Biology Committee Webinar Summary

Wednesday, July 8, 2020 1:00 pm – 5:00 pm MDT

BC Members: Dave Speas, Melissa Trammell, Dale Ryden, Paul Badame, Tom Pitts, Pete Cavalli, Harry Crockett, Derek Fryer

Participants: Matt Breen, Zane Olsen, Katie Creighton, Mike Mills, Tildon Jones, Kevin Thompson, Jojo La, Kevin Bestgen, Ryan Christianson, Cheyenne Owens, Kevin McAbee, Don Anderson, Kathy Callister, Melanie Fischer, Tom Chart, Julie Stahli, Steve Mussman, John Weisheit

CONVENED: 1:00 p.m.

1. Welcome and modify agenda – Dave welcomed everyone to the new meeting format.

2. CROS 2020 operations update – mainstem Colorado – Don Anderson said that CROS was implemented on the Colorado River this year despite rapidly dropping hydrologic conditions in the basin in April and May. He thanked all the partners for their willingness to contribute by improving timing of bypass flows. Many partners assisted and provided flows, including Bureau of Reclamation, Denver Water, the Colorado River District, and Northern Water. Michelle Garrison provided fantastic guidance through weekly flow calls. A press release was distributed to explain to the public what they would likely see on the river. Don thanked Mark Harris and Ryan Christianson for appearing on a TV spot. The GJ Sentinel also published an article. Denver Water produced a video describing CROS operations and their importance, which is relevant to all years and now posted on their website. The Colorado River peaked at ~13,000 cfs at the Cameo gage; approximately 1500-1600 cfs came from CROS operations. The higher flows hopefully moved fine sediments from riverine habitat, scouring to create better spawning conditions. CROS flows also helped to top off the Matheson Wetland to help sustain razorback sucker larvae through the summer. Smallmouth bass spawning was seen in lower Westwater Canyon, which was also hopefully disturbed by these increasing flows. Adult Colorado pikeminnow numbers were high in the 15-Mile Reach during population estimates, hopefully indicating a strong spawning year.

3. White River Management Plan Update – CWCB has contracted with ERO Resources to develop a White River Management Plan that will serve as the foundation for a White River PBO (addressing both historical and new depletions). The first meeting occurred on June 30th where the parties met and exchanged information. Modeling future conditions is the next step. The White River planning team from the Program was present along with strong representation from CPW and CWCB. Biologists from the Grand Junction ES office were in attendance as they will be writing the PBO.
The ERO presented a plan for completing the document and started discussions around conservation actions and remaining necessary biological assessments. The consulting team is now aware of what information is currently available and who is available for follow-up in future discussions. Expected completion date for the report and the PBO is summer of 2022. Participation by the Ute Tribe is still unknown, but the Program is interested in the Tribe joining those discussions. The need to model the effects of White River flows on the Green River also was discussed. Kevin McAbee has convened a nonnative fish team for the White River and will work on recommendations for conservation actions for the larger team.

4. GREAT Report Update

a. NPS Channel Effects Monitoring Plan – Don distributed the plan via email on July 25th and requested the BC consider it for approval. Melissa said the plan has been in the works since 2017. Several comments from the PDO, peer reviews, and others were received and a response to comments was sent out by Melissa. Comments were received from Jojo La, Kevin Bestgen, Dave Speas, and the PDO. Melissa said the plan is designed to track channel narrowing, not backwater area, though NPS believes they are related. Narrower channels are less complex and have fewer features that support backwaters. In the revision, additional details were added to the methods section. Transects have been developed perpendicular to flow and survey points will be measured every three meters during each survey along each transect. At each point, biologists will measure plant cover, both in % cover and species composition. Transducers have been set out to measure days of inundation upstream and downstream of each site. Drones will conduct aerial photography in all years when funding is available, which can then be scaled up using satellite imagery. Metrics to measure change have been added as well. NPS recognizes the effects of uncontrolled variables, but noted that they occur in all studies on large rivers. The goal is to detect any narrowing that might occur. Melissa noted that 2013 was the last year in which below average flows occurred on the Green and said it may require many years to determine the effects of changing management in different hydrologies. Melissa has references that she can distribute regarding the methods outlined in the study. Don praised Melissa and Dusty for all the work they have done to clarify the study design. Don said the process outlining how the Program will apply information from this study through the flow request letter is much clearer and he appreciated the changes. Don noted ongoing concerns that teasing out the signal of experimental flows vs everything else occurring on the river (e.g. changes in sediment, hydrology, vegetation) will be very difficult. Jojo thanked Melissa for the response to comments and said she supported Don’s points. Jojo asked about the Sankey reference Melissa provided. Melissa said the document was a key part of NPS’s concern because it determined that elevated base flows did increase channel narrowing and vegetation encroachment in that study area in Grand Canyon. Melissa noted the importance of dry years in testing these effects. Harry said that revised base flows are essential in as many years that we can get them and also prioritized the use of flow-spikes to manage nonnative fish populations. He is concerned about how this information will play into the decision around the flow-spikes in the flow request letter. Melissa said the flow-
spike would need to occur to measure the effects and did not anticipate that this study would prevent the flow-spike from occurring.

i. Seeking final approval for plan - Melissa asked for conditional approval to begin monitoring. The BC supported beginning field work in early August. The ramifications of how the data will be used will be up for discussion again in conjunction with final approval on August 18th. Don will be following up with the BC and WAC over email. Tom noted that the PDO may elect to bring in a geomorphologist to help assess the information that comes in from this study.

b. Update on Flaming Gorge hydropower analysis – Derek Fryer met with BOR Technical Staff the week of June 29th to confirm the request to use the CRSS model to conduct the hydropower analysis. Currently, BOR is developing estimates for time and effort needed, which Derek anticipates will be available within a week and could be presented at the next meeting. BOR results are expected this fall/winter; WAPA will need an additional month to conduct the hydropower analysis. Derek is working with the PDO to create rule sets and implementation guidelines founded on the same concepts that allow for implementation for LTSP. Derek hopes to include the effects of implementing the seasonal flow variability recognized in the ROD as well as turning experiments on and off (i.e., prioritizing the GREAT experiments if necessary) in the CRSS modeling.

c. Update on Base Flow Experimental Study Plan – Kevin Bestgen said the goal of the base flow monitoring plan is to understand the effects of implementing the new recommended base flows on fish populations. The initial draft was distributed in January, which received comments from Jojo La, Melissa Trammell, Derek Fryer, and Dave Speas. Kevin Bestgen is working on the final details in the report and will have the document and responses to comments ready for review at the August 18th meeting.

5. LTSP and baseflow plan – Razorback sucker larvae were detected on May 19th. Reclamation started ramping up releases from 950 cfs to above 14,000 cfs for 12 days with a peak of 17,800 cfs on June 4th. Stirrup, Stewart, Above Brennan, Sheppard Bottom, and Johnson Bottom all connected. The field crews are leaving all fish alone while water and air temperatures are hot. UDWR said Stewart Lake was filled almost completely, with supplemental water maintaining a depth of over 6 ft. CSU documented pikeminnow larvae on June 28th, Reclamation was releasing minimal flows at that time, but increased flows on June 30th to target 2000 cfs at the Jensen gage after the Yampa River flows dropped. Water temperature data from Lodore indicate that Green River temperatures are warm. Dave said temperatures were tracking to be close between Deerlodge and Lodore which was a positive sign. Dave noted that juvenile razorback sucker have also been seen returning to some of these wetland sites after living in the wild (several Stewart Lake progeny have been detected in subsequent years on outlet channel antennas).

6. Habitat update
a. Wetland updates - Overwinter survival has been documented at Sheppard Bottom and the Stirrup. All of the LTSP wetlands that connected in 2019 have now been confirmed to have juvenile razorback sucker in them. The refuge is working to push water into Sheppard to support the fish that are still in the wetland and is working to figure out how to return them to the river. Ouray Refuge is working on their 10-year habitat management plan. They are seeking to improve conditions for fish in those wetlands, potentially removing some of the levees in Sheppard and Leota to restore more natural function. They are considering adding a breach point into Leota 10 at a current point of erosion, which may make it available for management of razorback sucker. The refuge is prioritizing areas where the river is flooding and causing issues for roads and levees. Tildon will continue to work with them on ways to mitigate for nonnative fish. A proposal to drill for oil on the refuge is moving forward very quickly, which will install 6 wells very close to Leota wetlands (but out of the 100 year floodplain). The Refuge has had several calls with SITLA and the operator to minimize the impact. Water will be pumped in to drill and oil will be pumped out to minimize traffic next to the wetland. FWS recommended back flow valves and other prevention measures to protect the wetland, which have been received positively by the operating company. Tildon will bring additional information forward as it is available. NEPA is moving forward for Stirrup and gate renovations are planned at Stewart this fall using capital funds.

b. Tusher fish passage - Ryan is making slow progress with the Green River Canal company to address cleaning of the fish passage.

7. HBC reintroduction plan update – Melissa Trammell said the group has met regularly and has come to consensus on introduction location (Dinosaur National Monument), source location (Desolation/Gray Canyons), and introduction strategy. The writing team continues to work to draft the report. Melissa invited Jerrad from BLM to join future calls in addition to a few more employees from Reclamation. Melissa anticipates that the report will be ready for BC approval at the October meeting. Dave like the draft report and thanked Melissa for running that process.

8. Bonytail feed study update – Cheyenne Owens said that Wahweap tested the Skretting Pond diet vs natural feed last summer. Growth measures showed stronger growth in both ponds when compared to razorback sucker diets. Wahweap continued feeding the Pond diet post-study and HCPs have been completed on these fish. Continued use of the Pond diet dramatically reduced the mesentary fat in the fish (50% of fish to 5% of fish) as well as fatty livers (65% of fish to 5% of fish). Mumma studied Skretting Pond vs trout diet, growth was slow over the winter, but is increasing on both diets; results are forthcoming. Both FWS hatcheries completed studies on multiple diets on two life stages of fish. Higher growth has been seen on the 40% protein, 12% lipid diet, which is very different from the razorback sucker diet. Bozeman is slowly getting back into the lab and data should be back to us by the end of the fiscal year. Dale said HCP results from Grand Valley should come in within the next month. Cheyenne said young-of-year are growing very well on fertilized ponds, supplemented by the Pond diet as they grow which should improve condition and drop costs.
Cheyenne is waiting on additional information to confirm. Melissa asked if there was a swimming difference between fish with and without fatty livers. Dale said GV did not notice a lot of differences, but anticipates more information to come from the HCPs.

9. Hatchery needs and opportunities discussion update – Dave noted that we are now having conversations about propagation of Colorado pikeminnow and humpback chub in addition to the two species we are currently propagating. Tildon is leading a group which met on June 24th. The group established what the current facilities have and could become with additional resources as well as anticipated needs for Colorado pikeminnow and humpback chub. SNARRC biologists attended, which provided a lot of additional information. San Juan biologists were on the call to help discuss propagation from a wider perspective. The next meeting is scheduled for August 13th, which will incorporate information from the humpback chub ad hoc group meeting. The San Juan and SNARRC will also have had some conversations with their leadership about possibilities. Cheyenne is working to draft a document that will facilitate discussions in this group. Dave Speas suggested that we combine the pikeminnow broodstock collection group and the humpback chub ad hoc group to a single propagation ad hoc group. This may be appropriate after the humpback chub group presents a final report for approval. Tildon is also expecting a presentation about a property in De Beque which may be a potential hatchery site. Dave noted the importance of the existing stocking plan and potential revisions. Tildon anticipated an iterative process considering both opportunities and stocking plans that allows each piece to inform the other. Tildon is open to BC thoughts on what should be considered as part of this process. Dale encouraged as many members of the BC as possible to attend those discussions just because many of the BC members do not have direct experience with hatcheries. If you have interest to attend the next meeting, please contact Tildon. Tildon noted that SNARRC does not have space to hold all of the Colorado pikeminnow broodstock, so we need to be ready to accept those fish in the next few years.

10. Nonnative fish updates

a. Red Fleet Screen – Kevin McAbee updated that Reclamation crews finished pouring concrete for the structure before Independence Day and are now starting the metal work for the structure. They expect completion of the structure in the next few weeks. A site inspection will take place on July 16. The O&M contract is being routed for signatures now; once the contract is executed, the facility will be transferred to UDWR via Quit Claim Deed.

The screen is downstream from the outlet structure, so it will screen releases year-round. Construction crews anticipate to turn water through the structure next week and test performance. Kevin McAbee thanked the Provo force account crew for all of their work. Paul Badame noted it is built to handle 500 cfs, but releases don’t typically exceed 300 cfs in most years. Harry requested that photos be distributed.
b. Walleye triploidy induction rate modeling reports reviews - the States of Colorado and Utah have been stocking triploid walleye in a number of upper basin reservoir to swamp out illegally introduced walleye or to establish new sport fish populations. FWS has requested that all stocked fish have a 99.5% induction rate to prevent the establishment of fertile walleye. FWS has agreed to exceptions in some cases, such as Rifle Gap Reservoir. The States have requested that the induction rate be revised lower because of the difficulty in meeting rates near 100%. To evaluate the possible outcomes of a lower induction rate, both states have conducted population modeling including the probability of a diploid population surviving after stocking, the ability to suppress after an illegally introduced situation, and the chances of an illegal transfer choosing a diploid fish vs a triploid fish. FWS has requested that the models be submitted through the Program for review and approval so that the models are available for citation. Documents are expected to come up for BC review in September. Julie will add review/discussion of these documents to the October agenda and Kevin will invite the model authors to present at the September meeting.
c. Nonnative fish removal field update - The surge was initiated by CSU and FWS-Vernal in late June; CPW and FWS-GJ were unable to assist in those efforts because of competing priorities. White River and Yampa Canyon smallmouth bass removal has been completed with high catch rates. Flows are too low to continue sampling. Efforts have been moved from Deso to Dinosaur to target larger populations. Colorado River catch rates have also been pretty high, with a concerning area downstream of Westwater Canyon. Walleye catch rates have been high at the Tusher Diversion all year, UDWR has been removing those fish. No early season pike removal was conducted, but surge collections will document northern pike in the Yampa after a year without gill-net removal. Harry said CPW is sending crews to help with the surge this week after the Elkhead tournament ended over the holiday weekend. Harry said CPW is still operating under travel restrictions.

11. Harvest tournament update – Harry said the Ridgway Tournament will start this weekend and will continue for 3 weeks. The tournament is operating with a lot of COVID related changes, including a self-drop freezer. CPW set up plexiglass between staff and participants and also changed how the prizes were given out. The Elkhead Tournament just finished. 219 people participated in comparison with 270 last year. The tournament produced the second best harvest with 525 smallmouth bass and 606 northern pike removed. Lori Martin has photos of the event. Bass were marked before the tournament to document the population effects on that population. Melissa asked if we could document the effects of the tournaments. >Harry will provide the information that was presented to the Colorado Nonnative Fish Workgroup (done in email on 7/9/2020). Tom asked if any information was available about how the net performed at Elkhead during the spring spill. Harry did not have a particular update, but will investigate.

12. FY21 and FY22 Budgets – Stahli and Chart

a. Potential budget funds available from COVID—Julie showed the BC the draft workplan table with FY2021 estimates and the projected budget shortfall. She requested information from the group on whether any funds might be unexpended due to COVID interruptions in field work. Harry asked for clarification in the request, whether funds were likely to be carried over versus returned to the Program. Julie indicated it would probably be easier to reduce future year requests and use unexpended FY20 funds to augment those budgets. Harry estimated CPW would have some funds available. Julie also explained that the shortfall continues to grow, and this is not a single year issue. Tom suggested partners be ready to capture unexpended funds in annual reports. Dale asked for more specifics on what to report back. Dave suggested capturing personnel hired versus budgeted, passes completed compared to the number planned, and focus on March 1 through October 1. >Julie said she could send out some templates on which to base the responses. Dave has not heard anything from BOR about what may be expected around COVID funds. He said it will be important to account for those funds and anticipates having more information in the next budget about what we can do with those savings.
b. SOW and Program Guidance for FY22-23-- Over the last few years, we have had some budget creep which is getting to an unsustainable level. The PDO can manage it a bit better using Program Guidance. The PDO proposes to look at the entire program budget in its entirety for FY22-23. Through the fall and winter, we would like to work with the Biology Committee on priorities to build a work plan that can provide guidance to the PIs before their SOWs are developed. The goal would be to bring recommendations to PIs to avoid the pain of having to cut budgets later. Tom asked the BC for their thoughts and comments. Harry asked what the effect of that process would be. Tom said that reductions in some SOW would be recommended to the BC to be inserted in Program Guidance. Pete supported the suggestion and thought it was a proactive approach. Melissa noted that this process sounds similar to previous years, it is just starting a lot earlier. Tom agreed and said Program Guidance used to be a lot more prescriptive, and over the last few cycles, we have added some projects without reducing others. Dave asked how we got here. Tom said that FWS carryover has provided a budgetary safety net, which has allowed us to add projects to the work plan without having a hard conversation about trade-offs. Tom said our post-2023 annual funding projections confirm a need for more funds to provide higher confidence that we will recover these fish. Dave recognized that Reclamation is no longer indexing annual funding, which could be a contributing factor – Tom agreed. >Julie will send out the updated budget table to the BC.

Tom said Project 128 is scheduled to start in FY21. Discussions about delaying that project began last summer to prioritize broodstock collection. However, over the last year, Tildon has worked with our PI’s and the San Juan program to schedule and fund a robust broodstock collection effort in 2020 and 2021. The PDO has engaged in discussions with Kevin Bestgen to delay beginning 128 in FY22 instead of FY21. There are a few reasons for this suggestion, first, that it allows us to evaluate all projects big and small together in the FY22 Program Guidance effort mentioned earlier. Secondly, Kevin McAbee and Tildon are convening a recovery team to revise the Colorado pikeminnow recovery plan, which could result in new demographic criteria that may change how we monitor this species. By delaying Project 128, we anticipate saving about $300k in FY21 (as the balance of the funds move back into other projects). Tom acknowledged that this would be breaking the cycle in long-term monitoring, which is why we are only recommending a 1 year delay at this time. Tom noted that monitoring the Colorado pikeminnow population in the Colorado River was also delayed one year. Melissa recognized the difficulty in coming to that recommendation, but said it helps bring the information in-line with the 127 dataset. She supported the recommendation. Tom said FWS and the Program have responded to the data collected in 128 as reflected in a pending 5-Yr Status Review and the Program has focused on appropriate management actions (e.g., timing of base flows and a concerted broodstock collection effort). Tom noted that the recent completion of the Green River Canal screen will hopefully assist in recovery as well. Melissa noted the continued captures during other sampling efforts as well as PIT-antenna detections that produce data in the absence of formal population estimates. Tom noted the importance of 128 to razorback sucker as well.
Kevin Bestgen noted the importance of the 128 project in tagging new fish and looking for signs of recruitment. PIT-antennas are only available to tagged fish. Kevin Bestgen said we used ISMP approaches with short single-pass methods in the past, but in the long term, it would be unfortunate to abandon the mark-recapture efforts completely. He said it was possible to adjust schedules and methods as long as it’s done carefully. Kevin said that Project 128 isn’t sufficient by itself to conduct informative estimates for razorback sucker. He encouraged strong conversations around how best to estimate vital rates for other species in future discussions.

Dave supported the recommendation to delay the project, especially to prioritize broodstock collection.

13. Canal salvage in the Grand Valley – At the request of the BC CPW and FWS-GJ submitted a new SOW for canal salvage. In 2019, a few days of sampling were conducted by CPW and volunteers which generated new interest in continuing the activity. CPW and the Program received good publicity around those efforts. Dave said the effort is similar to the previous SOW, but with CPW assuming sampling, data analysis, and reporting duties. Tildon noted flexibility was included as entrainment could be different from year to year based on flow conditions. Tildon anticipated a difference in time devoted to hot spots and spending less time ensuring they manage the whole canal. Dale said the scope was eliminated last year because of budget concerns, and noted that it isn’t a large scope of work. He said the scope is very consistent with the previous scope, meaning that this is just what it costs to remove fish from the canals. Harry said that both 3-species and endangered species have been repatriated out of the canal and that 3-species do serve as forage base for endangered species. Harry noted that 3-4 biologists would be sampling for each of the 10 days in the scope, which is entirely an in-kind contribution from CPW of $8,400-12,600 + travel and equipment costs. The SOW was more expensive than they originally thought, including a mandated wage increase for seasonals and mandated overhead. Harry agreed with Dale that two weeks’ worth of effort does cost money. Dale said CPW wanted to handle 3-species and tag them before they returned to the river; other than that he sees the effort as being similar to the previous scopes. In high water years, they will likely sample more of the canal and in low water years, they will likely target more hot spots. Dale said turbid water above the canals encourages entrainment as well and noted it is really difficult to predict how much effort will be needed in any given year. Endangered fish have been caught down to 24 Road, which is quite a ways down in the canal. Dale says they have struggled with bringing a full crew out into the field and endorsed the crew of 8 people. Tildon asked what the decision point is around this project within the context of the earlier budget conversations. Dave said it was too early to make a specific decision, but requested documentation of BC support for this project. BC members asked if conducting a reduced effort would be possible. Dale said in the context of the things we do that are hands on actions in the river, which is we put good fish in the river and we remove bad fish from the river, and this is a small two week effort that puts lots of good fish back in the river. Tom said he supports the concept of canal salvage, but reminded the committee that on the heels of our discussion of overall budget shortfall we are not discussing any tradeoffs to fund canal salvage. Harry noted that if the Program doesn’t fund it, CPW will likely
cobble together efforts as they did last year and accomplish as much as possible. He noted that after we decided we weren’t going to do this, calls came into the Service from the public. Tildon asked if the agencies can fulfill the commitments in the SOW with the staff they have on. Dale said he could staff it with current staff. Harry said he could fulfill CPW’s commitments as well. CPW could spend anticipated COVID overages to fund this project and reduce the amount returned to the program. The BC did not restore funding for the project.

14. Review reports due list — Reports due list was reviewed and amended.

15. Schedule next webinar and “in-person” meetings
   a. Webinar to review GREAT report study plans – Trammell, Bestgen, and Fryer, Tuesday, August 18th, 9-12.
   b. Webinar, Thursday, September 3rd 9-12. - Field updates, reports from CPW and UDWR on walleye triploidy
   c. Wednesday, October 7th, please hold the whole day. Assumed to be a webinar meeting. Review of pikeminnow and two humpback chub monitoring reports, discussion about Program Guidance for FY22-23.

16. Consent agenda – Approval of May 2020 Biology Committee summary – The BC approved the summary. >Julie will post the summary on the website (done).

ADJOURNED: 5:06 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. Floodplain follow-up assignments:

   a. The Program Director’s Office will discuss terms of the Escalante wetland and Lamb property leases with Ouray NWR (Dan Schaad, Sonja Jahrsdoerfer, and Andrew Pettibone) to ensure the Program really benefits from them. Tildon noted that the easements may be protecting these floodplains from other development. Tildon said there are two easements being proposed to be open to oil and gas leasing though the BLM - Pariette and Escalante Ranch. Pending.

   b. PDO will develop a prioritization strategy for both the Colorado and the Green by the end of August and will schedule a call (Sept-Oct) to continue discussion. 10/27/17 - Draft discussed by Committee; comments due within two weeks to the Program office. Tom Chart will then take it back to Brent and Ryan and see about next steps. 1/25/18: Prioritization now dependent on elevation surveys and larval information. 9/17/18: Tom expressed support for moving forward with the Stirrup on the Green River and noted the Matheson may be the best option on the Colorado River. The PDO expects to make progress on this issue as soon as we get additional staff online. 2/11/20: Tildon is prioritizing based on post-2023 information and this item will be removed from the next summary.

2. Exploration of using alternative methods of nonnative fish control in systems where traditional mechanical control is ineffective/infeasible. Kevin/Tom/Don will start the discussion with relevant parties and bring agenda items back to the BC as necessary for both the White and the Duchesne. Kevin will talk to Jenn, Chris Smith and Matt Breen to get more information around the White and Kenney Reservoir. 9/17/18: Don and Tom discussed releasing water in the White for algae control, which might also have benefits of removing nonnative fish. Tom said they released water in early July to control cladophora. CSU field crews were on site and the PDO will check back to determine the effects on the fish population. Kevin Bestgen confirmed sampling occurred pre- and post-flow. The data has not been worked up yet, but will be in the off season. Kevin Bestgen thinks the event occurred pretty late in the spawning season and may not have had a large effect. Tom noted that Alden said it may need to occur on an on-going basis for algae control.

3. The hatcheries need new guidance from the PDO which will incorporate HCP protocols. Julie Stahli will provide as time allows. Guidance will include collection and reporting of environmental data. Stocking discussions will happen earlier in the year and be more comprehensive. 11/8/18: Julie and Cheyenne will convene a group of BC members and hatchery
managers to develop a plan forward for bonytail. 3/12/19: The bonytail group met on 3/7/19 to discuss options for a food study. Future meetings will be scheduled to support the propagation element as needed. 7/1/20: Cheyenne is working on a base document to support hatchery conversations.

4. PDO will figure out how best to distribute spill contact information (potentially on the website). Pending.

5. The PDO will develop a plan to have in depth conversations on nonnative fish issues and inclusion of PIT antenna data in analysis and will schedule workshops or meetings as appropriate.

6. PDO will start conversations around a razorback sucker monitoring plan, including revisiting the 2012 report for recommendations.

7. Julie will distribute RefWorks information. 1/24/20: USFWS has run into some major implementation challenges with RefWorks and will continue to seek collaborative tools to share resources.

8. Kevin McAbee will work with PIs familiar with the White River to suggest potential management actions in concert with the White River Basin Management Plan.

9. PDO will provide guidance to support work-planning during the fall of 2020.
   a. Julie will send out an updated budget table
   b. Julie will send templates for documenting COVID funds spent and accrued.

10. Future BC agenda items:
    a. Discuss options for a walleye synthesis report.