

Biology Committee Web Conference Draft Summary
January 24, 2011

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

Other participants: Pat Martinez, Tom Chart, Angela Kantola, John Hawkins, Heather Patno, and Dale Ryden.

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

Monday, December 13

CONVENE: 8:30 a.m.

1. Review/modify agenda – The agenda was modified as it appears below.
2. Committee chair – Shane Capron said that he would really *like* to be the Committee chair, but is currently so committed to Lower Basin activities that he would not be able to adequately serve the Committee. Western is working to reorganize and add staff in the next year, so he would be willing to be the vice-chair for another year and assume the chairmanship in 2012. Melissa Trammell agreed to chair the Committee through 2011.
3. Review nonnative fish briefing paper – Melissa and Pat worked on the draft white paper; Dave Speas and Harry Crockett have submitted comments. Harry said he expects CDOW will write a minority report if the white paper is submitted to the Management Committee (in advance of the February 16 meeting), but would like to be able to weigh in on this white paper today, and on the discussion of how it moves forward. Melissa said the purpose of the white paper is to make and substantiate recommendations to the Management Committee. Tom Pitts suggested that we try to identify and resolve whatever issues we can in advance of the Management Committee. Harry said CDOW currently plans to include the same requirements in their collecting permits in 2011 as 2010; the draft white paper recommends otherwise, so we have an unresolved policy issue. The Committee discussed the four recommendations in the white paper (see below for that discussion) and agreed it should go forward with revisions. Tom Pitts abstained from voting. >Pat will make the requested changes to the white paper. Harry asked Pat to consider his comment on the lower recapture rate; he’s concerned that we’re misinterpreting what Breton presented. Harry said he thinks that CDOW will prepare a minority report if recommendation to cease translocation into Elkhead goes forward from the Biology Committee. Tom Chart asked Harry to request that CDOW have a representative at the Management Committee for this discussion; >Harry will make that request.

Cease translocation of SMB into EHR

Krissy asked if an Elkhead creel census has been conducted, suggesting this would tell us something about the angling pressure on Elkhead, including species being sought; Harry said there has not been one on Elkhead or Yampa. Melissa responded that CDOW has therefore not substantiated angling pressure at Elkhead or on the Yampa. Dave Speas agreed. Pat suggested CDOW would argue to sustain Elkhead and mainstem; however, the latest management plan makes it clear that smallmouth and pike fisheries are not compatible with plans for the Yampa. Harry clarified that the Elkhead management plan includes smallmouth bass, but CDOW supports control in the Yampa mainstem. Dave Speas said the Committee has seen the Elkhead escapement numbers for several years and most members believe we must be proactive and act on these now rather than wait and risk causing further harm. Pat agreed, saying it would be far more prudent to skip a year on continued translocation while we wait for CSU final analysis. Tom Pitts asked if CDOW has a different interpretation of the data presented to date; Harry said that CSU has been clear that the analysis to date is preliminary. Melissa noted that we are considering extending CSU's analysis to include all of the 2009 and 2010 data, which will delay the final report by another year. Most Committee members view the documented escapement rates to be higher than acceptable in terms of impact to endangered fishes in the river and, therefore, a basis upon which we should cease translocation into Elkhead for this year. Shane asked if we could do a mini risk assessment in the interim to at least bracket the probable escapement range; >Pat thought it might be possible to get these numbers (through 2009) prior to the Management Committee meeting. Krissy said we seem to be ignoring what our Nonnative Fish Stocking Procedures (signed by the States and the Service) say regarding no stocking where escapement is occurring. Tom Chart responded that the Service weighed these things in the PBO. The Service judged translocation to Elkhead as adequate at that time in light of the nonnative fish management activities the Program was conducting and had proposed, but said escapement must be tracked. This is where the Sufficient Progress memo comes in. The Service has said the Biology Committee has adequate information to determine if current escapement indicates translocation should be discontinued at this time. Pat added that the increasing density of smallmouth bass in Elkhead increases the risk to the endangered fish in the Yampa River. Brandon thanked Pat for drafting the white paper and said the first three bullets on page 3 clearly outline what we know about escapement. Dave added that the escapement problem is clearly more serious than we realized before, and that CSU's information showing that tagged fish have a lower recapture probability particularly convinced him. Michelle emphasized that the data showing escapement from Elkhead has been published in annual reports; therefore, she does not believe it's appropriate to wait to make a decision until Breton's meta-analysis is complete. Harry said he believes we'll have an escapement rate in hand very soon (and it likely will be 5% or higher), but Breton's data will provide the information we need on the impact of that escapement on our ability to drive smallmouth bass numbers down to a level at which the native fishes in the Yampa can survive. Pat said he believes that the Program, not Breton, will need to determine if the level of escapement is problematic from a fishery perspective. Harry said he thought Breton would use the escapement rate to feed into the stock recruitment model and give us a sense of what that proportion of escapees means to the population in the river. Pat said that ignores the ecological ramifications of continued productive pressure of escaped smallmouth bass on

native fishes in the river. Melissa agreed, and asked CDOW what data is still missing. Harry said they believe the stock recruitment model will provide a better idea of the total contribution that the escapees make to the riverine population of smallmouth bass. >Pat will make the analysis of propagule pressure more explicit by clearly outlining what it took to establish invasive species in various places in the basin (perhaps in the second bullet on page 3). Tom Chart emphasized how the Program has been responding to new information annually on every front *but* the source of smallmouth bass in the Yampa River and we simply can't ignore it any longer. Dave Speas agreed, saying he believes we have to make this decision as a Committee right now. Shane says he looks at this in two phases: 1) our ultimate goal of very small numbers of nonnative fishes in the river (at which level the current escapement from Elkhead is unacceptable); and 2) the current status (where Breton's data suggests our efforts are having very little impact) where we may have so many smallmouth bass in the system that the added escapement from Elkhead may not make a difference biologically. Dave said ceasing translocation to Elkhead would be consistent with the direction of the nonnative fish strategy by: 1) being precautionary; 2) making a policy decision; and 3) increasing our prevention efforts in the river. Melissa asked if we could get more specific estimates of cost to translocate fish to Elkhead each year (it apparently costs at least one full removal pass each year). Shane added that it also costs the numbers of fish that escape from Elkhead, which could be at least another full pass (keeping in mind that later passes capture fewer fish and that tagged fish have lower recapture probabilities). >Pat will work with the PI's to try to get a better handle on those costs. Dave asked if our collective rationale is clear enough at the beginning of the white paper; Melissa said she thinks it's been captured in the four bullets in the conclusions. Shane emphasized that we're currently trying to outpace current recruitment levels so that we can eventually break the stock-recruitment curve, and to continue translocating smallmouth bass into Elkhead runs counter to that goal.

Cease translocation of NOP into any waters including the Kyle's Pond (State Park Headquarter's Pond)

Harry said Kyle's Pond is ideal because it has no connection to the river. Billy Atkinson has said he'll ask CDOP to increase monitoring to make sure no one moves fish from Kyle's Pond to the river. Pat emphasized that this recommendation is more directed at the cost and crew effort/time of translocating these fish, which could be better applied to removing fish. Translocation becomes more difficult later in the season as the weather warms and it is more difficult to transport fish alive. >Pat will add to the white paper that if CDOW is willing to assume these costs and time (with non-Program) funds, continued translocation into Kyle's Pond will be acceptable (although we will need to continue to monitor escapement).

Reallocate translocation efforts and funds to additional NNF removal

This was discussed with regard to Yampa, but also applies to Colorado River (translocating largemouth bass to Highline). Harry asked if the 13 fish were actually translocated to Highline in 2010 and thought perhaps the collecting permit could be modified (if needed) to provide appropriate flexibility in light of the few fish captured and the problems of coordinating translocation. As with others of these efforts, translocation requires additional equipment (live wells, second boat, truck and driver). The Committee believed this

recommendation should stand as is (though CDOW's minority report may take exception).

Cease release of marked NOP in YAR buffer zone

Melissa reviewed the rationale for and against this potential recommendation as outlined in the draft white paper. Pat added that the buffer zone is supposed to function as an instream screen; therefore, it would seem that releasing these ~100 fish/year (and potentially 1,000 pound of predation/year) defeats the purpose of the instream screen. Shane added that it's been mentioned that not conducting the mark-recapture pass can allow a shift in removal passes that may improve removal efficiency. Further, if we're violating assumptions of a closed population, then the information gained from mark/recapture is reduced, anyway. Unlike smallmouth bass, catch rates of pike seem to match population estimates fairly well. Harry echoed Kevin Bestgen's comment at the researchers meeting that we give up significant opportunity to gain information that we might want to use in a potential future synthesis (especially related to fish movement, sources/sinks, etc), and this is the kind of information we're currently using to better target smallmouth bass for removal. Therefore, Harry recommends discussing this further with Kevin. Michelle suggested alternating years on/off for pike population estimates like we do for endangered fish. Dave noted that a lack of recaptures could make this problematic (as it is with humpback chub). Shane suggested that population estimates may not be the best way to determine movement and that if all we're doing are within-year estimates, then recapture rate doesn't matter. Annual depletion estimates could continue to be conducted in years where population estimates are not made. Shane suggested a better measure would be numbers of fish removed, where we're looking for a reduction in the number of fish caught per unit of effort. Pat noted that the population estimate in the buffer zone tends to serve as the estimate of pike in the upstream reach where there's no removal. Perhaps an additional recommendation would be no release of marked fish in the buffer zone, but recommend that CDOW do mark/recapture population estimates in the upstream reaches. Shane noted that just marking fish upstream would allow us track recapture rates in the removal reach. (This was done with 98c, where we found considerable downstream movement.) Harry said he doubts CDOW would be interested in doing this. Harry said he thinks depletion estimates may satisfy the requirements of the collecting permits if they satisfy the conditions of an estimate of abundance. Melissa said we would need to make sure that doing depletion estimates won't interfere with our ability to change the timing of passes to increase removal. (Tom Chart asked if pikeminnow sampling dates may also have driven this timing.) Shane said that if we standardize pass timing to maximize removal (to the extent possible with the hydrology in any given year), then CPUE should be a good estimate of fish captured and whether we're making any progress. The Committee supported recommendation #2, revised to read: "*Cease all M/R population estimates and use depletion estimates and/or CPE indices instead.*" Chart suggested including recognition of the work CDOW is doing upstream; however, source populations remain a problem in spite of that.

With the exception of Colorado's opposition (will submit a minority report) and Tom Pitts, who is abstaining from voting on the white paper and scopes of work, the Committee approved the white paper, as revised above. >Pat will make the revisions above to the draft white paper (and also clean up the small and differing fonts) and send it to the Management

Committee. The revised white paper and minority report need to reach the Management Committee by February 2 (two weeks in advance of the February 16 meeting).

4. Review revised nonnative scopes of work – Pat met with PI's after the researchers meeting. They identified a couple of no-cost effort shifts for smallmouth bass removal on the Green and Colorado rivers. To extend the surge effort further into peak spawning later in the season on the Yampa River, discussion focused on use of rafts and logistics of translocation using rafts and in warmer, weather. The group also discussed acquiring some ETS electrofishing units for testing. The Committee's discussion/approval of the scopes of work as currently revised is contingent upon the outcome of the Management Committee's discussion of the white paper recommendations. If the decision on translocation is changed subsequent to the Management Committee, then the scopes will need to be revised again. In light of the fact that Biology Committee members have had little time to review the scopes, they reserved the right to make additional specific comments. Tom Pitts abstained from voting on all of the scopes of work.

126: Move all but one pass downstream. Approved as written.

98a: >Harry will ask if Colorado can provide an estimate of the cost of translocation efforts to Pat (it doesn't have to be in the SOW). Tom Chart said he thinks the Management Committee will want an estimate of the cost of translocation of fish.

125: Melissa asked John if he could separate out the costs of additional translocation (split out for pike and smallmouth bass). >John will provide a cost estimate of all translocation efforts to Pat (it doesn't have to be in the SOW), but noted that they do have to have trucks available to move people at the end of the day, anyway. Dave expressed serious concern that trying to translocate fish during the low-water sampling efforts will be an unacceptable waste of time and money (and may represent transporting *more* fish into Elkhead, further exacerbating the problem). Pete asked if Colorado might be open to ceasing translocating fish during low-water sampling; Harry said CDOW's current position is to translocate fish caught from these reaches. Melissa agreed transporting fish during low-water doesn't make sense. John Hawkins said he will try to do whatever managers tell him to do. Moving fish in this period will be more difficult in light of logistics and the difficulty of keeping fish alive in higher temperatures, but John thinks it may be possible. If it proves to be problematic, John would let the Program know immediately. (With regard to the larger question of translocation, John said his opinion is that finding tagged, escaped fish are a *symptom* of the potentially greater problem of escapement by resident untagged fish from Elkhead.) In addition to the white paper recommendations, >Harry will discuss with Colorado whether they would suspend their translocation requirement for smallmouth bass during the extended surge period.

The revised SOWs to extend the Yampa surge were approved in concept (but may need to be rewritten depending on outcome of Management Committee translocation discussion).

123a & 123b – Approved as written

Purchase of ETS units – Approved.

161: Extend synthesis to incorporate 2009 and 2010 data. Breton is very close to being able to incorporate this information, it will strengthen the modeling, and also will allow tracking the 2007 cohort and population behavior during wetter hydrology. The Committee endorsed the revisions in concept (which the Committee requested), but deferred approval until they can review a revised scope of work because of the report delay (which may be a concern because apparently the 2009 and 2010 data need to be incorporated before the Elkhead escapement analysis can be completed). Dave Speas asked that the escapement analysis be completed as soon as possible (in advance of the full report); Harry Crockett agreed, and said he's already asked Kevin if André can do that.

C18/19: The Program Director's office recommended getting the Green River crayfish river signatures and the Lake Powell strontium ratio signature. (The PDO didn't recommend including crayfish on the Yampa would just further nail down the Yampa river signature.) Pete asked about crayfish versus otolith signatures and Pat said he's confident that crayfish ratios will substitute (>and will send the Committee a note on the question Pete raised about Figure 1 in Brett's scope of work). Approved as written.

5. Update on Flaming Gorge flows – Krissy Wilson recalled Matt McKell's presentation on UDWR's pending flushing flow request. The request will be 8,600-9,400 cfs for 5-7 days based on the 1997 8,560 flows which have ability to flush system and increase productivity for fish in the Flaming Gorge tail water. The timing is flexible to coincide with the Program's request. Krissy said the request would be 3 out of 6 years, but they would reassess this after this year (minimum would be once every 5 years). Krissy said they'll work with BLM and USFS; also, NPS is considering a letter of support. UDWR will electrofish Little Hole in the post-peak period to determine rate of escapement of reservoir fish. The plan is to get request letter to Reclamation by February 4. Melissa asked how UDWR will assess success; >Dave Speas will find out what Scott Miller at USU is planning. Dave said the Program will formulate its request in February (and reference UDWR's request). Tom Chart agreed, and said the Program's letter would likely support UDWR's request for this year and then speak to timing issues (focusing on presence of larvae as the trigger) to maximize floodplain connections and duration in Reach 2 (the 18,600 cfs threshold, depending on hydrology). The Program's letter will get vetted through the Biology and Management committees. Given what we've learned to date regarding connecting floodplains, disadvantaging smallmouth bass, matching peaks, etc, Shane asked how we will integrate information on how to use these flows. Dave said given what we've learned about larval presence, etc., the emphasis this year likely will be on post-peak. This falls within the range of uncertainties and information needs described in the Flaming Gorge Study Plan. Shane asked if this will impact our base flow request; Dave Speas said he doesn't think we know that yet. Tom Chart suggested the Committee may want to discuss potential escapement risks (e.g., burbot) in light of the fact that UDWR's request will require use of the spillway (realizing that we do want to keep use of the spillway as an option open in the future). The spillway is gated. Heather said it is potentially accessible at around 6015 feet (where flow is 3,000 cfs); the May 1 elevation target is 6,027 feet in an average year. 8,300 – 8,600 cfs is the maximum release without using spillway. Krissy said Ryan said they

sampled 9 sites (to within about 5 miles of the dam) in Flaming Gorge for burbot in November; it appears the greatest risk of escapement would be burbot fry. Dave said that while this would test one of the questions in the biological opinion, it does represent an escapement risk. Krissy said she thinks UDWR could be flexible to reduce their request to avoid a spill if that can be coordinated with the Program's request. Dave asked if the Service will view the request differently in light of the requested flushing flows for trout; >Tom Chart will ask Larry Crist, but noted that the Program might be requesting something similar if the floodplain synthesis report were complete. With regard to an earlier question, Tom Chart said he does think this request may impact base flows, but hydrology to date indicates this would be a year we would manage for razorback sucker. Dave said he thinks we have to assume the risk of entrainment of burbot is high; Tom Chart agreed and said he believes we do need to have a risk assessment. Pete pointed out that burbot don't respond particularly well to electrofishing, and since larvae may be an even greater concern, we may need to use some other assessment methods. Kevin Bestgen's larval drift work is probably too far downstream and too late to be adequate. Harry asked how often Flaming Gorge spills; Dave said it's only spilled twice in the last 30 years. The Committee concluded the Program would caution against use of the spillway until have an assessment of the risk of escapement/entrainment. Krissy said she thinks UDWR would agree to that, noting it appears we can get close to the 1997 flows without using the spillway. The Committee will have opportunity to comment on the Program's draft letter.

6. Review and approve December meeting summary; previous meeting assignments – The December meeting summary was revised to remove extraneous material from the Tusher Wash page 20 attachment and clarify that italics in Attachment 4 reflect the Biology Committee's discussion. Angela Kantola will post the revised summary to the listserver (*done*). See Attachment 1 for assignments.
7. Review reports due list – The Committee reviewed reports due list. >Angela Kantola will send out an updated list.
8. Discuss agenda items for next meeting, March 1-2 in Grand Junction (1 p.m. to 5 p.m. on March 1 and 8:30 a.m. to 4:30 p.m. [possibly later, so Committee members are asked to make travel arrangements, accordingly] on March 2.) – Agenda items will include: a) review of draft RIPRAP assessment, draft revised RIPRAP and draft FY 12-13 Program Guidance (will be sent out by the Program Director's office for technical committee review on February 1); b) nonnative fish management activities (including CDOW's "bucket list"; >Harry Crockett will send the Committee CDOW's list, and it may be appropriate to address some of these items in a general fashion in the draft nonnative fish management strategy); c) final review/approval of UDWR's #138 report; d) review/approval of revised research framework report; e) review of proposal to evaluate fish survival in GVP screen fish return (unless discussed during January 24 web conference; f) discussion of Flaming Gorge spring and base flows; g) implications of recent humpback chub genetic results for humpback chub captivity plan and potential propagation needs; h) a brief review of Price-Stubb PIT tag results and data interpretation as it relates to direction of fish movement (>Michelle's shop will prepare something on this); and i) brief discussion on capital projects prioritization. Dale Ryden will be replacing Michelle on the Biology Committee.

ADJOURN 3:00 p.m.

Attachment 1: Assignments

1. The Program Director's office will work with CDOW and Aaron Webber on the potential for designing a permeable, hydrologically-stable (gravel?) berm to prevent northern pike access to the oxbow slough at RM 151 on the Yampa, 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 funding (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.*
2. 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~~ March 15, 2011. 12/13 Price River discussion: The **Program Director's office** will revise the draft Price River position paper and get it to the **Biology Committee** within the next week, with comments due a month later. Draft Price River position paper sent 12/30/10 with comments due Jan. 31. UDWR may submit a Price River PIT tag proposal for "activities to avoid jeopardy" funding.

3. *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~~. May 6, 2011.*
4. 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). 1/24/11: **Michelle** said this will go to Gary White by the end of April 2011.*
5. 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. 11/23: Conference calls held 11/10 and 11/24 and scheduled for 12/2. 12/13 BC discussion: The Biology Committee recommended >starting with a literature review (there may be good information from low-head structures in the eastern U.S.); working on outlining what would be needed in a mortality study (including**

engineering considerations); and further investigating whether the owners would consider full or partial decommissioning. 1/24/11: >**Dave Speas** will talk to Reclamation's Tech Center about working on these items.

6. **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. 1/24/11: No increase anticipated in FY 11 costs, so this comes off the assignment list. Projected increases will be included in the FY 12-13 scopes of work. Michelle notes that Grand Valley likely will not be able to fully meet their average length/numbers requirements until the new ponds are online. **The Committee agreed that it is more important to produce fewer, larger fish.***
7. 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.*
8. 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. *11/23: Recommendations being incorporated into basinwide nonnative fish strategy; workshop summary sent to NNFSC for review Jan. 4, comments due Jan. 19. 1/24/11: The Biology Committee extended this date to January 31.*
9. 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. 9/30: >The PD's office will set up a work group for revising the propagation plan (Krissy and Michelle will assist). 1/24/11: Pending, Krissy thought a meeting could occur in conjunction with the February 16 meeting at Dexter.*
10. The **Biology Committee** will work on prioritizing their list of potential additional capital projects at a future meeting. *Ongoing.* 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.). *UDWR comments submitted; next BC discussion pending (will discuss, at least briefly, during March 2011 meeting).*
11. 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-colorriver listserver. *Done. 11/23: Web conference held Oct. 5 & Nov. 15; draft plan pending. 12/13 review of draft: Shane Capron will provide suggested text changes. >Committee members* should submit any additional detailed comments no later than January 14 (earlier, if possible) to Tom Chart and Angela Kantola and the rest of the Biology Committee. >The **Program Director's office** will incorporate those comments and do a thorough editorial review, then submit the revised plan to the Management Committee for their review/approval by the end of January (with **Management Committee members** preferably providing specific written comments IN ADVANCE of the February 16 Management Committee). >**Tom Pitts** will send the draft document to the water users and incorporate any of their comments with those he submits by January 14. *1/24/11: PDO's office working to address the comments received by February 2, and will request the Management Committee provide any substantive comments in advance of the February 16 meeting. Recommended RIPRAP revisions from the draft will be in the draft revised RIPRAP and Program Guidance, contingency funds are being held for 2011 Gunnison River monitoring.*

12. **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.*
13. **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]). *Pending.*
14. **Pat Martinez** will schedule a conference call among the signatories to the 2009 Nonnative Fish Stocking Procedures to discuss clarifications. *Pending. 9/30: Pat is first working to address the private sector concerns and issues regarding Rifle Gap management.*
15. **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. *In progress.*
16. **Angela Kantola** will modify the work plan budget table to reflect the changes to UDWR's scopes of work (#128 and #138). *#138 done; awaiting PI's approval to replace #128 SOW.*
17. 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. *Will be considered in context of RIPRAP revisions and FY 12-13 Program Guidance. Dave Speas said an RFP for "activities to avoid jeopardy" funds will be out in the next month or so and may be a source of funding for weirs; Dave Speas will post that RFP to the listserver when it comes out.*

UDWR will keep the Program Director's office in the loop on this.

18. **Tom Czapl**a will send out the briefing paper he received with the humpback chub genetic data to the Biology Committee (*done*). >At the March 2011 meeting, the **Committee** will discuss how this affects the Yampa River humpback chub captivity plan. **Melissa Trammell** will review *Dexter's new plan to see if it may impact this (also will talk to Tom Czapl)*
19. **Krissy Wilson** will send Utah's comments on the research framework to >Tom Czapl who will send these and the Service's to the Biology Committee (*done*). >The **PD's office** will meet with the environmental groups (and perhaps other commenters) prior to the Biology Committee discussion/review of the framework so that the Committee can have a fairly focused discussion. *Done. 12/13 discussion:* The Committee decided to pursue the first option (complete the document), and then consider the next steps at the time they review the final draft. It will be helpful for folks to see the 5-Year Reviews and see what those offer (though they may not have the level of detail folks are looking for, in the future, they certainly could reference the more detailed documents). **Committee members** should provide any additional comments on the framework to the Program Director's office (and the Committee) by January 15 (four weeks was allotted in recognition that the Biology Committee *is* the peer review for this work and Biology Committee members very much need to provide a substantive review). **Tom Czapl**a will immediately provide a copy of the July version, a working link to the database referenced in the draft report, copies of the comments submitted to date, and a bold, uppercase reminder of when Committee members comments are due (January 15) (*done*). *1/24/11: The Program Director's office will revise the document based on comments received to date and provide it to the Biology Committee in advance of the March meeting for final review/approval. Committee discussion will include recommendations and future direction.*
20. **Paul Badame** will revise report #138 according to comments and any additional comments >offered by **Biology Committee members** within 2 weeks and get the revisions back to the Committee by February 1. The Committee will need to look at the recommendations again before approving the report (preferably at the next meeting). **Pat Martinez** will provide suggested language regarding the shift to other species and related food-web shift to Paul (*done*). Suggestions for any changes should be *in addition* to the current protocol, so that nothing is lost. *1/24/11: Revised draft should be out this week.*
21. To inform discussion at the February 16 Management Committee meeting, **Pat Martinez** will draft Attachment 5 into a briefing paper addressing recommendations from the recent nonnative fish workshop that differ from the 2010 status quo (see CDOW position, below) The outline/draft will be worked on by the **Nonnative Fish Subcommittee**, then come to the **Biology Committee** for review during their January 24 web conference. Tom Pitts suggested including background about current permit conditions and any agreements made regarding maintenance of the Elkhead fishery. Tom Chart agreed, and recommended including language from the Yampa River PBO, as well. Melissa suggested including language from other relevant documents, such as the Nonnative Fish Stocking Procedures, Policy, sufficient progress letter, etc., also. CDOW's Director and Steve Guertin have discussed a seeking a complete, independent review of the Recovery Program (and perhaps

beyond). Tom Pitts asked what this review is about and suggested that >**CDOW** and the **Service** offer considerably greater transparency to the rest of the Program partners about the objectives and desired outcomes regarding such a review (at least by the time of the February Management Committee); others agreed. The majority of the Biology Committee recommends ceasing translocation into Elkhead Reservoir at this time, with Colorado unable to support that recommendation (thus, >**Colorado** should provide a minority report outlining the technical basis for their position). The Committee recommended that the **Nonnative Fish Subcommittee** discuss and distill workshop recommendations before they come to the Biology Committee in future years (and the subcommittee should spend more time with the recommendations beyond what the Biology Committee did today). In future years, the **Nonnative Fish Subcommittee** should discuss and distill workshop recommendations before they come to the Biology Committee. *1/24/11: Pat Martinez* will make the requested changes to the white paper and provide it to the Management Committee by February 2. As part of this, Pat will:

- o Consider Harry's comment on the lower recapture rate.
- o See if he can get the numbers for a "mini risk assessment" to bracket the probable escapement range through 2009 (prior to the Management Committee meeting).
- o Make the analysis of propagule pressure more explicit by clearly outlining what it took to establish invasive species in various places in the basin (perhaps in the second bullet on page 3)
- o Work with the PI's to try to get a better handle on translocation costs (see below)
- o Add that if CDOW is willing to assume costs and time (with non-Program) funds, continued translocation into Kyle's Pond will be acceptable (although we will need to continue to monitor escapement).
- o Clean up the small and differing fonts

Tom Chart asked **Harry Crockett** to request that CDOW have a representative at the Management Committee for this discussion; >Harry will make that request.

Harry Crockett will discuss with Colorado whether they would suspend their translocation requirement for smallmouth bass during the extended surge period.

Assignments from review of workshop recommendations:

- a. 147: **Pat Martinez** will work with FWS to determine if they should order an ETS unit. Pat will distribute design details for raft fan-style cathodes consisting of four strands of 0.25-inch diameter stainless steel cable of a length that allows 46-inches of each cable strand to be submerged in the water while trailing the raft. *Done.*
- b. Procedures: **Pat Martinez** will ask Anita Martinez to locate in the Procedures the requirement for state agencies to annually inspect screens and berms. *Done.* Sherm Hebein will provide Pat a copy of one or more of their HACCP's that can be provided as an example for the private sector. *Pending. Pete provided Pat an example from Wyoming.*

- c. 98a: **CDOW** will address Loudy Simpson Pond berming through the Division and come back to the Biology Committee with their recommendation for berming to keep pike **currently** in the pond from escaping. *Pending.* 1/24/11: **Harry Crockett** will ask if Colorado can provide an estimate of the cost of translocation efforts to Pat (it doesn't have to be in the SOW).
 - d. 1/24/11: **John Hawkins** will separate out the costs of all translocation (split out for pike and smallmouth bass) efforts to Pat (it doesn't have to be in the SOW).
 - e. 1/24/11: With regard to the discussion about crayfish versus otolith signatures, **Pat Martinez** will send the Committee a note on the question Pete raised about Figure 1 in Brett's scope of work.
22. **Michelle Shaughnessy's staff** will spend more time with scope of work for evaluating fish condition below the Grand Valley Project fish return and get it (and a recommendation for which alternative they think would be best) back to the **Biology Committee** for discussion during the January 24 web conference. *1/24/11: Travis said the draft SOW was based on a similar situation on the Yakima River, but the assumptions need to be tested, so Travis recommends conducting a test this year with surrogate white suckers (alternative #3, ~\$18K). Travis Francis will review with Bob Norman and provide a revised SOW showing alternative #3 at least 2 weeks in advance of the March Biology Committee meeting.*
23. **Dave Speas** will find out what Scott Miller at USU is planning with regard to assessing success of Flaming Gorge flushing flows. With regard to Dave Speas question as to whether the Service will view the Flaming Gorge flow request differently in light of the requested flushing flows for trout; >**Tom Chart** will ask Larry Crist , but noted that the Program might be requesting something similar if the floodplain synthesis report were complete.
24. **Angela Kantola** will send out an updated reports due list.
25. **Harry Crockett** will send the Committee CDOW's "bucket list" of nonnative fish management activities in advance of the March 1 meeting.
26. In advance of the March 1 meeting, **Grand Junction CRFP** will send the Biology Committee information on Price-Stubbs PIT tag results and data interpretation as it relates to direction of fish movement.