

Biology Committee Webinar Summary
8:00 a.m. – 2:15 p.m., Friday, February 24, 2012

PARTICIPANTS

Biology Committee: Harry Crockett, Melissa Trammell, Dave Speas, Dale Ryden, Krissy Wilson, Jerry Wilhite, Brandon Albrecht, Tom Pitts, and Pete Cavalli. CREDA was not represented.

Other participants: Pat Martinez, Tom Chart, Angela Kantola, Trina Hedrick, Kevin Bestgen, Kevin McAbee, Tildon Jones, Koreen Zelasko, and Tom Czaplá.

CONVENE: 8:00 a.m.

1. Review/modify agenda (Crockett, 5 min) – The agenda was modified as it appears below.
2. Review of revised C-6/RZ RECR, “Razorback sucker survival and emigration from the Stirrup floodplain, middle Green River, Utah, 2007-2010 by T. Hedrick, A. Breton, and S. Keddy – Trina reviewed how they addressed the concerns regarding lack of reference to previous studies; the need to be less general in applying model results to other wetlands; the need to clearly state the uncertainty of results, etc. Dave Speas said that in the authors’ response to his comments, they state that they don’t see the Stirrup as a high priority for razorback sucker recovery, and yet this isn’t included in the conclusions or recommendations. Trina said the key word is *recovery* – Modde’s report also mentioned that although the Stirrup site has value for studies, etc., its contribution to natural recovery is likely limited. Dave suggested that since the Stirrup is mentioned as a priority site in the Valdez floodplain plan, this report’s conclusions should mention that we don’t expect much natural recruitment from the Stirrup (without pumping, cover, etc.). Melissa countered she doesn’t think this needs to be explicitly called out in the report; Trina and Tom Chart agreed. Tom said we thought the Stirrup would have one of the best chances for overwintering fish, and now we have bonytail there. (Tom asked if we know what the water quality is like after last year’s extensive connection; Trina said she’d need to check with Matt Breen.) Kevin Bestgen suggested adding something like “while the Stirrup site is useful for some research activities, other floodplain sites may be more suitable for long-term management for natural recruitment...” Dave and Melissa agreed. Trina will add this to the report conclusions. Pete Cavalli said he thinks there’s still an issue with the figure on p. 54; Trina will add more clarification that the measured flow at the gage doesn’t necessarily translate to the flow at the Stirrup. Dave asked how Trina’s statement about 17,500 cfs relates to the 15,000 cfs cited in the flow request letter; Trina said that if the floodplain is full and Brush and Ashley creeks add to the flows, then connection can occur with 15,000 cfs at the Jensen gage (but fish didn’t *move* in their study until flows reached 17,500 cfs). This is covered appropriately in the report (but will need to be addressed in the flow request letter). Koreen Zelasko asked about the second-to-last conclusion about riverine or hatchery razorback; Trina will change the parenthetical to read “regardless of where fish were stocked.” The Committee expressed their appreciation to Trina her work in addressing comments. The Committee approved the report with the three foregoing changes. Trina will finalize the report by next week (*done*).
3. Larval Trigger Study Plan – Tom Chart introduced the plan, described its objectives, and said he expects the plan to be the core of the spring flow request for the next six years or so. UDWR submitted fairly extensive comments from Matt Breen and Krissy Wilson late yesterday, most of which appear to be clarifications and editorial. Kevin Bestgen said he thinks most of these comments can be incorporated. Tom Chart said Matt focused on the importance of project #158 as a contributor in an evaluation of unintended consequences. Tom agreed, but would need to qualify the longevity of this study based on a Program review of the final report due after the 2012 field season. Melissa agreed with Matt’s comment that the Study Plan monitor native fish response, as well as nonnatives. >Tom Chart said he and the *ad hoc* group will quickly address the comments and get it back to the Committee, since this is the backbone of the spring flow request and we

also need Management Committee approval. A revised version will be sent to the Biology and Management committees by the end of next week (March 2; earlier if possible) for the Biology Committee's e-mail approval by the end of the following week (March 9); with no response indicating approval. We'll then seek Management Committee approval by e-mail by mid-March (or could discuss at March 21 Management Committee webinar).

4. Flaming Gorge Flow request letter – Tom Chart re-emphasized that the details are now found in the Larval Trigger Study Plan. Instead of nailing down a specific target flow, the letter recommends that we move with the hydrologic forecast to focus on the appropriate cell of the Table 2 matrix to develop the specific flow request (which would be communicated back to the Recovery Program and principal investigators). The letter again includes a cap in light of the potential for burbot to escape over the spillway. For the Stirrup connection, Tom identified 15,000 cfs, but based on Trina's report, that may need to be altered to 15,000 or greater and note that we need to consider current conditions (e.g., water level in the Stirrup, contributions of Brush and Ashley creeks); the Committee agreed that should be incorporated in the letter. Dave Speas asked if 2011 will be counted as filling out one of the cells in the study design; Tom Chart said he thinks we would include 2011 results in our evaluation, but he is still a little unclear how much larval sampling we did on the floodplain. Kevin Bestgen said he doesn't think we did sufficient sampling to detect entrainment at many of these sites in the summer; Krissy agreed, saying she doesn't think we can count 2011 as a full year of data collection. Tom said we'll make every use of the valuable information collected in 2011 in evaluating the larval trigger, however. Dave asked about the reference to the Program Director distributing the FGTWG meeting summary to the Biology Committee; Tom Chart said by "summary," he meant something that clearly captures the discussion at the FGTWG that specifies what we'll try to do in a year based on the hydrology (>Dave Speas will check on what actually gets prepared/distributed along these lines). Dave suggested "*may* necessitate releases above power plant capacity" and add "invasive" above "species" and fix the second occurrence of "summer survival" in last sentence of first paragraph on page 2. Dave asked about getting the elevation at Stirrup before spring runoff and Tom Chart said he doesn't yet know if we'll be able to do that. Dave asked if we should call out the study at Stewart Lake; Tom will mention that work. Noting that since this represents something of a departure from normal operations, and Reclamation had some questions last year about relaxing the ROD, Jerry Wilhite asked if the Program needs to help out Reclamation with some informal consultation on this? Kevin said the Service wrote a letter to Reclamation on this last year; and he thinks Reclamation and the Service concluded that this falls within the existing BO and ROD. >Kevin McAbee said the Service can work with Reclamation and the PD to draft a letter that covers the remaining years of the Larval Trigger Study Plan, and will discuss this at the March 8 meeting. >Tom Chart will revise the letter as discussed today and include it with the revised Larval Trigger Study Plan, as discussed above.

5. Modified scopes of work:

- a. C-6 Baeser – Dale discussed this SOW (most recent version sent out by Aaron Webber on February 13, dated February 9) and why the antennae were included in this work. Dave Speas noted the concerns expressed regarding no physical habitat monitoring and whether we're looking for presence/absence vs. survival. Dave expressed regret that the Committee didn't have the opportunity to discuss this earlier. Dave said that new equipment will become available in the BioMark catalog over the summer and we need to discuss those options in advance. Dave said there is equipment available now that would provide greater coverage than the flat plate antenna for similar costs, but we can't get and install it in this timeframe. For example, "cheeseblocks" are on their way out and a better model is forthcoming. Dale agreed with need to discuss these things earlier when possible, but does think that if we have the ability to gather these data, we should do so. Dave noted that Aaron needs to discuss the maximum cable distance with BioMark and that the Service will need to order the custom cables. Pete asked how large an area is actually monitored; Tildon said it's fairly small, but the Modde et al study indicated that razorback move repeatedly all

over the cobble bar where the antennae will be placed. Kevin Bestgen said the razorback sucker monitoring plan will recommend installation of devices like this because we're sorely lacking in recaptures to provide population and survival estimates. The data will be directly useful as incorporated into a larger sampling effort (consistent with what we're doing with Colorado pikeminnow). Pete asked how these will be anchored and how the sediment will be dealt with. Tildon said they're weighing a number of options for anchoring (e.g., installing anchors prior to spring flow). Krissy said she doesn't think a 404 permit would be needed, but a stream alteration permit might be. Krissy recalled the extensive review we've just given the Stirrup report and suggested we need to be clear about the kind of data we're looking for in the SOW. Krissy thinks we're setting ourselves up for failure with this and putting cart before the horse since we don't have the razorback sucker monitoring plan yet. Also, the Weber River doesn't have the range of flows we'll see on the Green River. Tildon said that the inside bend of a cobble bar (secondary channel) in shallow water will not be subjected to the same velocities that are seen in the mainstem Green River. The study design is significantly different than the Stirrup. Dale added that they will be happy to add more technical detail to the SOW that they didn't have time to provide earlier. Tom Czaplá said he's supported doing this for a number of years and that for \$12K, he believes we'll get some very useful information. Dave said Peter MacKinnon suggested the Vernal shop likely has the capability to build their own antenna. Tildon said they're definitely open to building the best system possible if funds are available in the future. Tom Chart said perhaps a SOW addressing these kinds of concerns may carry more weight next year, but we'll still be facing a very tight budget. Kevin Bestgen reiterated the need to improve capture probabilities and the main way will be to use active or passive gear on or near the spawning bar in the spring. Even 50 more recaptures of fish will significantly improve our estimates. Tildon added that Modde's telemetry study revealed fish that were not detected with electrofishing. Dave said he expects we'll document fish with the setup that Aaron has proposed. >Dave will look into the ability to order this equipment now and return it, if needed (e.g., if the Committee doesn't decide to move forward with this). The Committee generally agreed this is a good idea, but the whole Committee has yet to agree that this is something we should proceed with in this way this year. Melissa said she would like to see this move forward this year. Pete and Krissy abstained from voting. Dale said the Service is willing to go either way (proceed this year or wait). Tom Chart asked about the risk of purchasing this equipment and not being able to use it somewhere; Dave replied that the flat plates also could be used in breaches and the "cheeseblocks" could be used for other applications, as well. Melissa said that the Park has agreed installation could proceed this year. The Program Director's office recommended that Reclamation purchase the gear this year and the Service revise the SOW to address the questions / comments raised today (e.g. permitting; include spawning bar photos and graphics the Committee looked at over the last few days; other possible application of the gear; and Dr. Bestgen's suggested uses of the data collected). >Reclamation will purchase the gear and the Service will revise the SOW. If Biology Committee members have additional comments to what's represented in this summary, please send those to the Service as soon as possible. The gear will be deployed this year unless there are permitting or logistical roadblocks to doing so. >Jana will ask Cory Williams if he can predict velocities at this site.

- b. Duchesne River monitoring – Dale Ryden said Pat Martinez has discussed a combination of monitoring and nonnative fish removal on the Duchesne River only with the Service or Ute Tribe as the lead (but probably the Service at this point) and permits will be forthcoming. Tom Chart said we've done work on the Duchesne in collaboration with the Tribe (just funded by the Tribe in recent years) and Mark Fuller has asked if the Program wants to continue this. There may be a proposal for a small amount of funding to support the Service's involvement (primarily Mark Fuller's UTFWCO shop). At this point, Tom would just like to know if this is something the Program supports. If so, Mark would need to cover any work this year under the FWCO budget. The Program Director's office will bring more detail to the Committee as it becomes available, but this is not a proposal for

Program funds for FY12. Melissa said she supports the idea.

- c. 98a – Melissa asked for further clarification about marking passes (if there are marking passes, will they be where there are 3 passes or just in the areas where there are 7 passes)? Harry will get back to the Committee on this (*done*). Krissy asked Harry to check throughout the document to make sure all the marking discussion has been appropriately clarified (*done*).
6. Need for temperature gauging at Yampa/Green confluence – Dave Speas said Reclamation is required to monitor temperatures to document differences in the Yampa and Green rivers. This is typically most critical in summer when pikeminnow are drifting downstream from the Yampa, and the goal is to keep the temperature difference below 5°C. To date, they've deployed temperature loggers at the two locations immediately upstream of the confluence. The loggers are retrieved/replaced in the fall (Jana said sometimes the data are retrieved 3x/year to make sure no data are lost, but high flows made that impossible last year). The Yampa River logger was lost last year in the high flows. Do we need a more permanent or secure solution to make sure we don't miss important data again in the future? Establishing a gage would be more costly with O&M each year. Kevin Bestgen has suggested just installing a redundant logger on a separate cable, which would be considerably less expensive. >Jana will look into this option and inform the Committee how the Program will proceed. Tildon asked Jana to let them know if there's anything they can do to help out since they're in that area frequently. Dave said that will be fine, we just need to be sure we know who's doing what (e.g., LFL usually retrieves the Green R. gage). >Dave, Jana, Kevin, Carrie, and Jim Renne will discuss all this (including other sites) further.
7. Review of draft RIPRAP revisions & assessment – The Committee reviewed the RIPRAP table and assessment (with Angela making notes below, and on the RIPRAP itself, which will be compiled in a revised version provided to the Management Committee). Brief comments were made on the RIPRAP text; Committee members will e-mail track changes or comments on this text by next Wednesday, Feb. 29 (a revised version will be compiled for the Management Committee).

General

II Dave asked about impacts of mercury on the endangered fish; Kevin McAbee said others are looking into this within available budgets.

IIB2b Tom Pitts asked if the Service is working on this item "USFWS should investigate use of PIMMA to address existing pipelines that may need shutoff valves." Kevin McAbee said he hasn't heard of any work along these lines to date; >the PDs office will discuss this with the Service during the sufficient progress review. The Program may consider writing a letter to the Service requesting action on this.

IIIB8 Melissa suggested adding a sentence to the assessment language: "Not all occupied habitat is designated as critical habitat"

IIIA2c Agree with exclamation, but implications for effectiveness of mechanical removal seem dismal, underscoring the need to take an integrated approach to achieve our management objective.

The Committee asked about the disposition of the Desolation humpback chub that died at Ouray NFH (and suggested that we age them). It was subsequently reported that 6 dead HBC were sent to Bozeman NFTC for diet analysis/formulation. On station at Ouray NFH are: 5 frozen humpback chub (of which 1 is probably from Deso) and 1 HBC from Deso in ethanol. Dave Speas subsequently asked the >Service to pull the otoliths and preserve them for aging.

Green

Krissy will forward to the BC the proposal that resulted in an award to the BLM to draft a San Rafael management plan (*done*, 2/24/12).

Yampa

IIIB1d1c >Pat Martinez and the PD's office will work with CPW to better define "Develop guidelines for new structures to minimize creation of habitat suitable for pike spawning/nursery."

Dave Speas pointed out that there will be a number of items from the basinwide strategy that will need to be added to the RIPRAP when that strategy is approved.

White

>Harry Crockett will provide a summary of Kenney Reservoir sampling ('07, '08, '10, no smallmouth detected). Tom Chart also noted how important it will be for CPW to communicate their results from upper Yampa River sampling (a la 98c) with the Program in the future; Harry fully agreed.

Colorado

IIIB3a >The PD's office will review the statement "Reports of illegally-stocked northern pike in Highline Reservoir are of concern" and make sure that this is a verifiable report.

The Committee discussed sampling the Colorado River arm of Lake Powell (will not be as difficult as sampling San Juan arm). UDWR has said they're not interested in doing that this year.

The remainder of the agenda was postponed and a conference call/webinar later scheduled for March 6 from 1 – 4 p.m. to address these items.

8. Updates:

- a. Price River position paper (Chart, 30 min)
- b. White River flow recommendations (Chart, 5 min)
- c. Tusher Wash mortality study (Czapla, 15 min)

9. Review previous meeting assignments (see Attachment 1) (All, 20 min)

10. Review reports due list (Kantola, 10 min) – *Angela Kantola will e-mail the Committee an updated list in advance of the meeting.*

11. Schedule next meeting and suggest agenda items (All, 5 min)

12. Consent items: Review and approve: a) January 12, 2012 Biology Committee Walton Creek conference call summary (sent by Melissa Trammell 1/25/12); b) January 26, 2012 Biology Committee meeting summary (sent via fws-coloriver listserver 1/30/12).

ADJOURN ~2:15 p.m.

Attachment 1: Assignments
(Asterisked items also on meeting agenda)

Note: the order of some assignments has been changed to group similar items together.
For earlier history of items preceded by an ampersand "&", please see [previous meeting summaries](#).

1. & 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.
 - 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 July 1, 2011.*
 - *Sent to BC July 1, 2011. 9/30/11: conflicting comments have been received, Tom Pitts has asked Jana for an extension on the comment deadline (extended to Nov. 2). See also agenda item #3c.*
 - *11/22/11 Progress on revising report delayed due to Price River report and Basin Study priorities; **Jana Mohrman** will provide a revised report to BC and WAC as soon as possible.*
 - *1/26/12 **Jana** will send the Biology Committee a packet of all the comments received to date. (Done 1/30/12)*

2. & **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.*
 - *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.*
 - *6/21/11: Sent to Biology Committee; on 7/12/11 agenda (7/12/11: review/approval deferred to 9/30/11 at Tom Pitt's request); 9/29/11 Pitts' comments submitted; 9/30/11: See agenda item 3a: >**Tom Chart and Jana Mohrman will meet with Tom Pitts** very quickly to try to work out technical issues, and get recommended revisions back to the Committee as quickly as possible. The Committee tentatively approved the report pending Committee e-mail (or potential conference call) approval of changes to be provided via the listserv from Tom Chart subsequent to he and Jana meeting with Tom Pitts. Tom Chart anticipates clarifying hydrologic analyses, but not overall report recommendations. Tom Pitts will still file a report on the non-technical issues. These issues were discussed at the [Management Committee on October 12](#). Potential technical revisions pending.*
 - *1/26/12 **Tom Chart** circulated Tom Pitts' recent draft technical and programmatic/policy comments and he and **Jana Mohrman** convened a small group (Tom, Jana, Tom Pitts, Krissy Wilson, and FWS-ES Utah (Amy DeFreese or other) to review the comments.*
 - *2/21/12 Tom Chart provided BC with draft responses to the water users' concerns along with a list from Tom Pitts of water user issues still not addressed.*

3. &The **Program Director's office** will prepare a list of issues to be resolved regarding Tusher Wash screening (e.g., levels of mortality 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.*
 - 12/13/10 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.
 - 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.
 - 9/30/11: The Program Director's office will ask if Brent Uilenberg and Bob Norman can provide description/specifications of the hardware at Tusher to help us understand if it can be retrofitted (11/8/11: awaiting reply). Tom Czapla will send a Doodle request to reconvene the ad hoc group to discuss who should do the literature review.
 - 1/26/12: Tom Czapla, Dave Speas and Kevin McAbee will draft a Tusher Wash mortality study and literature review RFP (or similar) for the Tusher Wash ad hoc group.
4. & Tasks related to stocking and genetics have been gathered here under revising the Integrated Stocking Plan. Tom Czapla is convening a group to revise the plan, address humpback chub genetic issues, and develop a humpback chub action plan; he will send out a draft revised stocking plan in early October 2011 and convene a conference call of the ad hoc group to review it in October or early November.
- 5/13/11: Cost-benefit analyses should be included in the revised stocking plan; Tom Chart said he thinks the Program Director's office can initiate this analysis. Results of the health condition profile meeting held at Dexter in March should be incorporated into the revised stocking plan. Discussion of humpback chub and back up pikeminnow broodstock were prominent in this meeting. 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.
 - 6/2/11: Core ad hoc group identified: Harry Crockett, CDOW; Krissy Wilson, UDWR; and Pete Cavalli, WFG; Dale Ryden and/or Dave Schnoor, Travis Francis, USFWS; Dave Campbell and Scott Durst, San Juan Recovery Program; and input from hatchery managers as needed (particularly as it pertains to space at facilities).
 - 11/22/11: Conference call to discuss humpback genetics and potential refugia/propagation held 11/2/11; draft action plan materials sent to group from Tom Czapla.
 - 1/26/12 Tom Czapla will remind the ad hoc group to submit comments.

Humpback Chub

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.

- 5/13/11: Black Rocks and Westwater data have been transferred to Gary White; **Program Director's office** will check to make sure we've got this analysis covered. 2/6/12: Done and 131 SOW revised accordingly.

After the ad hoc group meets, Melissa Trammell will draft an Environmental Assessment of the impacts of the humpback chub captivity management plan (also addresses how to deal with captured roundtail chub); **Krissy Wilson** will work with **Melissa** on the EA. **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.*
- 1/26/12: **Tom Czapla** will provide researchers direction on collecting fin clips from adult humpback in Westwater and Black Rocks and other populations, i.e., Cataract Canyon, Desolation/Grey Canyons, Yampa Canyon, or wherever else they may be encountered.
- 2/27/12: *Dave Speas asked the Service to pull the otoliths from the deceased HBC at Ouray NFH and preserve them for aging.*

As identified in the sufficient progress assessment and requested by the Management Committee, the **Program** will develop an action plan for establishing refugia for humpback chub (avoiding getting bogged down in genetic analysis). Mike Roberts has recommended building in limiting factor/life history studies to better understand what's going on in the system that's affecting humpback chub populations.

Razorback Sucker

& **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 explored the idea of a generator for the Grand Valley unit. The Service should have a more comprehensive idea about these things in a few months.*
- 7/6/11: *Dale e-mailed write-up (discussed briefly at 7/10-11 BC meeting).*
- 8/24/11: Service purchased Grand Valley Unit generator. Service/Reclamation met to discuss manganese; proposal to hire contractor and install additional filters pending.
- 9/30/11: *Proposal for contractor review of alternatives for remediating the manganese problem approved by Management Committee.*

Bonytail

- **Dave Schnoor** will write up his thoughts on bonytail stocking and temperature. The **Mumma and Wahweap hatcheries** will compile their records of stocking temperatures and provide that to **Tom Czapla** for consideration as part of the integrated stocking plan.
5. 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 on hold.*

6. 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. *Pending. Reclamation approved a CU study (through "other activities to avoid jeopardy") to crossbreed suckers and test fitness. 1/11/12: Discussed on 1/5/12 NNFSC call.*
7. Northern pike synthesis – 5/13/11 **Harry Crockett** will let **Billy Atkinson** know it will be helpful to compare the recruitment information to Billy's tag records from above Hayden (Harry will ask Billy to make his data available to Kevin Bestgen and Koreen Zelasko).
8. **Biology Committee members** will review the Research Framework recommendations in advance of reviewing the FY 12-13 work plan in July. *Not done; suggest review for FY 14-15 Program Guidance.* 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." *Pending.*
 - 9/30/11: **Committee members** will send comments via e-mail (to the entire Committee) by October 31 as to whether they see items in those recommendations that should be captured in our current list of contingency projects or the next round of Program Guidance. 11/7/11: No comments received to date.
9. Spring Flows 2011 – aerial photography - 7/10/11: *See Attachment 2 for reaches flown.* The **Program Director's office** will look into potential partners to help fund stitching and georeferencing. 8/24/11: *In progress.* 9/30/11: *CWCB's floodplain mapping unit has offered to assist. COE may help, but hasn't found funds yet. WAPA also may be interested.* 1/26/12: *Program contingency funds added to cover stitching; also georeferencing and habitat delineation for the 13 floodplain sites.*
10. **Krissy Wilson** will forward the Committee UDWR's plan for larval light trapping in Flaming Gorge Reservoir (looking for burbot) when she gets it. 9/30/11: *this survey for larval burbot couldn't be completed as the likely window was missed this year; willing to consider in next year's work plan. This will be discussed at the nonnative fish workshop.* 1/11/12: *Gardunio said burbot are attracted to light during larval stage, but such trapping in winter could be difficult.*
11. The **Program Director's office** will make a recommendation regarding whether or not to password protect the PIT tag GIS site. 2/24/12: *Jana Mohrman spoke with the FWS Regional Office, and they didn't think we needed to password protect the site. Kevin McAbee suggested and Patty Gelatt agreed that the risk from any negative use of the data (poaching, etc.) is so small that it is outweighed by the positive use of getting data out to the general public (education, research, etc.); however, it is important to protect spawning locations.*
12. **The PDO** will notify all potentially affected field personnel in the event of future Elkhead releases.
13. **Tom Chart and Jana Mohrman and Kirk LaGory** will convene a group fish biologists involved in developing the flow recommendations as well as geomorphologists (e.g., John Pitlick and Cory Williams) to identify logical next-steps (e.g., is MD-SWMS modeling the best way to proceed) to evaluate flow recommendations, particularly on (but not limited to) the Gunnison where sediment transport is so important. *Pending.*
14. New 2012 SOWs and revisions (and request for ETS units) are due from **>principal investigators** directly to the Biology Committee e-mail list by February 2. **PI's** are requested to attach their revised/new scopes of work and briefly describe the changes in their cover e-mail. **>Biology Committee members** have until February 9 to provide any comments or questions (all this will be done via e-mail).

- **Jana Mohrman** will work with Reclamation on the aerial photography SOW. *Pending*
 - **Jana Mohrman, Tom Chart and Kirk LaGory** will work on a SOW to assemble a team to interpret the findings of Project 85f. *Pending*
 - **Tom Chart and Jerry Wilhite** will work with **Argonne** on a SOW for the C-6 Hydro work to assist with physical aspects of larval trigger study plan. *Pending*.
 - **UDWR & FWS** will modify their larval trigger SOWs to purchase Hydrolabs (\$7-10K each) for water quality monitoring. *Done*.
 - **NPS** may submit a water quality SOW for emerging contaminants in Dinosaur. *Submitted*.
 - **CPW** will modify SOW 98a (adding a \$10K contingency to account for additional field time if hydrology is average or drier). *Modified*.
 - **PIs** will review now-available funds to determine if/how much additional funds would be needed to begin converting to ETS units this year. **Pat Martinez** will call ETS to discuss the “bulk” purchase and our need for a large number of units. *Done*.
 - 98c Upper Yampa pike removal above buffer zone and review of pike sources - >**Harry Crockett and Tildon Jones** will prepare a SOW (to be reviewed by Committee via e-mail, as discussed above), if this can be accomplished logistically this year. *CPW will cover outside of Program funding*.
 - 126b **Harry Crockett** will see what’s needed to allow reconnaissance of potential nonnative fish sources and discuss with **Dale Ryden** and the **Program Director’s** office. *SOW revised*.
 - White River nonnative fish removal - **Colorado and the PD’s office** will schedule a public information meeting in Rangely. **Colorado, the Service, and the PD’s office** will work to make necessary landowner contacts before the public meeting announcement.
 - **LFL (Kevin Bestgen)** will prepare a revised SOW for #161. *SOW revised*.
 - 22f larval sampling in White R. discussion (sampling and analysis). **Kevin Bestgen** will prepare revised SOW for sampling and analysis. This may not be classic light-trapping (e.g., could be dip-netting, which is more involved). *SOW revised*.
 - **Kevin Bestgen and Dale Ryden** will revise SOW #131 to add additional analysis (from Gary White) with some recommendations for how it would be used in future reporting (from Kevin), that is, how to look at the data in the long-term). *SOW revised*.
 - In addition to the other specific SOWs mentioned in this list, **PIs** will revise SOWs for projects: 110, 123a, 123b, 125, 126a, 126b, 158, and 15. Please see dark green notes in FY2012 comments column (N) of FY12-13 budget table. *SOWs revised*.
15. **Angela Kantola** will add a place for Reclamation agreement numbers to the final report format on the web.
16. The **Nonnative Fish Subcommittee** will put together a list of reservoirs where we have concerns about escapement and try to begin prioritizing those for treatment.
17. **Kevin McAbee** will ask BioMark about battery packs for the solar arrays (which are said to only last ~5 years, with replacements at \$7-11K) and determine if replacements need to be worked into the negotiation with Questar.
18. **Tom Chart** will send a copy of the Thunder Ranch agreement letter and Reclamation’s SOW to the Biology and Management committees. At some point, Krissy would like to know what the easement agreement called for (with a new landowner, it may be a good time to discuss those purposes again).
19. **Tom Chart** and the *ad hoc* group will quickly address the comments on the Larval Trigger Study Plan and send a revised version to the Biology and Management committees by March 2 (or earlier, if possible) for BC e-mail approval by March 9 (with no response indicating approval). Tom will then seek Management Committee approval by e-mail by mid-March (or discuss at March 21 Management Committee webinar). **Tom Chart** also will revise the draft flow request letter and include it with the revised Larval Trigger Study

Plan.

20. **Dave Speas** will check on what gets prepared/distributed in the way of a FGWTG meeting summary (per mention in the draft flow request letter). **Kevin McAbee and the Service** will work with Reclamation and the PD to draft a letter that covers the remaining years of the Larval Trigger Study Plan, and will discuss this at the March 8 meeting.
21. **Dave Speas** will check on the ability to order the flat plate antenna equipment now and return it, if needed (e.g., if the Committee doesn't decide to move forward with this). **Reclamation** will purchase the antenna gear and the **Service** will revise the SOW to address BC (e.g. permitting; include spawning bar photos and graphics the Committee looked at over the last few days; other possible application of the gear; and Dr. Bestgen's suggested uses of the data collected). **Biology Committee members** with additional comments will send those to the Service as soon as possible. The gear will be deployed this year unless there are permitting or logistical roadblocks to doing so. **Jana Mohrman** will ask Cory Williams if he can predict velocities at the razorback spawning bar site.
22. **Jana Mohrman** will investigate the option to install a redundant temperature logger on a separate cable at the Yampa/Green confluence site. **Dave Speas, Jana, Kevin Bestgen, Carrie Cordova and Jim Renne** will discuss all this (including other sites) further.
23. RIPRAP: **Pat Martinez and the PD's office** will work with CPW to better define the statement "Develop guidelines for new structures to minimize creation of habitat suitable for pike spawning/nursery." **The PD's office** also will review the statement "Reports of illegally-stocked northern pike in Highline Reservoir are of concern" and make sure that this is a verifiable report.
24. **Harry Crockett** will provide a summary of Kenney Reservoir Sampling ('07, '08, '10, no smallmouth detected).