

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

FY 2022-23 SCOPE OF WORK

PROJECT: 126 (a)

Project Title

Removal of Non-native Fish in the Upper Colorado River between Grand Valley Water User’s Dam [Government Highline Diversion Dam] near Palisade, Colorado, and Potash, Utah.

Bureau of Reclamation Agreement Number:

R20PG00024

Reclamation Agreement Term

Oct. 1, 2019 – Sep. 30, 2024

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:

U.S. Fish and Wildlife Service
Grand Junction Fish and Wildlife Conservation Office (GJ FWCO)

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]

Relationship to RIPRAP:

GENERAL

III.A.2.c. Evaluate the effectiveness (e.g., nonnative and native fish response) and develop and implement an integrated, viable active control program.

COLORADO RIVER

III.A.6. Develop and implement program to identify required level of smallmouth bass control.

III.A.7. Develop and implement program to identify required level of northern pike control.

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III.A.8. Walleye in the Colorado River.

III.A.9. Other emerging nonnative fishes.

Study Background/Rationale and Hypotheses:

General

Significant anthropogenic changes to the physical riverine habitat have undoubtedly played an important role in the decline and endangered status of Colorado pikeminnow, humpback chub, bonytail, and razorback sucker, but changes in the biological environment may also have been equally significant. Physical changes in the riverine habitat have been accompanied by the introduction, establishment, and proliferation of nonnative fishes, and concomitant declines in native fishes in the Upper Colorado River basin. The role of nonnative fishes is often identified, in association with habitat changes, as a major obstacle to conservation of native fish communities.

At least 67 nonnative fishes have been introduced actively or passively into the Colorado River system during the last 100 years (Minckley 1982; Tyus et al. 1982; Carlson and Muth 1989; Minckley and Deacon 1991; Maddux et al. 1993). By 1980, more than 50 nonnative fishes had been actively introduced into rivers and reservoirs of the Colorado River basin (Minckley 1982; Tyus et al. 1982; Carlson and Muth 1989). Native big river fishes have disappeared from about three-fourths of their original habitat while introduced fishes have become more widespread and abundant. Former studies have also documented a decline in the abundance of native fish species as nonnative species increased in abundance (Joseph et al. 1977; Behnke 1980; Osmundson and Kaeding 1989; Quarterone 1993; Francis and Ryden 2014).

Many of the nonnative fishes introduced into the Colorado River basin are suspected of adversely affecting the native main stem fishes. Warm water game fish are thought to have the greatest adverse effect on endangered native fishes. Centrarchids (e. g., largemouth bass, green sunfish, bluegill, black crappie, and smallmouth bass), ictalurids (e. g., channel catfish and black bullhead), esocids (northern pike), and percids (walleye) are frequently listed as contributors to the decline of native fishes. An increasing body of evidence characterizes the negative interactions of nonnative fishes with the endangered big river fishes (Hawkins and Nesler 1991; Minckley et al. 1991; Maddux et al. 1993; Lentsch et al. 1996; Francis and Ryden 2014). Some of this evidence is indirect, including inferences from field data or results from laboratory studies of predation by nonnatives on natives. Laboratory studies have documented agonistic behavior, resource sharing, and vulnerability to predation (Papoulias and Minckley 1990; Karp and Tyus 1990; Ruppert et al. 1993; Johnson et al. 1993). Direct evidence of predation includes native fishes obtained from stomach contents of nonnative fishes and by visual observation of predation. Other means by which nonnative fishes may adversely affect native fishes are by competition for food, which limits the success of razorback sucker and Colorado pikeminnow (Papoulias and Minckley 1990; Johnson et al. 2008). The extent of predation pressure by some nonnative fishes on populations of native fishes is not exactly known. Tyus and Saunders (1996) concluded that smallmouth bass along with channel catfish and northern pike were the main threat to juvenile Colorado pikeminnow and razorback sucker. During the 1990s the Yampa River experienced a dramatic increase in northern pike in critical habitat followed by an increase in smallmouth bass. Predation by these two piscivorous species wreaked havoc on the native fish community. Anderson (2004; 2005) documented significant declines of native fish densities in parts of the Yampa River between 1998 and 2004 coincident with an increase in smallmouth bass abundance. Bioenergetics

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modeling by Johnson et al. (2008) indicated that smallmouth bass fish consumption was similar to northern pike and about 65 times greater than channel catfish, but if more prey fish were available, piscivory by smallmouth bass could be 10 fold the piscivory by northern pike and channel catfish. They concluded that smallmouth bass presented the greatest predatory threat to native fishes of the Yampa River. Francis and Ryden (2015) reported a decline in Colorado pikeminnow abundance in the lower Colorado River (2010-2014), while walleye populations were increasing; and they documented three juvenile Colorado pikeminnow in three walleye stomachs.

Smallmouth Bass

Upper Colorado River (Colorado)

Until 2003, smallmouth bass were only reported as incidental, rare captures in the Upper Colorado River from Price Stubb Dam (river mile 188.3) to the Colorado/Green River confluence. However, Fish and Wildlife sampling crews involved with the channel catfish removal evaluation recorded and documented the capture of 318 smallmouth bass in main channel riverine habitats in a 39-mile reach of the Upper Colorado River from the Gunnison/Colorado River confluence to the Utah/Colorado Stateline (Burdick 2003). Smallmouth bass removal became an ongoing project beginning in 2004. Dry and moderately wet hydrologic years support large reproductive year classes of smallmouth bass, and when these hydrologic conditions occur in successive years juvenile fish are able to recruit into adults. Removal coupled with good run-off years reduced catch rates of all size classes of smallmouth bass through 2006. This same trend has happened after low runoff and good smallmouth bass reproduction years in 2007, 2010, 2012, 2013, 2018 and 2020 (Francis 2020).

Fish passage has been restored at the Grand Valley Irrigation Company Diversion Dam near Palisade, GVWU Dam, and at the Price-Stubb Diversion Dam. For the first time in over 100 years fish now have upstream access from the Grand Valley to upstream reaches in the Upper Colorado River. Only a fish trap at the GVWU fish passageway can prevent unimpeded movement upstream. This facility is operated as a selective fish passage where nonnative species are removed and native species are allowed to pass upstream. Smallmouth bass are located in Rifle Gap Reservoir and Highline Lake and adult smallmouth bass have been collected in the Colorado River between Rifle and Price-Stubb Dam (Anderson 1997; Burdick 2008) and Price-Stubb Dam and Potash, UT (Francis 2020). Both reservoirs are now outfitted with improvements to reduce escapement of nonnative fishes (a coanda screen [Rifle Gap] and a spillway net [Highline]).

Lower Gunnison River

The Redlands Dam fish passageway on the Lower Gunnison River is also operated as a selective passage facility, and the number of smallmouth bass captured in the fish trap has increased over previous years of monitoring. From 1996-2001, only one smallmouth bass was collected at the fish passage (Burdick 2001). Since that time the annual capture of smallmouth bass has been as high as twenty-two fish (Francis and Ryden 2013 (a)). About 1,800 fingerling smallmouth bass were stocked by the Colorado Division of Wildlife (CDOW) in 1973 in the Gunnison River near Delta (Wiltzius 1978) upstream from Redlands Diversion Dam. None of these stocked smallmouth bass have been subsequently captured upstream from the diversion dam (Wiltzius 1978, Valdez et al. 1982; Burdick

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1995). Redlands Dam (RM 3.0) provides an effective barrier to smallmouth bass and all other fish attempting to move further upstream in the Gunnison River.

Juanita Reservoir, which can connect to Kannah Creek and eventually to the Lower Gunnison River near the town of Whitewater, also contains smallmouth bass. Ridgeway Reservoir, which drains into the Uncompahgre River and eventually the Gunnison River near the town of Delta, also has an illicitly introduced population of smallmouth bass. Installation of an escapement prevention solution at Ridgeway is expected in 2021.

Walleye

Little to no large bodied fishing effort has been expended in the Colorado River below the Colorado/Utah state line to the confluence of the Green River in years when the Colorado pikeminnow estimate work is on its two year rest cycle. In 2010, during Colorado pikeminnow estimate work, walleye captures were equal to pikeminnow captures, in these reaches, at 46. The two year cycle of no work in these reaches passed (2011 & 2012) and then in 2013, walleye captures during the Colorado pikeminnow estimate work significantly increased to 268. In the spring of 2014 walleye captures were still high at 109. Additional work in the summer and fall 2013 produced another 23 walleye (Francis and Ryden 2013(b)). Additional experimental work in the fall 2014 produced an additional 107 walleye (Francis and Ryden 2014). In addition, for the first time in 9 years of centrarchid removal work, 2012 produced four walleye in the Grand Valley reaches (Francis 2012) and one walleye was removed for Grand Valley reaches in 2019 (Michaud et al 2019). Years 2015 through 2020 Colorado River work removed a total of 823 adult walleye from lower Westwater Canyon to the confluence of the Green River (Francis 2020; Michaud et al 2019). With adult Colorado pikeminnow estimated abundances falling in both the Green and Colorado Rivers in concert with the expansion of the walleye population, it is imperative that we have a 'surge' type effort in the lower rivers (important nursery areas for young-of-year and juvenile Colorado pikeminnow and razorback sucker) in both the spring and fall in future years if we wish to see recovery of Colorado pikeminnow and razorback sucker.

Johnson et al (2014) had success in determining that (through chemical fingerprinting) eight walleye collected between Silt, Colorado and Beavertail Tunnel, Colorado (2004-2006; RM 248.0 to 197.0) originated from Rifle Gap Reservoir. In response, Colorado Parks and Wildlife constructed a fish screen, in Rifle Creek, to prevent escapement of non-native fishes from the reservoir. This study also determined Starvation and Red Fleet Reservoirs were contributing walleye to the Green River which drains into the Colorado River just above Cataract Canyon. Additionally, some walleye collected in the Green River had fingerprints that suggested they were Green River residents. At the lower terminus of the Upper Colorado River lies Lake Powell which also has a robust walleye fishery, as does McPhee Reservoir which drains into the Dolores River and eventually the Colorado River just upstream of Dewey Bridge, UT. All of these potential source populations have exacerbated the predatory and competitive threat to both listed and unlisted native fishes in the Colorado River.

Control of Nonnative Fish by Mechanical Removal

Control of smallmouth bass and other nonnative fish species is a primary emphasis, along with habitat restoration, propagation and stocking, and instream flow management within the Recovery Program for the four endangered fish species. In the strategic plan for the control of nonnative fishes in the Upper

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Colorado River Basin (Tyus and Saunders 1996), “control” was defined as “reducing the numbers of one of more nonnative species to levels below which they are no longer an impediment to the recovery of endangered fish species.” The goal for nonnative fish control or management in the Upper Colorado River Basin is to reduce the adverse impacts of nonnative fishes on the endangered fishes which will hopefully increase the distribution and abundance of the endangered fishes and contribute to their recovery. It is not likely that nonnative fishes that have become established in the Upper Colorado River Basin can be eliminated. However, preventive measures and active control programs could be implemented to reduce the abundance of nonnative fishes in riverine and adjacent floodplain habitats. Consequently, then, reducing the abundance of some problematic, nonnative fishes would reduce the potential for predation and competition on native listed and non-listed fishes. Management to promote recovery of listed fish species may have to include long-term or periodic suppression of some problematic nonnatives, such as mechanical removal, that minimizes impacts to remaining native fishes.

Study Goals, Objectives, End Product(s):

Study Goals

The purpose of this ongoing study is to remove as many centrarchids (e. g., largemouth bass, green sunfish, bluegill, black crappie, and smallmouth bass), esocids (northern pike), percids (walleye), clupeids (gizzard shad), morones (striped bass) and non-native catostomids (white sucker and white sucker by native sucker hybrids) as possible of all sizes in main channel riverine habitats in a 68.9-mile reach of the Upper Colorado River between GVVU Dam and Westwater Wash in eastern Utah and in a 63.8-mile reach of the Upper Colorado River between Cisco and Potash Utah. The goal is to reduce the abundance of non-native fishes as quickly as possible in these reaches which will ultimately benefit native listed fishes, and possibly contribute to their recovery.

Objectives

Remove all sizes of centrarchids (e. g., largemouth bass, green sunfish, bluegill, black crappie, and smallmouth bass), esocids (northern pike), percids (walleye), clupeids (gizzard shad), morones (striped bass) and non-native catostomids (white sucker) in the Upper Colorado River (and associated floodplain ponds) by boat and raft-based electrofishing and various nets (trammel, fyke, hoop, etc.).

General–Study Direction and Evolution

Please see Francis 2020 for the complete evolution of this project through 2021. Due to program guidance and reduced budgets, 126a will reduce Grand Valley removal passes from eight to six and one half for FY 2022–2023. In addition, non-native fish removal from streamside gravel pit ponds will not be completed in FY 2022–2023.

End Products

Analyze field data; Prepare annual RIP reports.

Study Area:

Upper Colorado River:

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GVWU Dam downstream to Loma boat landing (RM 193.7 – 152.6) & the Lower Gunnison River (RM 3.0 – 0.0)

Loma Boat Launch to Westwater Wash (RM 152.6 – 124.8)

Rifle Bridge to Beavertail Mountain (RM 240.4 – 195.7) [added in 2004] [CPW's reach from 2012-2019]

Silt to Rifle (RMs ~ 250.0 – 240.4) [added in 2007] [removed for 2009/2010/2011] [CPW's reach from 2012-2019]

Cisco to Potash, UT (RM 111.0 – 47.2) [added in 2013]

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 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, and off-channel control of centrarchids (e.g., largemouth bass, green sunfish, bluegill, black crappie, and smallmouth bass), esocids (northern pike), percids (walleye and yellow perch), clupeids (gizzard shad), morones (striped bass) and non-native catostomids (white sucker). As part of the project, we will include spawning disruption and off-channel escapement prevention via boat and raft-based electrofishing. In addition, we will remove individuals of aforementioned species outside of the spawning period in order to reduce the population abundance. We will measure response to these efforts via CPUE.

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Methodology

To date, sampling efforts have focused on a reach and not river-wide scale. Two electrofishing craft (per Upper Colorado River Recovery Program SOP) worked both shorelines of a reach to complete a pass. For logistical considerations, the entire 68.9-mile section of the Upper Colorado River from GVWU Dam to Westwater Wash, Utah, was divided into three different sub-reaches based on hydro-geomorphic features.

Three general sub-reaches were sampled between 2004 and 2014. These included, 1) a 10.1-mile section between GVWU and Palisade and the 15-mile section that extends from Palisade to the Gunnison/Colorado River confluence (RMs 185.5–171), 2) the 18-mile reach that extends from the confluence of the Gunnison and Colorado rivers to the Loma Boat Landing (RMs 171.0–152.6), and 3) Ruby and Horsethief canyons (RMs 152.6–124.8) which extends from the Loma Boat Landing to the Westwater, Utah. The 15- and 18-mile sub-reaches flow through a wide alluvial section of the lower Grand Valley; the canyon-bound sub-reach is considered a quasi-alluvial sub-reach. The number of sampling occasions (i.e., passes) in the 15-mile reach has been affected by the availability of sufficient water for sampling craft to operate due to extended drought periods. Sampling the 3-mile section between Price-Stubb and Grand Valley Irrigation dams has also been reduced due to poor access and low-water conditions in mid- to late-summer when smallmouth bass catch rates are highest.

In response to an increased walleye catch from Cisco to the confluence of the Green during spring Colorado pikeminnow abundance estimate work, another 63.8-mile reach was added in the Upper Colorado River from Cisco, UT (RM 111.0) to Potash, UT (RM 47.2) in 2013. Francis and Ryden (2016) reported removing 292 walleye in 2013, 216 walleye in 2014, and 823 walleye from 2015 through 2020 (Francis 2020; Michaud et al 2019).

Within the Grand Valley, between Grand Valley Diversion Dam and Loma, CO, there are many off channel gravel pit ponds which connect with the river at various stages during run-off. These off-channel habitats are important pre-spawn staging areas for adult native fishes and they are important nursery areas for young-of year native fishes. However, these gravel pit ponds have become sources for many of the non-native centrarchids, northern pike, white sucker and gizzard shad found in the main-stem river. Little effort had been expended at these locations since the inception of this project. As a recommendation in our 2014 annual report and with the approval of the UCRRP and Biology Committee, mechanical removal may be expended in these gravel pit ponds (where we have access). Electrofishing, trap netting, gill netting, trammel netting, seining, and cast netting will be utilized at these locations.

FY 2022-2023

Sampling Protocol

Sampling for FY2022–2023 will include; 1) six and one half removal passes conducted in the Grand Valley reaches, 2) two removal passes from the 25-mile reach between Loma boat landing to the Westwater BLM ranger station, UT, 3) four walleye removal passes conducted from Cisco

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to Potash, UT, 4) CPW will complete all work upstream of Beavertail Mountain with scope of work 126(b).

Due to Program budget limits in 2020 and 2021, FWS GJ will not be conducting streamside gravel pit pond non-native fish removal. We hope to start again beginning in 2024.

Fish Disposal

All smallmouth bass, other centrarchids, northern pike, walleye, gizzard shad, grass carp, striped bass and yellow perch collected will be lethally removed. White sucker will be removed at levels that don't interfere with the primary objective of removing piscivores. Disposal of all these fishes will be as follows. In Colorado following capture, fish will be euthanized afield and preserved with ice. All dead fish will be held on station in freezers and disposed of in the Mesa County landfill southeast of Grand Junction. In Utah following capture, fish will be euthanized and have their air bladder popped prior to being returned to the river.

Data Analyses

All smallmouth bass captured within each of the sub-reaches will be enumerated in 2022–2023 similar to that during former years (2004–2021). Total numbers of smallmouth bass, largemouth bass and walleye collected and catch/effort (fish/hr) will be also determined for each sub-reach per sampling pass. Length data will be recorded for 2022–2023 similar to that during former years (2004–2020) to determine the size structure of smallmouth bass removed.

Data analyses similar to that employed between 2004 and 2021 will be used to analyze the 2022–2023 field data.

Task Description, Deliverables and Schedule:

Task 1. Six and one half removal passes in the Grand Valley.
Schedule: 6/2022 – 9/2022; 6/2023 – 9/2023

Task 2. Two removal passes for the 25 mile reach between Loma and Westwater.

Task 3. Four walleye removal passes from Cisco to Potash.

Task 4. One month of removal from streamside gravel pit ponds in the Grand Valley.

Due to Program budget limits in 2022 and 2023, FWS GJ will not be conducting streamside gravel pit pond non-native fish removal. We hope to start again beginning in 2024.

Task 5.a) Electronically input field data; b) analyze data; c) prepare annual RIP reports and presentations.

Schedule: a) 10/2021 – 11/2021; 6/2022 – 11/2022; 6/2023 – 11/2023 b) & c) 11/2021, 11/2022, 11/2023

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Budget Summary:

FY Year	GJFWCO	3% Overhead *	Total Project Cost
2022	\$225,293	\$6,759	\$232,052
2023	\$225,513	\$6,765	\$232,278
2024	\$277,959	\$8,339	\$286,298
2025	\$283,517	\$8,505	\$292,022
2026	\$289,187	\$8,676	\$297,863
Total	\$1,301,469	\$39,044	\$1,340,513

*Paid to USFWS Interior Regions 5 and 7 not GJFWCO

Reviewers:

Program Staff and Biology Committee

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UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

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SUMMARY OF PROPOSED COSTS

Name of Servicing Agency:	U.S.F.W.S. Grand Junction Fish and Wildlife Conservation Office
Project Name:	f Non-native Fish in the Upper Colorado River between Grand Valley Water User's Dam [Government Highline Diversion Dam] near Palisade, Colorado,

	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:		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	TOTAL
Direct Labor - Hourly		\$ 131,719.42		\$ 131,719.42		\$ 160,090.53		\$ 163,292.34		\$ 166,558.19	\$ 753,379.89
Fringe Benefits - Hourly		\$ 64,392.25		\$ 64,392.25		\$ 78,081.88		\$ 79,643.52		\$ 81,236.39	\$ 367,746.28
Subtotal of Direct Labor & Fringe Benefits:		\$ 196,111.67		\$ 196,111.67		\$ 238,172.41		\$ 242,935.85		\$ 247,794.57	\$ 1,121,126.17
OTHER DIRECT COSTS:		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	TOTAL
Materials and Supplies		\$ 14,773.22		\$ 14,773.22		\$ 24,797.90		\$ 25,293.86		\$ 25,799.74	\$ 105,437.94
Travel Costs		\$ 14,407.75		\$ 14,628.23		\$ 14,988.54		\$ 15,286.93		\$ 15,592.67	\$ 74,904.11
Equipment		\$ -		\$ -		\$ -		\$ -		\$ -	\$ -
Contractors		\$ -		\$ -		\$ -		\$ -		\$ -	\$ -
Subtotal of Other Direct Costs:		\$ 29,180.97		\$ 29,401.45		\$ 39,786.44		\$ 40,580.79		\$ 41,392.41	\$ 180,342.05
INDIRECT/OVERHEAD COSTS:		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	TOTAL
Subtotal of Labor and Other Direct Costs:		\$ 225,292.64		\$ 225,513.12		\$ 277,958.84		\$ 283,516.64		\$ 289,186.98	\$ 1,301,468.22
Total dollars exempt from indirect/overhead base:		\$ -		\$ -		\$ -		\$ -		\$ -	\$ -
<Enter Description of Indirect/OH Cost #1>	3.00%	\$ 6,758.78	3.00%	\$ 6,765.39	3.00%	\$ 8,338.77	3.00%	\$ 8,505.50	3.00%	\$ 8,675.61	\$ 39,044.05
Total dollars exempt from indirect/overhead base:		\$ -		\$ -		\$ -		\$ -		\$ -	\$ -
<Enter Description of Indirect/OH Cost #2>		\$ -	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	\$ -
Subtotal of Indirect/Overhead Costs:		\$ 6,758.78		\$ 6,765.39		\$ 8,338.77		\$ 8,505.50		\$ 8,675.61	\$ 39,044.05
GRAND TOTAL:		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	TOTAL
		\$ 232,051.42		\$ 232,278.51		\$ 286,297.61		\$ 292,022.14		\$ 297,862.59	\$ 1,340,512.27

SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

Enter Escalation Rates ----->	Yr 2 Escalation Rate	0.00%
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Project #	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	126a	1	Deputy Project Leader	12	4	Rest of US	\$ 40.84	330.0	\$ 40.84	\$ 13,477.20	51.50%	\$ 6,940.76	330.0	\$ 40.84	\$ 13,477.20	51.50%	\$ 6,940.76
2	126a	1	Project Leader	14	8	Rest of US	\$ 64.35	150.0	\$ 64.35	\$ 9,652.50	42.80%	\$ 4,131.27	150.0	\$ 64.35	\$ 9,652.50	42.80%	\$ 4,131.27
3	126a	1	Biological Technician (Crew Leader)	7	5	Rest of US	\$ 23.72	150.0	\$ 23.72	\$ 3,558.00	65.00%	\$ 2,312.70	150.0	\$ 23.72	\$ 3,558.00	65.00%	\$ 2,312.70
4	126a	1	Biological Technician (Crew Leader)	6	4	Rest of US	\$ 20.72	260.0	\$ 20.72	\$ 5,387.20	49.80%	\$ 2,682.83	260.0	\$ 20.72	\$ 5,387.20	49.80%	\$ 2,682.83
5	126a	1	Biological Technician (5 positions)	5	1	Rest of US	\$ 16.90	1,349.0	\$ 16.90	\$ 22,798.10	45.60%	\$ 10,395.93	1,349.0	\$ 16.90	\$ 22,798.10	45.60%	\$ 10,395.93
6	126a	1	Administrative Officer	9	8	Rest of US	\$ 31.58	70.0	\$ 31.58	\$ 2,210.60	43.30%	\$ 957.19	70.0	\$ 31.58	\$ 2,210.60	43.30%	\$ 957.19
7	126a	1	Biological Technician (Crew Leader) OT	7	5	Rest of US	\$ 35.58	32.0	\$ 35.58	\$ 1,138.56	65.00%	\$ 740.06	32.0	\$ 35.58	\$ 1,138.56	65.00%	\$ 740.06
8	126a	1	Biological Technician (Crew Leader) OT	6	4	Rest of US	\$ 31.08	57.0	\$ 31.08	\$ 1,771.56	49.80%	\$ 882.24	57.0	\$ 31.08	\$ 1,771.56	49.80%	\$ 882.24
9	126a	1	Biological Technician OT	5	1	Rest of US	\$ 25.35	220.0	\$ 25.35	\$ 5,577.00	45.60%	\$ 2,543.11	220.0	\$ 25.35	\$ 5,577.00	45.60%	\$ 2,543.11
10	126a	2	Deputy Project Leader	12	4	Rest of US	\$ 40.84	40.0	\$ 40.84	\$ 1,633.60	51.50%	\$ 841.30	40.0	\$ 40.84	\$ 1,633.60	51.50%	\$ 841.30
11	126a	2	Project Leader	14	8	Rest of US	\$ 64.35	20.0	\$ 64.35	\$ 1,287.00	42.80%	\$ 550.84	20.0	\$ 64.35	\$ 1,287.00	42.80%	\$ 550.84
12	126a	2	Biological Technician (Crew Leader)	7	5	Rest of US	\$ 23.72	20.0	\$ 23.72	\$ 474.40	65.00%	\$ 308.36	20.0	\$ 23.72	\$ 474.40	65.00%	\$ 308.36
13	126a	2	Biological Technician (Crew Leader)	6	4	Rest of US	\$ 20.72	40.0	\$ 20.72	\$ 828.80	49.80%	\$ 412.74	40.0	\$ 20.72	\$ 828.80	49.80%	\$ 412.74
14	126a	2	Biological Technician (2 positions)	5	1	Rest of US	\$ 16.90	80.0	\$ 16.90	\$ 1,352.00	45.60%	\$ 616.51	80.0	\$ 16.90	\$ 1,352.00	45.60%	\$ 616.51
15	126a	2	Administrative Officer	9	8	Rest of US	\$ 31.58	20.0	\$ 31.58	\$ 631.60	43.30%	\$ 273.48	20.0	\$ 31.58	\$ 631.60	43.30%	\$ 273.48
16	126a	2	Biological Technician (Crew Leader) OT	7	5	Rest of US	\$ 35.58	10.0	\$ 35.58	\$ 355.80	65.00%	\$ 231.27	10.0	\$ 35.58	\$ 355.80	65.00%	\$ 231.27
17	126a	2	Biological Technician (Crew Leader) OT	6	4	Rest of US	\$ 31.08	20.0	\$ 31.08	\$ 621.60	49.80%	\$ 309.56	20.0	\$ 31.08	\$ 621.60	49.80%	\$ 309.56
18	126a	2	Biological Technician OT	5	1	Rest of US	\$ 25.35	40.0	\$ 25.35	\$ 1,014.00	45.60%	\$ 462.38	40.0	\$ 25.35	\$ 1,014.00	45.60%	\$ 462.38
19	126a	3	Deputy Project Leader	12	4	Rest of US	\$ 40.84	200.0	\$ 40.84	\$ 8,168.00	51.50%	\$ 4,206.52	200.0	\$ 40.84	\$ 8,168.00	51.50%	\$ 4,206.52
20	126a	3	Project Leader	14	8	Rest of US	\$ 64.35	20.0	\$ 64.35	\$ 1,287.00	42.80%	\$ 550.84	20.0	\$ 64.35	\$ 1,287.00	42.80%	\$ 550.84
21	126a	3	Biological Technician (Crew Leader)	7	5	Rest of US	\$ 23.72	100.0	\$ 23.72	\$ 2,372.00	65.00%	\$ 1,541.80	100.0	\$ 23.72	\$ 2,372.00	65.00%	\$ 1,541.80
22	126a	3	Biological Technician (Crew Leader)	6	4	Rest of US	\$ 20.72	240.0	\$ 20.72	\$ 4,972.80	49.80%	\$ 2,476.45	240.0	\$ 20.72	\$ 4,972.80	49.80%	\$ 2,476.45
23	126a	3	Biological Technician (3 positions)	5	1	Rest of US	\$ 16.90	440.0	\$ 16.90	\$ 7,436.00	45.60%	\$ 3,390.82	440.0	\$ 16.90	\$ 7,436.00	45.60%	\$ 3,390.82
24	126a	3	Administrative Officer	9	8	Rest of US	\$ 31.58	80.0	\$ 31.58	\$ 2,526.40	43.30%	\$ 1,093.93	80.0	\$ 31.58	\$ 2,526.40	43.30%	\$ 1,093.93
25	126a	3	Biological Technician (Crew Leader) OT	7	5	Rest of US	\$ 35.58	50.0	\$ 35.58	\$ 1,779.00	65.00%	\$ 1,156.35	50.0	\$ 35.58	\$ 1,779.00	65.00%	\$ 1,156.35
26	126a	3	Biological Technician (Crew Leader) OT	6	4	Rest of US	\$ 31.08	90.0	\$ 31.08	\$ 2,797.20	49.80%	\$ 1,393.01	90.0	\$ 31.08	\$ 2,797.20	49.80%	\$ 1,393.01
27	126a	3	Biological Technician OT	5	1	Rest of US	\$ 25.35	230.0	\$ 25.35	\$ 5,830.50	45.60%	\$ 2,658.71	230.0	\$ 25.35	\$ 5,830.50	45.60%	\$ 2,658.71
19	126a	4	Deputy Project Leader	12	4	Rest of US	\$ 40.84	-	\$ 40.84	\$ -	51.50%	\$ -	-	\$ 40.84	\$ -	51.50%	\$ -
20	126a	4	Project Leader	14	8	Rest of US	\$ 64.35	-	\$ 64.35	\$ -	42.80%	\$ -	-	\$ 64.35	\$ -	42.80%	\$ -
21	126a	4	Biological Technician (Crew Leader)	7	5	Rest of US	\$ 23.72	-	\$ 23.72	\$ -	65.00%	\$ -	-	\$ 23.72	\$ -	65.00%	\$ -
22	126a	4	Biological Technician (Crew Leader)	6	4	Rest of US	\$ 20.72	-	\$ 20.72	\$ -	49.80%	\$ -	-	\$ 20.72	\$ -	49.80%	\$ -
23	126a	4	Biological Technician (2 positions)	5	1	Rest of US	\$ 16.90	-	\$ 16.90	\$ -	45.60%	\$ -	-	\$ 16.90	\$ -	45.60%	\$ -
19	126a	5	Deputy Project Leader	12	4	Rest of US	\$ 40.84	400.0	\$ 40.84	\$ 16,336.00	51.50%	\$ 8,413.04	400.0	\$ 40.84	\$ 16,336.00	51.50%	\$ 8,413.04
20	126a	5	Project Leader	14	8	Rest of US	\$ 64.35	20.0	\$ 64.35	\$ 1,287.00	42.80%	\$ 550.84	20.0	\$ 64.35	\$ 1,287.00	42.80%	\$ 550.84
24	126a	5	Administrative Officer	9	8	Rest of US	\$ 31.58	100.0	\$ 31.58	\$ 3,158.00	43.30%	\$ 1,367.41	100.0	\$ 31.58	\$ 3,158.00	43.30%	\$ 1,367.41
28							\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
							4,878.00		\$ 131,719.42		\$ 64,392.25		4,878.00		\$ 131,719.42		\$ 64,392.25

SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

Yr 3 Escalation Rate 4.00%

Yr 4 Escalation Rate 2.00%

Project #	Task # or Description	Position Title	GS/WG Grade	GS/WG Step	OPM Pay Location	Current Hourly Rate	YEAR 3					YEAR 4					
							10/1/2023		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	126a	1	Deputy Project Leader	12	4	Rest of US	\$ 40.84	400.0	\$ 42.47	\$ 16,989.44	51.50%	\$ 8,749.56	400.0	\$ 43.32	\$ 17,329.23	51.50%	\$ 8,924.55
2	126a	1	Project Leader	14	8	Rest of US	\$ 64.35	180.0	\$ 66.92	\$ 12,046.32	42.80%	\$ 5,155.82	180.0	\$ 68.26	\$ 12,287.25	42.80%	\$ 5,258.94
3	126a	1	Biological Technician (Crew Leader)	7	5	Rest of US	\$ 23.72	180.0	\$ 24.67	\$ 4,440.38	65.00%	\$ 2,886.25	180.0	\$ 25.16	\$ 4,529.19	65.00%	\$ 2,943.97
4	126a	1	Biological Technician (Crew Leader)	6	4	Rest of US	\$ 20.72	320.0	\$ 21.55	\$ 6,895.62	49.80%	\$ 3,434.02	320.0	\$ 21.98	\$ 7,033.53	49.80%	\$ 3,502.70
5	126a	1	Biological Technician (5 positions)	5	1	Rest of US	\$ 16.90	1,660.0	\$ 17.58	\$ 29,176.16	45.60%	\$ 13,304.33	1,660.0	\$ 17.93	\$ 29,759.68	45.60%	\$ 13,570.42
6	126a	1	Administrative Officer	9	8	Rest of US	\$ 31.58	80.0	\$ 32.84	\$ 2,627.46	43.30%	\$ 1,137.69	80.0	\$ 33.50	\$ 2,680.01	43.30%	\$ 1,160.44
7	126a	1	Biological Technician (Crew Leader) OT	7	5	Rest of US	\$ 35.58	40.0	\$ 37.00	\$ 1,480.13	65.00%	\$ 962.08	40.0	\$ 37.74	\$ 1,509.73	65.00%	\$ 981.32
8	126a	1	Biological Technician (Crew Leader) OT	6	4	Rest of US	\$ 31.08	70.0	\$ 32.32	\$ 2,262.62	49.80%	\$ 1,126.79	70.0	\$ 32.97	\$ 2,307.88	49.80%	\$ 1,149.32
9	126a	1	Biological Technician OT	5	1	Rest of US	\$ 25.35	270.0	\$ 26.36	\$ 7,118.28	45.60%	\$ 3,245.94	270.0	\$ 26.89	\$ 7,260.65	45.60%	\$ 3,310.85
10	126a	2	Deputy Project Leader	12	4	Rest of US	\$ 40.84	40.0	\$ 42.47	\$ 1,698.94	51.50%	\$ 874.96	40.0	\$ 43.32	\$ 1,732.92	51.50%	\$ 892.46
11	126a	2	Project Leader	14	8	Rest of US	\$ 64.35	20.0	\$ 66.92	\$ 1,338.48	42.80%	\$ 572.87	20.0	\$ 68.26	\$ 1,365.25	42.80%	\$ 584.33
12	126a	2	Biological Technician (Crew Leader)	7	5	Rest of US	\$ 23.72	20.0	\$ 24.67	\$ 493.38	65.00%	\$ 320.69	20.0	\$ 25.16	\$ 503.24	65.00%	\$ 327.11
13	126a	2	Biological Technician (Crew Leader)	6	4	Rest of US	\$ 20.72	40.0	\$ 21.55	\$ 861.95	49.80%	\$ 429.25	40.0	\$ 21.98	\$ 879.19	49.80%	\$ 437.84
14	126a	2	Biological Technician (2 positions)	5	1	Rest of US	\$ 16.90	80.0	\$ 17.58	\$ 1,406.08	45.60%	\$ 641.17	80.0	\$ 17.93	\$ 1,434.20	45.60%	\$ 654.00
15	126a	2	Administrative Officer	9	8	Rest of US	\$ 31.58	20.0	\$ 32.84	\$ 656.86	43.30%	\$ 284.42	20.0	\$ 33.50	\$ 670.00	43.30%	\$ 290.11
16	126a	2	Biological Technician (Crew Leader) OT	7	5	Rest of US	\$ 35.58	10.0	\$ 37.00	\$ 370.03	65.00%	\$ 240.52	10.0	\$ 37.74	\$ 377.43	65.00%	\$ 245.33
17	126a	2	Biological Technician (Crew Leader) OT	6	4	Rest of US	\$ 31.08	20.0	\$ 32.32	\$ 646.46	49.80%	\$ 321.94	20.0	\$ 32.97	\$ 659.39	49.80%	\$ 328.38
18	126a	2	Biological Technician OT	5	1	Rest of US	\$ 25.35	40.0	\$ 26.36	\$ 1,054.56	45.60%	\$ 480.88	40.0	\$ 26.89	\$ 1,075.65	45.60%	\$ 490.50
19	126a	3	Deputy Project Leader	12	4	Rest of US	\$ 40.84	200.0	\$ 42.47	\$ 8,494.72	51.50%	\$ 4,374.78	200.0	\$ 43.32	\$ 8,664.61	51.50%	\$ 4,462.28
20	126a	3	Project Leader	14	8	Rest of US	\$ 64.35	20.0	\$ 66.92	\$ 1,338.48	42.80%	\$ 572.87	20.0	\$ 68.26	\$ 1,365.25	42.80%	\$ 584.33
21	126a	3	Biological Technician (Crew Leader)	7	5	Rest of US	\$ 23.72	100.0	\$ 24.67	\$ 2,466.88	65.00%	\$ 1,603.47	100.0	\$ 25.16	\$ 2,516.22	65.00%	\$ 1,635.54
22	126a	3	Biological Technician (Crew Leader)	6	4	Rest of US	\$ 20.72	240.0	\$ 21.55	\$ 5,171.71	49.80%	\$ 2,575.51	240.0	\$ 21.98	\$ 5,275.15	49.80%	\$ 2,627.02
23	126a	3	Biological Technician (3 positions)	5	1	Rest of US	\$ 16.90	440.0	\$ 17.58	\$ 7,733.44	45.60%	\$ 3,526.45	440.0	\$ 17.93	\$ 7,888.11	45.60%	\$ 3,596.98
24	126a	3	Administrative Officer	9	8	Rest of US	\$ 31.58	80.0	\$ 32.84	\$ 2,627.46	43.30%	\$ 1,137.69	80.0	\$ 33.50	\$ 2,680.01	43.30%	\$ 1,160.44
25	126a	3	Biological Technician (Crew Leader) OT	7	5	Rest of US	\$ 35.58	50.0	\$ 37.00	\$ 1,850.16	65.00%	\$ 1,202.60	50.0	\$ 37.74	\$ 1,887.16	65.00%	\$ 1,226.66
26	126a	3	Biological Technician (Crew Leader) OT	6	4	Rest of US	\$ 31.08	90.0	\$ 32.32	\$ 2,909.09	49.80%	\$ 1,448.73	90.0	\$ 32.97	\$ 2,967.27	49.80%	\$ 1,477.70
27	126a	3	Biological Technician OT	5	1	Rest of US	\$ 25.35	230.0	\$ 26.36	\$ 6,063.72	45.60%	\$ 2,765.06	230.0	\$ 26.89	\$ 6,184.99	45.60%	\$ 2,820.36
19	126a	4	Deputy Project Leader	12	4	Rest of US	\$ 40.84	40.0	\$ 42.47	\$ 1,698.94	51.50%	\$ 874.96	40.0	\$ 43.32	\$ 1,732.92	51.50%	\$ 892.46
20	126a	4	Project Leader	14	8	Rest of US	\$ 64.35	20.0	\$ 66.92	\$ 1,338.48	42.80%	\$ 572.87	20.0	\$ 68.26	\$ 1,365.25	42.80%	\$ 584.33
21	126a	4	Biological Technician (Crew Leader)	7	5	Rest of US	\$ 23.72	20.0	\$ 24.67	\$ 493.38	65.00%	\$ 320.69	20.0	\$ 25.16	\$ 503.24	65.00%	\$ 327.11
22	126a	4	Biological Technician (Crew Leader)	6	4	Rest of US	\$ 20.72	40.0	\$ 21.55	\$ 861.95	49.80%	\$ 429.25	40.0	\$ 21.98	\$ 879.19	49.80%	\$ 437.84
23	126a	4	Biological Technician (2 positions)	5	1	Rest of US	\$ 16.90	220.0	\$ 17.58	\$ 3,866.72	45.60%	\$ 1,763.22	220.0	\$ 17.93	\$ 3,944.05	45.60%	\$ 1,798.49
19	126a	5	Deputy Project Leader	12	4	Rest of US	\$ 40.84	400.0	\$ 42.47	\$ 16,989.44	51.50%	\$ 8,749.56	400.0	\$ 43.32	\$ 17,329.23	51.50%	\$ 8,924.55
20	126a	5	Project Leader	14	8	Rest of US	\$ 64.35	20.0	\$ 66.92	\$ 1,338.48	42.80%	\$ 572.87	20.0	\$ 68.26	\$ 1,365.25	42.80%	\$ 584.33
24	126a	5	Administrative Officer	9	8	Rest of US	\$ 31.58	100.0	\$ 32.84	\$ 3,284.32	43.30%	\$ 1,422.11	100.0	\$ 33.50	\$ 3,350.01	43.30%	\$ 1,450.55
28							\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
							5,800.00	\$ -	\$ 160,090.53		\$ 78,081.88	5,800.00	\$ -	\$ 163,292.34		\$ 79,643.52	

SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

Yr 5 Escalation Rate	2.00%
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								YEAR 5							
								10/1/2025		Through	9/30/2026		Total Salary Cost	Total Fringe Cost	Total Labor Cost
Project #	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	126a	1	Deputy Project Leader	12	4	Rest of US	\$ 40.84	400.0	\$ 44.19	\$ 17,675.81	51.50%	\$ 9,103.04	\$ 78,948.88	\$ 40,658.67	\$ 119,607.56
2	126a	1	Project Leader	14	8	Rest of US	\$ 64.35	180.0	\$ 69.63	\$ 12,532.99	42.80%	\$ 5,364.12	\$ 56,171.56	\$ 24,041.43	\$ 80,212.98
3	126a	1	Biological Technician (Crew Leader)	7	5	Rest of US	\$ 23.72	180.0	\$ 25.67	\$ 4,619.78	65.00%	\$ 3,002.85	\$ 20,705.35	\$ 13,458.48	\$ 34,163.83
4	126a	1	Biological Technician (Crew Leader)	6	4	Rest of US	\$ 20.72	320.0	\$ 22.42	\$ 7,174.20	49.80%	\$ 3,572.75	\$ 31,877.74	\$ 15,875.12	\$ 47,752.86
5	126a	1	Biological Technician (5 positions)	5	1	Rest of US	\$ 16.90	1,660.0	\$ 18.29	\$ 30,354.88	45.60%	\$ 13,841.82	\$ 134,886.92	\$ 61,508.44	\$ 196,395.36
6	126a	1	Administrative Officer	9	8	Rest of US	\$ 31.58	80.0	\$ 34.17	\$ 2,733.61	43.30%	\$ 1,183.65	\$ 12,462.27	\$ 5,396.16	\$ 17,858.43
7	126a	1	Biological Technician (Crew Leader) OT	7	5	Rest of US	\$ 35.58	40.0	\$ 38.50	\$ 1,539.93	65.00%	\$ 1,000.95	\$ 6,806.90	\$ 4,424.49	\$ 11,231.39
8	126a	1	Biological Technician (Crew Leader) OT	6	4	Rest of US	\$ 31.08	70.0	\$ 33.63	\$ 2,354.03	49.80%	\$ 1,172.31	\$ 10,467.65	\$ 5,212.89	\$ 15,680.55
9	126a	1	Biological Technician OT	5	1	Rest of US	\$ 25.35	270.0	\$ 27.43	\$ 7,405.86	45.60%	\$ 3,377.07	\$ 32,938.78	\$ 15,020.09	\$ 47,958.87
10	126a	2	Deputy Project Leader	12	4	Rest of US	\$ 40.84	40.0	\$ 44.19	\$ 1,767.58	51.50%	\$ 910.30	\$ 8,466.65	\$ 4,360.32	\$ 12,826.97
11	126a	2	Project Leader	14	8	Rest of US	\$ 64.35	20.0	\$ 69.63	\$ 1,392.55	42.80%	\$ 596.01	\$ 6,670.28	\$ 2,854.88	\$ 9,525.17
12	126a	2	Biological Technician (Crew Leader)	7	5	Rest of US	\$ 23.72	20.0	\$ 25.67	\$ 513.31	65.00%	\$ 333.65	\$ 2,458.73	\$ 1,598.17	\$ 4,056.90
13	126a	2	Biological Technician (Crew Leader)	6	4	Rest of US	\$ 20.72	40.0	\$ 22.42	\$ 896.77	49.80%	\$ 446.59	\$ 4,295.52	\$ 2,139.17	\$ 6,434.69
14	126a	2	Biological Technician (2 positions)	5	1	Rest of US	\$ 16.90	80.0	\$ 18.29	\$ 1,462.89	45.60%	\$ 667.08	\$ 7,007.17	\$ 3,195.27	\$ 10,202.44
15	126a	2	Administrative Officer	9	8	Rest of US	\$ 31.58	20.0	\$ 34.17	\$ 683.40	43.30%	\$ 295.91	\$ 3,273.47	\$ 1,417.41	\$ 4,690.88
16	126a	2	Biological Technician (Crew Leader) OT	7	5	Rest of US	\$ 35.58	10.0	\$ 38.50	\$ 384.98	65.00%	\$ 250.24	\$ 1,844.05	\$ 1,198.63	\$ 3,042.68
17	126a	2	Biological Technician (Crew Leader) OT	6	4	Rest of US	\$ 31.08	20.0	\$ 33.63	\$ 672.58	49.80%	\$ 334.95	\$ 3,221.64	\$ 1,604.38	\$ 4,826.01
18	126a	2	Biological Technician OT	5	1	Rest of US	\$ 25.35	40.0	\$ 27.43	\$ 1,097.16	45.60%	\$ 500.31	\$ 5,255.38	\$ 2,396.45	\$ 7,651.83
19	126a	3	Deputy Project Leader	12	4	Rest of US	\$ 40.84	200.0	\$ 44.19	\$ 8,837.91	51.50%	\$ 4,551.52	\$ 42,333.24	\$ 21,801.62	\$ 64,134.86
20	126a	3	Project Leader	14	8	Rest of US	\$ 64.35	20.0	\$ 69.63	\$ 1,392.55	42.80%	\$ 596.01	\$ 6,670.28	\$ 2,854.88	\$ 9,525.17
21	126a	3	Biological Technician (Crew Leader)	7	5	Rest of US	\$ 23.72	100.0	\$ 25.67	\$ 2,566.54	65.00%	\$ 1,668.25	\$ 12,293.64	\$ 7,990.87	\$ 20,284.51
22	126a	3	Biological Technician (Crew Leader)	6	4	Rest of US	\$ 20.72	240.0	\$ 22.42	\$ 5,380.65	49.80%	\$ 2,679.56	\$ 25,773.11	\$ 12,835.01	\$ 38,608.11
23	126a	3	Biological Technician (3 positions)	5	1	Rest of US	\$ 16.90	440.0	\$ 18.29	\$ 8,045.87	45.60%	\$ 3,668.92	\$ 38,539.42	\$ 17,573.98	\$ 56,113.40
24	126a	3	Administrative Officer	9	8	Rest of US	\$ 31.58	80.0	\$ 34.17	\$ 2,733.61	43.30%	\$ 1,183.65	\$ 13,093.87	\$ 5,669.64	\$ 18,763.51
25	126a	3	Biological Technician (Crew Leader) OT	7	5	Rest of US	\$ 35.58	50.0	\$ 38.50	\$ 1,924.91	65.00%	\$ 1,251.19	\$ 9,220.23	\$ 5,993.15	\$ 15,213.38
26	126a	3	Biological Technician (Crew Leader) OT	6	4	Rest of US	\$ 31.08	90.0	\$ 33.63	\$ 3,026.62	49.80%	\$ 1,507.25	\$ 14,497.37	\$ 7,219.69	\$ 21,717.06
27	126a	3	Biological Technician OT	5	1	Rest of US	\$ 25.35	230.0	\$ 27.43	\$ 6,308.69	45.60%	\$ 2,876.76	\$ 30,218.41	\$ 13,779.59	\$ 43,998.00
19	126a	4	Deputy Project Leader	12	4	Rest of US	\$ 40.84	40.0	\$ 44.19	\$ 1,767.58	51.50%	\$ 910.30	\$ 5,199.45	\$ 2,677.72	\$ 7,877.16
20	126a	4	Project Leader	14	8	Rest of US	\$ 64.35	20.0	\$ 69.63	\$ 1,392.55	42.80%	\$ 596.01	\$ 4,096.28	\$ 1,753.21	\$ 5,849.49
21	126a	4	Biological Technician (Crew Leader)	7	5	Rest of US	\$ 23.72	20.0	\$ 25.67	\$ 513.31	65.00%	\$ 333.65	\$ 1,509.93	\$ 981.45	\$ 2,491.38
22	126a	4	Biological Technician (Crew Leader)	6	4	Rest of US	\$ 20.72	40.0	\$ 22.42	\$ 896.77	49.80%	\$ 446.59	\$ 2,637.92	\$ 1,313.68	\$ 3,951.60
23	126a	4	Biological Technician (2 positions)	5	1	Rest of US	\$ 16.90	220.0	\$ 18.29	\$ 4,022.94	45.60%	\$ 1,834.46	\$ 11,833.71	\$ 5,396.17	\$ 17,229.88
19	126a	5	Deputy Project Leader	12	4	Rest of US	\$ 40.84	400.0	\$ 44.19	\$ 17,675.81	51.50%	\$ 9,103.04	\$ 84,666.48	\$ 43,603.24	\$ 128,269.72
20	126a	5	Project Leader	14	8	Rest of US	\$ 64.35	20.0	\$ 69.63	\$ 1,392.55	42.80%	\$ 596.01	\$ 6,670.28	\$ 2,854.88	\$ 9,525.17
24	126a	5	Administrative Officer	9	8	Rest of US	\$ 31.58	100.0	\$ 34.17	\$ 3,417.01	43.30%	\$ 1,479.56	\$ 16,367.33	\$ 7,087.06	\$ 23,454.39
28							\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
								5,800.00	\$ -	\$ 166,558.19		\$ 81,236.39	\$ 753,379.89	\$ 367,746.28	\$ 1,121,126.17

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPLIES, AND SERVICES

Yr 2 Escalation Rate	0.00%
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	Project Number	Task # or Description	Item Description	Rationale for Proposed Cost	Year 1			Year 2		
					Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal
1	126a	1 through 5	Miscellaneous Office Supplies	Agreement (R20PG00024): Please see year 3 in linked document	\$ 2,080.80	0.0	\$ -	\$ 2,080.80	0.0	\$ -
2	126a	1 through 4	Miscellaneous Field Supplies	Agreement (R20PG00024): Please see year 3 in linked document	\$ 3,017.16	0.0	\$ -	\$ 3,017.16	0.0	\$ -
3	126a	1 through 4	Miscellaneous Boating Supplies, Repairs, Maintenance	Agreement (R20PG00024): Please see year 3 in linked document	\$ 9,155.52	0.7	\$ 6,408.86	\$ 9,155.52	0.7	\$ 6,408.86
4	126a	1 through 4	Boat Gas 91 Octane		\$ 3.12	300.0	\$ 936.36	\$ 3.12	300.0	\$ 936.36
5	126a	1 through 5	GSA Lease of Equip Code 6359 (monthly lease)	http://www.gsa.gov/portal/category/21852	\$ 448.00	13.0	\$ 5,824.00	\$ 448.00	13.0	\$ 5,824.00
6	126a	1 through 5	GSA Lease of Equip Code 6359 (mileage rate)	http://www.gsa.gov/portal/category/21852	\$ 0.40	4000.0	\$ 1,604.00	\$ 0.40	4000.0	\$ 1,604.00
7					\$ -	0.0	\$ -	\$ -	0.0	\$ -
8					\$ -	0.0	\$ -	\$ -	0.0	\$ -
9					\$ -	0.0	\$ -	\$ -	0.0	\$ -
10					\$ -	0.0	\$ -	\$ -	0.0	\$ -
11					\$ -	0.0	\$ -	\$ -	0.0	\$ -
12					\$ -	0.0	\$ -	\$ -	0.0	\$ -
13					\$ -	0.0	\$ -	\$ -	0.0	\$ -
14					\$ -	0.0	\$ -	\$ -	0.0	\$ -
15					\$ -	0.0	\$ -	\$ -	0.0	\$ -
16					\$ -	0.0	\$ -	\$ -	0.0	\$ -
17					\$ -	0.0	\$ -	\$ -	0.0	\$ -
18					\$ -	0.0	\$ -	\$ -	0.0	\$ -
19					\$ -	0.0	\$ -	\$ -	0.0	\$ -
20					\$ -	0.0	\$ -	\$ -	0.0	\$ -
21					\$ -	0.0	\$ -	\$ -	0.0	\$ -
22					\$ -	0.0	\$ -	\$ -	0.0	\$ -
23					\$ -	0.0	\$ -	\$ -	0.0	\$ -
TOTAL:							\$ 14,773.22			\$ 14,773.22

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPLIES	Yr 3 Escalation Rate	4.00%	Yr 4 Escalation Rate	2.00%
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	Project Number	Task # or Description	Item Description	Year 3			Year 4		
				Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal
1	126a	1 through 5	Miscellaneous Office Supplies	\$ 2,164.03	1	\$ 2,164.03	\$ 2,207.31	1	\$ 2,207.31
2	126a	1 through 4	Miscellaneous Field Supplies	\$ 3,137.85	1	\$ 3,137.85	\$ 3,200.60	1	\$ 3,200.60
3	126a	1 through 4	Miscellaneous Boating Supplies, Repairs, Maintenance	\$ 9,521.74	1	\$ 9,521.74	\$ 9,712.18	1	\$ 9,712.18
4	126a	1 through 4	Boat Gas 91 Octane	\$ 3.25	320	\$ 1,038.74	\$ 3.31	320	\$ 1,059.51
5	126a	1 through 5	GSA Lease of Equip Code 6359 (monthly lease)	\$ 465.92	15	\$ 6,988.80	\$ 475.24	15	\$ 7,128.58
6	126a	1 through 5	GSA Lease of Equip Code 6359 (mileage rate)	\$ 0.42	4668	\$ 1,946.74	\$ 0.43	4668	\$ 1,985.68
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	\$ -
						\$ 24,797.90			\$ 25,293.86

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPLIES	Yr 5 Escalation Rate	2.00%
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	Project Number	Task # or Description	Item Description	Year 5			TOTAL
				Unit Price	Unit Quantity	Subtotal	
1	126a	1 through 5	Miscellaneous Office Supplies	\$ 2,251.46	1	\$ 2,251.46	\$ 6,622.80
2	126a	1 through 4	Miscellaneous Field Supplies	\$ 3,264.62	1	\$ 3,264.62	\$ 9,603.07
3	126a	1 through 4	Miscellaneous Boating Supplies, Repairs, Maintenance	\$ 9,906.42	1	\$ 9,906.42	\$ 41,958.06
4	126a	1 through 4	Boat Gas 91 Octane	\$ 3.38	320	\$ 1,080.70	\$ 5,051.67
5	126a	1 through 5	GSA Lease of Equip Code 6359 (monthly lease)	\$ 484.74	15	\$ 7,271.15	\$ 33,036.53
6	126a	1 through 5	GSA Lease of Equip Code 6359 (mileage rate)	\$ 0.43	4668	\$ 2,025.39	\$ 9,165.81
7				\$ -	0	\$ -	\$ -
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	\$ -	\$ -
22				\$ -	0	\$ -	\$ -
23				\$ -	0	\$ -	\$ -
						\$ 25,799.74	\$ 105,437.94

SUMMARY OF TRAVEL COSTS

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip # 163	1	1	1	1	1	
From-To	Grand Junction to Black Rocks	Grand Junction to Black Rocks	Grand Junction to Black Rocks	Grand Junction to Black Rocks	Grand Junction to Black Rocks	
Reason	Camping/Field Work	Camping/Field Work	Camping/Field Work	Camping/Field Work	Camping/Field Work	
# of Days (include travel days)	2	2	2	2	2	
Airfare						
Lodging (Per Night)						
MI&E Per Day	\$ 36.78	\$ 36.78	\$ 38.25	\$ 39.00	\$ 39.78	
Auto Rental Per Day						
Total Per Trip	\$ 73.56	\$ 73.56	\$ 76.50	\$ 78.00	\$ 79.56	
No. of persons	5	5	5	5	5	
No. of Trips	2	2	2	2	2	
SUBTOTAL =	\$ 735.56	\$ 735.56	\$ 765.00	\$ 780.00	\$ 795.60	\$ 3,811.73

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip # 163	2	2	2	2	2	
From-To	Grand Junction to Cisco	Grand Junction to Cisco	Grand Junction to Cisco	Grand Junction to Cisco	Grand Junction to Cisco	
Reason	Camping/Field Work	Camping/Field Work	Camping/Field Work	Camping/Field Work	Camping/Field Work	
# of Days (include travel days)	2	2	2	2	2	
Airfare						
Lodging (Per Night)						
MI&E Per Day	\$ 36.78	\$ 36.78	\$ 38.25	\$ 39.00	\$ 39.78	
Auto Rental Per Day						
Total Per Trip	\$ 73.56	\$ 73.56	\$ 76.50	\$ 78.00	\$ 79.56	
No. of persons	5	5	5	5	5	
No. of Trips	4	4	4	4	4	
SUBTOTAL =	\$ 1,471.13	\$ 1,471.13	\$ 1,530.00	\$ 1,560.00	\$ 1,591.20	\$ 7,623.45

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	3	3	3	3	3	
From-To	Grand Junction to Professor Valley	Grand Junction to Professor Valley	Grand Junction to Professor Valley	Grand Junction to Professor Valley	Grand Junction to Professor Valley	
Reason	Camping/Field Work	Camping/Field Work	Camping/Field Work	Camping/Field Work	Camping/Field Work	
# of Days (include travel days)	2	2	2	2	2	
Airfare						
Lodging (Per Night)						
MI&E Per Day	\$ 36.78	\$ 36.78	\$ 38.25	\$ 39.00	\$ 39.78	
Auto Rental Per Day						
Total Per Trip	\$ 73.56	\$ 73.56	\$ 76.50	\$ 78.00	\$ 79.56	
No. of persons	4	4	4	4	4	
No. of Trips	4	4	4	4	4	
SUBTOTAL =	\$ 1,176.90	\$ 1,176.90	\$ 1,224.00	\$ 1,248.00	\$ 1,272.96	\$ 6,098.76

SUMMARY OF TRAVEL COSTS

Cost Element						TOTAL
Trip #	4	4	4	4	4	
From-To	Grand Junction to Moab	Grand Junction to Moab	Grand Junction to Moab	Grand Junction to Moab	Grand Junction to Moab	
Reason	Hotel/Field Work	Hotel/Field Work	Hotel/Field Work	Hotel/Field Work	Hotel/Field Work	
# of Days (include travel days)	3	3	3	3	3	
Airfare						
Lodging (Per Night)	\$ 170.34	\$ 173.75	\$ 177.22	\$ 180.77	\$ 184.38	
MI&E Per Day	\$ 72.42	\$ 73.87	\$ 75.35	\$ 76.85	\$ 78.39	
Auto Rental Per Day						
Total Per Trip	\$ 557.94	\$ 569.10	\$ 580.48	\$ 592.09	\$ 603.93	
No. of persons	4	4	4	4	4	
No. of Trips	4	4	4	4	4	
SUBTOTAL =	\$ 8,927.04	\$ 9,105.58	\$ 9,287.69	\$ 9,473.45	\$ 9,662.92	\$ 46,456.67

Cost Element						TOTAL
Trip #	5	5	5	5	5	
From-To	Grand Junction to Lakewood	Grand Junction to Lakewood	Grand Junction to Lakewood	Grand Junction to Lakewood	Grand Junction to Lakewood	
Reason	Working Group Mtg, Researchers Meeting, etc	Working Group Mtg, Researchers Meeting, etc	Working Group Mtg, Researchers Meeting, etc	Working Group Mtg, Researchers Meeting, etc	Working Group Mtg, Researchers Meeting, etc	
# of Days (include travel days)	5	5	5	5	5	
Airfare						
Lodging (Per Night)	\$ 165.24	\$ 168.54	\$ 171.92	\$ 175.35	\$ 178.86	
MI&E Per Day	\$ 77.52	\$ 79.07	\$ 80.65	\$ 82.26	\$ 83.91	
Auto Rental Per Day						
Total Per Trip	\$ 1,048.56	\$ 1,069.53	\$ 1,090.92	\$ 1,112.74	\$ 1,135.00	
No. of persons	2	2	2	2	2	
No. of Trips	1	1	1	1	1	
SUBTOTAL =	\$ 2,097.12	\$ 2,139.06	\$ 2,181.84	\$ 2,225.48	\$ 2,269.99	\$ 10,913.50

	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
TOTAL COST BY PERIOD =	\$ 14,407.75	\$ 14,628.23	\$ 14,988.54	\$ 15,286.93	\$ 15,592.67	\$ 74,904.11