

**RECOVERY PROGRAM
FY 2020-2024 SCOPE OF WORK for:**

Recovery Program Project Number: C-9

Elkhead Reservoir Operations and Maintenance for Yampa River Flow Augmentation

Reclamation Agreement number: Contract No. 05-WC-40-420
(Elkhead Reservoir Enlargement Agreement)
Reclamation Agreement term: Permanent

Note: Recovery Program FY20-21 scopes of work are drafted in May 2019. 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: Colorado River Water Conservation District acting by and through its
Colorado River Water Projects Enterprise

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Date Last Modified: 6/18/2019

Category:

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

Expected Funding Source:

- Annual funds
- Capital funds
- Other *[explain]*

- I. Title of Proposal: Operation and Maintenance of Elkhead Reservoir to make releases for Yampa River flow augmentation.
- II. Relationship to RIPRAP:
Green River Action Plan: Yampa and Little Snake Rivers. I.B.2.a.(2)(b),
Deliver Water for Endangered Fish
- III. Study Background/Rationale and Hypotheses:
Flow augmentation deemed beneficial to recovery of listed fishes in the Yampa River. See [Final Programmatic Biological Opinion on the Management Plan for Endangered Fishes in the Yampa River Basin](#) (January 2005).

IV. Study Goals, Objectives, End Product(s):

Release water requested by Recovery Program for augmentation of Yampa River flows, maintain the reservoir facilities and comply with all permit requirements.

V. Study Area: Elkhead Reservoir, Yampa River.

VI. Study Methods/Approach:

Agreements provide for release of 5,000 af of stored water and up to 2,000 af annually of supplemental lease water for augmentation of Yampa River flows. The Recovery Program requests reservoir releases for various purposes. The River District and the City of Craig operate the reservoir to make requested releases and keep all required records.

VII. Task Description and Schedule:

Winter – reservoir operations are limited. Low flow releases are made to assist with maintenance of open stream conditions for stock watering downstream of the reservoir. Diversion records from previous year are completed and submitted to the SEO.

Spring – reservoir operations to fill in spring are managed to bring the reservoir pool to full reasonably quickly to provide hydrology for wetland mitigation area development and to reduce erosion of inlet wetland development by incoming spring flows. Reservoir fill is managed to reach elevation 6371 prior to commencement of peak runoff to protect wetland mitigation features in the upstream end of the reservoir. Spillway fish barrier net installed in 2016 will allow reservoir levels to be maintained closer to full and enhance wetland mitigation development. Weed control is undertaken on reservoir lands.

Summer – reservoir is operated to bypass inflow necessary to meet Elkhead Creek demands from senior water rights holders and to make releases requested by the Recovery Program, any contracts for River District water, and releases requested by the other pool holders City of Craig, the Craig Station Power Plant, and Tri-State.

Fall – reservoir releases abate as irrigation demand downstream slows and calls for fish releases cease.

VIII. Deliverables, Due Dates, and Budget by Fiscal Year:

Deliver water on demand.

The following cost estimates are based on recent years' experience, and represent best-guess costs for routine O&M costs to be borne by the Recovery Program. These estimates do not account for extraordinary O&M, major repairs, or capital investments. Capital expenditures of past years for improvements like the fish containment net, Malburg Pond erosion protection, and

concrete repair efforts are not reflected in these estimates. One known upcoming cost not reflected below is conversion of the SCADA system from radio-based to cellphone-based, which allows for remote monitoring the reservoir level and making minor changes to flow releases (the current SCADA system does not provide effective communication). Current expectations are that this conversion will cost less than \$3,000.

	Est. Routine O&M	Short-term water leasing*
FY 2020	\$ 56,546	\$25,000
FY 2021	\$ 58,243	\$25,000
FY 2022	\$ 59,990	\$25,000
FY 2023	\$ 61,789	\$25,000
FY 2024	\$ 63,643	\$25,000

* From 500 to 2,000 AF of 'short-term water supply' is potentially available for leasing annually. USFWS may lease this water as appropriate based on hydrologic conditions and river needs. The current lease agreement with the River District runs through 2025, at \$50/ac-ft. The 2005 Yampa PBO and experience since its inception suggests it is reasonable to expect a lease of this water approximately 1 in 4 years. Therefore a \$25,000 placeholder for leasing 500 af annually is included here. If funds can be carried over year to year, PDO recommends using Section 7 depletion fees instead of annual funds between 2019-2023. Note: Efforts currently underway to establish a new Yampa River Water Fund may make significant non-Program funding available for Elkhead leasing in future years (see 5/10/2019 Biology Committee meeting notes).

IX. Budget Summary:

2020 to 2023 Estimated Elkhead Expenses

6/13/2019 Estimates of Elkhead Reservoir Annual Operations and Owners’ Proportional Costs – According to Agreement Original Reservoir Owners Craig and the Yampa Participants do not bear enlargement-related costs such as mitigation; Recovery Program bears all fish containment-related costs including electrical for operation and maintenance of fish screen air backwash system.

CY Estimated Prorated Costs Calculations

Partipants	af	%	%	2020 Est Prorated Costs	2021 Est Prorated Costs	2022 Est Prorated Costs	2023 Est Prorated Costs
**Yampa Participants	8408	33.93%		\$ 21,887.84	\$ 22,544.48	\$ 23,220.81	\$ 23,917.44
City of Craig	4413	17.81%		\$ 11,487.99	\$ 11,832.63	\$ 12,187.61	\$ 12,553.24
Recovery Program	5000	20.18%	41.82%	\$ 56,546.13	\$ 58,242.52	\$ 59,989.79	\$ 61,789.49
CO River District	6956	28.07%	58.18%	\$ 73,288.54	\$ 75,487.19	\$ 77,751.81	\$ 80,084.36
		100.00%		\$163,210.51	\$168,106.82	\$173,150.03	\$178,344.53

X. Reviewers: Don Anderson

XI. References

2015 Elkhead Expenditures

2016 Elkhead Expenditures less spillway fish net

2017 Elkhead Expenditures less stem guide and fixed cone valve repair

2018 Elkhead Expenditures less capital expenditures

Annual inflation of 3% applied to most expenses

Annual inflation of 3% applied to USGS gaging costs