



Upper Colorado River Endangered Fish Recovery Program

Dated: September 8, 2016

September 1-2, 2016 Management Committee Meeting Summary
U.S. Bureau of Reclamation, 445 West Gunnison Avenue, Grand Junction, Colorado

Participants: See Attachment 1

Thursday, September 1

CONVENE: 1:00 p.m.

1. Approve April 29, 2016, draft webinar summary – The draft summary was posted to the fws-coloriver listserv by Angela Kantola on May 5, 2016. No one had comments on the summary, so it will be posted as final (*done*).
2. Schedule next meeting, webinar, or conference call – The Committee scheduled their next regular webinar for October 27 from 8 a.m. to noon. They also scheduled a webinar to discuss the Grand Valley Power Plant proposal on September 8 from 3 p.m. – 4 p.m.
3. Technical Committee Reports
 - a) Information and Education Committee – Angela Kantola presented an update on outreach activities (for Melanie Fischer)
 - Recent new outreach activities – See Attachment 3. Henry thanked Melanie for all she did to prepare folks for the DC trip.
 - I&E Committee meeting and Grand Valley facilities tour September 28-29.
 - b) Biology Committee – Pete Cavalli provided the following update.
 - Floodplains:
 - Matheson Preserve – UDWR and TNC are working on restoration of this wetland near Moab. It is several hundred acres and the only wetland in the lower reach of the Colorado. The engineering report indicates the wetland couldn't be filled from the downstream end (preferable for razorback sucker), so the group is reviewing other options. The hope is to construct improvements and make it operational by 2018.
 - Sheppard Bottom wetland on Ouray NWR has received USFWS Cooperative Recovery Initiative funding for modification and construction to hopefully operate similar to Johnson Bottom. We won't be able to exclude nonnative fishes from the entire area, and endangered fish may need to be moved back to the river, but this wetland should flood at lower flows than others. Construction is anticipated in 2017.
 - The Biology Committee will meet in Vernal in late October and take a floodplain site tour.
 - Reports in review
 - The draft Green River Colorado pikeminnow population estimates 2011-2013 report indicates that populations have declined, recruitment has been limited, and walleye have become a concern
 - Tom Chart said the BW Synth (Physical) report complements the biological component and addresses whether we are building sandbars and managing baseflows commensurate with

the peak. The draft report indicates our flow recommendations seem on target. A conclusion section will combine the biological and physical portions. Shane noted that characteristics of the backwaters may have changed over time.

- A population estimation and sampling workshop (or workshops) are planned to address: whether we can continue to sample concurrently for razorback sucker and Colorado pikeminnow population estimates; changes in Colorado pikeminnow capture probabilities; use of data from passive integrated antenna arrays; and the role of the new database manager, etc. (These workshops likely will be one day in February and another in March, right before or after other meetings).
- The Program director's office and Kevin Bestgen have discussed possible future graduate research projects to address critical information needs such as walleye bioenergetics, endangered fish floodplain use, and triploid walleye behavior. The Biology Committee will continue to discuss these critical questions and determine how to prioritize and take advantage of this very cost-effective approach.

c) Water Acquisition Committee – Jana Mohrman provided the following update.

- White River Management Plan – The Yampa/White Basin Roundtable contracted with Wilson Water Group to convert Statemod from a monthly to a daily model. They expect to be on schedule and have flow information per the original work plan by the end of September, 2016. CWCB is working on a contract to convert Utah water rights to Statemod and on an RFP for the remaining work on the project.
- Baseflow hydrology (See Attachment 4)
- 15-Mile Reach PBO review – Tom Chart sent this to the Water Acquisition and Biology committees with a comment deadline of September 9, 2016. Tom Chart said they nothing to indicate a need to reopen consultation. Robert Wigington asked if that triggers the second 60KAF of depletion under the PBO. Tom Chart said we need to see CWCB's depletion report to see where we are with the first 60KAF.
- WAC subgroup review of basinwide flow protection – The PDO drafted a table of existing flow protections, most of which consist of PBOs and BOs. For downlisting the endangered fish, it's assumed that all these protections would remain in place, but longer-term protections would need to be in place for delisting. A subgroup of the WAC is being convened to discuss.
- Drought Contingency Planning – Steve Wolff discussed the proposed possible reoperation of upper basin reservoirs to keep water in Lake Powell. An MOA is in the works with a final draft anticipated for review and signature this fall.

4. GRUWAT/Green River flow protection – Henry Maddux said Utah is nearing completion of the white paper and Utah is meanwhile moving forward on their flow protection work plan. Henry provided an update on options/recommendations and suggested this remain a standing item on the agenda. TNC also has been working on ideas that might avoid legislative action (and not involve the Lake Powell pipeline). Meanwhile the State is moving forward on potential legislative action (tied to Lake Powell pipeline, but will raise questions of how to protect until the pipeline would come online, which could be 20 years out). Utah anticipates making a more formal presentation to the Implementation Committee in the future.
5. Grand Valley Project Power Plant rehabilitation – Mark Harris, Max Schmidt, and Brent Uilenberg briefed the Committee on the need for extensive rehabilitation of the Grand Valley Project Power Plant. Continued operation of this plant is instrumental to the Program's legal protection strategy for water deliveries to the 15-Mile Reach, thus it may be in the Program's best interest to participate as a financial partner in the rehabilitation project. This has become an urgent issue as one of the two turbine generator units are currently out of operation. OMID and GVWUA have partnership and operate Grand Valley Power Plant.

Water is returned below GVIC and is critical to flows in the river between GVIC and the Gunnison River. Program strategy on the Colorado is working with a number of upstream reservoirs to make releases to provide flows for the fish in the 15-Mile Reach.

Michelle Garrison described a recent court case resulted in ruling that only CWCB can hold an instream flow right, which is what raises concerns about the muni-rec agreements. Henry recalled that before we implemented all these measures, the 15-Mile Reach went almost dry (~100 cfs).

Max said the plant was built in 1932 and still has all the original generating equipment. It is the only hydro plant that manually syncs to the electrical grid. Max and his crew operate the pumps and the hydro together. The plant is leased from Reclamation under a lease of power privilege. They can rebuild both units for \$5.2M. One unit of the two is down now and Max anticipates he'll have to shut the other one down when ice forms this winter. Max said they are looking for funding from every possible source, including Water Smart and CWCB (CWCB is giving them a grant).

Mark Harris described another benefit: their consumptive use pilot program that the water users have been working on combined with the Orchard Mesa check and ability to call with reduced irrigation creates a built-in mechanism to protect and shepherd that conserved water. This makes it a compelling package that requires the power plant to protect the benefit. They solicited an RFQ in early 2015 and got a feasibility study in September 2015 that showed the plant could be rehabilitated and upgraded. Then they solicited an RFQ for fixed-price construction. They've completed most of the regulatory requirements and spent ~\$300K so far. They conducted economic analyses and are working with their boards on what liability they would be willing to take on. They have a 4 cent agreement with Xcel through 2020, and then it will be 3 cents (Xcel doesn't negotiate). Analysis shows the plant will begin to lose money after 18 years, which is complicating. To get their boards to approve taking on debt for the rehabilitation of the plant, they need a larger funding package, which includes just under \$2M from the Recovery Program:

\$458,000	USBR LOPP accumulation: confirmed
\$400,000	SCTF/CWCB: confirmed
\$1,000,000	WaterSmart: January 2017 application
\$1,500,000	CWCB Loan: in progress
\$1,942,000	Recovery Program: today's request
\$5,300,000	Total project funding requirement

OMID/GVWUA has \$300,000 additional cash committed to project use (and also has spent \$60K to date)

Life expectancy is ~40-50 years, but perhaps longer with the right maintenance.

Leslie asked about potential DOE opportunities. Max said he's been in contact with them.

Bart asked about the boost from 3.5MW to 4.1MW and what sort of revenue difference that would make. Mark said it would provide additional revenue once they can renegotiate the interconnect agreement. Max said that if they rebuild before the end of 4 cent contract, Xcel would pay 4 cents up to 3.75 MW and 3 cents for everything above that. John asked about economic feasibility; Mark said they believe they can operate in the black for at least 18 years. John asked about whether the plant would be needed if there were other ways to protect the water.

Timeline: Initiating Phase I (need 713K); plan to initiate construction in 2017 (should take ~10 months).

Will need additional revenue by the first quarter of 2017 and having some commitment prior would help (and would help support the WaterSmart request).

Brent will discuss impacts to capital projects under the capital projects agenda item.

Kevin asked if this project would require staff time that would slow down other projects. Brent said construction would be managed by OMID/GVWUA, but environmental and cultural review would be required and they've scheduled that in.

6. O&M for Tusher Wash East Side fish passage & screens intake – Brent said Reclamation and the Recovery Program have been approached by the East Side Canal water users for financial assistance to maintain (primarily debris removal) these recently constructed structures (side cost probably \$10-\$15K / year). Reclamation is seeking the Committee's permission to enter into negotiations to develop terms of an O&M contract (funding source - Recovery Program annual funds) to maintain the newly constructed fish passage structures (down and upstream) and the east side fish screens. Henry said Utah would like to see the Program assume this O&M and believes it fits with how the Program was set up. (Direct impacts prior to the Program are assumed by Program; post-Program project impacts the responsibility of the project proponent. But this is an unusual project because the diversion dam wasn't a problem for fish passage until it was rehabilitated back to its original elevation. With that complexity, Brent Uilenberg believes the Program can cover O&M and maintain consistency). Tom Pitts agreed. Kevin McAbee noted the Green River Canal Co president told him this morning he believes fish can't currently use the passage because it's clogged with debris on the upstream side. In response to a question from Leslie, Brent said O&M doesn't require replacement, if needed, though that's an option. Tom Chart says he thinks we have better passage over a wider range of flows now than we did before, but only if it's maintained (thus we would not be setting new precedent). The Committee approved Reclamation moving forward with negotiating terms of an agreement. >Reclamation will bring those terms back to the Committee before finalizing the deal.

7. Reservoir nonnative fish management – Kevin McAbee reviewed the reservoir screening status summary (Attachment 5). Kevin also noted UDWR's report of an adult burbot (in photo to right; 495 mm TL; 571 g) collected in the middle Green River, just below Sand Wash; between river miles 215.8 - 210.8.



8. Sufficient progress
 - 2016: The Program Director's office anticipates finalizing the 2016 RIPRAP by the end of the month. The Service's 2016 sufficient progress review is several months behind schedule due to other priorities, but the PDO has drafted the tables of accomplishments and shortcomings and prepared a timeline (Attachment 6) for completing the sufficient progress memo by mid-December.
 - Status review of items highlighted in the Service's 2015 sufficient progress memo – See Attachment 7.
9. Stewart Lake water management – Kevin McAbee said over-summer and over-winter survival of wild-produced razorback sucker larvae only in Stewart Lake make it central to the recent improvements in razorback sucker status in the upper basin. The Program is working to duplicate the production seen at Stewart Lake at other locations such as Johnson Bottom, Sheppard Bottom, and the Matheson Preserve, but has not yet succeeded. Maintaining habitat conditions conducive to razorback recovery by summer supplemental water delivery to Stewart Lake is critical. Kevin described management difficulties involved at Stewart and noted that 1,000 acre feet of water from Red Fleet Reservoir are ear-marked for selenium remediation. Typically razorback needs also can be met with this water over the summer. (If we were trying to overwinter fish that would conflict with selenium remediation but we're not.) We've improved communication for requesting the water and remedied former limitations of delivery via the canal, but

sometimes this water still is turned off so that it can be used by irrigators. We're working to further improve communication and resolve the difficulties so that Stewart at least eventually gets the water. Provo USBR is working with FWS-ES-SLC to reinitiate consultation on the selenium remediation. Maintaining Stewart Lake water levels for razorback will be an important factor in that process and Kevin is supporting Reclamation and the Service in this consultation. It's critical that we preserve the supplemental water and preserve the Program's priority for this supplemental water into the future.

ADJOURN: 5 p.m.

BBQ and Evening Social Event: The Committee enjoyed a BBQ social event at the home of Melissa Trammell and Dave Speas – thank you Melissa & Dave!

Friday, September 2

CONVENE: 9:00 a.m.

- 10. FY17 Work Plan update – Angela Kantola said the budget looks to be on track for FY17 (second year of the 2-year work plan) and it appears the Program should be able to cover Tusher O&M and the sediment scope of work, assuming those are approved. As the FY17 budget picture becomes clearer, it may be helpful to develop a list of contingency projects (e.g. graduate research project, supporting CSU's lead of small-bodied fish identification courses, etc.)
- 11. Section 7 funds update – Angela will review fund status and ongoing & potential projects:

Date	NFWF Balance	Remaining Project Obligations
8/17/2016	\$419,860.45	Balance
	(\$418.98)	Kolz & Martinez: EF standardization
	(\$63,738.13)	Colorado pikeminnow PVA
	(\$100,000.00)	SWCA: Recovery Planning (through Sep 2017)
	\$255,703.34	
		New/Planned Project Obligations
	(\$5,000)	Add to EF standardization (Kolz & Martinez) contracts
	(\$62,700)	Maybell automation?
		Additional reservoir rotenone or other treatments?
	\$188,003.34	

- 12. Proposal to use Section 7 funds to assist Maybell Ditch in administering Elkhead fish releases – Tom Pitts presented a request for \$62,700 in Section 7 funds to install an automated gate to return Elkhead fish

Colorado River District Grant	\$49,000.00
Maybell Irrigation District	\$40,000.00
Recovery Program Section 7 Funds	\$62,700.00
Yampa-White Roundtable	\$45,675.00
Total	\$197,375.00

releases (see Attachment 8). The Colorado River Water Conservation District, Maybell Irrigation District, and the Yampa-White River Roundtable all are providing funding.

Tom Chart said this will help 10 miles of the Yampa River; he supports it as an irrigation efficiency project, and believes it is an appropriate use of Section 7 funds. Tom Pitts added that there will be no O&M expenses for the Recovery Program. Melissa said she's noted that the return flow pipe has been very "fish-unfriendly" and asked if it can be reconfigured. Tom Chart said the return flow will have to be modified to carry the return flow, so we'll ask the engineers to take safe fish transport into consideration. Seth Willey asked if we'd approached the Partners for Fish and Wildlife Program for funding. Tom Chart said he hadn't considered that, but will look into it and determine feasibility (contracting, etc.) The Committee supported funding the project (with Partners funding, if possible, or Section 7 funds, if not). >Tom Chart will talk with Partners program (Bill Noonan) about this. >Tom Pitts will inform Mike Hamblin of Maybell and Tom Chart and Angela Kantola will contact Mike to make the funding arrangements.

13. Proposed sediment monitoring SOW – Dave Topping, USGS, gave a presentation (Attachment 9) on the proposed SOW from USGS recommended by the WAC to provide information to help us understand if Green River flow management is providing desired results. Jana said the peak flow tech supplement and GREAT identified sediment work is a priority. Tom Pitts described the concern he's expressed about the need to relate the sediment transport data to habitat changes, suggesting getting cross-sections at the same time. Tom Pitts also has suggested making this part of an adaptive management program for annual sediment and habitat monitoring. He agrees the proposed method this is an appropriate and efficient way to monitor sediment. Tom Chart said the SOW was amended to add that habitat monitoring would be a task for the Program, WAPA and Argonne are committed to continuing their physical habitat work for at least another year; and this will be part of the GREAT review. Jana and Shane said WAPA also has approved a study to identify possible backwaters via satellite imagery and then field-check them. Tom Pitts asked for a brief description of how we're going to link all these relationships. Patrick McCarthy agreed, saying he'd like to understand how the data will be used to guide management actions. Brent asked about USGS cost share; Dave Topping said USGS has donated much of the equipment also provides laboratory costs. Tom Chart said the technical committees support the work and he thinks it's likely we can provide funding. Tom recommends this as the second priority after Tusher Wash O&M and recommends we put it on our contingency list for funding we anticipate will be available in FY17. The Committee agreed. Meanwhile, we'll look to see if there may be other potential cost-sharing entities. Dave said USGS is writing a proposal for continuing the NPS funding, as well, and that funding is more likely if additional partners (like the Program) provide cost share. Tom Chart said Jensen and Ouray gages are the Program's highest priority, so if funds are tight, we would want to support those first.
14. Program office staffing updates – Tom Chart said the PDO is working on two positions. The first is for a database manager, which had a number of great applicants. Julie Stahl currently with CPW was selected and will start October 3 (and hopes to participate in the Implementation Committee meeting on September 19. The second is a position to fill in behind Jana Mohrman who is retiring at the end of the year. Tom has submitted a hiring request, but hasn't heard back yet. He had hoped to hire someone in time to overlap with Jana, but, in any case, Jana will have volunteer status and try to provide some support. This will be on the Implementation Committee agenda, also. Tom Pitts stressed the importance of getting someone in this position quickly. Seth Willey acknowledged the difficulty of getting someone on board before the end of the year, however.
15. Other capital projects (including more proposed repairs at Elkhead Reservoir) – Brent Uilenberg described costs and schedules for planned capital projects and compared budget projections with and without the Grand Valley Power Plant rehabilitation. At this point, OMID completion will stretch into 2019, but the regulating reservoir will be complete and the project should be providing >17KAF back to the river beginning in spring 2017. Red Fleet, Starvation, and Catamount screening also have moved out one year. Repairs to outlet screen at Elkhead also must be fit into the budget. Henry suggested the Program will want to learn more about the GVPP proposal before approving it and recommended developing a strategy for

that. Brent said Mark Harris will provide additional information from his cost analyses and Brent proposed scheduling a webinar for the Committee to discuss (subsequently scheduled for 3:00 p.m. on Thursday, September 8. Brent noted that it will be time-consuming to structure the contracting on the GVPP in the necessary time frame.

16. Report to Congress and pending legislation to re-authorize PL106-392 – Tom Chart said the draft report was completed in late June and was sent to Reclamation and Service headquarters in early July. Reclamation has the lead for shepherding the report through the remaining review process. As of August 16, a transmittal memo had been revised to go through both Assistant Secretaries, and may be further revised to be from both Reclamation’s Commissioner and the Service Director. On the Reclamation side, the report was being reviewed by Congressional Affairs staff. Once approved by Reclamation and the Service, the plan is to have the package simultaneously reviewed by two Departmental offices: Policy, Management and Budget (PMB) and the Solicitors (SOL). Once these offices have approved, surnames will be sought from the respective Assistant Secretaries. Then the report will go on to review and approval from OCL and the Office of Management and Budget (OMB). Once OMB provides the green light, signatures will be sought for all transmittal memos and the report will go to Congress. Few changes have been made since the report was sent out of the Program Director’s office. Tom said there are a few issues we’re trying to work out in transmittal of this letter to Congress. Leslie James said she’s been keeping her Board informed, but they’re not prepared to move legislation as they haven’t yet had specific discussion about the language and larger CRSP issues are a greater focus for them right now. Henry said the legislation would be very short and simple and asked how the CREDA Board would feel if the legislation was introduced, but not moved. Leslie thought that under that scenario, when Congress called CREDA to inquire about their support for the legislation, the response would be to ask if the report to Congress is complete. Leslie noted LTEMP and long-term contracts for CRSP are happening simultaneously.
17. Recovery planning and SSA updates
 - Humpback chub SSA and recovery plan – Tom Chart said a Recovery Team Implementation and Science Advisory subgroups have been working on this since meeting last November. A meeting planned for mid-August was deferred as comments on the SSA are still being addressed. The full SSA draft will be shared with the Science Advisory team in the next week or two and they’ll work on the viability analysis portion and then try to schedule a full team meeting in October. Tom said things look pretty good and he believes we’re seeing trend of stability for this species. New data points for the Westwater and Black Rocks populations this fall will be critical. Tom says they hope to have something to turn over to the Service for peer review by end of the year.
 - Colorado pikeminnow PVA and SSA – Phil Miller is doing the PVA and the model is built, but a fair bit of work remains to link management actions and model predictions. To understand long-term trends, we are back-casting through CPE information. The populations appear self-sustaining but at very low levels and young of year cohort strength are a major concern. Therefore, potential downlisting currently looks less likely for this species. Seth agreed, saying the trajectory does not look good, which would make it difficult to defend a downlisting action at this point. Tom Chart said he hopes the SSA will be ready for review by the end of January (the overall schedule is ~3-4 months behind).
 - Razorback sucker status assessment (SSA) – Brandon Albrecht has just completed the first draft and it was sent to Upper Colorado and San Juan folks with comments due by September 30.
18. Develop September 19, 2016, Implementation Committee webinar agenda – Agenda items for the Implementation Committee meeting scheduled from 12:30 p.m. to 5:00 p.m. at the Hilton Garden Inn DIA 16475 E 40th Cir, Aurora, CO (near DIA). Agenda items may include:
 - Approve March 29, 2016, webinar summary
 - Program Director’s update (include Maybell Ditch (success story), sufficient progress update

- Update on draft report to Congress, CREDA position on potential legislation
- Proposed dates for DC trip
- Recovery plans update
- Update on PDO positions
- Capital funds and GVPP proposal
- Drought contingency

19. Review previous meeting assignments – See Attachment 1.

ADJOURN: 11:30 a.m.

Attachment 1: Participants

Colorado River Management Committee Meeting, September 1-2, 2016

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
Seth Willey	U.S. Fish and Wildlife Service
Melissa Trammell	National Park Service
Bart Miller (Thurs) and Patrick McCarthy (Fri)	Western Resource Advocates (via phone) and The Nature Conservancy (via phone)
Shane Capron	Western Area Power Administration
Leslie James	Colorado River Energy Distributors Association (via phone on Friday)
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:

Kevin McAbee	U.S. Fish and Wildlife Service
Tom Czaplá	U.S. Fish and Wildlife Service (via phone)
Sandi Spivey	U.S. Fish and Wildlife Service
Angela Kantola	U.S. Fish and Wildlife Service

Others

Dave Speas	Bureau of Reclamation
Jana Mohrman	U.S. Fish and Wildlife Service
Harry Crockett	Colorado Parks and Wildlife (via phone)
Carlee Brown	State of Colorado (via phone)
Max Schmidt	Orchard Mesa Irrigation District
Mark Harris	Grand Valley Water User's Association
Carlee Brown	Colorado Water Conservation Board
Lisa Reynolds	Colorado Attorney General's Office (via phone)
John Currier	Colorado River Water Conservation District
Pete Cavalli	Wyoming Game and Fish Department

Attachment 2 Previous 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.*
 - **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, Bridget Fahey, 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 Jana Mohrman** 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.*

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).
5. ***The Program Director's office** will finalize the RIPRAP for 2016 and then begin working on addressing 2023 (identifying actions to be completed or carried on beyond 2023). *Pending*.
6. **Henry Maddux** will provide Angela the amount that Utah funded for The Nature Conservancy to provide habitat for razorback sucker (and hopefully bonytail) at the Matheson Wetland Preserve so Angela can credit it as an additional Utah contribution to the Recovery Program.
7. **Reclamation** will bring the terms of an O& M agreement for Tusher Wash East Side fish passage & screens intake back to the Committee before finalizing.
8. **Tom Chart** will talk with Partners program (Bill Noonan) about funding for an automated gate to return Elkhead fish releases at Maybell Ditch. **Tom Pitts** will inform Mike Hamblin of Maybell and **Tom Chart and Angela Kantola** will contact Mike to make the funding arrangements.

2016 EVENTS

- The Recovery Program and Utah Division of Wildlife Resources (UDWR) issued press releases on evidence of wild bonytail spawning in Stewart Lake, Utah.
- Robert Segin, USFWS External Affairs, along with Recovery Program staff took reporters from the Denver Post into the field near Grand Junction, CO. They accompanied Service staff while conducting fish sampling, viewed fish passages/screens, visited a hatchery and learned how USFWS manages endangered fish in the Colorado River.
- CPW has hosted three fishing tournaments. Two at Ridgway and one at Elkhead Reservoirs. Mike Porras and Joe Lewandowski each provided news releases promoting these tournaments. The Recovery Program in support of CPW's actions has provided a custom Catch and Keep logo that is currently being used in the Colorado Fishing Regulations booklet and on 1000 rack cards that have been produced for each of these fishing tournaments.
- UDWR continues to engage the media with it's "Catch and Kill" message of **NO RETURN** to the rivers for the "Worst of the Worst" fish species: smallmouth bass, northern pike and walleye.
- Kevin McAbee, Nonnative Fish Coordinator for the Recovery Program assisted CPW with Craig Daily Press reporter Patrick Kelly's articles. Tom Chart, Director of the Recovery Program prepared a letter to the editor in response to the article in the Craig Daily Press.
- Jana Mohrman, USFWS and Brent Uilenberg, USBR assisted reporter Brent Gardner-Smith of the Aspen Daily News with articles about releases from Ruedi Reservoir to benefit the endangered fish.

2017 Coming EVENTS

- Development of radio spots with the input and approval of the I&E Committee. This will be on the agenda for the I&E Committee meeting in September.

PUBLICATIONS AND OTHER EDUCATIONAL MATERIALS: Produce and distribute publications and other educational materials to provide current information to target audiences, ensuring consistent identity and content (such as Swimming Upstream newsletter, Program Highlights briefing document, nonnative fish and native fish brochures, nonnative fish removal rack cards, fact sheets, magnets, rulers, etc.)

RESPONSIBILITY: I&E Coordinator/I&E Committee

WHAT'S NEW IN 2016:

- "Swimming Upstream" newsletter is now an 8.5" x 11" booklet in full color. I&E Coordinator, Melanie Fischer delivered newsletters to the Craig Chamber of Commerce and spoke directly to them about distributing other publications to the public. Newsletters are well received and distributed widely.
- Produced a four-page brochure called "On the Path to Recovery" for distribution to Congressional aides to highlight progress made in the recovery of the endangered fishes.
- A new native fish brochure has been developed and will be available for distribution in 2016. They will be distributed to State Parks, fishing shops, and retail outdoor gear stores across the basin. A percentage of native fish brochures will be pocket laminated and given to field crews, river runners and angling guides for distribution to folks encountered on the river or for use in a boat to identify

the thirteen native fish species of the upper Colorado River basin. A nonnative fish message is prominent on the front cover.

- Two new rack cards identifying why nonnative fish need to be removed from reservoirs produced in conjunction with CPW's fish tournaments.
- Nonnative fish removal artwork has been developed for the Lil' Suckers beverage holders. The state of Wyoming has agreed to initial funding in the amount of \$1500.00. This product will be distributed to field crews, river runners and angling guides for distribution to people encountered on the river.
- Sets of 5x7 inch note cards have been developed with species pictures on the front one of the five elements of recovery highlighted on the back.

SPECIAL EVENTS AND PUBLIC MEETINGS. Strategically identify opportunities to reach target audiences through participation in special events and public meetings.

RESPONSIBILITY: I&E Coordinator/I&E Committee/Recovery Program Partners

WHAT'S NEW IN 2016:

- CPW and the Recovery Program hosted a public meeting in Craig CO on April 14, 2016. The discussion included a proposed net and fishing tournament at Elkhead Reservoir. The Recovery program had three staff members in attendance and provided artwork for several posters detailing why nonnative fish removal was necessary.

INTERPRETIVE EXHIBITS/SIGNAGE. Coordinate production and installation of interpretive signs/exhibits at public facilities with high visitation in target communities. Place program exhibit in highly visible public locations

RESPONSIBILITY: I&E Coordinator/I&E Committee/Recovery Program Partners

WHAT'S NEW IN 2016:

Visited select State Parks in Colorado and Utah assessing the need for either new signs or replacement of existing signs. This will be discussed at the I&E Committee meeting in September, 2016.

SOCIAL MEDIA and WEBSITE. Maintain our social media presence and promote our Facebook page and public website (ColoradoRiverRecovery.org)

RESPONSIBILITY: I&E Coordinator/Recovery Program staff

WHAT'S COMING IN 2016-2017:

Twitter "tweets" will be added to our social media presence along with a Flickr picture archive.

DIRECT MAIL. Design nonnative fish mail piece for water bills and Western Slope anglers.

RESPONSIBILITY: I&E Coordinator/I&E Committee/Recovery Program Partners

STATUS:

Waiting for response from CPW regarding availability of fishing license information. Waiting for information on water bills .

2016 OUTREACH EVENTS CALENDAR

ATTENDED

- Colorado Water Congress, January 27-29, 2016, Denver, CO
- Utah Water Users Association, March 14-16, 2016, St. George, UT
- Northwest Colorado Oil and Gas Forum, April 7, 2016, Rifle CO
- Elkhead Public Meeting, April 14, 2016, Craig CO
- I&E Tour of the Western Slope area in Colorado, May 8-13, 2016. Visited State Parks, retail outlets,

Craig hotels and Chamber of Commerce, and Children's Nature Museum in Fruita CO. Found multiple placements for native fish brochure and other publications.

- Kathleen Tadvick, Education & Hunter Outreach Coordinator, CPW, Grand Junction, CO: Classroom razorback sucker release at Connected Lakes State Park May 9-10, 2016
- Tildon Jones, Supervisory Fish Biologist, Colorado River Fish Project, USFWS Vernal Utah: Classroom razorback sucker release at Ouray National Wildlife Refuge May 11, 2016
- Ute Water Children's Water Festival, May 16-17, 2016, Grand Junction, CO
- Denver Water Children's Water Festival, May 17, 2016, Denver, CO
- Endangered Species Day, May 20, 2016 at the Denver Aquarium
- Open House, Program Directors Office, Lakewood, CO, Endangered Species Day, May 20, 2016 for the USFWS Regional Office.
- Photographed at Elkhead Fishing Tournament, June 19, 2016
- Colorado Water Workshop, June 22-24, 2016 Gunnison, CO
- Rocky Mountain Coal Mining Institute Annual Conference, June 26-28, 2016, Steamboat Springs, CO
- Chris Michaud, Fisheries Biologist, UDWR Moab, Utah: lecture on the Colorado pikeminnow at the Moab Information Center (co-sponsored by Canyonlands Natural History Association and The Museum of Moab), July 15, 2016.
- UDWR-Moab, Utah hosted an informational booth at the Moab Farmers' Market many Thursdays throughout summer 2016.
- Aurora Water Tour, August 10-11, 2016. This tour specifically targets policy makers, including city council, legislative delegation, federal and state agency staff, community leaders, and many of Aurora's regional partners. Aurora's water supply system spans three river basins and serves more than 350,000 people.
- Grand Junction Farmer's Market, August 18, 2016, Grand Junction, CO
- Palisade Peach Festival, August 19-20, 2016, Palisade, CO
- Palisade Farmer's Market, August 21, 2016, Palasade, CO

STILL TO BE ATTENDED

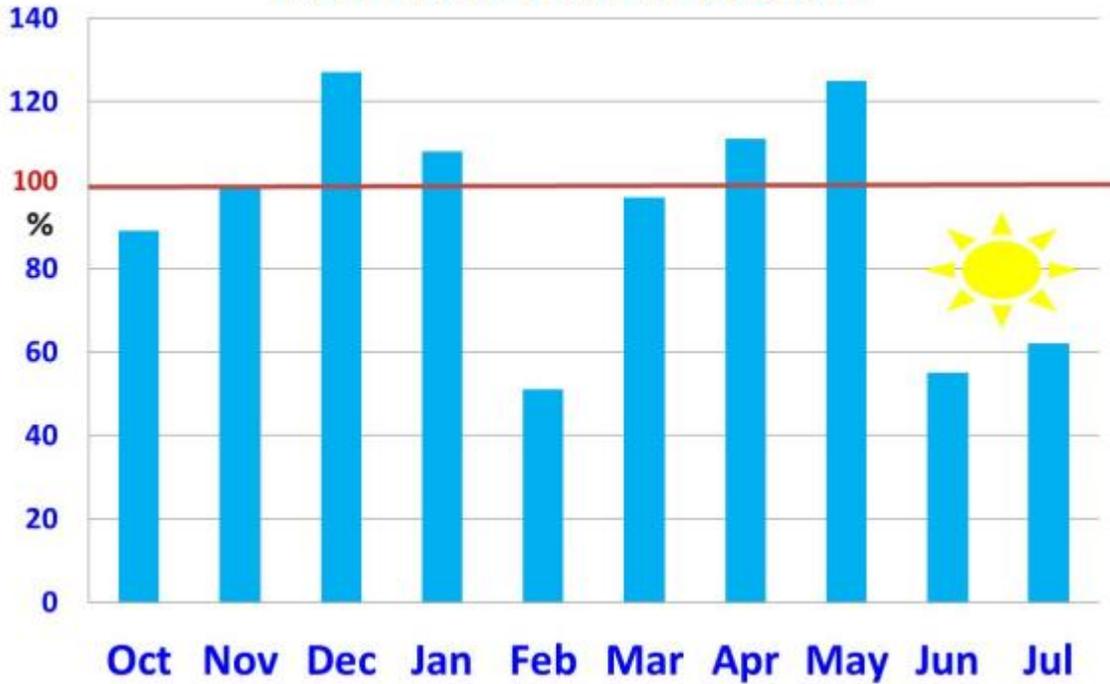
- River Rendezvous, September 30 - October 1, 2016, Green River, UT
- WY Water Assoc., October 26-28, 2016, Casper, WY
- Upper Colorado River Basin Water Forum, Colorado Mesa University, November 2-3, 2016, Grand Junction, CO
- CO River Water Users, Las Vegas, NV, December 14-16, 2016

OTHER EVENTS OF NOTE:

The Recovery Program is working with the Children's Nature Museum in Fruita CO to acquire a 250 gallon aquarium and pursue permitting to display the four endangered fishes of the Upper Colorado River on a permanent basis.

Palisade High School is coordinating with Ouray National Fish Hatchery in Grand Junction, to install an aquaculture facility that would raise endangered fish in a river ecology class at the high school.

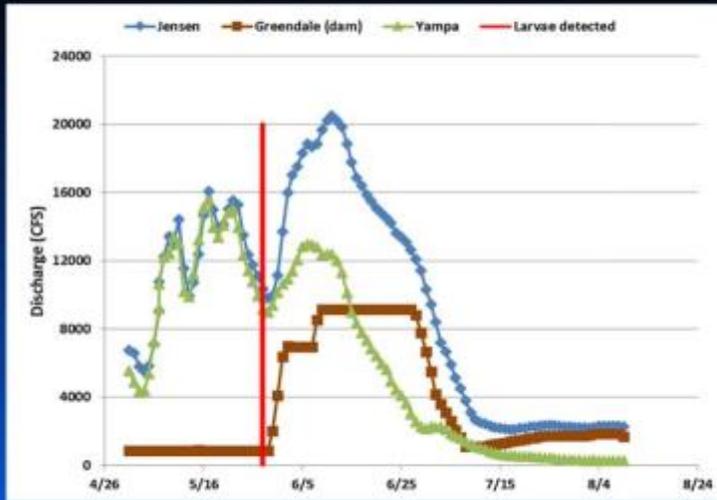
% of Average Precipitation in Basin above Lake Powell 2016 WY



2016 River Peaks (by percent of average)

<u>River</u>	<u>Location</u>	<u>Mean Daily Peak</u>	<u>Observed Peak</u>	<u>Observed Date</u>	<u>% of Mean Peak</u>
White	Watson	2,400	2,330	6/14/2016	97%
San Juan	Bluff	8,000	8,010	6/13/2016	100%
Colorado	Cisco	23,000	24,500	6/9/2016	107%
Gunnison	Grand Junction	8,000	9,920	5/17/2016	124%
Green	Jensen	16,500	20,500	6/12/2016	124%
Yampa	Deerlodge Park	12,500	15,600	5/18/2016	125%
Green	Green River	18,500	24,200	6/14/2016	131%
Colorado	Cameo	14,000	19,200	6/11/2016	137%

Spring Peak/Summer Flows 2016

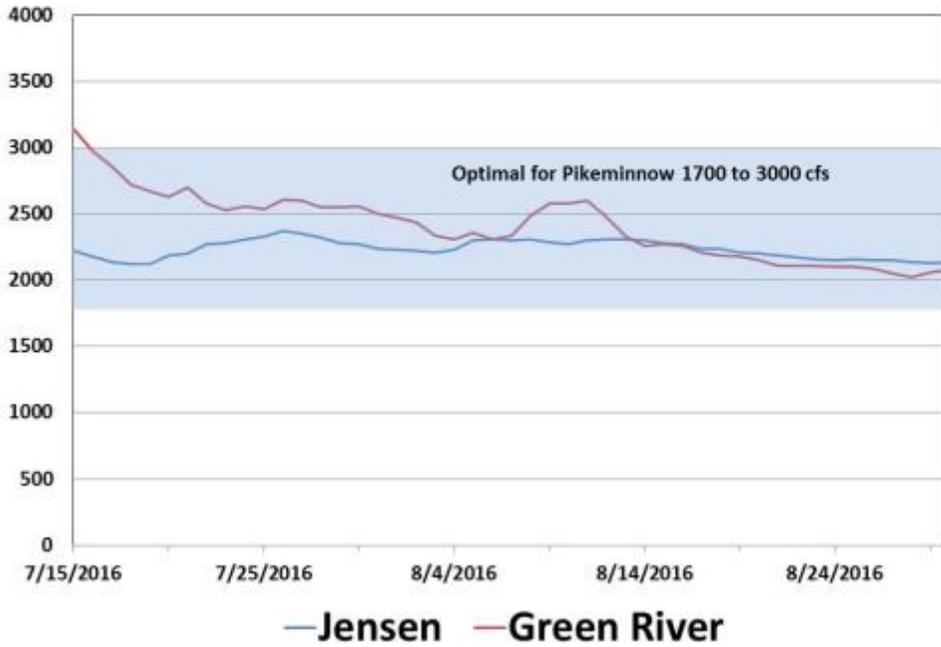


RECLAMATION

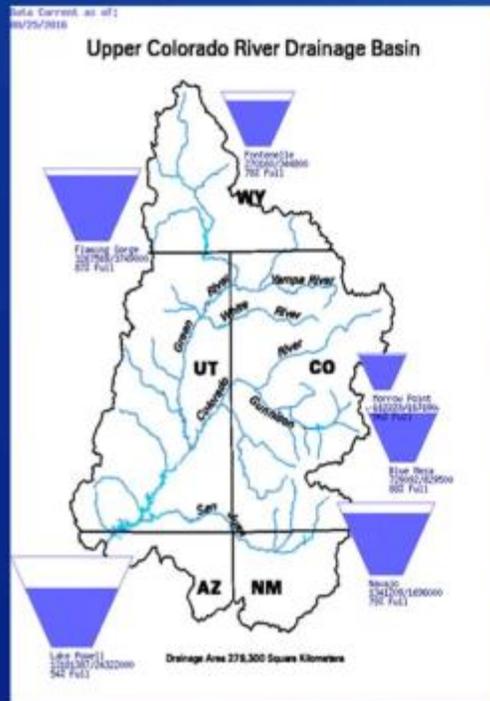
2016 Base Flows (by percent of average)

River	Location	Target cfs	Aug Average cfs	% of Target	Minimum cfs
Price	Woodside	30	22	73%	0
White	Watson (Draft)	300	227	76%	143
Colorado	Palisade	1,240	952	77%	657
Green	Green River	2,450	2,266	92%	2020
Green	Jensen	1,950	2,229	114%	2130
Duchesne	Randlett	50	62	124%	33
Yampa	Maybell	134	183	136%	103
Gunnison	Grand Junction	1,050	1,874	178%	1560

Green River Base Flows at Jensen and Green River 2016



Current Conditions: CRSP System Storage



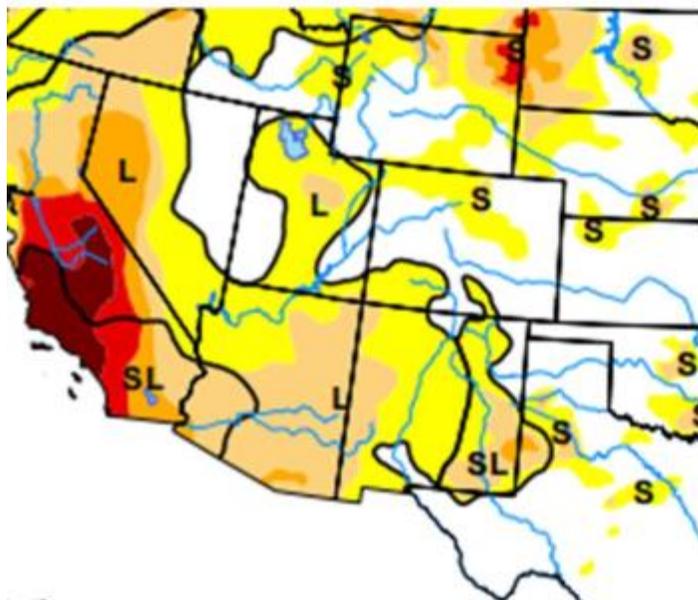
Storage Conditions (% Full)

- Fontenelle – 78%
- Flaming Gorge – 87%
- Blue Mesa – 88%
- Navajo – 79%
- Glen Canyon – 54%

Observed April-July Inflow (%Avg)

- Fontenelle – 90%
- Flaming Gorge – 107%
- Blue Mesa – 89%
- Navajo – 76%
- Glen Canyon – 92%

U.S. Drought Monitor



Drought Impact Types:

- ~ Delineates dominant impacts
- S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

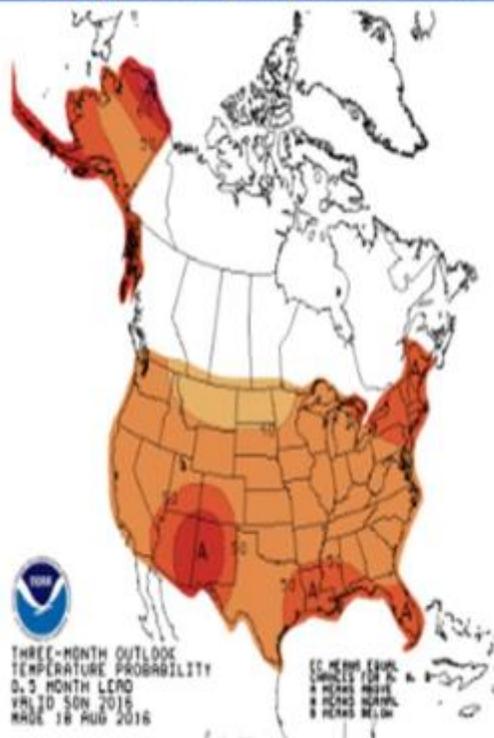


August 23, 2016

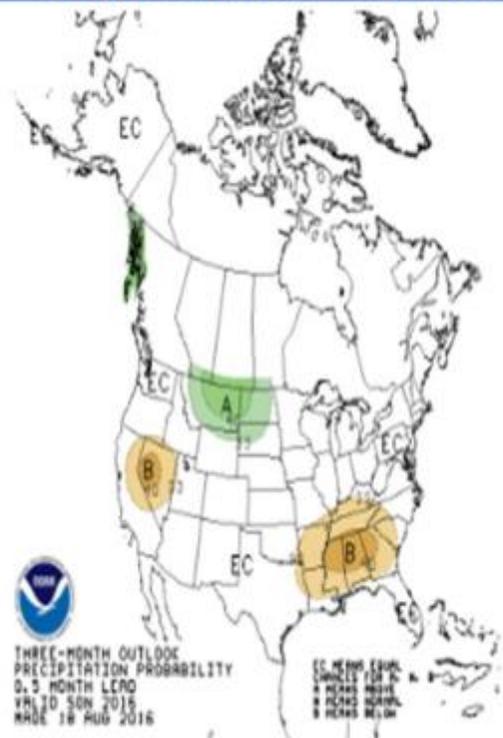
(Released Thursday, Aug. 25, 2016)

Valid 8 a.m. EDT

90 Day (Seasonal) Temperature Outlook



90 Day (Seasonal) Precipitation Outlook



Attachment 5: Reservoir Update

Reservoirs likely needing screens	Reasoning for screen	Proposed screen type and location	Status	Proposed completion date	Total estimated cost	Program portion
Red Fleet Reservoir	Illegally introduced walleye population chemically removed October 2015; LMP finalized August 2015. Reservoir stocked with yellow perch, black crappie, cutthroat and tiger trout, hybrid bass (wipers), and sterile walleye . Stocked species are thriving.	Downstream screen below the outlet (best initial proposal by Fransen Engineering at on-site visit)	UDWR funded for initial engineering study to evaluate screening options in 2016 (Fransen); submitting for design and construction money for next fiscal year	Engineering 2017; Permanent barrier 2018	Screen unknown	Program paid \$88,487.25 for rotenone and KMnO4. Unknown Screen cost; Brent has placeholder of \$500,000
Elkhead Reservoir	Contains smallmouth bass and northern pike populations; LMP includes management as a largemouth bass, bluegill, and black crappie fishery; LMP finalized	Outlet screens (in place) & spillway net (in construction);	Net & debris boom anchors installed mid-August; Net scheduled for install September 19th; NEPA complete; construction agreement signed; State Engineer Dam Safety Review underway; New unlimited harvest regulations in place beginning April 1, 2016; Angler Tournament held June 2016.	Net install - September 2016	Total Project cost \$1.37 million: Net \$245K; Installation \$228K; Debris Boom \$300K; Boom Anchors \$300K; Erosion Aprons \$50K; Engineering/Grading \$156K; CRD \$97K	Estimated to be \$837,000 from capital accounts

Starvation Reservoir	Contains fertile walleye and smallmouth bass populations	Flate 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. LMP to be drafted; Public meeting scheduled for November. UDWR will install permanent screen with same orientation as the temporary screen.	Temporary Screen - March 2015 (done); Permanent Screen install - 2017 (dependent upon completion and approval of LMP); Rotenone treatments in stilling basin - ongoing	\$400,000 estimate. Cost could be reduced if BOR force labor is used and scheduled to coincide with other onsite maintenance; Brent has placeholder of \$500,000	Estimated at \$300,00 (75%)? Brent has placeholder of \$500,000
Ridgway Reservoir	Contains illegally introduced smallmouth bass population	Preliminary evaluation demonstrates net, coanda screen, or rigid screen are likely the most effective and feasible alternatives; Net seems to be leading candidate but must consider debris loading, costs, and dam safety components	Tri-County WCD avoiding spills (avoided in 2014, 2015, & 2016); Got within 4 feet of spillway in 2016; CPW applied a no-limit bag for SMB on April 1, 2015; Held harvest tournament in 2015 (36% removal) and 2016 (24% removal); Working group meeting semi-annually to discuss screening options; Tri County and BOR investigating potential role Tri County is willing to play	net or screen - unknown; But working towards ASAP solution		Costs above \$500,000 - similar to Elkhead? Brent has placeholder of \$2.3 million

Catamount Reservoir	Contains northern pike 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 met with stakeholders in June 2016 to provide information on the Program, nonnative fish, and potential screening	spillway net - unknown;		Brent has placeholder of \$500,000
Stagecoach Reservoir	Contains northern pike and walleye populations	likely not needed if Catamount screened	CPW will remove northern pike and walleye as part of ongoing projects; Upper Yampa WCD can hold reservoir below pike spawning habitat in above average years, but not in below average years; CPW requests they hold reservoir lower in all years until after pike spawn; Other options (vegetation mowing, harvest incentive, etc.) have been discussed;	unknown		
Chapman Reservoir	Contains illegally introduced northern pike population	likely not needed if Catamount screened (upstream of Stagecoach per Harry) or if chemically treated	On CPW's chemical treatment schedule; CPW negotiating with local users; Hopeful that it can be treated in September 2016	September 2016;		

Crawford Reservoir	Contains walleye and northern pike	unknown	Northern pike removed in 2014 and 2015, reducing the size structure; Removal will not take place in 2016 because it is not cost effective to remove the few individuals left. Removal will resume if needed. Failed attempted introduction of SMB.	unknown		
Private Ponds (Larson Ponds, Snyder Pond, etc.)	Contain northern pike and smallmouth bass populations	unknown	Filling in stream breaches at Synder Pond (& likely others) is not an option for liability and cost reasons (per Uilenberg); CPW is actively netting (2015+) to remove nonnative fish and prevent aquatic biota connections to the river; CPW built a Merwin Trap specifically tasked for Synder Pond in 2016	unknown		Program paid \$15K for Merwin Trap in 126b SOW in 2016;
					Total estimated Program commitments	\$ 4,725,487

Reservoirs with existing screens or screens not needed	Reasoning for screen	Existing screen type and location	Status	Completion date	Total estimated cost	Program portion
Rifle Gap Reservoir	Contains smallmouth bass, walleye and northern pike	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; LMP approved by FWS, UT, and WY; stocking of 100% triploid walleye (fertile walleye removal for 2 years); Stocked in 2016 with 98.9% triploid fish, but no diploid removal; New unlimited harvest regulations for SMB in place beginning April 1, 2016	Completed in 2013		\$0 (CPW purchased with Section 6 and other CPW funds)
Harvey Gap Reservoir	Contains smallmouth bass and northern pike 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 2017;		

Highline Lake	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
Reservoirs with existing screens or screens not needed	Reasoning for screen	Existing screen type and location	Status	Completion date	Total estimated cost	Program portion
Miramonte Reservoir	Contained illegally stocked smallmouth bass population	n/a	Reservoir treated in 2013 to remove smallmouth bass	Completed in 2013		\$25,000 for rotenone costs
Paonia Reservoir	Contained illegally stocked northern pike population	n/a	Reservoir treated in 2012 to remove northern pike	Completed in 2012		\$3,000 for rotenone costs
Juniata Reservoir	Contains smallmouth bass and walleye populations	Coanda screen on outlet into irrigation ditch that connects to Kannah Creek	Screen function or extent of escapement by SMB or WLY unknown.			
Rio Blanco Reservoir	Contain northern pike 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	Possible management alternatives			
McPhee Reservoir	Contains fertile walleye and smallmouth bass populations		McPhee does not drain to river. Escapement is not confirmed, but partners feel it is highly unlikely	CPW did not apply unlimited harvest for SMB because of lack of escapement		
Lake Powell	Contains fertile walleye, striped bass, gizzard shad and smallmouth bass populations	High levels of inflow (up to 70K cfs) - but some sort of screen may be feasible in future	Lake Powell LMP drafted	USGS & FWS investigating if Powell is source of riverine walleye using otolith microchemistry		
Flaming Gorge Reservoir	Contains smallmouth bass and burbot 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 seen during LTSP releases immediately below dam;			

Attachment 6

The approximate annual schedule and process for the Service's sufficient progress memo (even years) is shown below with a proposed timeline to catch up and complete the 2016 memo:

1. ~March 31: RIPRAP assessment is completed and approved by the Program. *Done April 19 (Management Committee).*
2. ~April 15: Program Director's office distributes a draft of the following elements of the sufficient progress memo to the Service and Management Committee:
 - a. population status update; *Pending (PDO; due September 16)*
 - b. list of accomplishments and shortcomings; *Drafted*
 - c. discussion and recommended action items; and *Actually, we typically do this part between steps 4 & 5, below.*
 - d. draft communications plan to accompany final sufficient progress memo (per Implementation Committee request in September 2012). *PD's office can easily draft this any year it's needed, but there doesn't seem to be a continued need.*

Also included are reviews of action items in the Yampa PBO. *Pending (Kantola; due September 7)*

3. ~April 30: Management Committee webinar to review and comment on the draft elements of the sufficient progress memo. *Propose also sending to FWS offices as a head up and receiving MC comments by e-mail rather than webinar. Submit to MC & FWS offices by September 26 with MC comments due October 7 (FWS offices may comment at this time or during webinar).*
4. ~May 7: Service webinar to review and comment on the draft elements for sufficient progress memo. The Service considers the Management Committee comments during the review. *PD's office to incorporate comments on draft elements of the memo and provide to FWS by October 19 for discussion on a 2-hour webinar between October 27 and November 8.*
5. ~May 30: Program Director's office prepares final draft sufficient progress memo/determination for Service review. *Propose combining steps 5 & 6 (simultaneous review of draft memo by FWS offices and MC) with draft memo sent to MC & FWS by November 15 with comments due by November 23.*
6. ~June 15: Service sends Management Committee the final draft sufficient progress memo primarily for informational purposes. The Management Committee will notify the Service if members have any significant issues/concerns. *See above.*
7. ~June 30: Service finalizes sufficient progress memo. *By mid-December*

Attachment 7

Status of Action Items from the 2015 Sufficient Progress Letter (only those items not being tracked elsewhere)

September 1, 2016

#	Recommended Action Items	Lead	Due Date	Status
General – Upper Basin-wide				
1	Reduce impacts of nonnative fish on humpback chub. Complete recommendations for and implement humpback chub broodstock development.	States, FWS PDO/BC	Ongoing	Yampa Canyon smallmouth bass removal (Project 110) continues and is complemented by similar efforts upstream (Projects 125, 98a, and 98b) and downstream (Project 123a). In Desolation Canyon, smallmouth bass, walleye, and other nonnative species are removed during Colorado pikeminnow population estimates (Project 128) and during specific nonnative control trips conducted under Project 123a. Smallmouth bass and walleye removal occurs upstream and downstream of Westwater and Black Rocks under project 126a. Ad hoc group developing action plan; fin clips are being analyzed to determine humpback chub genetic diversity and potential use in broodstock development. FWS continues to bring young humpback into the hatchery for backup broodstock.
2	Develop scope of work to investigate age-0 and age-1 humpback chub mortality (especially in Black Rocks/Westwater and Desolation canyons) as recommended in the Research Framework).	USFWS		Young of year component now incorporated into adult sampling to help track the young life stages.
Green River				
3	Maintain revised schedule to implement flow Green River protection in FY 16-17.	Utah/USBR	FY 17	White paper drafted; Utah reviewing and pursuing options for flow protection.
4	Continue government-to-government consultation with Northern Ute Tribe and request that the Old Charlie Wash lease be renewed.	USFWS	N/A	Service has been working with Tribe on lease renewal and options to resume sampling at Old Charlie, but nothing to report at this time. Researchers received permits for their work on the lower White River.
5	Construct weir wall in the Green River Canal to prevent endangered fish entrainment.	USBR	FY17	Design & engineering underway; Reclamation expects to award a contract in FY17 and complete the weir wall in FY18 for a total cost about \$4M. NRCS has completed the diversion rebuild.
6	Eradicate white sucker at Browns Park.	UDWR		UDWR is planning to eradicate the large population of white sucker in Browns Park WMA (floodplain and streamside ponds adjacent to the river), which may be a source for white sucker in the Green River. UDWR met onsite with engineering firm on April 13, 2016 to discuss design options for a permanent solution to prevent recolonization of nonnative species. White sucker eradication will occur as part of larger project. Browns Park modifications may also create a location for bonytail stocking.
Yampa River				
7	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	2016	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 the work has been delayed due to staff member's extended leave. CWCB is estimating depletions and will be reviewing those numbers. There may be increased depletions on the Colorado for transbasin diversions (not coming close to the cap, however), but the numbers need to be reviewed before sharing with the PDO and the WAC.

#	Recommended Action Items	Lead	Due Date	Status
Duchesne River				
8	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	Service has resumed discussions with the Ute Tribe, but no change to this yet. UDWR working with Northern Ute Tribe on operation of fish passage at Myton Diversion (passage will allow endangered and other native fishes to move upstream); Utah approved funding for operation of that passage.
Colorado River				
9	Improve achievement of flow targets, especially in drought years.	Program	Ongoing	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 (9,000 af) and 2016 (up to 12,000 af), CWCB leased water from Ute Water Conservancy District for release from Ruedi using SCTF monies. The OMID Canal Automation Project is expected to provide at least 17,000 af of water in most years. The check structures in the OMID project began providing partial water savings beginning in the 2014 irrigation season; completion of the reregulating reservoir will add substantially more saved water for the 2017 irrigation season. Finally, the 15-Mile Reach PBO requires review of progress to implement flow protection / effects on endangered fishes in 2015; the draft review was sent to the Biology and Water Acquisition committees with a comment deadline of September 9.
10	Complete CFOPs report (evaluation of options for providing and protecting additional peak flows to the 15-Mile Reach).	Water Users	2016	Draft was expected June 2016 (now week of September 5) and final in September (now mid-October) 2016. 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).
11	Determine if and how the Recovery Program can assist irrigation companies in improving screen operations to further reduce entrainment of native and endangered fish at the GVIC, GVP, and Redlands diversions.	USBR		

Proposal for Recovery Program Funding of Improvements to Maybell Canal for Administration of Elkhead Reservoir Releases for Endangered Fish

Submitted by
Tom Pitts

Upper Basin Water Users Representative
Upper Colorado River Endangered Fish Recovery Program
August 14, 2016

Introduction

The Upper Colorado River Endangered Fish Recovery Program participated in the enlargement Elkhead Reservoir for the purpose of acquiring 5,000 acre-feet of storage to augment summer low flows in the lower Yampa River between Elkhead Creek and in the Green River. In addition, the Recovery Program leases up to 2,000 acre-feet from the Colorado River Water Conservation District as needed for additional flow augmentation. The water is released with the objective of maintaining 90 cfs at the Maybell gage.

Water Administration

The Yampa Division Engineer and water commissioner are responsible for administering water rights in the Yampa basin. This includes the release from Elkhead Reservoir for the purpose of augmenting flows in the lower Yampa River. The Maybell Canal, owned and operated by the Maybell Irrigation District, is a senior diversion having a right to approximately 129 cfs of natural flow in the Yampa River. The diversion is located just upstream of the town of Maybell and upstream of the Maybell gage (see enclosed figure).

Since the inception of the Elkhead releases, the Division Engineer has protected the Elkhead release by 1) noting the position of the Maybell Canal headgate prior to the Elkhead release, 2) adjusting the headgate when Elkhead releases are made so that the flows entering the Maybell Canal are restricted to the amount of diversion occurring prior to the Elkhead release.

The Maybell District has contended for several years that this method of protecting the Elkhead release deprives the District of any increases in natural flow of the river to which it is entitled that may occur during the period of the Elkhead release.

In the fall of 2015, discussions were initiated to resolve issues associated with protection of the Elkhead release and to avoid potential water court action. Participants in the discussion included representatives of Maybell Irrigation District, Colorado River Water Conservation District, Recovery Program, Yampa Division Engineer, and Upper Basin Water Users. The discussions continued through July, 2016.

During the course of the discussions, several points were made regarding Elkhead releases and related issues associated with administration of the Maybell Irrigation District water right:

- The canal headgate does not have a measuring device to measure inflow to the canal.
- The Division Engineer is extremely concerned about diversions in excess of the amount needed for beneficial use throughout the Yampa Basin and has taken the position that excess tail water is a clear indicator of excess diversions.
- The only means of controlling inflow into the Maybell Canal has been adjustments of the headgate. There are no intermediate check structures in the lengthy canal.

After much discussion, an agreement was reached regarding administration of the Elkhead release (enclosed). This agreement has the support of all parties in the discussion, including Recovery Program staff.

In addition to the agreement regarding Elkhead releases, Maybell Irrigation District agreed to pursue funding for additional structural modifications to the canal that would improve overall water management. These modifications not only improve water administration, but will very likely result in increased flows in the lower Yampa River to the benefit of endangered fish.

Proposal for Administration of Elkhead Releases

The proposal for improved administration of Elkhead releases involves both physical improvements and operational modifications described in detail in the enclosed agreement. In summary the physical and operational modifications include:

- Installation of a remotely controlled automated gate and measuring device 1 mile downstream of the Maybell Canal headgate that will promptly return any Elkhead releases diverted into the canal to the Yampa River.
- Installation of a measuring device at the headgate.
- If the measuring device at the automated gate indicates that flows of increase due to the Elkhead release, those flows will be immediately returned to the Yampa, and within a reasonable period of time the headgate will be adjusted to eliminate diversion of the Elkhead release.

These basic procedures will ensure that diversion of the Elkhead release, if it occurs, will be returned promptly to the Yampa River and that such diversion will cease in a timely manner due to adjustments of the headgate. The need for the automated return gate and measuring device to ensure prompt return of Elkhead releases results from the fact that the Maybell headgate is remote.

Other Structural Improvements for Water Administration

In addition to the automated gate, the Maybell District proposes to make other improvements to the canal and headgate that will improve the efficiency of the ditch, reduce excess diversions, reduce tail water returns, and will likely result in additional water in the river. These improvements include:

- Installation of three check structures (overshot gates) in the canal.
- Rebuild and line 400 feet of the canal.

Cost of Improvements

The total cost of the improvements is \$197,375 as summarized below:

<u>Component</u>	<u>Cost</u>
Headgate Flume	\$82,500.00
Automated Gate for Elkhead Release Return	\$62,700.00
Canal Improvements	\$52,175
Total Project Cost	\$197,375.00

Details for these cost are shown in attached Table 1 enclosed.

Proposed Funding Sources for Improvements

The proposed cost shared funding sources for the total project include a grant from the Colorado River Water Conservation District, Maybell Irrigation District funding, the Yampa-White River Roundtable, and Section 7 funds provided by the Recovery Program. The funds proposed to be provided by the Recovery Program include only those funds needed to install the automated gate for the Elkhead release return. The proposed funding sources are shown in the table below:

Colorado River District Grant	\$49,000.00
Maybell Irrigation District	\$40,000.00
Recovery Program Section 7 Funds	\$62,700.00
Yampa-White Roundtable	\$45,675.00
Total	\$197,375.00

Operation and Maintenance Expenses for Improvements

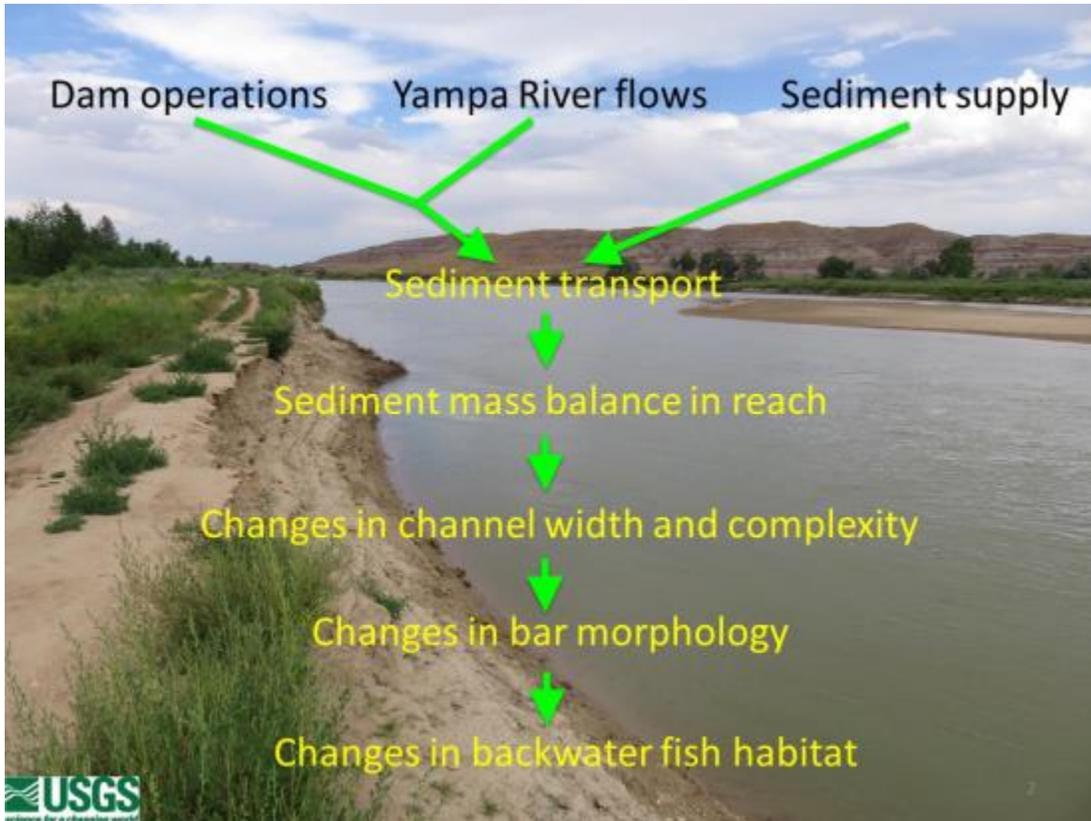
Maybell Irrigation District will assume all operation and maintenance expenses for the improvements, including the automated gate for return of Elkhead releases. The Recovery Program will not be obligated for any operation and maintenance expenses.

Attachment 9

Proposed suspended-sediment monitoring and sediment-budgeting in support of the Upper Colorado River Endangered Fish Recovery Program

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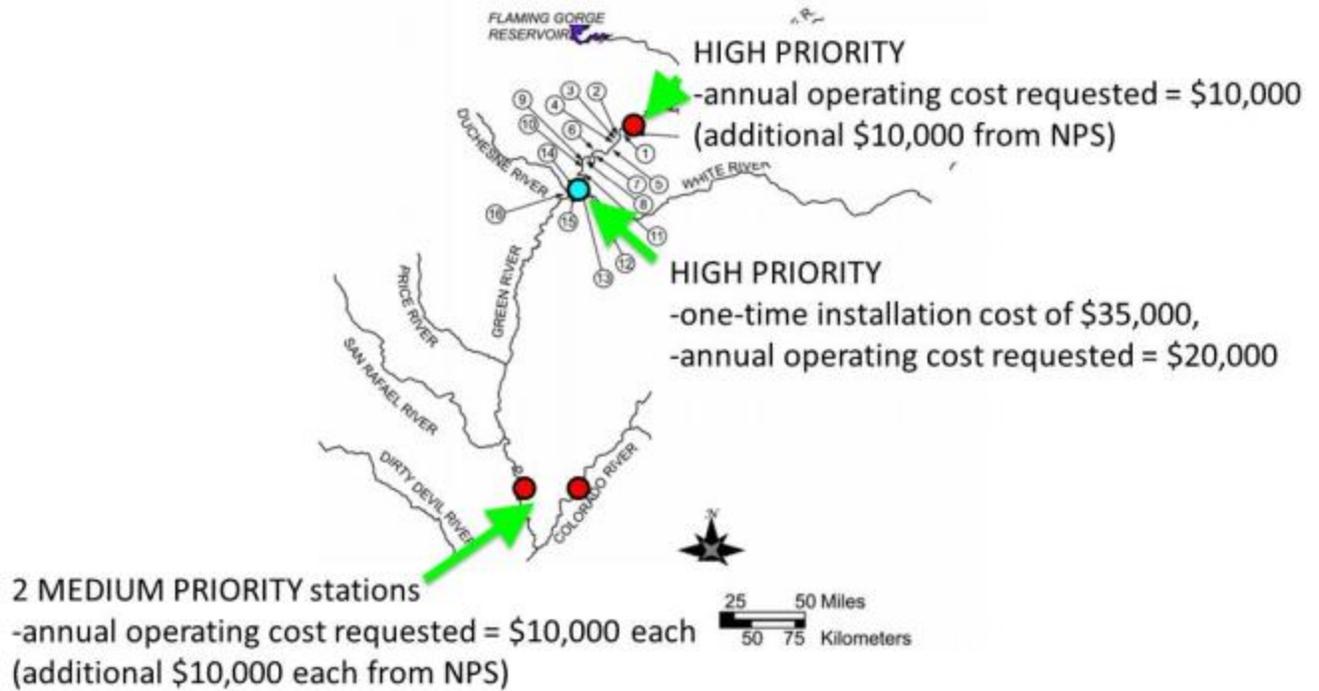


Figure 1. Green River study area showing locations of 16 priority flood plain wetlands (from Hayse et al. 2005, and Valdez and Nelson 2004). Location 1= Thunder Ranch, 2 = IMC, 3 = Stewart Lake, 4 = Sportsman's Lake, 5 = Bonanza Bridge, 6 = Richens, Slough, 7 = Horseshoe Bend, 8 = The Stirrup, 9 = Baser Bend, 10 = Above Brennan, 11 = Johnson Bottom, 12 = Leota ponds, 13 = Wyasket Lake, 14 = Sheppard Bottom, 15 = Old Charley Wash, 16 = Lamb Property. From Hayse et al. (2005) with permission.

Figure from: Bestgen et al. (2011)