

Draft Biology Committee Meeting Summary  
Grand Junction, Colorado, March 3-4, 2015

**PARTICIPANTS**

**Biology Committee:** Dave Speas, Melissa Trammell, Jerry Wilhite, Sherman Hebein for Harry Crockett, Dale Ryden, Krissy Wilson, Brandon Albrecht, and Pete Cavalli. Via phone: Tom Pitts.

**Others:** Tom Chart, Paul Badame, Kevin McAbee, Tom Czapla, Angela Kantola, Mike Mills, Jana Mohrman, Kevin Bestgen. Via phone: Trina Hedrick, Katie Creighton, Julie Howard, Tildon Jones, and Matt Breen.

**Tuesday, March 3**

**CONVENE: 8:30 a.m.**

1. Review/modify agenda – The agenda was modified as it appears below
2. 2015 SOW revisions – Dave Speas noted that every modification to funding agreements results in time charged to the Recovery Program. Angela suggested we may need to consider how to “de-couple” funding agreements (which might cover all possible bases to reduce the need for revision) from the Program budget tables (which would show actual anticipated project expenses from year to year and be revised as projects are modified).
  - a. UDWR Moab (budget neutral) changes to 123a (increase lower Green River walleye removal and assist with lower Colorado walleye removal), 129 (write final report; purchase hoop nets), 130 & 160 (increased personnel costs), 132 (defer Westwater humpback sampling to 2016), Green River canal salvage. Katie described increases in personnel costs and explained how they kept the budget neutral. Julie described their final #129 report proposal to more carefully review past data (long-term survival and recalculation of past population estimates). For UDWR-Moab, the Green River salvage work will go under project #138 beginning in FY2016 (USFWS-Vernal’s portion will go under 29a); annual reports from both USFWS and UDWR will go under 29a. The Committee approved the changes to UDWR-Moab’s scopes of work
  - b. UDWR Vernal extra walleye pass – Matt described changes to 123b, adding \$13,290 to conduct an additional walleye removal pass (previously \$229,723; requesting \$243,013). Dave recommended keeping these extra walleye passes in outyears; the Committee agreed. Matt noted that he’s pursuing DWQ funding for water quality sampling. The Committee approved the change to UDWR-Vernal’s scopes of work.
  - c. USFWS Green River canal salvage – Added \$6,596 beginning in FY16 (this fall) to FWS-Vernal for canal salvage. Approved.
  - d. USFWS defer Black Rocks sampling to 2016, conduct extra walleye removal (three complete walleye passes from Cisco, UT downstream to Potash would be budget neutral). The Committee will need to discuss whether to continue this work once Black Rocks sampling resumes. Dale said they can still cover bringing young chub into the hatchery. Approved.
  - e. USBR Green River canal monitoring (PIT antennas) – Antenna components from the Maybell Ditch study were used in the first year of this study. The equipment is aging and isn’t fully up to date (newer technology handles background electrical interference better); therefore, Dave and Peter MacKinnon recommend upgrading the equipment. The equipment will need to run for another 5 years or so (pre-

construction and then post-construction evaluation); Dave believes the proposed new equipment would last well through that period. The Committee approved the revised scope of work. The current gear might be used somewhere with less electrical interference (e.g., Stewart Lake), though the site would need to have batteries, job box, solar panels, wiring, etc. to go with it. Matt said they thought they might put flat plates in at Stewart (they've experienced interference with a MUX system there). Tildon said they might be able to use antennas in the Escalante outlet to see when/how many fish (e.g., stocked bonytail) are exiting; though they might not have all the accompanying equipment. Dave Speas suggested it might be good to install the antennas at Vermillion Creek to monitor pikeminnow. We need to inventory available equipment. Matt said they have an operational MUX available with 2 solar panels and 3 antennas (2 10' and 1 15') with all cables. >Tom Czaplá will coordinate an inventory of equipment and potential installation locations, and then convene a conference call to prioritize and determine when and where the equipment could be installed.

- f. CSU/Argonne Evaluation of Green River flow recommendations – Tom Chart said they added bonytail to the components included in flow evaluation and >will send the Committee the final scope of work.
3. Report review: final acceptance of revised Integrated Stocking Plan – Harry and Pete have indicated their approval. >Tom Czaplá will incorporate Krissy and Angela's comments and finalize the Plan. The revised plan is less restrictive on potential stocking locations, however new stocking locations will require BC approval (hopefully via email).
  4. Nonnative fish
    - a. Elkhead public meeting review – Sherman Hebein shared four negative public comments received, but said that on the whole, the public meeting went exceptionally well (~50 people attended). We clearly need to do more outreach; however, because the public is often confused about our actions. Sherman suggests we consider going back to the public with a meeting where PIs outline all the work being conducted in the Yampa and upper Green (and asked if something similar might be useful in other locations like Vernal or elsewhere). Kevin McAbee agreed to the need for continued outreach, and said we've also considered continued interaction with the newspaper, etc. Sherman said he's talked to Mike Porras about some sort of monthly update on the Recovery Program (e.g., letter to the editor). Sherman said he thinks that in the Craig area, it will be important to distinguish the Recovery Program from sage grouse (which has no recovery program). Kevin McAbee said that he thinks the positive public feedback was based on our willingness to back off rotenone treatment for the time being and our willingness to support a desirable sportfishery in the Reservoir. Kevin and Sherman said the open house format of the meeting where folks could talk to different agencies at various tables worked very well. This is an excellent model when dealing with potential opposition. Tom Chart agreed with the importance of regularly keeping the facts before the public. Sherman said the next step is developing the management plan and they will involve the public to the extent possible within established sideboards of what they can do in the Reservoir. Krissy described how UDWR is working with the public to develop the Red Fleet management plan. The process is giving the public more ownership and seems to be going well. A similar process for Lake Powell also is going very well. Sherman will be working on the lake management the plan until they have a new biologist. He'd like to have it done in a couple of months, but recognizes that's optimistic. Sherman hopes to have Kyle Battige's replacement on board by May 1.
    - b. Red Fleet Reservoir update – The EA for the rotenone treatment will go to Reclamation's resource specialists today. After they finalize, UDWR will send it out for public review and proceed with the public outreach (attending County and City meetings, open house at the Division office). The plan is to begin public review in April; though there is some concern about funding. Trina Hedrick will update the Resource Advisory Committee on the process and Management Plan in May. Outreach to date includes two press releases (one regarding the fishery and one specifically discussing the use of rotenone in the

secondary drinking water source). Although it emphasized the application of rotenone will take place after drinking water withdrawals were completed for the year, people still were quite upset. Given anticipated water temperatures in October and likely de-stratification of the reservoir within a week or two of the treatment, rotenone is expected to completely degrade within two weeks. Trina thinks when they present that during the EA 30-day review, perhaps people will feel better about it. UDWR sent out radio spots during the time period the articles were run in early February. Trina went on the local news radio station last week and discussed the process -- why it's being done, use of rotenone, and the post-treatment fishery. It went well, and Trina will go on the radio again this week and emphasize that there will be no public exposure to rotenone. Trina is communicating to the public that UDWR has made the decision to manage for native and endangered fish in the river and nonnative sportfish in the reservoirs. Trina received only three comments in response to the press releases: two opposed and one just requesting lifting harvest regulations in preparation for the treatment (which they'll do once the EA is finalized/approved, hopefully before July 1). UDWR will host an open house during the public review period. They met with their angler group on the Management Plan last week. They have a final species list now and can start making plans for restocking of the reservoir including fish transfers and hatchery requests. The draft species list is as follows:

- Forage species -- black crappie, yellow perch, and mountain whitefish with the option of jumpstarting with fathead minnow. The existing crayfish also will form part of the forage base.
- Predators -- Wipers, sterile walleye, and tiger trout. There also is potential to add largemouth bass once other fish are established and doing well.
- Colorado River cutthroat trout (likely the North Tavaputs strain) would be stocked into Brush Creek in hopes that they will also utilize the reservoir.

Because they are planning on stocking wipers and sterile walleye, UDWR will pursue a screen. The screen will likely be located below the dam, although they don't yet know what that structure will look like. A temporary screen would be installed if a spill were possible before the permanent screen is installed. Paul Badame will compile a report on the screen options as they relate to species life history and reservoir operations this summer. The screen is expected to be completed with a five year period, but may be finished sooner.

Bonytail could potentially be listed as one of the sportfish species (catch-and-release only), but that will have to go through other review/processes first (e.g. ESA 10a1a or 10j permitting). Any catch-and-release fishery would require considerable outreach to make sure anglers can identify fish for release. Trina thinks there will be more suitable locations for Colorado pikeminnow as a catch-and-release sportfish, so that species is not proposed at Red Fleet. The Management Plan draft should be ready for FWS, Colorado, and Wyoming review under the 2009 stocking procedures in May. Meanwhile, they're working to arrange for the fish to be stocked post-rotenone treatment.

- c. Resuming nonnative fish marking in certain reaches in 2015 – Kevin McAbee discussed a proposal identifying three proposed sites, frequency of marking, and expected impact of marking passes (see Attachment 2). Two reaches are proposed in the Yampa (Steamboat to Hayden (pike) and Little Yampa Canyon (bass)) and one in the Green (smallmouth bass in the Echo-Split Mountain reach). Kevin McAbee emphasized the value of these data to evaluate our management actions. Melissa said she's persuaded by the value of the data and approves marking fish in these three sites. Pete Cavalli asked if we can achieve adequate confidence intervals with only one marking pass. Kevin Bestgen said we've only done one marking pass in the past except for a very few times (i.e. with a very poor first marking pass). PIs have a sense of how many fish they need to mark to achieve adequate confidence intervals and so can make the decision on the fly. These passes would continue annually until the Committee decides otherwise. The Committee approved the proposal.

5. Review draft revised RIPRAP, RIPRAP assessment and draft FY 16-17 Program Guidance – Angela Kantola thanked the Committee for their careful review of these documents and presented Dave Speas and

Krissy Wilson with “treasure hunt” awards.

- a. Draft revised RIPRAP tables and draft RIPRAP assessment (see Excel spreadsheet for **BC’s changes**; other discussion recorded below) –
  - Sherman Hebein recommended interfacing with CPW’s Michael Warren in the Northwest Region to increase awareness of critical areas for endangered fish as related to oil and gas development (the GIS is updated every couple of years). Endangered fish critical habitat should be added, for example. The difficulty is making it a GIS layer, but this can be done (Sherman believes FEMA has delineated the 100-year floodplain for most of the river; Tildon said BLM and USU also have worked on this.) In Utah, Ben Williams would be the contact for UDWR’s northeast region.
  - Melissa Trammell said Matt Breen mentioned the potential need for additional angler education.
  - >Kevin McAbee will follow up with Julie Howard regarding impacts of wind speed on sampling efficiency and potentially safety.
  - In discussing situations where more razorback sucker or bonytail are encountered than are possible to handle, the Committee agreed with Kevin Bestgen that, at minimum, during abundance estimates for Colorado pikeminnow or humpback chub, data should be taken on *every* endangered fish encountered. During other field activities (e.g., nonnative fish control), crews should try to take data from as many endangered fish as possible, recognizing that in some cases there may be too many endangered fish to board and record their data (such that it would impede the primary task of nonnative fish control, for example).
  - Sherman Hebein wondered if we would find more fish in Maybell Ditch if we used more modern equipment. Chart recognized that canal entrainment was studied when the Yampa River pikeminnow population was extremely low, but the Service made their final determination on those study results in their Sufficient Progress review. Melissa said the Tusher Wash study was very comparable to Maybell Ditch in the first year and hundreds of endangered fish were detected. Only one endangered fish was detected in two years in the Maybell ditch.
  - Krissy Wilson said Justin Jimenez (BLM state fisheries biologist for Utah) is interested in participating in the White River Management plan process.
- b. Draft revised RIPRAP text (see Word document for BC’s comments/edits in track changes)
- c. Draft FY 16-17 Program Guidance (brief Word document and an Excel spreadsheet)
  - Jana provided an update on the peak flow study. Argonne provided an estimate of 200 hours for geo-referencing, orthorectification, and color balancing, and 300 hours for “mosaicing” (image rotation and shifting) of the 2011 high flow Green River aerial photography for a total of \$55-\$65K. The team also is considering collecting sediment transport data in the Green River (cost not yet known), a long-term depth-to-embeddedness study in the Gunnison River and 15-Mile Reach of the Colorado River with invertebrate sampling (~\$44K), and potentially a write-up from Doug Osmundson on the 15-Mile Reach embeddedness data that Doug has collected since the last study ended. A hydrophone study was considered at ~\$61K (USGS), but the group decided the embeddedness work is a more direct measurement of a variable of interest. Tom Chart said the Program should finalize the peak flow technical supplement before determining funding priorities.
  - The Committee discussed how effectiveness of a net at Elkhead might be evaluated; CPW will cover this for the first year and then we’ll talk about future years.
  - >The PD’s office will talk to Steve Platania about otolith microchemistry as they investigate options to have USGS analyze otoliths. Dale said Travis would like to determine if McPhee is absolutely not providing walleye to the Colorado River, as walleye catches are highest around the confluence with

the Dolores. Krissy said she doesn't think we need to specifically analyze walleye escaping from Starvation and Lake Powell, but perhaps McPhee. Paul added that it may be more important to determine *when* walleye are escaping from Lake Powell.

- Krissy Wilson mentioned the Wahweap wall repair, which is being cost-shared by others with the Program portion coming from capital funds.
- Travis checked with BioMark; it will be more difficult to get PIT tag readers for the older tags than we thought, but we may be able to get some as they're exchanged. UDWR has three.
- >Tom Czapla will send out a Doodle poll for convening the humpback chub group to discuss a potential early mortality study.
- Angela Kantola will send out a revised budget spreadsheet with this meeting summary (*done*).

**ADJOURN: 4:00 p.m.**

**Wednesday, March 4**

**CONVENE: 8:30 a.m.**

(5. continued)

6. Colorado pikeminnow as a sportfish (discussed on Tuesday) – Krissy said the States began exploring potential regulatory mechanisms for Colorado pikeminnow as a sportfish about a year ago and determined that the 10a1a process would be the best avenue. Mark Capone, the contractor, had questions about whether 10a1a was most appropriate and the Service is looking into that. Another option is a 10j; however UDWR's director opposes Utah having a 10j population of any listed species in the state and has asked the Service to carefully re-consider 10a1a. Krissy also has added bonytail to the list, since she's heard Colorado pikeminnow don't necessarily maintain good body condition in reservoirs (this could be an issue of prey availability). Krissy would like to see as many native species as possible stocked, we have abundant bonytail to stock, and our historical accounts document shows that bonytail were used as a sportfish. Krissy would like to include rainbow trout as part of a prey base which would provide additional angling options. Krissy wants to convene a team of folks interested in determining appropriate reservoirs and fish assemblages. Sherman said Colorado has considered this over the years and can see advantages to having a place (perhaps a gravel pit?) where Colorado pikeminnow could be pursued as a sportfish.
7. Spring 2015 bonytail stocking – Krissy said the new Integrated Stocking Plan requires BC approval of new stocking locations. Zane will stock bonytail in the spring or early summer to avoid warmer temperatures. We want to try to avoid competition with roundtail chub. In light of poor survival after stocking in the mainstem, we've been trying to stock bonytail in off-channel habitats. Bonytail stocked in the White, San Rafael, and Dolores rivers resulted in the highest rates of survival to date (anecdotal data from UDWR; however high survival reported in 2014 turned out to be from stocking just a few weeks before rather than from the previous fall). The group discussed stocking in Kenney Reservoir, elsewhere on the White River (if possible avoiding both the Bonanza Bridge location where roundtail densities increase and stocking during peak flows), any available backwaters (e.g., Grand Wash on the Green River), and Price River (if sufficient flows). As the time to stock bonytail approaches, >Tom Czapla will seek the Committee's approval of stocking locations via e-mail. With regard to competing with roundtail, Dale asked if that won't occur eventually (and occurred historically) anyway. Krissy said the concern is the number being stocked. Dale recognizes this, but based on experience, a fair number of stocked fish are lost early on.

8. Minimum size for PIT-tagging fish – Dave Speas discussed Ward et al. 2015<sup>1</sup> as it relates to when and where the Program may want to PIT-tag fish at smaller sizes than the current 150mm guideline. Ward reported chub could be safely tagged with 8mm or 12mm tags at sizes as low as 65mm TL. Interestingly, 65mm is the same length recommended for salmon fry in the Pacific Northwest. Matt Breen has mentioned this same length for sculpin tagged in Michigan<sup>2</sup>. Does the Program want to consider tagging smaller fish (e.g., razorback stocked in Stewart Lake)? Would we need to seek any changes to permits (Tom Czaplá doesn't think this is in the permits, but >will check the BO written for recovery actions)? Kirk Young worked on this in the Grand Canyon. There are 8, 9, and 12mm tags, but all perform differently (with 8mm tags detected at ~25% of the 12mm detection rate). Positive identification would be a limiting factor in tagging small humpback chub. The 20 razorback that Matt Breen's crew tagged in Stewart Lake in 2014 were 115-120mm (average size of all razorbacks was 97mm). Dale suggested the top end of the reported mortality in Ward would be of concern. Matt Breen said they tagged over 300 3-species (mainly flannelmouth and bluehead sucker) between 100-150mm which seem to have done well. They could provide survival data on those fish. The Committee discussed replicating the Ward experiment on razorback sucker. Tracking Stewart Lake razorback sucker over time would be very valuable to demonstrate natural recruitment. Matt said they could tag more razorbacks in Stewart this year if they get similar growth as last year, but would need more PIT tags; the Committee endorsed this. >Dale will talk to Travis about the number of PIT tags Matt would need to tag fish >100 or 105mm at Stewart Lake (*done; Matt Breen will pick up the tags at the database workshop*). The Committee also endorsed a similar experiment with hatchery razorback and bonytail; >Tom Czaplá will investigate which hatchery could do this. We will stick with 12mm tags.
9. Discuss the Program's Draft Flaming Gorge Spring Flow request letter and briefly discuss comments received on the FR-BW Synthesis report (Biology Component – Bestgen and Hill, in draft). Tom Chart said the draft flow request letter is out for a smaller group's review and it will come to the Biology Committee shortly, with the hope of seeking approval via e-mail. The request is basically the same as last year. The comment period for (Bestgen and Hill; in draft) has closed. Comments were received from peer reviewers and several BC members. The PD's office just received a draft of the physical habitat portion of this synthesis effort from Argonne. The Argonne report and a [yet-to-be drafted] chapter that synthesizes the biology and physical habitat aspects will also be sent to the BC and WAC for their review. As with all flow-related reports, the draft final FR-BW Synthesis report will also receive Management Committee review and approval.
10. Colorado Pikeminnow Recovery Plan revision update – A draft revised Colorado Pikeminnow Recovery Plan developed with advice from a Recovery Team was shared with recovery program stakeholders in December 2014. Comments were received from about five individuals after the Recovery Team/FWS review. The Management Committee asked that the Service brief them on revised plan content, how it differs from the 2002 Recovery Goals for the species, and how and when the Service would be accepting their written comments. A webinar briefing (and discussion) with the Management Committee and the San Juan Coordination Committee is scheduled for April 7, 8 a.m. - noon). The focus of Program review will be on implementation, making the Management Committee the main point of contact. At their discretion, Management Committee members can invite Biology Committee members to participate in the briefing and also provide input to their (Management Committee members') comments on the draft. Dave Speas urged

---

1 David L. Ward, William R. Persons, Kirk L. Young, Dennis M. Stone, David R. Vanhaverbeke & William K. Knight (2015) A Laboratory Evaluation of Tagging-Related Mortality and Tag Loss in Juvenile Humpback Chub, *North American Journal of Fisheries Management*, 35:1, 135-140

2 Ruetz, Earl, and Kohler. 2006. Evaluating Passive Integrated Transponder Tags for Marking Mottled Sculpins: Effects on Growth and Mortality. *Transactions of the American Fisheries Society* 135:1456–1461

all Biology Committee members to read the draft and communicate comments to their Management Committee members.

11. Review previous meeting assignments – See Attachment 1.
12. Review reports due list – Angela Kantola will send an updated list to the Biology Committee with this meeting summary (*done*).
13. Schedule next webinar or meeting – The Committee scheduled a webinar for May 28 (plan for most of the day). Agenda items will include review of Part 3 of the 3-part smallmouth bass report and approving the errata sheet for the Basinwide Strategy.
14. Consent item: Review and approve January 15, 2015, Biology Committee webinar summary – Krissy Wilson discovered a typo and a track changes revised draft was sent to the Biology Committee with this agenda. Angela Kantola will finalize the summary (*done*).

**ADJOURN: 12:30 p.m.**

## Attachment 1: Assignments

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. Tusher Wash Screening:

- - **Kevin McAbee** will keep the BC updated on developing a recommendation for how to accomplish an electric barrier study to complement the proposed entrainment prevention solution at the Green River Canal (determine the minimum electric gradients needed to prevent downstream passage while minimizing the risk of injury). *Deferred indefinitely until electrification of a weir wall might need to be considered.*
- **Brent Uilenberg** and **Bob Norman** will contact the Program Director's office regarding input from biologists on the Tusher Wash weir wall design.

### 2. \*& Revise the Integrated Stocking Plan (ISP) and related issues. (See agenda item #1) The **PDO** is reviewing this in-house again before sending out the revised document (>and also will send it to **Krissy Wilson** and **Harry Crockett** for a final review). *2/19/15: Tom Czapla sent out February 6; Krissy Wilson and Angela Kantola submitted mostly editorial comments. 3/3/15: BC approved with revisions and Tom Czapla will incorporate Krissy and Angela's comments and finalize it.*

### 3. Humpback Chub (population estimates)

- & Humpback chub combined population estimate from Gary White. *6/28/13: Three reports are pending: a 2011-2012 Black Rocks report, a 2011-2012 Westwater report, and a 1998-2012 combined analysis report. Previous discussion indicated the combined analysis would be provided by LFL and tacked onto the Black Rocks report, but it doesn't fit neatly into either the 2011-2012 Black Rocks or 2011-2012 Westwater reports because it has data from both. Further, Grand Junction CRFP's SOW only covered writing a Black Rocks report, not a combined report. 1/16/14: What Kevin Bestgen presented was the joint report and parts of it will appear in the individual reports. A young-of-year sampling effort may need to be added back to the fieldwork. Czapla said we have new due dates of January 2015 for the Black Rocks and Westwater reports.*
- **Dave Speas** will look into getting/transferring equipment to deploy submersible antennas to help get some humpback chub data in 2015, since the Black Rocks and Westwater humpback chub population estimates will be deferred until 2016. *3/4/15: Dave thinks they have 5-6 antennas available; PIs should let Dave know if they're interested. Dave would like to try them in Desolation and Gray canyons again.*

### & Humpback Chub (broodstock development / genetics)

- As identified in the 2012 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. *After Wade's report is received, a workshop should be held to include discussion of when and where fish would be stocked. Tom Chart recommended outlining questions for a workshop, conducting the workshop, and then finalizing the action plan. 2/21/14: No deliverable on Upper Basin fin clips; cost would be ~\$37K (Committee considering, but not our highest priority; see 2/21/14 meeting summary). 8/26/14: Reclamation is working on the funding agreement (may inform index of effective population size different than that for the Grand Canyon population). Tom Czapla said Moab handled at least 25 Deso and WW humpback chubs during smallmouth bass removal and got fin clips from all of them. Tom Czapla said he thinks the priority for analysis should be the Desolation, Westwater, and Black Rocks fish. Moab may still collect some more in Westwater this year. The roundtail chub would be a lower priority. 10/27/14: Reclamation awarded contract to SNARRC for analyzing remaining fin clips and completing report (including lower basin data). 1/15/15: data on upper basin chubs will be written up within about a year. The subgroup developed a list of*

questions for Wade to address (Tom Czapla sent to BC 1/21/15); >**Melissa Trammell will find and send the plan development proposal document to Tom Czapla by January 21 and Tom will send it to Wade with a courtesy copy to the Biology Committee and Kevin Bestgen. (Done).** Wade said he will revise the scope of work (pending).

- & Age-0 Gila from Westwater were going to be brought to the Horsethief Canyon ponds fall 2012, but river conditions didn't allow safe transport. 10/10/13: Dale said they brought ~25 fish they caught into ponds, but have less than a dozen at this point. They will try to build these numbers in future years. Travis hopes to capture some larger fish from Black Rocks using hoop nets. (If we continue this in future years, we may want to alternate taking fish from Westwater and Black Rocks to avoid hitting either sub-population too hard. However, it's harder to transport fish from Westwater, so that may remain a concern.) 10/27/14: FWS collected 20 juvenile and small adult chub (mostly 150-300mm) from Black Rocks this fall and put them in a pond at Horsethief. We'll see how they overwinter and continue to bring in fish as start sampling again next year. 3/4/15: >Tom Czapla will set up doodle poll among the humpback chub group to discuss a proposed early mortality study.
4. & Nonnative fish management follow-up:
- - \*In 2013, population estimates for smallmouth bass will only occur in Project 125. The **Committee** will reconsider resuming the smallmouth bass population estimates throughout the current Yampa River population estimate reaches in 2014, based on an analysis from André. 1/16/14: *To be revisited after workshop on projection tool.* 6/11/14: *Pending.* 3/4/15: *Decided; see agenda item 4.c.*
  - - \*The **Committee** agreed to suspend all mark / release of northern pike Program-wide in 2013. They made a **firm agreement** to revisit this issue (northern pike population estimates) when results of the northern pike synthesis are available. 3/4/15: *Decided; see agenda item 4.c.*
  - - \***Kevin McAbee** will work with PIs to prepare a proposal identifying proposed sites, frequency, and expected impact of marking passes. 3/4/15: *Done; see Attachment 2.*
  - Walleye: >**Kevin McAbee and Paul Badame** will work on organizing a “walleye summit” with appropriate outside expertise. *Pending.* 10/27/14: *Still trying to get some outside funds to support this effort.*
  - - \***Dale Ryden** and **Katie Creighton** will provide proposals for replacing FY15 humpback chub population estimate work in Black Rocks and Westwater with walleye removal. *Done.*
  - & Private (LaFarge, aka Snyder) Pond near Rifle: **Harry Crockett** will find out if the landowner will allow and if CPW can reclaim the pond before spring runoff (considering a seismic gun option); >**Tom Chart** will coordinate with **Harry** and **Brent Uilenberg/Bob Norman** on repairing the notches after runoff. 6/11/14: *Sampling ongoing and Reclamation will work with CPW on filling the old notches. Harry said rotenone is still an option (and more likely than a seismic water gun approach at this point).* 8/26/14: *Harry said they couldn't arrange a site visit (CPW, Reclamation) before spring runoff, but that could happen now that flows have receded (>Tom Chart will contact Brent about this).* **Harry Crockett** will contact **Jackson Gross** and let him know the Committee appreciate Smith-Root's interest in the Snyder Pond work (and willingness to bring considerable cost-share) (*done*), but would like to see a proposal that includes evaluation of success and a report. 6/11/14 *Jackson indicated that the availability of hydraulic pumps had been a problem this spring, but that pumps are now available from Smith Root.* 8/26/14: *CPW is more interested in the rotenone option at this point. Dave said sonic water guns might be useful in the Yampa wetland areas.* 10/27/14: **Reclamation** will review plans for filling the notches with the city of Rifle, which has a nearby water intake.
  - **Harry Crockett** will identify personnel and equipment needs to fill gaps in fulfilling 98a SOW for FY15 (since Kyle Battige's position hasn't been filled yet) and share that with the Committee. 3/4/15: *Sherman said Jenn Logan and others will conduct 8-9 passes in the Yampa before the surge, and then hopefully the new person will be able to participate in the surge. They'll conduct backwater pike netting for about a month at ice-out.*
  - **Dave Speas** will talk to Rob Clarkson regarding what support he may be seeking for the novel piscicide study. 3/4/15: *Dave said the work is being done at a USGS facility in Wisconsin; Rob reports that the PI estimates testing Supraverm at ~\$10K per additional species. Wisconsin likely has walleye, bass, and pike*

readily available and they believe they could get endangered fish from Arizona. Rob told Dave he did not expect to see any difference in test results among Gila species.

- **Paul Badame, Kevin McAbee and Harry Crockett** will find out if Utah and Colorado have regulations similar to the one that David Ward in Arizona that allows temporary use of ammonia as a piscicide. Kevin McAbee 2/25/15: David had indicated he acquired a 24(c) Special Local Needs pesticide registration from the state of Arizona. 24(c) references a section of the Federal Insecticide, Fungicide, and Rodenticide Act that gives ALL states the ability to "register an additional use of a federally registered pesticide product". Both Utah and Colorado (and I assume all other states) maintain a list of pesticides registered in this way. (Kevin e-mailed the Committee a summary from various state and federal websites describing this regulation). Kevin concluded if someone devoted the time and energy, the Recovery Program should be able to try to apply for a 24(c) registration for ammonia, just like Ward et al. did (likely going through the state's department of agriculture). However, approval requires a lot of specific planning and paperwork, and is not guaranteed. Committee to discuss ramifications of this conclusion. 3/4/15: Krissy suggested some of the ponds that Dale suggested would be good tests. Kevin asked if it might be used at LaFarge Pond if Rifle is concerned about rotenone; Sherman said potential impacts would need to be carefully investigated, but it could be considered. Krissy recommended that both Utah and Colorado begin investigating the process and required lead time. Sherman Hebein contacted Laura Quakenbush, Pesticide Registration Coordinator for Colorado's Division of Plant Industry and forwarded the subject email and attachments to her. Laura and John Scott, Pesticide Section Chief, will review the situation and advise what options are open to use ammonium hydroxide as a piscicide in Colorado.
- 5. - The **Program Director's office** will recommend boilerplate language (including identifying reduction targets) to be used across applicable nonnative fish management scopes of work. Done. (PD added to draft FY16-17 Program Guidance: "Temporarily reducing riverine smallmouth bass and northern pike populations appears viable under certain environmental conditions but both species can easily reverse these reductions in population abundance and return to pre-removal abundances under favorable environmental conditions (Breton et al. 2014; Zelasko et al. 2015). Therefore, mechanical removal efforts will attempt to reach eradication of nonnative fish populations in the river. However, recent synthesis reports investigating effectiveness of in-river removal efforts for northern pike and smallmouth bass determined that reducing in-river populations of these two species would not be successful unless in-river reproduction and reservoir escapement were controlled (Breton et al. 2014; Zelasko et al. 2015). Therefore, mechanical removal efforts will continue to temporarily suppress riverine populations, and will focus on reducing in-river reproduction when feasible. Simultaneously, Program partners will work on other means to reduce in-river reproduction and reservoir escapement, in order to make mechanical removal more effective and to attempt to reach complete eradication of riverine populations.")
- 6. **Kevin Bestgen** and Dale Ryden will work up estimated costs for addressing additional razorback data being collected (need for additional data analysis on both Green and Colorado rivers). Dale said Kevin wants to wait until after the end of the field season to ascertain the number of records to be analyzed (probably ~150,000 fish records). This may be a fairly involved effort. 2/6/14: FWS project #163 has task for razorback pop. est. in Gunnison and Colorado, though not enough razorback captures/recaptures to do much with the Gunnison River data. Osmundson developed razorback matrix for 2008-2010 and Gary White ran this data through Program MARK in 2013 (data to be reported in 2015). PIs recommend also including 2013 razorback data (from the Colorado River pikeminnow population estimate study) in this analysis (\$2K in SOW for White to help with data analysis in 2015, adding 2013 razorback data shouldn't add to cost). Developing razorback population estimates in the Green and Yampa will be more difficult, probably not in existing SOWs, and probably should be separate effort; PD's office will discuss costs/mechanism (e.g., add-on to #128) with LFL. 2/21/14, cost estimate pending from LFL).
- 7. **Brent Uilenberg** and **Harry Crockett** will be working with CPW and Reclamation engineers to evaluate the potential for a permanent barrier downstream of Ridgway Reservoir. 6/11/14: Harry said Brent would

like to define the sideboards before committing time to this. The **Program Director's office** will begin the conversation on this and Elkhead with Brent. Meeting/conference call was held on August 6<sup>th</sup> in Glenwood Springs. 8/26/14: a meeting is scheduled September 4. Dale Ryden said they sampled from Delta to Redlands and didn't find any bass, so that's good news. 10/27/14: **Tom Chart** provided Elkhead draft alternatives analysis for discussion and will see if he can share that with the Biology Committee). 1/15/15: Harry will provide periodic updates to the Committee. 3/4/15: CPW, CWCB, and Reclamation have talked to Tri-County and they will attempt to avoid spilling again this year.

8. Regarding white sucker hybrids, **Harry Crockett** will talk to **Kevin Bestgen** about any further work needed subsequent to the identification guide that Pat Martinez distributed last year. 8/26/14: *Ongoing (very complex issue that really deserves a combined genetics and morphological study). This could be put into the next round of Program Guidance (PD's office did) and we should be considering potential outside funding sources, as well, since this relates to more than listed fish.*
9. - Reconvene the **Nonnative Fish Subcommittee** to discuss the need for completing long-term syntheses for Yampa River native fish response and Lodore/Whirlpool Canyon (funding has not been available so these syntheses had been placed on hold). 1/15/15: *Kevin Bestgen said the Park Service is funding the Lodore/Whirlpool piece. The PDO will put the remainder in FY16-17 Program Guidance (done).*
10. \*The **Program Director's office** will create and distribute an errata sheet to Appendix C of the Basinwide Strategy. 2/24/15: *McAbee provided revised Appendix C that includes recommendations from the PDO: updating language in the introductory paragraph; adding "salmonids" and sterile walleye to the compatible list; and adding "catfish species" to the non-compatible list (omissions noticed by others since the basinwide strategy was finalized). BC to discuss and decide on a timeline for review of these changes (which also will have to include MC review). 3/4/15: Pete said that "above Flaming Gorge Reservoir" should read "above Flaming Gorge Dam." BC to review and approve during May 28 webinar.*
11. \*Related to the peak flow study plan, **Jana Mohrman** will look into cost estimates for additional aerial photography analysis. **Committee members** will continue their review of the draft plan and provide comments by the end of September (the same will be requested of the WAC). >Within two weeks, **Tom Chart et al.** will prepare a short background outlining the genesis of this work and restate the objectives (*done*). *PDO sent revised plan to BC & WAC for review; comment deadline extended to January 23; revisions and review pending.*
12. - **Koreen Zelasko** will finalize the northern pike synthesis report, incorporating Kevin McAbee's editorial comments. *Done. PDO posted to web.*
13. **Krissy Wilson** will find out if PIT tag data from the San Rafael and Price rivers are being submitted to Travis. 3/4/15: *Some has been submitted in past years, but not the most recent year or two; UDWR will submit to Krissy who will submit to Travis by March 15.*
14. **Tom Czapl** will coordinate an inventory of PIT antenna equipment and potential installation locations, and then convene a conference call to prioritize and determine when and where the equipment could be installed.
15. **Tom Chart** will send the final scope of work for CSU/Argonne Evaluation of Green River flow recommendations to the Committee.
16. **Kevin McAbee** will follow up with **Julie Howard** regarding impacts of wind speed on sampling efficiency and potentially safety.

17. The **PD's office** will talk to Steve Platania about otolith microchemistry as they investigate options to have USGS analyze otoliths.
18. As the time to stock bonytail approaches, **Tom Czapla** will seek the Committee's approval of stocking locations via e-mail.
19. The Committee endorsed an experiment to tag smaller hatchery razorback and bonytail; **>Tom Czapla** will investigate which hatchery could do this. **Tom Czapla** will check the BO written for recovery actions to see if any change in permitting would be required.

## Attachment 2

Tuesday, February 24, 2015

To: BC members and interested parties

From: Nonnative Fish Coordinator & PIs responsible for nonnative fish removal RE:

Nonnative Fish marking passes proposed to begin in 2015

The mark, release, and recapture of nonnative fish is an important tool to determine fish response to Recovery Program management actions (for example Breton et al. 2014, Zelasko et al. 2015 and many annual reports). The BC chose to halt all marking of nonnative fish until the completion of the synthesis reports. These reports are now complete, and the BC is now tasked with considering resuming or suspending the marking of nonnative fish.

At the January BC meeting, the topic of marking and releasing nonnative fish to support our long term abundance and removal datasets was discussed. It was the BC's opinion that this was worth considering, but they wanted to know specific reaches and species before making a definite decision (see January BC summary notes). All nonnative PIs responded to a request for descriptions of proposed marking passes. PIs proposed three reaches, including two species (summarized below). PIs believed that it was not appropriate to conduct marking passes in any other reach at this time. PIs did suggest that some reaches may need to be assessed in the future (for example: Colorado River smallmouth bass & walleye in lower Green and Colorado), but determined that these conversations should wait for future years.

Therefore, the nonnative fish coordinator and the nonnative fish PIs recommend that we undertake one marking pass in each of the three reaches below in order to analyze these important reaches for present and future fish response to management efforts. We suggest to begin implementing one marking pass in 2015 in these reaches and to continue one marking pass each year until the BC makes the decision to alter this action.

### Project 125- Middle Yampa Smallmouth bass (CSU)

Methods: Smallmouth bass  $\geq 100$  mm total length would be marked with a numbered Floy tag on one sampling occasion (pass). On all other passes, bass will be removed and euthanized. Reasons to mark bass in the 24-mile Little Yampa Canyon (LYC) reach include:

- The primary purpose in 2015 is to obtain abundance (population size) data.
- We have marked smallmouth bass here since 2003 and consider it a sentinel reach because it is within the epicenter of smallmouth bass production in the Yampa River.
- It will allow us to continue monitoring the effects of changing management activities on smallmouth bass population dynamics.
- Marked fish will provide information about dispersal, movement, and growth; things that may change as the population responds to environmental or removal effects.
- Tracking abundance and immigration into LYC may help evaluate the effectiveness of the Elkhead screen. Recall that most of the bass that escaped Elkhead Reservoir moved into LYC and abundance data could help determine the effectiveness of that screen in reducing immigration and therefore abundance of smallmouth bass in LYC.
- Abundance data from mark and release studies has historically provided the best evidence of the effects of removal.

#### Project 125- (98c) Upper Yampa northern pike (CSU)

Methods: Northern pike will be marked with a numbered Floy tag and released on one sampling occasion (pass). On all other passes, pike will be removed and euthanized. Reasons to mark pike in the upper 28-mile reach of the Yampa River from Steamboat Springs-Hayden Power Plant Intake include:

- The primary purpose is to obtain abundance data.
- The last estimate of abundance of northern pike in this reach was in 2005 and no sampling or removal of that species has occurred in this reach since that time.
- Since 2005, there has been a large effort by CPW to remove northern pike from the river upstream of Steamboat Springs and from Catamount Reservoir. This effort has most likely reduced the dispersal of northern pike into the 98c study reach and an abundance estimate will confirm whether or not the population has changed compared to 10 years ago.
- An initial abundance estimate will provide a baseline for this and any future removal projects in this reach.

#### Project 123a- Echo-Split Smallmouth bass (FWS Vernal & UDWR Moab)

Methods: Smallmouth bass  $\geq 100$  mm total length would be marked with a numbered Floy tag on one sampling occasion (pass). On all other passes, bass will be removed and euthanized. Reasons to mark bass in the Echo-Split reach include:

- Crews are not constrained by flows, so additional marking or removal passes are feasible. In the future crews could manipulate numbers of passes, timing, etc, more easily than other reaches to assess the population response.
- This population's dynamics are more or less independent of the upper Yampa/LYC spawning, so we would be analyzing unique population metrics
- Modeling population dynamics in this reach will allow us to assess the extent to which we are making an impact in the Green River. This is the only location proposed for marking in the Green River.
- This reach was designated as the test piece for intensive mechanical control for SMB in 2007 based on the Haines and Modde exploitation modeling.