

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

FY 2022-23 SCOPE OF WORK

PROJECT: 22f

Project Title

Light trap and drift net sampling for razorback sucker and Colorado pikeminnow larvae

Bureau of Reclamation Agreement Number:

R19AP00058

Reclamation Agreement Term:

1 October 2019-30 September 2023

Note: Recovery Program FY22-23 scopes of work are drafted in May 2021. They often are revised before final Program approval and may subsequently be revised again in response to changing Program needs. Program participants also recognize the need and allow for some flexibility in scopes of work to accommodate new information (especially in nonnative fish management projects) and changing hydrological conditions.

Lead Agency:

Larval Fish Laboratory

Principal Investigator:

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Category:

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

Expected Funding Source:

- Annual funds
- Capital funds
- Other [explain]

Relationship to RIPRAP:

Green River Action Plan: Mainstem

I.A.3.d.1. Conduct real-time larval razorback and Colorado pikeminnow sampling to guide Flaming Gorge operations

I.D.2.b.(5)(a) Implement LTSP

I.D.2.d.(1) Conduct annual monitoring of larval razorback suckers and analyze historic monitoring data.

I.D.2.f.(1) Conduct annual monitoring of larval Colorado pikeminnow.

V.C.4. Monitor larval Colorado pikeminnow.

V.D.1. Implement razorback sucker monitoring plan.

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Study Background/Rationale and Hypotheses:

The goal of the Flaming Gorge flow and temperature recommendations (Muth et al., 2000) was to improve the status and prospects for recovery of endangered fish populations in the Green River. A major emphasis of those recommendations was to enhance the reproductive and recruitment success of endangered fishes in the middle Green River, in particular razorback sucker and Colorado pikeminnow. The primary means to achieve enhanced populations was to pattern flows after a more natural hydrograph, the timing and duration of which will be based on anticipated annual hydrologic conditions and the biology of the fish. Because of vagaries in timing and runoff patterns within and among various hydrologic scenarios, and uncertainties in anticipated effects of flow and temperature recommendations on endangered fishes, Muth et al. (2000) suggested that real-time data be gathered to guide and fine tune operation of Flaming Gorge Dam each year. This proposal extends past sampling conducted to monitor timing of reproduction and abundance of early life stages of endangered razorback sucker *Xyrauchen texanus* and Colorado pikeminnow *Ptychocheilus lucius*.

Razorback sucker sampling in spring.--A key objective of spring flow recommendations is to provide flood plain habitat for early life stages of razorback suckers in the Jensen-Ouray reach of the Green River. Flood plain inundation should provide relatively warm and food-rich habitat for early life stages of fish that may enhance recruitment success of razorback suckers. Originally, Green River flows released from Flaming Gorge Dam were timed to coincide with high spring flows from the Yampa River to ensure maximal habitat availability. However, success of flood plain inundation to enhance recruitment of razorback suckers depends on matching the timing of appearance of larvae in the river with availability of flood plain habitat. Real-time sampling of razorback sucker larvae with light traps during spring and early summer will ensure that flows are released at the correct time and for a sufficient duration to promote recruitment. Presence of catostomid larvae in samples collected from the Green River facilitated decisions regarding timing, level, and duration of flows to inundate flood plain habitat in spring and early summer 1997, 1999, 2005, 2006, and 2011-2018. Continued flow management under the Larval Trigger Study Plan demands the use of razorback sucker larval presence in the middle Green to trigger flow releases from Flaming Gorge Dam (Bestgen et al. 2011; LaGory et al. 2012). Sampling conducted under this program will provide the real-time data to guide flow management each spring.

Additional information from light trap sampling of razorback suckers includes a measure of reproductive success of stocked razorback suckers that are now of sufficient size and age to reproduce. Wild adult razorback suckers in the Green River Basin were very rare by year 2000 and the few remaining fish present at that time may have succumbed (Bestgen et al. 2002). Thus, all reproduction observed is likely by adults that have been stocked. The level of reproduction is an important metric to determine reproductive success of stocked fish in the Green River and their progress toward recovery. For example, the trend over time for captures since about 2000 has been increasing, and high numbers of razorback sucker larvae were captured, in some years (e.g., 2007, n = 2133; 2013 n = 7376). This indicated that hatchery fish have been successfully reproducing (Bestgen et al. 2011, final report on flood plain inundation related to razorback sucker reproduction; Bestgen et al. 2012, razorback sucker monitoring program). The timing of presence of larvae in the system also permits evaluation of whether timing of flow releases from Flaming Gorge Dam coincides with the peak number of razorback sucker larvae in the Green River.

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Another use of light trap sampling information was to further evaluate results of experimental releases of marked larvae and subsequent entrainment into floodplain wetlands. That work was conducted in 2004, 2005, and 2006. Batches of marked larvae were released at the spawning bar during different levels of flow. Batch marks associated with releases allowed identification of which release and flow level a captured and marked larvae came from. That information was being used to evaluate what flow level and time was most effective to entrain released marked larvae into the floodplain wetlands.

Colorado pikeminnow sampling in summer.--An objective of Flaming Gorge Dam base flow recommendations in summer is to provide backwater habitat in the middle and lower Green River for early life stages of Colorado pikeminnow. The time of year that base flows are achieved in summer and the flow level will be generally dependent upon the annual hydrologic condition. However, onset of reproduction of Colorado pikeminnow in the Yampa River is variable from year to year as is the timing of peak production of larvae (Bestgen et al. 1998; Bestgen and Hill 2016). More precise information on timing and extent of reproduction of Colorado pikeminnow could be used to fine tune when the summer base flow period begins and the magnitude of summer base flows from Flaming Gorge Dam. Timing of reproduction of Colorado pikeminnow and abundance of larvae has been used since 1990 to justify decisions regarding onset of summer baseflows from Flaming Gorge Reservoir. In addition, presence and abundance of pikeminnow larvae in the Yampa River was used to make decisions regarding timing, duration, and magnitude of summer flows released from Flaming Gorge Reservoir when inflows dramatically exceeded expectations. If proposed summer base flow enhancements occur in the Green River for Colorado pikeminnow, presence of larvae captured in this study may be used to trigger timing of such flows as well (Bestgen and Hill 2016, Reproduction, abundance, and recruitment dynamics of young Colorado pikeminnow in the Green River Basin, Utah and Colorado, 1979-2012).

Presence of Colorado pikeminnow in the Yampa River is also a means to evaluate if Flaming Gorge flow releases in summer comply with the criterion that Green River temperatures be no more than about 5 degrees C different than the Yampa River. Compliance with the recommendation ensures that the potential for cold shock of Colorado pikeminnow larvae drifting from the warm Yampa River into the cooler Green River is reduced.

Additional information provided by drift-net sampling of Colorado pikeminnow larvae is an index of annual reproduction by the adult population that congregates in the lower Yampa River each year. This area represents one of two main spawning areas for Colorado pikeminnow in the Green River Basin, and sampling of early life stages may provide an index of adult abundance and spawning success. We are also using an index of annual reproductive success to relate to annual recruitment success of young-of-year Colorado pikeminnow in downstream backwaters of the Green River in the Jensen-Ouray reach. Collectively, that information will be useful to investigate hypotheses regarding the apparent decline of recruitment of young Colorado pikeminnow in backwaters of the Green River, and the effects it may be having on the adult population in the Green River Basin (Bestgen 2015; Bestgen and Hill 2016).

Other associated research being enabled with this work.

1). Additional razorback sucker sampling — The presence of razorback sucker larvae at several key locations will provide the bulk of the information used to regulate timing and level of flows from Flaming Gorge Dam in spring. Such areas presently include Cliff Creek, Stewart Lake drain, Walker

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Hollow, Baser Wash, and Old Charley outlet. Although these areas support the most consistent capture locations for larvae, even those locations vary substantially from year to year depending on flow and other conditions. Additional sampling areas that are known to support early life stages of razorback suckers within the middle Green River would give managers better estimates of the timing and duration of the spawning season. Drift-net sampling in spring 2004 associated with a release of marked hatchery-produced razorback sucker larvae and beads also revealed substantial downstream transport of wild razorback sucker larvae.

2). Flow regulation of annual recruitment of Colorado pikeminnow — A key difference between flow recommendations made in the 1992 opinion and new recommendations is that summer base flow level will be dictated by the prevailing hydrologic condition rather than being fixed at a single level of 51 m³/sec. Thus, in wetter years base flows will be higher and in drier years base flows will be lower. The expected biological response by Colorado pikeminnow to this action is unknown. Thus, it is important to evaluate the response of these fish to new summer base flow conditions. One possible response is altered recruitment levels, which may be detectable from autumn ISMP sampling designed to estimate young-of-year (YOY) pikeminnow abundance in backwaters. Because this measure of fish abundance, which is presumably correlated with habitat suitability, could be confounded with variable levels of reproduction, drift sampling that continues throughout the summer reproductive season is needed to correctly interpret those data. For example, near absence of age-0 Colorado pikeminnow in the middle Green River in 1994 would have been difficult to interpret given that habitat conditions, including relatively low flow levels and warm water temperatures, seemed suitable for recruitment. Drift data from the Yampa River at Echo Park demonstrated that recruitment failure in the middle Green River in low flow summers like 1994, 2007, and 2012 was likely due to very low levels of drift of larvae measured in the Yampa River downstream of the spawning area.

The complexity of recruitment processes for Colorado pikeminnow needs to be more clearly defined so that effects of re-regulation of Flaming Gorge Dam can be ascertained. Minimally this would involve more certain estimates of YOY recruitment, perhaps through abundance estimation. Better resolution of the link between recruitment of age-0 pikeminnow and older age-classes may also better define what other conditions are needed for successful recruitment to older life stages. For example, an analysis of existing ISMP data for Colorado pikeminnow (Muth et al. 2000) suggested that successful recruitment to age-1 may be associated with successive low water years. Such information would be useful to link flow recommendations across years, and presumably, benefit pikeminnow recruitment. Such an analysis of backwater habitat and relationships to pikeminnow abundance was completed in 2016 (Bestgen and Hill 2016).

Study Goals, Objectives, End Product(s):

Goal

The goal of this project is to detect timing of reproduction by razorback sucker and Colorado pikeminnow, and determine patterns of presence of larvae and their relative abundance downstream of potential spawning sites in the middle Green River system. A second goal is to aid with monitoring effects of temperature regimes of the Green and Yampa rivers in order to comply with Flaming Gorge flow recommendations, because this task requires understanding the reproductive and drift periods for Colorado pikeminnow.

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Objectives

- 1). To determine timing and duration of spawning by razorback suckers and presence and abundance of larvae in the Green and White rivers as measured by capture of larvae in light traps or seines.
- 2). To determine timing and duration of spawning by Colorado pikeminnow and presence and abundance of larvae in the system as measured by capture of larvae downstream of spawning areas in the lower Yampa River.
- 3). Determine presence and abundance of larvae and early juveniles of razorback sucker in floodplain wetlands in the summer post-connection period to determine their presence. This sampling will support research to evaluate the use of a larval trigger to determine timing of flow spring releases from Flaming Gorge Reservoir.

End Products

A summary data report will be submitted at the end of each fiscal year to the monitoring program coordinator and the database coordinator. Data will also be provided as needed to provide for real-time management of flows from Flaming Gorge Dam. A summary analysis of razorback sucker data collected since 1992 has been prepared and was approved in summer 2011 (Bestgen et al. 2011), and an analysis of the pikeminnow data was completed in 2016 (Bestgen and Hill 2016). Data gathered will be useful to update such analyses in the future to ensure we are meeting goals of flow and temperature management activities via operation of Flaming Gorge Dam. Data are also used annual to guide changes in dam operations at Flaming Gorge, including timing of releases to inundate floodplain wetlands, and to guide timing of low flow releases for Colorado pikeminnow in the mainstem Green River.

Study Area:

Razorback sucker — The study area for razorback sucker sampling is the middle Green River from the Escalante reach spawning area to near Sand Wash, and the White River, Utah. Several specific sampling sites are located within the reach and were chosen because of documented presence of larval razorback sucker in the past. Most of these sites are associated with off-channel habitats such as tributary streams, washes, backwaters, or flooded bottomlands and are in the vicinity of the Escalante spawning bar (RM 301.7 - 319.4), Jensen (RM 276.9 - 301.7), and Ouray (RM 248.1 - 276.9). Additional sampling may be conducted in other locations within the middle Green River or the White River if suitable habitat is found and if the budget allows. Additional sampling will be conducted in middle Green River wetlands in summer just post-connection with the Green River to determine presence of entrained larvae. Field crews have flexibility to change sites or sample additional sites based on discharge, accessibility, and habitat conditions at each site.

Colorado pikeminnow sampling — A single site, the lower Yampa River, will be sampled in FY-2022-2023. This locality was sampled as part of the Flaming Gorge studies program because it is downstream of a known spawning area for Colorado pikeminnow. Data obtained from samples will provide information on timing and relative abundance of Colorado pikeminnow larvae being transported from spawning areas and into potential nursery habitats and will also provide real-time data with which to

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manage flows from Flaming Gorge Dam. Another site is being considered in the lower Green River, similar to the site and methods used to monitor early life stages of Colorado pikeminnow from 1992-1996, and 1999 (Bestgen and Hill 2016).

Study Methods/Approach:

Razorback sucker — Approaches for sampling razorback sucker larvae in the Green River system were outlined in recommendations by Muth (1995, Bestgen et al. 2012, monitoring plan), which were based on comprehensive literature and data reviews. Sites with documented high captures of larval razorback sucker will be targeted for sampling, although additional sampling will be conducted to explore other areas for larvae, including the White River. An additional task will be to sample wetlands in the middle Green River just after spring flow connections with the Green River ceases, with a goal of detecting presence of entrained larvae. Light-trap sampling at night in low-velocity nursery habitats will be the primary technique for monitoring. Additionally, fine-mesh seines (1.6-mm or 3.2-mm mesh) will be used on a limited basis during daylight (also possibly at night) to document relative abundance of sympatric species not captured by light traps. Sampling will be conducted at each site twice weekly during at least early/mid May-mid June, and wetland sampling may extend into late July depending on the duration of high flows. The sampling period will be adjusted based on timing and duration of spring flows, onset of main channel water temperatures of 14°C, and temporal occurrence of larvae. Each habitat on each sampling occasion will be sampled with at least three light traps; seine sampling is sometimes used to supplement light trap sampling. If possible, light traps will be set in or near emergent vegetation at dusk and retrieved before sunrise. Larger fish identifiable in the field will be counted and measured on site and released alive. Other fish will be euthanized with an overdose of tricaine methanesulfonate (MS-222), preserved in 100% ethanol, and returned to the Larval Fish Laboratory for processing. Unit of effort will be hours each light trap is set during darkness and area sampled by each seine haul. These approaches and considerations were revised based on comments from the Biology Committee and other researchers, and discussions with Monitoring Program Coordinators. Monitoring was always coordinated with other sampling in the past such as ISMP, evaluations of levee-removal strategies (Lentsch et al. 1995), investigations at Old Charley Wash, and evaluations of experimental stockings such as for floodplain entrainment investigations. The Larval Fish Laboratory (LFL) will be responsible for larval fish identification and processing, coordinating monitoring activities, integrating results/reports of sampling efforts, and preparing overall annual reports.

Colorado pikeminnow — Passive drift-net sampling is an effective and proven method for capturing Colorado pikeminnow larvae. Sampling can provide a reasonable estimate of annual reproductive output from spawning areas. Colorado pikeminnow in the Colorado River Basin spawn on the descending limb of the hydrograph when water temperature is increasing (Nesler et al. 1988; Tyus and Karp 1989, Bestgen et al. 1998, Anderson 1999, Trammel and Chart 1999; Bestgen and Hill 2016). Sampling for Colorado pikeminnow larvae will be initiated based on those data and stream-flow conditions prior to sampling (probable start date in most years is mid-late June). Duration of the sampling period will depend on number of larvae collected in late-season samples, past data, and stream-flow conditions (probable end date is early-mid August).

Colorado pikeminnow larvae are most consistently captured in drift-net samples at dawn, and nearshore and midstream nets capture roughly equivalent numbers of fish/unit volume of water sampled (Haynes et al. 1984; Nesler 1986, Bestgen 1997, Bestgen and Hill 2016). Therefore, at each station three plankton nets will be set near the shore, daily at dawn for 1-2 h, from end of June through early August. Some diel sampling should also be conducted at each site. This should include samples collected at

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dawn, noon, dusk and midnight and should be collected on 5-6 d spread throughout the sampling season. Nets will be attached to rectangular steel frames (0.15 m²) and staked into the stream substrate adjacent to the shore in water 0.5-1.0 m deep. A removable collection bucket for trapping filtered material and fishes will be attached to the cod end of each net. Flow meters for measuring velocity will be suspended inside the mouth of each net, and net sets will be timed to determine volume of water sampled. Duration of each set will be 1-2 h depending on debris load. Samples will be fixed and preserved in 95-100% ethanol (for subsequent otolith-aging work if needed). Fishes will be picked from debris in the field, returned to the LFL, identified, measured to the nearest 0.1 mm total length, and enumerated.

Task Description, Deliverables and Schedule:

- I). Collect light trap and seine samples for razorback suckers in the Green and White rivers and in Green River floodplain wetlands. The USFWS office in Vernal will be responsible for this task.
- II). Collect drift net samples for Colorado pikeminnow. The Larval Fish Laboratory will be responsible for this task.
- III). Preliminary identification of light trap and drift net samples. Preliminary identifications will be conducted by the responsible sampling entity, with assistance from the LFL, as samples are collected to provide real-time data. Final specimen identification and curation will be conducted by the LFL under Project 15.
- IV). Continue otolith analyses of razorback suckers to understand timing of spawning and hatching and to document growth rate differences of larvae each year.
- V). Summarize specimen data collection in an annual report.

A key feature of data collected is to be able to provide information to managers who need to make decisions about stream flows in real-time. A report will also be submitted by end of the fiscal year that summarizes data collected to date.

Budget Summary:

FY	LFL	FWS	total
2022	\$130,889	\$48,472	\$179,361
2023	\$131,182	\$48,406	\$179,587
2024	\$133,813	\$50,358	\$184,171
2025	\$136,387	\$58,099	\$194,485
2026	\$139,011	\$59,240	\$198,251
total	\$671,282	\$264,574	\$935,856

Reviewers:

References:

Anderson, R. A. 1999. Evaluation of Gunnison River flow manipulation upon larval production of Colorado pikeminnow in the Colorado River, Colorado. Final report. Colorado Division of Wildlife.

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Bestgen, K. R. 1997. Interacting effects of physical and biological factors on recruitment of age-0 Colorado squawfish. Unpublished Ph.D. Dissertation, Colorado State University, Fort Collins, Colorado. 203 pp.

Bestgen, K. R., and A. A. Hill. 2016. Reproduction, abundance, and recruitment dynamics of young Colorado pikeminnow in the Green River Basin, Utah and Colorado, 1979-2012. Final report to the Upper Colorado River Endangered Fish Recovery Program, Project FW BW-Synth, Denver, CO. Department of Fish, Wildlife, and Conservation Biology, Colorado State University, Fort Collins. Larval Fish Laboratory Contribution 183.

Bestgen, K. R., R. T. Muth, and M. A. Trammell. 1998. Downstream transport of Colorado squawfish larvae in the Green River drainage: temporal and spatial variation in abundance and relationships with juvenile recruitment. Unpublished report to the Recovery Implementation Program for Endangered Fishes in the Upper Colorado River Basin. Contribution No. 97 of the Larval fish Laboratory. 98 pp.

Bestgen, K. R., G. B. Haines, R. Brunson, T. Chart, M. Trammell, G. Birchell, and K. Christopherson. 2002. Decline of the razorback sucker in the Green River Basin, Utah and Colorado. Report submitted to the Recovery Implementation Program for Endangered Fishes in the Upper Colorado River Basin. Larval Fish Laboratory Contribution 126.

Bestgen, K. R., D. W. Beyers, G. B. Haines, and J. A. Rice. 2006. Factors affecting recruitment of young Colorado pikeminnow: synthesis of predation experiments, field studies, and individual-based modeling. Transactions of the American Fisheries Society 135:1722-1742.

Bestgen, K. R., G. B. Haines, and A. A. Hill. 2011. Synthesis of flood plain wetland information: Timing of razorback sucker reproduction in the Green River, Utah, related to stream flow, water temperature, and flood plain wetland availability. Final report to the Recovery Implementation Program for Endangered Fishes in the Upper Colorado River Basin. U. S. Fish and Wildlife Service, Denver, CO. Larval Fish Laboratory Contribution 163.

Bestgen, K. R., K. A. Zelasko, and G. C. White. 2012. Monitoring reproduction, recruitment, and population status of razorback suckers in the Upper Colorado River Basin. Final Report to the Upper Colorado River Endangered Fish Recovery Program, U. S. Fish and Wildlife Service, Denver, CO. Larval Fish Laboratory Contribution 170.

Haynes, C. M., T. A. Lytle, E. J. Wick, and R. T. Muth. 1984. Larval Colorado squawfish (*Ptychocheilus lucius*) in the upper Colorado River basin, Colorado, 1979-1981. Southwestern Naturalist 19:403-412.

LaGory, K., T. Chart, K. Bestgen, J. Wilhite, S. Capron, D. Speas, H. Hermansen, K. McAbee, J. Mohrman, M. Trammell, and B. Albrecht. 2012. Study plan to examine the effects of using larval razorback sucker occurrence in the Green River as a trigger for Flaming Gorge Dam peak releases. Report to the Upper Colorado River Endangered Fish Recovery Program. U. S. Fish and Wildlife Service, Denver, CO.

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Lentsch, L., T. Crowl, and T. Modde. 1995. Evaluating the response of the Upper Colorado River basin aquatic system after levee removal (and consequent reconnection of floodplain wetlands to main channel flows), particularly the response of the endangered fish, razorback sucker and Colorado squawfish.

Muth, R.T., and others. 2000. Flow and temperature recommendations for endangered fishes in the Green River downstream of Flaming Gorge Dam. Draft final report to the Upper Colorado River Recovery Program, Denver, CO.

Nesler, T. P. 1986. Aquatic non-game research-1985-86. Squawfish-humpback studies. Colorado Division of Wildlife, annual job progress report SE-3, Fort Collins.

Nesler, T. P., R. T. Muth, and A. F. Wasowicz. 1988. Evidence for baseline flow spikes as spawning cues for Colorado squawfish in the Yampa River, Colorado. American Fisheries Society Symposium 5:68-79.

Trammell, M., and T. Chart. 1999. Evaluation of Gunnison River flow manipulation upon larval production of Colorado pikeminnow in the Colorado River, Utah. Draft final report.

Tyus, H. M., and C. A. Karp. 1989. Habitat use and streamflow needs of rare and endangered fishes, Yampa River, Colorado. U.S. Fish and Wildlife Service, Biological Reports 89(14):1-27.

SUMMARY OF PROPOSED COSTS

Name of Servicing Agency:	Colorado State University
Project Name:	Project 22f, larval drift monitoring

	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
DIRECT LABOR AND FRINGE BENEFIT COSTS:	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		TOTAL
Direct Labor - Hourly	\$	80,414.34	\$	80,414.34	\$	82,022.63	\$	83,663.08	\$	85,336.34	\$ 411,850.73
Fringe Benefits - Hourly	\$	22,033.53	\$	22,033.53	\$	22,720.27	\$	23,174.67	\$	23,638.17	\$ 113,600.17
Subtotal of Direct Labor & Fringe Benefits:	\$	102,447.87	\$	102,447.87	\$	104,742.90	\$	106,837.75	\$	108,974.51	\$ 525,450.90
OTHER DIRECT COSTS:	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		TOTAL
Materials and Supplies	\$	3,508.79	\$	3,508.79	\$	3,578.96	\$	3,650.54	\$	3,723.55	\$ 17,970.63
Travel Costs	\$	5,438.50	\$	5,687.50	\$	5,561.50	\$	5,585.50	\$	5,609.50	\$ 27,882.50
Equipment	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -
Contractors											\$ -
Subtotal of Other Direct Costs:	\$	8,947.29	\$	9,196.29	\$	9,140.46	\$	9,236.04	\$	9,333.05	\$ 45,853.13
INDIRECT/OVERHEAD COSTS:	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		TOTAL
Subtotal of Labor and Other Direct Costs:	\$	111,395.16	\$	111,644.16	\$	113,883.36	\$	116,073.79	\$	118,307.56	
Total dollars exempt from indirect/overhead base:											
<Enter Description of Indirect/OH Cost #1>	17.50%	\$ 19,494.15	17.50%	\$ 19,537.73	17.50%	\$ 19,929.59	17.50%	\$ 20,312.91	17.50%	\$ 20,703.82	\$ 99,978.21
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:	\$	19,494.15	\$	19,537.73	\$	19,929.59	\$	20,312.91	\$	20,703.82	\$ 99,978.21
GRAND TOTAL:	\$	130,889.31	\$	131,181.89	\$	133,812.94	\$	136,386.71	\$	139,011.38	\$ 671,282.24

SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

Enter Escalation Rates ----->	Yr 2 Escalation Rate	0.00%
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	Task # or Description	Employee Name	Position Title	Current Hourly Rate	YEAR 1					YEAR 2				
					10/1/2021		Through	9/30/2022		10/1/2022		Through	10/1/2023	
					# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost
1	2		Principal investigator	\$ 52.79	163.3	\$ 52.79	\$ 8,619.55	27.40%	\$ 2,361.76	163.3	\$ 52.79	\$ 8,619.55	27.40%	\$ 2,361.76
2	2		Senior technician	\$ 27.94	337.0	\$ 27.94	\$ 9,415.78	27.40%	\$ 2,579.92	337.0	\$ 27.94	\$ 9,415.78	27.40%	\$ 2,579.92
3	2		Technicians	\$ 15.00	810.0	\$ 15.00	\$ 12,150.00	27.40%	\$ 3,329.10	810.0	\$ 15.00	\$ 12,150.00	27.40%	\$ 3,329.10
4	3		Principal investigator	\$ 52.79	150.0	\$ 52.79	\$ 7,918.50	27.40%	\$ 2,169.67	150.0	\$ 52.79	\$ 7,918.50	27.40%	\$ 2,169.67
5	3		Senior technician	\$ 27.94	768.0	\$ 27.94	\$ 21,457.92	27.40%	\$ 5,879.47	768.0	\$ 27.94	\$ 21,457.92	27.40%	\$ 5,879.47
6	3		Technician	\$ 15.00	459.0	\$ 15.00	\$ 6,885.15	27.40%	\$ 1,886.53	459.0	\$ 15.00	\$ 6,885.15	27.40%	\$ 1,886.53
7	4		Principal investigator	\$ 52.79	24.0	\$ 52.79	\$ 1,266.96	27.40%	\$ 347.15	24.0	\$ 52.79	\$ 1,266.96	27.40%	\$ 347.15
8	4		Senior technician	\$ 27.94	80.0	\$ 27.94	\$ 2,235.20	27.40%	\$ 612.44	80.0	\$ 27.94	\$ 2,235.20	27.40%	\$ 612.44
9	4		Technician	\$ 15.00	40.0	\$ 15.00	\$ 600.00	27.40%	\$ 164.40	40.0	\$ 15.00	\$ 600.00	27.40%	\$ 164.40
10	5		Principal investigator	\$ 52.79	112.0	\$ 52.79	\$ 5,912.48	27.40%	\$ 1,620.02	112.0	\$ 52.79	\$ 5,912.48	27.40%	\$ 1,620.02
11	5		Senior technician	\$ 27.94	120.0	\$ 27.94	\$ 3,352.80	27.40%	\$ 918.67	120.0	\$ 27.94	\$ 3,352.80	27.40%	\$ 918.67
12	5		Technician	\$ 15.00	40.0	\$ 15.00	\$ 600.00	27.40%	\$ 164.40	40.0	\$ 15.00	\$ 600.00	27.40%	\$ 164.40
13				\$ -	-	\$ -	\$ -	27.40%	\$ -	-	\$ -	\$ -	27.70%	\$ -
14				\$ -	-	\$ -	\$ -	27.40%	\$ -	-	\$ -	\$ -	27.70%	\$ -
15				\$ -	-	\$ -	\$ -	27.40%	\$ -	-	\$ -	\$ -	27.70%	\$ -
16				\$ -	-	\$ -	\$ -	27.40%	\$ -	-	\$ -	\$ -	27.70%	\$ -
17				\$ -	-	\$ -	\$ -	27.40%	\$ -	-	\$ -	\$ -	27.70%	\$ -
18				\$ -	-	\$ -	\$ -	27.40%	\$ -	-	\$ -	\$ -	27.70%	\$ -
19				\$ -	-	\$ -	\$ -	27.40%	\$ -	-	\$ -	\$ -	27.70%	\$ -
20				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
21				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
22				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
23				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
24				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
25				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
26				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
27				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
28				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
29				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
30				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
31				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
					3,103.29		\$ 80,414.34		\$ 22,033.53	3,103.29		\$ 80,414.34		\$ 22,033.53

SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

Yr 3 Escalation Rate	2.00%
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Yr 4 Escalation Rate	2.00%
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	Task # or Description	Employee Name	Position Title	Current Hourly Rate	YEAR 3					YEAR 4				
					10/2/2023		Through	9/30/2024		10/1/2024		Through	9/30/2025	
					# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost
1	2		Principal investigator	\$ 52.79	163.3	\$ 53.85	\$ 8,791.94	27.70%	\$ 2,435.37	163.3	\$ 54.92	\$ 8,967.78	27.70%	\$ 2,484.08
2	2		Senior technician	\$ 27.94	337.0	\$ 28.50	\$ 9,604.10	27.70%	\$ 2,660.33	337.0	\$ 29.07	\$ 9,796.18	27.70%	\$ 2,713.54
3	2		Technicians	\$ 15.00	810.0	\$ 15.30	\$ 12,393.00	27.70%	\$ 3,432.86	810.0	\$ 15.61	\$ 12,640.86	27.70%	\$ 3,501.52
4	3		Principal investigator	\$ 52.79	150.0	\$ 53.85	\$ 8,076.87	27.70%	\$ 2,237.29	150.0	\$ 54.92	\$ 8,238.41	27.70%	\$ 2,282.04
5	3		Senior technician	\$ 27.94	768.0	\$ 28.50	\$ 21,887.08	27.70%	\$ 6,062.72	768.0	\$ 29.07	\$ 22,324.82	27.70%	\$ 6,183.98
6	3		Technician	\$ 15.00	459.0	\$ 15.30	\$ 7,022.85	27.70%	\$ 1,945.33	459.0	\$ 15.61	\$ 7,163.31	27.70%	\$ 1,984.24
7	4		Principal investigator	\$ 52.79	24.0	\$ 53.85	\$ 1,292.30	27.70%	\$ 357.97	24.0	\$ 54.92	\$ 1,318.15	27.70%	\$ 365.13
8	4		Senior technician	\$ 27.94	80.0	\$ 28.50	\$ 2,279.90	27.70%	\$ 631.53	80.0	\$ 29.07	\$ 2,325.50	27.70%	\$ 644.16
9	4		Technician	\$ 15.00	40.0	\$ 15.30	\$ 612.00	27.70%	\$ 169.52	40.0	\$ 15.61	\$ 624.24	27.70%	\$ 172.91
10	5		Principal investigator	\$ 52.79	112.0	\$ 53.85	\$ 6,030.73	27.70%	\$ 1,670.51	112.0	\$ 54.92	\$ 6,151.34	27.70%	\$ 1,703.92
11	5		Senior technician	\$ 27.94	120.0	\$ 28.50	\$ 3,419.86	27.70%	\$ 947.30	120.0	\$ 29.07	\$ 3,488.25	27.70%	\$ 966.25
12	5		Technician	\$ 15.00	40.0	\$ 15.30	\$ 612.00	27.70%	\$ 169.52	40.0	\$ 15.61	\$ 624.24	27.70%	\$ 172.91
13				\$ -	-	\$ -	\$ -	27.70%	\$ -	-	\$ -	\$ -	27.70%	\$ -
14				\$ -	-	\$ -	\$ -	27.70%	\$ -	-	\$ -	\$ -	27.70%	\$ -
15				\$ -	-	\$ -	\$ -	27.70%	\$ -	-	\$ -	\$ -	27.70%	\$ -
16				\$ -	-	\$ -	\$ -	27.70%	\$ -	-	\$ -	\$ -	27.70%	\$ -
17				\$ -	-	\$ -	\$ -	27.70%	\$ -	-	\$ -	\$ -	27.70%	\$ -
18				\$ -	-	\$ -	\$ -	27.70%	\$ -	-	\$ -	\$ -	27.70%	\$ -
19				\$ -	-	\$ -	\$ -	27.70%	\$ -	-	\$ -	\$ -	27.70%	\$ -
20				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
21				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
22				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
23				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
24				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
25				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
26				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
27				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
28				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
29				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
30				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
31				\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -
					3,103.29	\$ 82,022.63			\$ 22,720.27	3,103.29		\$ 83,663.08		\$ 23,174.67

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	
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	Task # or Description	Employee Name	Position Title	Current Hourly Rate	10/1/2025		Through	9/30/2026		Total Salary Cost	Total Fringe Cost	Total Labor Cost
					# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost			
1	2		Principal investigator	\$ 52.79	163.3	\$ 56.02	\$ 9,147.14	27.70%	\$ 2,533.76	\$ 44,145.96	\$ 12,176.71	\$ 56,322.68
2	2		Senior technician	\$ 27.94	337.0	\$ 29.65	\$ 9,992.10	27.70%	\$ 2,767.81	\$ 48,223.93	\$ 13,301.54	\$ 61,525.47
3	2		Technicians	\$ 15.00	810.0	\$ 15.92	\$ 12,893.68	27.70%	\$ 3,571.55	\$ 62,227.54	\$ 17,164.13	\$ 79,391.67
4	3		Principal investigator	\$ 52.79	150.0	\$ 56.02	\$ 8,403.18	27.70%	\$ 2,327.68	\$ 40,555.45	\$ 11,186.35	\$ 51,741.80
5	3		Senior technician	\$ 27.94	768.0	\$ 29.65	\$ 22,771.32	27.70%	\$ 6,307.65	\$ 109,899.05	\$ 30,313.29	\$ 140,212.35
6	3		Technician	\$ 15.00	459.0	\$ 15.92	\$ 7,306.58	27.70%	\$ 2,023.92	\$ 35,263.04	\$ 9,726.55	\$ 44,989.59
7	4		Principal investigator	\$ 52.79	24.0	\$ 56.02	\$ 1,344.51	27.70%	\$ 372.43	\$ 6,488.87	\$ 1,789.82	\$ 8,278.69
8	4		Senior technician	\$ 27.94	80.0	\$ 29.65	\$ 2,372.01	27.70%	\$ 657.05	\$ 11,447.82	\$ 3,157.63	\$ 14,605.45
9	4		Technician	\$ 15.00	40.0	\$ 15.92	\$ 636.72	27.70%	\$ 176.37	\$ 3,072.96	\$ 847.61	\$ 3,920.58
10	5		Principal investigator	\$ 52.79	112.0	\$ 56.02	\$ 6,274.37	27.70%	\$ 1,738.00	\$ 30,281.40	\$ 8,352.47	\$ 38,633.88
11	5		Senior technician	\$ 27.94	120.0	\$ 29.65	\$ 3,558.02	27.70%	\$ 985.57	\$ 17,171.73	\$ 4,736.45	\$ 21,908.18
12	5		Technician	\$ 15.00	40.0	\$ 15.92	\$ 636.72	27.70%	\$ 176.37	\$ 3,072.96	\$ 847.61	\$ 3,920.58
13				\$ -	-	\$ -	\$ -	27.70%	\$ -	\$ -	\$ -	\$ -
14				\$ -	-	\$ -	\$ -	27.70%	\$ -	\$ -	\$ -	\$ -
15				\$ -	-	\$ -	\$ -	27.70%	\$ -	\$ -	\$ -	\$ -
16				\$ -	-	\$ -	\$ -	27.70%	\$ -	\$ -	\$ -	\$ -
17				\$ -	-	\$ -	\$ -	27.70%	\$ -	\$ -	\$ -	\$ -
18				\$ -	-	\$ -	\$ -	27.70%	\$ -	\$ -	\$ -	\$ -
19				\$ -	-	\$ -	\$ -	27.70%	\$ -	\$ -	\$ -	\$ -
20				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
21				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
22				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
23				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
24				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
25				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
26				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
27				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
28				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
29				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
30				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
31				\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -
					3,103.29		\$ 85,336.34		\$ 23,638.17	\$ 411,850.73	\$ 113,600.17	\$ 525,450.90

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPLIES, AND SERVICES

Yr 2 Escalation Rate	0.00%
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	Task # or Description	Item Description	Rationale for Proposed Cost	Year 1			Year 2		
				Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal
1	2	Preservative (gals)	Based on previous experience & SOWs funded through BOR contract R14AP00001 and agreement RP19-00058	\$ 9.36	70	\$ 655.20	\$ 9.36	70	\$ 655.20
2	2	Jars/vials	Based on previous experience & SOWs funded through BOR contract R14AP00001 and agreement RP19-00059	\$ 0.38	800	\$ 306.38	\$ 0.38	800	\$ 306.38
3	2	Tents	Based on previous experience & SOWs funded through BOR contract R14AP00001 and agreement RP19-00060	\$ 191.49	2	\$ 382.98	\$ 191.49	2	\$ 382.98
4	2	Flow meter and repair	Based on previous experience & SOWs funded through BOR contract R14AP00001 and agreement RP19-00061	\$ 544.68	2	\$ 1,089.36	\$ 544.68	2	\$ 1,089.36
5	2	field kitchen gear	Based on previous experience & SOWs funded through BOR contract R14AP00001 and agreement RP19-00062	\$ 204.26	1	\$ 204.26	\$ 204.26	1	\$ 204.26
6	2	Misc sampling gear	Based on previous experience & SOWs funded through BOR contract R14AP00001 and agreement RP19-00063	\$ 170.21	1	\$ 170.21	\$ 170.21	1	\$ 170.21
7	3	Preservative (gals)	Based on previous experience & SOWs funded through BOR contract R14AP00001 and agreement RP19-00064	\$ 9.36	20	\$ 187.20	\$ 9.36	20	\$ 187.20
8	3	Jars/vials	Based on previous experience & SOWs funded through BOR contract R14AP00001 and agreement RP19-00065	\$ 0.34	350	\$ 119.15	\$ 0.34	350	\$ 119.15
9	3	microscope repair	Based on previous experience & SOWs funded through BOR contract R14AP00001 and agreement RP19-00066	\$ 191.49	1	\$ 191.49	\$ 191.49	1	\$ 191.49
10	3	microscope slides, folders	Based on previous experience & SOWs funded through BOR contract R14AP00001 and agreement RP19-00067	\$ 76.60	1	\$ 76.60	\$ 76.60	1	\$ 76.60
11	4	microscope slides, folders	Based on previous experience & SOWs funded through BOR contract R14AP00001 and agreement RP19-00068	\$ 125.96	1	\$ 125.96	\$ 125.96	1	\$ 125.96
12				\$ -	0	\$ -	\$ -	0	\$ -
13				\$ -	0	\$ -	\$ -	0	\$ -
14				\$ -	0	\$ -	\$ -	0	\$ -
15				\$ -	0	\$ -	\$ -	0	\$ -
16				\$ -	0	\$ -	\$ -	0	\$ -
17				\$ -	0	\$ -	\$ -	0	\$ -
TOTAL:						\$ 3,508.79			\$ 3,508.79

SUMMARY OF MATERIALS AND SUPPLIES

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

	Task # or Description	Item Description	Year 3			Year 4			
			Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal	
1	2	Preservative (gals)	\$ 9.55	70	\$ 668.30	\$ 9.74	70	\$ 681.67	
2	2	Jars/vials	\$ 0.39	800	\$ 312.51	\$ 0.40	800	\$ 318.76	
3	2	Tents	\$ 195.32	2	\$ 390.64	\$ 199.23	2	\$ 398.45	
4	2	Flow meter and repair	\$ 555.57	2	\$ 1,111.15	\$ 566.69	2	\$ 1,133.37	
5	2	field kitchen gear	\$ 208.34	1	\$ 208.34	\$ 212.51	1	\$ 212.51	
6	2	Misc sampling gear	\$ 173.62	1	\$ 173.62	\$ 177.09	1	\$ 177.09	
7	3	Preservative (gals)	\$ 9.55	20	\$ 190.94	\$ 9.74	20	\$ 194.76	
8	3	Jars/vials	\$ 0.35	350	\$ 121.53	\$ 0.35	350	\$ 123.96	
9	3	microscope repair	\$ 195.32	1	\$ 195.32	\$ 199.23	1	\$ 199.23	
10	3	microscope slides, folders	\$ 78.13	1	\$ 78.13	\$ 79.69	1	\$ 79.69	
11	4	microscope slides, folders	\$ 128.48	1	\$ 128.48	\$ 131.05	1	\$ 131.05	
12			\$ -	0	\$ -	\$ -	0	\$ -	
13			\$ -	0	\$ -	\$ -	0	\$ -	
14			\$ -	0	\$ -	\$ -	0	\$ -	
15			\$ -	0	\$ -	\$ -	0	\$ -	
16			\$ -	0	\$ -	\$ -	0	\$ -	
17			\$ -	0	\$ -	\$ -	0	\$ -	
					\$ 3,578.96				\$ 3,650.54

SUMMARY OF MATERIALS AND SUPPLIES

Yr 5 Escalation Rate	2.00%
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SUMMARY OF MATERIALS, SUPPLIES, AND SERVICES

		Year 5				
Task # or Description	Item Description	Unit Price	Unit Quantity	Subtotal	TOTAL	
1	2	Preservative (gals)	\$ 9.93	70	\$ 695.30	\$ 3,355.67
2	2	Jars/vials	\$ 0.41	800	\$ 325.14	\$ 1,569.17
3	2	Tents	\$ 203.21	2	\$ 406.42	\$ 1,961.47
4	2	Flow meter and repair	\$ 578.02	2	\$ 1,156.04	\$ 5,579.28
5	2	field kitchen gear	\$ 216.76	1	\$ 216.76	\$ 1,046.13
6	2	Misc sampling gear	\$ 180.63	1	\$ 180.63	\$ 871.76
7	3	Preservative (gals)	\$ 9.93	20	\$ 198.66	\$ 958.76
8	3	Jars/vials	\$ 0.36	350	\$ 126.44	\$ 610.23
9	3	microscope repair	\$ 203.21	1	\$ 203.21	\$ 980.74
10	3	microscope slides, folders	\$ 81.28	1	\$ 81.28	\$ 392.30
11	4	microscope slides, folders	\$ 133.67	1	\$ 133.67	\$ 645.12
12			\$ -	0	\$ -	\$ -
13			\$ -	0	\$ -	\$ -
14			\$ -	0	\$ -	\$ -
15			\$ -	0	\$ -	\$ -
16			\$ -	0	\$ -	\$ -
17			\$ -	0	\$ -	\$ -
				\$ 3,723.55	\$ 17,970.63	

SUMMARY OF TRAVEL COSTS

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	1	1	1	1	1	
From-To	Port Collins-Grand Junction	Port Collins-Grand Junction	Port Collins-Grand Junction	Port Collins-Grand Junction	Port Collins-Grand Junction	
Reason	UCRIP meeting	UCRIP meeting	UCRIP meeting	UCRIP meeting	UCRIP meeting	
# of Days (include travel days)	4	4	4	4	4	
Airfare						
Lodging (Per Night)	\$ 88.00	\$ 88.00	\$ 88.00	\$ 88.00	\$ 88.00	
MI&E Per Day	\$ 55.00	\$ 55.00	\$ 55.00	\$ 55.00	\$ 55.00	
Auto Rental Per Day	\$ 40.00	\$ 42.00	\$ 44.00	\$ 46.00	\$ 48.00	
Misc Costs/Adjustments/Trip	\$ (25.00)	\$ 50.00	\$ -	\$ -	\$ -	
Total Per Trip	\$ 679.50	\$ 762.50	\$ 720.50	\$ 728.50	\$ 736.50	
No. of persons	3	3	3	3	3	
Mileage rate	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	
Total miles	640	640	640	640	640	
SUBTOTAL =	\$ 2,358.50	\$ 2,607.50	\$ 2,481.50	\$ 2,505.50	\$ 2,529.50	\$ 12,482.50

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	2	2	2	2	2	
From-To	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	
Reason	Larvae collection	Larvae collection	Larvae collection	Larvae collection	Larvae collection	
# of Days (include travel days)	8	8	8	8	8	
Airfare						
Lodging (Per Night)						
MI&E Per Day	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip						
Total Per Trip	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	
No. of persons	3	3	3	3	3	
Mileage rate	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	
Total miles	640	640	640	640	640	
SUBTOTAL =	\$ 770.00	\$ 770.00	\$ 770.00	\$ 770.00	\$ 770.00	\$ 3,850.00

SUMMARY OF TRAVEL COSTS

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	3	3	3	3	3	
From-To	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	
Reason	Larvae collection	Larvae collection	Larvae collection	Larvae collection	Larvae collection	
# of Days (include travel days)	8	8	8	8	8	
Airfare						
Lodging (Per Night)						
MI&E Per Day	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip						
Total Per Trip	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	
No. of persons	3	3	3	3	3	
Mileage rate	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	
Total miles	640	640	640	640	640	
SUBTOTAL =	\$ 770.00	\$ 770.00	\$ 770.00	\$ 770.00	\$ 770.00	\$ 3,850.00

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	4	4	4	4	4	
From-To	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	
Reason	Larvae collection	Larvae collection	Larvae collection	Larvae collection	Larvae collection	
# of Days (include travel days)	8	8	8	8	8	
Airfare						
Lodging (Per Night)						
MI&E Per Day	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip						
Total Per Trip	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	
No. of persons	3	3	3	3	3	
Mileage rate	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	
Total miles	640	640	640	640	640	
SUBTOTAL =	\$ 770.00	\$ 770.00	\$ 770.00	\$ 770.00	\$ 770.00	\$ 3,850.00

SUMMARY OF TRAVEL COSTS

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	5	5	5	5	5	
From-To	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	Fort Collins CO to Dinosaur Nat'l Monument	
Reason	Larvae collection	Larvae collection	Larvae collection	Larvae collection	Larvae collection	
# of Days (include travel days)	8	8	8	8	8	
Airfare						
Lodging (Per Night)						
MI&E Per Day	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip						
Total Per Trip	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	
No. of persons	3	3	3	3	3	
Mileage rate	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	
Total miles	640	640	640	640	640	
SUBTOTAL =	\$ 770.00	\$ 770.00	\$ 770.00	\$ 770.00	\$ 770.00	\$ 3,850.00

	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
TOTAL COST BY PERIOD =	\$ 5,438.50	\$ 5,687.50	\$ 5,561.50	\$ 5,585.50	\$ 5,609.50	\$ 27,882.50

SUMMARY OF PROPOSED COSTS

Name of Servicing Agency:	US Fish & Wildlife Service Green River Basin FWCO
Project Name:	Recovery Program Project 22-f: Light trap and drift net sampling for razorback sucker and Colorado pikeminnow larvae

	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		TOTAL
	10/1/2021		10/1/2022		10/2/2023		10/1/2024		10/1/2025		
	Through		Through		Through		Through		Through		
Enter the BEGINNING dates for each year ----->	9/30/2022		10/1/2023		9/30/2024		9/30/2025		9/30/2026		
Enter the ENDING dates for each year ----->											
DIRECT LABOR AND FRINGE BENEFIT COSTS:											
Direct Labor - Hourly	\$	31,795.37	\$	31,741.07	\$	33,103.72	\$	38,662.76	\$	39,436.02	\$ 174,738.94
Fringe Benefits - Hourly	\$	11,304.26	\$	11,294.34	\$	11,767.95	\$	13,663.78	\$	13,937.05	\$ 61,967.38
Subtotal of Direct Labor & Fringe Benefits:	\$	43,099.63	\$	43,035.41	\$	44,871.67	\$	52,326.54	\$	53,373.07	\$ 236,706.32
OTHER DIRECT COSTS:											
Materials and Supplies	\$	2,960.26	\$	2,960.26	\$	3,019.46	\$	3,079.85	\$	3,141.46	\$ 15,161.29
Travel Costs	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -
Equipment	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -
Contractors	\$	1,000.00	\$	1,000.00	\$	1,000.00	\$	1,000.00	\$	1,000.00	\$ 5,000.00
Subtotal of Other Direct Costs:	\$	3,960.26	\$	3,960.26	\$	4,019.46	\$	4,079.85	\$	4,141.46	\$ 20,161.29
INDIRECT/OVERHEAD COSTS:											
Subtotal of Labor and Other Direct Costs:	\$	47,059.89	\$	46,995.67	\$	48,891.13	\$	56,406.39	\$	57,514.53	
Total dollars exempt from indirect/overhead base:	\$	-	\$	-	\$	-	\$	-	\$	-	
<Enter Description of Indirect/OH Cost #1>	3.00%	\$ 1,411.80	3.00%	\$ 1,409.87	3.00%	\$ 1,466.73	3.00%	\$ 1,692.19	3.00%	\$ 1,725.44	\$ 7,706.03
Total dollars exempt from indirect/overhead base:	\$	-	\$	-	\$	-	\$	-	\$	-	
<Enter Description of Indirect/OH Cost #2>	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	\$ -
Subtotal of Indirect/Overhead Costs:	\$	1,411.80	\$	1,409.87	\$	1,466.73	\$	1,692.19	\$	1,725.44	\$ 7,706.03
GRAND TOTAL:	\$	48,471.69	\$	48,405.54	\$	50,357.86	\$	58,098.58	\$	59,239.97	\$ 264,573.64

SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

Enter Escalation Rates ----->	Yr 2 Escalation Rate	0.00%
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Task # or Description	Position Title	GS/WG Grade	GS/WG Step	OPM Pay Location	Current Hourly Rate	YEAR 1				YEAR 2					
						10/1/2021	Through	9/30/2022		10/1/2022		Through	10/1/2023		
						Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost	
1	1	Fish Biologist	GS 12	2	Rest of United States	\$ 38.37	\$ 38.37	\$ 2,839.38	37.00%	\$ 1,050.57	74.0	\$ 39.60	\$ 2,930.40	37.00%	\$ 1,084.25
2	1	Fish Biologist	GS 11	1	Rest of United States	\$ 30.98	\$ 30.98	\$ 9,108.12	30.00%	\$ 2,732.44	280.0	\$ 32.01	\$ 8,962.80	30.00%	\$ 2,688.84
3	1	Fisheries Technician	GS 8	10	Rest of United States	\$ 30.14	\$ 30.14	\$ 6,449.96	52.00%	\$ 3,353.98	214.0	\$ 30.14	\$ 6,449.96	52.00%	\$ 3,353.98
4	1	Biological Science Tech	GS 6	1	Rest of United States	\$ 18.84	\$ 18.84	\$ 10,437.36	29.00%	\$ 3,026.83	554.0	\$ 18.84	\$ 10,437.36	29.00%	\$ 3,026.83
5	1	Administrative Officer	GS 9	9	Rest of United States	\$ 32.43	\$ 32.43	\$ 1,459.35	37.00%	\$ 539.96	45.0	\$ 32.43	\$ 1,459.35	37.00%	\$ 539.96
6	1	Project Leader	GS 13	5	Rest of United States	\$ 50.04	\$ 50.04	\$ 1,501.20	40.00%	\$ 600.48	30.0	\$ 50.04	\$ 1,501.20	40.00%	\$ 600.48
7					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
8					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
9					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
10					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
11					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
12					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
13					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
14					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
15					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
16					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
17					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
18					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
19					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
20					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
21					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
22					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
23					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
24					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
25					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
26					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
27					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
28					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
29					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
30					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
31					\$ -	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
							\$ 31,795.37		\$ 11,304.26	1,197.00		\$ 31,741.07		\$ 11,294.34	

SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

Yr 3 Escalation Rate 2.00%

Yr 4 Escalation Rate 2.00%

Task # or Description	Position Title	GS/WG Grade	GS/WG Step	OPM Pay Location	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	Fish Biologist	GS 12	2	Rest of United States	\$ 38.37	74.0	\$ 40.84	\$ 3,022.16	37.00%	\$ 1,118.20	118.0	\$ 41.66	\$ 4,915.50	37.00%	\$ 1,818.74
2	1	Fish Biologist	GS 11	1	Rest of United States	\$ 30.98	294.0	\$ 33.04	\$ 9,713.76	30.00%	\$ 2,914.13	299.0	\$ 33.70	\$ 10,076.54	30.00%	\$ 3,022.96
3	1	Fisheries Technician	GS 8	10	Rest of United States	\$ 30.14	218.0	\$ 30.74	\$ 6,701.93	52.00%	\$ 3,485.00	218.0	\$ 31.36	\$ 6,835.97	52.00%	\$ 3,554.70
4	1	Biological Science Tech	GS 6	1	Rest of United States	\$ 18.84	554.0	\$ 19.22	\$ 10,646.11	29.00%	\$ 3,087.37	652.0	\$ 19.60	\$ 12,779.94	29.00%	\$ 3,706.18
5	1	Administrative Officer	GS 9	9	Rest of United States	\$ 32.43	45.0	\$ 33.08	\$ 1,488.54	37.00%	\$ 550.76	60.0	\$ 33.74	\$ 2,024.41	37.00%	\$ 749.03
6	1	Project Leader	GS 13	5	Rest of United States	\$ 50.04	30.0	\$ 51.04	\$ 1,531.22	40.00%	\$ 612.49	39.0	\$ 52.06	\$ 2,030.40	40.00%	\$ 812.16
7					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
8					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
9					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
10					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
11					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
12					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
13					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
14					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
15					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
16					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
17					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
18					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
19					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
20					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
21					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
22					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
23					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
24					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
25					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
26					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
27					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
28					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
29					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
30					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
31					\$ -	-	\$ -	\$ -	0.00%	\$ -	-	\$ -	\$ -	0.00%	\$ -	
						1,215.00		\$ 33,103.72		\$ 11,767.95	1,386.00		\$ 38,662.76		\$ 13,663.78	

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					
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	Total Salary Cost	Total Fringe Cost	Total Labor Cost	
1	1	Fish Biologist	GS 12	2	Rest of United States	\$ 38.37	118.0	\$ 42.49	\$ 5,013.81	37.00%	\$ 1,855.11	\$ 18,721.25	\$ 6,926.86	\$ 25,648.12
2	1	Fish Biologist	GS 11	1	Rest of United States	\$ 30.98	299.0	\$ 34.37	\$ 10,278.07	30.00%	\$ 3,083.42	\$ 48,139.29	\$ 14,441.79	\$ 62,581.08
3	1	Fisheries Technician	GS 8	10	Rest of United States	\$ 30.14	218.0	\$ 31.98	\$ 6,972.69	52.00%	\$ 3,625.80	\$ 33,410.51	\$ 17,373.46	\$ 50,783.97
4	1	Biological Science Tech	GS 6	1	Rest of United States	\$ 18.84	652.0	\$ 19.99	\$ 13,035.54	29.00%	\$ 3,780.31	\$ 57,336.31	\$ 16,627.53	\$ 73,963.84
5	1	Administrative Officer	GS 9	9	Rest of United States	\$ 32.43	60.0	\$ 34.41	\$ 2,064.90	37.00%	\$ 764.01	\$ 8,496.55	\$ 3,143.72	\$ 11,640.27
6	1	Project Leader	GS 13	5	Rest of United States	\$ 50.04	39.0	\$ 53.10	\$ 2,071.01	40.00%	\$ 828.40	\$ 8,635.04	\$ 3,454.02	\$ 12,089.05
7					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
8					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
9					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
10					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
11					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
12					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
13					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
14					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
15					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
16					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
17					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
18					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
19					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
20					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
21					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
22					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
23					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
24					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
25					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
26					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
27					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
28					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
29					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
30					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
31					\$ -	-	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
						1,386.00		\$ 39,436.02		\$ 13,937.05	\$ 174,738.94	\$ 61,967.38	\$ 236,706.32	

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPLIES, AND SERVICES

Yr 2 Escalation Rate	0.00%
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	Task # or Description	Item Description	Rationale for Proposed Cost	Year 1			Year 2		
				Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal
1	1	GSA Lease of Equip Code 6351 (monthly lease)	http://www.gsa.gov/portal/category/21852	\$ 232.00	4	\$ 928.00	\$ 232.00	4	\$ 928.00
2	1	GSA Lease of Equip Code 6351 (mileage rate)	http://www.gsa.gov/portal/category/21852	\$ 0.31	360	\$ 111.60	\$ 0.31	360	\$ 111.60
3	1	Replacement LED parts for light traps	Based on 2021 expenditures.	\$ 0.79	500	\$ 395.00	\$ 0.79	500	\$ 395.00
4	1	Ethanol for preserving larvae	Based on previous experience and SOW's	\$ 95.00	4	\$ 380.00	\$ 95.00	4	\$ 380.00
5	1	Sample containers (1 case 20 mL glass scintillation vials)	Based on previous experience and SOW's	\$ 72.83	2	\$ 145.66	\$ 72.83	2	\$ 145.66
6	1	Sampling gear repair/replacement	Based on previous experience and SOW's	\$ 1,000.00	1	\$ 1,000.00	\$ 1,000.00	1	\$ 1,000.00
7				\$ -	0	\$ -	\$ -	0	\$ -
8				\$ -	0	\$ -	\$ -	0	\$ -
9				\$ -	0	\$ -	\$ -	0	\$ -
10				\$ -	0	\$ -	\$ -	0	\$ -
11				\$ -	0	\$ -	\$ -	0	\$ -
12				\$ -	0	\$ -	\$ -	0	\$ -
13				\$ -	0	\$ -	\$ -	0	\$ -
14				\$ -	0	\$ -	\$ -	0	\$ -
15				\$ -	0	\$ -	\$ -	0	\$ -
16				\$ -	0	\$ -	\$ -	0	\$ -
17				\$ -	0	\$ -	\$ -	0	\$ -
18				\$ -	0	\$ -	\$ -	0	\$ -
19				\$ -	0	\$ -	\$ -	0	\$ -
20				\$ -	0	\$ -	\$ -	0	\$ -
21				\$ -	0	\$ -	\$ -	0	\$ -
22				\$ -	0	\$ -	\$ -	0	\$ -
23				\$ -	0	\$ -	\$ -	0	\$ -
24				\$ -	0	\$ -	\$ -	0	\$ -
25				\$ -	0	\$ -	\$ -	0	\$ -
26				\$ -	0	\$ -	\$ -	0	\$ -
27				\$ -	0	\$ -	\$ -	0	\$ -
28				\$ -	0	\$ -	\$ -	0	\$ -
29				\$ -	0	\$ -	\$ -	0	\$ -
30				\$ -	0	\$ -	\$ -	0	\$ -
TOTAL:						\$2,960.26			\$2,960.26

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPLIES, SERVICES

Yr 3 Escalation Rate	2.00%	Yr 4 Escalation Rate	2.00%
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	Task # or Description	Item Description	Year 3			Year 4		
			Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal
1	1	GSA Lease of Equip Code 6351 (monthly lease)	\$ 236.64	4	\$ 946.56	\$ 241.37	4	\$ 965.49
2	1	GSA Lease of Equip Code 6351 (mileage rate)	\$ 0.32	360	\$ 113.83	\$ 0.32	360	\$ 116.11
3	1	Replacement LED parts for light traps	\$ 0.81	500	\$ 402.90	\$ 0.82	500	\$ 410.96
4	1	Ethanol for preserving larvae	\$ 96.90	4	\$ 387.60	\$ 98.84	4	\$ 395.35
5	1	Sample containers (1 case 20 mL glass scintillation vials)	\$ 74.29	2	\$ 148.57	\$ 75.77	2	\$ 151.54
6	1	Sampling gear repair/replacement	\$ 1,020.00	1	\$ 1,020.00	\$ 1,040.40	1	\$ 1,040.40
7			\$ -	0	\$ -	\$ -	0	\$ -
8			\$ -	0	\$ -	\$ -	0	\$ -
9			\$ -	0	\$ -	\$ -	0	\$ -
10			\$ -	0	\$ -	\$ -	0	\$ -
11			\$ -	0	\$ -	\$ -	0	\$ -
12			\$ -	0	\$ -	\$ -	0	\$ -
13			\$ -	0	\$ -	\$ -	0	\$ -
14			\$ -	0	\$ -	\$ -	0	\$ -
15			\$ -	0	\$ -	\$ -	0	\$ -
16			\$ -	0	\$ -	\$ -	0	\$ -
17			\$ -	0	\$ -	\$ -	0	\$ -
18			\$ -	0	\$ -	\$ -	0	\$ -
19			\$ -	0	\$ -	\$ -	0	\$ -
20			\$ -	0	\$ -	\$ -	0	\$ -
21			\$ -	0	\$ -	\$ -	0	\$ -
22			\$ -	0	\$ -	\$ -	0	\$ -
23			\$ -	0	\$ -	\$ -	0	\$ -
24			\$ -	0	\$ -	\$ -	0	\$ -
25			\$ -	0	\$ -	\$ -	0	\$ -
26			\$ -	0	\$ -	\$ -	0	\$ -
27			\$ -	0	\$ -	\$ -	0	\$ -
28			\$ -	0	\$ -	\$ -	0	\$ -
29			\$ -	0	\$ -	\$ -	0	\$ -
30			\$ -	0	\$ -	\$ -	0	\$ -
					\$3,019.46	\$3,079.85		

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPLIES, SERVICES

Yr 5 Escalation Rate	2.00%
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	Task # or Description	Item Description	Year 5			TOTAL
			Unit Price	Unit Quantity	Subtotal	
1	1	GSA Lease of Equip Code 6351 (monthly lease)	\$ 246.20	4	\$ 984.80	\$ 4,752.85
2	1	GSA Lease of Equip Code 6351 (mileage rate)	\$ 0.33	360	\$ 118.43	\$ 571.57
3	1	Replacement LED parts for light traps	\$ 0.84	500	\$ 419.18	\$ 2,023.04
4	1	Ethanol for preserving larvae	\$ 100.81	4	\$ 403.26	\$ 1,946.21
5	1	Sample containers (1 case 20 mL glass scintillation vials)	\$ 77.29	2	\$ 154.58	\$ 746.01
6	1	Sampling gear repair/replacement	\$ 1,061.21	1	\$ 1,061.21	\$ 5,121.61
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	\$ -	\$ -
24			\$ -	0	\$ -	\$ -
25			\$ -	0	\$ -	\$ -
26			\$ -	0	\$ -	\$ -
27			\$ -	0	\$ -	\$ -
28			\$ -	0	\$ -	\$ -
29			\$ -	0	\$ -	\$ -
30			\$ -	0	\$ -	\$ -
					\$3,141.46	\$ 15,161.29

SUMMARY OF CONTRACTOR COSTS

Contractor:	Purpose:	Competitive Award?	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Stuntz Valley Ranch LLC	Annual private property access fee	No	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 5,000.00
			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL =			\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 5,000.00

If not competitively awarded, how were prices deemed fair and reasonable?

This is a sentinel sampling site, so this fee and access is essential to this project.