

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

FY 2022-23 SCOPE OF WORK

PROJECT: FR-115

Project Title

Monitoring effects of Flaming Gorge Dam releases on the Lodore and Whirlpool Canyon fish communities

Bureau of Reclamation Agreement Number:

R19AP00058

Reclamation Agreement Term:

1 October 2019-30 September 2023

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:

Larval Fish Laboratory

Principal Investigator:

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Category:

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

Expected Funding Source:

- Annual funds
- Capital funds
- Other [explain]

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Relationship to RIPRAP:

Green River Action Plan: Mainstem

II.D. Evaluate and revise as needed flow regimes to benefit endangered fish populations.

I.D.2.g. Determine influence of flow and temperature recommendations on entire fish community with emphasis on nonnative fish life history in lower Reach 1 and upper Reach 2.

Study Background/Rationale and Hypotheses:

In FY01, the Recovery Implementation Program (RIP) revised the RIP Recovery Action Plan to include evaluating and revising, as needed, flow recommendations for the endangered fish throughout the Upper Colorado River Basin. Flaming Gorge Flow and Temperature Recommendations (FGFTR; Muth et al. 2000) were approved by the RIP in FY01. A Record of Decision was written in 2005 and flow and temperature recommendations have been implemented in 2006. Another change in operations at Flaming Gorge Dam has resulted from implementation of the Larval Trigger Study Plan, and has effects primarily on timing and magnitude of releases in spring from Flaming Gorge Dam.

An expectation of implementation of flow and temperature recommendations was that native and endangered fishes will benefit and may show changes in distribution and abundance. It is also possible that new flow and temperature regimes for native endangered fishes may also enhance distribution and abundance of certain nonnative fishes. This is a major concern of managers of the Colorado River Basin, where expanding non-native fish populations are detracting from conservation efforts. Effects of full implementation of new flow and temperature regimes of the Green River downstream from Flaming Gorge Dam need to be evaluated to determine relative benefits to native and endangered fishes and other non-native elements of the fish community. An increased emphasis was placed on non-native fish removal in this study beginning in 2005.

An ongoing understanding of shifts in distribution and abundance patterns of non-native predaceous fishes and native/endangered fishes associated with Flaming Gorge operations will provide managers with information necessary to assess effects of full implementation of new flow and temperature recommendations. Of particular interest are continued assessment of recent changes in distribution and abundance of predaceous species such as smallmouth bass, northern pike, and other native fishes. This study provides important non-native fish removal activities, as well as information to describe the response of native fishes to removal of smallmouth bass and other non-native piscivores. This adds information to a continued management process (along with other ongoing studies downstream) that addresses uncertainties in flow and temperature recommendations that may affect the fish community (Muth et al. 2000).

Study Goals, Objectives, End Product(s):

Goal: Remove non-native fishes and determine if changes in Green River flow and thermal regimes are associated with changes in distribution and abundance patterns of native and nonnative fishes in Browns Park, Lodore and Whirlpool canyons, and Island-Rainbow Park.

Objective 1. Remove non-native fishes and determine if shifts in distribution and abundance of large-bodied fishes have occurred in Lodore Canyon and Whirlpool Canyon by comparing the results of

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shoreline electrofishing and trammel net surveys with the results of previous studies, particularly Bestgen and Crist (2000), Bestgen et al. (2007) and results of the 2007-2016 sampling.

Objective 2. Remove non-native fishes and determine if shifts in the distribution and abundance of small-bodied fishes have occurred in Brown's Park, Lodore and Whirlpool canyons, and Island-Rainbow Park by comparing results of low-velocity, nearshore seining with the results of previous studies, particularly Bestgen and Crist (2000), Bestgen et al. (2007), and results of the 2002 to 2016 sampling.

Objective 3. Determine if Colorado pikeminnow spawn in the Green River upstream from the Yampa River confluence by sampling with drift nets in lower Lodore Canyon, and by summer sampling to determine presence of ripe adults. Drift net sampling will be done occasionally when Green River flows are low and warm (conditions when pikeminnow spawning might be expected) and will be done in coordination with drift-net sampling in the Yampa River (project 22f).

Objective 4. Analyze hydrological records as recorded by the USGS at their gaging station (09234500) near Greendale, Utah, to compare differences in current and historical operations.

Objective 5. Analyze temperature records of the Green River through Browns Park, Lodore Canyon, and Whirlpool Canyon to compare differences in current and historical operations. This activity has been expanded with more thermographs in other locations to further document warming and mixing patterns of the Green River, especially downstream of the Yampa River.

Objective 6. Monitor effects of flow spikes in late spring or summer to reduce reproductive success of smallmouth bass in the Green River (Bestgen 2018).

Objective 7. Based on results of objectives 1–6, determine physical effects of new operations and subsequent effects on the fish community of the Green River downstream of Flaming Gorge Dam.

End Product: Remove non-native fishes and assessment of effects of non-native fish removal and effects of new flow and temperature regimes based on the fish community response, including flow spikes.

Study Area:

In general, the fish community of the Green River will be sampled between the Swinging Bridge in Brown's Park and the lower end of Rainbow Park in Dinosaur National Monument. Additional northern pike sampling in upstream reaches will also be conducted but specific areas dependent on habitat availability. Specific reaches and gear include:

Boat, raft or seine sampling for small-bodied fishes and northern pike: Beginning upstream near Red Creek in Brown's Park and extending downstream through Island-Rainbow Park.

Raft-based electrofishing and trammel-netting: Lodore Canyon: Entire Canyon, which consists of four contiguous, 5-mile reaches and; Whirlpool Canyon: Entire Canyon, which consists of 2 contiguous, 5-mile reaches.

Study Methods/Approach:

Since 2015, the Recovery Program has implemented a two-tiered strategy for reducing populations of problematic nonnative predators in endangered species habitats by 1) performing

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large-scale removal of nonnative predators, especially focusing on spawning disruption; and 2) preventing escapement of nonnative predators from off-channel sources by containing or eradicating populations. The combination of these two strategies is important because reducing in-river reproduction and limiting emigration from off-channel sources limits population growth after in-river removal is performed. Currently, the Recovery Program removes nonnative smallmouth bass, northern pike and walleye from over 600 miles of river. Screens have been installed on 5 of 7 major reservoir outlets to prevent escapement with 2 more pending.

Over the past decade, this strategy has been applied with general success for smallmouth bass, northern pike, and walleye. For example, in the Yampa River smallmouth bass populations have been contained at Elkhead Reservoir via a spillway net and outlet screen, while spawning has been disrupted via intense nest disruption. As a result, even with occasional strong year classes, the adult population of smallmouth Bass in Little Yampa Canyon remains low compared to almost all prior years ([Hawkins 2020](#)). Northern pike are also contained at Elkhead Reservoir, while spawning in the Yampa River is disrupted via early spring backwater gill-netting. Abundance estimates show that this effort has resulted in a large reduction in Yampa River northern pike between Hayden and Craig compared to estimates a decade ago ([Bestgen et al. 2020](#)). Similarly, in the upper Colorado River, containment at Rifle Gap Reservoir, along with containment and removal at the Mamm Creek gravel ponds, appears to have successfully suppressed catch of northern pike in endangered fish habitats ([Francis 2020](#)). Reservoir containment of walleye is the priority; in-river walleye recruitment has not been documented, so spawning disruption is not needed. Catches of walleye in the middle Green River over the past few years have declined from previous norms ([Partlow and Elbin 2020](#)), likely the result of eradication and containment of populations at Red Fleet and Starvation Reservoirs. These examples demonstrate that a two-tiered approach is generally successful at limiting populations of problematic predators.

This project focuses on in-river mechanical removal of smallmouth bass, northern pike, and walleye. As part of the project, we will include mechanical removal. We will also evaluate as well as a flow disturbance, as allowed, to disrupt smallmouth bass reproduction in reaches 1 and 2 of the Green River (described more fully below). We will measure response to these efforts via catch-effort techniques.

Sampling methods will be patterned closely after those used in 2002 to 2021 sampling. Data will be collected in a manner that generates catch per unit effort (CPUE) metrics (fish/hour electrofishing, small-bodied fish/m² habitat seined, larval fish/m³ water, fish/hour trammel-netting) with associated variance estimates to enable within-study, and annual comparative statistical analyses. Additional sampling techniques (e.g., angling, hoop nets) will be used on an experimental basis. Flow data collected by USGS and temperature data (U. S. Fish and Wildlife Service) at several of its gauging stations on the Green and Yampa rivers will be used to address Objectives 4 and 5.

Three sampling trips will be conducted each year. Sampling will begin in early to mid-summer and end in autumn. We envision two sampling trips using electrofishing and a third trip using primarily netting gear. Seine sampling will occur on all trips. The two electrofishing trips will be 5-days in length and utilize a 7-8 person crew; netting trips will have similar requirements.

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Large-bodied fishes; Electrofishing: Two electrofishing rafts will simultaneously sample the left and right shoreline. Each two-person crew (one boat operator and one netter) will collect all fish. Each 5-mile reach will be sampled in segments, usually about 1-2 miles each. At the lower end of each section all fish will be enumerated as an adult or sub-adult (based on pre-determined total length ranges per species) and electrofishing effort will be recorded. Rare fish (T&E species) will be weighed, measured, and PIT-tagged. Thus, mean CPUE/trip/reach will be generated from the section samples.

In addition to simple enumeration, all fish will be measured and weighed in two sections (both shorelines) of each reach on each trip to characterize size structure and length/weight relationships. Non-native fishes (except salmonids) will be removed.

Descriptive statistics will be used to describe CPUE, lengths, and weights of fish and appropriate comparisons with previously collected data will be made. This sampling also plays a role in determining burbot escapement from Flaming Gorge Reservoir, and is especially important given the expanded releases in some years for implementing the Larval Trigger study plan. These data have been reported at several presentations in the recent past.

Large-bodied fishes; Trammel netting: Multi-filament trammel nets (23m x 1.8m; 25-cm outer mesh; 2.5-cm inner mesh) will be set at locations in Lodore and Whirlpool canyons with a main goal of sampling chubs in the genus *Gila*. Trammel nets collect a variety of species, but have been used in other studies as a primary gear type to collect native chubs in canyon-bound reaches of the Green (Chart and Lentsch 1999) and Colorado Rivers (Chart and Lentsch 2000, Valdez and Ryel 1995, McAda 2000). Trammel nets will be fished during crepuscular and nighttime hours at sites in Lodore and Whirlpool canyons. Nets will be set in low velocity habitats and along eddy lines. The number of nets set will be contingent on habitat availability and accessibility. Nets will be checked every 2 hours to reduce fish mortality.

All fish will be measured, weighed, and tagged as necessary. Dorsal and anal fin rays will be enumerated from all chubs collected. Any suspected humpback chub will be photographed, primarily for the purpose of acquainting other researchers with the chubs found in Whirlpool Canyon. Appropriate morphometric measurements (as identified in Douglas et al. 1998) will be collected. Descriptive statistics will be used to describe CPUE, lengths, and weights of fish and appropriate comparisons with data previously collected will be made. This sampling also plays a role in determining burbot escapement from Flaming Gorge Reservoir, and is especially important given the expanded releases in some years for implementing the Larval Trigger study plan.

Large-bodied fishes; other gear types: In addition to electrofishing and trammel netting, other sampling techniques such as angling and trap nets may be employed to evaluate their efficiency. Angling will also be used to supplement total numbers of adult Colorado pikeminnow collected and marked for movement and length/weight analyses.

Small-bodied fishes; Seining: The purpose of this sampling will be to track shifts in distribution and abundance of the small-bodied nonnative (red shiner, sand shiner, fathead minnow) and

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native (speckled dace) cyprinids, and YOY of all other species. We will sample mostly backwaters, eddies, and shorelines; other habitat types (e.g., riffles) will be sampled as needed to detect species of interest. Two or more seine hauls will be taken in each sampled habitat and each seine haul will represent a sample. Physical measurements including area seined and habitat area will be gathered to quantify habitat dimensions and calculate CPUE. Seines used in this study will conform with the ISMP-recommended gear type. Readily identified endangered species will be measured and released alive. Other fish will be preserved in 10% buffered formalin and identified at CSU/LFL.

We will also continue to conduct analyses to understand timing and intensity of smallmouth bass reproduction in the Green River. This will be accomplished by analyzing otolith daily increments of age-0 smallmouth bass collected and preserved in ethanol during past years (2002-2016 as available). This will require analysis of several years of samples to understand effects of different flow and temperature regimes on timing and intensity of spawning. This analysis began in 2007 and results will be available as data are collected to understand the need for additional analyses. Presentations of these results have been prepared for annual meetings each year since 2008, and a summary report is available (Bestgen and Hill 2016).

Northern pike habitat and fish sampling: This item was added at the request of the Program Director's office because northern pike reproduction was detected in autumn 2005 in Browns Park. The first facet of this investigation assessed habitat available for northern pike in Browns Park (from near Beaver Creek downstream of Flaming Gorge Dam downstream to Lodore boat ramp). We have continued to sample areas where northern pike are concentrated by sampling areas where age-0 pike have been captured in the past, with the intent of removal of as many pike as possible. In past years we concentrated on nearshore areas and will continue to assess nearshore and main channel habitat for presence of age-0 and adult northern pike. In 2006, we also captured smallmouth bass in Browns Park at two locations (Bestgen et al. 2007). Browns Park sampling would also be used to assess if smallmouth bass populations are expanding or remain isolated. Sampling through 2018 showed that smallmouth bass were sporadic but pike were persistent in Browns Park, but concentrated mainly in the upper Browns Park area near Beaver Creek. Continued sampling in 2019 will monitor if populations are expanding or maintaining at low levels. We think about three weeks of intensive sampling would be sufficient to survey most of the available areas; sampling effort upstream will be supplemented by Utah Division of Wildlife sampling. Timing of sampling would also be dependent on the above-referenced information and the timing of Flaming Gorge flow releases. This sampling also plays a role in determining burbot escapement from Flaming Gorge Reservoir, and is especially important given the expanded releases in some years for implementing the Larval Trigger study plan. These data have been reported at several non-native fish workshop meetings in the last few years, and details capture rates, size structure, and timing of spawning of northern pike relative to flow and water temperature patterns.

Evaluate effects of flow manipulations on smallmouth bass in Lodore and Whirlpool canyons (Task 4 below, study plan preparation began in 2016 and finalized; details Bestgen 2018): Water temperature and streamflow level each influence timing of reproduction by smallmouth bass in unregulated and regulated stream reaches of the upper Green River drainage. However,

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the influence of each varies depending on the level of regulation, and temperature and streamflow level, likely a surrogate for spawning habitat availability. Both are important in the regulated reach of the Green River in Lodore Canyon, and in the partially regulated reach in downstream Whirlpool Canyon. Length of the growing season and water temperatures in summer, which are inversely associated with streamflow magnitude, have strong effects on smallmouth bass length in autumn, which is an important driver of overwinter survival. Thus, the degree of stream regulation – partially to fully regulated – and associated water temperatures will affect predictions to determine timing of first reproduction and bass growth. Using that information to predict spawning times of smallmouth bass in reaches of the Green River upstream and downstream of the Yampa River, which is now known, may allow us to disadvantage reproduction and growth of invasive smallmouth bass by implementing intentional flow or temperature disturbances from Flaming Gorge Dam. Such disturbances have potential to disturb eggs in nests, displace and reduce survival of larvae, or induce nest abandonment of adult bass.

It is uncertain precisely how such a study would be implemented, and details for such are partially developed and will continue this year. We have already had discussions with the Bureau of Reclamation about how this might occur, especially related to other flow requests (e.g., Larval Trigger Study Plan) that are presently being implemented. A key part of this study may involve identifying locations of bass reproduction, including the lower ends of cutoff, low flow channels, or large backwaters in Lodore Canyon, and Whirlpool Canyon and Island Park. A key to the success of evaluations in that reach is flow conditions that are suited to making a big enough effect to create a flow disturbance. For locations such as Whirlpool Canyon, this may require moderate to low Yampa River flows, and a subsequent and relatively large flow pulse from Flaming Gorge Dam, to flow and stage levels that are substantially increased.

The level of flow increase and duration would depend on the physical attributes of backwater habitat in the system. This may require surveys, or simply observations of key areas during higher flow releases in spring in Lodore and Whirlpool canyons and Island Park. It would seem reasonable to increase flow during pulses to powerplant level (e.g. 4500 cfs) to have a large enough increase over base flows to effect habitat inundation in key spawning and nursery habitat locations, both in Lodore canyon, and in the downstream Green River.

Timing of releases should be predicted with the data described above and verified with observations. However, the precise timing to conduct such an experiment is not well established. Certainly, flows would be post-spawning of smallmouth bass, but whether to target early spawned bass (cohort 1 or 2) is not certain. It seems as though one could target both, given the short time between initiation of spawning and the peak in the distributions of hatching dates, a period that would follow production of cohort 1 fish, typically the largest fish produced in any year, and the first portion of cohort 2, which is typically the most abundant cohort produced in any year. Targeting that time period would also reduce the chance that flow disruptions would negatively affect spawning by native fishes. This would typically occur after reproduction by most native suckers, but just prior to spawning by chubs and well before reproduction by Colorado pikeminnow. Native fishes should be less affected as well, since they typically deposit adhesive eggs in spawning gravel that is protected from higher flows. The reason smallmouth bass eggs and larvae might be negatively affected is they are not adhesive and deposited in low

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or zero velocity habitat. Increased velocity from a flow disturbance of sufficient magnitude may flush them away and cause mortality.

In the regulated Green River reach upstream of Lodore Canyon, we know a few locations where smallmouth bass have spawned in the past, based on capture of guarding adults on nests, or larvae, or both. These include mainly side channel backwaters, including ones just upstream of Hells Half Mile rapid (about RM 352, river right), just downstream of Wild Mountain on river left (Screaming Jay backwater), and near the Green River confluence with the Yampa River (river left). Physical factors to be measured may include the flow levels needed to make connections of side channels that do or might provide spawning habitat for smallmouth bass, and determining what flow levels might accomplish those connections. Also important would be assessing flow conditions in side channels during various levels of inundation.

Physical habitat changes with flow increases should focus on those characteristics that might change (increased velocity over the nest, reconnection of a side channel) given a certain flow increase. Thus, flows would have to be sustained for a long-enough period to have an effect in the desired reach(es), and allow investigators to measure it. A release of 2-3 days may be sufficient, and flow-stage measurements from existing data may be useful to better understand those relationships. Biological measures might include assessments of egg or larvae presence in nests, and observations of male behavior and presence on nests, at marked locations in pre- and post-flooding periods. This approach could also be taken to evaluate effects of disturbance from sampling during the surge, where removal or displacement of adults might result in reduced nest success. A longer-term assessment method would also include estimates of abundance of various life stages (Project 123), and abundance of age-0 fish in autumn (Project 140 results). That Green River reach has a long history of sampling, both for smallmouth bass as well as for small-bodied species that might respond to bass removal, including native fishes and should be included in an assessment of disturbance effects designed to reduce smallmouth bass reproductive success.

Biological assessments would include measuring presence and abundance of larvae with seine samples at specific locations pre- and post-flow disturbance, to assess if increased flow removed or dispersed early life stages of smallmouth bass. If spawning nests can be found, investigators could also make observations of those in pre- and post-disturbance time periods. Drift nets may also be effective to capture dispersed early life stages of smallmouth bass. We have captured early life stages of smallmouth bass in the Green River just upstream of the Yampa River during higher flow and turbidity events caused by rain events upstream. Thus, we know larvae are dispersed and we are capable of capturing them in drift nets. Such sampling should be timed to coincide with the front edge of the flow pulse to ensure that bass are detected. Seine sampling is also conducted in the Green River in regulated and partially regulated reaches in summer and autumn. Density of smallmouth bass in backwaters in summer and autumn, between which flow disturbances might happen, could be compared to determine effects on a larger river scale. Abundance of young bass could also be assessed in autumn, and compared to previous years where no flow disturbance was conducted.

Samples of bass collected in autumn would also be aged to determine if any smallmouth bass survived from the time period prior to flow pulses. We would know that bass actually spawned

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based on observations and sampling conducted pre-disturbance. If all bass captured in autumn were produced post-disturbance, and we know bass were spawned in a pre-disturbance time period, we would know the disturbance was effective to some degree. These are somewhat preliminary and flexible ideas, which will require some ground-truthing to understand better whether they will be effective, as well as the magnitude and duration of flow disturbances required to elicit an effect in particular reaches.

The USFWS, Vernal has agreed to assist with field work for the smallmouth bass flow spike. We discussed ways to include funding for them for their help, but because of the inconsistent nature of the flow spikes (lower flow years only) and possible regulatory and water constraints, a means to include funding was dismissed. We agreed that the Recovery Program would likely be flexible with other tasks needing completion at that time, and we will also rely somewhat on volunteers for assistance as well, plus possible borrowing or trading help among various crews, to complete the tasks needed (Pers. comm, C. Smith, Vernal,USFWS).

Task Description, Deliverables and Schedule :

Task 1: remove non-native fishes and sample main-channel fish community (large-bodied fishes)

Task 2: remove non-native fishes and sample small-bodied fish community, with pike sampling in Browns Park

Task 3: process preserved samples of small-bodied fish and conduct otolith analyses (fish from seine samples)

Task 4: conduct assessment of flow spike effects on smallmouth bass reproduction and abundance

Task 5: prepare and submit annual report

Sampling, sample processing, and annual reporting are deliverables.

Schedule: FY-2022 (Tasks 1-5)

Task	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	x								x	x	x	x
2								x	x	x	x	x
3	x	x	x	x	x	x					x	x
4	x	x	x					x	x	x	x	x
5	x	x										

Schedule: FY-2023

Task	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	x								x	x	x	x
2								x	x	x	x	x
3	x	x	x	x	x	x					x	x
4	x	x	x					x	x	x	x	x
5	x	x										

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Budget Summary: The budget for the flow spike portion of the work is likely underestimated given the tasks required. This is balanced by the idea that flow spikes will likely not occur in all years. If flow spike frequency increases, we will have to adjust the budget.

FY2022-2026 budget

Year	LFL	USFWS	Total
FY2022	\$110,912	\$34,387	\$145,299
FY2023	\$110,912	\$34,857	\$145,769
FY2024	\$113,183	\$35,676	\$148,859
FY2025	\$115,263	\$36,837	\$152,100
FY2026	\$117,384	\$37,574	\$154,958
	\$567,653	\$179,331	\$746,984

Reviewers:

Kevin McAbee, May 2021;

Doug Osmundson, U.S. Fish and Wildlife Service, Grand Junction, CO

Kirk LaGory, Argonne National Laboratory, Argonne, IL

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SUMMARY OF PROPOSED COSTS

Name of Servicing Agency:	Larval Fish Laboratory
Project Name:	FR-115 Lodore and Whirlpool Canyon Fish Communities

	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		TOTAL
	10/1/2021		10/1/2022		10/2/2023		10/1/2024		10/1/2025		
	Through		Through		Through		Through		Through		
Enter the BEGINNING dates for each year ----->	9/30/2022		10/1/2023		9/30/2024		9/30/2025		9/30/2026		
Enter the ENDING dates for each year ----->											
DIRECT LABOR AND FRINGE BENEFIT COSTS:	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		TOTAL
Direct Labor - Hourly	\$	65,830.93	\$	65,830.93	\$	67,147.55	\$	68,490.50	\$	69,860.31	\$ 337,160.22
Fringe Benefits - Hourly	\$	18,037.67	\$	18,037.67	\$	18,599.87	\$	18,971.87	\$	19,351.31	\$ 92,998.39
Subtotal of Direct Labor & Fringe Benefits:	\$	83,868.60	\$	83,868.60	\$	85,747.42	\$	87,462.37	\$	89,211.62	\$ 430,158.61
OTHER DIRECT COSTS:	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		TOTAL
Materials and Supplies	\$	2,690.21	\$	2,690.21	\$	2,744.01	\$	2,798.90	\$	2,854.88	\$ 13,778.21
Travel Costs	\$	7,834.50	\$	7,834.50	\$	7,834.50	\$	7,834.50	\$	7,834.50	\$ 39,172.50
Equipment	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -
Contractors	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -
Subtotal of Other Direct Costs:	\$	10,524.71	\$	10,524.71	\$	10,578.51	\$	10,633.40	\$	10,689.38	\$ 52,950.71
INDIRECT/OVERHEAD COSTS:	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		TOTAL
Subtotal of Labor and Other Direct Costs:	\$	94,393.31	\$	94,393.31	\$	96,325.93	\$	98,095.77	\$	99,901.00	
Total dollars exempt from indirect/overhead base:											
<Enter Description of Indirect/OH Cost #1>	17.50%	\$ 16,518.83	17.50%	\$ 16,518.83	17.50%	\$ 16,857.04	17.50%	\$ 17,166.76	17.50%	\$ 17,482.67	\$ 84,544.13
Total dollars exempt from indirect/overhead base:		\$ -		\$ -		\$ -		\$ -		\$ -	
<Enter Description of Indirect/OH Cost #2>	11.00%		11.00%		11.00%		11.00%		11.00%		\$ -
Subtotal of Indirect/Overhead Costs:	\$	16,518.83	\$	16,518.83	\$	16,857.04	\$	17,166.76	\$	17,482.67	\$ 84,544.13
GRAND TOTAL:	\$	110,912.14	\$	110,912.14	\$	113,182.97	\$	115,262.53	\$	117,383.67	\$ 567,653.45

SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

Enter Escalation Rates ----->	Yr 2 Escalation Rate	0.00%
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	Task # or Description	Employee Name	Position Title	Current Hourly Rate	YEAR 1					YEAR 2				
					10/1/2021		Through	9/30/2022		10/1/2022		Through	10/1/2023	
					# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost
1	1,2		Principal investigator	\$ 52.79	60.0	\$ 52.79	\$ 3,167.40	27.40%	\$ 867.87	60.0	\$ 52.79	\$ 3,167.40	27.40%	\$ 867.87
2	1,2		Senior technician	\$ 27.94	250.0	\$ 27.94	\$ 6,985.00	27.40%	\$ 1,913.89	250.0	\$ 27.94	\$ 6,985.00	27.40%	\$ 1,913.89
3	1,2		Technician	\$ 15.00	598.2	\$ 15.00	\$ 8,973.30	27.40%	\$ 2,458.68	598.2	\$ 15.00	\$ 8,973.30	27.40%	\$ 2,458.68
4	3		Principal investigator	\$ 52.79	56.0	\$ 52.79	\$ 2,956.24	27.40%	\$ 810.01	56.0	\$ 52.79	\$ 2,956.24	27.40%	\$ 810.01
5	3		Senior technician	\$ 27.94	200.0	\$ 27.94	\$ 5,588.00	27.40%	\$ 1,531.11	200.0	\$ 27.94	\$ 5,588.00	27.40%	\$ 1,531.11
6	3		Technician	\$ 15.00	400.0	\$ 15.00	\$ 6,000.00	27.40%	\$ 1,644.00	400.0	\$ 15.00	\$ 6,000.00	27.40%	\$ 1,644.00
7	4		Principal investigator	\$ 52.79	50.0	\$ 52.79	\$ 2,639.50	27.40%	\$ 723.22	50.0	\$ 52.79	\$ 2,639.50	27.40%	\$ 723.22
8	4		Senior technician	\$ 27.94	440.0	\$ 27.94	\$ 12,293.60	27.40%	\$ 3,368.45	440.0	\$ 27.94	\$ 12,293.60	27.40%	\$ 3,368.45
9	4		Technician	\$ 15.00	520.0	\$ 15.00	\$ 7,800.00	27.40%	\$ 2,137.20	520.0	\$ 15.00	\$ 7,800.00	27.40%	\$ 2,137.20
10	5		Principal investigator	\$ 52.79	125.0	\$ 52.79	\$ 6,598.75	27.40%	\$ 1,808.06	125.0	\$ 52.79	\$ 6,598.75	27.40%	\$ 1,808.06
11	5		Senior technician	\$ 27.94	56.0	\$ 27.94	\$ 1,564.64	27.40%	\$ 428.71	56.0	\$ 27.94	\$ 1,564.64	27.40%	\$ 428.71
12	5		Technician	\$ 15.00	84.3	\$ 15.00	\$ 1,264.50	27.40%	\$ 346.47	84.3	\$ 15.00	\$ 1,264.50	27.40%	\$ 346.47
13				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
14				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
15				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
16				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
17				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
18				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
19				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
20				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
21				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
22				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
23				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
24				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
25				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
26				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
27				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
28				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
29				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
30				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
31				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
					2,839.52		\$ 65,830.93		\$ 18,037.67	2,839.52		\$ 65,830.93		\$ 18,037.67

SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

Yr 3 Escalation Rate	2.00%
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Yr 4 Escalation Rate	2.00%
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	Task # or Description	Employee Name	Position Title	Current Hourly Rate	YEAR 3					YEAR 4				
					10/2/2023		Through	9/30/2024		10/1/2024		Through	9/30/2025	
					# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost
1	1,2		Principal investigator	\$ 52.79	60.0	\$ 53.85	\$ 3,230.75	27.70%	\$ 894.92	60.0	\$ 54.92	\$ 3,295.36	27.70%	\$ 912.82
2	1,2		Senior technician	\$ 27.94	250.0	\$ 28.50	\$ 7,124.70	27.70%	\$ 1,973.54	250.0	\$ 29.07	\$ 7,267.19	27.70%	\$ 2,013.01
3	1,2		Technician	\$ 15.00	598.2	\$ 15.30	\$ 9,152.77	27.70%	\$ 2,535.32	598.2	\$ 15.61	\$ 9,335.82	27.70%	\$ 2,586.02
4	3		Principal investigator	\$ 52.79	56.0	\$ 53.85	\$ 3,015.36	27.70%	\$ 835.26	56.0	\$ 54.92	\$ 3,075.67	27.70%	\$ 851.96
5	3		Senior technician	\$ 27.94	200.0	\$ 28.50	\$ 5,699.76	27.70%	\$ 1,578.83	200.0	\$ 29.07	\$ 5,813.76	27.70%	\$ 1,610.41
6	3		Technician	\$ 15.00	400.0	\$ 15.30	\$ 6,120.00	27.70%	\$ 1,695.24	400.0	\$ 15.61	\$ 6,242.40	27.70%	\$ 1,729.14
7	4		Principal investigator	\$ 52.79	50.0	\$ 53.85	\$ 2,692.29	27.70%	\$ 745.76	50.0	\$ 54.92	\$ 2,746.14	27.70%	\$ 760.68
8	4		Senior technician	\$ 27.94	440.0	\$ 28.50	\$ 12,539.47	27.70%	\$ 3,473.43	440.0	\$ 29.07	\$ 12,790.26	27.70%	\$ 3,542.90
9	4		Technician	\$ 15.00	520.0	\$ 15.30	\$ 7,956.00	27.70%	\$ 2,203.81	520.0	\$ 15.61	\$ 8,115.12	27.70%	\$ 2,247.89
10	5		Principal investigator	\$ 52.79	125.0	\$ 53.85	\$ 6,730.73	27.70%	\$ 1,864.41	125.0	\$ 54.92	\$ 6,865.34	27.70%	\$ 1,901.70
11	5		Senior technician	\$ 27.94	56.0	\$ 28.50	\$ 1,595.93	27.70%	\$ 442.07	56.0	\$ 29.07	\$ 1,627.85	27.70%	\$ 450.91
12	5		Technician	\$ 15.00	84.3	\$ 15.30	\$ 1,289.79	27.70%	\$ 357.27	84.3	\$ 15.61	\$ 1,315.59	27.70%	\$ 364.42
13				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
14				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
15				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
16				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
17				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
18				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
19				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
20				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
21				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
22				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
23				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
24				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
25				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
26				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
27				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
28				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
29				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
30				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
31				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
					2,839.52	\$ 67,147.55			\$ 18,599.87	2,839.52	\$ 68,490.50			\$ 18,971.87

SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

Yr 5 Escalation Rate	2.00%
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					YEAR 5					Total Salary Cost	Total Fringe Cost	Total Labor Cost
					10/1/2025		Through	9/30/2026				
Task # or Description	Employee Name	Position Title	Current Hourly Rate		# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost			
1	1,2	Principal investigator	\$ 52.79		60.0	\$ 56.02	\$ 3,361.27	27.70%	\$ 931.07	\$ 16,222.18	\$ 4,474.54	\$ 20,696.72
2	1,2	Senior technician	\$ 27.94		250.0	\$ 29.65	\$ 7,412.54	27.70%	\$ 2,053.27	\$ 35,774.43	\$ 9,867.61	\$ 45,642.04
3	1,2	Technician	\$ 15.00		598.2	\$ 15.92	\$ 9,522.54	27.70%	\$ 2,637.74	\$ 45,957.73	\$ 12,676.45	\$ 58,634.18
4	3	Principal investigator	\$ 52.79		56.0	\$ 56.02	\$ 3,137.19	27.70%	\$ 869.00	\$ 15,140.70	\$ 4,176.24	\$ 19,316.94
5	3	Senior technician	\$ 27.94		200.0	\$ 29.65	\$ 5,930.03	27.70%	\$ 1,642.62	\$ 28,619.55	\$ 7,894.09	\$ 36,513.63
6	3	Technician	\$ 15.00		400.0	\$ 15.92	\$ 6,367.25	27.70%	\$ 1,763.73	\$ 30,729.65	\$ 8,476.11	\$ 39,205.76
7	4	Principal investigator	\$ 52.79		50.0	\$ 56.02	\$ 2,801.06	27.70%	\$ 775.89	\$ 13,518.48	\$ 3,728.78	\$ 17,247.27
8	4	Senior technician	\$ 27.94		440.0	\$ 29.65	\$ 13,046.07	27.70%	\$ 3,613.76	\$ 62,963.00	\$ 17,366.99	\$ 80,329.99
9	4	Technician	\$ 15.00		520.0	\$ 15.92	\$ 8,277.42	27.70%	\$ 2,292.85	\$ 39,948.54	\$ 11,018.95	\$ 50,967.49
10	5	Principal investigator	\$ 52.79		125.0	\$ 56.02	\$ 7,002.65	27.70%	\$ 1,939.73	\$ 33,796.21	\$ 9,321.96	\$ 43,118.17
11	5	Senior technician	\$ 27.94		56.0	\$ 29.65	\$ 1,660.41	27.70%	\$ 459.93	\$ 8,013.47	\$ 2,210.34	\$ 10,223.82
12	5	Technician	\$ 15.00		84.3	\$ 15.92	\$ 1,341.90	27.70%	\$ 371.71	\$ 6,476.27	\$ 1,786.34	\$ 8,262.61
13			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
14			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
15			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
16			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
17			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
18			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
19			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
20			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
21			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
22			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
23			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
24			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
25			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
26			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
27			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
28			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
29			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
30			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
31			\$ -		-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
					2,839.52		\$ 69,860.31		\$ 19,351.31	\$ 337,160.22	\$ 92,998.39	\$ 430,158.61

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPLIES, AND SERVICES

Yr 2 Escalation Rate	0.00%
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	Task # or Description	Item Description	Rationale for Proposed Cost	Year 1			Year 2		
				Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal
1	1,2	gas (\$3/gal)	Based on previous experience & SOWs funded through BOR contract R14AP00001 and RP 1900058	\$ 2.55	5	\$ 12.77	\$ 2.55	5	\$ 12.77
2	1,2	sampling containers, preservative, dip nets	Based on previous experience & SOWs funded through BOR contract R14AP00001 and RP 1900058	\$ 21.28	18	\$ 382.98	\$ 21.28	18	\$ 382.98
3	1,2	tents, field kitchen gear	Based on previous experience & SOWs funded through BOR contract R14AP00001 and RP 1900058	\$ 170.21	3	\$ 510.64	\$ 170.21	3	\$ 510.64
4	1,2	seines, trammel nets	Based on previous experience & SOWs funded through BOR contract R14AP00001 and RP 1900058	\$ 110.64	3	\$ 331.91	\$ 110.64	3	\$ 331.91
5	1,2	fyke nets	Based on previous experience & SOWs funded through BOR contract R14AP00001 and RP 1900058	\$ 643.40	1	\$ 643.40	\$ 643.40	1	\$ 643.40
6	1,2	misc tools for repairs	Based on previous experience & SOWs funded through BOR contract R14AP00001 and RP 1900058	\$ 18.72	5	\$ 93.62	\$ 18.72	5	\$ 93.62
7	1,2	raft gear (oars, flotation, straps, cooler)	Based on previous experience & SOWs funded through BOR contract R14AP00001 and RP 1900058	\$ 119.15	6	\$ 714.89	\$ 119.15	6	\$ 714.89
8				\$ -	0	\$ -	\$ -	0	\$ -
9				\$ -	0	\$ -	\$ -	0	\$ -
10				\$ -	0	\$ -	\$ -	0	\$ -
11				\$ -	0	\$ -	\$ -	0	\$ -
12				\$ -	0	\$ -	\$ -	0	\$ -
13				\$ -	0	\$ -	\$ -	0	\$ -
14				\$ -	0	\$ -	\$ -	0	\$ -
15				\$ -	0	\$ -	\$ -	0	\$ -
16				\$ -	0	\$ -	\$ -	0	\$ -
17				\$ -	0	\$ -	\$ -	0	\$ -
18				\$ -	0	\$ -	\$ -	0	\$ -
19				\$ -	0	\$ -	\$ -	0	\$ -
20				\$ -	0	\$ -	\$ -	0	\$ -
21				\$ -	0	\$ -	\$ -	0	\$ -
TOTAL:						\$ 2,690.21			\$ 2,690.21

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPLIES, SERVICES	Yr 3 Escalation Rate	2.00%	Yr 4 Escalation Rate	2.00%
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	Task # or Description	Item Description	Year 3			Year 4		
			Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal
1	1,2	gas (\$3/gal)	\$ 2.60	5	\$ 13.02	\$ 2.66	5	\$ 13.28
2	1,2	sampling containers, preservative, dip nets	\$ 21.70	18	\$ 390.64	\$ 22.14	18	\$ 398.45
3	1,2	tents, field kitchen gear	\$ 173.62	3	\$ 520.85	\$ 177.09	3	\$ 531.27
4	1,2	seines, trammel nets	\$ 112.85	3	\$ 338.55	\$ 115.11	3	\$ 345.32
5	1,2	fyke nets	\$ 656.27	1	\$ 656.27	\$ 669.40	1	\$ 669.40
6	1,2	misc tools for repairs	\$ 19.10	5	\$ 95.49	\$ 19.48	5	\$ 97.40
7	1,2	raft gear (oars, flotation, straps, cooler)	\$ 121.53	6	\$ 729.19	\$ 123.96	6	\$ 743.78
8			\$ -	0	\$ -	\$ -	0	\$ -
9			\$ -	0	\$ -	\$ -	0	\$ -
10			\$ -	0	\$ -	\$ -	0	\$ -
11			\$ -	0	\$ -	\$ -	0	\$ -
12			\$ -	0	\$ -	\$ -	0	\$ -
13			\$ -	0	\$ -	\$ -	0	\$ -
14			\$ -	0	\$ -	\$ -	0	\$ -
15			\$ -	0	\$ -	\$ -	0	\$ -
16			\$ -	0	\$ -	\$ -	0	\$ -
17			\$ -	0	\$ -	\$ -	0	\$ -
18			\$ -	0	\$ -	\$ -	0	\$ -
19			\$ -	0	\$ -	\$ -	0	\$ -
20			\$ -	0	\$ -	\$ -	0	\$ -
21			\$ -	0	\$ -	\$ -	0	\$ -
					\$ 2,744.01			\$ 2,798.90

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPLIES, SERVICES	Yr 5 Escalation Rate	2.00%
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		Year 5				
	Task # or Description	Item Description	Unit Price	Unit Quantity	Subtotal	TOTAL
1	1,2	gas (\$3/gal)	\$ 2.71	5	\$ 13.55	\$ 65.39
2	1,2	sampling containers, preservative, dip nets	\$ 22.58	18	\$ 406.42	\$ 1,961.47
3	1,2	tents, field kitchen gear	\$ 180.63	3	\$ 541.89	\$ 2,615.29
4	1,2	seines, trammel nets	\$ 117.41	3	\$ 352.23	\$ 1,699.92
5	1,2	fyke nets	\$ 682.79	1	\$ 682.79	\$ 3,295.26
6	1,2	misc tools for repairs	\$ 19.87	5	\$ 99.35	\$ 479.48
7	1,2	raft gear (oars, flotation, straps, cooler)	\$ 126.44	6	\$ 758.65	\$ 3,661.40
8			\$ -	0	\$ -	\$ -
9			\$ -	0	\$ -	\$ -
10			\$ -	0	\$ -	\$ -
11			\$ -	0	\$ -	\$ -
12			\$ -	0	\$ -	\$ -
13			\$ -	0	\$ -	\$ -
14			\$ -	0	\$ -	\$ -
15			\$ -	0	\$ -	\$ -
16			\$ -	0	\$ -	\$ -
17			\$ -	0	\$ -	\$ -
18			\$ -	0	\$ -	\$ -
19			\$ -	0	\$ -	\$ -
20			\$ -	0	\$ -	\$ -
21			\$ -	0	\$ -	\$ -
					\$ 2,854.88	\$ 13,778.21

SUMMARY OF TRAVEL COSTS

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	1	1	1	1	1	
From-To	Fort Collins to Grand Junction	Fort Collins to Grand Junction	Fort Collins to Grand Junction	Fort Collins to Grand Junction	Fort Collins to Grand Junction	
Reason	BC meeting	BC meeting	BC meeting	BC meeting	BC meeting	
# of Days (include travel days)	4	4	4	4	4	
Airfare						
Lodging (Per Night)	\$ 88.00	\$ 88.00	\$ 88.00	\$ 88.00	\$ 88.00	
MI&E Per Day	\$ 55.00	\$ 55.00	\$ 55.00	\$ 55.00	\$ 55.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip						
Total Per Trip	\$ 544.50	\$ 544.50	\$ 544.50	\$ 544.50	\$ 544.50	
No. of persons	2	2	2	2	2	
Mileage rate	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	
Total miles	681	681	681	681	681	
SUBTOTAL =	\$ 1,429.50	\$ 1,429.50	\$ 1,429.50	\$ 1,429.50	\$ 1,429.50	\$ 7,147.50

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	2	2	2	2	2	
From-To	Fort Collins-Browns Park, CO	Fort Collins-Browns Park, CO	Fort Collins-Browns Park, CO	Fort Collins-Browns Park, CO	Fort Collins-Browns Park, CO	
Reason	Green River sampling	Green River sampling	Green River sampling	Green River sampling	Green River sampling	
# of Days (include travel days)	7	7	7	7	7	
Airfare						
Lodging (Per Night)						
MI&E Per Day	\$ 55.00	\$ 55.00	\$ 55.00	\$ 55.00	\$ 55.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip						
Total Per Trip	\$ 357.50	\$ 357.50	\$ 357.50	\$ 357.50	\$ 357.50	
No. of persons	4	4	4	4	4	
Mileage rate	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	
Total miles	1,410	1,410	1,410	1,410	1,410	
SUBTOTAL =	\$ 2,135.00	\$ 2,135.00	\$ 2,135.00	\$ 2,135.00	\$ 2,135.00	\$ 10,675.00

SUMMARY OF TRAVEL COSTS

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	3	3	3	3	3	
From-To	Fort Collins-Browns Park, CO	Fort Collins-Browns Park, CO	Fort Collins-Browns Park, CO	Fort Collins-Browns Park, CO	Fort Collins-Browns Park, CO	
Reason	Green River sampling	Green River sampling	Green River sampling	Green River sampling	Green River sampling	
# of Days (include travel days)	7	7	7	7	7	
Airfare						
Lodging (Per Night)						
MI&E Per Day	\$ 55.00	\$ 55.00	\$ 55.00	\$ 55.00	\$ 55.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip						
Total Per Trip	\$ 357.50	\$ 357.50	\$ 357.50	\$ 357.50	\$ 357.50	
No. of persons	4	4	4	4	4	
Mileage rate	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	
Total miles	1,410	1,410	1,410	1,410	1,410	
SUBTOTAL =	\$ 2,135.00	\$ 2,135.00	\$ 2,135.00	\$ 2,135.00	\$ 2,135.00	\$ 10,675.00

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	4	4	4	4	4	
From-To	Fort Collins-Browns Park, CO	Fort Collins-Browns Park, CO	Fort Collins-Browns Park, CO	Fort Collins-Browns Park, CO	Fort Collins-Browns Park, CO	
Reason	Green River sampling	Green River sampling	Green River sampling	Green River sampling	Green River sampling	
# of Days (include travel days)	7	7	7	7	7	
Airfare						
Lodging (Per Night)						
MI&E Per Day	\$ 55.00	\$ 55.00	\$ 55.00	\$ 55.00	\$ 55.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip						
Total Per Trip	\$ 357.50	\$ 357.50	\$ 357.50	\$ 357.50	\$ 357.50	
No. of persons	4	4	4	4	4	
Mileage rate	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	
Total miles	1,410	1,410	1,410	1,410	1,410	
SUBTOTAL =	\$ 2,135.00	\$ 2,135.00	\$ 2,135.00	\$ 2,135.00	\$ 2,135.00	\$ 10,675.00

SUMMARY OF TRAVEL COSTS

	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
TOTAL COST BY PERIOD =	\$ 7,834.50	\$ 7,834.50	\$ 7,834.50	\$ 7,834.50	\$ 7,834.50	\$ 39,172.50

SUMMARY OF PROPOSED COSTS

Name of Servicing Agency:	USFWS Green River Basin FWCO
Project Name:	Recovery Program Project 110: Smallmouth bass control in the lower Yampa River

	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		TOTAL
	10/1/2021		10/1/2022		10/1/2023		10/1/2024		10/1/2025		
	Through		Through		Through		Through		Through		
Enter the BEGINNING dates for each year ----->	9/30/2022		9/30/2023		9/30/2024		9/30/2025		9/30/2026		
Enter the ENDING dates for each year ----->											
DIRECT LABOR AND FRINGE BENEFIT COSTS:											
Direct Labor - Hourly	\$	58,599.63	\$	59,427.72	\$	60,918.77	\$	87,416.30	\$	89,347.88	\$ 355,710.30
Fringe Benefits - Hourly	\$	19,896.46	\$	20,198.52	\$	20,712.78	\$	29,796.45	\$	30,458.23	\$ 121,062.45
Subtotal of Direct Labor & Fringe Benefits:	\$	78,496.09	\$	79,626.24	\$	81,631.55	\$	117,212.76	\$	119,806.11	\$ 476,772.75
OTHER DIRECT COSTS:											
Materials and Supplies	\$	5,120.03	\$	5,120.03	\$	6,093.01	\$	6,214.84	\$	6,339.17	\$ 28,887.08
Travel Costs	\$	3,048.57	\$	3,048.57	\$	4,483.99	\$	4,573.67	\$	4,665.15	\$ 19,819.96
Equipment	\$	-	\$	-	\$	7,276.27	\$	-	\$	-	\$ 7,276.27
Contractors	\$	2,400.00	\$	2,400.00	\$	2,448.00	\$	2,496.96	\$	2,546.90	\$ 12,291.86
Subtotal of Other Direct Costs:	\$	10,568.60	\$	10,568.60	\$	20,301.28	\$	13,285.47	\$	13,551.22	\$ 68,275.17
INDIRECT/OVERHEAD COSTS:											
Subtotal of Labor and Other Direct Costs:	\$	89,064.69	\$	90,194.85	\$	101,932.82	\$	130,498.23	\$	133,357.33	
Total dollars exempt from indirect/overhead base:	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -
<Enter Description of Indirect/OH Cost #1>	3.00%	\$ 2,671.94	3.00%	\$ 2,705.85	3.00%	\$ 3,057.98	3.00%	\$ 3,914.95	3.00%	\$ 4,000.72	\$ 16,351.44
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:	\$	2,671.94	\$	2,705.85	\$	3,057.98	\$	3,914.95	\$	4,000.72	\$ 16,351.44
GRAND TOTAL:	\$	91,736.63	\$	92,900.69	\$	104,990.81	\$	134,413.18	\$	137,358.05	\$ 561,399.36

SUMMARY OF DIRECT LABOR & FRINGE BENEFIT

Enter Escalation Rates ----->	Yr 2 Escalation Rate	0.00%
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	Task # or Description	Position Title	GS/WG Grade	GS/WG Step	OPM Pay Location	Current Hourly Rate	YEAR 1					YEAR 2				
							10/1/2021		Through	9/30/2022		10/1/2022		Through	9/30/2023	
							# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost
1	1	Fish Biologist	GS 11	1	Rest of US	\$ 30.98	40.0	\$ 30.98	\$ 1,239.20	30.00%	\$ 371.76	40.0	\$ 32.01	\$ 1,280.40	30.00%	\$ 384.12
2	1	Fish Biologist	GS 12	2	Rest of US	\$ 38.37	324.0	\$ 38.37	\$ 12,431.88	37.00%	\$ 4,599.80	324.0	\$ 39.60	\$ 12,830.40	37.00%	\$ 4,747.25
3	1	Fisheries Technician	GS 8	10	Rest of US	\$ 30.14	185.0	\$ 30.14	\$ 5,575.90	52.00%	\$ 2,899.47	185.0	\$ 30.14	\$ 5,575.90	52.00%	\$ 2,899.47
4	1	Technician GS-6	GS 6	3	Rest of US	\$ 20.09	198.0	\$ 20.09	\$ 3,977.82	29.00%	\$ 1,153.57	198.0	\$ 20.09	\$ 3,977.82	29.00%	\$ 1,153.57
5	1	Biological Science Technician GS-6 OT	GS 6	3	Rest of US	\$ 30.14	32.0	\$ 30.14	\$ 964.32	0.00%	\$ -	32.0	\$ 30.14	\$ 964.32	0.00%	\$ -
6	1	Technician GS-6	GS 6	1	Rest of US	\$ 18.84	198.0	\$ 18.84	\$ 3,730.32	29.00%	\$ 1,081.79	198.0	\$ 18.84	\$ 3,730.32	29.00%	\$ 1,081.79
7	1	Biological Science Technician GS-6 OT	GS 6	1	Rest of US	\$ 28.26	32.0	\$ 28.26	\$ 904.32	0.00%	\$ -	32.0	\$ 28.26	\$ 904.32	0.00%	\$ -
8	1	Small Craft Operator	WG 5	3	Rest of US	\$ 19.87	198.0	\$ 19.87	\$ 3,934.26	29.00%	\$ 1,140.94	198.0	\$ 19.87	\$ 3,934.26	29.00%	\$ 1,140.94
9	1	Small Craft Operator OT	WG 5	3	Rest of US	\$ 29.81	32.0	\$ 29.81	\$ 953.76	0.00%	\$ -	32.0	\$ 29.81	\$ 953.76	0.00%	\$ -
10	1	Small Craft Operator	WG 5	2	Rest of US	\$ 19.11	198.0	\$ 19.11	\$ 3,783.78	29.00%	\$ 1,097.30	198.0	\$ 19.11	\$ 3,783.78	29.00%	\$ 1,097.30
11	1	Small Craft Operator OT	WG 5	2	Rest of US	\$ 28.67	32.0	\$ 28.67	\$ 917.28	0.00%	\$ -	32.0	\$ 28.67	\$ 917.28	0.00%	\$ -
12	2	Fish Biologist	GS 11	1	Rest of US	\$ 30.98	20.0	\$ 30.98	\$ 619.60	30.00%	\$ 185.88	20.0	\$ 32.01	\$ 640.20	30.00%	\$ 192.06
13	2	Fish Biologist	GS 12	2	Rest of US	\$ 38.37	299.0	\$ 38.37	\$ 11,472.63	37.00%	\$ 4,244.87	299.0	\$ 39.60	\$ 11,840.40	37.00%	\$ 4,380.95
14	2	Administrative Officer	GS 9	9	Rest of US	\$ 30.40	128.0	\$ 30.40	\$ 3,891.20	37.00%	\$ 1,439.74	128.0	\$ 30.40	\$ 3,891.20	37.00%	\$ 1,439.74
15	2	Project Leader	GS 13	5	Rest of US	\$ 50.04	84.0	\$ 50.04	\$ 4,203.36	40.00%	\$ 1,681.34	84.0	\$ 50.04	\$ 4,203.36	40.00%	\$ 1,681.34
16						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
17						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
18						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
19						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
20						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
21						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
22						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
23						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
24						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
25						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
26						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
27						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
28						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
29						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
30						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
31						\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
							2,000.00		\$ 58,599.63		\$ 19,896.46	2,000.00		\$ 59,427.72		\$ 20,198.52

SUMMARY OF DIRECT LABOR & FRINGE BENEFIT

Yr 3 Escalation Rate 2.00%

Yr 4 Escalation Rate 2.00%

							YEAR 3					YEAR 4				
							10/1/2023		Through	9/30/2024		10/1/2024		Through	9/30/2025	
Task # or Description	Position Title	GS/WG Grade	GS/WG Step	OPM Pay Location	Current Hourly Rate	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost	
1	1	Fish Biologist	GS 11	1	Rest of US	\$ 30.98	40.0	\$ 33.04	\$ 1,321.60	30.00%	\$ 396.48	80.0	\$ 34.08	\$ 2,726.40	30.00%	\$ 817.92
2	1	Fish Biologist	GS 12	2	Rest of US	\$ 38.37	324.0	\$ 40.84	\$ 13,232.16	37.00%	\$ 4,895.90	390.0	\$ 42.08	\$ 16,411.20	37.00%	\$ 6,072.14
3	1	Fisheries Technician	GS 8	10	Rest of US	\$ 30.14	185.0	\$ 30.74	\$ 5,687.42	52.00%	\$ 2,957.46	273.0	\$ 31.36	\$ 8,560.64	52.00%	\$ 4,451.53
4	1	Technician GS-6	GS 6	3	Rest of US	\$ 20.09	198.0	\$ 20.49	\$ 4,057.38	29.00%	\$ 1,176.64	280.0	\$ 20.90	\$ 5,852.46	29.00%	\$ 1,697.21
5	1	Biological Science Technician GS-6 OT	GS 6	3	Rest of US	\$ 30.14	32.0	\$ 30.74	\$ 983.61	0.00%	\$ -	48.0	\$ 31.35	\$ 1,504.92	0.00%	\$ -
6	1	Technician GS-6	GS 6	1	Rest of US	\$ 18.84	198.0	\$ 19.22	\$ 3,804.93	29.00%	\$ 1,103.43	280.0	\$ 19.60	\$ 5,488.32	29.00%	\$ 1,591.61
7	1	Biological Science Technician GS-6 OT	GS 6	1	Rest of US	\$ 28.26	32.0	\$ 28.83	\$ 922.41	0.00%	\$ -	48.0	\$ 29.40	\$ 1,411.28	0.00%	\$ -
8	1	Small Craft Operator	WG 5	3	Rest of US	\$ 19.87	198.0	\$ 20.27	\$ 4,012.95	29.00%	\$ 1,163.75	280.0	\$ 20.67	\$ 5,788.37	29.00%	\$ 1,678.63
9	1	Small Craft Operator OT	WG 5	3	Rest of US	\$ 29.81	32.0	\$ 30.40	\$ 972.84	0.00%	\$ -	48.0	\$ 31.01	\$ 1,488.44	0.00%	\$ -
10	1	Small Craft Operator	WG 5	2	Rest of US	\$ 19.11	198.0	\$ 19.49	\$ 3,859.46	29.00%	\$ 1,119.24	280.0	\$ 19.88	\$ 5,566.97	29.00%	\$ 1,614.42
11	1	Small Craft Operator OT	WG 5	2	Rest of US	\$ 28.67	32.0	\$ 29.24	\$ 935.63	0.00%	\$ -	48.0	\$ 29.82	\$ 1,431.51	0.00%	\$ -
12	2	Fish Biologist	GS 11	1	Rest of US	\$ 30.98	20.0	\$ 33.04	\$ 660.80	30.00%	\$ 198.24	-	\$ 33.70	\$ -	30.00%	\$ -
13	2	Fish Biologist	GS 12	2	Rest of US	\$ 38.37	299.0	\$ 40.84	\$ 12,211.16	37.00%	\$ 4,518.13	384.0	\$ 41.66	\$ 15,996.21	37.00%	\$ 5,918.60
14	2	Administrative Officer	GS 9	9	Rest of US	\$ 30.40	128.0	\$ 31.01	\$ 3,969.02	37.00%	\$ 1,468.54	128.0	\$ 31.63	\$ 4,048.40	37.00%	\$ 1,497.91
15	2	Project Leader	GS 13	5	Rest of US	\$ 50.04	84.0	\$ 51.04	\$ 4,287.43	40.00%	\$ 1,714.97	214.0	\$ 52.06	\$ 11,141.19	40.00%	\$ 4,456.47
16					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
17					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
18					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
19					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
20					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
21					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
22					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
23					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
24					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
25					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
26					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
27					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
28					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
29					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
30					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
31					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
							2,000.00		\$ 60,918.77		\$ 20,712.78	2,781.00		\$ 87,416.30		\$ 29,796.45

UMMARY OF DIRECT LABOR & FRINGE BENEFIT

Yr 5 Escalation Rate	2.00%
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							YEAR 5					Total Salary Cost	Total Fringe Cost	Total Labor Cost
							10/1/2025		Through	9/30/2026				
Task # or Description	Position Title	GS/WG Grade	GS/WG Step	OPM Pay Location	Current Hourly Rate	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost				
1	1	Fish Biologist	GS 11	1	Rest of US	\$ 30.98	80.0	\$ 35.11	\$ 2,808.80	30.00%	\$ 842.64	\$ 9,376.40	\$ 2,812.92	\$ 12,189.32
2	1	Fish Biologist	GS 12	2	Rest of US	\$ 38.37	390.0	\$ 43.32	\$ 16,894.80	37.00%	\$ 6,251.08	\$ 71,800.44	\$ 26,566.16	\$ 98,366.60
3	1	Fisheries Technician	GS 8	10	Rest of US	\$ 30.14	273.0	\$ 31.98	\$ 8,731.85	52.00%	\$ 4,540.56	\$ 34,131.71	\$ 17,748.49	\$ 51,880.20
4	1	Technician GS-6	GS 6	3	Rest of US	\$ 20.09	280.0	\$ 21.32	\$ 5,969.51	29.00%	\$ 1,731.16	\$ 23,834.98	\$ 6,912.14	\$ 30,747.13
5	1	Biological Science Technician GS-6 OT	GS 6	3	Rest of US	\$ 30.14	48.0	\$ 31.98	\$ 1,535.02	0.00%	\$ -	\$ 5,952.18	\$ -	\$ 5,952.18
6	1	Technician GS-6	GS 6	1	Rest of US	\$ 18.84	280.0	\$ 19.99	\$ 5,598.08	29.00%	\$ 1,623.44	\$ 22,351.97	\$ 6,482.07	\$ 28,834.04
7	1	Biological Science Technician GS-6 OT	GS 6	1	Rest of US	\$ 28.26	48.0	\$ 29.99	\$ 1,439.51	0.00%	\$ -	\$ 5,581.84	\$ -	\$ 5,581.84
8	1	Small Craft Operator	WG 5	3	Rest of US	\$ 19.87	280.0	\$ 21.09	\$ 5,904.14	29.00%	\$ 1,712.20	\$ 23,573.97	\$ 6,836.45	\$ 30,410.42
9	1	Small Craft Operator OT	WG 5	3	Rest of US	\$ 29.81	48.0	\$ 31.63	\$ 1,518.21	0.00%	\$ -	\$ 5,887.00	\$ -	\$ 5,887.00
10	1	Small Craft Operator	WG 5	2	Rest of US	\$ 19.11	280.0	\$ 20.28	\$ 5,678.31	29.00%	\$ 1,646.71	\$ 22,672.30	\$ 6,574.97	\$ 29,247.27
11	1	Small Craft Operator OT	WG 5	2	Rest of US	\$ 28.67	48.0	\$ 30.42	\$ 1,460.14	0.00%	\$ -	\$ 5,661.83	\$ -	\$ 5,661.83
12	2	Fish Biologist	GS 11	1	Rest of US	\$ 30.98	-	\$ 34.37	\$ -	30.00%	\$ -	\$ 1,920.60	\$ 576.18	\$ 2,496.78
13	2	Fish Biologist	GS 12	2	Rest of US	\$ 38.37	384.0	\$ 42.49	\$ 16,316.14	37.00%	\$ 6,036.97	\$ 67,836.54	\$ 25,099.52	\$ 92,936.06
14	2	Administrative Officer	GS 9	9	Rest of US	\$ 30.40	128.0	\$ 32.26	\$ 4,129.37	37.00%	\$ 1,527.87	\$ 19,929.20	\$ 7,373.80	\$ 27,303.01
15	2	Project Leader	GS 13	5	Rest of US	\$ 50.04	214.0	\$ 53.10	\$ 11,364.01	40.00%	\$ 4,545.60	\$ 35,199.34	\$ 14,079.74	\$ 49,279.08
16					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
17					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
18					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
19					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
20					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
21					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
22					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
23					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
24					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
25					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
26					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
27					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
28					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
29					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
30					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
31					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
							2,781.00		\$ 89,347.88		\$ 30,458.23	\$ 355,710.30	\$ 121,062.45	\$ 476,772.75

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPLIES, SERVICES

Yr 2 Escalation Rate	0.00%
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	Task # or Description	Item Description	Rationale for Proposed Cost	Year 1			Year 2		
				Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal
1	1	GSA Lease of Equip Code 6352 (monthly lease)	http://www.gsa.gov/portal/category/21852	\$ 233.00	4	\$ 932.00	\$ 233.00	4	\$ 932.00
2	1	GSA Lease of Equip Code 6352 (mileage rate)	http://www.gsa.gov/portal/category/21852	\$ 0.33	2200	\$ 715.00	\$ 0.33	2200	\$ 715.00
3	1	GSA Lease of Equip Code 6350 (monthly lease)	http://www.gsa.gov/portal/category/21852	\$ 216.00	2	\$ 432.00	\$ 216.00	2	\$ 432.00
4	1	GSA Lease of Equip Code 6350 (mileage rate)	http://www.gsa.gov/portal/category/21852	\$ 0.32	1100	\$ 352.00	\$ 0.32	1100	\$ 352.00
5	1	Sampling gear repair/replacment	Please refer to Reclamation Agreement number R15PG00083	\$ 779.33	1	\$ 779.33	\$ 779.33	1	\$ 779.33
6	1	Boating gear repair/replacement	Please refer to Reclamation Agreement number R15PG00083	\$ 779.33	1	\$ 779.33	\$ 779.33	1	\$ 779.33
7	1	Camping gear repair replacement	Please refer to Reclamation Agreement number R15PG00083	\$ 779.33	1	\$ 779.33	\$ 779.33	1	\$ 779.33
8	1	Boat fuel (gal)	Please refer to Reclamation Agreement number R15PG00083	\$ 4.00	64	\$ 256.00	\$ 4.00	64	\$ 256.00
9	1	GSA Lease of Equip Code 6352 (mileage rate)	http://www.gsa.gov/portal/category/21852	\$ 0.33	288	\$ 95.04	\$ 0.33	288	\$ 95.04
10				\$ -	0	\$ -	\$ -	0	\$ -
11				\$ -	0	\$ -	\$ -	0	\$ -
12				\$ -	0	\$ -	\$ -	0	\$ -
13				\$ -	0	\$ -	\$ -	0	\$ -
14				\$ -	0	\$ -	\$ -	0	\$ -
15				\$ -	0	\$ -	\$ -	0	\$ -
16				\$ -	0	\$ -	\$ -	0	\$ -
17				\$ -	0	\$ -	\$ -	0	\$ -
18				\$ -	0	\$ -	\$ -	0	\$ -
19				\$ -	0	\$ -	\$ -	0	\$ -
20				\$ -	0	\$ -	\$ -	0	\$ -
21				\$ -	0	\$ -	\$ -	0	\$ -
22				\$ -	0	\$ -	\$ -	0	\$ -
23				\$ -	0	\$ -	\$ -	0	\$ -
TOTAL:						\$ 5,120.03			\$ 5,120.03

SUMMARY OF MATERIALS AND SUPPLIES

	Yr 3 Escalation Rate	2.00%	Yr 4 Escalation Rate	2.00%
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SUMMARY OF MATERIALS, SUPPLIES, SERVICES

	Task # or Description	Item Description	Year 3			Year 4		
			Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal
1	1	GSA Lease of Equip Code 6352 (monthly lease)	\$ 237.66	4	\$ 950.64	\$ 242.41	4	\$ 969.65
2	1	GSA Lease of Equip Code 6352 (mileage rate)	\$ 0.33	3300	\$ 1,093.95	\$ 0.34	3300	\$ 1,115.83
3	1	GSA Lease of Equip Code 6350 (monthly lease)	\$ 220.32	2	\$ 440.64	\$ 224.73	2	\$ 449.45
4	1	GSA Lease of Equip Code 6350 (mileage rate)	\$ 0.33	1650	\$ 538.56	\$ 0.33	1650	\$ 549.33
5	1	Sampling gear repair/replacment	\$ 794.92	1	\$ 794.92	\$ 810.81	1	\$ 810.81
6	1	Boating gear repair/replacement	\$ 794.92	1	\$ 794.92	\$ 810.81	1	\$ 810.81
7	1	Camping gear repair replacement	\$ 794.92	1	\$ 794.92	\$ 810.81	1	\$ 810.81
8	1	Boat fuel (gal)	\$ 4.08	144	\$ 587.52	\$ 4.16	144	\$ 599.27
9	1	GSA Lease of Equip Code 6352 (mileage rate)	\$ 0.34	288	\$ 96.94	\$ 0.34	288	\$ 98.88
10			\$ -	0	\$ -	\$ -	0	\$ -
11			\$ -	0	\$ -	\$ -	0	\$ -
12			\$ -	0	\$ -	\$ -	0	\$ -
13			\$ -	0	\$ -	\$ -	0	\$ -
14			\$ -	0	\$ -	\$ -	0	\$ -
15			\$ -	0	\$ -	\$ -	0	\$ -
16			\$ -	0	\$ -	\$ -	0	\$ -
17			\$ -	0	\$ -	\$ -	0	\$ -
18			\$ -	0	\$ -	\$ -	0	\$ -
19			\$ -	0	\$ -	\$ -	0	\$ -
20			\$ -	0	\$ -	\$ -	0	\$ -
21			\$ -	0	\$ -	\$ -	0	\$ -
22			\$ -	0	\$ -	\$ -	0	\$ -
23			\$ -	0	\$ -	\$ -	0	\$ -
					\$ 6,093.01			
						\$ 6,214.84		

SUMMARY OF MATERIALS AND SUPPLIES

			Yr 5 Escalation Rate	2.00%		
SUMMARY OF MATERIALS, SUPPLIES, SERVICES						
Year 5						
	Task # or Description	Item Description	Unit Price	Unit Quantity	Subtotal	TOTAL
1	1	GSA Lease of Equip Code 6352 (monthly lease)	\$ 247.26	4	\$ 989.05	\$ 4,773.34
2	1	GSA Lease of Equip Code 6352 (mileage rate)	\$ 0.34	3300	\$ 1,138.15	\$ 4,777.93
3	1	GSA Lease of Equip Code 6350 (monthly lease)	\$ 229.22	2	\$ 458.44	\$ 2,212.53
4	1	GSA Lease of Equip Code 6350 (mileage rate)	\$ 0.34	1650	\$ 560.32	\$ 2,352.21
5	1	Sampling gear repair/replacment	\$ 827.03	1	\$ 827.03	\$ 3,991.42
6	1	Boating gear repair/replacement	\$ 827.03	1	\$ 827.03	\$ 3,991.42
7	1	Camping gear repair replacement	\$ 827.03	1	\$ 827.03	\$ 3,991.42
8	1	Boat fuel (gal)	\$ 4.24	144	\$ 611.26	\$ 2,310.05
9	1	GSA Lease of Equip Code 6352 (mileage rate)	\$ 0.35	288	\$ 100.86	\$ 486.76
10			\$ -	0	\$ -	\$ -
11			\$ -	0	\$ -	\$ -
12			\$ -	0	\$ -	\$ -
13			\$ -	0	\$ -	\$ -
14			\$ -	0	\$ -	\$ -
15			\$ -	0	\$ -	\$ -
16			\$ -	0	\$ -	\$ -
17			\$ -	0	\$ -	\$ -
18			\$ -	0	\$ -	\$ -
19			\$ -	0	\$ -	\$ -
20			\$ -	0	\$ -	\$ -
21			\$ -	0	\$ -	\$ -
22			\$ -	0	\$ -	\$ -
23			\$ -	0	\$ -	\$ -
					\$ 6,339.17	\$ 28,887.08

SUMMARY OF TRAVEL COSTS

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	1	1	1	1	1	
From-To	Vernal to Yampa Canyon	Vernal to Yampa Canyon	Vernal to Yampa Canyon	Vernal to Yampa Canyon	Vernal to Yampa Canyon	
Reason	Field work	Field work	Field work	Field work	Field work	
# of Days (include travel days)	16	16	24	24	24	
Airfare	\$ -	\$ -	\$ -	\$ -	\$ -	
Lodging (Per Night)	\$ -	\$ -	\$ -	\$ -	\$ -	
MI&E Per Day	\$ 33.69	\$ 33.69	\$ 34.36	\$ 35.05	\$ 35.75	
Auto Rental Per Day	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Per Trip	\$ 522.16	\$ 522.16	\$ 807.49	\$ 823.64	\$ 840.11	
No. of persons	5	5	5	5	5	
SUBTOTAL =	\$ 2,610.78	\$ 2,610.78	\$ 4,037.45	\$ 4,118.20	\$ 4,200.56	\$ 17,577.76

FINAL FUND TARGETS: \$2,873.60 \$2,931.07 \$4,484.54 \$4,574.23 \$4,665.72 \$19,529.16

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	2	2	2	2	2	
From-To	Vernal to Grand Junction	Vernal to Grand Junction	Vernal to Grand Junction	Vernal to Grand Junction	Vernal to Grand Junction	
Reason	NNF Meeting	NNF Meeting	NNF Meeting	NNF Meeting	NNF Meeting	
# of Days (include travel days)	3	3	3	3	3	
Airfare	\$ -	\$ -	\$ -	\$ -	\$ -	
Lodging (Per Night)	\$ 96.00	\$ 96.00	\$ 97.92	\$ 99.88	\$ 101.88	
MI&E Per Day	\$ 59.92	\$ 59.92	\$ 61.12	\$ 62.34	\$ 63.58	
Auto Rental Per Day	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Per Trip	\$ 437.79	\$ 437.79	\$ 446.55	\$ 455.48	\$ 464.59	
No. of persons	1	1	1	1	1	
SUBTOTAL =	\$ 437.79	\$ 437.79	\$ 446.55	\$ 455.48	\$ 464.59	\$ 2,242.20

FINAL FUND TARGETS: \$425.50 \$434.01 \$442.69 \$451.54 \$460.57 \$2,214.32

	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
TOTAL COST BY PERIOD =	\$ 3,048.57	\$ 3,048.57	\$ 4,483.99	\$ 4,573.67	\$ 4,665.15	\$ 19,819.96

FINAL FUND TARGETS: \$3,299.10 \$3,365.08 \$4,927.23 \$5,025.77 \$5,126.29 \$21,743.48

SUMMARY OF EQUIPMENT COSTS

SUMMARY OF EQUIPMENT

Enter Escalation Rates -----> Yr 2 Escalation Rate 0.00% Yr 3 Escalation Rate 2.00%

	Task # or Description	Item Description	Rationale for Proposed Cost	Year 1			Year 2			Year 3		
				Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal
1	1	Honda EU2200i generator	https://powerequipment.honda.com/generators	\$ 1,159.95	0	\$ -	\$ 1,159.95	0	\$ -	\$ 1,183.15	2	\$ 2,366.30
2	1	Honda EU2200i Companion generator	https://powerequipment.honda.com/generators	\$ 1,289.95	0	\$ -	\$ 1,289.95	0	\$ -	\$ 1,315.75	2	\$ 2,631.50
3	1	ETS Electrofishing booster and filter	Based on prior purchases	\$ 1,116.90	0	\$ -	\$ 1,116.90	0	\$ -	\$ 1,139.24	2	\$ 2,278.48
4				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
5				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
6				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
7				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
8				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
9				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
10				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
11				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
12				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
13				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
14				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
15				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
16				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
17				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
18				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
19				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
20				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
21				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
22				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
23				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
24				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
25				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
26				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
27				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
28				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
29				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
30				\$ -	0	\$ -	\$ -	0	\$ -	\$ -	0	\$ -
TOTAL:						\$ -			\$ -			\$ 7,276.27

SUMMARY OF EQUIPMENT COSTS

SUMMARY OF EQUIPMENT	Yr 4 Escalation Rate	2.00%	Yr 5 Escalation Rate	2.00%
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	Task # or Description	Item Description	Year 4			Year 5			TOTAL
			Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal	
1	1	Honda EU2200i generator	\$ 1,206.81	0	\$ -	\$ 1,230.95	0	\$ -	\$ 2,366.30
2	1	Honda EU2200i Companion generator	\$ 1,342.06	0	\$ -	\$ 1,368.91	0	\$ -	\$ 2,631.50
3	1	ETS Electrofishing booster and filter	\$ 1,162.02	0	\$ -	\$ 1,185.26	0	\$ -	\$ 2,278.48
4			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
5			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
6			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
7			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
8			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
9			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
10			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
11			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
12			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
13			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
14			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
15			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
16			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
17			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
18			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
19			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
20			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
21			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
22			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
23			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
24			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
25			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
26			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
27			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
28			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
29			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
30			\$ -	0	\$ -	\$ -	0	\$ -	\$ -
			\$ -		\$ -	\$ -		\$ -	\$ 7,276.27

SUMMARY OF CONTRACTOR COSTS

	Contractor:	Contractor Website:	Purpose:	Competitive Award?	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
1	River Runners Transport	unnerstransport.com/	shuttles: Deerlodge	No	\$ 2,400.00	\$ 2,400.00	\$ 2,448.00	\$ 2,496.96	\$ 2,546.90	\$ 12,291.86
2					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TOTAL =				\$ 2,400.00	\$ 2,400.00	\$ 2,448.00	\$ 2,496.96	\$ 2,546.90	\$ 12,291.86

RRT is the only shuttle company located in Vernal, Utah.				
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