

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

FY 2024-25 SCOPE OF WORK

Title

Utah Division of Wildlife Resources Moab Field Station Implementation of Recovery Activities

Bureau of Reclamation Agreement Number

R19AP00059

Reclamation Agreement Term

Oct. 1, 2019 – Sep. 30, 2024

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

Utah Division of Wildlife Resources Moab Field Station

Principal Investigator

Katherine Creighton, Native Aquatics Project Leader

Utah Division of Wildlife Resources

Moab Field Station

1165 S. Hwy 191 Suite #4

Moab, Utah, 84532

Phone: (435) 259-3780

Email: katherinecreighton@utah.gov

Category:

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

Expected Funding Source:

- Annual funds
- Capital funds
- Other [explain]

Station Abstract

The Utah Division of Wildlife Resources Moab Field Station (UDWR MFS) will implement many recovery activities to support listed fishes, including monitoring listed fish populations, removing nonnative species, managing wetland habitats, 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.
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Activities to be Implemented

The UDWR MFS 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 adult Colorado pikeminnow abundance in the Green River subbasin;
- D. Monitor razorback sucker reproduction and early recruitment in the Lower Green and Colorado Rivers;
- E. Manage wetland habitats along the lower Colorado River to support young razorback sucker;
- F. Mechanically remove smallmouth bass in the Green river;
- G. Mechanically remove walleye in the lower Green and Colorado rivers;
- H. Monitor YOY Colorado pikeminnow densities and collect broodstock; and
- I. Monitor humpback chub abundance and collect broodstock in the Green and Colorado Rivers;

Staffing

The UDWR MFS operates with a staff of five permanent employees to effectively oversee, plan, perform, and report the activities listed above.

In addition, the UDWR MFS requires approximately eight to twelve seasonal staff 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 activities described above.

Native Aquatics Project Leader – Oversees operations and workforce (permanent and seasonal) of the Moab Field Station and implementation of Recovery Program projects. This position is 50% funded by the Recovery Program.

Native Aquatics Biologist II (A) – Serves as Principal Investigator for Westwater Canyon Humpback Chub Monitoring (Activity I) and Matheson Wetland Management (Activity E). Responsible for submission of all associated data and reports. This position is 50% funded by the Recovery Program.

Native Aquatics Biologist II (B) – Serves as Principal Investigator for Desolation and Gray Canyons Humpback Chub Monitoring (Activity I) and Early Life Stage Razorback Sucker Monitoring (Activity D). Responsible for submission of all associated data and reports. This position is 100% funded by the Recovery Program.

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Native Aquatics Biologist I (C) – Serves as Principle Investigator for Walleye Removal (Activity G) and Cataract Canyon Humpback Chub Monitoring (Activity I). Responsible for submission of all associated data and reports. This position is 100% funded by the Recovery Program.

Native Aquatics Biologist I (D)– Serves as Principle Investigator for Smallmouth Bass Removal (Activity F) and YOY Colorado Pikeminnow Monitoring (Activity H). Responsible for submission of all associated data and reports. This position is 100% funded by the Recovery Program.

Seasonal Staff

Native Aquatics Technicians I/II – Primary duties are to conduct fieldwork and collect associated data. Activities typically require 8-12 technicians annually.

Staff Hours

| | Estimated Yearly Hours |
|--|-------------------------------|
| Total Hours for Permanent Staff | 8,320 |
| Project Leader | 1,040 |
| Biologist II (A) | 1,040 |
| Biologist II (B) | 2,080 |
| Biologist I (C) | 2,080 |
| Biologist I (D) | 2,080 |
| Total Hours for Seasonal Staff | 10,000 |
| Technician I/II (8-12) | 10,000 |
| Grand Total | XX |

ACTIVITY A – Permanent Staff and Fixed Costs Associated with Implementation of All Station Activities. (Previously imbedded in Project scopes 123a, 123d, 128, 129, 130, 132, 138, 160, & 176)

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.

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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 permits from both federal and state agencies, and acquiring landowner access for specific 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 UDWR MFS 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

The UDWR MFS utilizes six rafts, two catarafts, five jon boats, two sport boats, two lake boats, six Honda generators, six electrofishing units, four 8hp Yamaha outboard motors, two 25hp Yamaha outboard motors, three 40hp Yamaha outboard motors, two 60hp Yamaha outboard motors, two 70 hp Yamaha outboard motors, four Juniper Allegro data loggers, a fleet of seven trucks to implement all station activities, seven computers and IT support, and building rental. This task describes the replacement schedule and cost of equipment used for all field activities, as well as the fixed fees associated with our vehicle fleet, computers, and building costs. Mileage fees for vehicles are accounted for in the individual activities in which they are accrued.

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- Replace (1) generator per year
- Replace (1) boat per year
- Replace (1) small outboard motor per year
- Replace (1) data collection device (Allegro) per year
- Fixed fees for (7) trucks
- Fixed fees for (4) computers
- Fixed fee for building rental (50%) per year

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 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 |
|-------------------------|------------------|------------------|
| Perm Staff | \$371,344 | \$378,771 |
| Seas Staff | | |
| Materials | \$20,612 | \$19,427 |
| Equipment | \$32,472 | \$33,121 |
| Travel | \$2,864 | \$2,921 |
| Contracts | | |
| A Total | \$427,292 | \$434,241 |

Generalized Work Schedule

A typical field season for UDWR MFS begins in early March, although some hydrologic conditions may warrant work being performed in late February. Early season work, before and during spring runoff, includes walleye removal, monitoring adult Colorado pikeminnow (three out of every five years), collecting razorback sucker larvae via light traps, and preparing and managing wetland infrastructure to entrain the drifting razorback sucker larvae. Beginning with the descending limb of the hydrograph, work shifts primarily to smallmouth bass removal, age-0 razorback sucker sampling and monitoring of

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water levels in managed wetlands to ensure that adequate water quantity and quality is maintained. In autumn, when river temperatures begin to drop, crews will conduct standardized monitoring for age-0 Colorado pikeminnow, humpback chub population monitoring in three locations (on rotation), and collect Colorado pikeminnow and humpback chub for genetic refuge and broodstock as needed. In late autumn (or when water levels begin to deteriorate), crews will drain managed wetlands and return age-0 razorback sucker to the river. Field season typically ends around November 1st.

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 Recovery Program Researcher's Meeting each winter. During the winter, permanent staff and winter seasonal technicians 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 future projects with collaborators and landowners.

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Generalized [OFFICE] 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 | All | | | | | | | | | | | | |
| CPM, RZ | C – CPM Estimates | 128 | LGR | 3-permanent 6-seasonal | | | | X | X | X | | | | | | |
| RZ | D –Larval & YOY RZ | 160 | LGR, LCR | 1 permanent 3 seasonal | | | | X | X | X | X | X | | | | |
| RZ | E– Wetland Mgmt. | 176 | LCR | 1 permanent 2 seasonal | | | | X | X | X | X | X | X | X | X | |
| SM | F – Mechanical removal | 123a | GR Desolation | 2 permanent 6 seasonal | | | | | | X | X | | | | | |
| SM | F – Mechanical removal | 123a | GR Echo-Split | 1 permanent 5 seasonal | | | | | | | X | X | | | | |
| WE | G – Mechanical removal | 123d | LGR, LCR | 1-permanent 3 seasonal | | | X | X | X | X | X | X | X | X | | |
| CPM | H – Monitor YOY | 138 | LGR, LCR | 1-permanent 3 seasonal | | | | | | | | | X | | | |
| CPM | H – Brood Collection | 138 | LGR, LCR | 1-permanent 1 seasonal | | | | | | | | | X | X | | |
| HBC | I – Monitor HBC Abundance | 129 | GR Desolation | 2-permanent 6 seasonal | | | | | | | | | X | X | | |
| HBC | I – HBC Brood Collection | 129 | GR Desolation | 2-permanent 6 seasonal | | | | | | | | | X | X | | |
| HBC | I – Monitor HBC Abundance | 130 | LCR Cataract | 2-permanent 6 seasonal | | | | | | | | | X | X | | |
| HBC | I – Monitor HBC Abundance | 132 | LCR Westwater | 2-permanent 6 seasonal | | | | | | | | | X | X | | |

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

Study Principal Investigator

Shannon Nelson, Outreach Coordinator
UCREFRP Program Directors Office
Email: shannon_nelson@fws.gov

Activity Principal Investigator

Vacant/Undetermined-temporary contact: Katherine Creighton, Project Leader
UDWR Moab Field Station
E-mail: katherinecreighton@utah.gov

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

The areas routinely sampled by this office, in addition to Moab, Utah and the surrounding municipalities in the Green River, San Juan River, and Upper Colorado River Basins.

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

The UDWR MFS 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

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 including:

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- 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

*Please note that for informal outreach encounters the goal is to identify trends to guide future outreach efforts and it is not necessary to document every interaction. Instead, it would be helpful to learn the approximate number of boats and/or people encountered, significant locations/river reaches where interactions occurred, and if they were positive, negative, or otherwise remarkable in terms of recommending future outreach actions.

- 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)
 - Increasing field office staff capacity to conduct outreach activities
- 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 | | |
| Seas Staff | \$2,924 | \$4,474 |
| Materials | \$1,114 | \$1,136 |
| Equipment | | |
| Travel | | |
| Contracts | | |
| B Total | \$4,038 | \$5,610 |

ACTIVITY C - Colorado pikeminnow abundance estimation in the lower Green River (Project 128)

Study Principal Investigator

Kevin R. Bestgen, Principal Investigator-Project Manager

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Larval Fish Laboratory

E-mail: kbestgen@ColoState.edu

Activity Principal Investigator

Vacant/Undetermined-temporary contact: Katherine Creighton, Project Leader

UDWR Moab Field Station

E-mail: katherinereighton@utah.gov

Study Goals

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.

Study Area

The Green River subbasin, specifically the lower Green River from Green River State Park (river mile 120.0) to the confluence with the Colorado River (river mile 0.0).

Task Descriptions

Task 1. Complete at least three electrofishing passes on the Lower Green River.

Passes will occur in April-June when temperatures and flows are appropriate. Each pass requires ten days, four boats, and eight people. Sampling occurs for three years consecutively followed by two years off. The last year of sampling in the current three-year cycling will be 2024.

Deliverables

1. Data will be submitted to the Database Manager and Study Principal Investigator as soon as possible upon the conclusion of fieldwork (2024).

Activity C Budget

| Spending Type | Year 1 | Year 2 |
|----------------|-----------------|------------|
| Perm Staff | | |
| Seas Staff | \$52,632 | \$0 |
| Materials | \$25,710 | \$0 |
| Equipment | | |
| Travel | \$14,580 | \$0 |
| Contracts | \$1,725 | \$0 |
| C Total | \$94,647 | \$0 |

ACTIVITY D – Monitor razorback sucker reproduction and early recruitment in the Lower Green and Colorado Rivers (Project 160)

Principal Investigator

Blake Hansen, Native Aquatics Biologist
UDWR Moab Field Station
E-mail: blakehansen@utah.gov

Study Goals

The goals of this project are to document presence of larvae, young-of-year, and age-1+ razorback sucker in the lower Green River and Colorado River systems.

Study Area

The lower Green River from Green River State Park (river mile 120.0) to the confluence with the Colorado River (river mile 0.0) and the Colorado River from Cisco (river mile 110.0) to the confluence with the Green River (river mile 0.0).

Task Descriptions

Task 1. Sample larval fish in the lower Green and Colorado Rivers.

Passes will occur on each river in April-June when temperatures and flows are appropriate. Each pass requires up to five days, two boats, and three people. Effort will be combined with Activity C when possible by adding one boat and one person to each pass.

Task 2. Sample for young-of-year to age-1+ razorback sucker

Passes will occur on each river in July and August when temperatures and flows are appropriate. Each pass requires up to five days, two boats, and three people.

Deliverables

1. Larval samples will be sent to Colorado State University Larval Fish Lab (CSC LFL) for identification upon completion of fieldwork.
2. Annual report summarizing effort, available habitat and any fish encountered that could be field-identified. Annual report will be revised upon completion of larval fish identification by CSU LFL. (December 2024 and 2025)
3. Data submission to Database Coordinator (January 2025 and 2026)

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Activity D Budget

| Spending Type | Year 1 | Year 2 |
|----------------|-----------------|-----------------|
| Perm Staff | | |
| Seas Staff | \$18,806 | \$23,292 |
| Materials | \$8,684 | \$8,858 |
| Equipment | | |
| Travel | \$4,050 | \$4,131 |
| Contracts | \$1,150 | \$1,150 |
| D Total | \$32,690 | \$37,431 |

ACTIVITY E – Manage wetland habitats in the lower Colorado River to support young razorback sucker (Project 176)

Principal Investigator

Vacant/Undetermined-temporary contact: Katherine Creighton, Project Leader
UDWR Moab Field Station
E-mail: katherinecreighton@utah.gov

Study Goals

This project will operate a modified wetland nursery within the Scott M. Matheson Wetland Preserve to provide access to floodplain wetland rearing habitat for endangered fishes.

Study Area

The Scott M. Matheson Wetland Preserve is located immediately adjacent to the city of Moab on the river-left bank of the Colorado River (river miles 64.0 to 61.3) with the inlet channel at river mile 62.0.

Task Descriptions

Task 1. Monitor larval razorback sucker near inlet and entrain larvae in wetland as mainstem flows allow.

As mainstem flows increase with spring runoff (April-June), monitor presence of larval razorback sucker between river and water control structure using light traps and operate fish screen and water control structure to maximize larval razorback sucker entrainment in the Preserve.

Task 2. Monitor wetland water quality and quantity throughout growing season and drain wetland.

Monitoring effort will occur after entrainment (May-October) to monitor water quality and quantity in the Preserve. When water quality has degraded or growing season has ended, the wetland will be drained and native fish will be enumerated, tagged and returned to the river (October-November).

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Task 3. Manage nonnative fish in wetland prior to next entrainment season using various methods, as necessary.

Effort will occur in November-March to manage nonnative fishes present in the wetland after the entrainment season and to “reset” the nursery area before the next entrainment.

Deliverables

1. Larval samples will be sent to Colorado State University Larval Fish Lab (CSC LFL) for identification upon completion of fieldwork.
2. Annual report summarizing effort, available habitat and any fish encountered that could be field-identified. Annual report will be revised upon completion of larval fish identification by CSU LFL (December 2024 and 2025).
3. Data submission to Database Coordinator (January 2025 and 2026)

Activity E Budget

| Spending Type | Year 1 | Year 2 |
|----------------|----------------|-----------------|
| Perm Staff | | |
| Seas Staff | \$5,483 | \$8,388 |
| Materials | \$2,114 | \$2,156 |
| Equipment | | |
| Travel | \$1,620 | \$1,652 |
| Contracts | | |
| E Total | \$9,217 | \$12,197 |

ACTIVITY F – Mechanically remove smallmouth bass in the Green River (Project 123a)

Study Principal Investigator

Katherine Lawry, Fish Biologist

USFWS GR FWCO

E-mail: katherine_lawry@fws.gov

Activity Principal Investigator

Anna Amidon, Native Aquatics Biologist

UDWR Moab Field Station

E-mail: aamidon@utah.gov

Study Goals

Control and monitor smallmouth bass and other nonnative fishes in the Green River from Echo Park to Split Mountain and in Desolation/Gray Canyons .

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Study Area

The Green River within Dinosaur National Monument from Echo Park to Split Mountain boat ramp (river mile 344.5-319.5) and Desolation/Gray Canyons from Tabyago Riffle to Swasey's boat ramp (river mile 207.0-129.8).

Task Descriptions

Task 1. Complete one pass on the Green River in Desolation/Gray Canyons.

Pass will occur in June-August when temperatures and flows are appropriate. Each pass requires eight days, four boats, and eight people.

Task 2. Complete at least four electrofishing passes on the Green River from Echo Park to Split Mountain.

Passes will occur in July-August when temperatures and flows are appropriate. Each pass requires four days, three boats, and six people.

Deliverables

2. Data will be submitted to the Database Manager and Study Principal Investigator as soon as possible upon the conclusion of fieldwork.
3. Assist lead author (USFWS GR FWCO) with basin-wide report (January 2025 and 2026).

Activity F Budget

| Spending Type | Year 1 | Year 2 |
|----------------|-----------------|-----------------|
| Perm Staff | | |
| Seas Staff | \$30,604 | \$42,067 |
| Materials | \$12,848 | \$13,104 |
| Equipment | | |
| Travel | \$8,640 | \$8,813 |
| Contracts | \$3,150 | \$3,150 |
| F Total | \$55,241 | \$67,135 |

ACTIVITY G – Mechanically remove walleye in the lower Green & Colorado Rivers (Project 123d)

Principal Investigator

Sam Brockdorff, Native Aquatics Biologist

UDWR Moab Field Station

E-mail: spbrockdorff@utah.gov

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Study Goals

Control and monitor walleye and other nonnative fishes in the lower Green River and the Colorado River.

Study Area

The lower Green River from Tusher Diversion (river mile 128.0) to Ruby Ranch (river mile 97.0), and the lower Colorado River from lower Westwater Canyon (river mile 116) to Potash (river mile 47.2).

Task Descriptions

Task 1. Removal effort on the lower Green River and the lower Colorado River

Up to twelve electrofishing passes will occur in March-June when temperatures and flows are appropriate. Each pass requires one day, two boats, and four people. Effort quantity and locations will be adjusted when Colorado Pikeminnow Population Estimation efforts are occurring on either the lower Green or lower Colorado Rivers.

Deliverables

1. Data will be submitted to the Database Manager as soon as possible upon the conclusion of fieldwork.
2. Annual basin-wide report (UDWR MFS is lead author) with help from co-authors (January 2025 and 2026).

Activity G Budget

| Spending Type | Year 1 | Year 2 |
|----------------|----------------|-----------------|
| Perm Staff | | |
| Seas Staff | \$4,386 | \$8,947 |
| Materials | \$2,752 | \$3,575 |
| Equipment | | |
| Travel | \$1,296 | \$2,644 |
| Contracts | | |
| G Total | \$8,434 | \$15,166 |

ACTIVITY H – Monitor YOY Colorado pikeminnow and collect broodstock (Project 138)

Principal Investigator

Anna Amidon, Native Aquatics Biologist
UDWR Moab Field Station
E-mail: aamidon@utah.gov

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Study Goals

Monitor YOY Colorado pikeminnow in the Green and Colorado Rivers to assess long-term trends in annual fall recruitment. Collect individuals for genetic refuge and broodstock as needed. This project is a collaborative effort with UDWR-Vernal (Task 1) and SJRRIP (Task 2). This Activity describes UDWR MFS tasks and deliverables only.

Study Area

The Lower Green River from Green River State Park (river mile 120.0) to the confluence with the Colorado River (river mile 0.0) and the Colorado River from Cisco (river mile 110.0) to the confluence with the Green River (river mile 0.0).

Task Descriptions

Task 1. Seine zero to low velocity habitats on the lower Green and Colorado Rivers to collect fish and habitat data.

Passes in each reach will occur in September. Each pass requires four days, two boats, and four people.

Task 2. Seine zero to low velocity habitats on the lower Green and Colorado Rivers to collect young pikeminnow for genetic refuge and broodstock, as needed.

Broodstock collection efforts will depend on need, environmental conditions, and estimated cohort strength. This effort will be jointly funded by the San Juan River Recovery Implementation Program and conducted with assistance from American Southwest Ichthyological Researchers and Southwestern Native Aquatic Resources and Recovery Center. Up to four collection passes will occur in September-October and each pass will require up to three days, two boats, and two people from UDWR MFS.

Deliverables

1. Annual report co-authored with UDWR-Vernal summarizing effort and findings (December 2024 and 2025).
2. Data submission to Database Coordinator (January 2025 and 2026).

Activity H Budget

| Spending Type | Year 1 | Year 2 |
|----------------|-----------------|-----------------|
| Perm Staff | | |
| Seas Staff | \$7,701 | \$7,855 |
| Materials | \$5,656 | \$5,769 |
| Equipment | | |
| Travel | \$2,376 | \$2,424 |
| Contracts | \$230 | \$230 |
| H Total | \$15,962 | \$16,277 |

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ACTIVITY I – Monitor humpback chub populations and collect broodstock in the Green and Colorado Rivers (Projects 129, 130, and 132)

Principal Investigators

Desolation-Gray Canyons (Project 129)

Blake Hansen, Native Aquatics Biologist

UDWR Moab Field Station

E-mail: blakehansen@utah.gov

Cataract Canyon (Project 130)

Sam Brockdorff, Native Aquatics Biologist

UDWR Moab Field Station

E-mail: spbrockdorff@utah.gov

Westwater Canyon (Project 132)

Vacant/Undetermined-temporary contact: Katherine Creighton, Project Leader

UDWR Moab Field Station

E-mail: katherinecreighton@utah.gov

Study Goals

Monitor populations of humpback chub in Desolation/Gray, Cataract, and Westwater Canyons in the Green and Colorado Rivers. Collect individuals for genetic refuge and broodstock as needed.

Study Area

1. Desolation/Gray Canyons (Green River): Sand Wash to Swasey's boat ramp (river miles 216.0-132.0)
2. Cataract Canyon (Colorado River): Spanish Bottom to Hite (river miles -3.5 - -46.0)
3. Westwater Canyon (Colorado River): Westwater boat ramp to Cisco Landing (river miles 127.7-110.5)

Task Descriptions

Task 1. Complete three sampling passes in Desolation/Gray Canyons of the Green River (Project 129).

Passes will occur in September-October when temperatures and flows are appropriate. Each pass requires eight days, up to five boats, and eight people. Sampling is conducted two years in a row with two to four years between sampling cycles, depending on the rotation of other Tasks in this Activity (September-October 2024).

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Task 2. Complete one sampling pass in Cataract Canyon of the Colorado River (Project 130).

Passes will occur in September-October when temperatures and flows are appropriate. Each pass requires ten days, up to five boats, and eight people. Sampling is conducted every two to four years, depending on the rotation of other Tasks in this Activity (September-October 2025, TBD).

Task 3. Complete three sampling passes in Westwater Canyon of the Colorado River (Project 132).

Passes will occur in September-October when temperatures and flows are appropriate. Each pass requires eight days, up to five boats, and eight people. Sampling is conducted two years in a row with two to four years between sampling cycles, depending on the rotation of other Tasks in this Activity (Will not occur in 2024 or 2025).

Task 4. Complete up to three genetic refuge/broodstock collection passes in Desolation/Gray Canyons of the Green River (Project "129B").

Passes will occur in September-October when temperatures and flows are appropriate. Each pass requires up to eight days, up to five boats, and up to eight people. Sampling occurs every one to three years, depending on the rotation of other Tasks in this Activity (Two passes in 2025, TBD).

Task Schedule.

| | 2024 | 2025 |
|----------------|----------|----------|
| Task 1. (129) | 3 passes | |
| Task 2. (130) | | 1 pass |
| Task 3. (132) | | |
| Task 4. (129B) | | 2 passes |

Deliverables

1. Annual report summarizing effort and findings (due in December after fieldwork concludes).
2. Data submission to Database Coordinator (Due in January after fieldwork concludes).
3. Final report detailing the sampling cycle and synthesizing long-term trends, Tasks 1 and 3 only (due two years after fieldwork for two-year cycle concludes).

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

Deliverable Schedule (DRAFT, TBD).

| | Data submission | Annual report | Final report |
|----------------|-----------------|---------------|--------------|
| Task 1. (129) | 2024 | 2024 | 2026 |
| Task 2. (130) | 2025 | 2025 | n/a |
| Task 3. (132) | n/a | n/a | n/a |
| Task 4. (129B) | 2025 | 2025 | n/a |

Activity I Budget

| Spending Type | Year 1 | Year 2 |
|----------------|-----------------|-----------------|
| Perm Staff | | |
| Seas Staff | \$40,315 | \$50,329 |
| Materials | \$20,565 | \$21,996 |
| Equipment | | |
| Travel | \$10,368 | \$11,457 |
| Contracts | \$2,250 | \$1,400 |
| I Total | \$73,498 | \$85,182 |

Budget Summary

| Fiscal Year | USBR Funding |
|--------------|--------------------|
| 2024 | \$721,019 |
| 2025 | \$673,239 |
| 2026 | \$680,381 |
| 2027 | \$795,509 |
| 2028 | \$815,460 |
| Total | \$3,685,608 |

SUMMARY OF PROPOSED COSTS

| | |
|----------------------------------|-------------------------------------|
| Name of Servicing Agency: | Utah Division of Wildlife Resources |
| Project Name: | Moab Field Station - All Activities |

| | YEAR 1 | | YEAR 2 | | YEAR 3 | | YEAR 4 | | YEAR 5 | | TOTAL |
|---|---------------|---------------|---------------|---------------|---------------|-----------------|-----------|------|-----------|------|-------|
| | 10/1/2023 | | 10/1/2024 | | 10/1/2025 | | 10/1/2026 | | 10/1/2027 | | |
| | Through | | Through | | Through | | Through | | Through | | |
| Enter the BEGINNING dates for each year -----> | 9/30/2024 | | 9/30/2025 | | 9/30/2026 | | 9/30/2027 | | 9/30/2028 | | |
| Enter the ENDING dates for each year -----> | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | TOTAL | | | | | |
| DIRECT LABOR AND FRINGE BENEFIT COSTS: | | | | | | | | | | | |
| Direct Labor - Hourly | \$ 378,545.05 | \$ 365,362.88 | \$ 369,247.74 | \$ 435,977.04 | \$ 448,257.24 | \$ 1,997,389.94 | | | | | |
| Fringe Benefits - Hourly | \$ 155,648.38 | \$ 158,761.34 | \$ 161,936.57 | \$ 165,175.30 | \$ 168,478.81 | \$ 810,000.40 | | | | | |
| Subtotal of Direct Labor & Fringe Benefits: | \$ 534,193.43 | \$ 524,124.22 | \$ 531,184.31 | \$ 601,152.34 | \$ 616,736.05 | \$ 2,807,390.34 | | | | | |
| OTHER DIRECT COSTS: | | | | | | | | | | | |
| Materials and Supplies | \$ 100,054.29 | \$ 76,021.86 | \$ 75,019.33 | \$ 103,004.97 | \$ 107,689.86 | \$ 461,790.31 | | | | | |
| Travel Costs | \$ 45,794.00 | \$ 34,041.48 | \$ 33,823.40 | \$ 48,596.96 | \$ 50,504.12 | \$ 212,759.96 | | | | | |
| Equipment | \$ 32,472.00 | \$ 33,121.44 | \$ 33,783.87 | \$ 34,459.55 | \$ 32,875.63 | \$ 166,712.48 | | | | | |
| Contractors | \$ 8,505.00 | \$ 5,930.00 | \$ 6,570.00 | \$ 8,295.00 | \$ 7,655.00 | \$ 36,955.00 | | | | | |
| Subtotal of Other Direct Costs: | \$ 186,825.29 | \$ 149,114.78 | \$ 149,196.60 | \$ 194,356.48 | \$ 198,724.61 | \$ 878,217.76 | | | | | |
| INDIRECT/OVERHEAD COSTS: | | | | | | | | | | | |
| Subtotal of Labor and Other Direct Costs: | \$ 721,018.72 | \$ 673,239.00 | \$ 680,380.91 | \$ 795,508.81 | \$ 815,460.66 | | | | | | |
| Total dollars exempt from indirect/overhead base: | \$ 721,018.72 | \$ 673,239.00 | \$ 680,380.91 | \$ 795,508.81 | \$ 815,460.66 | | | | | | |
| <Enter Description of Indirect/OH Cost #1> | 0.00% | \$ - | 0.00% | \$ - | 0.00% | \$ - | 0.00% | \$ - | 0.00% | \$ - | \$ - |
| Total dollars exempt from indirect/overhead base: | \$ - | \$ - | \$ - | \$ - | \$ - | | | | | | |
| <Enter Description of Indirect/OH Cost #2> | 0.00% | \$ - | 0.00% | \$ - | 0.00% | \$ - | 0.00% | \$ - | 0.00% | \$ - | \$ - |
| Subtotal of Indirect/Overhead Costs: | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | | | | | |
| GRAND TOTAL: | \$ 721,018.72 | \$ 673,239.00 | \$ 680,380.91 | \$ 795,508.81 | \$ 815,460.66 | \$ 3,685,608.10 | | | | | |