



# Upper Colorado River Endangered Fish Recovery Program

Dated: June 8, 2017

## March 27, 2017, Management Committee Meeting Draft Summary Utah Department of Natural Resources, Salt Lake City, Utah

### CONVENE: 9:00 a.m.

1. Action item: Approve February 13, 2017 draft meeting summary – The draft summary was posted to the fws-coloriver listserver by Angela Kantola on February 27, 2017. Leslie James and Tom Pitts provided revisions. A revised draft summary was sent to the Committee with this agenda which the Committee approved; Angela Kantola will post it to the listserver (*done*).
2. Washington D.C. briefing trip and proposal to reauthorize Program annual funding - Henry Maddux said they had 12 participants from both programs on the trip and thanked everyone for their efforts. Neither House appropriation subcommittees could meet with the group this year, but were left information packets. The group did meet with the Senate appropriation subcommittees. Henry said the meetings went well. Interior's budget from the President has ~11.7% cut; those numbers may change, but some decrease is likely. A more detailed President's budget is anticipated in mid-May. It's been recommended that Congressional members mention the Programs' 2018 budget request, so the non-Federal Program participants will be following up on that. The trip participants discussed with their delegations the need to extend funding authorization to 2023. Folks at Interior recommended that Program participants move forward with legislation to extend funding authorization. OMB asked for additional budget detail, and Henry is working with Angela on that. Overall, the trip went really well. Henry recommended dropping the last Friday morning next year if all of the meetings can be scheduled Tuesday through Thursday. Steve Wolff commented that the conversations were overall very positive. Henry added that they had a good conversation with the Service about downlisting. Tom Pitts said he wasn't too concerned about the meetings with the appropriations subcommittees that got canceled. He recommends scheduling a conference call with those folks in late May or early June once those subcommittees began talking about the FY18 budget. Steve added that there could be opportunities to meet with folks later in the year once more Interior appointments are made. Tom Pitts said the meeting with the Water, Power and Oceans Subcommittee staff went well; they had questions about when we'll downlist and delist; to which the group responded they believe we're on a path to downlist some of the species within two or three years. The group said it was unlikely the species would be delisted by 2023 and ongoing conservation activities and funding would be required to achieve delisting. The group explained to Subcommittee staff that even if delisting is achieved, the actions that led to delisting must be maintained. This will include operation and maintenance of fish passages and fish screens, provision of flows, monitoring for 5 years per the ESA, and perhaps nonnative fish removal/control. Subcommittee staff commented that the recovery programs need to show progress by downlisting species. Staffers for other members of the delegations made the same comment. Subcommittee staff was generally favorable to linking the dates for authorization of hydropower revenues with the dates for capital funding and the expiration of the cooperative agreements. Generally, they got positive feedback regarding the Programs' request for FY18 funding and extending the funding authorization from delegation staffers. Senator Gardner's staff will be asked to take the lead for the legislation in the Senate and the group will ask Representative Lamborn to take the lead in the House. Tom emphasized the continuing importance of these briefing trips; Henry agreed. Water, Power, and Oceans staff have asked for documentation of the 3% transfer fee on funds transferred from Reclamation and the 15% Program management cap. >Tom and Henry will work on a trip report. Leslie James said they were hearing that infrastructure would consume their time for the foreseeable future. She was surprised to hear

Interior and others recommended moving forward with the legislation prior to leadership positions being filled. Leslie will brief her board later this week. Henry commented that they had very good dialogue and questions from the delegation this year. Henry summarized that the meetings really went well overall. Tom Chart thanked everyone who participated in the meetings.

3. Recovery planning update – Tom Czapla provided an update on Colorado pikeminnow population viability analysis, humpback chub species status assessment (SSA), and razorback sucker SSA.

- Revised PVA - The Colorado pikeminnow PVA has been proceeding slowly, but Phil will have management scenarios for all three sub-basins investigated within the PVA model shortly and another webinar is scheduled for April 6 (after which a timeline for Management Committee review should be available). Tom Czapla thinks we'll have a document from Phil for the committees to review sometime this spring. The PVA will support development of an SSA (to be drafted by the Program Director's office).
- The humpback chub SSA should go to the science advisory and implementation teams shortly (peer review will follow thereafter). Tom Pitts asked to see how his comments were addressed before it goes out for peer review. Tom Chart said the viability analysis portion of the SSA will be new for all reviewers. Shane Capron recommended that the science advisory subgroup meet soon to discuss the viability analyses. The Management Committee recommended scheduling the next humpback chub meeting now; Shane and Melissa recommended having a science team webinar before the full team meets in person. >Tom Czapla will send out a Doodle polls for both.
- The razorback sucker SSA is in draft and Tom Czapla said they're working to address Tom Pitts' comments. Tom Czapla will send out a list of peer reviewers for both humpback chub and razorback sucker SSAs. Done: For razorback sucker, five peer reviewer recommendations have been made, but these persons have not yet been formally asked to serve. Reviewers for humpback chub are:
  - Craig Paukert, Leader and Associate Professor, USGS Missouri Cooperative Fish and Wildlife Research Unit: Coop leader for Univ. of MO fisheries. Worked on end. Fish in Grand Canyon
  - Brian Healy, NPS: Fisheries biologist program leader for Grand Canyon NP; involved in reintroduction of razorback sucker in Lower Colorado; widely regarded as objective, thorough, and thoughtful.
  - Paul Badame, UDWR: Extensive biological and programmatic experience with several upper basin RBS and HBC populations.
- Tom Czapla said they plan to have all three documents finalized by the end of this calendar year, with the humpback chub SSA as the highest priority.

4. Other updates

a. Nonnative fish screening - See also Attachment 2. Tom Pitts thanked Kevin for the summary in Attachment 2.

- The Elkhead net is complete. Elkhead is expected to begin spilling today (March 27).
- Starvation - Installation of a permanent screen is planned for fall 2017. Krissy Wilson said they received comments regarding moving the screen downstream and are working to quickly address those. Meanwhile, Krissy is working to transfer \$100K currently available in their budget for this project. The total screen cost is anticipated to be ~\$400K.
- Red Fleet screen design was approved by the Biology Committee earlier this month. Construction is expected in 2018.
- Ridgway net is in the planning stage with hopes for 2019 installation.
- Program folks will meet with Catamount Metro Board in August to begin initial stakeholder conversations about a net at Lake Catamount, hopefully in year 2020.

b. Capital projects

- Update on negotiations with Green River Canal Company for fish screen structure (see Assignment 5). Brent said Bob Norman, Henry Maddux, Tom Chart, and Kevin McAbee met with the Green River Canal Company board on March 6th. GRCC has agreed to allow installation of the fish screen structure without inclusion of replacement of the 8-gate structure or canal siphon. The Program offered to install the cofferdam for the fish screen upstream of the 8-gate structure to allow the GRCC to work on the 8-gate structure without installing their own cofferdam (providing some substantial cost savings to GRCC). The Program will just be funding the fish screen portion. Under the current timeline, Brent anticipates they'll be constructing the facility in FY18.
- OMID regulating reservoir will be completed this month and should be operational by June 1.
- Floodplains - Brent recommends the Program needs to carefully review the best options for emulating the success at Stewart. Tom Chart said the Speas et al White Paper did a nice job of focusing on our best options from a biological perspective, but what we need now is the input from an engineering perspective. Brent agreed, and mentioned that Reclamation engineers have a site visit to Above Brennan and the Stirrup (BLM sites) planned for later this week. Brent said they also discussed the Matheson wetland last week. Concerns to be reviewed at Matheson include ability to drain and connect, likelihood of entraining larvae, etc., but Brent was encouraged by local support for the project.
- Grand Valley Power Plant - Reclamation is working on the agreement to transfer the Recovery Program's contribution of capital funds to GVVUA and OMID, which should be completed this fiscal year.

c. Proposal: Additional Cost Sharing of Maybell Canal Improvements to Protect Elkhead Releases for Endangered Fish - Tom Pitts recalled this project to install measurement and communications devices and an automated gate was approved last year with \$62.7K from our Section 7 funds (about  $\sim\frac{1}{3}$  of the total cost). Part of this project involves a communications link to operate the automated gate. Maybell had planned to use a radio link for this purpose, but has discovered that won't work and they need a satellite dish at an additional cost of \$7,800. CRWCD will pay \$3,900 and the water users are asking the Program provide the remaining cost up to \$3,900 (which may drop to \$2,600 if the Yampa/White Roundtable provides additional cost sharing). They hope to install the equipment this spring. The Maybell Irrigation District will pay all O&M going forward. The Management Committee approved the additional cost of up to \$3,900.

d. Flaming Gorge flow request letter and the Green River Evaluation and Assessment Team (GREAT) review of Muth et al. 2000 - Tom Chart said the Recovery program has been sending spring flow request letters to Reclamation since completion of the ROD. Last year a request for experimental base flows in a preferred range was added to our request for larval triggered spring releases. Additionally, last year our letter included a discussion of the importance of future (TBD) experimental spike flows to disrupt smallmouth bass spawning in early summer. This year's letter will be similar. Melissa said NPS has some concern about elevated base flows (which might contribute to channel narrowing), but those can be discussed through the work of the GREAT team. Shane said they would prefer that the letter refer to "experimental base flows" rather than "experimentally elevated base flows." Tom Chart will check on that (*done*). Tom said they will quickly revise the draft letter and seek Management Committee input and approval via email. Steve said we'll need to have a good understanding of how the GREAT's proposed revisions to the Green River flow recommendation could affect operating tiers in Lake Powell. Tom Chart said that Reclamation's modelers were working closely with the GREAT to understand the implications of the proposed revisions to the Green River flow recommendations. The results of that modeling could be used to investigate the issue Steve raised. Leslie James also

would like to see included in the GREAT's report an analysis of the economic effects to hydropower from the proposed changes in releases. Shane agreed and suggested that as the GREAT proposal comes forward to the Management Committee, it would be helpful to have some idea of the costs/benefits.

5. Action item: Review and approve draft revised RIPRAP, RIPRAP assessment and draft FY 18-19 Program Guidance – The Committee discussed documents posted to the listserver on February 7 and 23, and subsequently revised by the technical committees and then sent to the Management Committee in March.
  - a. Draft revised RIPRAP tables and draft RIPRAP assessment (Excel spreadsheet)
    - Added for this year's review was a column describing "Post Program Activities" which describes actions that would need to be conducted in the future.
    - >PDO will make sure to address Bart Miller's comments regarding long-term flow protection and have clear and consistent references to "post-Program" rather than "post-delisting" where appropriate.
    - Shane recommended adding an item to evaluate the need to potentially translocate humpback chub to the Yampa River. Shane referenced the success in the Grand Canyon and said it will be important to show we can recover a population in the upper basin. Henry noted the Yampa never had a lot of humpback chub and wondered if this would include an evaluation of whether the Yampa can support a population. Henry asked if the action item might be to prepare a white paper making a recommendation. Tom Chart agreed with Henry with respect to habitat limitation in the Yampa River where base flows drop to much lower levels than for any of our other Upper Basin populations. Tom also expressed a general concern about stocking on top of self-sustaining populations because it confuses natural reproduction, but he thinks that the sedentary nature of this species and the distance to nearest neighbor population should be considered. Shane reiterated that showing ability to recover a population would be an important step in getting to de-listing. Melissa suggested starting with "evaluating the need to translocate fish..." Shane recommended "evaluate potential success for translocating fish..." Melissa indicated that translocations were very successful in the Grand Canyon. Tom Chart recommended putting development of a white paper in Program Guidance rather than revising the RIPRAP this year. The Committee agreed. >Shane, Melissa, and Tom Czapla will take the lead, with participation from Harry Crockett and Paul Badame.
    - Melissa asked if there will be an overarching group for long-term flow protection in addition to the more reach/basin specific groups. Don Anderson and Tom Chart responded that work of an overarching group would largely be complete with the basinwide matrix that Jana, Tom Pitts, and the environmental groups had developed. Moving forward, drainage-based work groups will take over (e.g. GRUWAT, White River group, and likely a 15-Mile Reach Group). Brent and Melissa agreed because they believe the specific participants / approach / solution could vary by subbasin. Tom Chart suggested that our existing committee structure (Water Acquisition and Management committees) would allow for communication between individual subbasin efforts.
    - Draft revised RIPRAP text (Word document) No additional changes. The Committee approved RIPRAP with the aforementioned changes; >Angela Kantola will finalize.
  - b. Draft FY 18-19 Program Guidance (brief Word document and an Excel spreadsheet)
    - The PDO will add an item to develop a white paper on evaluating potential success for translocating or stocking humpback chub into Yampa Canyon. *Done.*
    - The Service does not yet know if FY18 Service funding (from Ecological Services and Fisheries) may be reduced in light of current budget discussions. Henry noted it may come down to USFWS internal funding priorities.
    - Henry asked about requiring presentations at the annual Researcher's Meeting, if requested, and recommended adding language to Program Guidance saying "If requested by the PDO, PIs will make a presentation at the annual Researchers Meeting." The PDO will add this to Program

Guidance. *Done.* The 2018 Researcher’s meeting is scheduled for January 23-25, 2018, in Vernal, Utah.

- The PDO will include in the Program Guidance budget table a line item for Tusher Wash O&M costs (partial in FY18 and full-year in FY-19 and following) and note that those costs are not yet known. *Done.*

The Committee approved the RIPRAP and Program Guidance with the changes indicated above; >Angela Kantola will make these changes and finalize the documents (*Program Guidance posted to listserver April 4, 2017; RIPRAP pending*).

6. Review of sufficient progress action items – *See Attachment 3.* Brent Uilenberg asked if gizzard shad have shown up in collections downstream of Highline Lake or in the irrigation canals. >Kevin will ask the field crews about this.
7. Implementation Committee follow-up - Tom Chart thanked the Program coordinators for their presentations during the webinar. The Committee had considerable discussion about the recovery planning/SSA/PVA process. Under the new recovery planning process, the 5-year review can result from the SSA process (does *not* require 5 years). Tom Chart provided the Committee a graphic from the razorback sucker SSA scope of work to help show how the process works. Marj explained that SSAs are a tool to review the science on a species in one document that can then support multiple Service documents (listings, reviews, recovery plans, etc.). The new recovery planning process is intended to make the process more efficient and flexible. Tom Chart said we’re trying to follow this new process/format with our SSAs and recovery plans. The new process also provides more explicit flexibility regarding recovery teams’ focus.
8. FY18 Program partner contributions – Angela Kantola very briefly reviewed the annual budget and depletion charge adjustments shown in Attachment 4.
9. Updated consultation list – Angela Kantola noted the consultation list has been updated through December 31, 2016.

Upper Colorado River Endangered Fish Recovery Program Summary of Section 7 Consultations by State 1/1988 through 12/31/2016				
		HISTORICAL DEPLETIONS	NEW DEPLETIONS	TOTALS
State	Number of Projects	Acre-Feet/Yr	Acre-Feet/Yr	Acre-Feet/Yr
Colorado <sup>1,2</sup>	1224	1,915,682	207,195	2,122,877
Utah	250	517,898	97,622	615,520
Wyoming <sup>2</sup>	410	83,498	36,013	119,511
Regional <sup>3,4</sup>	238	(Regional)	(Regional)	
<b>TOTALS</b>	<b>2,122</b>	<b>2,517,078</b>	<b>340,830</b>	<b>2,857,908</b>

10. Review previous meeting assignments – *See Attachment 1.*
11. Ruedi lease - Michelle Garrison said CWCB just approved extension of this lease through April 2018.
12. Action item: Schedule next meeting, webinar, or conference call – To follow up on SSAs, funding legislation, and FY18 budgets, the Committee scheduled a webinar on Monday, June 19, from 10:00 a.m.

to noon. The Committee will schedule their next in-person meeting for August 15-16 beginning at 12:30 p.m. and running through noon on the 16th. Dave Speas reserved Reclamation's conference room.

**ADJOURN: 1:30 p.m.**

Attachment 1: Attendees  
Colorado River Management Committee Meeting, March 27, 2017

Management Committee Voting Members:

Brent Uilenberg	Bureau of Reclamation
Michelle Garrison	State of Colorado
Tom Pitts	Upper Basin Water Users (via phone)
Steve Wolff	State of Wyoming
Marj Nelson	U.S. Fish and Wildlife Service
Melissa Trammell	National Park Service
Patrick McCarthy and Robert Wigington	The Nature Conservancy (via phone)
Shane Capron	Western Area Power Administration
Leslie James	Colorado River Energy Distributors Association
Henry Maddux	State of Utah

Nonvoting Member:

Tom Chart	Recovery Program Director, U.S. Fish and Wildlife Service
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Recovery Program Staff:

Tom Czapla	U.S. Fish and Wildlife Service
Kevin McAbee	U.S. Fish and Wildlife Service
Don Anderson	U.S. Fish and Wildlife Service
Angela Kantola	U.S. Fish and Wildlife Service

Others

Kathleen Callister	Bureau of Reclamation
Krissy Wilson	Utah Division of Wildlife Resources
Paul Badame	Utah Division of Wildlife Resources
Darin Bird	Utah Department of Natural Resources
Ed Warner	Bureau of Reclamation

Via phone

Dave Speas	Bureau of Reclamation
Harry Crockett	Colorado Parks and Wildlife

## Attachment 2 Meeting Assignments

1. **Tom Pitts** will work with **Clayton Palmer and Brent Uilenberg** and provide a list of additional Program contributions to be added to the Program's budget pie chart that appears in each year's briefing book. *In process.*
  - **Power revenues: Western** contracted with Argonne to model and report actual Flaming Gorge power replacement costs going back to 2001. Subsequently, **Western** will provide annual power replacement cost for the previous year each January for inclusion in the *Program Highlights* pie charts. Those pie charts will include a footnote explaining the calculation and assumptions. For the 2012 & 2013 *Program Highlights*, we used the \$37.4M annualized estimate of power revenues. *A Cost Subcommittee met several times via conference call to review the proposal for and results of the power replacement costs analysis. 1/29/14: Power revenue replacement costs "placeholder" from previous years retained until Argonne report finalized and approved (currently in revision). 5/27/15: Clayton Palmer said Argonne's work had been delayed by their involvement in the LTEMP EIS, but they recently had a conference call on completing work on power replacement costs and hope to have draft to share with the subcommittee soon. 7/21/15: Clayton has a conference call with Argonne next week and will provide an update for Angela to send to the Committee. 4/29/16: Shane Capron said Western expects something in July. 3/27/17: Shane said Western continues to work on this, but has had some staff changes delay the process somewhat.*
  - **San Juan: Tom Chart** will ask **Dave Campbell** to work with the SJCC to determine their additional costs not currently reported (e.g., Southern Ute expenditures on population model). Also, **Patrick McCarthy** will provide information on TNC's capital contributions in the San Juan Program (*done*).
  - **Water users/Colorado: Program participants** will identify other significant costs that have not previously reported (e.g., the Granby component of 10,825 which is estimated at \$16M, \$1.25M contributed by Colorado for GVWM and \$1.5M for OMID, CRWCD contributed property for OMID, etc.) (*Done*). *1/29/14: Water user and Colorado additional costs added and documented in Kantola's Briefing Book Pie Chart Data spreadsheet. 3/20: Tom Pitts said that a few adjustments on water user contributions will need to be made, but we seem to have the totals and process for updating pretty much squared away. Tom Pitts will work with the water users to develop an annual report on O&M and contract costs on the 10,825 water. >Angela Kantola will provide Tom Pitts a list of scopes of work needed to document water user contributions to the Program (as outlined in the water user contribution table that is part of the pie chart calculation). 7/18/15: Pending.*
2. **Tom Pitts** will work with **Henry Maddux, Marj Nelson, and Brent Uilenberg** to frame a discussion about what will recovery look like (post-delisting) as it relates to flows, ongoing operation & maintenance, continued monitoring, and responding to nonnative fish concerns. They will then bring it back to the Management Committee at a later date. *2/3/15: Henry Maddux said this may be part of comments on the Recovery Plan and become part of the recovery plans. 5/27/15: Tom Pitts suggested this will need to outline commitments necessary to maintain the Program's accomplishments. Tom Chart said perhaps this is something that can be outlined before next year's briefing trip. 7/21/15: Tom Chart thinks the discussion might be framed in a one-pager that folks could have if needed during next year's briefing trip. March 2016: Melanie Fischer created the ["Path to Recovery" document](#).*
3. **Michelle Garrison** and **Don Anderson** will add appropriate detail to the White River Management Plan scope of work for the in early November (*done*) and Colorado will issue an RFP (*in process*). **Michelle** will share the updated White River Management Plan SOW with the Management Committee when it goes out for bid and discuss who may want to be on the review panel. *9/2/16: Michelle will share the SOW from the*

roundtables, and also the SOWs for the remaining portions. 2/13/17: Michelle said they're working on the modeling contract SOW now and will provide that to the Committee this week (done and comments received and provided to Wilson Water). The remainder of the work will be covered in a separate SOW.

4. **The Management Committee** will review the reservoir screening table as a standing agenda item (perhaps on the Biology Committee's agendas, as well). Kevin McAbee will continue updating the table for the Committee (and will add Brent Uilenberg's capital cost estimates). *On this agenda.*
5. **Tom Pitts and Henry Maddux** will prepare a trip report on the March 2017 D.C. briefings.
6. **Tom Czapla** will create Doodle polls for the next humpback chub recovery team meeting now and a science team webinar that would precede that meeting.
7. RIPRAP & Program Guidance:

The **PDO** will address Bart's RIPRAP comments regarding long-term flow protection and be sure there are clear and consistent references to "post-Program" rather than "post-delisting" because these are actions to occur post-program, regardless of listing status.

**Shane Capron, Melissa Trammell, and Tom Czapla, with participation from Harry Crockett and Paul Badame**, will lead development on a white paper to evaluating potential success for translocating or stocking humpback chub into Yampa Canyon.

**Angela Kantola** will finalize the RIPRAP and Program Guidance. *Program Guidance posted to listserver 4/4/17; RIPRAP pending.*

## Attachment 2 Reservoir Screening Summary

Reservoirs likely needing screens	Reason for screen	Proposed screen type and location	Status	Proposed completion date	Total estimated cost	Program portion
<b>Elkhead Reservoir</b>	Contains <b>smallmouth bass</b> and <b>northern pike</b> populations; LMP includes largemouth bass, bluegill, and black crappie fishery; LMP finalized	Outlet screens (in place) & spillway net (in place);	Net & debris boom installed September 2016; New unlimited harvest regulations in place beginning April 1, 2016; Angler Tournament held June 2016.	<b>Completed September 2016</b>	Total Project cost \$1.37 million	\$837,000 from capital accounts ( <i>Brent can verify exact number</i> )
<b>Starvation Reservoir</b>	Contains <b>fertile walleye and smallmouth bass</b> populations; LMP completed;	Flat plate screen across stilling basin during spill (proposed);  Outlet not screened but not thought to be a problem	Modular rigid temporary screen in place. Operated in 2015 & 2016. Requires treating the stilling basin annually post spill (accomplished in 2014, 2015, & 2016); Temporary screen needs repair for 2017. UDWR will install permanent screen with same orientation as the temporary screen.	Permanent screen install scheduled- <b>Fall 2017</b> by Provo USBR	\$406,000	Estimated at \$300,000
<b>Red Fleet Reservoir</b>	LMP finalized and reservoir rotenoned in 2015; Reservoir stocked with hybrid bass ( <b>wipers</b> ), and <b>sterile walleye</b> which requires screening.	Downstream in-channel screen (similar to Rifle Creek screen).	50% engineering and draft alternatives document presented to BC on March 6th.	Engineering 2017; Permanent barrier planned <b>2018</b>	\$400,000	Estimated at \$250,000;  Program paid \$88,487.25 for rotenone project.

<b>Ridgway Reservoir</b>	Contains illegally introduced <b>smallmouth bass</b> population	In-reservoir net is leading candidate; Likely will match design criteria of Elkhead net; USBR to own net and fund through federal procurement	Working group meeting quarterly to discuss screening options; Tri-County WCD avoiding spills (avoided since 2014); Got within 4 feet of spillway in 2016; CPW held tournaments in 2015 (36% removal) and 2016 (24% removal);	<b>2019</b> goal	Brent has placeholder of \$2.3 million	Costs above \$500,000 - similar to Elkhead?
<b>Reservoirs likely needing screens</b>	<b>Reason for screen</b>	<b>Proposed screen type and location</b>	<b>Status</b>	<b>Proposed completion date</b>	<b>Total estimated cost</b>	<b>Program portion</b>
<b>Catamount Reservoir</b>	Contains <b>northern pike</b> population	spillway net and penstock screening (preliminary concepts)	CPW actively removing northern pike reducing size structure of the population; over 14,000 pike removed; Catamount Metro has FERC exemption for hydropower that requires screening of new facilities; CPW and Program will attend board meeting May 2017 to provide information on the Program, nonnative fish, and potential screening	goal of <b>2020?</b>	unknown	Brent has placeholder of \$500,000
<b>Stagecoach Reservoir</b>	Contains <b>northern pike and walleye</b> populations	likely not needed if Catamount screened	CPW will remove northern pike and walleye as part of ongoing projects; Upper Yampa WCD complying with FERC & BO requirement; CPW requesting UYWCD to do additional actions	Catamount net in <b>2020?</b>	n/a	n/a
<b>Chapman Reservoir</b>	Contains illegally introduced <b>northern pike</b> population	likely not needed if chemically treated	On CPW's chemical treatment schedule; need reservoir mapping for project planning	<b>2017?</b>		
<b>Crawford Reservoir</b>	Contains <b>walleye and northern pike</b> ; Failed attempted introduction of SMB.	unknown	CPW mechanically removes Northern pike; 68% removed in 2015; CPW proposed water management to limit pike, but water operations not able to match CPW requests;	unknown		

<b>Off-channel Ponds (Larson, Snyder, etc.)</b> (Primarily upstream of Grand Junction)	Contain <b>northern pike and smallmouth bass</b> populations	unknown	Filling in stream breaches is not an option for liability and cost reasons; CPW is actively netting (2015+); CPW and Program wish to discuss screening requirements with County Commissioners	unknown		Program paid \$15K for Merwin Trap in 126b SOW in 2016;
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**Total estimated Program commitments \$ 4,000,000 (approximate) (note half is unknown Ridgway net costs, thus total is somewhat uncertain.)**

<b>Reservoirs with existing screens or screens not needed</b>	<b>Reasoning for screen</b>	<b>Existing screen type and location</b>	<b>Status</b>	<b>Completion date</b>	<b>Total estimated cost</b>	<b>Program portion</b>
<b>Rifle Gap Reservoir</b>	Contains <b>smallmouth bass, walleye and northern pike</b> ; Stocked in 2016 with 98.9% triploid walleye, but no diploid removal;	Coanda screen in place downstream of outlet	Screen completed in 2013; Excluding small and large fish; no nonnative fish captured in creek below screen since installation;	<b>Completed in 2013</b>		\$0 (CPW purchased with Section 6 and other CPW funds)
<b>Harvey Gap Reservoir</b>	Contains <b>smallmouth bass and northern pike</b> and other species (tiger muskie, channel catfish, black crappie, trout, yellow perch, bluegill, and largemouth bass).	Likely no screen needed. Per CPW, drains to agriculture fields, not to the river. Escapement from draining is not expected.	Drawdown for dam inspection was postponed in 2016, but likely will happen in near future. Since it contains problematic NNF and will be drained anyway, should we investigate a treatment to eliminate it as a source for translocations or other risk?	Likely drawn down in <b>2017</b> ;		

<b>Highline Lake</b>	Compliance with stocking procedures. Contains largemouth bass, crappie, and trout; Gizzard recently established and need to be contained	Net across spillway	Net operational since 1999, replaced twice.	Installed in 1999; Replaced in 2006 and 2014	\$225,000 for first net; \$100,000 for second net; \$90,000 for third net;	\$415,000
<b>Miramonte Reservoir</b>	Contained illegally stocked <b>smallmouth bass</b> population	n/a	Reservoir treated in 2013 to remove smallmouth bass	Completed in 2013		\$25,000 for rotenone costs
<b>Paonia Reservoir</b>	Contained illegally stocked <b>northern pike</b> population	n/a	Reservoir treated in 2012 to remove northern pike	Completed in 2012		\$3,000 for rotenone costs
<b>Reservoirs with existing screens or screens not needed</b>	<b>Reasoning for screen</b>	<b>Existing screen type and location</b>	<b>Status</b>	<b>Completion date</b>	<b>Total estimated cost</b>	<b>Program portion</b>
<b>Juniata Reservoir</b>	Contains <b>smallmouth bass and walleye</b> populations	Coanda screen on outlet into irrigation ditch that connects to Kannah Creek	Screen function or extent of escapement by SMB or WLY unknown.			
<b>Rio Blanco Reservoir</b>	Contain <b>northern pike</b> population	Rotating drum screen on the inlet canal	A closed basin fishery that is topped off with White River water periodically but location is very close to the river, creating a risk of escapement from angler fish movement or river connection			
					Total past Program commitments \$ 443,000	

Reservoirs likely unable to be screened	Species of concern	Why screen not feasible	Notes
<b>McPhee Reservoir</b>	Contains <b>fertile walleye (illicit) and smallmouth bass</b> populations		McPhee “spills” using a low reservoir release that is unlikely to entrain fish; USBR only uses top spillway in emergencies; last used in 1993 and thus released SMB. CPW did not apply unlimited harvest for SMB because of lack of escapement;
<b>Lake Powell</b>	Contains <b>fertile walleye, striped bass, gizzard shad and smallmouth bass</b> populations	High levels of inflow (up to 70K cfs)	USGS & FWS investigating if Powell is source of riverine walleye using otolith microchemistry; Lake Powell LMP drafted; UDWR considering redear sunfish as quagga control and sport fish, but on hold for 5 years to determine bluegill (similar species) response to quagga.
<b>Flaming Gorge Reservoir</b>	Contains <b>smallmouth bass and burbot</b> populations		Burbot risk assessment in draft. Burbot life history may not place them at high risk of escapement. However, 3 burbot have been captured below Flaming Gorge in recent years; One in Green River near Jensen (farthest downstream capture)

### Attachment 3

#### Status of Action Items from the 2016 Sufficient Progress Letter

(Only items not being tracked elsewhere)

March 27, 2017

#	Recommended Action Items	Lead	Due Date	Status
<b>General – Upper Basin-wide</b>				
	Fully implement the comprehensive <i>Upper Colorado River Basin Nonnative and Invasive Aquatic Species Prevention and Control Strategy</i> and continue work with the States to implement the specific, tangible actions added to the RIPRAP in 2013.			Tracked in separate appendix table which Kevin McAbee reviewed for the Committee in March 2017.
1	Develop and implement a specific, prioritized plan for humpback chub broodstock development.	PDO/BC	In progress	Ad hoc group developing action plan; recent draft genetics report indicates historical hybridization (not anthropogenic) occurred between humpback and roundtail chub in Black Rocks. Authors identified two management units in the upper basin: Deso-Cataract and Black Rocks-West Water, but recommended both units be represented in a single Upper Basin broodstock. FWS continues to bring young humpback into the hatchery for backup broodstock. 18 Black Rocks humpback chub are held at Horsethief Canyon Native Fish Facility; 11 Desolation Canyon humpback chub are held at Ouray NFH. New genetic information may affect how we develop broodstock. Some additional analysis is underway on fish from Black Rocks.
2	Determine how to investigate age-0 and age-1 humpback chub mortality (especially in Black Rocks/Westwater and Desolation canyons). PI's agree that reinitiating an age-0 monitoring component is advisable and a pilot effort was begun in 2016.	USFWS	Ongoing	Baited hoop nets were deployed at Black Rocks in 2016 captured 87 adult, 10 juveniles HBC; 12 age-1+ and 85 age-0 <i>Gila</i> spp. UDWR researchers recommend an additional sampling pass in Westwater in 2017 to experiment with hoop nets instead of trammel nets, which may reduce handling stress.
<b>Green River</b>				
3	Continue government-to-government consultation with Northern Ute Tribe to renew Old Charlie Wash lease	USFWS	N/A	Service continues to negotiate with Tribe on lease renewal and options to resume sampling at Old Charlie. Sonja J. is working on a 3-year lease to give access to Old Charlie and Wyasket Lake and potentially allow nonnative fish management on the Duchesne River.
<b>Yampa River</b>				
4	Complete accounting of past depletions using the StateCU model (Due date from YPBO - 1st report July 1, 2010; 2nd report July 1, 2015). Report to include discussion of the need for flow protection (which would require a peak flow recommendation).	CWCB	2017?	The irrigated acreage assessment was completed (agricultural consumptive use does not appear to be increasing). Other depletions (M&E, transbasin exports, etc.) are still being estimated. Another contract was awarded to update the dataset. The models will be updated through at least 2012. Colorado has placed a high priority on the Yampa and Colorado river basins portion of this work, but work was delayed due to staff shortages. Wilson Water Group (WWG) has been contracted by CWCB to provide updated depletion accounting in the Yampa River after the Colorado River accounting is completed. Draft anticipated by end of May 2017.

Duchesne River				
5	The Service will continue to pursue government-to-government consultation with Northern Ute Tribe so that in-river removal of nonnative fish can be resumed in the Duchesne River	FWS/Northern Ute Tribe	N/A	Program is coordinating with the Ute Tribe to reinitiate collaborative fish community investigations / nonnative predator control in the Duchesne River. Tribe has indicated interest to conduct nonnative fish removal in 2017. Sonja is working on a 3-year lease (see #3 above).
White River				
6	Maintain White River management plan schedule.  Develop contract to convert Utah water rights to StateMod and on an RFP for the remaining work on the project.	CWCB/Contractor, USFWS  CWCB	2018	Detailed SOW & coordination activities developed by PDO, TNC, the States of Colorado and Utah, and White River Water users in 2016. White River Management Plan and a White River PBO currently scheduled for completion by summer 2018. PDO and the State of Utah continue to reach out to engage Ute Tribe as a partner in this process.
Colorado River				
7	Improve achievement of flow targets, especially in drought years.	Program	Ongoing	<p>The Program is working to improve the overall strategy for flow augmentation in the 15-Mile Reach to be considered each spring and adjusted as the year progresses, addressing all possible sources of water, priorities, antecedent conditions, projected flows and supplies, including OMID, Grand Valley Project, CFOPS, etc. In 2015,</p> <p>Ute Water Conservancy District proposed leasing up to 12,000 af of water to CWCB for an instream flow and CWCB leased 9,000 af of water that year and 12,000 af in 2016.</p> <p>The OMID Canal Automation Project is expected to provide about 17,000 af of water in most years. Check structures in the OMID project are complete (partial water savings became available in the 2014 irrigation season) and the reregulating reservoir is under construction. The project will be fully implemented in 2019 (regulating reservoir will be completed in 2017; however, the final completion of all OMID Canal Automation Project components likely deferred to 2019 as a result of the priority for Program's cost-share of \$1.5 million for Grand Valley Power Plant rehabilitation).</p>
8	CWCB to provide the depletion accounting report that was due July 1, 2010.	CWCB/Contractor	2017	<p>Still overdue; however, in 2016 Wilson Water Group (WWG) was contracted by CWCB to provide depletion accounting in the Colorado and then Yampa Rivers. Concern has been expressed about a change in the methodology used for crop consumption/evapotranspiration regarding initial vs. current depletions. PDO working with WWG to confirm depletions included in the historic accounting.</p> <p>Initial estimate of agricultural consumptive use (CU) was been completed and, at first glance, do not appear to be increasing: Average Annual Ag CU, AF, Colorado River 15-Mile Reach:  1975–1995 = 473,274  1996–2012 = 445,524  Other depletions (M&amp;E, transbasin exports, etc.) are still being estimated. The models will be updated through at least 2012. Colorado has prioritized the Yampa and Colorado river basins portion of this work. Draft anticipated by end of April 2017.  See also first item under Yampa River.</p>
9	Complete CFOPs report (evaluation	Water Users	2017	CFOPS Phase III draft report distributed April 2, 2014

	of options for providing and protecting additional peak flows to the 15-Mile Reach).			and comments received; the next draft will identify the Service's "fish pools" and which ones are subject to exchange (base to peak flows) (will require State Engineer legal review). The CFOPS report should be included in the 2015 review of the 15-Mile Reach PBO. Several parties have reviewed the latest draft and it is very close to going to the WAC for review (likely in May).
10	Address gizzard shad concerns in Highline Reservoir, which may now be an additional source of gizzard shad for illegal transport (intentional or live bait).	CPW/Program	2017?	CPW and Program to develop appropriate response. Kevin McAbee said CPW doesn't have a specific action item planned at this point because gizzard shad don't appear to be impacting fish populations in Highline. Gizzard shad are of particular concern because they are preferred prey for walleye.

## Attachment 4

### COLORADO RIVER RECOVERY PROGRAM <sup>1</sup>FY 2018 DEPLETION CHARGE AND ANNUAL BUDGET ADJUSTMENTS February 9, 2017

ITEM	FY 2017	FY 2018
<sup>2</sup> DEPLETION CHARGE:	\$20.89	\$21.17
<sup>3</sup> AGENCY ANNUAL CONTRIBUTIONS:	<b>FY 2017</b>	<b>FY 2018</b>
<sup>4</sup> Bureau of Reclamation (maximum power revenues)	\$5,529,913	\$5,529,913
<sup>5</sup> Fish and Wildlife Service	\$1,263,657	\$1,280,084
Colorado	\$219,137	\$221,986
Utah	\$153,938	\$155,939
Wyoming	\$48,734	\$49,368
<b>ANNUAL/O&amp;M TOTAL:</b>	<b>\$7,215,379</b>	<b>\$7,237,290</b>

#### **NOTES:**

<sup>1</sup>Adjustments for 2018 (except for Bureau of Reclamation annual contributions) are based on a 2016 Consumer Price Index increase of 1.3% over 2015 (source: Bureau of Labor Statistics; <https://www.bls.gov/cpi/cpid1612.pdf> [Consumer Price Index - All Urban Consumers, Series Id: CUUR0000SA0, Not Seasonally Adjusted, Area: U.S. city average, Item: All items, Base Period: 1982-84=100], released January 18, 2017).

<sup>2</sup>The balance (unaudited) reported by NFWF in the depletion charge ("Section 7") account was \$342,279 as of December 31, 2015. Of this amount, \$105,860 was unobligated.

<sup>3</sup>FY 2018 depletion charge and budget adjustments become effective October 1, 2017. Agency annual contributions shown are the established contributions; actual contributions may vary somewhat.

<sup>4</sup>Maximum power revenues adjusted for inflation will be calculated using CPI released in October 2017, per PL 106-392. (See Dec. 13, 2004, Management Committee meeting summary for an explanation of the difference.). Figure shown currently is same as 2017.

<sup>5</sup>The actual Service FY 17 contribution is expected to be about \$1,370,000 (\$730,000 recovery funds and \$640,000 hatchery O&M).