



# Upper Colorado River Endangered Fish Recovery Program

Dated: February 28, 2020

**Management Committee Meeting Summary, September 3-4  
Homewood Suites at DIA (4210 Airport Way, Denver, CO 80239)  
September 3, 1 pm - 5 pm MT  
September 4, 8:30 am - 5 pm MT**

**In Attendance:**

Steve Wolff, chair	State of Wyoming
Chris Keleher	State of Utah, alternate for Todd Adams
Michelle Garrison	State of Colorado
Jojo La	State of Colorado
Tom Pitts (day 2)	Water Users
Patrick McCarthy	The Nature Conservancy
Leslie James	Colorado River Energy Distributors Assoc.
Shane Capron	Western Area Power Administration
Melissa Trammell	National Park Service
Ryan Christianson	Bureau of Reclamation
Marj Nelson	Fish and Wildlife Service
Tom Chart (non-voting)	Program Director

**Interested Parties:**

Kevin McAbee	Nonnative Fish Coordinator, Program Office
Julie Stahl	Deputy Director, Program Office
Don Anderson	Instream Flow Coordinator, Program Office
Tildon Jones	Habitat Coordinator, Program Office
Cheyenne Owens	Natural Resource Specialist, Program Office
Dave Speas	Bureau of Reclamation
Paul Badame (by phone)	State of Utah
Lain Leoniak	State of Colorado, Attorney General's (AG) Office
Chris Breidenbach (day 1)	State of Colorado, AG's Office
Ray Tenney	Colorado River District
Melanie Fischer	I&E Coordinator, Program Office
Harry Crockett	Colorado Parks and Wildlife

**Tuesday, September 3**

**CONVENED: 1:02 PM MT**

1. Introductions & requests to modify agenda - agenda was modified as presented below

2. Approve draft webinar summary from June 25 - Summary approved by the Committee.  
>Julie will finalize and post.
3. Hydrology Update - Don Anderson said because of abundant snowpack from the 2018-19 winter most reservoirs were filled and spring runoff was strong. The Gunnison River, Colorado (15-Mile Reach [15-MR]) and Green all had some of the highest peaks seen in many years. Larval razorback sucker entrainment into many of the Green River wetlands occurred (many with over bank flows). Many of the high flows were sustained through August, which may have reduced recruitment of smallmouth bass. July and August conditions were very dry and hot throughout most of the upper basin with 5-50% of normal precipitation and above normal temperatures. The result was a rapid shift from late, high runoff conditions to a precipitous decline in natural runoff over just the last couple of weeks. For example, Yampa dropped from 500 cfs to 200 cfs in 12 days in August; a similar collapse was seen in 15-Mile-Reach flows. Starting on August 20th, Don started releasing Program water to the 15-MR. Currently flows are about 1100 cfs with ~650 cfs coming from reservoir releases to augment endangered fish flows.

The Colorado Water Trust is currently raising money to fund annual water releases into the 15-MR of the Colorado River through surplus capacity in BOR's system. This year they will release ~350 acre-feet as proof of concept. This water is going to be released as 25 cfs for ~7 days. The Yampa River Fund is also proceeding forward, which could provide a source for leasing additional water for endangered fish in that system in future years.

The White River Management Plan efforts continue, with the goal of producing a Programmatic Biological Opinion for that system. The goal of the PBO is to provide ESA coverage for historic depletions and for a specific amount of future water depletions. The Planning Team is currently evaluating consultants to complete the project, which should start work this Fall/Winter. Modeling for the system should be completed in conjunction with the commencement of the project. The team is also working on developing flow recommendations to provide to the consultant. The team is working with the flow recommendations that were originally developed a few years ago and incorporating additional comments. Don anticipates sending that document out this Friday (September 6th). Don anticipates bringing it to the MC in November to see if the Committee supports using that document as a starting place for the consultant's efforts. The flow recommendations include a comprehensive summary of the biological information of the White River, including information on endangered and native fish species. The flow recommendations will need to be approved by the MC before finalization.

4. GREAT Update - Tom Chart reviewed the efforts of the GREAT team, led by Kirk LaGory and Kevin Bestgen, in drafting the updated GREAT report. It includes new information about the timing of spring releases from Flaming Gorge to improve survival of razorback sucker larvae, revisions to base flows in August and September to improve survival of YOY Colorado pikeminnow and summer flow-spikes to disadvantage smallmouth bass reproduction downstream from the dam. There are lots of tweaks to the report in things like how fast hydropower is allowed to ramp up or down that adjust Muth et al.'s original recommendations. The comment period closed on July 22nd. Comments were received from peer reviewers: Bob Muth and Charles Yackulic, and

from the State of Colorado. Many BC members were on the GREAT team, so comments from them were limited. The report is comprehensive; there were some suggestions to shorten the report. The report supports a continued experimental period to evaluate the effects of each of these three main recommendations. Kirk LaGory and Kevin Bestgen are currently working through the comments, which includes soliciting assistance from GREAT members as needed. Their intention is to turn around a revised final draft by September 20th. Tom does not think the general concepts in the report will change much. He anticipates the report will go back to the BC and WAC for final approval by mid-October. Tom anticipates that report will come in front of the MC in early November. Flow recommendations do not typically go to the IC for approval, but could if the MC recommends such action.

- a. 2020 Green River flow request - In the 2019 flow request, the PDO included three concepts (spring peaks supporting razorback sucker entrainment, baseflows to support Colorado pikeminnow, and flow-spikes to disadvantage smallmouth bass). After concerns were raised, the request letter was revised pulling back on some of those recommendations. Hydropower had concerns about the effect to that resource and additional concerns were raised about impacts to lake levels in Lake Powell. Tom opened the conversation to the MC to provide guidance to the PDO for the 2020 flow request letter. Ryan Christianson said he did not expect any change in annual release volumes from implementing these experimental releases and thus balancing tiers would be unaffected. Ryan acknowledged there has been a request for modeling, but the USBR has not yet completed that exercise. Steve said Ryan's conclusion of unchanging annual release volumes provides him with sufficient information to move forward. In addition, after the high flow year in 2018-19, Lake Powell is no longer close to hitting another management tier. Michelle said water is flowing down to Lake Powell earlier in the season than it has in the past, but that may be part of a different discussion. >Ryan will set up a conference call with the water operations branch of USBR to verify and discuss this issue. Steve requested Heather Patno and Malcolm Wilson participate in that call. Shane supported the call and efforts to work through some issues before the flow request letter is due in February. Shane would like the opportunity to model flows before the experiments are implemented in annual flow request letters. Tom Chart reminded the committee that USBR's Power Office has requested that the Program's final flow request letter be submitted by Feb 28 each year; the PDO will need to start drafting the annual request letter sooner than in recent years.
- b. Monitoring plans for experimental flows - Monitoring plans are necessary for the BOR to implement flow changes in an experimental mode. LTSP and the flow-spike study plan have been approved by the BC. The revised baseflow study plan is currently in development in the PDO. Melissa said NPS has a draft monitoring plan to evaluate channel changes based on the recommended flow patterns. Melissa went out on the river last week with other NPS staff to select sites for sampling. Assessment of vegetation changes along the channel will be paired with remote sensing using drones to evaluate patterns on a larger geographic scale.

Comments are currently being incorporated into the draft plan, which will go to the BC for review by the end of September.

Jojo La asked the PDO to update the Committee about the Green River Stakeholders. Tildon said there have been multiple meetings with the group, which was followed by a couple of floodplain tours of the middle Green River wetlands. Tildon explained the characteristics necessary for successful wetland environments. Tildon said a lot of time was spent explaining both the biology and the management of the wetlands and he expects the group has developed a stronger understanding of that process. Tom reviewed that the stakeholders are primarily land owners along the entire Green River and tailrace fly fishing guides. The PDO is trying to disentangle what management actions are requested for the endangered fish and management actions based on safety and water management (as was needed in 2017). Tom and Tildon are working to try to explain this process more effectively. The Stakeholders recommended dropping the May 1 reservoir elevation by about 10 feet every year to be able to store more water during high flow events, which prompted concerns from WAPA and BOR in the context of drought management. Reclamation has been asked to model the effects of those recommendations further. Reclamation is also trying to explain their management needs more clearly, especially that bypass releases negate the need to use the spillway, which would result in an even higher flow. The Stakeholders have requested funds from the Recovery Program to repair streambank erosion on the Green River. Reclamation reviewed the authorizing legislation and the restrictions on the use of capital funds in the Program. A response letter to the Stakeholders proposal (which was submitted in fall 2018) has been provided from Alan Mikkelson, who was the Science Advisor to the Secretary of the Interior. Leslie asked if summaries from those meetings were available. Dave Speas said there are meeting summaries for the Flaming Gorge Workgroup. Dale Hamilton (USBR) is the appropriate contact for that information. Tom noted that there are many other stakeholders in the Flaming Gorge process, so holding discussions in the Workgroup setting is the most appropriate option to make sure all viewpoints are considered.

5. LTSP Implementation - Tildon Jones said hydrology has been very wet this year. Larval razorback sucker were detected before one of the Yampa peaks. The mean daily flow was over 18,600 cfs for 9 days, which connected a lot of wetlands in the middle Green River. Larval razorback sucker were documented in most of the sites of interest. Juvenile razorback sucker have been documented in Sheppard Bottom, Leota, Stewart Lake, Old Charley, and Johnson Bottom. Evaporation out of those wetlands is just beginning to occur now. Crews are leaving those fish until late September or early October to avoid handling stress. The longer flow period may have allowed groups of larvae that hatched over several days to enter the wetlands in a single year.
6. Capital projects budget table - Ryan reviewed the capital projects listed below.
  - a. Green River Canal Fish Screen Reimbursement - The screens for the canal (~\$60K) were purchased separately but were approved as part of the canal project. The Green River Canal Co. (GRCC) (who has the O&M contract on the facility) was planning to pay for that invoice, which would then be reimbursed by BOR. The GRCC has not yet gotten their accounting requirements set up to be able to pay that invoice. The delays (and associated late fees) have caused Ryan to

reexamine that process. Ryan recommends sending that invoice to NFWF to pay the invoice instead of using the O&M contract. If the screen company gets two payments, they would reimburse NFWF. >The PDO will ensure that, if needed, those funds will come from the capital funds account (WY) and ensure that contract is extended. In general the fish barrier is working well. Some additional fencing is being installed at the facility. GRCC reports some algal buildup as turbidity has dropped in the river. No fish have been detected behind the screens.

- b. 8-gate structure - The approval for the 8-gate structure funding from the MC has lapsed. The company was seeking to update their 8-gate structure while the coffer dam was in place. That window of opportunity has closed. The MC would need to consider whether to approve those funds again if the proponents seek to move the project forward.
- c. Ridgway Reservoir - A model of the screen was set up at Reclamation's Technical Service Center. Based on preliminary modeling results, a risk analysis evaluation may not be required before construction. Construction is likely to start in fall of 2020. Ryan has sent the contract out to relevant parties (PDO, State of Colorado and TriCounty) and is incorporating the few comments he received.
- d. Red Fleet Reservoir - The screen is scheduled for construction by Reclamation's Provo Area Office force account in April of 2020. The increased price was discussed and approved at the last MC meeting.
- e. Starvation Reservoir - State of Utah will be able to use the same design as previously proposed, just at a different survey location outside the primary jurisdiction zone.
- f. Stirrup Bottom - Construction is on the force account list for Spring of 2020. BLM is currently working on NEPA, which they hope to have in place before spring. Melissa noted that inclusion of a boat ramp should be considered as many of the boat ramps along that stretch of river have been eliminated by shifting sand bars.

Ryan asked if Matheson and Audubon should stay on the list. Tildon requested they remain on the list to assist with tracking.

- 7. Update on Fiscal Year 2020 funding - Tom Chart said that the impression he has gotten from Tom Pitts is that funding may be secure when an appropriations bill is passed. Steve said that Congress is exploring the use of hydropower funds through FY2023
- 8. Update on DOI Re-Org and ESA Reg changes – Marj Nelson said that Secretary Bernhardt has reiterated the desire to reorganize the Department. Alan Mikkelsen has been appointed as the Field Special Assistant to Region 7 of DOI (Upper Colorado) and the Columbia River region. FWS has changed signage and letterhead to reflect the new regional boundaries. The Reorganization is still a work in progress with many moving parts.

The FWS published a final rule to implement changes in regulations for Section 7 consultations, designating critical habitat, and classification decisions (including 4(d) rules for threatened species). Regional staff are in DC to learn how best to implement the rules. The changes are primarily tweaking of rules and verbiage. One of the largest changes was the removal of the 4(d) blanket rule which gave all endangered species protections to threatened species automatically. Now individual rules must be written for each species that is newly determined to be threatened (all historically listed species have continued protection grandfathered in). NOAA has always worked without the blanket rule. Decisions on whether or not to list a species have always been based on the best commercial and scientific information available, and continues to be. The current regulations allow for the development of an economic analysis for transparency purposes, but it does not change the basis of the status determination. Some changes to critical habitat have been adjusted, including whether determination of critical habitat is appropriate at the time of listing. The rule codified how FWS has been using the term foreseeable future for threatened species that was determined by the M Opinion. The rule reinforced the fact that the foundation for listing, downlisting and delisting is the same. Chris Breidenbach asked how the Program was likely to be impacted by the rule changes. Marj said she has not looked critically at the changes in consultation. Chris asked if the changes were likely to change how the FWS looks at Recovery Plans. Marj did not think it would as determination of status is based on whether a given species meets the definition of endangered or threatened. Marj reiterated that Recovery Plans are a best interpretation of what those definitions might look like and are not legally binding. Jojo reiterated a desire to learn more about how Section 7 consultations will be impacted by the regulatory changes. Jojo asked how the regulation changes would affect the current proposed downlistings of humpback chub and razorback sucker. Marj said the regs do not affect either of the downlistings as species-specific 4(d) rules have been developed for both species. Kevin McAbee said that Headquarters of FWS has said there will be informational webinars designed for stakeholders. The PDO will distribute details when they are received. Patrick asked if there were implications based on definition of foreseeable future the cumulative effects of climate change. Marj reiterated that these changes just codify how we have been operating already because of the M Opinion (that was written by Secretary Bernhardt when he was the Solicitor).

9. Workplan Review and Approval - Julie explained the work planning process up to this point, including Program Guidance, the SOW development process and review by the BC. Julie reviewed the projected overage for FY20 is currently at \$404K and \$950K in FY21. FWS will be able to cover those overages using carryover, which is money that has been saved in FWS over the last few years of funding and is put back into the Program. Tom said that while we have been operating in the red for a few years, this carryover concept has been implemented for a long time to fund the Program. Tom called the MCs attention to the contributions based on Bluebook guidance. The Coordinators reviewed their components (Program element) of the work plan by summarizing ongoing Scopes of Work, including what reductions were recommended and what new projects have started in this period.
  - a. Instream Flow - Don reviewed the purpose of the instream flow scopes, including monitoring of flows and river temperatures across the basin. The Elkhead lease

funding is a right of first refusal for up to 2,000 acre-feet of water stored at Elkhead Reservoir (Yampa River), and was previously designated as \$25,000 per year (\$100K about every four years based on how frequently we have opted to use that water in the past). The PDO has removed that placeholder and has agreed to pay for water out of Section 7 NFWF funds if it is needed between now and 2023. Jojo recommended budgeting for this in Post-2023 and removing the line referencing CWCB and TNC contributions until those funds are firmly in place. With respect to the Green River, Don said new information has come up from David Topping about suspended sediment monitoring. David has suggested shifting funds from monitoring to cross-channel surveys in FY2021, which Don supports. Tom asked if this will help the NPS channel monitoring work. Melissa believes it could, but will investigate further. If accepted by the MC, Don will circle back with the BC and WAC. The largest new element is Green River physical channel monitoring by NPS and USGS to document potential channel changes from elevated and less variable base flows. BOR has agreed to fund the NPS work in FY19 and FY20. Don reviewed C-Umbrella as a new scope that combined several older scopes to look collectively at variation in O&M costs and contingency funds needed for four different fish passage and screening operations in the Grand Valley.

- b. Habitat - Tildon said the first few scopes are annual operations at the selective fish passages. The Green River Diversion O&M budget numbers are estimates; no budget currently exists. Reclamation is continuing to work on this scope. The FWS-GJ office offered zeroing out the canal salvage scope to save money during budget cuts. Tildon noted the monitoring and canal salvage scopes from the GRC seen in previous years have been eliminated, since the fish screen has been installed. The next section funds floodplain management on both the middle Green and the Colorado. The middle Green scope has expanded to include new habitats that have come online in recent years. A new scope to manage the Stirrup is included, with significantly lower costs than for other wetlands in FY21 thanks to contributions from the BLM in full-time staffing and vehicle costs. The scope does include fuel costs for pumping water into the wetland if necessary. Tildon noted that canal salvage in the Grand Valley has been removed as part of budget cuts. Dave asked if there could be a compliance problem without salvaging the Grand Valley irrigation canals. Tom said the PDO has not looked at that specifically but because the number of endangered fish collected in recent years is minimal it is likely covered under incidental take provisions
- c. Nonnative Fish - Kevin McAbee said nonnative fish management continues to be a large component of Program funding. The Program element prioritizes action during reproduction of both bass and pike and has expanded to include walleye as an emerging species. Nonnative fish was a big target for cost reductions because it is such a large element of the Program. As other efforts have been added to the budget, commensurate nonnative fish efforts are shrinking. Kevin noted that CPW added funds to address northern pike in Kenney Reservoir. In addition, Project 158 was added. The original intent of that scope was blocking backwaters to support pikeminnow management. Tildon will discuss that scope as a part of

monitoring. Nonnative fish removal is no longer occurring between Silt and Rifle (number of NNF caught has been reduced in recent years), effort has been reduced in the Mamm Creek pits, FWS-GJ will not remove NNF from streamside ponds, FWS-Vernal will complete two less passes for each of the Upper Yampa northern pike and Yampa Canyon bass removal efforts, CSU will reduce nonnative fish efforts in the Yampa and effort in the White will be reallocated between offices to be more efficient.

- d. Propagation/Genetics - Tom reviewed that propagation is about \$1.6M, which is a large part of the budget, but has been relatively static over time. FWS covers the Randlett unit as part of their contribution. Cheyenne said that the feed studies at the FWS hatcheries were funded through an FWS grant. The state hatcheries funded their studies voluntarily. Cheyenne said space could be made at hatcheries for Colorado pikeminnow or humpback chub by reducing the number of razorback sucker or bonytail produced, i.e. we are not discussing a new facility to pick up Colorado pikeminnow production in the future.
- e. Research/Monitoring - Tom said monitoring fluctuates throughout the years based on rotating schedules of population estimate schedules for various species in various locations. The large increase between FY20 and FY21 is primarily due to Colorado pikeminnow estimates on the Green River beginning again in FY21, in conjunction with the final year of the current Colorado River estimates. In addition, lots of early life stage monitoring is planned on an annual basis which directly affects flow management throughout the basin. Another significant portion of the budget funds maintenance and curation of samples of larval fish at CSU. A new SOW was added to support antennas across the basin as well as purchasing of PIT tags. BOR will cover those costs in FY20, and cost share with the Program starting in FY2021. The population estimates for humpback chub directly support the downlisting proposed decision.

In contrast, the Green River preliminary population estimates for Colorado pikeminnow have been decreasing. Since we started population estimates for adult and late juvenile Colorado pikeminnow in the year 2000, the population has declined from nearly 4,000 individuals to current estimates of less than 1,000. The continued decline is especially concerning because there were high young-of-year counts in 2009 and 2010, which did not translate into adults in this latest estimate. Because of the continued decline, and the likelihood we will need to augment populations, new attention has focused on the genetic integrity of the broodstock currently held at SNARRC. New genetic testing indicates that the broodstock are not representative of the wild Green River population, and that alleles of these fish are not in equilibrium. This means the broodstock have undergone some sort of selection, such as genetic drift or a founder effect from small initial numbers. Based on this information, the BC recommended augmenting the broodstock at SNARRC with YOY collected from the Middle and Lower Green and Colorado rivers. Tildon recommends funding pikeminnow collection efforts by reprioritizing funds from project 158. In addition, larval pikeminnow sampling will be funded out of 158 funds to assess the effect of revised summer baseflows.

These two priorities are driven by lack of pikeminnow recruitment. New scope verbiage will follow as soon as possible from the PIs. The PDO is currently assessing whether beginning Green River population estimates at their past scale and scope is the best use of funding in FY21 and the Coordinators will bring recommendations back to the Committees as appropriate. Tom reiterated that the PVA analysis also suggested that loss of pikeminnow in the Green River Canal was a contributing factor to the decline of this species and now we have reduced that piece of puzzle. Collections on the Colorado River appear to be more stable, but estimates just started in 2019 and results are not yet available. Leslie asked what the impacts of nonnative fish are like between the two systems. Kevin said there are similar species in both systems, but a number of important tributaries in the Green have high levels of nonnative fish. In recent years, PIs have documented walleye predation in pikeminnow nursery habitat on the lower Green and Colorado. Tildon said there is lower recruitment over time in the middle Green River, which is full of nonnative species and has been for a long time. The new invasion of walleye suggests that the lower Green may have been supporting the entire Green River population and is no longer able to do so. Leslie asked if we should be prioritizing nonnative removal and not reducing it as suggested in the work plan. Kevin said it's a good question, but acknowledged that many nonnative scopes were prioritized because they are larger projects. Jojo asked what Colorado pikeminnow estimation information will be available. Tildon said the population estimates we have currently will be included in the SSA. The trend matches the predictions modeled in the PVA for the Green River population. Tom said that Kevin Bestgen did an analysis on young pikeminnow which is what developed the foundation of the revised base flows for Flaming Gorge. Tom said the baseflows on the Colorado fall into the optimal range for pikeminnow more frequently than on the Green, which is why the PDO thinks its so important to implement the revised base flow experiments on the Green River. Leslie asked if the study addressed temperatures as well. Tom said both temperature and flow were considered and there are temperature variations between the Yampa and the Green that are not present on the Colorado, but nursery habitat conditions below the confluence of the Green and Yampa rivers can be improved with better flow management. Jojo asked if funding for stocking is envisioned in the post-2023 analysis. Tildon said the numbers for 158 are really preliminary as this scope is adapting to the current environment. Julie noted that pikeminnow stocking is more likely to cause reductions in stocking of other species rather than budget increases.

- f. Information & Education - Melanie reviewed the I&E component, indicating that her scope includes funding for the annual publications, the annual events she attends, aquarium supplies and promotional materials.
- g. Program Management - Tom reviewed Program Management and noted that the PDO makes up the majority of the Program Management budget. Reductions in the FWS budget came from retirements in the PDO and a projected assumptions of continued vacancies in the PDO. Utah fulfilled part of their reductions by

eliminating a request for Program Management funds, agreeing to pay for those out of ESMF funds.

Tom Chart requested Management Committee approval of the FY 20-21 Work Plan. The Management Committee approved the request

**ADJOURNED: 5:00 PM MT**

**Wednesday, September 4th**

**CONVENED: 8:31 AM MT**

10. Post-2023 - The collective goal was to develop an estimate of total program cost to provide to prospective program funding agencies for discussion at the Sept 30 mtg - Oct 01 mtg. Steve Wolff suggested that we hear from the committee to share their general concept of what the future of the Program looks like and their thought process in filling out the selection tool before we enter into specific topics.

- a. Julie Stahli reviewed the Post-2023 tables, the MC's selection process, and results submitted back to the Program Director's Office (see attached PDF). She reviewed the overall timeline to create the Report to Congress. She reviewed the Structured Decision Making process that we are using to shape these activities, and how the technical experts provided input into the alternatives and their potential consequences/outcomes. The PDO then added cost estimates to all activity/outcome combinations. Each stakeholder then selected choices for each activity to create a Program suggestion. The PDO received 30 submissions, including one from each MC member, with each MC member's "ideal" submission prioritized. The PDO also submitted a selection combining all of its staff input in the overall Program suggestion. The total suggested Program costs ranged from \$5.5M to \$14.2M (there was also a submittal of \$3.9M, which was one stakeholder's interpretation of actions needed to provide Section 7 compliance, but that would not likely achieve the agreed upon goal of species recovery). Leslie James asked if the PDO could give a cost range for the 10 MC member ideal selections. Julie Stahli presented the results from the MC ideal submissions by Program element (see attached PDF). Patrick asked about the final selection column. The "final selection" column was selected by first using the MC majority selection (if available); to break MC disagreement, input from other stakeholders and the PDO was used. The selections are coded by the criteria used to make an overall recommendation, with the darkest green indicating the highest level of agreement among MC members. The light green is the first time that any non-MC input was used. Leslie asked if all MC members included multiple selections (i.e. an ideal and a reduced cost scenario). They did not. **The combined input from the spreadsheet MC members resulted in a projected Post 2023 Program cost of ~\$9.7M.** This combined selection was created by selecting a level of action based on the responses received primarily from the MC and supported by others as described above. A statistical average of the MC "ideal"

submissions is \$10.1M with a range of \$5.5M to \$14.2M. The MC did not agree on the \$9.7M value as a collective goal or recommendation. Lain asked if the MC was going to go through this process again with other scenarios. Julie said that this conversation could go where the committee thought would be most useful. Ryan asked about the cost decrease scenarios. This scenario was common enough from stakeholders that Julie summarized them as a separate group. Leslie requested to see the cost range for that group.). That group's cost range was from \$3.9M to \$10.9M with an average of \$8.5M. Julie explained that the purpose of the summary selections and color coding was to provide a starting point for today's discussion and to demonstrate areas of agreement versus areas of disagreement.

- b. The MC members shared their general thoughts and process for creating their submissions.
  - i. CREDA solicited input from consultants and some members, asking for input on the areas in which the respondents were familiar and/or had subject matter expertise. Their submissions were based on thoughts about an ideal program first, not focusing specifically on cost until the spreadsheet with compiled in total.
  - ii. Water Users selected activity levels with the primary purpose of focusing on recovering the species regardless of cost. They believe this activity allows us to set priorities based on how much funding is received. Tom Pitts believes the funding equation will be decided in separate discussions, and determining a lower cost solution might not be helpful at this point until we know the results of those conversations. An important part of that discussion is the difference in funding mechanisms for the Upper Colorado and San Juan Programs. Patrick asked the process for determining the funding amounts. Tom described the process for the original 1987 Blue Book agreements, and pointed out some different conditions that exist now compared to that time (such as the condition of the Colorado River Basin Fund). Patrick said that whatever goes into the Report to Congress needs to be formed from consensus among this group. Tom reiterated that our decisions need to come from a focus on the goal of recovery.
  - iii. Colorado approached the spreadsheet based on ideal recovery and not cost using input from CPW, DNR, and the AG's office. Jojo expressed discomfort with making selections under the jurisdiction of other states; Colorado solicited input with other stakeholders in those states when making selections. Jojo expressed agreement with Tom Pitts on using the table as a prioritization exercise. She also explained that they were looking at Colorado's "fair share" of the Program, using both what has been done in the past and what the revenue sources have been for those activities.
  - iv. Ryan explained Reclamation's decision-making. They looked at the recovery value of activities with costs being considered. He felt they were

a bit on the lower cost end of the range. Dave explained they were looking at the objective of recovery with a cost effectiveness filter. Ryan said monitoring may have fallen to lower activity levels because of this lens. Dave explained monitoring does not explicitly recover the fish, but does provide analysis of effectiveness. He also said there are constantly new ways of conducting monitoring that are evolving and we should review those as they become available.

- v. Melissa said NPS recognized that activities not selected here likely won't happen in the future. She reminded the committee that some species are not moving closer to recovery, so what we are doing now may not be enough. She noticed that a lot of Level 2 activities were studying a problem and Level 3 was implementation. In her mind it did not make sense to study an activity without implementing it, so she generally selected the implementation option.
- vi. WAPA submitted a minimal version that was focused on their interpretation of what could ensure Section 7 compliance, then a second version that further supports recovery. WAPA found completing this exercise was difficult without revised Recovery Plans and continues to ask for these revised plans. They request a clear communication of the Service's vision for recovery, so there is a clear endpoint. WAPA worries that costs are underestimated, especially for nonnative fish management. WAPA believes that some of the experiments conducted under the Program do not comprehensively evaluate possible costs and impacts to resources, and mitigation for those costs/impacts. They request clearer processes for evaluating research projects in the future. WAPA would like to see a clear commitment for a timeline and process for finalizing the Recovery Plans in the Report to Congress.
- vii. Patrick explained TNC and Western Resource Advocates' combined selections. They decided to choose an "all in" option, generally selecting Level 3 activities that should contribute to recovery without considering costs, political feasibility, or compliance with RODs, etc. Then they did another selection looking at feasibility with a priority on NNF and less emphasis on monitoring. He also explained the assumptions going into the activity options and their selections, as well as constraints on infrastructure and interstate agreements, DCP, etc.
- viii. Wyoming's submission was a long-term vision that included a transition into 'maintenance' program after continued progress along the vein of the current Program. Steve is unsure how long it takes to get to that stage, but sees the 'maintenance' Program looking different than what it does now, with less propagation, less nonnative management, more outreach. Melissa asked about some of Wyoming's comments about capital costs, and Steve explained that, too, would be more maintenance and less additional construction.

- ix. Utah's submission was coordinated across many offices and focused on targeting recovery with a management reliant species. The goal was for the fish to complete their life cycle in the wild, but recognizing some continued management will be needed. Paul Badame did not look at this from a financial perspective, but was biologically / recovery driven; asking "what does the Program look like in 2023 to achieve recovery."
- x. Melissa asked what the committee's thoughts were on the timeline being considered for these activities beyond 2023, such as 10, 20, or more years. Steve said we needed to define that timeline in the Report to Congress. Tom Chart said that would be required for any new cooperative agreement as well. He also said the concept of management reliant species should be identified in the report. Tom Pitts said it's important to consider the timeframe using the existing Recovery Goals. Another factor for the timeline is the cooperative agreement timeline and authorizing legislation. We must remember the benefits of the Program - the compliance for water projects and the status of fish is improved. Marj explained that recovery criteria are a vision of what the species will look like when it doesn't meet the definition of T or E. However, when the FWS makes that decision, it does not have to meet all recovery criteria, but rather it does not meet the definition of T or E. The three recently released 5-year reviews provide a lot of information on the Service's perception of species status and the topics that are leading that decision. In the future, the Service will continue to provide 5-year reviews as benchmarks for species status. Statutory requirements of the recovery plan include time and cost estimates, which is what is being discussed here today. Implementation is now considered outside of a recovery plan, because it is not statutorily required. Shane explained his view of potential recovery criteria for a species, and different strategies such as quicker, more intensive actions versus longer term less intensive activities. Tom Pitts asked Marj about Recovery Goals and their specific measures and whether the ESA definitions supersede those measurable criteria. Marj explained that the goals project what we think a species would look like when it no longer meets the definition of T or E, but they are not legally binding. Kevin gave an example of the HBC downlisting proposal and how that proposal explains that the species does not meet specific, current goals yet does not meet the definition of endangered. Marj said that if FWS explains the decision despite any discrepancy with the recovery plan; prior court decisions have backed this process. Kevin explained that the condition for humpback chub was described in the SSA and the 5-year review and the Service defined a foreseeable future for that species. Chris Keleher described that the management reliance is an important consideration here and what the Service expects as commitments to maintaining the species to remain recovered. Marj said FWS looks to actions being undertaken and their track record of success and implementation. Tom Pitts asked if we had conservation agreements in place, flow agreements, and partner

contributions, would those be the necessary components to ensure ongoing confidence in continuing to maintain progress.

- c. Julie Stahl reviewed the cost summary of the submissions, including breakdowns of costs by recovery element. She then reviewed general concepts that were evident in each recovery element. *The MC refrained from voting on changing any of the selections in the table, therefore no changes were officially made to the table. Continuing discussions will be had to identify particular options for implementation.*
  - i. Instream Flow - Julie summarized general trends in flow protection for the Yampa, White and San Rafael Rivers, with less agreement towards the Duchesne, Price, Dolores, and Gunnison. Don Anderson said it will be imperative to adaptively manage the flow needs for the basin in the future, because needs may change in river reaches or basins. Jojo La asked to review the operation of Flaming Gorge Dam and the group reassigned the level to not use the spillway for fish releases. Patrick asked if choosing Level 2 would preclude seeking to implement Level 3 activities in the future if additional science leads us in that direction. Several committee members agreed this selection process would not constrain future activities.
  - ii. Habitat - Julie noted less agreement on the level of actions in this element. Recommended capital expenditures were included, but without known cost levels for locations such as Green River Canal and Grand Valley Water Users. Maybell, Myton, and Hartland had less consensus. Contaminants were elevated in importance. Tildon described the importance of having a diverse portfolio of nursery habitats for these species, so the habitats are available in a variety of hydrologic conditions. Shane asked how managed wetlands contribute to recovery, specifically is human management of these wetlands appropriate post-delisting or is a more natural situation going to be required. Tom Pitts offered that he did not see a distinction between floodplain habitat management and flow management, nonnative fish control, management of fish passages / screens - all of which in his mind will likely be necessary to maintain recovered species. Tildon described that habitat management is primarily required because of nonnative fish, so if we can solve the nonnative fish issues, we could reduce the management of wetlands. Tom Chart said that he thinks managing these wetlands is going to be a long-term action, but could be at a less intensive effort than we do now. Dave Speas said he thinks we should use a large amount of resources towards wetland management because USBR is releasing water to support it and it supports the downlisting of razorback sucker.
  - iii. Nonnative Fish - Julie summarized that she observed agreement towards a high level of action for the three most concerning species, interest in researching novel solutions like genetic control, and a capital solution to walleye coming from Lake Powell. Once capital costs were considered on

potential capital solutions for Lake Powell, support decreased substantially. There was also broad agreement on updating policy, such as stocking procedures, angler involvement, and management policies. Kevin said the technical team often found that we do not currently have level 3 tools available to confidently move toward recovery. He also pointed out if we had better tools, our annual costs might go down, but finding those tools could be expensive and may not result in a successful implementation. He described differing strategies of putting a lot of resources into a quicker short term solution versus more incremental long term management. Patrick asked if the novel solutions were described in the table or have yet to be identified. Kevin said we do have some ideas of scientifically based theoretical actions which are listed in the table, but do not know what the feasibility of those might be. It may require partnering with a group of entities on a larger, national scale. Chris Keleher supported looking for those solutions. Dave Speas agreed and said the current approach is not sustainable. Kevin mentioned the Research line in the Post 2023 selection tool and the intent behind that. Leslie asked if there are ways to partner with other entities to support these kinds of activities, so that the research might take place without direct funding from the Program. Kevin described some of the avenues we have tried to explore in that direction. Harry mentioned the WAFWA funding for a three year consortium that is currently underway to investigate YY male technology for several species of concern.

- iv. Propagation - Consensus was shown in the selections for more frequent assessment of stocking plans, but less agreement around genetic management plans. Maintaining razorback sucker stocking and increasing bonytail and pikeminnow stocking, mostly centered around making stocking more effective, not necessarily stocking more fish. There was less agreement around humpback chub translocation. There was support for broodstock management at Upper Basin hatcheries. Cheyenne elaborated that there was agreement that we are not likely to build another hatchery but there is a high likelihood we may be raising all 4 species within existing facilities. The question was whether we would hold them as refuge populations or for production. There was also discussion about the need for redundancy. Tom Pitts recommended updating the genetic management plan for the Program. Melissa expressed surprise about the disagreement in repatriating humpback chub to the Yampa, especially in light of downlisting and the SSA indicating this might be needed for recovery. Julie thought the divergence might be the result of prioritization and not an expression of the validity of this concept. Dave also thought humpback chub in the Yampa were identified as needs in the recent status review and SSA. Dave suggested a strong revision of bonytail production and stocking plan to attempt to increase the success of the bonytail propagation program. Shane said he supported the Yampa HBC reintroduction activity but disagreed with the methodology identified in this exercise to get there. Cheyenne explained that recent humpback chub

genetic analyses was the basis for how the technical group got to this methodology. Jojo said we need to address NNF in the reach before we consider reestablishing the population. Jojo said that activity level priorities could change as conditions change from future actions. Dave thought we were getting into specifics because BC technical input was limited. Julie reiterated that the goal was to establish the scope of activities, rather than the specifics.

- v. Monitoring - Broad support to continue monitoring, but levels differed. Prioritizations in monitoring often depended on the status of the species. Recommendations to continue community monitoring, maintaining PIT arrays and data storage, and flow recommendation assessments. This element is quite expensive and the PDO did agree to seek mechanisms to determine efficiencies. Tom Chart recognized the momentum of the monitoring data sets that we have in place, and the current level of investment. Monitoring humpback chub in a different way that reduces harm may be effective. Suggestions have been made to monitor for population trajectory, and moving away from mark/recapture, but the technical team did not support that until we get to recovery. Tom Pitts suggested that we need to reduce the portion of the Program that is spent on this element, such as less frequent efforts, more passive monitoring, etc. Ray Tenney mentioned that post-delisting monitoring is an important consideration, and that monitoring seemed to be an expensive part of the Program but wasn't sure what exactly it informed. Tom Chart explained that the philosophy with the technical group was building on the current dataset, rather than looking to reduce the extent of this element, mentioning the long term datasets and ability to link management (e.g., flow management) to population response. Ray asked if the states would be responsible for monitoring these species in the long term. Tom said that would need to be determined.
- vi. Research - there was broad support for a research fund. On the ground actions have, over time, gradually taken the funds away from research within the Program. Patrick asked if these funds could be used to leverage even more investment, and at what level. The group noted matching funds/grants were an important concept to consider in how these funds would be used.
- vii. I&E - support was expressed for continued engagement in the community and publications. Wider distribution of recommended level selections in media and educationally targeted outreach. Melanie stated that a quantification of outreach success is requested. That kind of effort would likely need to be done with additional support and personnel. Tom Pitts felt the benefits of increased outreach would not likely be measured through a return on investment analysis. Steve said we need to expand I&E. Patrick agreed.

- d. Capital project cost projections - Julie reviewed the capital projects cost estimates selections, using the same color coding scheme as the activities tables. Ryan went through the cost estimates of individual projects, recognizing the caveat that these are very rough estimates of projects without a lot of specific information on which to base them. Ryan requested that any stakeholder that has more specific information on an individual project (size, scope, etc.) provide that to USBR in order to better inform the cost estimates. Julie explained to the committee that this list was to help inform whether a capital budget is desired or needed and the general order of magnitude that would encompass. She asked the committee for input on how we consider capital funding in the report to Congress and any future program. Tom Pitts recommended we look at what is reasonably foreseeable and needed for recovery. Steve said it needed to be a specific list of construction projects and not be open-ended. Julie Stahli asked the group what kind of capital budget they foresee needing Post 2023. Patrick suggested that it should be a priority list of essential activities, using a cost-benefit analysis. > Patrick asked the PDO sort the list of capital projects into Tiers 0,1,2, and 3 based on their value towards recovery so the MC can truly evaluate this list. Also recommended was more detail as to what the projects would be. >The PDO's review is due one-week before the 9/30 meeting. *That review is currently attached in the updated excel sheet.*
- e. Contributions to the Program from all partners - Tom Pitts reviewed the table he emailed on 8/30. When we originally negotiated the Program, the States agreed to a certain level of funding, in addition to hydropower revenues. The estimates of costs from earlier today were for annual funding and exceed the current level of funding. Hydropower revenues are less certain because of declining basin fund. How do we increase contributions with a declining basin fund? Capital fund contributions have totaled \$122 M (\$92M appropriated, \$17M power customers, \$17M total from 3 states). The purpose here is to provide historical context as we discuss future needs. Jojo asked how state capital contributions were determined. Those were proportional to Compact water allocations between the three states. Tom Chart shared a summary of partner contributions that are outside of the annual and capital costs. Patrick asked what constituted the water users' contributions. Tom explained the bulk of those contributions are from contracting water between east and west-slope water users, specifically Ruedi Reservoir releases. Patrick asked whether the depletion fees from Section 7 consultations would continue post-Program. Tom Pitts explained those fees are one-time fees that have already been paid for projects implemented after 1988 and therefore the fees that have already been collected and not yet expended will be available as the Program persists. In addition, any new water development projects occurring in the upper basin would be required to pay depletion fees.

#### 11. Outline next steps -

- a. MC/CC meeting on Sept 30 and Oct 1. Tom Pitts reviewed a proposed agenda for this meeting, including discussing Report to Congress content, annual activities, capital costs, pre- and post-recovery actions, funding arrangement, institutional

arrangements, and next steps. Patrick requested that partners who have been contributing to the Program come to the meeting prepared with estimates of those contributions, and what they think Congress might be willing to approve. Steve Wolff said he could not do that for Wyoming without extensive review. Steve and Tom Pitts suggested we develop numbers with justifications to take back to respective stakeholders. Jojo asked if we should include partners who have not been contributing to date. Patrick agreed it would take contributions from a broad set of stakeholders. Shane explained that the Basin Fund is not necessarily declining but non-reimbursable funding for the environmental programs is declining because facilities have been paid off. Funding for the environmental programs is from dollars due to Treasury for repayment of initial capital costs and interest of the CRSP Project. Rather than return funds to Treasury, Congress authorized that WAPA's repayment dollars could be sent to Reclamation to pay for environmental programs. This simplified the funding for the environmental programs. However, as WAPA pays off facilities, they can no longer charge customers for that repayment and those associated dollars are no longer available. The cost of environmental programs is not directly a part of the rate. Patrick asked if there needs to be a new funding model authorized for the Programs in order to account for these new realities. Steve Wolff offered that this would likely require federal authorization. Shane said alternatively, there is a smaller funding number that could be sustainable in the long-term; WAPA will be able to speak to this more specifically at the MC/CC meeting.

12. Suggested Implementation Committee agenda topics – Julie outlined the agenda and timeline for the next set of meetings. She suggested we wait until the discussions take place and then present those to the IC. Tom Chart suggested sharing with the IC what discussed through today, without the capital expenditure part (which needs more information). >Steve Wolff asked that the PDO put together the draft agenda for committee review. >Tom Pitts suggested adding an item to discuss the funding legislation and the potential for a continuing resolution.
13. Schedule next meeting - Julie asked if should schedule a December webinar (approx. 3 hours) to handle MC business outside of post-2023 discussions. The webinar will be Dec 18th from 9-noon. Tom Chart clarified that it will be necessary to handle follow up post-2023 discussions in smaller groups.

**ADJOURNED: 3:30 PM MT**