

**RECOVERY PROGRAM
FY 2018-2019 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 FY18-19 scopes of work are drafted in May 2017. 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

Submitted by: Ray Tenney
Colorado River Water Conservation District
P.O. Box 1120
Glenwood Springs, CO 81602
Phone: (970)945-8522
Email: rtenney@crwcd.org

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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.
- 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.

FY 2018	\$ 75,750
FY 2019	\$ 67,172
FY 2020	\$ 71,711
FY 2021	\$ 81,880
FY 2022	\$ 70,776

IX. Budget Summary:

2018 to 2022 Estimated Elkhead Expenses

06-09-17 Estimate

	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
Weed Control	20,000	21,200	22,472	23,820.32	25,249.54
Electricity	7,500	7,950	8,427	8,932.62	9,468.58
Colorado Parks and Wildlife	15,000	15,000	15,000	15,000	15,000
Corrosion System Engineering	6,000	6,360	6,741.60	7,146.10	7,574.86
USGS Gaging	22,500	24,750	27,225	29,947.50	32,942.25
General Engineering Support	20,000	21,200	22,472	23,820.32	25,249.54
Wetland Support	20,000	21,200	22,472	23,820.32	
Capital Repairs	50,000	55,000	60500	66,550.00	73,205.00
Underwater inspections	20,000			23,820.32	
Outlet Maintenance	10,000	10,600	11,236	11,910.16	12,624.77
River District Labor	45,400.00	48,124	51,011.44	54,072.13	57,316.45
RD Management Expense	23,640.00	18,326	19,654.56	23,476.77	20,131.45
City of Craig Expenses w/ mark-up	60,000	63,600	67,416.00	71,460.96	75,748.62
total by year	<u>320,040.00</u>	<u>313,310</u>	<u>334,627.60</u>	<u>383,777.51</u>	<u>354,511.06</u>
River District Pool	99,122.99	93,003.21	99,290.60	113,409.90	97,931.99
Yampa Participants Pool	95,200.40	92,417.76	99,123.05	115,241.42	113,284.17
City of Craig Pool	49,966.62	51,177.76	54,697.08	63,156.93	62,129.65
Recovery Program Pool and Fish Containment	75,749.99	67,171.93	71,710.58	81,880.00	70,776.05

X. Reviewers: Don Anderson, Angela Kantola

XI. References:

- 2015 Elkhead Expenditures
- 2016 Elkhead Expenditures less spillway fish net
- 2017 Elkhead Expenditures less stem guide and fixed cone valve repair
- Quote from Inland Potable Services for ROV underwater inspection of outside of outlet tower and tower pit
- Annual inflation of 6% applied to most expenses
- Annual inflation of 10% applied to USGS gaging costs