

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

FY 2024-25 SCOPE OF WORK

Title

Colorado Parks & Wildlife Implementation of Recovery Activities

Bureau of Reclamation Agreement Number

n/a - BOR agreement expired on October 1, 2022 and is in process of getting renewed.

Reclamation Agreement Term

n/a – BOR agreement expired on October 1, 2022 and is in process of getting renewed.

Note: Recovery Program scopes of work are drafted in May and often are revised before final Program approval and may subsequently be revised again in response to changing Program needs. Program participants recognize the need and allow for flexibility in scopes of work to accommodate new information and changing hydrological conditions.

Lead Agency

Colorado Parks and Wildlife

Principal Investigators

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Category:

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

Expected Funding Source:

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

Station Abstract

Colorado Parks and Wildlife will implement many recovery activities to support listed fishes, including monitoring listed fish populations, removing nonnative species, salvaging native fish from canals, and conducting outreach. Permanent staff will participate in all covered recovery activities as well as non-project specific tasks such as managing seasonal employees, administering budgets, completing trainings, and aiding other offices as needs arise.

Activities to be Implemented

Colorado Parks and Wildlife will assist with or directly implement the following activities which are outlined in the Recovery Program 2023 RIPRAP and 2024-25 workplan.

- A. Plan, manage, and implement projects through permanent staff and fixed costs;
- B. Coordinate, plan and implement outreach activities;
- C. Monitor Colorado pikeminnow abundance in the Yampa River;
- D. Mechanically remove smallmouth bass in the Colorado, Yampa, and White rivers;
- E. Mechanically remove northern pike in the Yampa River;
- F. Operate, maintain, and monitor reservoir screening facilities; and
- G. Conduct reservoir removal of problematic nonnative species.

Staffing

Colorado Parks and Wildlife operates with a staff of six permanent employees that are actively involved with Recovery Program projects who effectively oversee, plan, perform, and report the activities listed above.

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In addition, Colorado Parks and Wildlife requires approximately 8 seasonal Fisheries Technicians each year to perform field work for the Recovery Program. Typically, seasonal staff are needed at various levels from March to November.

Permanent Staff

The following permanent staff will oversee, plan, perform, and report on the projects described above.

Northwest Senior Aquatic Biologist – Oversees operations of CPW projects. Reviews and assists with development of annual reports and scopes of work. This position is not funded by the Recovery Program.

Assistant Native Aquatic Species Coordinator – Participates in BC meetings and gives regular updates to the Recovery Program on CPW’s projects. Expected to transition to CPW’s official BC representative during the duration of this Scope of Work. Also assists with review and development of annual reports and scopes of work. This position is not funded by the Recovery Program.

Native Aquatic Species Coordinator – Currently CPW’s formal Biology Committee representative. Also provides CPW perspective to other Program committees. Assists with review and development of annual reports and scopes of work. This position is not funded by the Recovery Program.

Northwest Regional Native Aquatic Species Biologist - Oversees seasonal workforce for implementation of Recovery Program projects. This position is not funded by the Recovery Program.

Principal Investigator for:

- a. Colorado River supplemental removal of smallmouth bass and northern pike
- b. Removal of northern pike and smallmouth bass in Colorado River private floodplain ponds
- c. Smallmouth bass control in the White River
- d. Grand Valley canals native fish salvage (Recovery Program funds for this ongoing project will be requested for this project through a “new start” application)

Responsible for submission of:

- a. Annual Performance Progress Report (PPR) summarizing supplemental removal of smallmouth bass and northern pike in the Colorado River and private floodplain ponds (PPR is included in 126b report). Submits data associated with this project to the appropriate PI and the STReAMS database coordinator.
- b. PPR summarizing smallmouth bass control in the White River (PPR is included in 167b report). Submits data associated with this project to the appropriate PI and the STReAMS database coordinator.
- c. Data summary for Grand Valley Canal Salvage operations.

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Area 6 Aquatic Biologist – Oversees seasonal workforce for implementation of Recovery Program projects. This position is not funded by the Recovery Program.

Principal Investigator for:

- a. Middle Yampa River nonnative fish management
- b. Removal of northern pike at Kenney Reservoir
- c. Operation, maintenance, and evaluation of Elkhead Reservoir spillway net

Responsible for submission of for:

- a. Middle Yampa River nonnative fish management (98a) report. Submits data associated with this project to the STReaMS database coordinator.
- b. PPR summarizing northern pike removal at Kenney Reservoir (PPR is included in 167b report). Submits data associated with this project to the STReaMS database coordinator.
- c. C-20 report: Operation, maintenance, and evaluation of Elkhead Reservoir spillway net

Area 7 Aquatic Biologist – Oversees seasonal workforce for implementation of Recovery Program projects. This position is not funded by the Recovery Program.

Principal Investigator for:

- a. Colorado River supplemental removal of smallmouth bass and northern pike
- b. Removal of northern pike and smallmouth bass in Colorado River floodplain private ponds
- c. Operation, maintenance, and evaluation of Highline Lake spillway net
- d. Grand Valley canals native fish salvage (Recovery Program funds for this ongoing project will be requested for this project through a “new start” application)

Responsible for submission of:

- a. PPR summarizing supplemental removal of smallmouth bass and northern pike in the Colorado River and private floodplain ponds (PPR is included in 126b report). Submits data associated with this project to the appropriate PI and the STReaMS database coordinator.
- b. C-20 report: Operation, maintenance, and evaluation of Highline Lake spillway net.
- c. Brief data summary for Grand Valley Canal Salvage operations.

Seasonal Staff

The following seasonal staff will perform the activities described above, including operating watercraft, handling fish, and collecting data.

Seasonal Fishery Technicians – Primary duty is to handle fish for speciation and enumeration and collect associated data. Eight fishery technicians are needed annually.

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Staff Hours

	Estimated Yearly Hours
Total Hours for Permanent Staff	3,200
Northwest Senior Aquatic Biologist	250
Northwest Regional Native Species Biologist	500
Area 6 Aquatic Biologist	700
Area 7 Aquatic Biologist	250
Assistant Native Aquatic Species Coordinator	1,000
Native Aquatic Species Coordinator	500
Total Hours for Seasonal Staff	3,620
Biological Technician I (total hours across 4 positions)	1,472
Biological Technician I OT (total hours across 4 positions)	338
Biological Technician II (total hours across 4 positions)	1,472
Biological Technician II OT (total hours across 4 positions)	338
Grand Total	6,820

**Note that permanent employee time is not paid for by the Recovery Program.

ACTIVITY A – Permanent Staff and Fixed Costs Associated with Implementation of All Station Activities. (Previously imbedded in Project scopes 98a, 126b/167b, and 128)

Goal

To ensure timely and effective planning, implementation, coordination, and administrative support of Recovery Program activities and adaptive management processes.

Tasks

1. Coordinate, plan, and implement recovery activities;
2. Collect, process, and submit data;
3. Analyze, evaluate, and report on recovery activities;
4. Manage budget;
5. Maintain and replace station equipment and fleet; and
6. Attend and provide expertise at Program meetings.

Task Descriptions, Deliverables and Schedule:

Task 1. Coordinate, plan, and implement recovery activities.

Permanent staff are responsible for all field activity planning and preparation, including scope of work development and modification, acquiring necessary permits, and acquiring landowner access for specific

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locations. Adequate planning and preparation ensure that work can be safely accomplished in a manner that protects both staff and equipment throughout the field season.

This task includes hiring and training permanent and seasonal staff that are properly equipped to safely engage in activities in remote areas in potentially adverse conditions.

Task 2. Collect, process, and submit data

Collecting and reporting accurate data is one of the primary products of any field sampling event. Data should be collected and stored in a manner that allows for minimal error inclusion and is managed in accordance with the standard procedures outlined in the appropriate data management plan. The Program recommends using digital data collection tools with customized applications for Program work. Data will be submitted to the Data Manager as soon as possible at the end of each trip or in conjunction with deadlines noted under each Activity below. Staff will work with the Data Manager to resolve any errors before the data is submitted into STReaMS for analysis and reporting.

Task 3. Analyze, evaluate, and report on recovery activities

Each activity requires reporting to document completion of tasks, biological effects and conditions, and recommendations for adjustments in future years. All specific reports due are outlined in the specific activity sections below, but the funds needed for reporting are addressed here in Activity A.

Task 4. Manage budget

The Colorado Parks and Wildlife budget is managed to ensure all projects funded by scopes of work are completed with the funding provided. This includes purchasing all necessary materials and equipment in conjunction with the organization's guidance and policy. Task includes developing and administering Interagency Agreements, Cooperative Agreements, and contracts necessary to implement activities for the Recovery Program.

Task 5. Maintain and replace station equipment and fleet

Colorado Parks and Wildlife utilizes six rafts, seven jon boats, eleven Honda generators, 10 electrofishing units, six 150 HP outboard jet motors, and 6 Juniper Allegros. CPW will replace this equipment on the following general schedule:

- Replace generators and electrofishing units as needed (expected to be 1 new ETS units in Year 2 to Year 5 and two new generators annually between Year 2 and Year 5).
- Replace rafts, frames, and hard bottom boats as needed. Two rafts will be replaced in Year 2.
- Replace outboard boat motors as needed
- Replace Allegro field computers as needed

CPW also maintains a fleet of trucks using internal funding (not funded by Recovery Program).

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Task 6. Attend and provide expertise at Program meetings

The Recovery Program relies on the expertise of field crews to share pertinent information and offer guidance outside of written reports. This includes providing expertise at the Recovery Program's technical, biological, and management [committees](#) as requested or appropriate. Station staff also should attend and participate in adaptive management meetings and workshops (e.g. planning workshops, NNF workgroup, STReAMS or data meetings) to acquire needed training and to share knowledge.

The Recovery Program also relies on partners and stakeholders to review and recommend updates to the RIPRAP and other Program documents as appropriate. Scientific expertise of field crews also provide peer review to ensure technical and scientific integrity of Recovery Program activities (study proposals, project reports, etc.) as requested.

Activity A Budget

Expense Category	Year 1	Year 2
Permanent Staff	\$ 0	\$ 0
Seasonal Staff	\$ 0	\$ 0
Materials	\$ 0	\$ 0
Equipment	\$ 0	\$ 40,959.98
Travel	\$ 0	\$ 0
Contracts	\$ 0	\$ 0
Activity A Total	\$ 0	\$ 40,959.98

Generalized Work Schedule

A typical field season for Colorado Parks and Wildlife begins with field work in March as ice comes off of floodplain ponds along the Colorado River. Northern Pike removal efforts on Kenney Reservoir begin as soon as ice comes off, which is usually in early-April. CPW's in-river work typically begins in May, depending on hydrologic conditions. Early season work includes monitoring adult Colorado pikeminnow (3 out of every 5 years) and removal of northern pike to reduce spawning success in the Yampa River. Beginning with the descending limb of the hydrograph, work shifts primarily to smallmouth bass removal in the Colorado, Yampa, and White rivers. This work typically lasts through the summer months into autumn. Throughout the summer, personnel will operate, maintain, and monitor reservoir screening facilities. In autumn crews will salvage native fish from irrigation canals. Field season typically ends in late November.

Upon completion of field work, principal investigators will ensure data is submitted to the STReAMS database for QA/QC and data sharing with other Recovery Program partners. Principal Investigators will then retrieve data from STReAMS and will complete annual reports of their responsibility, generally presenting this data at the nonnative fish coordination calls each winter. During the winter, permanent biologists will ensure equipment and gear is maintained, repaired, and replaced for the next field season. Also, over the winter, permanent staff will complete the hiring process for seasonal staff, rectify budgets, and coordinate with any pertinent landowners for access.

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Generalized Colorado Parks and Wildlife schedule for implementation of all Activities.

Target species	Activity	Legacy Project(s)	Locations	Staff Permanent Seasonal	J	F	M	A	M	J	J	A	S	O	N	D
All	B – Outreach	NA	All	3-permanent 4-seasonal	X	X	X	X	X	X	X	X	X	X	X	X
CPM, RZ	C – CPM Estimates	128	Middle Yampa River	1-permanent 4-seasonal					X	X						
SM, NP	D – Mechanical removal	126b	CR Silt-Beavertail Tunnel	2-permanent 4-seasonal						X	X	X	X			
SM	D– Mechanical removal	167	White R	1-permanent 3-seasonal					X	X						
NP	E – Mechanical removal	98a	Mid-Yampa	1-permanent 4-seasonal					X	X						
All	F – Canal Salvage	XX	Mid-Yampa	2-permanent 4-seasonal										X	X	X
NP,SM,WE	F – Reservoir Screens	C20	Yampa, CR	3-permanent 4-seasonal				X							X	
NP, SM	G – Reservoir Control	C20	Yampa, CR, White	4-seasonal 4-permanent			X	X	X				X	X		

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ACTIVITY B - Coordinate, plan, and implement outreach activities.

Study Principal Investigator

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Activity Principal Investigator

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Study Goals

Providing information and engaging with people about the Recovery Program and the four listed fish species are an essential part of building and maintaining public support to help achieve program recovery goals.

Study Area

Northwest Colorado.

Task Descriptions

Task 1. Interact with members of the public

These efforts often occur organically with anglers, boaters, and other groups while conducting sampling and consist of providing information about the Recovery Program, as well as sharing a variety of materials that can make a lasting positive impression, such as fish-themed stickers and tattoos. This outreach is especially valuable because it provides direct experiences for people who may be curious or deeply interested in river ecology and efforts to recover threatened and endangered fishes.

Task 2. Participate in community events, festivals, school visits, conferences, or guest speaker forums

Colorado Parks and Wildlife will provide information and education about the Recovery Program and threatened and endangered fish recovery efforts at public events, as coordinated with the Outreach Coordinator.

Deliverables

When feasible, provide a summary to the PDO Outreach Coordinator documenting community events, festivals, conferences, school visits, guest speaker forums and other outreach activities conducted by field office staff. These brief updates may include information such as:

- A list of outreach activities, type (e.g. school visit, community event) date, and the estimated number of people contacted during each occasion, including informal encounters with anglers, boaters, and other groups
- A brief narrative about current field office outreach efforts including general observations, successes, and challenges to help inform recommendations
- A list of recommendations to guide future outreach efforts based on an assessment of current gaps, needs, and opportunities to further program recovery goals, such as:
 - Creating educational materials to address site-specific needs
 - Participating in additional conferences or events
 - Developing K-12 classroom curricula
 - Removing barriers that hinder broader public involvement (e.g. developing bilingual materials or providing increased access to events)

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- Increasing field office staff capacity to conduct outreach activities
- When feasible, photos and videos of interesting field activities to assist the PDO in sharing accomplishments in formal publications and digital media. In addition, photos needed for scientific verification will be acquired. Guidance for submission will be distributed prior to the field season.

Activity B Budget

Spending Type	Year 1	Year 2
Perm Staff	\$ 0	\$ 0
Seas Staff	\$ 0	\$ 0
Materials	\$ 0	\$ 0
Equipment	\$ 0	\$ 0
Travel	\$ 0	\$ 0
Contracts	\$ 0	\$ 0
B Total	\$ 0	\$ 0

ACTIVITY C – Monitor Colorado pikeminnow abundance in the Yampa River (Project 128)

Study Principal Investigator

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Study Goals

The goal of this study is to obtain accurate (unbiased) and reliable (precise) estimates of adult population abundance and survival of Colorado pikeminnow and razorback sucker that occupy the Green River study area.

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Study Area

The Green River Basin, including Green River mainstem, the lower White River, and portions of the Yampa River.

Task Descriptions

Task 1. Complete at least 3 electrofishing passes in the study reach

CPW will conduct electrofishing passes in the Middle Yampa River, in partnership with CSU's Larval Fish lab. The goal of the project is to complete 3-sampling passes which will be associated with CPW's smallmouth bass and northern pike electrofishing passes. This project is conducted three out of every five years. Colorado pikeminnow population estimates will be conducted in Years 1, 4, and 5 of this Scope of Work.

Deliverables

Data gathered during Colorado pikeminnow passes will be provided to the project PI for analysis and summary.

All data will be submitted to the Data Manager and Study Principal Investigator by mid-November.

Activity C Budget

Spending Type	Year 1	Year 2
Perm Staff	\$ 0	\$ 0
Seas Staff	\$ 25,819.50	\$ 0
Materials	\$ 0	\$ 0
Equipment	\$ 0	\$ 0
Travel	\$ 15,432.00	\$ 0
Contracts	\$ 0	\$ 0
C Total	\$ 41,251.50	\$ 0

ACTIVITY D - Mechanically remove smallmouth bass in the Colorado and White rivers (Projects 126b, 167)

Study Principal Investigators

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Activity Principal Investigator

Study Goals

CPW's involvement with the work that was previously covered under Project 126b includes the removal of smallmouth bass and northern pike from 52.3 river miles of the Colorado River between Silt and Beavertail Mountain and also historically included work to remove these species in private floodplain ponds upstream of Rifle, Colorado. The floodplain pond work is included in Activity G. CPW's nonnative fish control efforts that were previously covered under project 167 included removal of smallmouth bass and northern pike in the White River downstream of Taylor Draw dam and removal of northern pike from Kenney Reservoir. The Kenney Reservoir project is included in Activity G.

Study Area

The study area includes 52.3 miles of the Colorado River between Silt and Beavertail Tunnel and the White River from Taylor Draw dam to the Colorado/Utah state line.

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Task Descriptions

Task 1. Complete raft electrofishing in the Colorado River study area to capture and remove northern pike and smallmouth bass.

Raft electrofishing will be conducted on the Colorado River only during high flow years to specifically target smallmouth bass and northern pike. This work will be conducted during lower or base flow conditions when target habitats form. This work requires 2 rafts and a crew of 4 to 6 people for a minimum of three days (during high water years).

Task 2. Complete raft electrofishing in the White River study area to capture and remove smallmouth bass and northern pike.

Raft electrofishing will be conducted annually on the White River between Taylor Draw dam and the Colorado/Utah state line to capture and remove smallmouth bass and northern pike. A minimum of 6 days will be expended sampling, primarily focusing on the upper most 10 miles of river downstream of the Taylor Draw dam, within the area of greatest smallmouth bass concentration. These efforts will be coordinated with the USFWS.

Deliverables

CPW has historically provided a PPR to the Project 126 PI which focuses on removal efforts in floodplain ponds and the mainstem Colorado River between Silt and Beavertail tunnel. Similarly, CPW historically provided PPRs for both the White River smallmouth bass control efforts and the Kenney Reservoir northern pike removal efforts as part of the Project 167 report. Nonnative fish removal efforts at Kenney Reservoir and Colorado River floodplain ponds are included in Activity G. Although the specifics of reporting in future years depends on Program guidance, at this point, CPW plans to continue to provide a PPR that will be incorporated into the larger report. CPW is likely not able to increase commitments to writing annual reports because CPW's permanent employees are not funded by the Recovery Program.

All data will be submitted to the Data Manager and Study Principal Investigator by the submission deadline.

Activity D Budget

Spending Type	Year 1	Year 2
Perm Staff	\$ 0	\$ 0
Seas Staff	\$ 15,653.07	\$ 15,966.13
Materials	\$ 0	\$ 0
Equipment	\$ 0	\$ 0
Travel	\$ 5,144.00	\$ 5,144.00
Contracts	\$ 0	\$ 0
D Total	\$ 20,797.07	\$ 21,110.13

ACTIVITY E – Mechanically remove northern pike in the Yampa River (Project 98a)

Study Principal Investigator

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Study Goals

The goal of this study is to reduce the number of northern pike and smallmouth bass occupying 47.3 river miles of the Middle Yampa River to benefit native fish communities in the Yampa River basin, as well as native fish communities within the Green River basin.

Study Area

The study area consists of 47.3 miles of the middle Yampa River just downstream of Craig to just upstream of Cross Mountain Canyon. CSU covers the 10.3-mile stretch of river within Little Yampa Canyon.

Task Descriptions

Task 1. Complete main channel and backwater electrofishing within the study area to capture and remove northern pike and smallmouth bass.

CPW will conduct boat electrofishing across 47.3 miles of the Yampa River over the course of up to 6 weeks in May (up to four weeks, of which at least three days/week will be on the river) and June (up to two weeks, of which at least three days/week will be on the river). These efforts will begin within the timeframe of when hydrological conditions allow. These efforts will be coordinated with CSU. As described in Activity C, CPW will assist CSU in monitoring Colorado pikeminnow during this same timeframe during pikeminnow estimate years. This work requires two, three-person electrofishing crews which will utilize jon boats equipped with outboard jet units to perform the fish sampling (both nonnative fish removal and Colorado pikeminnow population estimates). A third boat serves as a chase boat to help process fish that are captured.

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Task 2. Assist CSU with a targeted intensive smallmouth bass removal effort in early July

Intensive removal of smallmouth bass during their spawning period is referred to as the “Surge”. CPW will contribute by providing two or more employees for up to one week, as available. CPW will coordinate with CSU during the surge, but CPW will likely be working in the South Beach, Juniper, and Maybell reaches. Crews will utilize boat electrofishing for this effort.

Deliverables

The Area 6 Aquatic Biologist for CPW has historically completed the 98a report which summarizes northern pike removal efforts in the Middle Yampa River. Although the specifics of reporting in future years depends on Program guidance, CPW plans to continue to support the development reporting on nonnative fish removal efforts in the Middle Yampa River, whether that involves CPW writing the report or providing data to another agency. CPW is likely not able to increase commitments to writing annual reports because CPW’s permanent employees are not funded by the Recovery Program.

All data will be submitted to the Data Manager and Study Principal Investigator by mid-November.

Activity E Budget

Spending Type	Year 1	Year 2
Perm Staff	\$ 0	\$ 0
Seas Staff	\$ 34,118.63	\$ 62,641.80
Materials	\$ 16,630.22	\$ 28,232.55
Equipment	\$ 0	\$ 0
Travel	\$ 11,574.00	\$ 27,006.00
Contracts	\$ 0	\$ 0
E Total	\$ 62,322.85	\$ 117,880.35

**Note that travel costs are partially covered under Activity C during CPM estimate years.

ACTIVITY F – Operate, maintain, and monitor reservoir screening facilities (Project C20)

Study Principal Investigators

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FY 2024-25 Colorado Parks & Wildlife Scope of Work

Last updated: 4/27/2023

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Activity Principal Investigator

Study Goals

This project includes the operation, maintenance, and evaluation of the Highline Lake and Elkhead Reservoir spillway nets, as well as the Rifle Creek fish screen, which are designed to control escapement of non-native warmwater fishes.

Study Area

The study area includes Highline Lake and Mack Wash downstream of Highline Lake. The study area also includes Elkhead Reservoir and stilling basin immediately downstream of Elkhead Reservoir. Lastly, the study area includes Rifle Creek downstream of Rifle Gap Reservoir.

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Task Descriptions

Task 1. Complete at least one survey behind Highline Lake spillway net outside of irrigation season

CPW crews use nighttime boat electrofishing and occasionally gill nets to monitor the number of fish behind the spillway net at Highline Lake when the reservoir is not spilling. This work consists of pre-irrigation season surveys in the spring and/or post-irrigation surveys in the fall. This consists of 2-3 days of work for a crew of 3-5 people using one jon boat.

Task 2. Survey Mack Wash downstream of Highline Lake

Bank and/or barge electrofishing units, and occasionally gill nets, are used to monitor the fishery in Mack Wash downstream of Highline Lake to assess escapement of non-native fish from the reservoir. This work typically occurs at two sites: one immediately downstream of Highline Lake, and another on private property 3 miles downstream of Highline Lake. These surveys occur in the fall (usually early-November) when the lake has stopped spilling. The work consists of 2-3 days of work for a crew of 10-12 people.

Task 3. Highline Lake spillway net surveys, cleaning, and repairs

The spillway net is cleaned typically 4-5 times per year by a professional diving contractor. Repairs are made to the net, as needed. Highline Lake State Park staff perform visual inspections of the net on a weekly basis to ensure the net is functioning.

Task 4. Complete two surveys on Elkhead Reservoir between spillway net and spillway

Surveys are conducted in Elkhead Reservoir behind the spillway net using gill nets. Surveys are conducted before and after the timeframe in which the reservoir spills.

Task 5. Complete two surveys on Elkhead Reservoir stilling basin

Surveys are conducted in the Elkhead Reservoir stilling basin net using gill nets. Surveys are conducted before and after the timeframe in which the reservoir spills.

Task 6. Elkhead Reservoir spillway net surveys, cleaning, and repairs

The spillway net is cleaned typically 4-5 times per year by a professional diving contractor. Repairs are made to the net, as needed. Elkhead Reservoir State Park staff perform visual inspections of the net on a weekly basis to ensure the net is functioning.

Task 7. Rifle Creek Fish screen assessment, monitoring, and maintenance

The fish screen on Rifle Creek downstream of Rifle Gap Reservoir is maintained and cleaned regularly to prevent escapement of nonnative fish from the reservoir into downstream native fish habitat. CPW also maintains a screen maintenance log which documents time spent cleaning the screen and fish data on fish entrained in the screen. Rifle Gap State Park personnel clean the screen on a regular (typically

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daily) basis. CPW conducts annual fishery surveys in Rifle Creek to assess the effectiveness of the screen.

Deliverables

CPW provides the annual C-20 report regarding the operation, maintenance, and evaluation of fish escapement barriers at Highline Lake and Elkhead Reservoir on an annual basis. This report is typically provided to the Program in January due to the field work occurring later in the season. Annual costs for maintenance of CPW's screens and spillway nets is estimated to be \$24,000. The annual cost of monitoring the effectiveness of those screens is estimated to be \$11,930.

Activity F Budget

Spending Type	Year 1	Year 2
Perm Staff	\$ 0	\$ 0
Seas Staff	\$ 0	\$ 0
Materials	\$ 0	\$ 0
Equipment	\$ 0	\$ 0
Travel	\$ 0	\$ 0
Contracts	\$ 0	\$ 0
G Total	\$ 0	\$ 0

** Note that Recovery Program funds are not used on this project on a regular basis. However, operations and maintenance costs exceeding \$10,000 (at each water) will be split 50:50 by CPW and the Recovery Program. Recovery Program funds were used to replace the Highline Lake spillway net in the spring of 2022.

ACTIVITY G – Conduct reservoir removal of problematic nonnative species (Project C20)

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FY 2024-25 Colorado Parks & Wildlife Scope of Work

Last updated: 4/27/2023

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Activity Principal Investigator

Study Goals

This activity captures CPW's flatwater work, including northern pike removal on Kenney Reservoir (previously under Project 167) and northern pike and smallmouth bass removal in floodplains ponds along the Colorado River upstream of Rifle, CO (previously included in Project 126b). This activity also includes work that is not funded by the Recovery Program that provides a benefit to endangered fish. This work includes eradication of nonnative fish populations through chemical reclamation or reservoir draining, mechanical removal efforts, harvest incentive programs, and fishing tournaments.

Study Area

Northwest Colorado.
FY 2024-25 Colorado Parks & Wildlife Scope of Work

Last updated: 4/27/2023

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Task Descriptions

Task 1. Complete boat electrofishing and gill/trap net sets in private ponds within the floodplain of the Colorado River to capture and remove smallmouth bass and northern pike.

Floodplain ponds along the Colorado River upstream of Rifle will be sampled using a combination of boat electrofishing, gill netting, and trap netting. This work will occur for a minimum of four days primarily in mid-March to exploit northern pike during the spawning period, and may continue intermittently thereafter. Ideally, these sampling efforts involve a crew consisting of 6 people and 2 boats.

Task 2. Complete boat electrofishing and gill/trap net sets in Kenney Reservoir to capture and remove northern pike.

Northern pike removal efforts at Kenney Reservoir will begin in mid-March to early-April when the ice comes off the reservoir, and will continue until the end of the northern pike spawning period. Crews will also complete sampling in the fall to evaluate the success of the spring spawn. A minimum of six days on the reservoir across the spring and fall will be expended on this project. Two, three-person crews will utilize jon boats to electrofish and set gill nets and potentially trap nets. A block and shock technique may be used to corral fish into nets.

Task 3. Flatwater reclamations that are not funded by the Recovery Program

CPW has conducted several projects to eradicate northern pike and smallmouth bass in lakes and reservoirs. Recent examples include the draining of Mack Mesa Lake and Rio Blanco Lake to remove northern pike. These reservoir draining projects cost approximately \$71,339. CPW also chemically reclaimed Miramonte Reservoir, Chapman Reservoir, and Paonia Reservoir to remove northern pike (Chapman Reservoir and Paonia Reservoir) and smallmouth bass (Miramonte Reservoir). These projects cost CPW a total of approximately \$90,000.

Task 4. Flatwater mechanical removal projects that are not funded by the Recovery Program

CPW conducts mechanical removal operations that are not funded by the Recovery Program at a number of waters. These removal efforts include opportunistic removal efforts at Wolford Mountain Reservoir, Crawford Reservoir, and Gypsum Ponds. These efforts cost CPW approximately \$17,835 per year. CPW also conducts annual intensive northern pike removal operations at Lake Catamount which consist of gill netting, trap netting, and boat electrofishing.

Task 5. Conduct fishing tournaments to reduce nonnative fish populations

CPW hosts annual fishing tournaments at Elkhead Reservoir and Ridgway Reservoir to reduce densities of nonnative fish, raise public awareness, and increase public support through tournament prizes and outreach. These tournaments cost approximately \$30,000 per year, and are mostly funded by CWCB.

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Task 6. Collaborate with partners on angler harvest incentives

CPW collaborates with several partners to implement angler harvest incentives of \$20 per northern pike harvested at Green Mountain Reservoir and Woford Mountain Reservoir. The total annual cost of these programs is approximately \$10,000 and the funds are provided by CWCB and the Colorado River Water Conservation District.

Deliverables

CPW will continue to formally report on Program-funded flatwater removal efforts including northern pike removal at Kenney Reservoir and floodplain ponds along the Colorado River. CPW will also provide updates on other non-funded efforts at BC meetings or through providing a brief written summary of those efforts, as appropriate.

Activity G Budget

Spending Type	Year 1	Year 2
Perm Staff	\$ 0	\$ 0
Seas Staff	\$ 15,653.07	\$ 15,966.13
Materials	\$ 3,217.30	\$ 4,429.14
Equipment	\$ 0	\$ 0
Travel	\$ 5,144.00	\$ 5,144.00
Contracts	\$ 0	\$ 0
H Total	\$ 24,014.37	\$ 25,539.27

Budget Summary

Fiscal Year	USBR Funding
2024	\$ 170,011
2025	\$ 227,904
2026	\$ 208,224
2027	\$ 208,698
2028	\$ 237,154
Total	\$ 1,051,991