

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

FY 2022-23 SCOPE OF WORK

PROJECT: 171

Project Title

Price River Flow Enhancement

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:

Don Anderson, Instream Flow Coordinator
Upper Colorado River Endangered Fish Recovery Program
P.O. Box 25486, DFC,
Denver, CO 80225-0486
Phone: (303) 236-9883
Donald.Anderson@fws.gov

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: Mainstem

1.C Price River

I.C.3 Work with State of Utah and local water users to develop a plan to provide and enhance summer base flows (either increase average daily flows thresholds or increase the frequency that those flows occur) in the lower Price River that are conducive to pikeminnow use. For example, consider securing an emergency pool of water to avoid periods of dewatering in the lower Price River.

I.C.4 Implement plan to provide and enhance summer base flows in the lower Price River.

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Study Background/Rationale and Hypotheses:

The lower Price River provides two important roles in the recovery of endangered fish. First, the lower river provides seasonal habitat for juvenile and adult Colorado pikeminnow (i.e., a direct role in recovery). Second, the Price River provides year-round habitat for all life stages of several species of native fish (Cavalli 1999; Tyus and Saunders 2001). Since these species provide a forage base for the Colorado pikeminnow, the Price River also provides this indirect role in recovery. Native flannelmouth sucker and bluehead sucker are commonly found in the Price River and are subjects of a Range-wide Conservation Agreement (along with roundtail chub); collectively known as the *Three Species* (UDWR 2006). The Price River therefore provides a direct role in the conservation of two of the Three Species, and could reduce the likelihood of future listings of native fishes under the Endangered Species Act.

In its 2012 position paper, *Role of the Price River in Recovery of Endangered Fish and the Need for Minimum Flow Management*, the Upper Colorado River Endangered Fish Recovery Program (Chart and Mohrman 2012) recommended securing an emergency pool of water to avoid periods of dewatering in the lower Price River and better meet flow needs identified for the Colorado Pikeminnow (e.g., Walker et al. 2007). For instance, an emergency pool of 600 ac-ft would provide 5 cfs for 60 days. Native fish water would need to be delivered to the Green River to avoid periods of dewatering (most likely in July and August). That paper also provided a summary of July-September flow conditions presumed to support Colorado Pikeminnow use, including a 90% flow exceedance of 15 cfs, and a 50% flow exceedance of 37 cfs.

The white paper further recommended that the Recovery Program work with Utah Water Users, the State of Utah, and local groups (e.g., the Price River Enhancement Committee) to maintain summer base flow conditions that support current levels of Colorado pikeminnow seasonal use of the lower Price River.

Since that time, substantial progress has been made by the Utah Division of Wildlife Resources, The Nature Conservancy, the Natural Resources Conservation Service, and other collaborators in securing resources and developing detailed strategies for enhancing lower Price River flows (see the annual reports for project FR-171 posted to the Upper Colorado River Endangered Fish Recovery Program website, 2015 through 2020).

The general strategy involves acquiring funding to secure tailwater from the Carbon Canal Company (CCC) that would be delivered to an enlarged Olsen Reservoir. Delivery of water in the spring and fall would fill much of the associated wetland and provide valuable nesting habitat for waterfowl and other marsh birds. This pool of water could be released periodically during dry periods (July-Sept) to maintain flows, improve water quality, and ultimately prevent lower Price River fish kills that have occurred in the past. The reservoir is also being investigated as a location for roundtail chub (*Gila robusta*) propagation.

Carbon Canal upgrades (potentially including piping of the lower six miles of canals, replacement of a water overflow structure, and installation of canal flow measurement), plus a water management agreement to store canal carrier water, would allow for increased inflow to Olsen Reservoir. An Environmental Assessment (EA) is underway to determine the preferred alternative for water conveyance from CCC to Olsen Reservoir, location of dam, and conveyance from Olsen to the Price

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River, as well system efficiencies (e.g. canal piping). Concurrently, alternatives to supply agricultural water to downstream users are being discussed which include on-farm upgrades, delivery agreements and water banking. Project alternatives are developed and finalized, except for one alternative that considers a downstream water user. The Nature Conservancy (TNC) is negotiating to purchase a second farm, just upstream of the Woodside gage. If successful, TNC would thereby acquire an additional 890 acre-feet/year of water that could be used for environmental flows and enhancement of wetland habitat.

Of additional interest, efforts are underway to establish a water bank in the Price River basin pursuant to new water banking legislation recently adopted by the State of Utah. If successful, this would allow for voluntary, consumptive use savings by eligible participants to be banked and potentially leased for environmental purposes, including augmented instream flows. Participants are hopeful the water bank will become operational in 2022.

Study Goals, Objectives, End Product(s):

Project Goal:

To support efforts by the State of Utah, local water users, environmental interests like TNC, and cooperating Federal agencies to identify, evaluate, and implement enhancements and/or protections to flows in the lower Price River for the benefit of Colorado Pikeminnow and for state fishes of concern (target fishes).

Project Objectives:

1. Provide a Recovery Program point-of-contact for updates on water development or water management activities being considered in the Price River basin which could be implemented in a manner that benefits the target fishes.
2. Update the Recovery Program and its technical committees as relevant water-related proposals are formulated in the Price River basin (e.g., changes in operations associated with Olsen Reservoir upgrades and water acquisition actions).
3. Coordinate Recovery Program input regarding proposed water management strategies and specific project proposals in the Price River basin.

End Products:

Implementation of a water-management strategy and supporting agreements and infrastructure in the Price River basin that allow for the routine enhancement of late-summer base flows in the lower White River for the benefit of endangered and other native fish.

Study Area:

Price River, Utah, with a focus on some or all of the lower 88 miles of this Green River tributary where endangered fish captures have been documented.

Project Methods/Approach:

The Service Hydrologist, in coordination with Utah Ecological Services Office staff, will serve as the key point-of-contact and conduit of information to Recovery Program participants, and will coordinate input from the Recovery Program regarding proposed water management projects and activities

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affecting instream flows. Opportunities will be sought to improve the frequency with which recommended instream flows for endangered fish in the lower Price River can be achieved from April through October (in general), and from July-September (in particular).

Task Description, Deliverables and Schedule:

The activities described above under Project Methods/Approach would be one of the Service Hydrologist's responsibilities on an as-needed basis.

Budget Summary:

N/A

This effort involves no Recovery Program expenditures -- except for Program Director's Office staff support.

Reviewers:

Tom Chart, USFWS.

References:

- Cavalli, P. A. 1999. Fish community investigations in the lower Price River, 1996 – Utah Division of Wildlife Resources, Publication No. 99-21, Salt Lake City, Utah.
- Chart, T. and J. Mohrman, 2012. The Upper Colorado River Endangered Fish Recovery Program's Position on the Role of the Price River in Recovery of Endangered Fish and the Need for Minimum Flow Management. Prepared for the U.S. Fish and Wildlife Service, Ecological Service, Utah Field Office. 42 pp.
- 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, Upper Colorado Endangered Fish Recovery Program Project No. 101. Center for Limnology, Cooperative Institute for Research in Environmental Studies, Univ. of Colorado at Boulder. 121pp.
- Utah Division of Wildlife Resources (UDWR). 2006. Range-wide conservation agreement and strategy for roundtail chub *Gila robusta*, bluehead sucker *Catostomus discobolus*, and flannelmouth sucker *C. latipinnis*. Publication number 06-18, Salt Lake City, UT.
- Walker, C.A., P. Badame, and P.W. Birdsey, Jr. 2007. Minimum flow recommendation for passage of Colorado pikeminnow in the lower Price River: Farnham Diversion to the Green River confluence. Draft Final Report Submitted to the Upper Colorado River Basin Endangered Fish Recovery Implementation Program Project No. 108. Utah Division of Wildlife Resources, Salt Lake City, Utah.