could be dedicated to this kind of work down the line when we no longer need to stock endangered fish (assuming all the regulatory concerns could be overcome). Both Utah and Colorado are working on triploidy. Pat suggested an initial step for the Recovery Program is to encourage use of triploid fish in nonnative fish stocking proposals.

   b. Nonnative fish strategy – Pat Martinez said the Nonnative Fish Subcommittee has made substantial progress on this. The Yampa strategy serves as a template. The Subcommittee compiled and prioritized recommendations from previous nonnative fish workshops. Most recently, Dave Speas began outlining a basinwide strategy to identify and describe an integrated approach for managing problematic nonnative fishes throughout the Colorado River Basin. Pat emphasized the need to employ techniques of **prevention**, control, research, and monitoring using an integrated pest management approach (and policy would apply under each of the four categories). The Subcommittee will hold a webinar from on September 23 (1-5pm) to continue working on the basinwide strategy. Pat has recently become aware that the signatories to the 2009 Nonnative Fish Stocking Procedures need to meet to clarify interpretations of the criteria in those Procedures, which summarized are: stocking of salmonids okay, except in riverine critical habitat; stocking of nonnative nonsalmonids case-by-case; triploid/hybrid sterile fish for control of nonnative fish species; ANS; stocked & translocated fishes dependent on floodplain position (100-yr) and connection to critical habitat.

Pat's interpretation is that the regulations are stricter, but more streamlined. >Pat will be sending out an e-mail to schedule a conference call among the signatories on this.

Tom Chart said nonnative fish management will be a topic at the September Implementation Committee, again, with emphasis on prevention. Tom Nesler emphasized the importance of buy-in at the level of the State wildlife agencies first. Tom Chart agreed, but added that the discussions also have to occur at higher levels to consider what the Program is doing for recovery and water use, as a whole. Tom Chart said efforts are underway to have a meeting among the State wildlife agencies, the Service, and DNR, but that isn't likely to occur before the Implementation Committee meeting.

c. Other items – Pat Martinez mentioned manuscripts he's working on: Rapid expansion of an invasive crayfish in a high desert river: implications for the lotic food web (submitted to Biological Invasions); and Native Fish Conservation Areas: A Vision for Large-scale Conservation of Native Fish Communities (submitted to Fisheries). Designated conservation areas are increasingly being viewed as necessary for conservation of vulnerable fishes. Pat discussed results of the otolith microchemistry project to date which indicate that strontium isotope ratios are a valuable tool to trace origins and movements of nonnative piscivores in the Upper Basin. Pat believes we need to have the capability for ongoing analyses of individual specimens (e.g., to analyze Green River burbot, Colorado River-Rifle Gap northern pike). Pat emphasized how the recent burbot capture in the Green River points up the need for a basinwide effort to combat aquatic species introductions. Pat mentioned a proposal to investigate burbot thermal tolerances; Melissa added that she just read that burbot lethal high thermal tolerances increase when fish are raised in higher temperatures. PI's need to know that they are to preserve (freeze) the head of any new species captured, measure the total length, and provide information on the location caught. Given the proximity of the burbot capture, Melissa asked if Colorado is considering no-tolerance regulations like those in Utah and Sherman Hebein said he plans to discuss options with Tom Remington tomorrow.

d. Scheduling December nonnative fish workshop – The workshop will be held December 7-8 in Grand Junction, likely at the Clarion. Annual reports will be due November 15; >the Program Director's office will get the updated report templates posted to the fws-coloriver listserver and on the Program's website.

7. Electrofishing update – Pat Martinez discussed the work he and Larry Kolz did to develop and identify the standard boat configuration for the Recovery Program's aluminum-hulled boat fleet. Pat reviewed characteristics of the Smith-Root GPP 5.0 (in broad use in the Program), the Smith-Root VVP15B (tested in the Yampa River), and the newer ETS MBS (acronym for "Modern Boat Shocker"). Larry and Pat concluded that although the VVP sometimes has better catch rates under certain conditions, it would not be a good investment for broad-scale use on aluminum-hulled boats in the upper basin. The ETS has plenty of power to operate across a broad range of conductivity, without the VVP's power drop-off at higher conductivities. The duty cycle of the ETS can be increased (where it's less likely to harm fish) and appears to provide the best features of the Smith-Root VVP and the GPP. Pat recommends the Program try a few of these units; the Committee agreed (CDOW, CRFP,

and UDWR all need one new electrofishing unit for next field season [CDOW is ready to purchase one now]). Larry Kolz believes the standard, 2D model at $5K is the model we should get; Pat Martinez will confirm this. Pat clarified that the GPP gets the job done, but the ETS MBS appears to offer improved adjustments. Because the GPP's have proprietary generators, those generators won't work with the ETS MBS. (Note: cost for a VVP and proprietary generator is currently $15K). The ETS engineer recommends a 5000W Champion generator (~$800) for use with the ETS units, but others believe Honda generators (~$3,500) are more reliable. ETS is willing to build the boxes according to our specifications so that we don't have to re-wire our boats. Durability, customer service, turnaround time, and company longevity of ETS all are unknown at this point. Dave asked if we should first test the ETS units on non-listed fishes, to avoid changing fish capture probabilities in our endangered fish monitoring (a likely place to test the ETS units would be on Yampa pike removal). Pat and Larry would modify the field datasheet for use in field-testing the ETS MBS. >Pat and the PD's office will work with the PI's to determine units to be ordered and where they'll be deployed. Tom Pitts suggested that >Pat capture the essence of this powerpoint presentation with Larry's paper to document the rationale for our decision and share that with the San Juan Program (recognizing, of course, that only rafts, not aluminum boats, are used on the San Juan).

ADJOURN 4:55 p.m.

Wednesday, August 18

CONVENE: 8:00 a.m.

8. Aspinall PBO Study Plan update – The ad-hoc work group held their first meeting in June and Dave Speas and Tom Chart subsequently worked to develop a first draft of the study plan (patterned after the Flaming Gorge Study Plan), which Tom Chart e-mailed on Monday. >The Program Director's office will post the summary of that meeting to the fws-coloriver listserver. The next meeting of the ad-hoc work group will be September 1-2 in Grand Junction. The meeting will start at 1:00 p.m. (instead of 12:30 p.m., as originally scheduled). Tom Pitts recommended that the ad-hoc group identify the schedule and process for finalizing the plan during their September 1-2 meeting.

9. Prioritizing additional capital projects potentially needed for recovery – Melissa Trammell reported that capital funds appear much more limited than the Committee originally understood. At last week's Management Committee meeting, Brent Uilenberg urged extreme caution in funding additional capital projects in the Upper Colorado until we know actual costs for OMID, Horsethief Ponds, and Tusher Wash (since current estimates leave us with less than $6M for any needed capital project repair/rehabilitation). It's unlikely that the Program can commit to funding any new capital projects at this point. Brent said he thinks it's still useful for the Biology Committee to prioritize activities we believe are needed to achieve recovery, however, he doesn't believe we can commit capital funds to additional projects at this time. Therefore, Melissa proposed the Committee review and brainstorm potential additional projects which may be needed for recovery today, and then Committee members rank them (with the criteria clearly defined so they are applied as consistently as possible) using a matrix like the one used to prioritize nonnative fish management activities. The Committee would then discuss the prioritization at a future meeting. The group

discussed what, in fact, constitutes a capital project and concluded that since that's not a Biology Committee call, they would go ahead and consider these items identified without trying to define whether or not they could receive capital funds. The group discussed the matrix criteria:

Technical feasibility (0=hard, 5=easy). For example, weirs for nonnative fish management would have varying levels of technical feasibility.

Program participant (0=no support, 5=fully support) support would be defined as the amount of support from your agency/group for this particular idea (the PD's office would vote on anticipated support of all Program participants).

Cost (0=expensive, 5=cheap). For example, a screen at Elkhead would be considered fairly expensive and a PIT-tag antenna at Price Stubb would be considered moderately expensive, while a PIT-tag antenna at Maybell ditch would be fairly inexpensive. Ongoing costs for operation and maintenance shouldn't factor into this consideration (unless we make it a separate category, then combine it with capital cost in the ranking).

Effectiveness (0=ineffective, 5=very effective) for recovery of endangered fish.

In ranking projects, Committee members might want to add explanatory text where they are uncomfortable making a ranking because they don't believe they have the necessary information, etc. A field can be added for explanatory comments. If someone thinks of other alternatives, they can add those to their list. The intent of this prioritization exercise is to develop a gross ranking that helps the Committee make recommendations on potential additional projects. The spreadsheet is simply meant to be a tool to facilitate subsequent discussion. The group briefly reviewed potential additional projects and attempted to begin better defining them; leads for refining definitions are identified in parentheses:

- Weirs for nonnative fish management (UDWR):
- ~~Floodplain management: Soaring Eagle gravel pit~~ (costs will be covered by the project proponent; no cost to the Recovery Program).
- Floodplain management: Jarvis dredging (PDO) – Patty Gelatt has recommended removing accumulated sediment …
- Floodplain construction (e.g., kettles, water control structures like those Aaron Webber has proposed on the Green River) (Michelle)
- Floodplain purchase
- Maybell Ditch screen/exclusion device (if needed)
- Wahweap hatchery building
- Additional propagation facilities for humpback chub in the upper basin
- Horsethief Ponds expansion
- Instream flows (water management options)
- Reservoir screens: Elkhead, Stagecoach, Starvation, Rifle Gap, Harvey Gap, Flaming Gorge, other
- Remote PIT-tag arrays (not likely eligible for capital funding): Maybell Ditch, bypass tubes on fish screens, Stewart Lake

>By September 22, Committee members and others who suggested these ideas will provide

short explanatory/descriptive text (preferably just a paragraph), and then the Committee will decide when to take the next steps (individual ranking, group discussion of combined ranking, etc.).

10. Update on Stirrup PIT-tag antenna results – Leisa Monroe reviewed preliminary results from the remote PIT-tag antenna they deployed at the Stirrup. All the tags have been downloaded and 42 PIT-tagged fish moved in and out of the Stirrup this year. Individual tag numbers haven't yet been checked. The antenna was operable for ~3 weeks. Krissy noted that a good evaluation of overwinter survival will be needed to help us determine whether to continue to stock fish in the Stirrup (the report is due to the coordinator on December 1). The antenna was moved to Stewart Lake last year, but not this year.

11. Review of FY 11 work plan

    a. Review of projects in current FY 11 work plan, discussion of contingency projects – Angela Kantola reviewed the FY 11 work plan budget table and potential contingency projects. Given the tight FY 11 budget and potential FY 12 budget shortfalls, the Committee primarily just highlighted their most important priorities on the contingency list at this point. The Committee reviewed UDWR's justification for budget increases to some FY 11 SOWs. Krissy clarified that salary costs appear high because they are based on 10-hr days (still only a 40-hr workweek, however). The revised costs for these SOW's reflect a more accurate accounting of actual project costs. The Committee approved the increases for projects 128 (proposed $7,299 increase) and 138 (proposed $14,525 increase), which are not nonnative fish management projects. >Angela Kantola will modify the work plan budget table accordingly. The Committee will wait until after the nonnative fish workshop in December to consider modifications to the nonnative fish scopes of work.

    b. Review and discussion of Maybell PIT-tag antenna – Dave Speas has been working with Peter McKinnon at USU on PIT-tag antenna systems (they've installed them in the Grand Canyon and on the San Rafael). Peter is preparing an estimate for what a Yampa antenna would cost. We need to determine: 1) the Service's criteria for incidental take; 2) the best location for the antenna (near the flume which has noise issues, or further down which has access issues); 3) whether one or two antenna are needed; 4) if the overflow culvert should be monitored; 5) if a satellite uplink is needed; 6) who will perform local O&M (CSU, CDOW, or USU); 7) and length of operation. The Committee discussed access to and positioning of the antenna and solar panels and the concern about the drop from the overflow exit (which might be solved with an extension pipe). >Dave will ask Peter to estimate the cost for a system with two antennae and satellite uplink and multiplexer (prior to the meeting Tom Chart and Tom Pitts have with the Ditch owners). The San Rafael system cost ~$25K. Cost of O&M and data analysis likely would be under a separate scope of work. From a long-term perspective, the antennae likely will be site-specific, but the multiplexer and potentially the satellite uplink might be applied elsewhere. John Hawkins said that when the water is very high, it's unlikely that a fish could exit the ditch upstream through the inflow, but after flows decline and the velocities decrease, fish might be able to exit. Patty Gelatt has suggested that the Service would like to see two years of data, with the hope that different hydrologic conditions might be

observed. >Tom Chart will check with Patty and also will ask her about using two antennae (to detect direction of fish movement) versus one. >Dave Speas will ask Peter to make a presentation on his techniques at either DFC, the Researchers Meeting, or both. (On an unrelated issue, John Hawkins noted that the intensive sampling of smallmouth bass in the Yampa River was accomplished with help from CDOW and FWS, and that it all went very well; John thanked CDOW and FWS).

c. Proposal for fixed weir in Ashley Creek and Stewart Lake drain – Leisa Monroe outlined the technology and what might be accomplished with rigid weirs at these two locations. Krissy said that although she sent this proposed scope of work ($169K) to the Committee with their proposed revised scopes of work, they understand the current funding limitations. Leisa has been working with FishBio on possible rigid weirs that would block the influx of nonnatives and remove these tributaries as a refuge for nonnatives. A minimum 1" gap in the weirs would capture bass ≥~6". The weirs would be put in place during low flows. Maintenance, in addition to checking the fish traps, would include cleaning debris during high flow and remedying any vandalism. The weirs would have two live boxes, one upstream and one downstream, which would be checked daily (or less often, depending on fish activity and project budget). Tom Chart suggested another option would be to just operate a weir when Stewart Lake is drained (annually). Long-term, we'd like to use Stewart Lake drain as a nursery site for bonytail and razorback. Stewart Lake is one of the first floodplains downstream of the Escalante razorback sucker spawning bar. The Stewart Lake drain and Ashley Creek's close proximity would maximize efficiency of personnel time and travel, while allowing us to test fixed weirs in different systems. >The Committee will consider this proposal a contingency at this time, get any comments on the scope of work to the PD's office, and have more discussion at/after the nonnative fish workshop.

12. Grand Valley floodplain activities

a. Proposed reclamation at Soaring Eagle – The Soaring Eagle Co. has developed a reclamation plan for their gravel mining site downstream of Walter Walker to connect the gravel pit to the Colorado River with levee breaches at no cost to the Program. >Patty Gelatt will discuss this with the Committee in September.

b. Proposal to remove sediment from Jarvis floodplain site – >Tom Chart will send out Patty's report on this shortly and Patty also will discuss this project with the Committee in September.

13. Discuss schedule for floodplain review/site tour – The Committee has scheduled visits to Program floodplain sites with Ryan Mollnow, Ouray NWR for the afternoon of September 28 and all day September 29 (leaving the morning of September 30 for other Committee business). Topics for the review and site tour likely will include: review of management plans for the Green and Colorado river basins; discussion of options for Baeser Bend and Old Charley Wash (Modde's rotational floodplain management plan); Reclamation's work to implement recommendations from Heitmeyer and Fredrickson 2005; recommendations from the floodplain synthesis report (sent to BC 6/14/10); and continued work to monitor floodplain sites under C-6 Hydro. The PD's office and Melissa will draft an outline of the

goals for this site review and discussion. Melissa suggested we visit sites Aaron has suggested working on. Dave Speas said he'd also like to see Johnson Bottom. Dave also would like Ryan to explain the relationship of work to manage fish and other activities like vegetation control. Also, the floodplain synthesis report will be out soon and review of that will help inform our questions in this site review. >Aaron Webber will outline a set of options for site management. >Melissa and Angela will work on meeting arrangements and logistics. On the first afternoon, the group would visit Baeser, Stirrup, Old Charley and, if possible, Thunder Ranch (the PD's office will talk to Ryan about this possibility). On the second day, the group would visit Ouray NWR sites and then meet in the Ouray conference room to discuss. The Thursday morning portion (regular Biology Committee meeting) will be held in Vernal (at UDWR or CRFP; both are adequate to accommodate the group).

14. Review previous meeting assignments (see Attachment 1)

15. Discuss agenda items for next meeting (morning of September 30) and schedule following meeting – Agenda items for September 30 will include: floodplain discussion follow-up, clarify floodplain-associated capital projects, revisit prioritization list (definitions), potentially discussion of Elkhead escapement analysis, etc. Melissa Trammell may arrange to return the roundtails from Mumma to the river after the meeting. The next meeting after September will be December 14 in Grand Junction from 8 a.m. to 4 p.m. (unless the agenda lends itself to a web conference).

ADJOURN 1:00 p.m.

Attachment 1: Assignments

1. **Sherm Hebein** said he **and Tom Nesler** hope to finalize the Yampa River Aquatic Management Plan by March 19. *4/7: Sherm and Tom Nesler reviewed 4/6; Sherm is incorporating changes, reviewing suggested changes that are policy-related within CDOW, and responding to suggested revisions they to which they can't respond. Tom says they expect it will be ready for signature by the end of April 2010 (the 98a synthesis report also will be completed by the end of April). 5/6/10: Sherm still needs to incorporate comments; the Plan will be finalized no later than July 1, 2010. On the 98a final report, CDOW comments are being incorporated and will come to the BC for final review no later than July 1, 2010. 7/28/10: CDOW has committed to provide the revised plan, with response to reviewer comments by 7/31/10. 8/17/10: Plan complete;* ***CDOW*** *completing transmittal letters.* ***CDOW*** *will incorporate comments and finalize the 98a report (in about a month in light of field season).*

2. The Program Director's office will work with CDOW and Aaron Webber on the <u>potential for designing a permeable, hydrologically-stable (gravel?) berm to prevent northern pike access to the oxbow slough at RM 151 on the Yampa</u>, and then clean it out once and for all. *10/30 CDOW has contacted the property owners of the RM 151 backwater, but hasn't been able to meet with them yet. Mark Wernke from Reclamation is willing to take a look at the property with CDOW. A fairly long berm would be required (>3,000') and we'll need to determine the best type (more permanent configurations could be very expensive). The funding source would need to be determined, with Partners for Fish and Wildlife, lottery funds, grant funds, etc. as possible sources to be explored. 1/15: Tom Nesler said they plan to get engineers develop specs/estimates this spring for something like a 10-year berm structure; the next step will be to find fun2ding (perhaps as a habitat project through GOCO). This would be the first of three or four such projects. Tom Pitts suggested that if the Program provides some matching funds (annual or capital), it might improve the probability of getting GOCO money. Tom also suggested that if we have a project in the hopper, we might be able to compete for end-of-year Reclamation funds. 2/10: The PD's office considers this a high priority and will contribute funds, if available (see revised FY09 budget). 2/20: Recovery Program funds likely available; CDOW working to get engineers on the ground; Nesler considering different approaches (berm, fill the oxbow, etc.). 4/20: Tom Nesler said they've met with the landowner and Reclamation engineers will do an onsite survey as soon as the snow melts. 1/5/10: Project deferred indefinitely; Reclamation cautions that the lesson from the Butch Craig floodplain site is to be very cautious before considering modifying habitats. Based on the channel dynamics in this area of the Yampa River, it would be unwise to construct an impervious dike at the mouth of this backwater. 1/14/10: The Committee discussed other options to eliminate spawning in this area; the >PD's office will provide Mark's trip report to the BC and work with CDOW to outline options for Committee discussion at the next meeting (options could include: make the entrance too shallow for adults; a dike set back instead of right at the river; direct removal/net sets; piscicides, etc.) 2/22: PD's office provided Mark's report. 3/10:* ***CDOW*** *will work with Reclamation to flesh out their gravel proposal and also will review additional options (e.g., plant eradication, barriers, etc.). This will be on the May 6-7 Committee agenda. 5/6/10: Sherm Hebein said Reclamation will conduct a site visit with CDOW in July. 8/18: Sherm hopes to schedule a visit after the landowner cuts the grass in the next 2 weeks.*

3. Within the next month, >the **Service and Program Director's office** will provide the Committee a draft addendum to the White River report that will present the measured flow requirements in a historical hydrologic perspective. The Program Director's office also will research where we left Schmidt and Orchard's draft report on peak (channel maintenance) flows and recommend whether to have it reviewed by the geomorphology panel. The Program Director's office will use the information currently available to >develop a position paper on Price River flow recommendations for Committee review. *10/16 Pending; out by the end of ~~November~~ 1/5: February 2009. 2/20: Bob Muth said he's making good progress on this and he'll have a draft to the Committee by ~~early March~~ end of April. 7/8: Mohrman and Chart expect to provide drafts of this and Price River report by the end of August 2009. 7/13: Dave Speas said the goal for the Narrows EIS is to get it out for public review in the fall, so the above schedule should work. The PD's office will keep the Service's SLC-ES shop in the loop on Price River. 9/21: Chart and Mohrman have made good progress on this, but other priorities have so far prevented completion. 1/14/10: still pending and the PD's office will continue to communicate with Reclamation re: Narrows. 3/3/10: PD's office is communicating with SLC-ES to determine the best way to move this position paper forward. 5/6/10: The Program Director's office will complete a position paper (or similar construct) on Price River endangered fish flow needs and submit it for Biology Committee review by September 1, 2010. The Program Director's office will complete the addendum to the White River report and provide a status update and recommendation on the draft Schmidt and Orchard report on peak (channel maintenance) flows for Biology Committee review by December 31, 2010.*

4. *Melissa believes an Environmental Assessment of the impacts of the Humpback chub captivity management plan (also addresses how to deal with captured roundtail chub) will need to be written;* Krissy will work with Melissa on the EA. *7/13: Melissa needs to coordinate with the NPS if this is the case and she intends to do that in the next few weeks. 10/6: John Reber reported that **Melissa Trammell** will do the EA for this. 5/6/10 Melissa said she would have a draft for the park by ~~the end of May~~ September 6.*

5. **Krissy Wilson** will provide Utah's Health Condition Profile to **Tom Czapla**. *4/20: Krissy has asked for a formal write-up from their hatchery folks. 7/13: Krissy will condense relevant information gleaned from hatchery managers and consider organizing workshop(s) in the future. 10/6: Krissy provided this information to Tom Czapla and will work with Tom to determine if we'll host a workshop for hatchery personnel (pending, will schedule after new hatchery manager is in place at Ouray NFH). 3/10: Workshop on condition measurement for hatchery folks will be scheduled in late summer or early fall, probably in Grand Junction (to allow someone from the Mumma Hatchery to attend); >Tom Czapla will also invite San Juan Program hatchery managers. 8/18/10: Scheduled for Oct. 5; **Krissy Wilson and Michelle Shaughnessy** will determine the best location (perhaps at the hatchery).*

6. The **PD's office** will communicate with Gary White to determine how many and which of the questions from the HBC workshop to focus on. *Pending.* **Derek Elverud** will provide the database for Westwater for Gary White to combine with Black Rocks, which will require a separate SOW. *10/6: **Travis Francis** said they plan to complete the reports, then revisit a SOW for assistance from Gary White. 3/10: pending. 4/28: Derek Elverud has finished compiling the Westwater data to send to Gary White. Travis Francis is going to combine his Black Rocks data set with the Westwater data and his report (when he has time after he gets*

out of the field). 8/18/10: Michelle said we can get this to Gary White this winter.

7. The **Program Director's office** will review the 121a report recommendations (as well as the Gunnison PBO) and determine what items need to be included in the RIPRAP. *2/22: PD's office recommended this be incorporated into the Gunnison River Study Plan.*

8. **CDOW** will review the Loudy-Simpson escapement data and make a recommendation for where to translocate fish prior to the field season. *3/10: Sherm said their preliminary work indicated that less than 1% of the fish stocked into Loudy-Simpson 2007-2008 escaped back to the river (p-hat analysis resulted in an estimate of 3 to 8 fish), so they think escapement very minimal. CDOW will continue to evaluate and will defer stocking northern pike into Loudy-Simpson until after the river recedes and no Loudy-Simpson is no longer connected (the same will apply to Yampa R. SWA). In light of likely overwinter survival, Tom Chart asked CDOW to continue to focus on Headquarters (Kyle's) Pond as long as it will sustain the number of fish being stocked (which so far doesn't appear limiting).*

9. The **Program Director's office** will prepare a list of issues to be resolved regarding Tusher Wash screening (e.g., what levels of mortality are acceptable for what size classes, potential O&M costs, etc.) to help move this decision forward (and provide that to the Biology Committee and the Service). *Done. 5/6/10:* **A small group (Melissa, Kevin McAbee, Dave Speas, Tom Pitts, and Tom Czapla)** will work with **Kevin Bestgen** to review/build on the risk assessment, focusing on understanding existing impacts and what could be gained by various screening options. Tentatively, it would seem the best choice would be fish friendly runners with a screen on the irrigation ditch (contingent on further analysis). *BC to submit proposal to MC by 12/31/10.* 8/18: **Tom Czapla** will take the lead to get a conference call scheduled.

10. **Angela Kantola** will add a reminder to future annual report requests about the importance of PI's supervisors' reviewing recommendations to be sure that they are grounded in the data and that the Program takes these recommendations seriously. *Pending in 2010 annual report request.*

11. **Michelle Shaughnessy** will provide cost comparisons for O&M of the proposed new Grand Valley fish rearing ponds versus existing ponds as soon as the value engineering study is completed. *Pending; Michelle anticipates ~$30K increase in total costs (primarily fish food). 8/18: Current est. is an increase of $30K to the FY 11 SOW. If a new vehicle is needed, another $11K would be needed. All of this will depend on actual construction/completion dates.*

12. The **Program Director's office** and **Kevin Bestgen** will work with **PI's** to identify sampling shortcomings and remedies for Green River Colorado pikeminnow population estimate and report back to the Biology Committee prior to the 2011 sampling season. *Pending.*

13. The **Program Director's office** will post the revised 2008 and 2009 nonnative fish workshop summaries to the web. *Done.* **Dave Speas** is working to tabulate the recommendations from the 2008 and 2009 workshops and outline how to implement them and the NNFSC will meet to discuss this on June 30. *Done.* In the future, the **PD's office** will quickly complete these workshop summaries and the recommendations included as part of the annual and final

report summaries.

14. The **Service** (**GJ-CRFP** and the **Program Director's office**) will make recommendations for how/where to manage the fish spawned this year at the Grand Valley facility and bring those back to the Biology Committee. *8/18: Will be discussed during the health condition profile meeting. The **PD's office** needs to schedule discussion//revision of the integrated stocking plan.*

15. The **Biology Committee** will work on prioritizing their list of potential additional capital projects at a future meeting. *Ongoing.*

16. By June 1, the **Program Director's office** will provide a review package for Aspinall Study Plan Ad Hoc Group participants, to include: Gunnison River PBO, flow recommendations, floodplain mgmt plan, LaGory's geomorphology report, recent reports (e.g. #121 Gunnison River larval sampling), and a list of uncertainties identified in the flow recommendations, PBO, and draft EIS. *Done; ad hoc met in early June, study plan drafting is underway; next ad hoc meeting September 1-2.* The **Program Director's office** will post the summary of the June Aspinall Study Plan meeting to the fws-coloriver listserver.

17. **Sherm Hebein** will provide the Committee a copy of the output/report on CDOW's Gunnison River work (e.g., wherein they captured seven razorback last year in sampling half of the river) as soon as he receives it. *8/18: **Sherm will send to Angela** this week to distribute to the Committee.*

18. The **Program Director's office** will draft a letter from the Recovery Program to EPA asking EPA to update their spill response contingency plans. *7/29/10: Rather than drafting a letter at this point, Barb Osmundson has been working with Bob Stewart (DOI liaison to EPA) regarding updating the sub-area spill response plans. Bob raised this issue at the recent annual meeting and got a verbal commitment from EPA regarding the plans. Barb followed up with Bob on this and EPA plans to begin updating the sub area plans no later than spring 2011. The Regional Contingency Plan (RCP) appears to be complete and is going out for one last review/comment period.*

19. **Angela Kantola** will send out a revised reports due list.

20. **Angela Kantola** will modify the final report format document and put a note in future scope of work formats specifying that authors are to provide electronic versions of draft final reports which can be commented on directly (via track changes or through Adobe, but preferably through track changes in Word [if a Word file like this is too large, the embedded Excel files can be compressed]).

21. Requirements/process for the next round of synthesis reports should be discussed by the **Nonnative Fish Subcommittee** and at the upcoming **nonnative fish workshop**.

22. **Jana Mohrman** will make sure the BC received Tom Pitts' and Dan Luecke's comments on the sediment report. **Jana** also will contact Bob Muth and George Smith about how they see the report results and how those can guide us in future evaluation of flow recommendations.

23. **Pat Martinez** will schedule a conference call among the signatories to the 2009 Nonnative Fish Stocking Procedures to discuss clarifications.

24. Annual reports will be due November 15; the **Program Director's office** will get the updated report templates posted to the fws-coloriver listserver and on the Program's website.

25. **Pat Martinez and the PD's office** will work with the PI's to determine ETS electrofishing units to be ordered and where they'll be deployed. **Pat** will capture the essence of his electrofishing powerpoint presentation with Larry's paper to document the rationale for our decision and share that with the San Juan Program (recognizing, of course, that only rafts, not aluminum boats, are used on the San Juan).

26. By September 22, **Committee members and others** who suggested capital project ideas will provide short explanatory/descriptive text (preferably just a paragraph), and then the **Committee** will decide when to take the next steps (individual ranking, group discussion of combined ranking, etc.).

27. **Angela Kantola** will modify the work plan budget table to reflect the changes to UDWR's scopes of work (#128 and #138).

28. **Dave Speas** will ask **Peter McKinnon** to estimate the cost for a PIT tag system with two antennae and satellite uplink and multiplexer (prior to the meeting Tom Chart and Tom Pitts have with the Ditch owners). Patty Gelatt has suggested that the Service would like to see two years of data, with the hope that different hydrologic conditions might be observed. **Tom Chart** will check on this with **Patty Gelatt** and also will ask her about using two antennae versus one. >**Dave** will ask **Peter** to make a presentation on his techniques at either DFC, the Researchers Meeting, or both.

29. The **Committee** will consider the proposal for fixed weirs at Ashley Creek and Stewart Lake drain a contingency at this time, get any comments on the scope of work to the PD's office, and have more discussion at/after the nonnative fish workshop.

30. **Patty Gelatt** will discuss the Soaring Eagle Co. plan for their gravel mining site downstream of Walter Walker with the Committee in September, as well as the proposal to remove sediment from Jarvis floodplain. **Tom Chart** will send out Patty's report on Jarvis.

31. **Aaron Webber** will outline a set of options for management of Green River floodplain sites. >**Melissa Trammell and Angela Kantola** will work on arrangements and logistics for the September 28-29 floodplain site tour/discussion and September 30 Biology Committee meeting.