



Upper Colorado River Endangered Fish Recovery Program

Summary Dated: April 29, 2019

CR/FY-17 UCRRIC
Mail Stop 65115

Memorandum

To: Implementation Committee
Management Committee, Consultants, and Interested Parties
Meeting Attendees

From: Acting Deputy Director, Upper Colorado River Endangered Fish Recovery
Program

Subject: September 27, 2018, Recovery Implementation Committee Meeting Summary

Attached are the final action and assignment summary and the general summary from the September 27, 2018, Implementation Committee meeting.

Attachment

IMPLEMENTATION COMMITTEE MEETING SUMMARY
September 27, 2018
Hilton Garden Inn, Aurora, Colorado

ACTIONS:

1. Approved April 5, 2018, draft Implementation Committee meeting summary as final.

ASSIGNMENTS:

1. Tom Chart will review the Gantt chart describing post-2023 timelines within the context of all our other priorities and will report at the next Committee meeting.
2. Steve Johnson will coordinate a briefing on the status of the Colorado River Basin Fund to be part of a future meeting.
3. Melanie Fischer will present the concept of a Friends Group at the spring meeting.
4. The Program Office will schedule a meeting venue for April 25th near Denver International Airport.

PARTICIPANTS: See Attachment 1

MEETING SUMMARY:

CONVENED: 1:00 p.m.

1. Welcome, introductions, modify/review agenda
 - a. Noreen Walsh thanked all of the non-federal partners for their efforts in providing funding continuation for 2019. She also acknowledged that 2018 has been a very dry year and appreciated all of the effort that went into augmenting instream flows.
2. Approve draft April 5, 2018, meeting summary –
 - a. Tom Pitts submitted edits and Leslie James submitted comments on the meeting summary. Edits were made to the text and the Committee approved the summary. Kevin will finalize and post. [*Summary posted to website.*](#)
3. Chair's update –
 - a. Humpback chub proposed downlisting rule: Since the last IC meeting, the Program Director's Office has completed a proposed rule to reclassify (downlist) humpback chub from endangered to threatened status. Noreen Walsh signed the proposed rule and it is moving through U.S. Fish and Wildlife Service (Service) headquarters review. The proposed rule will be published in the Federal Register, with an expected publication date of early 2019; after publication, a 60-day public comment period will open. If, after the public comment period the Service still believes reclassification is prudent, a final rule will be published. Packaged with the proposed rule is a 4(d) rule which establishes species-specific prohibitions against take. The humpback chub 4(d)

rule provides regulatory relief for certain beneficial conservation actions, but retains protections for other actions that could harm humpback chub. The humpback chub 4(d) outlines 5 types of conservation actions, primarily undertaken by fish and game agencies, which would no longer be regulated for take by the Service. Kevin McAbee explained these conservation actions: establishing refuge populations, translocating or stocking of humpback chub, reducing or eliminating nonnative fish, catch and release angling of humpback chub, and chemical treatments to control nonnative fish. The 4(d) rule will also be available for public comment. Bart Miller asked how the catch and release policy is different than current regulations. Kevin McAbee explained that a catch and release fishery cannot be easily developed for an endangered species because endangered status does not have the exceptions to take that is allowed for threatened species. Any program specifically designed to catch and release humpback chub would not be permitted when a species is endangered because catch (aka take) would be planned, not incidental. States have interest in engaging the public through interactions with the species, which can be done effectively with catch and release programs. Kevin McAbee said catch and release angling is in place for protected salmonid species like Gila and Apache trout; a humpback chub fishery could be established in a similar, consistent manner. Any actions to develop a recreational fishery would occur by interested state agencies. Noreen thanked Kevin for his leadership drafting the 5-year review and the proposed rule. Tom Pitts asked if the proposed implementation changes to ESA were accounted for during this process. Kevin McAbee said the development of the 4(d) rule is consistent with the proposed changes. Tom Pitts asked about timeline, Kevin McAbee said FWS staff is trying to get the proposed rule published in the Federal Register before March.

Noreen Walsh described that the Program Director's Office (Julie Stahli) has been leading the development of a Species Status Assessment (SSA) for razorback sucker, with input from species experts from both the upper and lower basin, including the state wildlife agencies and other Recovery Programs' participants. A 5-year review followed the finalization of the SSA. Based on the conclusions of the SSA, Noreen Walsh signed a 5-year review that proposes to reclassify (downlist) this species from endangered to threatened status. Noreen Walsh thanked Julie Stahli for coordination of the SSA process. She highlighted the progress that has occurred over the last 30 years, with the razorback sucker progressing from near extirpation in the upper basin to large populations of stocked fish established and reproducing in the wild. The species is not ready for delisting because of the remaining threats of nonnative predation and a lack of juvenile habitat, and a lack of recruitment to sexually mature adults. Julie Stahli thanked all the stakeholders and participants in the SSA process. Tom Chart emphasized the species' positive response to revised flow regimes, floodplain modification, and fish passages. Tom Chart reiterated how well this species has

responded to the Program's recovery actions and how important sustained commitment to management in the future factored into the Service's decision to proceed with the proposed rulemaking process. Tom Pitts noted how important this news is to congressional representatives and others around the basin. Tom Chart noted we have a communications plan that will go into effect next week and distribution of the associated documents will occur in conjunction with that effort. Noreen said this will start yet another rulemaking process and while she cannot currently commit to a deadline, it is a priority of hers to accomplish that as soon as feasible.

Tom Chart provided an update on the Colorado pikeminnow SSA. The Program convened a recovery team a few years ago, which produced a draft revised recovery plan, which identified population viability analysis (PVA) as a component of demographic recovery criteria. The Programs (both the Upper Colorado and San Juan River) suggested conducting a PVA first; the results of that analysis should inform quantifiable demographic criteria. Over the past couple of years, Dr. Phil Miller worked with a group of species experts to develop the PVA using a retrospective analysis that can be projected into the future based on different management actions. The PVA was completed in 2018, which became the foundation for a future condition analysis in the SSA for this species. Eliza Gilbert from the San Juan Program worked in a detail position to develop a complete first draft of the SSA. Tom Chart thanked Eliza and the San Juan Program for their assistance and support during that effort. The Program is working to review and revise that document for distribution to the Programs and peer reviews. The current plan is to complete the SSA and associated 5-year review by the end of FY2019.

The Program is planning on handling bonytail differently than the other three species. There is not enough information to develop an SSA for this species. The Program plans to proceed directly to a 5-year review for this species with an expected completion date of the end of FY2019.

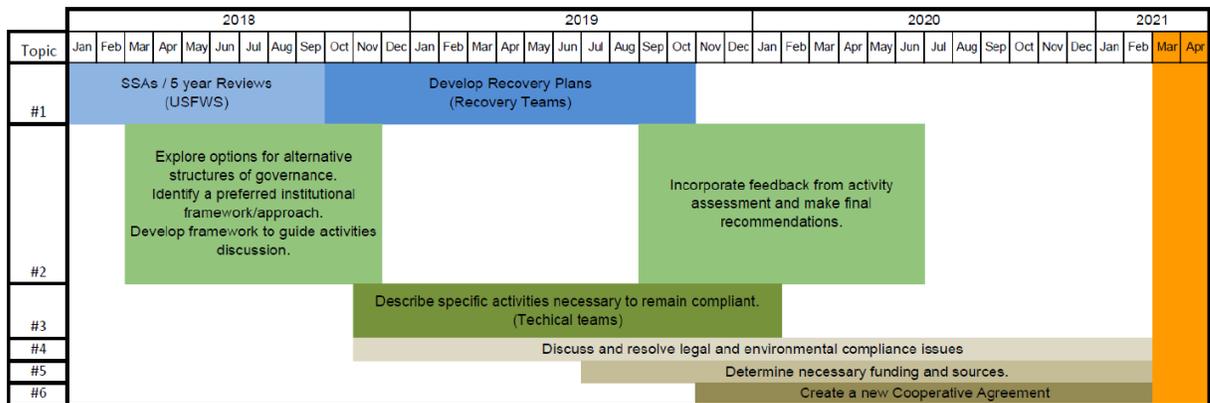
4. Update on Program funding in FY19 and beyond – Tom Chart reiterated Noreen Walsh's thanks to all of the non-federal partners, specifically Tom Pitts, Steve Wolff and Patrick McCarthy. An incredible amount of effort has been directed at this issue since the last Implementation Committee meeting. Tom Pitts said they received notification that Upper Colorado River Basin Fund revenue would not be available in FY2019 shortly before partners were in DC in March. Congressional delegation and committee staffs uniformly told the non-federal participants in the recovery programs that the problem would be resolved. After the trip in March, conversations continued with the congressional delegations, including explanations of what would happen should that funding not continue, including shuttering hatcheries, fish screens and passages, and effects to water releases from reservoirs

such as Elkhead. After numerous discussions, congressional representatives inserted an appropriation into the Energy and Water Development appropriations bill which ensures funding in FY19. Funding for FY20-23 is not currently in place. Senate bill 2166 has been introduced, which would fund the programs from FY20-23 using appropriations rather than the Upper Colorado River Basin Fund. The authorization bill would include authorization for all four years of funding, but appropriations would occur annually through the traditional appropriations process.

Steve Wolff said that most recently the non-federal partners received a request from representatives of OMB about the importance of the Programs (Upper Basin Recovery Program and San Juan River Basin RIP) including the specific projects receiving ESA compliance. Steve will provide that data to OMB and continue conversations as possible.

5. Summary of Post 2023 Program Planning – The Programs have a commitment to work through the details to support a report from the Secretary of the Interior to Congress outlining the activities that are needed beyond 2023 to recover the listed fish species and the associated funding needed to complete those actions. The Program offices started discussions with program partners this spring, specifically focusing on where each species was on the recovery continuum. Tom Chart said his staff has been focused on this very issue this past summer (i.e. the SSA’s and 5-yr reviews discussed above). Tom Chart said the UCREFRP and SJRBRIP intend to shift the discussion to an examination of specific recovery actions needed post-2023. Tom Chart showed the Gantt chart developed by the program to complete the report by the end of FY2020 (below).

Figure 2: Suggested Timeline



Over the next few months, the Programs anticipate convening technical teams to begin discussions around specific activities. Tom Chart expects the results of the technical teams to dovetail with recent conversations about program funding, all of which should inform our view of the programs post-2023. Tom Chart reviewed the importance of this report to

Congress and said the two additional employees that will start in the Program Director's Office in October will help us move this effort forward. Tom Pitts asked when recovery plans are likely to be revised. Tom Chart said the Gantt chart is very aggressive in terms of recovery plans and expects the proposed and final downlisting rules currently in place are likely to take priority over recovery planning. Tom Chart committed to providing an update on rulemaking, recovery plan revision, and post 2023 planning to the Committee at their next meeting. Tom Pitts promoted examination of what recovery looks like (including population fluctuations and assessments of threats) and encouraged realistic thinking during the revision of the recovery plans. Current recovery goals require maintenance of populations in the Green River and Upper Colorado River sub-basins with "no net loss" for down listing and delisting of the Colorado pikeminnow. Experience over 30 years indicates that this is not realistic. The populations fluctuate and will likely continue to do so. New threats will arise and have to be addressed, as has occurred with new nonnative species such as the walleye. Droughts will happen and climate change will affect flows and habitat. The endangered fish will likely need continued management to persist. Recovery will look a lot like what the Program is doing now. Steve Wolff agreed, emphasizing that our species are long-lived in a very dynamic system. Bart Miller acknowledged that population levels do vary (going both up and down) but re-emphasized the need for self-sustaining populations. Noreen Walsh said all of these great points need to be discussed by the recovery team(s) and acknowledged that the Service has an obligation to produce recovery goals based on new information and that our current goals are 16 years old, but that the Service prioritizes the rulemaking processes and preparation for the report to Congress needed by FY20 and will renew the recovery goal processes as staff are available. Tom Chart reiterated the need to continue to consider the concept of management reliant species, because the Colorado River is a management reliant ecosystem. Tom Chart also agreed that we need to continue to strive for self-sustainability. Tom Pitts said we know likely management actions and estimated costs, but uncertainty remains around what threats may develop over time. Noreen Walsh asked if program partners, stakeholders, and congressional representatives understand that management actions are going to need to continue into the future. Tom Pitts said the non-federal partners have been very candid in discussions with congressional staff about the need for continued management actions into the future.

6. Summary of IC meeting satisfaction survey – Julie Stahl presented the results of the Implementation Committee satisfaction survey (attached). The survey was designed to determine if the format and frequency of the meetings were meeting the needs of the committee. Respondents in the survey were generally satisfied with IC meetings (4 out of 5), with a preference being expressed for in-person meetings instead of webinars. Respondents thought meeting minutes were well-written. Some interest was expressed in adding additional meetings as controversial topics arise. Tom Chart encouraged Committee members to let Program staff know when additional meetings are needed and staff will coordinate. The Committee discussed whether more in-person meetings would be valuable and whether meetings should be held in conjunction with the San Juan Program. The Committee recommended two in-person meetings a year, with the ability to revert to a webinar format if there is a short agenda or non-controversial topics.

7. Capital projects update – Ryan Christianson presented a table that tracks spending for capital projects (attached), including fish screens, reservoir escapement prevention, habitat development, and water acquisition. The next major project to be completed is the Green River Canal fish entrainment project. The contract has been awarded for approximately \$4 million, which includes the weir wall, infrastructure and installation of the screen. A separate contract will include the wedge wire screen and the antennas. Additionally, the Thayn Hydropower 8-gate structure funding (\$400K) is in addition to that contract amount. The Ridgway Reservoir escapement device is next, anticipated to be constructed in FY20. Cost estimates are approximate because a final engineering design has not been chosen. Kevin McAbee explained that the Bureau of Reclamation is completing a value engineering study for the project and praised discussions that occurred during that process. Another important project is the modification of the Stirrup wetland to support razorback sucker recruitment, which has a cost estimate of \$500K. Red Fleet and Starvation Reservoir both require escapement devices. Red Fleet is currently designed to 95%, estimated to be completed in FY19. Starvation Reservoir is currently being redesigned and has a temporary solution in place; it will likely be constructed in FY21. Catamount Reservoir is still in the planning phase and will likely be built in FY21. Colorado Parks and Wildlife continues to conduct nonnative removal in Catamount Reservoir (current estimates indicate that ~13,000 northern pike have been removed), an effort praised by members of the Committee. Finally, Ryan Christianson reviewed the issues currently reducing operation of the Grand Valley Irrigation Company canal screen; the Management Committee authorized \$28,000 to study potential rebuilds of the screen. Tom Pitts commended USBR Grand Junction office for the effective management of capital projects. These commendations are passed on to the Reclamation directorate in Washington during the annual visit by nonfederal Program participants.
8. Steve Johnson provided an update on California’s SB-100, requiring 100% renewable energy. Historically, large hydropower facilities were not considered renewable energy and could not be considered part of the portfolio. Efforts are being made to change wording to emphasize carbon-free instead of renewable. Federal power customers in this region are seriously considering not renewing their contracts, which would have significant implications for funding environmental programs. Steve Johnson encourages continued attention by the Committee. >Tom Pitts requested a briefing on the status of the Colorado River Basin Fund at a future meeting. Steve Johnson provided an overview of things that affect the basin fund, including differences in water years and changes in how rates are developed and implemented. He noted that WAPA may be required to return \$23M to the treasury, regardless of how the Programs are funded, which could cause cost-recovery charges to be implemented.
9. Program Director’s report on the Recovery Program and status of the fish – [Presentation is posted to the website here.](#)

- a. Tom Chart reviewed the Program's purpose and context, including the ability of water development to continue during species recovery. Michelle Garrison provided preliminary draft depletion accounting results for the 15-Mile Reach on the Colorado River. The average overall depletions have not increased during the 2006-2015 period. Generally, exports have increased and crop use has decreased. Some decreases in crop use are not accurate as subdivision of large irrigated acreages into smaller irrigated parcels has resulted in a reduction in mapped irrigated acreage due to minimum field size mapping limitations. Exports vary widely from year to year.
- b. Julie Stahl reviewed propagation, monitoring, and data management. Hatchery production is on schedule and anticipated to meet all goals. Population monitoring in 2018 included humpback chub in Desolation-Gray and Colorado pikeminnow and razorback sucker in the Green River. Data in STReAMS continue to increase in amount and quality.
- c. Don Anderson reviewed the dry conditions in the upper basin in 2018, noting that all subbasins had peaks well below normal. Don praised efforts of Reclamation to manage the peak out of Flaming Gorge to move larval razorback sucker into Stewart Lake. Base flows across the basin were also very low, with the exception of reaches below reservoirs operated by Reclamation. Don said temperatures were 2-4 C above normal and precipitation was below normal across the upper basin during the summer, exacerbating the low snowpack conditions. The Program, water users, and Reclamation implemented many actions to mitigate these conditions and provide flow to the endangered fish. The Program leased an additional 1,500 acre-feet out of Elkhead reservoir to maintain flows on the Yampa River. The Program is also still releasing water to maintain flow in the 15-Mile Reach. Without Program flows, the 15-Mile Reach would currently be without flow. Don Anderson praised all the partners that supported continued flows including the Colorado Water Conservation Board, Ute Water Conservancy District, Exxon Mobil, Colorado River District, Colorado State Engineer's Office, Reclamation, and agricultural water users in the Grand Valley. He praised the ability of these partners to come up with creative solutions to keep the rivers flowing.
- d. Melissa Trammell asked about the Green River block EA. Wayne Pullan said the State of Utah and Reclamation came together to determine the conditions of the water service contract including 86,000 af for the St George Lake Powell and a Green River block which was developed as an exchange. The State of Utah will use water out of the Green River which will be exchanged for storage in Flaming Gorge. The amount that the State of Utah will pay will be equivalent to the increase of river elevation during the late part of the season. NEPA compliance of the Lake Powell Pipeline part will be part of the pipeline EIS.
- e. Tom Chart reviewed discussions with the Green River Stakeholder group in July and August. Tom Pitts met with the group on August 17 and will work with the group to

develop specific concerns to be brought back to Reclamation and the Program. Wayne Pullan committed substantial staff time to evaluate the Stakeholder's proposal. Leslie James asked that WAPA be included in those discussions. Tom Pitts will contact Dale Hamilton USBR Vernal.

- f. Kevin McAbee reviewed nonnative fish management, including the two-tiered approach to controlling predatory nonnative fish in both rivers and reservoirs. Low flows in 2018 likely supported a strong reproductive year for smallmouth bass (data is still being analyzed). Kevin McAbee expects to see large numbers of subadult smallmouth bass next year. Additionally, low flows reduced access to the river, so removal efforts in the White and Yampa rivers were less than normal. Reservoir escapement projects have recently resumed and multiple projects are on track to be built in the next 3 years.
10. Discussion of creation of a 'Friends Group' for the Recovery Program – The Committee expressed desire for continued exploration of a Friends Group. Tom Chart said that Melanie Fischer has developed an issue paper concerning the topic, but was not able to attend this meeting, so we will postpone the discussion. Melanie Fischer will lead discussions of this topic with the Information & Education committee and will bring new developments back to the Implementation Committee next spring.
 11. Next meeting scheduled for the afternoon of April 25th in-person near Denver International Airport.

ADJOURNED: 4:50 p.m.

Attachment 1 - Participants

IMPLEMENTATION COMMITTEE MEMBERS:

Noreen Walsh, U.S. Fish and Wildlife Service (Chair)
Ed Warner, U.S. Bureau of Reclamation
Melissa Trammell for Rob Billerbeck, National Park Service
Bart Miller, Environmental Groups (Western Resource Advocates)
Jojo La for Amy Moyer, State of Colorado
Tom Pitts, Upper Basin Water Users
Steve Johnson, Western Area Power Administration
Kerry Gibson for Mike Styler, State of Utah (via phone)
Leslie James, Colorado River Energy Distributors Association
Steve Wolff, State of Wyoming
Tom Chart, Program Director, U.S. Fish and Wildlife Service (nonvoting)

OTHERS:

Julie Stahli, Recovery Program
Kevin McAbee, Recovery Program
Greg Gerlich, U.S. Fish and Wildlife Service
Don Anderson, U.S. Fish and Wildlife Service
Wayne Pullan, U.S. Bureau of Reclamation
Michelle Garrison, State of Colorado
Ryan Christianson, U.S. Bureau of Reclamation
Todd Adams, State of Utah (via phone)
Rob Billerbeck, National Park Service (via phone)
Tildon Jones, Recovery Program (via phone)
Scott Durst, San Juan River Basin RIP (via phone)
Eliza Gilbert, San Juan River Basin RIP (via phone)
Dave Speas, U.S. Bureau of Reclamation (via phone)
Chris Keheler, State of Utah (via phone)



IC Meeting Survey

- Meeting satisfaction – ★★★★★
 - Most thought level of detail provided by PDO staff was appropriate
 - Respondents praised efficiency
 - Enjoyed the ability to fly in and out on the same day
- Most preferred in person meetings
 - Respondents enjoyed the interaction and discussion at in-person meetings
 - Enjoyed ability to exchange views about long-range planning



IC Meeting Survey

- Meeting summary satisfaction –



- Respondents found the meeting summaries to be complete
- Most found IC meetings to be worth the time investment



IC Meeting Survey

- Effectiveness as a management tool –
 - Cited lack of interaction on webinars
 - Suggestion: Meet for 8 hours (afternoon, followed by a morning session)
 - Suggestion: Add meetings based on substantial developments

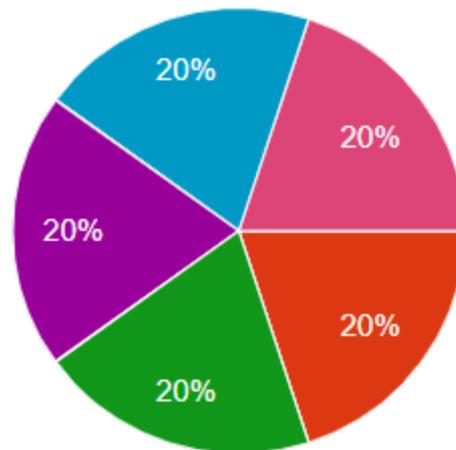




IC Meeting Survey

How often do you think the IC should meet?

5 responses



- More frequently (e.g. quarterly)
- I like the current structure (1 in person meeting and 1 webinar per year)
- Less frequently (e.g. annually)
- 2 in person and 1 webinar in between (IF NEEDED ONLY)
- 1 in-person meeting annually; unless a specific issue requires a call.
- If there are substantive topics, (like...)
- If issues arise that require input fro...

Capital Projects Status Update (10/9/2018)

Current Projects & Anticipated Future Projects

Current Projects & Anticipated Future Projects									Estimated Capital Costs		Comments
Facility	State/River Basin	Features	Purpose	Related Agreement	Year Anticipated Completed	Parties	OM&R Party	Owner	Total	Program Share	
Green River Canal Company Diversion Dam (at Tusher Wash)	Utah - Green River	Fish Barrier Weir/Screen	Prevent fish entrainment in canal	OM&R Contract with Green River Canal Company	2019	Reclamation, FWS, Green River Canal Company	GRCC	GRCC/Thayn Hydro	\$4,015,430 + non contract costs	\$4,015,430 + non contract costs	Awarded contract (\$3,807,350) to NW Construction out of Bozeman, MT, does not include \$102,580.35 for the fish antennas, \$105,500 for the fish screens and non-contract costs
8-Gate Structure	Utah - Green River	8-Gate Raceway Structure	Allow for more efficient operation of fish screen	Letter Agreement	2019	Reclamation, FWS, Thayn Hydro, GRCC	Thayn Hydro	GRCC/Thayn Hydro	~\$2,000,000	\$ 400,000	The Recovery Program will not pay for the O&M of this structure
Ridgway Reservoir	Colorado - Gunnison River	In-reservoir net	Prevent escapement of nonnative fish	Draft OM&R Contract	2020	Reclamation, FWS, CPW, TCWCD	CPW	Reclamation	\$ 3,300,000	\$ 2,300,000	Highest priority of fish escapement projects. CWCB has pledged \$1M, Program will pay remainder. VE study 9/18-19
Red Fleet Reservoir	Utah - Green River	In-channel Coanda Screen	Prevent escapement of nonnative fish	TBD	2019	Reclamation, CUPCA, FWS, CUWCD, UDWR, UDSP	UDWR, UDSP	UDWR	\$ 440,000	\$ 250,000	Design by Franson is currently working on 95% design plans which should be out in November; NEPA (EA) is nearly complete. On PAO's "force account" schedule.
Starvation Reservoir	Utah - Green River	Flat plate screen across stilling basin (outlet works not screened)	Prevent escapement of nonnative fish	TBD	2020	Reclamation, CUPCA, FWS, CUWCD, UDWR, UDSP	UDWR, UDSP	UDWR	\$406,000 (previous estimate)	\$ 250,000	Temporary screen operated since 2015; Location needs to be moved from the Primary Jurisdiction Zone (PJZ). This move will likely require a new design. Originally scheduled for July/August of 2018, now likely for fall of 2020 or 2021
Catamount Reservoir	Colorado - Yampa River	Spillway Net or Scren?	Prevent escapement of nonnative fish	TBD	2021?	Reclamation, FWS, Catamount Metro Dist.	TBD	TBD	TBD	\$ 500,000	Need to look at cost share options. CWCB may be able to provide funding (~\$500k). Need to schedule meeting with metro district.
Stirrup Bottom	Utah - Green River	Rubicon Gate, box culvert, fish kettle, plus additional excavation	Managed wetland/floodplain habitat	TBD	2020	Reclamation, FWS, BLM, UDWR	FWS, BLM?	UDWR?	\$ 518,000	Need MC approval	MC approved \$20k for prilliminary design work. Working on final design and cost estimate. BLM will be NEPA responsible party. Possible to get on PAO's "force account" schedule for spring 2020
Matheson	Utah - Colorado River		Managed wetland/floodplain habitat	TBD	2021?						
Audubon	Colorado - Colorado River		Managed wetland/floodplain habitat	TBD	2021?						
Grand Valley Power Plant	Colorado - Colorado River	Rehabilitated Hydropower Plant	Rehab of GVPP will allow continued use, delivering water to the 15MR	Recovery Program Grant R17AP00302	2019	Reclamation, FWS, OMID, GVVUA	OMID	Reclamation	TBD	\$ 1,500,000	The Recovery Program grant (\$1.5M) will be combined with a WaterSMART grant (\$964,862) and other funding sources to complete the rehab. Original funding is now in place, but continued test may reveal other issues that could increase costs (no more Recovery Program funds will be used)

Existing Projects

									Capital Costs		
Facility		Features	Purpose	Related Agreement	Year Completed	Parties	OM&R Party	Owner	Total	Program Share	Comments
Elkhead Reservoir	Colorado - Yampa River	In-reservoir net, debris boom & outlet screens	Prevent escapement of nonnative fish over the spillway	Letter of Understanding Concerning Installation of Fish Escapement Prevention Net at Elkhead Reservoir	2016	Reclamation, FWS, CRWCD, CPW, State of Colorado	CPW w/ assistance from CRWCD	CWCB (net), CRWCD (screens)	\$ 1,883,000	\$ 1,350,000	An additional \$265,492 was paid by the Recovery Program to replace the outlet tower stem guide anchor bolts
Price/Stubb Diversion Dam	Colorado - Colorado River	Fish Passage	Allows for upstream fish passage around dam structure	Agreement Concerning Fish Passage Facilities at the Price/Stubb Diversion Dam	2005	Reclamation, FWS, PID, MCID	PID	PID	\$ 16,256,000	\$ 16,256,000	\$10M 2007-08, \$1.3M for rehab in 2012; Palisade and Mesa County irrigation districts have OM&R responsibility, but is reimbursed by Program funds
Redlands Diversion Dam	Colorado - Gunnison River	Fish Screen & Passage	Prevent entrainment in canal and allow fish to pass upstream past diversion dam	Agreement Concerning Fish Passage Facilities and Fish Screen Facilities at the Redlands Water and Power Company Facilities	2004	Reclamation, FWS, RW&PC	RW&PC-screen and xm; FWS-passage	RW&PC	\$ 7,827,000	\$ 7,827,000	\$1,371,000 was before 2001 and not included in the cost ceiling. \$6,456,000 was post-2001 and is included in the cost ceiling. Still need to resolve issue with maintaining minimum flows at the screen, passage and below the diversion dam
Grand Valley Irrigation Company canal system	Colorado - Colorado River	Fish Screen & Passage	Prevent entrainment in canal and allow fish to pass upstream past diversion dam	Agreement for the Fish Screen and Fish Passage Facilities at the Grand Valley Irrigation Company Facilities	2001	Reclamation, FWS, GVIC	GVIC	Reclamation	\$ 4,222,000	\$ 4,222,000	\$800,000 of total was pre-2001 and not included under the cost ceiling. GVIC has issues operating the facilities under certain circumstances. Looking into ways to improve performance and reduce down times. Capital funding will likely be needed for a retrofit or other solutions to the problems. MC approved \$28k for initial investigations and modeling
Grand Valley Diversion Dam and Government Highline Canal	Colorado - Colorado River	Fish Screen & Passage	Prevent entrainment in canal and allow selective fish to pass upstream past diversion dam	Agreement Concerning Fish Passage at the Grand Valley Diversion Dam and the Fish Screen on the Government Highline Canal	2008	Reclamation, FWS, GVVUA	GVVUA-screen, FWS-passage	Reclamation	\$ 15,020,000	\$ 15,020,000	
Elkhead Reservoir	Colorado - Yampa River	Reservoir Enlargement	Enhance Yampa River flows	Elkhead Reservoir Enlargement Agreement	2007	Reclamation, FWS, CRWCD	CRWCD (City of Craig contract)	CRWCD	\$ 31,000,000	\$ 17,800,000	Estimated that \$5,837,000 of Program costs were from Capital Funds post-2001 and are included under the cost ceiling. Enlargement provides 5000 acre-feet with an option for an additional 2000 acre-feet to be used to enhance Yampa River flows
Orchard Mesa Canal System	Colorado - Colorado River	Reregulating reservoir, system optimization/automation devices	Provide for more efficient operations w/ increased automation, providing more flow in the 15 Mile Reach	Orchard Mesa Canal Automation Improvements O&M Contract	2017	Reclamation, OMID	OMID	Reclamation	\$ 16,500,000	\$ 16,500,000	No problems with reregulating reservoir, small amount of money will be spent following 2018 irrigation season. Waiting to see how the reservoir performs in 2018, then decide on additional components of the project for 2019 (minor). Need benchmark to evaluate performance of system improvements. Target 17,000 acre-foot of savings by these projects.

GVWUA System & Highline Lake	Colorado - Colorado River	system optimization/automation devices, Highline Lake Pumps	Allows for more efficient operations of the system, resulting in more water in the 15MR	Systems Improvement Contract		Reclamation, CWCB, GVWUA	GVWUA	Reclamation	\$ 7,824,000	\$ 7,824,000	Capital costs for improvements were funded over time by the Program. Associated O&M costs are funded from CWCB trust fund. May need to operate pumping system more aggressively and at additional times in the future
Stewart Lake	Utah - Green River	Gate	Managed wetland/floodplain habitat	None in place	2015	Reclamation, FWS, UDWR	UDWR	UDWR	\$ 72,000	\$ 72,000	Some modification to the existing gates was required in 2015 using the capital funds listed.

Facilities that benefit the Program, but received NO Program funding

									Capital Costs		
Facility		Features	Purpose	Related Agreement	Year Completed	Parties	OM&R Party	Owner	Total	Program Share	Comments
Rifle Gap Reservoir	Colorado - Colorado River	Coanda Screen	Prevent escapement of nonnative fish	None	2013	CPW	CPW	CPW	?	\$0.00	Purchased with CPW Funds
Highline Lake	Colorado - Colorado R	Spillway Net	Prevent escapement of nonnative fish	None	1999 (replaced 2006,2014)	CPW, GVWUA	GVWUA	CPW	?	?(prior to 2001)	Net replaced in 2006 and 2014 with CPW funding. Recovery Program's purchase of the original net and one replacement was prior to 2001, so is not included under the capital project ceiling
Scofield Reservoir	Utah - Green River	Movable Vertical Screen	Prevent escapement of nonnative fish	Pending MOU	2018	Reclamation, FWS, UDWR	UDWR	UDWR	?	\$0.00	Located on Reclamation property
Johnson Bottom	Utah - Green River	NA	Managed wetland/floodplain habitat	None	2015	FWS	FWS	FWS	\$ 270,000	\$ -	Program funds monitoring and operation of site under existing SOW
Sheppard Bottom	Utah - Green River	NA	Managed wetland/floodplain habitat	None	2017	FWS	FWS	FWS	\$ 450,000	\$ -	Program funds monitoring and operation of site under existing SOW

Fish Passage/Screen	
Water Acquisition	
Nonnative Fish Prevention	
Managed Wetland/Habitat	