

May 13, 2011 Biology Committee Webinar Draft Summary

Biology Committee: Melissa Trammell, Dave Speas, Dale Ryden, 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, Travis Francis, Kevin Bestgen, and Koreen Zelasko.

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

CONVENE: 8:00 a.m.

1. Review/modify agenda – The agenda was modified as it appears below.
2. Review of remaining 2011 scopes of work – Angela Kantola noted that the Program has had an unusually large number of revised or new SOWs in 2011. In some instances, this has made tracking final SOW versions and amounts difficult. Angela reminded the Committee that when SOWs are revised, we all need to remain vigilant to make sure those go to the appropriate Program coordinator and that Angela and the Program Director’s office needs to be vigilant to make sure those SOWs are posted on the Program website.
 - a. Northern pike synthesis – Kevin Bestgen said this scope follows the pattern and intent of the smallmouth bass synthesis work. Common elements include familiarization with the data and understanding recruitment and emigration. It’s different in that smallmouth complete their entire recruitment cycle in the same place, whereas downstream pike populations appear dependent on upstream sources. Koreen will be the main analyst, and the work will take a couple of years to complete. The smallmouth analysis has shown the disconnect between our applied effort and results; it appears we have a similar situation with pike densities remaining high, thus, a better understanding of how to optimize our removal efforts will be very helpful. Dale asked how we will translate smallmouth findings to management actions and how we will do this for pike, wondering if it might be premature to begin the pike analysis until we’ve made that connection for smallmouth. (The draft final smallmouth report is anticipated August 2012.) Melissa agreed we need to make the connection to management actions, but believes it’s important to begin to better understand the pike data as soon as possible. Kevin said he thinks the data will be very helpful in understanding emigration and the importance in critical habitat vs. the upstream buffer area. Melissa asked about the two elements not being analyzed: 1) sampling some age-0 pike in places where they are abundant and conducting otolith increment analysis to better understand timing of spawning in relation to flow levels and water temperatures; and 2) bio-energetics modeling. The Committee will keep these elements in mind for the future. Kevin said we have preliminary info that pike spawn pre-peak in Brown’s Park which may negatively affect recruitment rates. Tom Chart said he thinks outcome of the pike analysis will be critical for our long-term nonnative fish management strategy; Harry echoed this. Tom asked about the interim removal goal on page 2; Kevin said Pat caught that and they’ve revised that language. Pat asked >Harry Crockett to let Billy know that it will be helpful to compare the recruitment information

to the tag records Billy has from his work above Hayden (Harry will ask Billy to make his data available to Kevin). The Committee approved the SOW. >Kevin will submit the revised version of the SOW to Angela and Pat (*done*).

- b. Gunnison fish community sampling – Dale said this SOW results from the Gunnison River PBO and Aspinall Study Plan. To meet all the elements in that study plan, the SOW would have been ~\$150K; therefore, to trim the budget, Doug reduced the work to Gunnison River razorback sucker larval monitoring, some monitoring in the 18-Mile Reach and adult fish community monitoring in the Gunnison River. Tom Chart added that the focus is really on the fish community, with the caveat that as we understand endangered fish densities in the Gunnison, we could shift to more targeted endangered fish sampling in the Gunnison River. Tom thinks this does a good job of hitting the most critical elements within budget constraints and connecting back to Bob Burdick's earlier work. The group discussed Harry's comments. Although fish community monitoring and reporting needs to be done according to Program format and schedules, that does not dictate who does the monitoring. Dale said he thought having some parallel efforts from FWS and CDOW may be helpful in the first year, with an opportunity to better mesh them in future years as our experience with timing, sampling methods, and crew availability improves. The larval portion of the work is scheduled to begin next Monday. Tom Chart agreed that there's room for more discussion about efficiency and sampling methodology for the adult monitoring (scheduled to begin in July). Dale said Doug plans to sample the entire river, six different strata from a half to two miles in specific habitats. This would include looking for endangered fish and getting muscle plugs. Dale understands CDOW samples half the river in one year and the other half in the second year. Dale said he has some concerns about sampling methodology as well as making sure data are quickly available to all involved. Harry said Dale's accurately described what CDOW has been doing, but thinks CDOW is willing to ask the Program what modifications the Program would like CDOW to make to their existing monitoring to satisfy the adult monitoring component. >As quickly as possible, the Program Director's office will coordinate between CDOW and FWS to work out details of collaboration between the two agencies on the adult monitoring in time for July sampling (and then get something back to the Biology Committee for approval). Dan Kowalski, Doug Osmundson, Dale Ryden, Harry Crocket, Sherm Hebein and John Alves (Sherm's counterpart in CDOW's Southwest region) will be part of these discussions. Harry has some questions about the study design, but if the PBO directs monitoring, then we clearly need to do it. Still, he would like to understand how these data will impact management actions. Dale said the original SOW was more comprehensive, but had to be pared down somewhat. The CPUE effort is intended to give us an idea about changes over time (Dale noted that although Burdick pooled his data, it is still available in the un-aggregated form for comparison purposes). The initial adult sampling will be somewhat exploratory, of course. One question to be answered is whether there are enough fish in the system to consider moving from CPUE to more rigorous population estimates. Dave also asked how this will be connected back to flows; Dale will try to be more explicit about that in the revised SOW. The Committee agreed they would like to have more discussion about linkages to environmental conditions and flow recommendations. Dave emphasized that any revisions to this scope need to be made very quickly for FY11 funding purposes; meanwhile, Reclamation can transfer funds for tasks 3-6 to the Service (larval and small-bodied fish monitoring components). >Harry will talk with CDOW about what portion

of the work they can do. The Committee acknowledged that the Aspinall Study Plan calls for more work than this SOW covers, and that will need to be considered in the future. Dave noted that the Study Plan, not the PBO, was specific about multi-stage monitoring (Dale will clarify that in the SOW). Tom Pitts pointed out that the selenium data collection won't give us the answers we need based on current science which points at looking at selenium levels in eggs and developing a dose-response curve for selenium levels and deformities. That's the direction we'll need to go at some point. Tom Chart added that this is a conservation recommendation in the PBO and is in the RIPRAP.

3. Review of draft final reports

- a. Zelasko final report #159 –This work was a follow-up on the previous analysis and includes fish stocked through 2007 and recaptured through 2008. It evaluates the integrated stocking plan and survival rates, but also adds a rearing method factor. Results indicated that fish total length at stocking is still positively correlated with survival. Season is important with summer having lowest and spring having highest survival rate. As with previous analysis, capture probabilities were very low. They couldn't differentiate the effects of fish raised solely in tanks from the effect of summer stocking. Melissa noted that to reach our stocking goals, will either have to change the stocking plan or somehow increase survival. Brandon added that as we begin working with the Horsethief ponds, etc., the acclimation component will become very important. Koreen said Tables 15 and 16 indicate the shortfalls in meeting goals at current stocking and survival rates. Koreen agreed that an analysis of cost effectiveness will need to include the cost of rearing fish. Koreen will add rearing method to the third recommendation. The next-to-last bullet should include season, as well. Going forward, a tight block study design comparing rearing methods, etc., would be nice, but the Program will have to decide whether that is a higher priority than moving ahead to implement what we understand to be the best methods now. Kevin said data from the San Juan Program indicate that winter may not be good for stocking, either. Dale added that realities of hatchery operations/limitations will affect our ability to implement a block design. Tom Chart noted that stocking fish larger than 300mm is what will really test facility limitations. Tom agreed >the Program needs to move forward with an ad hoc group to revise the integrated stocking plan and to evaluate our stocking program (include cost-benefit analyses). Travis said he'd like to be involved in that group. Dale suggested also including Dave Schnoor. Scott Durst has done considerable work on this in the San Juan and might be helpful; >Tom Chart will talk to Dave Campbell about this. Meanwhile, as we're working on revising the plan, Melissa suggested we go ahead and cease summer stocking. Dale said they are trying to salvage as many fish as possible from the soon-to-be-discontinued leased ponds this year; therefore, stocking those fish would need to be one exception. >They will try to get the fish out and stocked as quickly as possible. Tom Chart noted that we're starting to pick up razorback <300mm in the system, so we may be getting natural recruitment; therefore, he recommends that we not stock fish <300mm anymore (tag loss being a reality). Melissa asked if the hatcheries can sort out fish <300mm and hold them until they reach 300 mm? Dale said there may be a disconnect between what we want to do and what we can do (and how fast) in terms of costs and production schedules, but they will do what they can. Dale agreed it would be best to have someone outside the production loop do the cost-benefit analysis. >Tom Chart said he thinks the Program Director's office can initiate the cost-benefit analysis. The

Committee approved Koreen's report. >Koreen will submit a final to the PDs office to post to the website. (*done*)

- b. 2007-2008 Black Rocks humpback chub population estimate report –This is the third set of population estimates for Black Rocks. They are more precise than any of the estimates obtained since 1999, and they are lower, but fall within the confidence intervals of earlier estimates, so we can't conclude that the decline observed was real. Since estimate falls below the MVP, Travis has recommended considering developing a captive refuge population. Dave Speas expressed concern about the report's leap from recommending a captive population to "augmentation in the near future." Travis will change that part. Melissa Trammell suggested citing Teresa Hunt's work. Travis will clarify the recommendation about length of net sets. The group discussed sampling and Chuck McAda's concerns about potential sampling impacts on the fish. Pete asked about the effectiveness of continued electrofishing (in light not only of cost, but also potential stress to endangered and other native fishes). Pat wondered if Kevin may be able to shed some light on that; Kevin said they have considerably more pikeminnow recaptures, so this opportunity would be more limited for humpback chub, but some longer-term analysis would be useful. Travis will remove the recommendations related to adding an additional year between sampling, since the report doesn't really provide data to support that at this point. With regard to the electrofishing discussion and Derek's success in Westwater, Tom Chart thought the juvenile chubs were occupying unique habitats. He suggested that Travis try electrofishing below Black Rocks where the canyon begins to open up. Melissa and Tom said it would be key to do that electrofishing at night. Dave suggested that the second-to last-bullet address sampling frequency/sampling design. Pete Cavalli asked if that bullet incorporates Travis' recommendation that "For consistency, a report should be prepared that provides a synthesis of historical data (1998, 1999, 2000, 2003, 2004, 2007 and 2008) and provides abundance estimates for Black Rocks and Westwater Canyon populations derived from program MARK." Travis said it does. Travis will clarify his meaning in the sentence "Use of mark-based abundance estimates for monitoring the different humpback chub populations should continue; however, any future decreases in abundance estimates may necessitate cost benefit analysis" (only if we can attribute it to our sampling). With regard to Table 4, Travis said he will remove the roundtail information and the 2-pass Chapman modified Lincoln-Petersen estimates, and will utilize the full dataset (see response to Koreen's comment under item #4). Travis will explain why the estimates of humpback chub are for fish >200mm and roundtail >180mm. Pete will send some additional minor comments. Krissy said Derek's Westwater report has been sent to the Program Director's office and should go to the Committee in the next week or so; she recommends that the Committee discuss both reports together. Derek talks about sampling backwaters, shorelines, and eddies to get younger fish. Travis is suggesting it may be best to do that sampling in the summer. >Travis will make the revisions discussed today (and any others folks will be submitting quickly); the Committee tentatively approved the report, with final approval after Travis posts the revised version to the Committee for e-mail consensus. > Biology Committee members will provide any additional comments to Travis within a few days; >Travis will send the final to the Committee within 2 weeks. With regard to future sampling, Dave Speas suggested evaluating the potential for passive PIT antennas to increase collection of recapture data.

4. Discussion of Research Framework report (finalized) recommendations and future direction – The final research framework report was e-mailed to the Committee on April 28, 2011, by Tom Czapla; however, the Committee has not yet discussed the recommendations and any future direction. The recommendations do indicate the work being done to address concerns outlined in the report (syntheses, etc.). Melissa said she thinks the recommendations do a good job of summarizing what the Program has done, is doing, and needs to do. Dave said he thinks the conclusion and direction suggested are valid. Tom Pitts noted the report was requested by the environmental groups in light of the 2002 Colorado pikeminnow population estimate. Brandon said he thinks this has been a useful effort, will help people get up to speed on the Program, and believes our current syntheses and related efforts are moving us in the right direction. The concern about monitoring young life stages seems critical, but it will be difficult to figure out how to do this. Tom Chart said he hopes we don't just let this document sit on a shelf and thinks it will be helpful to us as we review the RIPRAP each year. Our original concern for low pikeminnow recruitment has now shifted to humpback chub. We've secured individuals from Yampa Canyon and Desolation and identified the need for a group to review the genetics information. Pat noted that back in the early 90's, we discussed potentially establishing refuge populations at Horsethief in light of susceptibility of humpback chub to discrete events (e.g. spills); we now may need to consider refuge populations in light of concerns about general decline in humpback chub populations.
>Biology Committee members will review the Research Framework recommendations in advance of reviewing the FY 12-13 work plan in July. Melissa asked about the link to the website that had a map you could link to by species and life stage, but which was never completed. >The Program Director's office will include a "last updated on" statement and a caveat that clarifies that this was incomplete and was a "point in time" database and direct users to the Program's laserfiche library and Program website. Melissa and others said they really liked the idea of this kind of an interactive site.
5. Demonstration of the CWCB laserfiche website which houses Program technical reports – Angela Kantola demonstrated use of the [CWCB laserfiche site](#) (instructions contained in Attachment 2). The Program Director's office still needs to implement a process for submitting and posting new technical reports to the laserfiche site (meanwhile, new reports are available at <http://www.coloradoriverrecovery.org/documents-publications/technical-reports/technical-reports.html>), but the laserfiche site is helpful for searching the body of reports and other literature compiled on the endangered fishes and the Recovery Program over the years.
6. Review previous meeting assignments – see Attachment 1.
7. Review reports due list – The group reviewed the list. >Angela Kantola will send out an updated version.
8. Updates
 - a. Maybell antenna – Dave Speas presented a powerpoint illustrating highlights of the PIT system installation in the Maybell Ditch (Yampa River) near Maybell, CO. Dave, Peter Mackinnon, John Hawkins and Bill Kohler installed the system on April 20-21, and the system is currently operating properly and reading test tags at a very high level of efficiency.

- b. Floating PIT tag array – Dave Speas said they tested this earlier this week over the razorback bar, but did not detect fish (the water may have been too deep at 21,000 cfs, and at 10°C, fish may not have been present). They then tested the system at the Stirrup near the inflow and detected fish (~13 hits). No fish were detected around the shoreline, but it likely was too deep, also. The maximum read depth of 18-24” means we should investigate mobile systems that could be submerged.
- c. Hydrology – Jana Mohrman provided the following updates:

Sediment final draft schedule (as of April 27):

May 27th	Report submitted for USGS approval & the Recovery Program
June 27th	Approval review,
July 27th	If approved, report in print

A White River task force has been formed to work on development of a management plan (leading to a PBO) to protect flows (similar to what was done on the Yampa, sans reservoir enlargement). The task force will have their next call on May 26th.

June 15th - Tom Chart will present process at Yampa/White R. Roundtable (and we’ll need to arrange something similar in Utah).

WAC & BC will review the flow recommendation (draft due July 1).

Cooperative agreements (if this is implemented like the Yampa Management Plan) would need to be signed with Colorado, Utah, and the Ute Tribe.

Jana is drafting a scope of work for a management plan.

10,825 draft EA for the 15-Mile Reach will go to the public July 2011.

Aerial photos of the Green River (same reach as 2008, approx 200 miles) during peak flow of 2011 would cost:

\$18,000 to fly with new camera higher pixels fewer frames to stitch

\$20,000 to georeference 100 mi of 2011 photos & determine high flow wetland acreage

\$38,000

If the peak is too soon (e.g., next week) the helicopter may not be available. Although Reclamation would bump any other flight, they may not have a pilot available as they are transitioning from the backup pilot to the new primary pilot. Likely the peak will not be next week (the forecast center thinks it will be 2 weeks before the Yampa peaks), so we probably can get the helicopter/pilot.

Another option would be drone aerial photos, but USU would not provide an estimate for such a large distance. Drones operate on line of sight and do a great job with a couple square miles on short notice (and the data can be processed within the week).

Tom Chart said he’d really like to get these photos. We can do at least the flights within budget (because Reclamation was able to provide power revenues at the 2011 level instead of 2010). Jana asked if we might want to do just ~100 miles of the Green (Jensen Bridge to Sand Wash), and then also get a part of the Gunnison and Colorado rivers.

>The PD’s office will fine tune a recommendation and get back to the Committee with

costs and recommendations (and check with Malcolm and others in Reclamation regarding their interest/potential funding).

Jana reviewed predicted flood flows (Attachment 3). Dave said Reclamation may have to use the spillway at Flaming Gorge, but that's still an unknown. The website to watch for forecasts is <http://www.cbrfc.noaa.gov/> Krissy said that UDWR will attempt some larval light trapping in the Reservoir (looking for burbot); >Krissy will forward the plan when she gets it.

- d. Peak flow science plan – Western is organizing an effort with NPS, DWR, Reclamation and USGS. The original intent was to study the effects of high flows in Reach 1 of the Green river, but their design was compromised by earlier than expected releases from Flaming Gorge Dam. Their design has now shifted to post peak evaluations on the Green and Yampa Rivers.
 - e. Yampa River - Dinosaur National Monument called a DOI-wide meeting in Lakewood on June 1 to discuss the importance of the Yampa River (especially peak flows for ecosystem management and endangered fish needs and how those flows can be protected). Tom Pitts emphasized that flow issues related to endangered fish should be discussed in the context of the Recovery Program and that Program's agreement is that we would protect flows under State law.
 - f. San Juan River – Tom Chart said he went to the San Juan Program's annual meeting this week. Tom encouraged other folks to attend in the future (it's usually in mid-May in Durango, with their Biology Committee meeting the first day, a combined meeting the second day, and the Coordination Committee on the third day). This is a great opportunity to learn what's happening in the San Juan. Tom Pitts added that the presentations indicated good news for the fish.
9. Next meeting (All, 5 min) – The next Committee meeting will be in Denver, at the [Country Inn and Suites](#) near DIA, July 11 – 12, beginning at 10:30 a.m. on the 11th and concluding by 3:00 p.m. on the 12th (**NOTE:** the Committee had suggested the meeting adjourn earlier on the 12th, but the PD's office foresees that more time will be needed with the FY 12-13 work plan on the agenda). Agenda items will include:
- o review of revised Price River report; White River
 - o review of FP-Synth/22f report
 - o review of sediment report
 - o 7/11: I&E update/discussion (Randy Hampton, new I&E Committee chair)
 - o Review of draft FY 12-13 work plan
10. Consent items: Review and approve [January 24, 2011 webinar summary](#) and [March 1-2, 2011 meeting summary](#) These were consent items on which Committee members were to communicate any items of concern to Angela Kantola in advance of the meeting. No comments were received; therefore the summaries are approved as written.

ADJOURN 1:05 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.
 - 10/30/08: *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).*
 - 1/15/09: *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.*
 - 2/10/09: *the Program Director's office considers this a high priority and will contribute funds, if available (see revised FY09 budget).*
 - 2/20/09: *Recovery Program funds likely available; CDOW working to get engineers on the ground; Nesler considering different approaches (berm, fill the oxbow, etc.).*
 - 4/20/09: *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 careful 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 **Program Director's office** will provide Mark's trip report to the Committee 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.)*
 - 2/22/10: *Program Director's office provided Mark's report.*
 - 3/10/10: ***CDOW** will work with Reclamation to flesh out their gravel proposal and review additional options (e.g., plant eradication, barriers, etc.). This will be on the May 6-7, 2010 Committee agenda.*
 - 5/6/10: *Sherm Hebein said **Reclamation** will conduct a site visit with **CDOW** in July 2010.*
 - 8/18/10: ***Sherm** hopes to schedule a visit after the landowner cuts the grass in the next 2 weeks.*

2. 3/11/11: Harry Crockett provided a list of habitats CDOW would like to work on (attachment 3 to [March 1-2, 2011 BC meeting summary](#)). A rapidly eroding bank at the Yampa SWA is the highest priority, but CDOW can't access funds to stabilize it until July 1. **Harry** and **Dave Speas** will talk with Brent Uilenberg about the possibility of getting capital funds; **Harry** will follow up with CDOW to make sure they could move forward with the temporary fix this year. **CDOW** also will look to see if other funds might be available. Other items on the list may be considered after a synthesis of the northern pike data.

- *5/2/11: Sherm Hebein at CDOW found funding and the bank stabilization project at Yampa SWA was completed on April 13, 2011, just prior to rapidly-increasing flows. Billy Atkinson reported that he believes the project was successful and that we will not see further bank erosion in this particular stretch, and potentially alleviate connectivity to the adjacent pond system. See photos on next page. CDOW will do more permanent work on this Yampa SWA site later this year. Harry clarified that in an exceptionally high water year like this, there will still be sheetflow over the site from upstream, but hopefully the bank will hold so that the site doesn't connect in lower water years. CDOW will still be looking for funding for other items on their "bucket list."*

Before:



After:



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.
 - 10/16/08 Pending; out by the end of ~~November~~ 1/5/09: February 2009.
 - 2/20/09: 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.
 - 9/21/09: Chart and Mohrman have made good progress on this, but other priorities have so far prevented completion.
 - 1/14/10: still pending
 - 5/6/10: 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, July 1, 2011.

4. **Program Director's office (Jana Mohrman and Tom Chart)** expect to provide a draft of the Price River report by the end of August 2009. 7/13/09: 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.
 - 1/14/10: 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.
 - 12/12/10 Program Director's office will use the information currently available to >develop a position paper on Price River flow recommendations for Committee review. 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.
 - Price River position paper sent 12/30/10 with comments due Jan. 31/ 11. UDWR may submit a Price River PIT tag proposal for "activities to avoid jeopardy" funding.
 - 3/11/11: **Tom Chart** will respond to comments and revise the report (in consultation with the Service) and bring it back to the Committee by July 1, 2011.

5. 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.
 - 7/13/10: **Melissa** needs to coordinate with the **NPS** if this is the case and she intends to do that in the next few weeks.
 - 10/6/10: John Reber reported that **Melissa Trammell** will do the EA for this.
 - 5/13/11: The **humpback chub genetics ad hoc group** will need to meet, then Melissa can prepare an EA. >**Harry Crockett** will check with CDOW to be sure the putative humpbacks at Mumma get moved to Ouray NFH – Randlett (will need an import permit from Utah Dept. of Agriculture). (Krissy noted that all states now require imports to have AIS

certification(>**Krissy** will send the criteria to the Committee , as well as disease certification.) >**Dale Ryden** will also talk to Dave Schnoor.

6. The **Program Director'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.
 - *10/6/10: **Travis Francis** said they plan to complete the reports, then revisit a SOW for assistance from Gary White. 3/10: pending.*
 - *4/28/10: **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).*
 - *5/13/11: Data have been transferred; **Program Director's office** will check to make sure we've got this analysis covered.*
7. 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.**
 - *11/23/10: 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 (done).*
 - *3/1/11 As **Kevin McAbee** gets engineering info from the irrigators, he will share it with the ad hoc group. **Kevin** also will inquire more about the purpose of the 9" (at riverbank) – 20" (at center) concrete cap, to determine whether it is to benefit the existing diversion, or both the existing diversion and the proposed diversion on river left.*
 - *5/13/11: Dave provided a list of questions from **Juddson Sechrist**; the **Tusher ad hoc group** reviewed and discussed these on April 4 (summary sent to BC 4/20/11), agreed to have another meeting (site visit) this summer, and re-iterated the need for an initial literature search/review focusing on fish mortality at other sites with small hydro-electric facilities and smaller hydraulic head differentials. **Krissy Wilson** would like to participate in the site visit. >**Tom Czapla** will schedule the site visit (and talk to **Kevin McAbee** to see if he can arrange for the group to tour the inside of the facility). The **Program Director's office** and **Reclamation** will discuss how to get the mortality study done after we determine the information needs and timeframe.*
8. 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.

- 8/18/10: Will be discussed during the health condition profile meeting. The **Program Director's office** needs to schedule discussion//revision of the integrated stocking plan.
 - 9/30/10: >**The Program Director's office** will set up a work group for revising the propagation plan (Krissy and Michelle will assist).
 - 3/11/11 The Biology Committee directed Dave Schnoor to focus on size, not numbers, and not to try to harvest fish in the spring, since additional funds are not available.
 - 5/13/11: A meeting was held at Dexter and a summary will be out in the next few days. Results of the health condition profile meeting should be incorporated into the revised stocking plan. >**The Program Director's office** will convene a group to revise the integrated stocking plan (likely pretty much the same group to work on humpback chub genetics). Horsethief pond water may be whirling disease positive, but Krissy said that Utah can apply for a variance from their Fish Health Board since the fish will be stocked where whirling disease is present and razorback are not known to carry WD. The **Program** needs to move forward with an **ad hoc group** to revise the integrated stocking plan and to evaluate our stocking program (include cost-benefit analyses). Travis would like to be involved in that group. Dale suggested also including Dave Schnoor. Scott Durst has done considerable work on this in the San Juan and might be helpful; >**Tom Chart** will talk to Dave Campbell about this. Tom Chart said he thinks the **Program Director's office** can initiate the cost-benefit analysis.
9. The **Biology Committee** will work on prioritizing their list of potential additional capital projects at a future meeting. *Ongoing*. By September 22, 2010, **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*.
 10. **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.
 - 8/18/10: **Sherm** will send to Angela this week to distribute to the Committee.
 - 5/13/11 >**Harry Crockett** has the report, will scan it, and send it to the Program Director's office and Travis Francis (for the database).
 11. **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]). *In SOW format; pending in final report format document*.
 12. **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.
 - 5/13/11: Pat met with CDOW and the Fish Health Board to discuss revisions included in the updated (April 2009) Nonnative Fish Stocking Procedures (date?). He has been following up on this with the states individually. Harry said CDOW plans to submit revisions for their regulations review this fall. Reclamation is working on an EA for the Rifle Gap screen and

CDOW is working on design for screen structure and installation (now being peer-reviewed).

13. 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 posted that RFP to the listserv. UDWR will keep the Program Director's office in the loop on this.*
 - *5/13/11: UDWR decided neither Ashley nor Stewart Drain were the best sites to try this at this point. Matt Breen convened a group to look at the potential on the White. The Program Director's office still thinks the Duchesne would be a good pilot site. UDWR is still working with the Ute Tribe to consider implementing this on the Duchesne River.*
14. **Tom Czapla** will send out the briefing paper he received with the humpback chub genetic data to the Biology Committee (*done*). **Melissa Trammell** will review Dexter's new plan to see if it may impact this (*also will talk to Tom Czapla*).
 - *3/11/11: Melissa will talk to the Park about what they want to do with the chubs in captivity at Ouray and Mumma (likely return them to the river after acclimation) if the Program does not want to keep them. Melissa suggested assessing morphology now that the fish have matured somewhat (Travis said he's seen the fish and they don't look like humpback to him). The Committee agreed to keep the fish in captivity for now.*
15. **Dale Ryden** and **Dave Schnoor** will write up the Ouray hatchery needs (water source for Randlett and generator for Grand Valley) and submit this to the Program via Tom Czapla. **Dale** also will seek Service funding for these needs. The report will include a discussion the relative risks of power outages at Grand Valley. Melissa suggested that for the long-term, we need a feasibility study for alternative water sources for Randlett.
 - *5/13/11: Dale said Reclamation says alternative water sources would have a \$10M price tag. The Service has been discussing the manganese problem and will convene a group to discuss (Program Director's office, hatchery folks, Reclamation, etc.). Dave Schnoor has been exploring the idea of a generator for the Grand Valley unit, but hasn't come up with anything yet. Dale said the Service should have a more comprehensive idea about these things in a few months.*
16. **Tom Czapla** and **Krissy Wilson** will develop recommendations for where and when to stock the Wahweap bonytail (e.g., floodplains before spawning) and send those to the Committee.
 - *5/4/11: ~6,780 bonytail were stocked at the Stirrup in early April 2011 (because movement will be detectable by the remote antennae).*
 - *5/13/11: Krissy said they have an additional 13,000 fish that are not PIT-tagged yet that need to go out in the fall (and will convene a group to discuss where they should be stocked).*
17. **The Service** will add to the contaminants annual report a review of and any recommended modifications to State and Federal hazardous materials spills emergency response programs.
18. The **Program Director's office** will follow up on establishing a process to track percentages of hybrid suckers using standardized protocol for identification of hybridization at fish ladders and in monitoring reaches.

19. **Northern pike synthesis – 5/13/11** Harry Crockett will let Billy Atkinson know that it will be helpful to compare the recruitment information to the tag records Billy has from his work above Hayden (Harry will ask Billy to make his data available to Kevin Bestgen and Koreen Zelasko).
20. **Kevin Bestgen** will submit the revised version of the 161 northern pike synthesis SOW to Angela and Pat (*done*).
21. Gunnison River Fish Community sampling – 5/13/11: the **Program Director's office** will coordinate between **CDOW** and **FWS** to work out details of collaboration between the two agencies on the Gunnison River adult monitoring in time for July sampling (and then get something back to the Biology Committee for approval). Dan Kowalski, Doug Osmundson, Dale Ryden, Harry Crockett, Sherm Hebein and John Alves (Sherm's counterpart in CDOW's Southwest region) will be involved in these discussions. **Harry Crockett** will talk with CDOW about what portion of work they can do.
22. The **Service's CRFP office** is working to salvage as many fish as possible from the soon-to-be-discontinued leased ponds this year. In light of the analyses showing fish stocked in the summer have the lowest survival rate, the **Service** will recapture and stock those fish as soon as possible.
23. **Koreen Zelasko** will submit the final #159 report (razorback stocking analysis) to the Program Director's office to post to the website
24. **Travis Francis** will make the revisions discussed today (5/13/11) to the Black Rocks humpback chub report (and any others folks will be submitting quickly) and send it to the Committee for e-mail consensus within 2 weeks.
25. **Biology Committee members** will review the Research Framework recommendations in advance of reviewing the FY 12-13 work plan in July. The **Program Director's office** will revise the Research Framework report on the web include a "last updated on" statement and a caveat that clarifies that this was incomplete and was a "point in time" database and direct users to the Program's laserfiche library and Program website. They also will correct the wording at the bottom of the second page of the report that suggests it is a "review draft."
26. **Angela Kantola** will send the Committee an updated version of the reports due list.
27. Spring Flows 2011 – 5/13/11: **Program Director's office** will fine tune an aerial photography recommendation and get back to the Committee with costs and recommendations (and check with Malcolm and others in Reclamation regarding their interest/potential funding).
28. **Krissy Wilson** will forward the Committee UDWR's plan for larval light trapping in Flaming Gorge Reservoir (looking for burbot) when she gets it.

Attachment 2: Instructions for Using Recovery Program Library

The Upper Colorado River Endangered Fish Recovery Program's (UCREFRP) large library of scientific and technical documents is hosted by the Colorado Water Conservation Board (CWCB) on their Laserfiche Weblink at <http://cwcwweblink.state.co.us>. This is CWCB's public portal for read-only Internet access to documents.

After navigating to the site, select the drop-down menu in the Template box, scroll down and click on "UCREFRP." (On occasion, you may have to do this a second time if it doesn't navigate to the UCREFRP template the first time you try). (If you have difficulty, the way to get to the template options is to click the down arrow on the "Customize Search" box in the upper left corner and select "Field.")

At this point, you will see a pop-up dialog box that reminds you:

"NOTE: This site contains resources which incorporate material contributed or licensed by individuals, companies, or organizations that may be protected by U.S. and foreign copyright laws. These resources are flagged 'YES' in the Copyright Material field. All persons reproducing, redistributing, or making commercial use of this information are expected to adhere to the terms and conditions asserted by the copyright holder. Transmission or reproduction of protected items beyond that allowed by fair use as defined in the copyright laws requires the written permission of the copyright owners."

Click "Okay" to proceed. (You will see the copyright message and need to click "Okay" to proceed every time your search brings up a copyrighted document.)

Be sure to tell your browser to allow pops-ups for the site; otherwise it won't let you download anything.

To search the library for documents:

- by author, enter the author's name in the box below "Author" **surrounded by asterisks**, like this: *Hawkins*

- by title, enter a word or words from the title **surrounded by asterisks**, like this: *pikeminnow*

Use the right/left and up/down scroll bars to see more of the display.

To retrieve a document in the list, click on the document number with the document symbol to the left (under the "Name" heading) and the document will appear on the screen.

- Page through the document using the arrows.

- Retrieve the document as a pdf file by clicking the PDF button with the printer symbol to the left. Then click "Download and Print" and it will come up on your screen as a pdf and you can print or save it from Adobe.

To search text, click the down arrow on the "Customize Search" box in the upper left corner and select "Text." Then you may enter the text for which you want to search – either within all of the library's documents or within a subset which you've already selected through a previous search. Asterisks are not necessary when searching text.

Attachment 3

[Prepared by: Alcorn, Cox,
Nielson](#)

2011 Forecast Exceedance Probability

	Historic Peak	Average Peak	Flood* Flow	2011 Forecast Exceedance Probability					Normal time of Peak	Issuance Date
				90%	75%	50%	25%	10%		
Colorado										
Dotsero, Nr										
Mean Daily Flow	20,800	9,425	17,000	13500	15000	17500	20000	24000	5/25 - 6/20	10-May
Instantaneous Flow				14000	16000	18000	21000	25000		
Colorado										
Cameo, Nr										
Mean Daily Flow	38,000	17,500	25,350	24000	26000	31000	36000	41000	5/29 - 6/18	10-May
Instantaneous Flow				25000	27000	32000	37000	42000		
Gunnison										
Grand Junction, Nr (see Notes Below)										
Mean Daily Flow	23,200	9,660	19,549	7500	8500	10500	11000	12000	5/3 - 6/12	10-May
Instantaneous Flow				8200	9200	11000	12000	13000		
Colorado										
Co-ut Stateline, Nr										
Mean Daily Flow	68,300	26,150	47,550	33000	37000	43000	50000	58000	5/22 - 6/16	10-May
Instantaneous Flow				34000	38000	44000	51000	59000		
Yampa										
Maybell, Nr										
Mean Daily Flow	24,400	10,475	21,000	17000	19000	21000	24000	26000	5/13 - 6/10	10-May
Instantaneous Flow				18000	20000	22000	25000	27000		
Yampa										
Deerlodge Park										
Mean Daily Flow	32,300	13,955	17,000	24000	26000	29000	34000	39000	5/11 - 6/6	10-May
Instantaneous Flow				25000	27000	30000	35000	40000		
Green										
Jensen, Nr (see Note1 Below)										

Mean Daily Flow	38,500	17,600	25,000	26000	28000	31000	36000	41000	5/14 - 6/11	10-May
<i>Instantaneous Flow</i>				27000	29000	32000	37000	42000		

Duchesne

Randlett, Nr

Mean Daily Flow	11,500	2,755	7,400	7000	8800	10300	11200	12000	4/27 - 7/5	10-May
<i>Instantaneous Flow</i>				7300	9100	11000	11000	12000		

White

Instantaneous Flow 4000 4300 4800 5400 5900

Watson, Nr

Mean Daily Flow 3800 4100 4600 5000 5500 10-May

Green

Green River, Ut (see Note1 Below)

Mean Daily Flow	47,200	22,560	47,000	38000	42000	46000	54000	61000	5/18 - 6/16	10-May
<i>Instantaneous Flow</i>				39000	43000	47000	55000	62000		