

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

FY 2022-23 SCOPE OF WORK

PROJECT: 123b

**Project Title**

Nonnative fish control in the middle Green River

**Bureau of Reclamation Agreement Number:**

R19AP00059

**Reclamation Agreement Term**

October 1, 2018 – September 30, 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:**

Utah Division of Wildlife Resources

**Principal Investigator:**

Michael S. Partlow, Native Aquatics Biologist II, Keena R. Elbin, Native Aquatics Biologist I, and Matthew J. Breen, Native Aquatics Project Leader

Utah Division of Wildlife Resources

Northeast Regional Office

318 North Vernal Avenue

Vernal, Utah 84078

Phone: 435-781-9453

E-mail: [mpartlow@utah.gov](mailto:mpartlow@utah.gov)

Category:

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

Expected Funding Source:

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

**Relationship to RIPRAP:**

GENERAL RECOVERY PROGRAM SUPPORT ACTION PLAN

- III. Reduce negative impacts of nonnative fishes and sportfish management activities (nonnative and sportfish management).
  - III.A. Reduce negative interactions between nonnative and endangered fishes.
    - III.A.2. Identify and implement viable active control measures.
      - III.A.2.c. Evaluate the effectiveness (e.g., nonnative and native fish response) and develop and implement and integrated, viable active control program.

## UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

### GREEN RIVER ACTION PLAN: MAINSTEM

- III. Reduce impacts of nonnative fishes and sportfish management activities (nonnative and sportfish management).
- III.A. Reduce negative impacts to endangered fishes from sportfish management activities.
- III.A.4. Develop and implement control programs for nonnative fishes in river reaches occupied by the endangered fishes to identify required levels of control. Each control activity will be evaluated for effectiveness, and then continued as needed.
- III.A.4.a. Northern pike in the middle Green River.
- III.A.4.b. Smallmouth bass in the middle and lower Green River.
- III.A.4.d. Walleye in the middle and lower Green River

### **Study Background/Rationale and Hypotheses:**

The Upper Colorado River Endangered Fish Recovery Program (UCRRP) has determined that control of nonnative fish in the upper Colorado River basin is essential to the recovery of the four endangered fish species: Colorado pikeminnow (*Ptychocheilus lucius*), razorback sucker (*Xyrauchen texanus*), humpback chub (*Gila cypha*), and bonytail (*G. elegans*). This determination has been documented specifically for Colorado pikeminnow, razorback sucker, and bonytail in nursery habitats and in the main stem middle Green River in Section 4.3.2 of each species' Recovery Goals document (USFWS 2002).

Smallmouth bass (*Micropterus dolomieu*) abundance has dramatically increased in the Green River since 2000. This increase resulted in a recommendation from the December 2003 Nonnative Fish Control Workshop (Grand Junction, CO) to attempt control of this species in the Green River. Annual removal efforts since 2004, as well as Nonnative Fish Control Workshops have added to the knowledge base of the effort required to remove smallmouth bass from the Green River. During the December 2006 workshop, participants discussed the importance of increasing this removal effort and discussed the need for a significant increase to adequately suppress the middle Green River smallmouth bass population. Additionally, Breton et al. (2015) identified a need to reduce reproduction and emigration by disrupting nests and targeting spawning bass during "surge" efforts when water temperatures reach 15-16° C. Increased removal effort began in 2007, and several adjustments were made in 2012 to increase our effectiveness and efficiency including a change from full-pass sampling to focusing efforts on high catch rate areas. (Skorupski and Breen 2012).

Northern pike (*Esox lucius*) are a significant predatory and competitive threat to the endangered fishes and were rated as a nonnative species of greatest concern by experts on the Colorado River native fish assemblage (Hawkins and Nesler 1991; Johnson et al. 2008). Northern pike became established in the Yampa River in the early 1980's. Originally introduced as game fish in Elkhead Reservoir in 1977, the species escaped and invaded the upper Yampa River and have expanded their number and range within the Yampa and Green rivers (Tyus and Beard 1990). In previous years, there has been evidence of successful spawning in Stewart Lake and Escalante Ranch wetland near Jensen, Utah and in Old Charley wetland on the Ouray National Wildlife Refuge (Modde 1999; Nelson 1999; Webber and Jones 2013). A control program for northern pike in the Yampa River was initiated in 1999 and removal of northern pike in the middle Green River was initiated in 2001 (Monroe and Hedrick 2008). Based on trends in catch rates over subsequent years, removal efforts have been successful at reducing the number of northern pike and maintaining a reduced level in the middle Green River. However, in 2012 more than three times as many northern pike were captured than in 2011 (Skorupski and Breen 2011) and most were in a smaller size class, likely representing age-1 fish. This large cohort likely represents a high

## UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

level of spawning success in 2011. High flows created additional habitat during the spring in the middle Green River, which allowed for increased spawning success for northern pike. Due to reductions in spring removal efforts (see below), northern pike removal will be restricted to periods when flows initially fluctuate in early spring (i.e., water level increases provide a cue for spring movements to desired spawning locations) to allow for efficient fyke netting and electrofishing of backwaters and tributary mouths.

White sucker (*Catostomus commersonii*) are present in the middle Green River and are problematic due to their ability to hybridize with native suckers (McDonald et al. 2008) and compete with native suckers for limited resources. In southwestern Missouri, white suckers become mature around 275 mm (Wakefield and Beckman 2005). Because of this, our goal for removing white suckers is to keep the average total length of the white sucker population below 275 mm. This may not address their ability to compete with native suckers; however, it should limit their ability to hybridize with native catostomids. Specific removal efforts targeting white sucker will not be undertaken under reduced spring sampling efforts, but white sucker will be opportunistically removed when encountered during all other sampling and removals.

At the 2013 Nonnative Fish Workshop, walleye (*Sander vitreus*) were identified as a substantial threat to the recovery of endangered fishes in the upper Colorado River basin due to increasing densities and the predatory and competitive pressure this species imposes. However, there was not a removal program in place that focused on walleye when they are most vulnerable to capture. Initially, observations of increasing densities mainly came from ancillary captures during Colorado pikeminnow population estimates (UCRRP Project #128), which typically occur earlier in the spring than smallmouth bass removal and in only three out of every five years. More recently, catches of walleye in the middle Green River have declined from previous norms (Partlow and Elbin 2020), likely the result of eradication and containment of populations at Red Fleet and Starvation reservoirs or decreased upstream migration at the Tusher Diversion. In 2019 and 2020, faced with low walleye captures in the middle Green River, we reallocated one week of effort per year to assist UDWR Moab with removals below the Tusher Diversion where high walleye catch rates were encountered. Walleye removal under this project will be significantly reduced under new spring sampling efforts (see below), but flexibility to quickly focus effort to areas with high walleye catch rates will remain a priority.

### **Study Goals, Objectives, End Product(s):**

#### *Goal:*

Sufficiently reduce the abundance of adult smallmouth bass, northern pike, white sucker, and walleye in the middle Green River such that their potential to spawn and their predatory and competitive impacts on the growth, recruitment, and survival of endangered and other native fishes is minimized.

Significant revisions to this scope of work include a reduction in spring sampling efforts targeting northern pike, walleye, and white sucker; recommended by the UCRRP Program Director's Office as per FY 2022-2023 program guidance. Specifically, walleye removal will not occur during years in which Colorado Pikeminnow population estimate (UCRRP Project #128) takes place, specifically FY 22, 23, and 24; spring sampling of flooded tributary mouths and backwaters with fyke nets and electrofishing will be reduced to maintenance levels only.

#### *Objectives:*

1. Conduct two full smallmouth bass removal passes in the middle Green River from Split

## UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

Mountain boat ramp to Tabyago Riffle. Full passes will identify concentration areas to determine allocation of subsequent efforts. Smallmouth bass will be specifically targeted through boat electrofishing (up to 16 total weeks of effort as resources allow; incidental captures occurring during other projects will also be recorded).

2. Conduct northern pike removal in the middle Green River in concentration areas to maximize efficiency. Northern pike will be targeted specifically in tributary habitats via fyke netting and boat electrofishing during fluctuating spring flows (up to four weeks of effort; incidental captures occurring during other projects will also be recorded).
3. Conduct white sucker removal in the middle Green River to minimize the threat of hybridization with native fishes. White sucker will be targeted specifically in tributary habitats via fyke netting and boat electrofishing during fluctuating spring flows (up to four weeks of effort; incidental captures occurring during other projects will also be recorded).
4. Conduct walleye removal in the mainstem middle Green River using adaptive strategies to target this species when other projects are not in place for adequate removal efforts. Walleye will be targeted in main channel habitats with boat electrofishing during early spring (up to four weeks of effort during UCRRP Project #128 off years only; incidental captures occurring during other projects will also be recorded).

### *End product:*

Annual results from removal efforts of each species in the middle Green River will be analyzed for further interpretation among nonnative removal primary investigators across the upper Colorado River basin (conference calls or a Nonnative Fish Workshop each December) to determine focal strategies for future implementation.

### **Study Area:**

The study area encompasses the middle Green River from Island Park to Rainbow Park (river mile [RM] 333.9 to 327.6) in Dinosaur National Monument and from Split Mountain boat ramp (RM 319.3) to Tabyago Riffle (RM 206.8). Effort will focus on concentration areas identified during subsequent removal passes for smallmouth bass and walleye. We will also sample key off channel habitats previously identified for northern pike and white sucker (see Study Methods below for specifics)

### **Study Methods/Approach:**

Temporarily reducing riverine smallmouth bass, northern pike, and walleye populations appears viable under certain environmental conditions but smallmouth bass and northern pike can easily reverse these reductions in population abundance and return to pre-removal abundances under favorable environmental conditions. Synthesis reports investigating effectiveness of in-river removal efforts for northern pike and smallmouth bass determined that reducing in-river populations of these two species would not be successful unless in-river reproduction and reservoir escapement were controlled (Breton et al. 2014, 2015; Zelasko et al. 2015). Therefore, mechanical removal efforts will continue to temporarily suppress riverine populations, and will focus on reducing in-river reproduction when feasible. Simultaneously, UCRRP partners will work on other means to reduce in-river reproduction and reservoir escapement to target source populations (i.e., barriers at Red Fleet, Starvation, and Elkhead reservoirs).

## UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

Smallmouth bass will be removed primarily by boat electrofishing. Sampling crews will conduct removal activities in a manner that minimizes potential negative impacts to endangered fish. This includes discontinuing electrofishing when elevated numbers of endangered fish are known to be present. Situations when this is likely to occur will be when Colorado pikeminnow are staging in tributary mouths or backwater habitats prior to spawning, when razorback sucker are on or near spawning bars, and following recent stocking events. Two electrofishing boats will simultaneously electrofish each shoreline of the river. Electrofishing passes will be conducted when spring peak flows recede below 10,000 cfs. Effort will be focused on shoreline habitat with rocky or woody structure that is likely to contain smallmouth bass. Two full passes, each comprising approximately two weeks of effort, will extend from Split Mountain boat ramp to Tabyago Riffle. Effort for the remaining 12 weeks will be allocated to concentration areas identified during complete passes (such as Split Mountain, Ouray National Wildlife Refuge, and below the Duchesne and White rivers; Staffeldt et al. 2017; Partlow et al. 2018). We will also work with the Ute Tribe to opportunistically sample the lower Duchesne River when possible. Fish lengths and weights will be recorded on each pass. All smallmouth bass, northern pike, white sucker, and walleye collected during smallmouth bass removal will be removed and disposed of.

Initial bass removal efforts (i.e., June electrofishing) may serve to identify concentrations of spawning fish. These areas will receive additional electrofishing effort in subsequent passes. If ripe fish or nesting males are encountered, additional effort will be spent at that time to capture other potential spawning or nesting fish in that area. Two methods will be used in an attempt to identify bass spawning periods and locations. First, crews will examine shoreline areas for nests and destroy any found; crews will also examine all bass captured in the first few passes for spawning condition (i.e., dissection of any bass > 200 mm TL that are not expressing gametes at time of collection). Further effort may also give an indication as to the presence of young-of-year (YOY) bass. Locations of congregations of YOY bass will be noted and these areas will receive additional electrofishing effort as well in an effort to displace YOY bass.

In addition, smallmouth bass will be removed from Island Park to Rainbow Park (RM 333.9 to 327.6) in Dinosaur National Monument. In collaboration with USFWS–GRBFWCO and UDWR–Moab, we will conduct a “surge” effort in this reach to maximize nest disturbance during the active spawning period (e.g., Schelly et al. 2014, 2015). More specifically, three passes per week were conducted in this reach over a three week period in 2014 (Schelly et al. 2014), which proved to be effective in removing concentrations of adult smallmouth bass. Boat electrofishing in Island Park requires flows high enough to allow for upstream navigation from the Rainbow Park boat ramp with our propeller driven jon boats. This gives us a narrow window to target spawning bass with boat electrofishing and some years safely accessing the spawning areas during target temperatures has been impossible. To address this issue, we performed one day of experimental barge electrofishing in the side channel complex near Ruple Ranch in (RM 339.8) in 2020, where we were successful in removing adult smallmouth bass. We will continue to explore barge electrofishing as a tool to disrupt spawning smallmouth bass in areas not accessible by boat.

Known concentration areas for northern pike and white sucker in the middle Green River during spring include: the mouth of Brush Creek (RM 304.5), Cliff Creek (RM 302.9), Stewart Lake Drain (RM 300.0) and Ashley Creek (RM 299.0). These areas and additional backwater/low-velocity habitats will be targeted as needed for removal of northern pike and white sucker. Removal will primarily be

## UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

completed using fyke nets and boat electrofishing. Sampling methods will be adjusted depending on whether difficulties arise (i.e., otters in fyke nets, fluctuations in flows, etc.). We will also evaluate spawning periods for both species to best target removal of reproductively mature adults; dissection of adult northern pike and white sucker will occur for individuals that are not expressing gametes.

Walleye removal efforts will be an adaptive process using past capture locations to identify concentration areas. Given what we know from past captures, removal efforts will focus on the time period from March until May, with consideration for specific temperatures and flow conditions, as well as for locations where potential spawning bars are located (i.e., Split Mountain reach; Schelly et al. 2015). Targeted walleye removal will only occur in Colorado pikeminnow population estimate off years (UCRRP Project #128) and thus will not take place in FY22-24. As with smallmouth bass, northern pike, and white sucker, adult walleye that are not expressing gametes at time of capture will be dissected to determine whether our efforts are appropriately targeting the spawning period for this species.

Nonnative removal and evaluation efforts, which includes tagging and marking of endangered and target nonnative fishes, are also being conducted by other researchers and agencies in other reaches of the Upper Colorado River Basin. Therefore, sampling crews will examine all captured endangered and target nonnative fish for tags or marks and record pertinent information. This information will then be reported to pertinent principal investigators and included in annual reporting. All data will be provided to the UCRRP for submission to the STReAMS database. Additionally, all larger (i.e., piscivore size class) smallmouth bass, northern pike, and walleye will be scanned for a PIT tag to determine if native fish predation has recently occurred; dissection of individuals for visual confirmation will be used in cases where fish exhibit obvious bulging abdominal regions.

Besides targeted smallmouth bass, northern pike, white sucker, and walleye, all nonnative fish encountered during sampling will be removed except for common carp (*Cyprinus carpio*), channel catfish (*Ictalurus punctatus*), and small-bodied cyprinids. Nonnative fishes that will be removed include, but are not limited to green sunfish (*Lepomis cyanellus*), black crappie (*Pomoxis nigromaculatus*), bluegill (*Lepomis macrochirus*), gizzard shad (*Dorosoma cepedianum*), and burbot (*Lota lota*). Otolith structures will be collected from specific nonnative species (e.g., burbot) upon UCRRP request.

All endangered fishes captured during nonnative removal projects will be scanned for a PIT tag, tagged if needed, weighed (g), measured TL (mm), and released alive.

### **Task Description, Deliverables and Schedule:**

*Task 1.* Northern pike, white sucker, and walleye removal: conduct up to four weeks of fyke netting and electrofishing in backwaters and flooded tributary mouths. One week of effort is equal to approximately three overnight fyke sets and four days of electrofishing. Conduct up to four weeks of main channel electrofishing to target walleye during UCRRP Project #128 off years. One week of effort is equal to approximately four 10-hour days for a two-boat crew, including travel time and equipment preparation.

*Task 2.* Smallmouth bass removal: conduct 16 weeks of boat electrofishing to remove smallmouth bass. Two full passes (4 weeks of effort) from Split Mountain to Tabyago Riffle (one at the onset of removal and one approximately half way through the season) will guide subsequent removal targeting identified concentrations. Up to two weeks of total effort will be expended in Island Park during optimum

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

spawning conditions to disadvantage reproduction in that area. One week of effort is equal to approximately four 10-hour days for a two-boat crew, including travel time and equipment preparation.

*Task 3.* Data entry, analysis, and reporting: data quality control and analysis to determine trends in nonnative catch rates. Report findings in an annual report to the UCCRRP and submit data to STReaMS.

Task	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1			X	X	X							
2						X	X	X	X	X		
3										X	X	X

**Budget Summary:**

FY Year	Vernal
2022	\$225,670
2023	\$225,670
2024	\$230,183
2025	\$234,787
2026	\$239,483
<b>Total</b>	<b>\$1,155,793</b>

**References:**

Breton, A. R, D. L. Winkelman, J. A. Hawkins, and K. R. Bestgen. 2014. Population trends of smallmouth bass in the upper Colorado River basin with an evaluation of removal effects. Final report to the Upper Colorado River Endangered Fish Recovery Program, Denver, Colorado. Larval Fish Laboratory Contribution 169.

Breton, A. R, D. L. Winkelman, K. R. Bestgen, and J. A. Hawkins. 2015. Population dynamics modeling of introduced smallmouth bass in the upper Colorado River basin. Final report to the Upper Colorado River Endangered Fish Recovery Program, Denver, Colorado. Larval Fish Laboratory Contribution 186.

Hawkins, J.A. and T.P. Nesler. 1991. Nonnative fishes of the upper Colorado River Basin: an issue paper. Final Report of Colorado State University Larval Fish Laboratory to the Upper Colorado River Endangered Fish Recovery Program, Denver, Colorado.

Johnson, B.M., P.J. Martinez, J.A. Hawkins, and K.R. Bestgen. 2008. Ranking predatory threats by nonnative fishes in the Yampa River, Colorado, via bioenergetics modeling. North American Journal of Fisheries Management 28: 1941-1953.

McDonald, D.B., T.L. Parchman, M.R. Bower, W.A. Hubert, and F.J. Rahel. 2008. An introduced and a native vertebrate hybridize to form a genetic Bridge to a second native species. Proceedings of the National Academy of the Sciences of the USA 105:10837-10842.

## UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

- Modde, T. 1999. Operation of Old Charlie Wash to remove nonnative fishes and determine native fish use in floodplain wetlands of the middle Green River. Annual Report to the Upper Colorado Endangered Fish Recovery Program. Denver, Colorado.
- Monroe, L and T. Hedrick. 2008. Northern Pike (*Esox Lucius*) Control in the Middle Green River, Utah 2001-2006. Final report to the Upper Colorado River Endangered Fish Recovery Program. Denver, Colorado.
- Nelson, P. 1999. Floodplain habitat restoration program. Annual Report of the Upper Colorado Endangered Fish Recovery Program. Denver, Colorado.
- Partlow, M.S. and K.R. Elbin. 2020. Nonnative fish control in the middle Green River. Annual Report of Utah Division of Wildlife Resources to the Upper Colorado River Endangered Fish Recovery Program. Denver, Colorado.
- Partlow, M.S., R.R. Staffeldt, and M.J. Breen. 2018. Nonnative fish control in the middle Green River. Annual Report of Utah Division of Wildlife Resources to the Upper Colorado River Endangered Fish Recovery Program. Denver, Colorado.
- Schelly, R.C., A.M. Boehm, and M.J. Breen. 2014. Nonnative fish control in the middle Green River. Annual Report submitted to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin. U.S. Fish and Wildlife Service, Denver, Colorado.
- Schelly, R.C, R.R. Staffeldt, and M.J.Breen. 2015. Nonnative fish control in the middle Green River. Annual Report submitted to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin. U.S. Fish and Wildlife Service, Denver, Colorado.
- Skorupski, J.A. Jr. and M.J. Breen. 2011. Nonnative fish control in the middle Green River. Annual Report submitted to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin. U.S. Fish and Wildlife Service, Denver, Colorado.
- Skorupski, J.A. Jr. and M.J. Breen. 2012. Nonnative fish control in the middle Green River. Annual Report submitted to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin. U.S. Fish and Wildlife Service, Denver, Colorado.
- Staffeldt, R.R., M.S. Partlow, B. R. Anderson, and M.J. Breen. 2017. Nonnative fish control in the middle Green River. Annual Report of Utah Division of Wildlife Resources to the Upper Colorado River Endangered Fish Recovery Program. Denver, Colorado.
- Tyus, H.M. and J.M. Beard. 1990. *Esox lucius* (Esocidae) and *Stizostedion vitreum* (Percidae) in the Green River basin, Colorado and Utah. *Great Basin Naturalist* 50(1): 33-39.



## UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

- U.S. Fish and Wildlife Service. 2002. Colorado pikeminnow (*Ptychocheilus lucius*) recovery goals: amendment and supplement to the humpback chub recovery plan. U.S. Fish and Wildlife Service, Mountain-Prairie Region (6), Denver, Colorado.
- U.S. Fish and Wildlife Service. 2002. Razorback sucker (*Xyrauchen texanus*) recovery goals: amendment and supplement to the humpback chub recovery plan. U.S. Fish and Wildlife Service, Mountain-Prairie Region (6), Denver, Colorado.
- U.S. Fish and Wildlife Service. 2002. Bonytail (*Gila elegans*) recovery goals: amendment and supplement to the humpback chub recovery plan. U.S. Fish and Wildlife Service, Mountain-Prairie Region (6), Denver, Colorado.
- Wakefield, C.K. and D.W. Beckman. 2005. Life history attributes of white sucker (*Catostomus commersonii*) in Lake Taneycomo and associated tributaries in southwestern Missouri. *The Southwestern Naturalist* 50:423-434.
- Webber, P.A. and M.T. Jones. 2013. Middle Green River floodplain sampling. . Project #Fr-164. Annual report to the Recovery Implementation Program, U.S. Fish and Wildlife Service, Denver, CO.
- Zelasko, K.A., K.R. Bestgen, J.A. Hawkins, and G.C. White. 2015. Abundance and population dynamics of invasive northern pike *Esox lucius*, Yampa River, Colorado, 2004–2010. Final Report to the Upper Colorado River Endangered Fish Recovery Program, Project 161b, Denver, Colorado. Larval Fish Laboratory Contribution 185.

**SUMMARY OF PROPOSED COSTS**

<b>Name of Servicing Agency:</b>	Utah Division of Wildlife Resources
<b>Project Name:</b>	Projecct 123b: Nonnative fish removal in the middle Green River (Vernal Field Office)

	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 ----->	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		TOTAL
<b>DIRECT LABOR AND FRINGE BENEFIT COSTS:</b>											
Direct Labor - Hourly	\$	126,270.04	\$	126,270.04	\$	128,791.54	\$	131,371.35	\$	133,998.78	\$ 646,701.75
Fringe Benefits - Hourly	\$	26,104.80	\$	26,104.80	\$	26,626.90	\$	27,159.43	\$	27,702.62	\$ 133,698.55
Subtotal of Direct Labor & Fringe Benefits:	\$	152,374.84	\$	152,374.84	\$	155,418.43	\$	158,530.78	\$	161,701.40	\$ 780,400.30
<b>OTHER DIRECT COSTS:</b>											
Materials and Supplies	\$	65,926.42	\$	65,926.42	\$	63,787.87	\$	64,307.25	\$	62,996.13	\$ 322,944.09
Travel Costs	\$	4,198.10	\$	4,198.10	\$	4,282.06	\$	4,367.70	\$	4,455.06	\$ 21,501.02
Equipment	\$	3,170.64	\$	3,170.64	\$	6,695.04	\$	7,581.33	\$	10,330.22	\$ 30,947.86
Contractors	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -
Subtotal of Other Direct Costs:	\$	73,295.16	\$	73,295.16	\$	74,764.97	\$	76,256.28	\$	77,781.41	\$ 375,392.98
<b>INDIRECT/OVERHEAD COSTS:</b>											
Subtotal of Labor and Other Direct Costs:	\$	225,670.00	\$	225,670.00	\$	230,183.40	\$	234,787.06	\$	239,482.81	
Total dollars exempt from indirect/overhead base:	\$	-	\$	-	\$	-	\$	-	\$	-	
<Enter Description of Indirect/OH Cost #1>	17.00%	\$ -	17.00%	\$ -	17.00%	\$ -	17.00%	\$ -	17.00%	\$ -	\$ -
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:	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -
<b>GRAND TOTAL:</b>	\$	225,670.00	\$	225,670.00	\$	230,183.40	\$	234,787.06	\$	239,482.81	\$ 1,155,793.28

# SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

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

	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	Matt Breen	Project Leader	\$ 29.14	20.0	\$ 29.14	\$ 582.78	40.00%	\$ 233.11	20.0	\$ 29.14	\$ 582.78	40.00%	\$ 233.11
2	1	Mike Partlow	Biologist II	\$ 26.63	60.0	\$ 26.63	\$ 1,597.67	40.00%	\$ 639.07	60.0	\$ 26.63	\$ 1,597.67	40.00%	\$ 639.07
3	1	Garrett Tournear	Journey Maint. Specialist	\$ 27.08	240.0	\$ 27.08	\$ 6,499.79	40.00%	\$ 2,599.92	240.0	\$ 27.08	\$ 6,499.79	40.00%	\$ 2,599.92
4	1	Keena Elbin	Biologist I	\$ 25.78	120.0	\$ 25.78	\$ 3,094.02	40.00%	\$ 1,237.61	120.0	\$ 25.78	\$ 3,094.02	40.00%	\$ 1,237.61
5	1	Seasonal	Technician II	\$ 20.08	200.0	\$ 20.08	\$ 4,015.82	0.00%	\$ -	200.0	\$ 20.08	\$ 4,015.82	0.00%	\$ -
6	1	Seasonal	Technician I	\$ 18.64	100.0	\$ 18.64	\$ 1,863.95	0.00%	\$ -	100.0	\$ 18.64	\$ 1,863.95	0.00%	\$ -
7	1	Seasonal	Shuttle Drivers	\$ 19.04	50.0	\$ 19.04	\$ 952.00	0.00%	\$ -	50.0	\$ 19.04	\$ 952.00	0.00%	\$ -
8	2	Matt Breen	Project Leader	\$ 29.14	100.0	\$ 29.14	\$ 2,913.91	40.00%	\$ 1,165.56	100.0	\$ 29.14	\$ 2,913.91	40.00%	\$ 1,165.56
9	2	Mike Partlow	Biologist II	\$ 26.63	100.0	\$ 26.63	\$ 2,662.78	40.00%	\$ 1,065.11	100.0	\$ 26.63	\$ 2,662.78	40.00%	\$ 1,065.11
10	2	Garrett Tournear	Journey Maint. Specialist	\$ 27.08	1,000.0	\$ 27.08	\$ 27,082.45	40.00%	\$ 10,832.98	1,000.0	\$ 27.08	\$ 27,082.45	40.00%	\$ 10,832.98
11	2	Keena Elbin	Biologist I	\$ 25.78	600.0	\$ 25.78	\$ 15,470.12	40.00%	\$ 6,188.05	600.0	\$ 25.78	\$ 15,470.12	40.00%	\$ 6,188.05
12	2	Seasonal	Technician II	\$ 20.08	320.0	\$ 20.08	\$ 6,425.32	0.00%	\$ -	320.0	\$ 20.08	\$ 6,425.32	0.00%	\$ -
13	2	Seasonal	Technician I	\$ 18.64	2,000.0	\$ 18.64	\$ 37,278.96	0.00%	\$ -	2,000.0	\$ 18.64	\$ 37,278.96	0.00%	\$ -
14	2	Seasonal	Shuttle Drivers	\$ 19.04	550.0	\$ 19.04	\$ 10,471.99	0.00%	\$ -	550.0	\$ 19.04	\$ 10,471.99	0.00%	\$ -
15	3	Matt Breen	Project Leader	\$ 29.14	40.0	\$ 29.14	\$ 1,165.56	40.00%	\$ 466.23	40.0	\$ 29.14	\$ 1,165.56	40.00%	\$ 466.23
16	3	Mike Partlow	Biologist II	\$ 26.63	80.0	\$ 26.63	\$ 2,130.23	40.00%	\$ 852.09	80.0	\$ 26.63	\$ 2,130.23	40.00%	\$ 852.09
17	3	Keena Elbin	Biologist I	\$ 25.78	80.0	\$ 25.78	\$ 2,062.68	40.00%	\$ 825.07	80.0	\$ 25.78	\$ 2,062.68	40.00%	\$ 825.07
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					<b>5,660.00</b>		<b>\$ 126,270.04</b>		<b>\$ 26,104.80</b>	<b>5,660.00</b>		<b>\$ 126,270.04</b>		<b>\$ 26,104.80</b>

**SUMMARY OF DIRECT LABOR & FRINGE BENEFITS**

Yr 3 Escalation Rate	2.00%
----------------------	-------

Yr 4 Escalation Rate	2.00%
----------------------	-------

	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	Matt Breen	Project Leader	\$ 29.14	20.0	\$ 29.72	\$ 594.44	40.00%	\$ 237.77	20.0	\$ 30.32	\$ 606.33	40.00%	\$ 242.53
2	1	Mike Partlow	Biologist II	\$ 26.63	60.0	\$ 27.16	\$ 1,629.62	40.00%	\$ 651.85	60.0	\$ 27.70	\$ 1,662.22	40.00%	\$ 664.89
3	1	Garrett Tournear	Journey Maint. Specialist	\$ 27.08	240.0	\$ 27.62	\$ 6,629.78	40.00%	\$ 2,651.91	240.0	\$ 28.18	\$ 6,762.38	40.00%	\$ 2,704.95
4	1	Keena Elbin	Biologist I	\$ 25.78	120.0	\$ 26.30	\$ 3,155.90	40.00%	\$ 1,262.36	120.0	\$ 26.83	\$ 3,219.02	40.00%	\$ 1,287.61
5	1	Seasonal	Technician II	\$ 20.08	200.0	\$ 20.48	\$ 4,096.14	0.00%	\$ -	200.0	\$ 20.89	\$ 4,178.06	0.00%	\$ -
6	1	Seasonal	Technician I	\$ 18.64	100.0	\$ 19.01	\$ 1,901.23	0.00%	\$ -	100.0	\$ 19.39	\$ 1,939.25	0.00%	\$ -
7	1	Seasonal	Shuttle Drivers	\$ 19.04	49.8	\$ 19.42	\$ 967.14	0.00%	\$ -	50.0	\$ 19.81	\$ 990.46	0.00%	\$ -
8	2	Matt Breen	Project Leader	\$ 29.14	100.0	\$ 29.72	\$ 2,972.19	40.00%	\$ 1,188.87	100.0	\$ 30.32	\$ 3,031.63	40.00%	\$ 1,212.65
9	2	Mike Partlow	Biologist II	\$ 26.63	100.0	\$ 27.16	\$ 2,716.04	40.00%	\$ 1,086.42	100.0	\$ 27.70	\$ 2,770.36	40.00%	\$ 1,108.14
10	2	Garrett Tournear	Journey Maint. Specialist	\$ 27.08	1,000.0	\$ 27.62	\$ 27,624.10	40.00%	\$ 11,049.64	1,000.0	\$ 28.18	\$ 28,176.58	40.00%	\$ 11,270.63
11	2	Keena Elbin	Biologist I	\$ 25.78	600.0	\$ 26.30	\$ 15,779.52	40.00%	\$ 6,311.81	600.0	\$ 26.83	\$ 16,095.11	40.00%	\$ 6,438.05
12	2	Seasonal	Technician II	\$ 20.08	320.0	\$ 20.48	\$ 6,553.82	0.00%	\$ -	320.0	\$ 20.89	\$ 6,684.90	0.00%	\$ -
13	2	Seasonal	Technician I	\$ 18.64	2,000.0	\$ 19.01	\$ 38,024.54	0.00%	\$ -	2,000.0	\$ 19.39	\$ 38,785.03	0.00%	\$ -
14	2	Seasonal	Shuttle Drivers	\$ 19.04	550.0	\$ 19.42	\$ 10,681.43	0.00%	\$ -	550.0	\$ 19.81	\$ 10,895.06	0.00%	\$ -
15	3	Matt Breen	Project Leader	\$ 29.14	40.0	\$ 29.72	\$ 1,188.87	40.00%	\$ 475.55	40.0	\$ 30.32	\$ 1,212.65	40.00%	\$ 485.06
16	3	Mike Partlow	Biologist II	\$ 26.63	80.0	\$ 27.16	\$ 2,172.83	40.00%	\$ 869.13	80.0	\$ 27.70	\$ 2,216.29	40.00%	\$ 886.52
17	3	Keena Elbin	Biologist I	\$ 25.78	80.0	\$ 26.30	\$ 2,103.94	40.00%	\$ 841.57	80.0	\$ 26.83	\$ 2,146.02	40.00%	\$ 858.41
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					<b>5,659.80</b>		<b>\$ 128,791.54</b>		<b>\$ 26,626.90</b>	<b>5,660.00</b>		<b>\$ 131,371.35</b>		<b>\$ 27,159.43</b>

**SUMMARY OF DIRECT LABOR & FRINGE BENEFITS**

Yr 5 Escalation Rate	2.00%
----------------------	-------

					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	Matt Breen	Project Leader	\$ 29.14	20.0	\$ 30.92	\$ 618.45	40.00%	\$ 247.38	\$ 2,984.78	\$ 1,193.91	\$ 4,178.69
2	1	Mike Partlow	Biologist II	\$ 26.63	60.0	\$ 28.26	\$ 1,695.46	40.00%	\$ 678.18	\$ 8,182.64	\$ 3,273.06	\$ 11,455.69
3	1	Garrett Tournear	Journey Maint. Specialist	\$ 27.08	240.0	\$ 28.74	\$ 6,897.63	40.00%	\$ 2,759.05	\$ 33,289.37	\$ 13,315.75	\$ 46,605.12
4	1	Keena Elbin	Biologist I	\$ 25.78	120.0	\$ 27.36	\$ 3,283.40	40.00%	\$ 1,313.36	\$ 15,846.38	\$ 6,338.55	\$ 22,184.93
5	1	Seasonal	Technician II	\$ 20.08	200.0	\$ 21.31	\$ 4,261.62	0.00%	\$ -	\$ 20,567.47	\$ -	\$ -
6	1	Seasonal	Technician I	\$ 18.64	100.0	\$ 19.78	\$ 1,978.04	0.00%	\$ -	\$ 9,546.41	\$ -	\$ 9,546.41
7	1	Seasonal	Shuttle Drivers	\$ 19.04	50.0	\$ 20.21	\$ 1,010.27	0.00%	\$ -	\$ 4,871.86	\$ -	\$ 4,871.86
8	2	Matt Breen	Project Leader	\$ 29.14	100.0	\$ 30.92	\$ 3,092.26	40.00%	\$ 1,236.90	\$ 14,923.89	\$ 5,969.56	\$ 20,893.45
9	2	Mike Partlow	Biologist II	\$ 26.63	100.0	\$ 28.26	\$ 2,825.77	40.00%	\$ 1,130.31	\$ 13,637.73	\$ 5,455.09	\$ 19,092.82
10	2	Garrett Tournear	Journey Maint. Specialist	\$ 27.08	1,000.0	\$ 28.74	\$ 28,740.12	40.00%	\$ 11,496.05	\$ 138,705.71	\$ 55,482.28	\$ 194,187.99
11	2	Keena Elbin	Biologist I	\$ 25.78	600.0	\$ 27.36	\$ 16,417.02	40.00%	\$ 6,566.81	\$ 79,231.89	\$ 31,692.76	\$ 110,924.65
12	2	Seasonal	Technician II	\$ 20.08	320.0	\$ 21.31	\$ 6,818.60	0.00%	\$ -	\$ 32,907.96	\$ -	\$ 32,907.96
13	2	Seasonal	Technician I	\$ 18.64	2,000.0	\$ 19.78	\$ 39,560.73	0.00%	\$ -	\$ 190,928.24	\$ -	\$ 190,928.24
14	2	Seasonal	Shuttle Drivers	\$ 19.04	550.0	\$ 20.21	\$ 11,112.96	0.00%	\$ -	\$ 53,633.43	\$ -	\$ 53,633.43
15	3	Matt Breen	Project Leader	\$ 29.14	40.0	\$ 30.92	\$ 1,236.90	40.00%	\$ 494.76	\$ 5,969.56	\$ 2,387.82	\$ 8,357.38
16	3	Mike Partlow	Biologist II	\$ 26.63	80.0	\$ 28.26	\$ 2,260.61	40.00%	\$ 904.25	\$ 10,910.19	\$ 4,364.07	\$ 15,274.26
17	3	Keena Elbin	Biologist I	\$ 25.78	80.0	\$ 27.36	\$ 2,188.94	40.00%	\$ 875.57	\$ 10,564.25	\$ 4,225.70	\$ 14,789.95
18				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
19				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
20				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
21				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
22				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
23				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
24				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
25					<b>5,660.00</b>		<b>\$ 133,998.78</b>		<b>\$ 27,702.62</b>	<b>\$ 646,701.75</b>	<b>\$ 133,698.55</b>	<b>\$ 780,400.30</b>

# SUMMARY OF MATERIALS AND SUPPLIES

## SUMMARY OF MATERIALS, SUPPLIES, AND SERVICES

Yr 2 Escalation Rate	0.00%
----------------------	-------

	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	Monthly fleet rental (2 trucks, 1 month)	previous experience & SOWs funded BOR contract R19AP00059	\$ 500.00	2.00	\$ 1,000.00	\$ 500.00	2.00	\$ 1,000.00
2	1	Mileage costs (1,500 miles)	previous experience & SOWs funded BOR contract R19AP00060	\$ 0.40	1500.00	\$ 600.00	\$ 0.40	1500.00	\$ 600.00
3	1	Electrofishing repair and supplies	previous experience & SOWs funded BOR contract R19AP00061	\$ 1,126.16	1.00	\$ 1,126.16	\$ 1,126.16	1.00	\$ 1,126.16
4	1	Boating gear repair/replacement:	previous experience & SOWs funded BOR contract R19AP00062	\$ 1,592.39	1.00	\$ 1,592.39	\$ 1,592.39	1.00	\$ 1,592.39
5	1	Sampling gear repair/replacement	previous experience & SOWs funded BOR contract R19AP00063	\$ 3,046.27	1	\$ 3,046.27	\$ 3,046.27	1	\$ 3,046.27
6	1	Camping supplies	previous experience & SOWs funded BOR contract R19AP00064	\$ 1,250.04	1	\$ 1,250.04	\$ 1,250.04	1	\$ 1,250.04
7	1	Boat Fuel	previous experience & SOWs funded BOR contract R19AP00065	\$ 4.50	100	\$ 450.46	\$ 4.50	100	\$ 450.46
8	1	Boat propellers	previous experience & SOWs funded BOR contract R19AP00066	\$ 150.00	30	\$ 4,500.00	\$ 150.00	30	\$ 4,500.00
9	1	Fyke nets	previous experience & SOWs funded BOR contract R19AP00067	\$ 1,013.55	1	\$ 1,013.55	\$ 1,013.55	1	\$ 1,013.55
10	1	trammel nets	previous experience & SOWs funded BOR contract R19AP00068	\$ 675.70	1	\$ 675.70	\$ 675.70	1	\$ 675.70
11	2	Monthly fleet rental (4 trucks, 5 months)	previous experience & SOWs funded BOR contract R19AP00069	\$ 500.00	20.00	\$ 10,000.00	\$ 500.00	20.00	\$ 10,000.00
12	2	Mileage costs (10,000 miles)	previous experience & SOWs funded BOR contract R19AP00070	\$ 0.40	10000.00	\$ 4,000.00	\$ 0.40	10000.00	\$ 4,000.00
13	2	Electrofishing repair and supplies	previous experience & SOWs funded BOR contract R19AP00071	\$ 1,082.43	1	\$ 1,082.43	\$ 1,082.43	1	\$ 1,082.43
14	2	Boating gear repair/replacement: includes boat oil, w	previous experience & SOWs funded BOR contract R19AP00072	\$ 9,780.60	1	\$ 9,780.60	\$ 9,780.60	1	\$ 9,780.60
15	2	Sampling gear repair/replacement	previous experience & SOWs funded BOR contract R19AP00073	\$ 2,934.47	1	\$ 2,934.47	\$ 2,934.47	1	\$ 2,934.47
16	2	Camping supplies	previous experience & SOWs funded BOR contract R19AP00074	\$ 2,621.09	1	\$ 2,621.09	\$ 2,621.09	1	\$ 2,621.09
17	2	Boat Fuel	previous experience & SOWs funded BOR contract R19AP00075	\$ 4.42	1536	\$ 6,783.47	\$ 4.42	1536	\$ 6,783.47
18	3	IT Services and connection fees	Allocation of Annual IT services for Vernal	\$ 1,987.35	5	\$ 9,936.73	\$ 1,987.35	5	\$ 9,936.73
19	3	Phone Services and connection fees	Allocation of Annual Phone services for Vernal	\$ 883.26	4	\$ 3,533.06	\$ 883.26	4	\$ 3,533.06
24	<b>TOTAL:</b>					<b>\$ 65,926.42</b>			<b>\$ 65,926.42</b>

# SUMMARY OF MATERIALS AND SUPPLIES

<b>SUMMARY OF MATERIALS, SUPPLIES, SERVICES</b>	Yr 3 Escalation Rate	2.00%	Yr 4 Escalation Rate	2.00%
---	----------------------	-------	----------------------	-------

	Task # or Description	Item Description	Year 3			Year 4		
			Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal
<b>1</b>	1	Monthly fleet rental (2 trucks, 1 month)	\$ 510.00	2.00	\$ 1,020.00	\$ 520.20	2.00	\$ 1,040.40
<b>2</b>	1	Mileage costs (1,500 miles)	\$ 0.41	1500.00	\$ 612.00	\$ 0.42	1500.00	\$ 624.24
<b>3</b>	1	Electrofishing repair and supplies	\$ 1,148.69	1.00	\$ 1,148.69	\$ 1,171.66	1.00	\$ 1,171.66
<b>4</b>	1	Boating gear repair/replacement:	\$ 1,624.24	1.00	\$ 1,624.24	\$ 1,656.73	1.00	\$ 1,656.73
<b>5</b>	1	Sampling gear repair/replacement	\$ 3,107.19	1	\$ 3,107.19	\$ 3,169.34	1	\$ 3,169.34
<b>6</b>	1	Camping supplies	\$ 1,275.04	0	\$ -	\$ 1,300.54	1	\$ 1,300.54
<b>7</b>	1	Boat Fuel	\$ 4.59	100	\$ 459.47	\$ 4.69	100	\$ 468.66
<b>8</b>	1	Boat propellers	\$ 153.00	27	\$ 4,131.00	\$ 156.06	30	\$ 4,681.80
<b>9</b>	1	Fyke nets	\$ 1,033.82	0	\$ -	\$ 1,054.49	0	\$ -
<b>10</b>	1	trammel nets	\$ 689.21	0	\$ -	\$ 703.00	0	\$ -
<b>11</b>	2	Monthly fleet rental (4 trucks, 5 months)	\$ 510.00	20.00	\$ 10,200.00	\$ 520.20	20.00	\$ 10,404.00
<b>12</b>	2	Mileage costs (10,000 miles)	\$ 0.41	10000.00	\$ 4,080.00	\$ 0.42	10000.00	\$ 4,161.60
<b>13</b>	2	Electrofishing repair and supplies	\$ 1,104.08	1	\$ 1,104.08	\$ 1,126.16	1	\$ 1,126.16
<b>14</b>	2	Boating gear repair/replacement: includes boat oil, w	\$ 9,976.21	1	\$ 9,976.21	\$ 9,177.15	1	\$ 9,177.15
<b>15</b>	2	Sampling gear repair/replacement	\$ 2,993.16	1	\$ 2,993.16	\$ 3,053.03	1	\$ 1,526.51
<b>16</b>	2	Camping supplies	\$ 2,673.51	1	\$ 2,673.51	\$ 2,726.98	1	\$ 2,726.98
<b>17</b>	2	Boat Fuel	\$ 4.50	1536	\$ 6,919.14	\$ 4.59	1536	\$ 7,057.52
<b>18</b>	3	IT Services and connection fees	\$ 2,027.09	5	\$ 10,135.46	\$ 2,067.63	5	\$ 10,338.17
<b>19</b>	3	Phone Services and connection fees	\$ 900.93	4	\$ 3,603.72	\$ 918.95	4	\$ 3,675.79
<b>24</b>					<b>\$ 63,787.87</b>			<b>\$ 64,307.25</b>

# SUMMARY OF MATERIALS AND SUPPLIES

<b>SUMMARY OF MATERIALS, SUPPLIES, SERVICES</b>	Yr 5 Escalation Rate	2.00%
---	----------------------	-------

	Task # or Description	Item Description	Year 5			TOTAL
			Unit Price	Unit Quantity	Subtotal	
<b>1</b>	1	Monthly fleet rental (2 trucks, 1 month)	\$ 530.60	2.00	\$ 1,061.21	\$ 5,121.61
<b>2</b>	1	Mileage costs (1,500 miles)	\$ 0.42	1500.00	\$ 636.72	\$ 3,072.96
<b>3</b>	1	Electrofishing repair and supplies	\$ 1,195.09	1.00	\$ 1,195.09	\$ 5,767.76
<b>4</b>	1	Boating gear repair/replacement:	\$ 1,689.86	1.00	\$ 1,689.86	\$ 8,155.61
<b>5</b>	1	Sampling gear repair/replacement	\$ 3,232.73	1	\$ 3,232.73	\$ 15,601.80
<b>6</b>	1	Camping supplies	\$ 1,326.55	1	\$ 1,326.55	\$ 5,127.17
<b>7</b>	1	Boat Fuel	\$ 4.78	100	\$ 478.04	\$ 2,307.09
<b>8</b>	1	Boat propellers	\$ 159.18	30	\$ 4,775.44	\$ 22,588.24
<b>9</b>	1	Fyke nets	\$ 1,075.58	0	\$ -	\$ 2,027.10
<b>10</b>	1	trammel nets	\$ 717.06	0	\$ -	\$ 1,351.40
<b>11</b>	2	Monthly fleet rental (4 trucks, 5 months)	\$ 530.60	20.00	\$ 10,612.08	\$ 51,216.08
<b>12</b>	2	Mileage costs (10,000 miles)	\$ 0.42	10000.00	\$ 4,244.83	\$ 20,486.43
<b>13</b>	2	Electrofishing repair and supplies	\$ 1,167.68	1	\$ 1,167.68	\$ 5,562.78
<b>14</b>	2	Boating gear repair/replacement: includes boat oil, w	\$ 5,187.37	1	\$ 5,187.37	\$ 43,901.93
<b>15</b>	2	Sampling gear repair/replacement	\$ 3,114.09	1	\$ 3,114.09	\$ 13,502.70
<b>16</b>	2	Camping supplies	\$ 2,781.52	1	\$ 2,781.52	\$ 13,424.19
<b>17</b>	2	Boat Fuel	\$ 4.69	1536	\$ 7,198.68	\$ 34,742.28
<b>18</b>	3	IT Services and connection fees	\$ 2,108.99	5	\$ 10,544.93	\$ 50,892.02
<b>19</b>	3	Phone Services and connection fees	\$ 937.33	4	\$ 3,749.31	\$ 18,094.94
<b>24</b>					<b>\$ 62,996.13</b>	<b>\$ 322,944.09</b>



## SUMMARY OF TRAVEL COSTS

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
<b>Trip #</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	
<b>From-To</b>	Middle Green River	Middle Green River	Middle Green River	Middle Green River	Middle Green River	
<b>Reason</b>	Task 1 - Day Trips	Task 1 - Day Trips	Task 1 - Day Trips	Task 1 - Day Trips	Task 1 - Day Trips	
<b># of Days (include travel days)</b>	16	16	16	16	16	
<b>Airfare</b>	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Lodging (Per Night)</b>	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>MI&amp;E Per Day</b>	\$ 15.46	\$ 15.46	\$ 15.77	\$ 16.08	\$ 16.41	
<b>Auto Rental Per Day</b>	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Misc Costs/Adjustments/Trip</b>	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Total Per Trip</b>	\$ 239.63	\$ 239.63	\$ 244.42	\$ 249.31	\$ 254.30	
<b>No. of persons</b>	2	2	2	2	2	
<b>Mileage rate</b>	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Total miles</b>						
<b>SUBTOTAL =</b>	\$ 479.26	\$ 479.26	\$ 488.85	\$ 498.62	\$ 508.59	\$ 2,454.58

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
<b>Trip #</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	
<b>From-To</b>	Middle Green River	Middle Green River	Middle Green River	Middle Green River	Middle Green River	
<b>Reason</b>	Task 2 - Day Trips	Task 2 - Day Trips	Task 2 - Day Trips	Task 2 - Day Trips	Task 2 - Day Trips	
<b># of Days (include travel days)</b>	36	36	36	36	36	
<b>Airfare</b>						
<b>Lodging (Per Night)</b>						
<b>MI&amp;E Per Day</b>	\$ 15.46	\$ 15.46	\$ 15.77	\$ 16.08	\$ 16.41	
<b>Auto Rental Per Day</b>						
<b>Misc Costs/Adjustments/Trip</b>						
<b>Total Per Trip</b>	\$ 548.83	\$ 548.83	\$ 559.81	\$ 571.00	\$ 582.42	
<b>No. of persons</b>	4	4	4	4	4	
<b>Mileage rate</b>						
<b>Total miles</b>						
<b>SUBTOTAL =</b>	\$ 2,195.32	\$ 2,195.32	\$ 2,239.23	\$ 2,284.01	\$ 2,329.69	\$ 11,243.57

## SUMMARY OF TRAVEL COSTS

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
<b>Trip #</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	
<b>From-To</b>	Middle Green River	Middle Green River	Middle Green River	Middle Green River	Middle Green River	
<b>Reason</b>	Task 2 - Overnight Trips	Task 2 - Overnight Trips	Task 2 - Overnight Trips	Task 2 - Overnight Trips	Task 2 - Overnight Trips	
<b># of Days (include travel days)</b>	12	12	12	12	12	
<b>Airfare</b>						
<b>Lodging (Per Night)</b>						
<b>MI&amp;E Per Day</b>	\$ 33.12	\$ 33.12	\$ 33.78	\$ 34.46	\$ 35.15	
<b>Auto Rental Per Day</b>						
<b>Misc Costs/Adjustments/Trip</b>						
<b>Total Per Trip</b>	\$ 380.88	\$ 380.88	\$ 388.50	\$ 396.27	\$ 404.19	
<b>No. of persons</b>	4	4	4	4	4	
<b>Mileage rate</b>						
<b>Total miles</b>						
<b>SUBTOTAL =</b>	\$ 1,523.52	\$ 1,523.52	\$ 1,553.99	\$ 1,585.07	\$ 1,616.77	\$ 7,802.87
	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>TOTAL</b>
<b>TOTAL COST BY PERIOD =</b>	\$ 4,198.10	\$ 4,198.10	\$ 4,282.06	\$ 4,367.70	\$ 4,455.06	\$ 21,501.02

# SUMMARY OF EQUIPMENT COSTS

## SUMMARY OF EQUIPMENT

Enter Escalation Rates ----->

Yr 2 Escalation Rate

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	2	ETS Electrofishing Control Unit	Standardized electrofishing equipment used by all recovery program participants	\$ 6,563.76	0	\$ -	\$ 6,563.76	0	\$ -	\$ 6,695.04	1	\$ 6,695.04
2	2	Honda generator	Standardized electrofishing equipment used by all recovery program participants	\$ 3,170.64	1	\$ 3,170.64	\$ 3,170.64	1	\$ 3,170.64	\$ 3,234.05	0	\$ -
3	2	Honda 50-hp outboard 4-stroke motor	Standard UDWR boat fleet engine	\$ 7,286.93	0	\$ -	\$ 7,286.93	0	\$ -	\$ 7,432.67	0	\$ -
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	\$ -
<b>TOTAL:</b>						<b>\$ 3,170.64</b>			<b>\$ 3,170.64</b>			<b>\$ 6,695.04</b>

# SUMMARY OF EQUIPMENT COSTS

<b>SUMMARY OF EQUIPMENT</b>	Yr 4 Escalation Rate	2.00%	Yr 5 Escalation Rate	2.00%
-----------------------------	----------------------	-------	----------------------	-------

	Task # or Description	Item Description	Year 4			Year 5			TOTAL	
			Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal		
1	2	ETS Electrofishing Control Unit	\$ 6,828.94	0	\$ -	\$ 6,965.52	1	\$ 6,965.52	\$ 13,660.55	
2	2	Honda generator	\$ 3,298.73	0	\$ -	\$ 3,364.71	1	\$ 3,364.71	\$ 9,705.99	
3	2	Honda 50-hp outboard 4-stroke motor	\$ 7,581.33	1	\$ 7,581.33	\$ 7,732.95	0	\$ -	\$ 7,581.33	
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	\$ -	\$ -	
					\$ 7,581.33				\$ 10,330.22	\$ 30,947.86