

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

FY 2022-23 SCOPE OF WORK

PROJECT: 168

Project Title

White River Management Plan

Bureau of Reclamation Agreement Number:

N/A

Reclamation Agreement Term

N/A

Note: Recovery Program FY22-23 scopes of work are drafted in May 2021. They often are revised before final Program approval and may subsequently be revised again in response to changing Program needs. Program participants also recognize the need and allow for some flexibility in scopes of work to accommodate new information (especially in nonnative fish management projects) and changing hydrological conditions.

Lead Agency:

U.S Fish and Wildlife Service

Principal Investigator:

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Category:

- Ongoing project
- Ongoing-revised project
- Requested new project
- Unsolicited proposal

Expected Funding Source:

- Annual funds
- Capital funds
- Other [explain]

Relationship to RIPRAP:

Green River Action Plan: White River

- I. PROVIDE AND PROTECT INSTREAM FLOWS (HABITAT MANAGEMENT)
- I.B.3. Develop and implement a White River Management Plan
- I.B.3.a. Conduct programmatic Section 7 and NEPA compliance on recovery actions and a level of future water demand.

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Study Background/Rationale and Hypotheses:

The White River is an important component for the conservation of native fishes in the Upper Colorado River Basin and for the recovery of endangered Colorado pikeminnow and razorback sucker. The hydrology of the White River is relatively unaffected by large storage projects or depletions. Estimates of water use in the basin suggest that roughly 10% of the natural river flow is currently depleted by human uses, almost entirely within the state of Colorado (Anderson et al., 2019). Current consumptive uses of the river in Utah are minimal, likely less than 500 acre-feet annually (James Greer, Utah Division of Water Rights, personal communication, September 2018).

In 2001, Tyus and Saunders (2001) determined that indirect contributions (flow, sediment, and water quality) from the White River to endangered fish recovery in the Green River sub-basin were second only to those of the Yampa River. The authors recognized that the White River also provided direct contributions (endangered fish habitat) to recovery based on abundant captures of adult Colorado pikeminnow, and the occasional capture of young-of-the-year Colorado pikeminnow and adult razorback sucker. More recently, researchers have documented spawning of Colorado pikeminnow and razorback sucker in the White River (Bestgen et al. 2012). These important new findings coupled with the relatively intact native fish populations have increased the recognized importance of the White River in recent years. In 1994, the U.S. Fish and Wildlife Service designated 151 river miles of the White River (from the Green River confluence upstream to Rio Blanco Lake) as critical habitat for the Colorado pikeminnow and a shorter reach for razorback sucker at river mile 18, the boundary of the Uintah and Ouray Indian Reservation (59 FR 13374).

In 2019 the U.S. Fish and Wildlife Service published interim flow recommendations for the endangered fishes of the White River that received Recovery Program approval (Anderson et al., 2019). These recommendations consider information from base flow studies reviewed and approved by the Recovery Program in 2004 (Haines et al. 2004), and from spring peak flow studies drafted for the Recovery Program based on geomorphic analyses (Schmidt and Orchard 2002). They also consider substantial biological data gathered since those studies, along with simulated river flows by Wilson Water Group under different current and future development scenarios.

In a 2002 Recovery Program Project 114 Annual Report, entitled Tributary Basin Management Plans, there was a recommendation that a Programmatic Biological Opinion (PBO) be developed for the White River similar to PBO's developed for the 15-Mile Reach of the Colorado River, the Yampa River, and the Gunnison River. Meetings of a White River Planning Team¹ were initiated in 2016 to begin evaluating and modeling White River information as first steps toward developing a White River Management Plan and a corresponding PBO.

In October 2019, the Colorado Water Conservation Board (CWCB) selected a consulting team led by ERO Resources to assist with development of a White River Management Plan (WRMP or "Management Plan"), which will characterize current and some level of reasonably foreseeable future water use within the White River basin and its possible impacts to endangered fish, and help identify necessary Recovery Program activities in the White and Green River basins to provide Endangered

¹ Partners on the White River Planning Team includes Upper Colorado River basin water users, the U.S. Fish and Wildlife Service, CWCB, State of Utah Division of Water Rights, the Rio Blanco Water Conservancy District, the Ute Indian Tribe, and The Nature Conservancy.

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Species Act compliance for depletion impacts. The WRMP will include a biological assessment to provide the basis for the Service's development of a PBO. The White River Planning Team has been working with ERO Resources since early 2020 to develop that Plan.

Study Goals, Objectives, End Product(s):

Study Goal: Develop a management plan that: 1) identifies historic and a likely future depletion scenario; 2) uses (and refines) the Recovery Program's interim endangered fish flow recommendations and current hydrology to identify the effects of past and a portion of future water development on endangered fish habitat; and 3) identifies recovery actions needed to offset depletion effects. A federal-state-local cooperative or other agreement to implement the resultant management plan will constitute the federal action (likely via U.S. Fish and Wildlife Service participation) that serves as the basis for a Section 7 consultation and development of a White River PBO.

Study Objectives:

1. Develop a future water demand scenario working with local water interests, such as; CWCB, Yampa/White River Roundtable including the Rio Blanco Water Conservancy, District, Ute Indian Tribe, Bureau of Land Management, Colorado River Water Conservation District, Uintah Water Conservancy District, State of Utah Board of Water Resources.
2. Use StateMod modeling approach and historic USGS daily data to evaluate effects of a portion of future water demands on White River hydrology and the interim endangered fish flow recommendations. Work with a technical consultant to conduct scenario analysis.
3. Develop flow recommendations for inclusion in the White River Management Plan considering existing hydrology/geomorphology, future depletions, earlier draft flow recommendations, and current biological/geomorphological data
4. Work with subject matter experts and the U.S. Fish and Wildlife Service (USFWS) – Ecological Services (representatives from the Utah Field Office and the Western Colorado Area Office) to identify recovery actions needed to offset depletion effects to the endangered fish resulting from historical and a portion of future water demands.
5. Finalize a White River Management Plan that includes: a future depletion scenario; endangered fish flow recommendations; recovery actions to be implemented by the Recovery Program; and a draft cooperative agreement with input by the public and interested/affected parties.
6. Adopt a final White River Management Plan and complete National Environmental Policy Act (NEPA) compliance on the Plan and cooperative agreement.
7. Initiate the White River Management Plan via signing of a cooperative agreement (or a Memorandum of Agreement). Possible signatories: USFWS, state water management agencies, the Ute Tribe, the Rio Blanco Water Conservancy District, and CWCB.
8. Public outreach to water users and stakeholders will occur throughout the development of this White River Management Plan.

End Products: A final White River Management Plan with flow recommendations and NEPA compliance, implemented via a signed cooperative agreement or other agreement.

Previous projected timeframes for achieving the above objectives (as identified the 2020-2021 Scope of Work) have been revised as the White River Planning Team and associated interests have reviewed and vetted various proposals for recovery actions and alternative strategies for structuring the White River

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Management Plan and PBO. A revised schedule reflecting the current status of this effort is provided below.

Study Area:

The White River is a major tributary to the Green River, second only to the Yampa River in annual discharge under current conditions of development. It is more than 200 miles long and drains nearly 5,120 square miles in western Colorado and eastern Utah, merging with the Green River in northeastern Utah approximately 98 river miles downstream from the Yampa River confluence, and two miles downstream from the Duchesne River confluence.

Most White River runoff derives from high elevation snow accumulation and melt. Under current conditions, average runoff in the White River is about 508,000 acre-feet annually, based on measurements at the U.S. Geological Survey (USGS) gages near Watson, Utah (#09306500) and near the Colorado State Line (#09306395) from 1975 to 2015. Median flows vary from around 350 cubic feet per second (cfs) in late summer to well over 3,000 cfs during the peak of spring snowmelt runoff. The White River, over the period identified above, contributed on average about 13% of the total annual flow in the lower Green River as measured at the USGS gage at Green River, Utah (#09315000).

The hydrology of the White River is affected by various water diversions and uses within the river basin, and by one substantial mainstem impoundment, Taylor Draw Dam, near Rangely, Colorado at river mile 103. However, compared to most other major rivers in the upper Colorado River system, the hydrology of the White River remains relatively unaltered. Agricultural water use is the single largest consumptive use in the basin. Recent estimates indicate approximately 28,100 irrigated acres in the basin in Colorado, with a corresponding average consumptive annual irrigation water requirement of approximately 46,400 acre-feet per year (CWCB 2019). Almost all of this irrigation is provided by surface water; groundwater pumping in the basin is relatively minor.

Study Methods/Approach:

As noted above, a White River Planning Team (Planning Team) is helping to guide this effort. The Team is comprised of a water user's representative, the Ute Indian Tribe, Rio Blanco Water Conservancy District, the Colorado Water Conservation Board, Utah Water Resources, The Nature Conservancy, and the Program Director's Office (PDO). These representatives are assisting with the development of this Management Plan. ERO Resources was contracted in late 2019 to provide support for: a) modeling projected future water development scenarios to understand effects on White River hydrology and the Recovery Program's interim endangered fish flow recommendations; b) assisting with scheduling, facilitating, summarizing stakeholder and public outreach meetings; c) drafting and revising (as needed) a Management Plan; and d) assisting with NEPA compliance.

Task Description, Deliverables and Schedule:

Draft Schedule	Task	Responsibility
Completed	Hire consultant	CWCB in consultation with PDO and Planning Team

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Completed	Agree on current and future water demand scenarios to be incorporated into White River Management Plan	PDO working with White River Planning Team and other basin interests
Completed	Finalize provisional flow recommendations	PDO and Recovery Program committees
Completed	Identify, evaluate, and recommend management actions to offset depletion impacts	Consultant working with White River Planning Team and PDO
Jul 2021 (one of two scenarios completed)	Evaluate impacts of water demand scenario on interim recommended flows and endangered species	Consultant working with White River Planning Team
Sep 2021	Distribute draft Management Plan including a suite of recovery actions needed to offset depletion impacts	Consultant
Sep – Nov 2021	Conduct meetings with public, Yampa/White/Green Basin Roundtable, Utah, Ute Tribe, etc. to communicate content of the draft Management Plan; document results of public input.	Consultant
Nov 2021	Based on public input, revise draft Plan for review by CWCB, PDO, Planning Team, and White River Working Group; following review, finalize plan.	Consultant
Dec 2021	Develop a draft cooperative agreement framework. Initiate NEPA compliance. USFWS begins drafting PBO.	Consultant
Jan 2022	Complete compilation of information required for NEPA compliance.	Consultant
Jul 2022	Complete PBO	U.S. Fish and Wildlife Service

Budget Summary:

This effort involves no Recovery Program expenditures (except for Program Director’s Office staff support).

CWCB has been funding consulting team support in these activity areas:

- a) model existing and proposed future water development scenarios in comparison with the USFWS’s interim endangered fish flow recommendations;
- b) assist with scheduling, facilitation, summarizing stakeholder and public outreach meetings;
- c) draft and revise (as needed) a Management Plan; and
- d) assist with NEPA compliance.

As of May 31, 2021 \$79,883 of the total \$200,000 budget for consultant support has been expended as funded by the CWCB. CWCB anticipates expending the remaining funds for consultant support through early calendar year 2022.

FY 2022 All Tasks Remainder of total \$200,000 from CWCB (not a Program expenditure) plus in-kind services from partners

FY 2023 Project complete (no expenditures)

Reviewers:

Tom Chart, USFWS; Jojo La, CWCB.

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References:

- Anderson, D.M., T.W. Econopouly, J. Mohrman, T. Jones, M.J. Breen, and T.E. Chart. 2019. Review of fish studies with interim flow recommendations for endangered fishes of the White River, Colorado and Utah. December 2019.
- Bestgen K., Webber A., Jones T., 2012. Annual Report #22f Interagency standardized monitoring program (ISMP) assessment of endangered fish reproduction in relation to Flaming Gorge operations in the middle Green and lower Yampa Rivers: assessment of Colorado pikeminnow and razorback sucker larvae
- Colorado Water Conservation Board (CWCB). 2019. Technical Update to the Colorado Water Plan, Yampa, White, Green, Volume 1. Final Report.
- Haines B., Irving, D., and T. Modde. 2004. Base flow recommendations for endangered fishes in the White River, Colorado and Utah, 1995-1996. *in* T. Modde (editor). Flow recommendations for the White River, Utah-Colorado. Draft report to Upper Colorado River Endangered Fish Recovery Program, Denver.
- Schmidt, J.C. and K.L. Orchard. 2002. Geomorphic analysis in support of a channel maintenance flow recommendation for the White River near Watson, Utah. *in* T. Modde (editor). Flow recommendations for the White River, Utah-Colorado. Draft report to Upper Colorado River Endangered Fish Recovery Program, Denver.
- Tyus, H.M. and J.F. Saunders. 2001. An evaluation of the role of tributary streams for recovery of endangered fishes in the Upper Colorado River Basin, with recommendations for future recovery actions. Final Report to Upper Colorado River Endangered Fish Recovery Program; Project No. 101. Univ. of Colorado, Boulder.