FY 2022-23 SCOPE OF WORK PROJECT: 98a

Project Title

Middle Yampa River nonnative fish management

Bureau of Reclamation Agreement Number:

R17AP00301

Reclamation Agreement Term

September 22, 2017 – September 30, 2022

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:

Colorado Parks and Wildlife

Principal Investigator:

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Category:
__ Ongoing project
_X_ Ongoing-revised project
__ Requested new project
__ Unsolicited proposal

Expected Funding Source:
_X_ Annual funds
__ Capital funds
__ Other *[explain]*

Relationship to RIPRAP:

This project will remove nonnative fish, primarily smallmouth bass and northern pike, from the middle Yampa River near Craig, Colorado (RM 134.2-RM 60.6)). Colorado Parks and Wildlife (CPW) will evaluate the efficiency of that northern pike removal, while Colorado State University (CSU) will evaluate the smallmouth bass removal effort.

General Recovery Program Action Plan

III. Reduce negative impacts of nonnative fishes and sportfish management activities (nonnative and sportfish management).
III.A. Reduce negative interactions between nonnative and endangered fishes.
III.A.2. Identify and implement viable active control measures.

Green River Action Plan: Yampa River:

III.B. Implement CPW Yampa Basin aquatic wildlife management plan and the Recovery Program's Yampa River Nonnative Fish Control Strategy. Each control activity will be evaluated for effectiveness and then continued as needed.
III.B.2. Control nonnative fishes via mechanical removal.
III.B.2.d. Remove (formerly "and translocate") northern pike from Yampa River designated critical habitat.
III.B.2.d. (1) Remove northern pike and smallmouth bass above designated critical habitat (Craig, CO)
III.B.2.e. Remove (formerly "and translocate") smallmouth bass in Yampa River designated critical habitat.

Study Background/Rationale and Hypotheses:

Susceptibility of the Colorado River basin to nonnative fish establishment has been attributed to the low diversity of the native fish fauna, a high degree of endemism of this fauna, and the highly altered physical habitat of the basin (Hawkins and Nesler 1991). Bezzerides and Bestgen (2002) report that the native fish fauna of the Colorado River Basin consists of at least 35 species, while at least 100 nonnative fishes have been introduced into the basin (Tyus and Saunders (2000). Twenty-eight of these nonnative fish species were identified as threats to native fishes through a survey of regional fisheries biologists (Hawkins and Nesler 1991). Of these 28 species, the northern pike (*Esox lucius*) was considered by biologists as the third greatest hazard to native fishes (Hawkins and Nesler 1991).

In Colorado, the northern pike is one of 40 known, introduced fish species currently existing within the Colorado River Basin (Nesler 2003). This species has been extensively introduced outside of the species' native range for use as a large sportfish, and as a predator to control other fishes (Scott and Crossman 1973). Northern pike were first introduced to the Yampa River basin of Colorado in 1977. Less than 1,000 fingerling northern pike were released into Elkhead Reservoir to prey upon a large number of nonnative suckers present (Roehm 2004). Elkhead Creek is located approximately four miles upstream of Craig, and is the receiving stream of Elkhead Reservoir. This creek is tributary to the Yampa River. Movement of northern pike downstream was evidenced by collection of this species in the Yampa River, as early as 1979 (Tyus and Beard 1990). Northern pike numbers within the river had increased by the early 1980s (Wick et al. 1985; Tyus and Beard 1990). Subsequent downstream movement of northern pike into the Green River was first documented less than five years after initial release in Elkhead Reservoir (Tyus and Beard 1990). This species has since established itself as a self-sustaining population within the Yampa River.

Influences of such introductions on native fish fauna are cause for great concern, especially in areas occupied by endangered species. The Yampa River downstream of Craig is designated by the U.S. Fish and Wildlife Service (USFWS) as critical habitat for the federal- and state-listed Colorado pikeminnow (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), bonytail (*Gila elegans*), and razorback sucker

(*Xyrauchen texanus*). Primary threats to these native species include competition with and predation by nonnative fish species (USFWS 2002). The northern pike has been identified as one of two principal, nonnative hazards to juvenile and adult Colorado pikeminnow (USFWS 2002). Northern pike and Colorado pikeminnow share similar habitat in the spring and early summer during the spawning season. Both species also rely on native sympatric species, such as roundtail chub (*Gila robusta*), flannelmouth sucker (*Catostomus latipinnis*), bluehead sucker (*Catostomus discobolus*), and speckled dace (*Rhinichthys osculus yarrowi*) as prey (Tyus and Beard 1990; Nesler 1995). Further, Nesler (1995) found that the nonnative redside shiner may also be a common prey item of northern pike and Colorado pikeminnow. Overall resource sharing between the two species may also increase the likelihood of northern pike predation on young and adult endangered fishes (Tyus and Beard 1990; Nesler 1995). Thus, the potential impacts of northern pike competition with, and predation of native, sympatric species (especially the Colorado pikeminnow) are severe.

This proposed study is one of several designed for removal of northern pike and smallmouth bass, and evaluation of such efforts within the upper Colorado River basin. Colorado Parks and Wildlife and CSU have cooperatively developed the logistics within this proposal. These collaborative efforts will increase the efficiency and effectiveness of removing northern pike and smallmouth bass within the middle Yampa River. Evaluation of the removal efforts will assist the Upper Colorado River Endangered Fish Recovery Program (Recovery Program) in attaining nonnative fish management goals.

Study Goals, Objectives, End Product(s):

Study goals for the project include the following:

1) To reduce the number of northern pike in middle Yampa River backwaters in the vicinity of Craig, Colorado (RM 134.2) prior to and during the spawn by setting gill nets in selected backwater areas that have been identified as problematic locations. This work will be completed by CPW only in FFY22, and then by CSU in FFYs23-26.

2) To reduce the number of northern pike occupying 47.3 river miles of critical habitat within the Yampa River downstream of Craig, Colorado (RM 134.2-RM 60.6), thereby benefiting native fishes of the Yampa River basin, as well as native fish communities downstream within the Green River basin.

3) To reduce the number of smallmouth bass occupying 47.3 river miles of critical habitat within the Yampa River downstream of Craig, Colorado (RM 134.2-RM 60.6), thereby benefiting native fishes of the Yampa River basin, as well as native fish communities downstream within the Green River basin.

Study objectives for the project include the following:

1) To remove as many northern pike as possible within the middle Yampa River study area utilizing backwater gill netting, main channel electrofishing, and backwater block-and-shock techniques.

2) To calculate the number of northern pike removed.

3) To remove as many smallmouth bass as possible within the middle Yampa River study area utilizing main channel electrofishing and backwater block-and-shock techniques.

4) To implement disruption of nests and targeted removal of smallmouth bass during the spawn within the middle Yampa River study area, as part of the Surge, in a coordinated effort with CSU, and with CSU as the lead.

5) To provide CSU with smallmouth bass data collected to estimate the number of smallmouth bass occupying the middle Yampa River study area.

Validated CPW smallmouth bass data will be provided to CSU. An Annual Report will be prepared and distributed to interested parties following the field season, generally by the middle of November. Presentations will also be provided during the Annual Recovery Program Researchers' Meeting (generally in January) and at the Nonnative Fish Control Workshop (if convened).

In contrast to previous years of work, CPW will only be removing northern pike from selected backwater areas in the middle Yampa River in early spring prior to conducting main channel removal passes in FFY22 so that the agency can focus on other projects occurring simultaneously. Colorado Parks and Wildlife will be collaborating with CSU to transition this backwater sampling effort in its entirety to CSU in subsequent study years. Colorado Parks and Wildlife will remain involved in facilitating private landowner contacts associated with the backwater sampling (Task 1).

Study Area:

Backwater areas within and upstream of the study area (into the Project #98b study area as far upstream as Hayden, Colorado) will be netted as the ice recedes and hydrological conditions allow, from the middle of March through the end of April. Focusing on this time frame will allow CPW to remove as many northern pike as possible pre-spawn.

The study area for this project will focus on 47.3 river miles of the middle Yampa River just downstream of Craig, Colorado (RM 134.2) to just upstream of Cross Mountain Canyon (RM 60.6). The main channel, including backwater areas, will be boat and raft electrofished utilizing block-and-shock techniques within backwaters. Specific river segments that may be sampled include: Reach 1: RM 134.2 (South Beach launch) to RM 124.0 (Round Bottom), Reach 2: RM 100.0 (upstream Government Bridge) to RM 91.0 (mouth of Little Juniper Canyon), Reach 3: RM 88.7 (downstream of Juniper Canyon) to RM 79.2 (Maybell bridge launch), Reach 4: RM 79.2 to RM 71.0 (Sunbeam launch), and Reach 5: RM 71.0 to RM 60.6 (just upstream of Cross Mountain launch). Northern pike will not be removed by CPW in 24 miles of river, RM 124.0 (Round Bottom) to RM 100.0 (near Government Bridge). Colorado State University has established this reach as a smallmouth bass study area. These 24 miles have also been included in previous studies for northern pike removal. Therefore, CSU will remove northern pike within these stretches in conjunction with their smallmouth bass study. Colorado State University will also remove smallmouth bass and northern pike from downstream of Cross Mountain Canyon (RM 55.5) to just downstream of the Little Snake River confluence (RM 50.5). Colorado State University's northern pike data will be collated with CPW data and reported by CPW. Colorado Parks and Wildlife will also remove smallmouth bass across the entire CPW study area. Colorado Parks and Wildlife's smallmouth bass data will be collated with CSU data and reported by CSU. Approximately two miles of river within Juniper Canyon will not be sampled by CPW, due to riverine conditions that are not navigable by jon boat. Juniper Canyon may be raft electrofished by the USFWS, though, and northern pike data collected during those efforts will be provided to CPW for reporting.

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 of northern pike and smallmouth bass in the middle Yampa River. As part of the project, CPW will include spawning disruption of northern pike utilizing a combination of backwater netting, main channel electrofishing, and block-and-shock techniques in backwaters; spawning disruption of smallmouth bass utilizing main channel electrofishing and block-and-shock techniques in backwaters will also occur. In addition, CPW will remove individuals of northern pike and smallmouth bass outside of the spawning period in order to reduce the population abundance of both species. Colorado Parks and Wildlife and CSU will measure response to these efforts by determining northern pike and smallmouth bass densities, length frequency distributions, and catch-per-unit-effort.

Backwater areas in the vicinity of Craig, Colorado that have been identified as known or likely northern pike concentration areas will be gill netted as the ice recedes and hydrological conditions allow, from the middle of March through the end of April (up to six weeks-30 days of which at least four to five days/week are on the river; Task 3 by CPW only for FFY22 and incorporated in FFYs23-26 by CSU within Project #125). The goal of this effort is to remove northern pike from the backwater areas before

they have a chance to spawn and thus reduce the annual cohort contributed to the Yampa River northern pike population by riverine spawning. Backwater areas in Project #98a and #98b sections of the Yampa River where CPW has obtained landowner permission will be included in the netting effort. A jon boat and float tubes will be used by a small crew (two to four people) to set gill nets in the backwater areas, which will be allowed to soak overnight and retrieved the following day.

Colorado Parks and Wildlife will perform main channel boat electrofishing for up to six weeks during May (up to four weeks-20 days of which at least three days/week will be on the river; Task 4) and June (up to two weeks-10 days of which at least three days/week will be on the river; Task 5). These efforts will begin within the time frame that hydrological conditions allow; will include five-day weeks, of which at least three days will be on the river; and will be coordinated with CSU. Beginning in 2022, CPW will also assist CSU in monitoring the Colorado pikeminnow population (Task 4 work described in Project #128 Scope of Work). In May, CPW will focus on completing two passes in five reaches including South Beach, Juniper, upper and lower Maybell, and Sunbeam, and will then contribute more effort as time allows. In June, the project may include completing additional passes through the five reaches sampled in May, and/or focusing on smallmouth bass/northern pike concentration areas within certain reaches. During Colorado pikeminnow population estimate efforts, sampling with follow the study design described in Project #128. Specifically, "a sufficient amount of time (e.g., 5-10 days) should elapse between the start of the consecutive sampling occasions to allow for sufficient mixing of marked and unmarked fish."

For the efforts in May and June, two, three-person electrofishing crews will utilize jon boats equipped with outboard jet units to perform sampling in the main channel. Each crew will simultaneously sample the left and right shorelines in a downstream direction using ETS electrofishing equipment. Island perimeters will also be electrofished. No river segment will be electrofished on consecutive days to allow for fish recovery and redistribution. A third, chase boat, will be operated by two or three additional crew members to process fish captured.

Backwaters where CPW has obtained permission to sample will also be included within this sampling effort, when feasible. Crews will sample backwater areas along both sides of the river. A gill net will be used with a block-and-shock technique. Backwater habitats will be sampled until the river recedes and habitats are no longer accessible. Output power within backwaters will be adjusted based upon changes in river conductivity. Additionally, output power will be reduced during the boat approach to the backwater mouth if it is blocked by a gill net. Both processes will minimize the potential for electrofishing injuries to fish.

Colorado Parks and Wildlife will also assist CSU with a targeted intensive smallmouth bass removal effort in early July, and within the time frame that hydrological conditions allow. Intensive removal of smallmouth bass during their spawning period is referred to as the "Surge," an activity that concentrates the efforts of several agencies in reaches with smallmouth bass spawning habitat. Previous work since 2010 has shown that adult smallmouth bass are most vulnerable to sampling gear during this period, and increased rates of removal can be achieved. Further, this effort aims to exploit our ability to interfere with the spawning process by increasing the frequency of electrofishing during the spawning period, in identified reaches used for spawning by smallmouth bass. For more information regarding the Surge effort, please see the Scope of Work for Project #125.

Recent studies by Bestgen and Hill (2016) demonstrate that smallmouth bass spawning in the Yampa River occurs for approximately four weeks, often including two to three weeks when the hydrograph declines to 1,000 cfs or less. A river flow of 1,000 cfs or less is unsafe for navigation using jon boats with outboard jet units. In order to maximize the disruption of smallmouth bass spawning, this portion of the project extends the Surge below the 1,000 cfs threshold by switching to electrofishing rafts. Other gear types may also be utilized, including smaller jon boats, trammel nets, and angling over smallmouth bass nests.

For the Surge effort, CPW will contribute by providing two or more employees for up to one week (five days of which at least three days will be on the river; Task 5), as well as two electrofishing rafts. CPW will coordinate with CSU regarding the river reaches to focus on during this time, but CPW will likely be working in the South Beach, Juniper, and Maybell reaches. Crews will utilize the rafts to electrofish and use other gear types previously mentioned.

All northern pike, smallmouth bass, and other nonnative fish (excluding salmonids and channel catfish) taken during all CPW efforts by the methods included previously will be identified by species, measured for total length to the nearest millimeter, weighed to the nearest gram, lethally removed, and either donated or disposed of in a landfill. Northern pike and smallmouth bass collected will be examined for the presence of FLOY tags, and fin clips. FLOY tag number and color, and any fin clips will be recorded. Capture locations for northern pike and smallmouth bass will be recorded to the nearest tenth of a river mile. Nonnative species of unusual occurrence, i.e. walleye, burbot, grass carp, etc. will have their otoliths extracted prior to disposal.

Bluehead sucker, flannelmouth sucker, roundtail chub, and Colorado pikeminnow captured will be identified, measured in total length to the nearest millimeter, and weighed to the nearest gram. These species will be scanned to determine the presence of passive integrated transponder (PIT) tags. Passive integrated transponder tag number will be recorded and stored in the PIT tag reader for those fish encountered with PIT tags. Individuals without PIT tags will be implanted with a new PIT tag following the appropriate protocol. Capture locations for these species will be recorded to the nearest tenth of a river mile. Universal Transverse Mercator (UTM) coordinates associated with capture locations will also be recorded, when possible. All native species captured will be released alive, immediately. Any native fish captured that is visibly stressed will not be processed, but rather returned to the location of capture within the river, immediately.

All data collected will follow the same guidelines that CSU will be utilizing. In addition to fisheries information, water temperature, water conductivity, ETS settings, and gear effort will also be recorded. Quality assurance and quality control protocols provided annually by the Recovery Program Director's Office and/or the USFWS will be followed during data compilation and organization. For this project, data collected will be analyzed to determine northern pike densities, length frequency distributions, catch per unit effort, and movement. Length frequencies and catch per unit effort will also be determined for native fishes, including Colorado pikeminnow and roundtail chub. Data collected regarding Colorado pikeminnow will be provided to the USFWS. Validated smallmouth bass data will be provided to CSU, and validated northern pike data from CSU will be provided to CPW. An Annual Report will be prepared and will include the data analyses mentioned above for all years of study in which comparable methodology and data exists.

Four temporary employees will be hired for a total of 17 weeks (including the backwater netting in FFY22, but not including Task 4 during Colorado pikeminnow estimate years or overtime) to accomplish these tasks. Four of these weeks (two, five-day weeks pre-sampling (Task 2) and two, five-day weeks post sampling (Task 6)) will be devoted to crew training, preparation and maintenance of equipment, and data entry. Temporaries may be paid overtime wages pursuant to Colorado state law, and application of federal health care mandates may result in increased costs for temporary employees. Overtime wages have been included within the budget tables as a separate line item, while health care costs have not. Indirect and fringe costs have been estimated based on rates in April 2021, and are subject to change. Colorado Parks and Wildlife reserves the right to alter this Scope of Work based on outcomes of post-2023 Recovery Program discussions.

While not funded as part of this Scope of Work, CPW will also be working in April and also from the middle to end of June preparing for and managing the Elkhead Reservoir Fishing Classic, an annual angler harvest incentive tournament targeting northern pike and smallmouth bass.

Task Description, Deliverables and Schedule:

Task 1. Establish landowner contacts and obtain permission to access properties and backwaters for sampling.

Schedule: February - Mid March

Task 2. Plan logistics, hire and train personnel, order and maintain equipment, and prepare for sampling.

Schedule: February - April

Task 3. Complete early spring backwater removals utilizing gill nets to target northern pike during the spawning period in the area covering Project #98a and #98a sections of river. *This task to be completed by CSU in FFY23, 24, 25, and 26 (Project #125 Scope of Work).

Schedule: Mid March - April

Task 4. Complete main channel and backwater electrofishing within the study area to capture and remove northern pike and smallmouth bass. *This task is included in Project #128 Scope of Work in FFY22, 23, and 24 because it will focus on providing data for Colorado pikeminnow population estimates*

Schedule: May

Task 5. Complete main channel and backwater electrofishing within the study area to capture and remove northern pike and smallmouth bass. Assist CSU with the Surge to target smallmouth bass utilizing raft electrofishing and other methods during the spawning period and low hydrograph conditions.

Schedule: Early to Mid June; Early July

Task 6. Maintenance of equipment, data entry, data analysis, and preparation of final report (generally by the middle of November). Present findings during the Annual Recovery Program Researchers' Meeting (generally in January) and the Nonnative Fish Control Workshop (if convened).

Schedule: May - January

Overall Schedule FFY 2022:

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

Overall Schedule FFY 2023-2026:

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

Budget Summary:

FFY Year	CPW
2022	$122,615 ($42,950.97 in salary, fringe, indirect costs; and travel costs extracted from total in Task 4 and included in Project #128 Scope of Work)
2023	$67,067 ($43,513.35 in salary, fringe, indirect costs; and travel costs extracted from total in Task 4 and included in Project #128 Scope of Work)
2024	$74,911 ($44,086.97 in salary, fringe, indirect costs; and travel costs extracted from total in Task 4 and included in Project #128 Scope of Work)
2025	$113,683
2026	$120,340
Total	$498,616

Reviewers:

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References:

Bestgen, K.R. and A.A. Hill. 2016. River regulation affects reproduction, early growth, and suppression strategies for smallmouth bass in the upper Colorado River basin. Final report to the Upper Colorado

River Endangered Fish Recovery Program, Project FR-115, Denver, CO. Department of Fish, Wildlife, and Conservation Biology, Colorado State University, Fort Collins. Larval Fish Laboratory Contribution 187.

Bestgen, K. R., K. A. Zelasko, T. Eyre, C. Smith, G. C. White, and M. T. Jones. 2020. Abundance estimation following increased removal verifies declining trends of northern pike in the Yampa River, Colorado. Final report to the Upper Colorado River Endangered Fish Recovery Program. Denver Federal Center, Lakewood, Colorado. Department of Fish, Wildlife, and Conservation Biology, Colorado State University, Fort Collins. Larval Fish Laboratory Contribution 218.

Bezzerides, N. and K. Bestgen. 2002. Status review of roundtail chub *Gila robusta*, flannelmouth sucker *Catostomus latipinnis*, and bluehead sucker *Catostomus discobolus* in the Colorado River Basin. Final report to the U.S. Dept. of Interior Bureau of Reclamation, Salt Lake City, Utah. Colorado State University Larval Fish Laboratory Contribution 118.

Francis, T. 2020. Removal of nonnative fish in the upper Colorado River between Grand Valley Water User's Dam (Government Highline Diversion Dam) near Palisade, Colorado, and Potash, Utah. Project 126a, 126b, 123d. Annual Report to the Upper Colorado River Endangered Fish Recovery Program.

Hawkins, J.A. 2020. Evaluation of smallmouth bass and northern pike management in the middle Yampa River. Project 125/98c. Annual Report to the Upper Colorado River Endangered Fish Recovery Program.

Hawkins, J.A. and T.P. Nesler. 1991. Nonnative fishes of the Upper Colorado River Basin: an issue paper. Final report. Colorado State University Larval Fish Laboratory and Colorado Division of Wildlife, Fort Collins, Colorado.

Nesler, T.P. 1995. Interactions between endangered fish and introduced gamefishes in the Yampa River, Colorado, 1987-1991. Final report to the Colorado River Recovery Implementation Program (Project # 91-29). Colorado Division of Wildlife, Fort Collins, Colorado.

-----. 2003. Native and introduced fish species by major river basins in Colorado. Colorado Division of Wildlife, Fort Collins, Colorado.

Partlow, M.S. and K.R. Elbin. 2020. Nonnative fish control in the middle Green River. Project 123b. Annual Report to the Upper Colorado River Endangered Fish Recovery Program.

Roehm, G.W. 2004. Management plan for endangered fishes in the Yampa River Basin and environmental assessment. U.S. Fish and Wildlife Service, Mountain-Prairie Region 6, Denver, Colorado.

Scott, W.B. and E.J. Crossman. 1973. Freshwater fishes of Canada. Bulletin 184. Fisheries Research Board of Canada, Ottawa, Canada.

Tyus, H.M. and J.M. Beard. 1990. *Esox lucius* (Esocidae) and *Stizostedion vitreum* (Percidae) in the Green River Basin, Colorado and Utah. Great Basin Naturalist 50:33-39.

-----. and J.F. Saunders, III. 2000. Nonnative fish control and endangered fish recovery. Fisheries 25(9):17-24.

U.S. Fish and Wildlife Service. 2002. Colorado pikeminnow (*Ptychocheilus lucius*) Recovery Goals: amendment and supplement to the Colorado Squawfish Recovery Plan. U.S. Fish and Wildlife Service, Mountain-Prairie Region 6, Denver, Colorado.

Wick, E.J., J.A. Hawkins, and C.A. Carlson. 1985. Colorado squawfish and humpback chub population and habitat monitoring, 1983-1984. Endangered wildlife investigations. Final report SE 3-7. Colorado State University Larval Fish Laboratory (Fort Collins, Colorado) and Colorado Division of Wildlife (Denver, Colorado).

SUMMARY OF PROPOSED COSTS

Name of Servicing Agency:	Colorado Parks and Wildlife
Project Name:	Middle Yampa River nonnative fish management

Enter the BEGINNING dates for each year ------>		YEAR 1 10/1/2021 Through		YEAR 2 10/1/2022 Through		YEAR 3 10/2/2023 Through		YEAR 4 10/1/2024 Through		YEAR 5 10/1/2025 Through		TOTAL
Enter the ENDING dates for each year -------->		**9/30/2022**		**10/1/2023**		**9/30/2024**		**9/30/2025**		**9/30/2026**		
DIRECT LABOR AND FRINGE BENEFIT COSTS:		**YEAR 1**		**YEAR 2**		**YEAR 3**		**YEAR 4**		**YEAR 5**		**TOTAL**
Direct Labor - Hourly		$ 39,040.00		$ 23,680.00		$ 24,153.60		$ 43,280.64		$ 44,146.25		$ 174,300.49
Fringe Benefits - Hourly		$ 8,725.44		$ 5,292.48		$ 5,398.33		$ 9,673.22		$ 9,866.69		$ 38,956.16
Subtotal of Direct Labor & Fringe Benefits:		**$ 47,765.44**		**$ 28,972.48**		**$ 29,551.93**		**$ 52,953.86**		**$ 54,012.94**		**$ 213,256.65**
OTHER DIRECT COSTS:		**YEAR 1**		**YEAR 2**		**YEAR 3**		**YEAR 4**		**YEAR 5**		**TOTAL**
Materials and Supplies		$ 31,931.20		$ 25,481.20		$ 25,990.83		$ 26,510.63		$ 27,040.85		$ 136,954.71
Travel Costs		$ 23,484.00		$ 8,652.00		$ 8,652.00		$ 23,484.00		$ 23,484.00		$ 87,756.00
Equipment		$ 6,500.00		$ 1,979.99		$ 8,649.59		$ 2,059.98		$ 6,897.85		$ 26,087.41
Contractors		$ -		$ -		$ -		$ -		$ -		$ -
Subtotal of Other Direct Costs:		**$ 61,915.20**		**$ 36,113.19**		**$ 43,292.42**		**$ 52,054.61**		**$ 57,422.70**		**$ 250,798.12**
INDIRECT/OVERHEAD COSTS:		**YEAR 1**		**YEAR 2**		**YEAR 3**		**YEAR 4**		**YEAR 5**		**TOTAL**
Subtotal of Labor and Other Direct Costs:		**$ 109,680.64**		**$ 65,085.67**		**$ 72,844.35**		**$ 105,008.47**		**$ 111,435.64**		
Total dollars exempt from indirect/overhead base:		$ 63,895.19		$ 58,073.42		$ 65,527.79		$ 74,302.83		$ 79,915.16		
<Enter Description of Indirect/OH Cost #1>	28.25%	$ 12,934.39	28.25%	$ 1,980.96	28.25%	$ 2,066.93	28.25%	$ 8,674.34	28.25%	$ 8,904.54		$ 34,561.16
Total dollars exempt from indirect/overhead base:		$ -		$ -		$ -		$ -		$ -		
<Enter Description of Indirect/OH Cost #2>		$ -		$ -		$ -		$ -		$ -		$ -
Subtotal of Indirect/Overhead Costs:		**$ 12,934.39**		**$ 1,980.96**		**$ 2,066.93**		**$ 8,674.34**		**$ 8,904.54**		**$ 34,561.16**

		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		TOTAL
GRAND TOTAL:		**$ 122,615.03**		**$ 67,066.63**		**$ 74,911.28**		**$ 113,682.82**		**$ 120,340.18**		**$ 498,615.94**

SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

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

				YEAR 1					YEAR 2				
				10/1/2021		Through	9/30/2022		10/1/2022		Through	10/1/2023	
	Task # or Description	Position Title	Current Hourly Rate	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost
1	2	Tech I	$ 15.50	80.0	$ 15.50	$ 1,240.00	22.35%	$ 277.14	80.0	$ 15.50	$ 1,240.00	22.35%	$ 277.14
2	2	Tech I	$ 15.50	80.0	$ 15.50	$ 1,240.00	22.35%	$ 277.14	80.0	$ 15.50	$ 1,240.00	22.35%	$ 277.14
3	2	Tech II	$ 16.50	80.0	$ 16.50	$ 1,320.00	22.35%	$ 295.02	80.0	$ 16.50	$ 1,320.00	22.35%	$ 295.02
4	2	Tech II	$ 16.50	80.0	$ 16.50	$ 1,320.00	22.35%	$ 295.02	80.0	$ 16.50	$ 1,320.00	22.35%	$ 295.02
5	3	Tech I	$ 15.50	240.0	$ 15.50	$ 3,720.00	22.35%	$ 831.42		$ 15.50	$ -	22.35%	$ -
6	3	Tech I	$ 15.50	240.0	$ 15.50	$ 3,720.00	22.35%	$ 831.42		$ 15.50	$ -	22.35%	$ -
7	3	Tech II	$ 16.50	240.0	$ 16.50	$ 3,960.00	22.35%	$ 885.06		$ 16.50	$ -	22.35%	$ -
8	3	Tech II	$ 16.50	240.0	$ 16.50	$ 3,960.00	22.35%	$ 885.06		$ 16.50	$ -	22.35%	$ -
9	4	Tech I	$ 15.50	~~160.0~~	~~$ 15.50~~	~~$ 2,480.00~~	~~22.35%~~	~~$ 554.28~~	~~160.0~~	~~$ 15.50~~	~~$ 2,480.00~~	~~22.35%~~	~~$ 554.28~~
10	4	Tech I	$ 15.50	~~160.0~~	~~$ 15.50~~	~~$ 2,480.00~~	~~22.35%~~	~~$ 554.28~~	~~160.0~~	~~$ 15.50~~	~~$ 2,480.00~~	~~22.35%~~	~~$ 554.28~~
11	4	Tech I-OT	$ 23.25	~~80.0~~	~~$ 23.25~~	~~$ 1,860.00~~	~~22.35%~~	~~$ 415.71~~	~~80.0~~	~~$ 23.25~~	~~$ 1,860.00~~	~~22.35%~~	~~$ 415.71~~
12	4	Tech I-OT	$ 23.25	~~80.0~~	~~$ 23.25~~	~~$ 1,860.00~~	~~22.35%~~	~~$ 415.71~~	~~80.0~~	~~$ 23.25~~	~~$ 1,860.00~~	~~22.35%~~	~~$ 415.71~~
13	4	Tech II	$ 16.50	~~160.0~~	~~$ 16.50~~	~~$ 2,640.00~~	~~22.35%~~	~~$ 590.04~~	~~160.0~~	~~$ 16.50~~	~~$ 2,640.00~~	~~22.35%~~	~~$ 590.04~~
14	4	Tech II	$ 16.50	~~160.0~~	~~$ 16.50~~	~~$ 2,640.00~~	~~22.35%~~	~~$ 590.04~~	~~160.0~~	~~$ 16.50~~	~~$ 2,640.00~~	~~22.35%~~	~~$ 590.04~~
15	4	Tech II-OT	$ 24.75	~~80.0~~	~~$ 24.75~~	~~$ 1,980.00~~	~~22.35%~~	~~$ 442.53~~	~~80.0~~	~~$ 24.75~~	~~$ 1,980.00~~	~~22.35%~~	~~$ 442.53~~
16	4	Tech II-OT	$ 24.75	~~80.0~~	~~$ 24.75~~	~~$ 1,980.00~~	~~22.35%~~	~~$ 442.53~~	~~80.0~~	~~$ 24.75~~	~~$ 1,980.00~~	~~22.35%~~	~~$ 442.53~~
17	5	Tech I	$ 15.50	120.0	$ 15.50	$ 1,860.00	22.35%	$ 415.71	120.0	$ 15.50	$ 1,860.00	22.35%	$ 415.71
18	5	Tech I	$ 15.50	120.0	$ 15.50	$ 1,860.00	22.35%	$ 415.71	120.0	$ 15.50	$ 1,860.00	22.35%	$ 415.71
19	5	Tech I-OT	$ 23.25	60.0	$ 23.25	$ 1,395.00	22.35%	$ 311.78	60.0	$ 23.25	$ 1,395.00	22.35%	$ 311.78
20	5	Tech I-OT	$ 23.25	60.0	$ 23.25	$ 1,395.00	22.35%	$ 311.78	60.0	$ 23.25	$ 1,395.00	22.35%	$ 311.78
21	5	Tech II	$ 16.50	120.0	$ 16.50	$ 1,980.00	22.35%	$ 442.53	120.0	$ 16.50	$ 1,980.00	22.35%	$ 442.53
22	5	Tech II	$ 16.50	120.0	$ 16.50	$ 1,980.00	22.35%	$ 442.53	120.0	$ 16.50	$ 1,980.00	22.35%	$ 442.53
23	5	Tech II-OT	$ 24.75	60.0	$ 24.75	$ 1,485.00	22.35%	$ 331.90	60.0	$ 24.75	$ 1,485.00	22.35%	$ 331.90
24	5	Tech II-OT	$ 24.75	60.0	$ 24.75	$ 1,485.00	22.35%	$ 331.90	60.0	$ 24.75	$ 1,485.00	22.35%	$ 331.90
25	6	Tech I	$ 15.50	80.0	$ 15.50	$ 1,240.00	22.35%	$ 277.14	80.0	$ 15.50	$ 1,240.00	22.35%	$ 277.14
26	6	Tech I	$ 15.50	80.0	$ 15.50	$ 1,240.00	22.35%	$ 277.14	80.0	$ 15.50	$ 1,240.00	22.35%	$ 277.14
27	6	Tech II	$ 16.50	80.0	$ 16.50	$ 1,320.00	22.35%	$ 295.02	80.0	$ 16.50	$ 1,320.00	22.35%	$ 295.02
28	6	Tech II	$ 16.50	80.0	$ 16.50	$ 1,320.00	22.35%	$ 295.02	80.0	$ 16.50	$ 1,320.00	22.35%	$ 295.02
29			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
30			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
31			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
32			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
33			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
34			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
35			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
				2,320.00		**39,040.00**		**8,725.44**	**1,360.00**		**23,680.00**		**5,292.48**

SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

Yr 3 Escalation Rate	2.00%

Yr 4 Escalation Rate	2.00%

				YEAR 3					YEAR 4				
				10/2/2023		Through	9/30/2024		10/1/2024		Through	9/30/2025	
	Task # or Description	Position Title	Current Hourly Rate	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost
1	2	Tech I	$ 15.50	80.0	$ 15.81	$ 1,264.80	22.35%	$ 282.68	80.0	$ 16.13	$ 1,290.10	22.35%	$ 288.34
2	2	Tech I	$ 15.50	80.0	$ 15.81	$ 1,264.80	22.35%	$ 282.68	80.0	$ 16.13	$ 1,290.10	22.35%	$ 288.34
3	2	Tech II	$ 16.50	80.0	$ 16.83	$ 1,346.40	22.35%	$ 300.92	80.0	$ 17.17	$ 1,373.33	22.35%	$ 306.94
4	2	Tech II	$ 16.50	80.0	$ 16.83	$ 1,346.40	22.35%	$ 300.92	80.0	$ 17.17	$ 1,373.33	22.35%	$ 306.94
5	3	Tech I	$ 15.50		$ 15.81	$ -	22.35%	$ -		$ 16.13	$ -	22.35%	
6	3	Tech I	$ 15.50		$ 15.81	$ -	22.35%	$ -		$ 16.13	$ -	22.35%	$ -
7	3	Tech II	$ 16.50		$ 16.83	$ -	22.35%	$ -		$ 17.17	$ -	22.35%	$ -
8	3	Tech II	$ 16.50		$ 16.83	$ -	22.35%	$ -		$ 17.17	$ -	22.35%	$ -
9	4	Tech I	$ 15.50	~~160.0~~	~~$ 15.81~~	~~$ 2,529.60~~	~~22.35%~~	~~$ 565.37~~	160.0	$ 16.13	$ 2,580.19	22.35%	$ 576.67
10	4	Tech I	$ 15.50	~~160.0~~	~~$ 15.81~~	~~$ 2,529.60~~	~~22.35%~~	~~$ 565.37~~	160.0	$ 16.13	$ 2,580.19	22.35%	$ 576.67
11	4	Tech I-OT	$ 23.25	~~80.0~~	~~$ 23.72~~	~~$ 1,897.20~~	~~22.35%~~	~~$ 424.02~~	80.0	$ 24.19	$ 1,935.14	22.35%	$ 432.50
12	4	Tech I-OT	$ 23.25	~~80.0~~	~~$ 23.72~~	~~$ 1,897.20~~	~~22.35%~~	~~$ 424.02~~	80.0	$ 24.19	$ 1,935.14	22.35%	$ 432.50
13	4	Tech II	$ 16.50	~~160.0~~	~~$ 16.83~~	~~$ 2,692.80~~	~~22.35%~~	~~$ 601.84~~	160.0	$ 17.17	$ 2,746.66	22.35%	$ 613.88
14	4	Tech II	$ 16.50	~~160.0~~	~~$ 16.83~~	~~$ 2,692.80~~	~~22.35%~~	~~$ 601.84~~	160.0	$ 17.17	$ 2,746.66	22.35%	$ 613.88
15	4	Tech II-OT	$ 24.75	~~80.0~~	~~$ 25.25~~	~~$ 2,019.60~~	~~22.35%~~	~~$ 451.38~~	80.0	$ 25.75	$ 2,059.99	22.35%	$ 460.41
16	4	Tech II-OT	$ 24.75	~~80.0~~	~~$ 25.25~~	~~$ 2,019.60~~	~~22.35%~~	~~$ 451.38~~	80.0	$ 25.75	$ 2,059.99	22.35%	$ 460.41
17	5	Tech I	$ 15.50	120.0	$ 15.81	$ 1,897.20	22.35%	$ 424.02	120.0	$ 16.13	$ 1,935.14	22.35%	$ 432.50
18	5	Tech I	$ 15.50	120.0	$ 15.81	$ 1,897.20	22.35%	$ 424.02	120.0	$ 16.13	$ 1,935.14	22.35%	$ 432.50
19	5	Tech I-OT	$ 23.25	60.0	$ 23.72	$ 1,422.90	22.35%	$ 318.02	60.0	$ 24.19	$ 1,451.36	22.35%	$ 324.38
20	5	Tech I-OT	$ 23.25	60.0	$ 23.72	$ 1,422.90	22.35%	$ 318.02	60.0	$ 24.19	$ 1,451.36	22.35%	$ 324.38
21	5	Tech II	$ 16.50	120.0	$ 16.83	$ 2,019.60	22.35%	$ 451.38	120.0	$ 17.17	$ 2,059.99	22.35%	$ 460.41
22	5	Tech II	$ 16.50	120.0	$ 16.83	$ 2,019.60	22.35%	$ 451.38	120.0	$ 17.17	$ 2,059.99	22.35%	$ 460.41
23	5	Tech II-OT	$ 24.75	60.0	$ 25.25	$ 1,514.70	22.35%	$ 338.54	60.0	$ 25.75	$ 1,544.99	22.35%	$ 345.31
24	5	Tech II-OT	$ 24.75	60.0	$ 25.25	$ 1,514.70	22.35%	$ 338.54	60.0	$ 25.75	$ 1,544.99	22.35%	$ 345.31
25	6	Tech I	$ 15.50	80.0	$ 15.81	$ 1,264.80	22.35%	$ 282.68	80.0	$ 16.13	$ 1,290.10	22.35%	$ 288.34
26	6	Tech I	$ 15.50	80.0	$ 15.81	$ 1,264.80	22.35%	$ 282.68	80.0	$ 16.13	$ 1,290.10	22.35%	$ 288.34
27	6	Tech II	$ 16.50	80.0	$ 16.83	$ 1,346.40	22.35%	$ 300.92	80.0	$ 17.17	$ 1,373.33	22.35%	$ 306.94
28	6	Tech II	$ 16.50	80.0	$ 16.83	$ 1,346.40	22.35%	$ 300.92	80.0	$ 17.17	$ 1,373.33	22.35%	$ 306.94
29			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
30			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
31			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
32			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
33			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
34			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
35			$ -	-	$ -	$ -	0.00%	$ -	-	$ -	$ -	0.00%	$ -
				1,360.00		**24,153.60**		**5,398.33**	**2,320.00**		**$ 43,280.64**		**$ 9,673.22**

SUMMARY OF DIRECT LABOR & FRINGE BENEFITS

Yr 5 Escalation Rate	2.00%

				YEAR 5							
				10/1/2025		Through	9/30/2026				
	Task # or Description	Position Title	Current Hourly Rate	# of Hours	Hourly Rate	Salary Cost	Fringe Rate	Fringe Cost	Total Salary Cost	Total Fringe Cost	Total Labor Cost
1	2	Tech I	$ 15.50	80.0	$ 16.45	$ 1,315.90	22.35%	$ 294.10	$ 6,350.79	$ 1,419.40	**$ 7,770.20**
2	2	Tech I	$ 15.50	80.0	$ 16.45	$ 1,315.90	22.35%	$ 294.10	$ 6,350.79	$ 1,419.40	**$ 7,770.20**
3	2	Tech II	$ 16.50	80.0	$ 17.51	$ 1,400.79	22.35%	$ 313.08	$ 6,760.52	$ 1,510.98	**$ 8,271.50**
4	2	Tech II	$ 16.50	80.0	$ 17.51	$ 1,400.79	22.35%	$ 313.08	$ 6,760.52	$ 1,510.98	**$ 8,271.50**
5	3	Tech I	$ 15.50		$ 16.45	$ -	22.35%	$ -	$ 3,720.00	$ 831.42	**$ 4,551.42**
6	3	Tech I	$ 15.50		$ 16.45	$ -	22.35%	$ -	$ 3,720.00	$ 831.42	**$ 4,551.42**
7	3	Tech II	$ 16.50		$ 17.51	$ -	22.35%	$ -	$ 3,960.00	$ 885.06	**$ 4,845.06**
8	3	Tech II	$ 16.50		$ 17.51	$ -	22.35%	$ -	$ 3,960.00	$ 885.06	**$ 4,845.06**
9	4	Tech I	$ 15.50	160.0	$ 16.45	$ 2,631.80	22.35%	$ 588.21	$ 5,211.99	$ 1,164.88	**$ 6,376.87**
10	4	Tech I	$ 15.50	160.0	$ 16.45	$ 2,631.80	22.35%	$ 588.21	$ 5,211.99	$ 1,164.88	**$ 6,376.87**
11	4	Tech I-OT	$ 23.25	80.0	$ 24.67	$ 1,973.85	22.35%	$ 441.15	$ 3,908.99	$ 873.66	**$ 4,782.65**
12	4	Tech I-OT	$ 23.25	80.0	$ 24.67	$ 1,973.85	22.35%	$ 441.15	$ 3,908.99	$ 873.66	**$ 4,782.65**
13	4	Tech II	$ 16.50	160.0	$ 17.51	$ 2,801.59	22.35%	$ 626.16	$ 5,548.25	$ 1,240.03	**$ 6,788.28**
14	4	Tech II	$ 16.50	160.0	$ 17.51	$ 2,801.59	22.35%	$ 626.16	$ 5,548.25	$ 1,240.03	**$ 6,788.28**
15	4	Tech II-OT	$ 24.75	80.0	$ 26.26	$ 2,101.19	22.35%	$ 469.62	$ 4,161.18	$ 930.02	**$ 5,091.21**
16	4	Tech II-OT	$ 24.75	80.0	$ 26.26	$ 2,101.19	22.35%	$ 469.62	$ 4,161.18	$ 930.02	**$ 5,091.21**
17	5	Tech I	$ 15.50	120.0	$ 16.45	$ 1,973.85	22.35%	$ 441.15	$ 9,526.19	$ 2,129.10	**$ 11,655.29**
18	5	Tech I	$ 15.50	120.0	$ 16.45	$ 1,973.85	22.35%	$ 441.15	$ 9,526.19	$ 2,129.10	**$ 11,655.29**
19	5	Tech I-OT	$ 23.25	60.0	$ 24.67	$ 1,480.39	22.35%	$ 330.87	$ 7,144.64	$ 1,596.83	**$ 8,741.47**
20	5	Tech I-OT	$ 23.25	60.0	$ 24.67	$ 1,480.39	22.35%	$ 330.87	$ 7,144.64	$ 1,596.83	**$ 8,741.47**
21	5	Tech II	$ 16.50	120.0	$ 17.51	$ 2,101.19	22.35%	$ 469.62	$ 10,140.78	$ 2,266.47	**$ 12,407.25**
22	5	Tech II	$ 16.50	120.0	$ 17.51	$ 2,101.19	22.35%	$ 469.62	$ 10,140.78	$ 2,266.47	**$ 12,407.25**
23	5	Tech II-OT	$ 24.75	60.0	$ 26.26	$ 1,575.89	22.35%	$ 352.21	$ 7,605.59	$ 1,699.85	**$ 9,305.44**
24	5	Tech II-OT	$ 24.75	60.0	$ 26.26	$ 1,575.89	22.35%	$ 352.21	$ 7,605.59	$ 1,699.85	**$ 9,305.44**
25	6	Tech I	$ 15.50	80.0	$ 16.45	$ 1,315.90	22.35%	$ 294.10	$ 6,350.79	$ 1,419.40	**$ 7,770.20**
26	6	Tech I	$ 15.50	80.0	$ 16.45	$ 1,315.90	22.35%	$ 294.10	$ 6,350.79	$ 1,419.40	**$ 7,770.20**
27	6	Tech II	$ 16.50	80.0	$ 17.51	$ 1,400.79	22.35%	$ 313.08	$ 6,760.52	$ 1,510.98	**$ 8,271.50**
28	6	Tech II	$ 16.50	80.0	$ 17.51	$ 1,400.79	22.35%	$ 313.08	$ 6,760.52	$ 1,510.98	**$ 8,271.50**
29			$ -	-	$ -	$ -	0.00%	$ -	$ -	$ -	**$ -**
30			$ -	-	$ -	$ -	0.00%	$ -	$ -	$ -	**$ -**
31			$ -	-	$ -	$ -	0.00%	$ -	$ -	$ -	**$ -**
32			$ -	-	$ -	$ -	0.00%	$ -	$ -	$ -	**$ -**
33			$ -	-	$ -	$ -	0.00%	$ -	$ -	$ -	**$ -**
34			$ -	-	$ -	$ -	0.00%	$ -	$ -	$ -	**$ -**
35			$ -	-	$ -	$ -	0.00%	$ -	$ -	$ -	**$ -**
				2,320.00		**$ 44,146.25**		**$ 9,866.69**	**$ 174,300.49**	**$ 38,956.16**	**$ 213,256.65**

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPLIES, AND SERVICES	Yr 2 Escalation Rate	0.00%	Yr 3 Escalation Rate	2.00%

	Task # or Description	Item Description	Rationale for Proposed Cost	Year 1 Unit Price	Year 1 Unit Quantity	Year 1 Subtotal	Year 2 Unit Price	Year 2 Unit Quantity	Year 2 Subtotal	Year 3 Unit Price	Year 3 Unit Quantity	Year 3 Subtotal
1	2	ETS Factory Calibration and Shipping	Mark, ETS 608-661-0599	$ 160.00	3	$ 480.00	$ 160.00	3	$ 480.00	$ 163.20	3	$ 489.60
2	2	Experimental Gill Net	https://duluthfishnets.com/produc	$ 300.00	15	$ 4,500.00	$ 300.00	5	$ 1,500.00	$ 306.00	5	$ 1,530.00
3	2	Standard Bar Mesh Block Net	https://duluthfishnets.com/produc	$ 300.00	15	$ 4,500.00	$ 300.00	5	$ 1,500.00	$ 306.00	5	$ 1,530.00
	2	Float	https://www.memphisnet.net/cat	$ 15.00	30	$ 450.00	$ 15.00	0	$ -	$ 15.30	0	$ -
4	2	Dip Net	https://duluthfishnets.com/produc	$ 90.00	20	$ 1,800.00	$ 90.00	20	$ 1,800.00	$ 91.80	20	$ 1,836.00
5	2	Measuring Board	https://www.forestry-suppliers.co	$ 185.00	2	$ 370.00	$ 185.00	2	$ 370.00	$ 188.70	2	$ 377.40
6	2	Spring Scale	https://www.forestry-suppliers.co	$ 125.00	4	$ 500.00	$ 125.00	4	$ 500.00	$ 127.50	4	$ 510.00
7	2	Net Pen	https://duluthfishnets.com/produc	$ 100.00	2	$ 200.00	$ 100.00	2	$ 200.00	$ 102.00	2	$ 204.00
8	2	Digital Scale	https://www.etundra.com/kitchen	$ 375.00	2	$ 750.00	$ 375.00	2	$ 750.00	$ 382.50	2	$ 765.00
9	2	Weigh Boat	Price based on historical purcha	$ 50.00	2	$ 100.00	$ 50.00	2	$ 100.00	$ 51.00	2	$ 102.00
10	2	Wader/Wading Boots	https://www.simmsfishing.com/s	$ 700.00	5	$ 3,500.00	$ 700.00	5	$ 3,500.00	$ 714.00	5	$ 3,570.00
11	2	Lifejacket	https://www.nrs.com/	$ 119.95	5	$ 599.75	$ 119.95	5	$ 599.75	$ 122.35	5	$ 611.75
12	2	Rain Coat/Pants	https://shop.grundens.com/shop	$ 200.00	5	$ 1,000.00	$ 200.00	5	$ 1,000.00	$ 204.00	5	$ 1,020.00
13	2	Gloves	https://www.grainger.com	$ 50.00	12	$ 600.00	$ 50.00	12	$ 600.00	$ 51.00	12	$ 612.00
14	2	Boat Tune-Ups/Winterizations	Steve, 970 Marine 970-245-9701	$ 160.00	3	$ 480.00	$ 160.00	3	$ 480.00	$ 163.20	3	$ 489.60
15	2	Boat Motor Jet Sleeve/Liner	http://outboardjets.com/downloa	$ 60.00	6	$ 360.00	$ 60.00	6	$ 360.00	$ 61.20	6	$ 367.20
16	2	Boat Motor Impeller	http://outboardjets.com/downloa	$ 475.00	3	$ 1,425.00	$ 475.00	3	$ 1,425.00	$ 484.50	3	$ 1,453.50
17	2	Boat Motor Water Pump and Kit	http://outboardjets.com/downloa	$ 70.00	6	$ 420.00	$ 70.00	6	$ 420.00	$ 71.40	6	$ 428.40
18	2	Boat Motor Throttle and Steering Cable	http://outboardjets.com/downloa	$ 55.00	3	$ 165.00	$ 55.00	3	$ 165.00	$ 56.10	3	$ 168.30
19	2	Boat Batteries	https://www.batteriesplus.com/se	$ 95.00	3	$ 285.00	$ 95.00	3	$ 285.00	$ 96.90	3	$ 290.70
20	2	Boat Trailer Bunks	https://www.basspro.com/shop/e	$ 59.00	6	$ 354.00	$ 59.00	6	$ 354.00	$ 60.18	6	$ 361.08
21	2	Boat Trailer Lights	https://www.cabelas.com/shop/e	$ 39.99	2	$ 79.98	$ 39.99	2	$ 79.98	$ 40.79	2	$ 81.58
	2	Boat Trailer Bearings	https://www.cabelas.com/shop/e	$ 124.99	3	$ 374.97	$ 124.99	3	$ 374.97	$ 127.49	3	$ 382.47
22	2	Boat Motor Oil and Grease	Boat motor oil estimated at appr	$ 636.00	1	$ 636.00	$ 636.00	1	$ 636.00	$ 648.72	1	$ 648.72
23	2	Boat Fuel	Boat fuel estimated at 1,665 gall	$ 1,631.70	3	$ 4,895.10	$ 1,631.70	3	$ 4,895.10	$ 1,664.33	3	$ 4,993.00
24	2	Generator Motor Oil and Fuel, Misc. Parts, Tools	Generator oil estimated at 6 qua	$ 706.40	1	$ 706.40	$ 706.40	1	$ 706.40	$ 720.53	1	$ 720.53
25	2	Maintenance of Electrofishing Arrays	4 fiberglass booms @ $425/boor	$ 2,400.00	1	$ 2,400.00	$ 2,400.00	1	$ 2,400.00	$ 2,448.00	1	$ 2,448.00
			TOTAL:			**$ 31,931.20**			**$ 25,481.20**			**$ 25,990.83**

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPL	Yr 4 Escalation Rate	2.00%

	Task # or Description	Item Description	Year 4 Unit Price	Year 4 Unit Quantity	Year 4 Subtotal
1	2	ETS Factory Calibration and Shipping	$ 166.46	3	$ 499.39
2	2	Experimental Gill Net	$ 312.12	5	$ 1,560.60
3	2	Standard Bar Mesh Block Net	$ 312.12	5	$ 1,560.60
	2	Float	$ 15.61	0	$ -
4	2	Dip Net	$ 93.64	20	$ 1,872.72
5	2	Measuring Board	$ 192.47	2	$ 384.95
6	2	Spring Scale	$ 130.05	4	$ 520.20
7	2	Net Pen	$ 104.04	2	$ 208.08
8	2	Digital Scale	$ 390.15	2	$ 780.30
9	2	Weigh Boat	$ 52.02	2	$ 104.04
10	2	Wader/Wading Boots	$ 728.28	5	$ 3,641.40
11	2	Lifejacket	$ 124.80	5	$ 623.98
12	2	Rain Coat/Pants	$ 208.08	5	$ 1,040.40
13	2	Gloves	$ 52.02	12	$ 624.24
14	2	Boat Tune-Ups/Winterizations	$ 166.46	3	$ 499.39
15	2	Boat Motor Jet Sleeve/Liner	$ 62.42	6	$ 374.54
16	2	Boat Motor Impeller	$ 494.19	3	$ 1,482.57
17	2	Boat Motor Water Pump and Kit	$ 72.83	6	$ 436.97
18	2	Boat Motor Throttle and Steering Cable	$ 57.22	3	$ 171.67
19	2	Boat Batteries	$ 98.84	3	$ 296.51
20	2	Boat Trailer Bunks	$ 61.38	6	$ 368.30
21	2	Boat Trailer Lights	$ 41.61	2	$ 83.21
	2	Boat Trailer Bearings	$ 130.04	3	$ 390.12
22	2	Boat Motor Oil and Grease	$ 661.69	1	$ 661.69
23	2	Boat Fuel	$ 1,697.62	3	$ 5,092.86
24	2	Generator Motor Oil and Fuel, Misc. Parts, Tools	$ 734.94	1	$ 734.94
25	2	Maintenance of Electrofishing Arrays	$ 2,496.96	1	$ 2,496.96
					$ 26,510.63

SUMMARY OF MATERIALS AND SUPPLIES

SUMMARY OF MATERIALS, SUPPL	Yr 5 Escalation Rate	2.00%

	Task # or Description	Item Description	Year 5 Unit Price	Unit Quantity	Subtotal	TOTAL
1	2	ETS Factory Calibration and Shipping	$ 169.79	3	$ 509.38	$ 2,458.37
2	2	Experimental Gill Net	$ 318.36	5	$ 1,591.81	$ 10,682.41
3	2	Standard Bar Mesh Block Net	$ 318.36	5	$ 1,591.81	$ 10,682.41
	2	Float	$ 15.92	0	$ -	$ 450.00
4	2	Dip Net	$ 95.51	20	$ 1,910.17	$ 9,218.89
5	2	Measuring Board	$ 196.32	2	$ 392.65	$ 1,895.00
6	2	Spring Scale	$ 132.65	4	$ 530.60	$ 2,560.80
7	2	Net Pen	$ 106.12	2	$ 212.24	$ 1,024.32
8	2	Digital Scale	$ 397.95	2	$ 795.91	$ 3,841.21
9	2	Weigh Boat	$ 53.06	2	$ 106.12	$ 512.16
10	2	Wader/Wading Boots	$ 742.85	5	$ 3,714.23	$ 17,925.63
11	2	Lifejacket	$ 127.29	5	$ 636.46	$ 3,071.69
12	2	Rain Coat/Pants	$ 212.24	5	$ 1,061.21	$ 5,121.61
13	2	Gloves	$ 53.06	12	$ 636.72	$ 3,072.96
14	2	Boat Tune-Ups/Winterizations	$ 169.79	3	$ 509.38	$ 2,458.37
15	2	Boat Motor Jet Sleeve/Liner	$ 63.67	6	$ 382.03	$ 1,843.77
16	2	Boat Motor Impeller	$ 504.07	3	$ 1,512.22	$ 7,298.29
17	2	Boat Motor Water Pump and Kit	$ 74.28	6	$ 445.71	$ 2,151.08
18	2	Boat Motor Throttle and Steering Cable	$ 58.37	3	$ 175.10	$ 845.07
19	2	Boat Batteries	$ 100.81	3	$ 302.44	$ 1,459.65
20	2	Boat Trailer Bunks	$ 62.61	6	$ 375.67	$ 1,813.05
21	2	Boat Trailer Lights	$ 42.44	2	$ 84.88	$ 409.63
	2	Boat Trailer Bearings	$ 132.64	3	$ 397.92	$ 1,920.45
22	2	Boat Motor Oil and Grease	$ 674.93	1	$ 674.93	$ 3,257.34
23	2	Boat Fuel	$ 1,731.57	3	$ 5,194.72	$ 25,070.78
24	2	Generator Motor Oil and Fuel, Misc. Parts, Tools	$ 749.64	1	$ 749.64	$ 3,617.91
25	2	Maintenance of Electrofishing Arrays	$ 2,546.90	1	$ 2,546.90	$ 12,291.86
					$ 27,040.85	**$ 136,954.71**

SUMMARY OF TRAVEL COSTS

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	Task 3					
From-To	to Craig, CO					
Reason	Field Work					
# of Days (include travel days)	18					
Airfare						
Lodging (Per Night)	$ 96.00					
MI&E Per Day	$ 55.00					
Auto Rental Per Day						
Misc Costs/Adjustments/Trip	Did not use formula-see notes					
Total Per Trip	$ 2,718.00					
No. of persons	4					
Mileage rate						
Total miles						
SUBTOTAL =	$ 10,872.00	$ -	$ -	$ -	$ -	$ 10,872.00

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	Task 3 (cont.)					
From-To	to Craig, CO					
Reason	Field Work					
# of Days (include travel days)	6					
Airfare						
Lodging (Per Night)	$ 96.00					
MI&E Per Day	$ 42.00					
Auto Rental Per Day						
Misc Costs/Adjustments/Trip	Did not use formula-see notes					
Total Per Trip	$ 828.00					
No. of persons	4					
Mileage rate						
Total miles						
SUBTOTAL =	$ 3,312.00	$ -	$ -	$ -	$ -	$ 3,312.00

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	Task 3 (cont.)					
From-To	to Craig, CO					
Reason	Field Work					
# of Days (include travel days)	6					
Airfare						
Lodging (Per Night)						
MI&E Per Day	$ 27.00					
Auto Rental Per Day						
Misc Costs/Adjustments/Trip	Did not use formula-see notes					
Total Per Trip	$ 162.00					
No. of persons	4					
Mileage rate						
Total miles						
SUBTOTAL =	$ 648.00	$ -	$ -	$ -	$ -	$ 648.00

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #				Task 4	Task 4	
From-To				to Craig, CO	to Craig, CO	
Reason				Field Work	Field Work	
# of Days (include travel days)				12	12	
Airfare						
Lodging (Per Night)				$ 96.00	$ 96.00	
MI&E Per Day				$ 55.00	$ 55.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip				Did not use formula	Did not use formula-see notes	
Total Per Trip				$ 1,812.00	$ 1,812.00	
No. of persons				6	6	
Mileage rate						
Total miles						
SUBTOTAL =				$ 10,872.00	$ 10,872.00	$ 21,744.00

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #				Task 4 (cont.)	Task 4 (cont.)	
From-To				to Craig, CO	to Craig, CO	
Reason				Field Work	Field Work	
# of Days (include travel days)				4	4	
Airfare						
Lodging (Per Night)				$ 96.00	$ 96.00	
MI&E Per Day				$ 42.00	$ 42.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip				Did not use formula	Did not use formula-see notes	
Total Per Trip	$ -	$ -	$ -	$ 552.00	$ 552.00	
No. of persons				6	6	
Mileage rate						
Total miles						
SUBTOTAL =	$ -	$ -	$ -	$ 3,312.00	$ 3,312.00	$ 6,624.00

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #				Task 4 (cont.)	Task 4 (cont.)	
From-To				to Craig, CO	to Craig, CO	
Reason				Field Work	Field Work	
# of Days (include travel days)				4	4	
Airfare						
Lodging (Per Night)						
MI&E Per Day				$ 27.00	$ 27.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip				Did not use formula	Did not use formula-see notes	
Total Per Trip	$ -	$ -	$ -	$ 108.00	$ 108.00	
No. of persons				6	6	
Mileage rate						
Total miles						
SUBTOTAL =	$ -	$ -	$ -	$ 648.00	$ 648.00	$ 1,296.00

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	Task 5	Task 5	Task 5	Task 5	Task 5	
From-To	to Craig, CO	to Craig, CO	to Craig, CO	to Craig, CO	to Craig, CO	
Reason	Field Work	Field Work	Field Work	Field Work	Field Work	
# of Days (include travel days)	6	6	6	6	6	
Airfare						
Lodging (Per Night)	$ 96.00	$ 96.00	$ 96.00	$ 96.00	$ 96.00	
MI&E Per Day	$ 55.00	$ 55.00	$ 55.00	$ 55.00	$ 55.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip	Did not use formula	Did not use formula	Did not use formula	Did not use formula	Did not use formula-see notes	
Total Per Trip	**$ 906.00**	**$ 906.00**	**$ 906.00**	**$ 906.00**	**$ 906.00**	
No. of persons	6	6	6	6	6	
Mileage rate						
Total miles						
SUBTOTAL =	**$ 5,436.00**	**$ 5,436.00**	**$ 5,436.00**	**$ 5,436.00**	**$ 5,436.00**	**$ 27,180.00**

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	
From-To	to Craig, CO	to Craig, CO	to Craig, CO	to Craig, CO	to Craig, CO	
Reason	Field Work	Field Work	Field Work	Field Work	Field Work	
# of Days (include travel days)	2	2	2	2	2	
Airfare						
Lodging (Per Night)	$ 96.00	$ 96.00	$ 96.00	$ 96.00	$ 96.00	
MI&E Per Day	$ 42.00	$ 42.00	$ 42.00	$ 42.00	$ 42.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip	Did not use formula	Did not use formula	Did not use formula	Did not use formula	Did not use formula-see notes	
Total Per Trip	**$ 276.00**	**$ 276.00**	**$ 276.00**	**$ 276.00**	**$ 276.00**	
No. of persons	6	6	6	6	6	
Mileage rate						
Total miles						
SUBTOTAL =	**$ 1,656.00**	**$ 1,656.00**	**$ 1,656.00**	**$ 1,656.00**	**$ 1,656.00**	**$ 8,280.00**

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	
From-To	to Craig, CO	to Craig, CO	to Craig, CO	to Craig, CO	to Craig, CO	
Reason	Field Work	Field Work	Field Work	Field Work	Field Work	
# of Days (include travel days)	2	2	2	2	2	
Airfare						
Lodging (Per Night)						
MI&E Per Day	$ 27.00	$ 27.00	$ 27.00	$ 27.00	$ 27.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip	Did not use formula	Did not use formula	Did not use formula	Did not use formula	Did not use formula-see notes	
Total Per Trip	**$ 54.00**	**$ 54.00**	**$ 54.00**	**$ 54.00**	**$ 54.00**	
No. of persons	6	6	6	6	6	
Mileage rate						
Total miles						
SUBTOTAL =	**$ 324.00**	**$ 324.00**	**$ 324.00**	**$ 324.00**	**$ 324.00**	**$ 1,620.00**

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	
From-To	to Craig, CO	to Craig, CO	to Craig, CO	to Craig, CO	to Craig, CO	
Reason	Field Work	Field Work	Field Work	Field Work	Field Work	
# of Days (include travel days)	3	3	3	3	3	
Airfare						
Lodging (Per Night)	$ 96.00	$ 96.00	$ 96.00	$ 96.00	$ 96.00	
MI&E Per Day	$ 55.00	$ 55.00	$ 55.00	$ 55.00	$ 55.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip	Did not use formula	Did not use formula	Did not use formula	Did not use formula	Did not use formula-see notes	
Total Per Trip	**$ 453.00**	**$ 453.00**	**$ 453.00**	**$ 453.00**	**$ 453.00**	
No. of persons	2	2	2	2	2	
Mileage rate						
Total miles						
SUBTOTAL =	**$ 906.00**	**$ 906.00**	**$ 906.00**	**$ 906.00**	**$ 906.00**	**$ 4,530.00**

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	
From-To	to Craig, CO	to Craig, CO	to Craig, CO	to Craig, CO	to Craig, CO	
Reason	Field Work	Field Work	Field Work	Field Work	Field Work	
# of Days (include travel days)	1	1	1	1	1	
Airfare						
Lodging (Per Night)	$ 96.00	$ 96.00	$ 96.00	$ 96.00	$ 96.00	
MI&E Per Day	$ 42.00	$ 42.00	$ 42.00	$ 42.00	$ 42.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip	Did not use formula	Did not use formula	Did not use formula	Did not use formula	Did not use formula-see notes	
Total Per Trip	$ 138.00	$ 138.00	$ 138.00	$ 138.00	$ 138.00	
No. of persons	2	2	2	2	2	
Mileage rate						
Total miles						
SUBTOTAL =	$ 276.00	$ 276.00	$ 276.00	$ 276.00	$ 276.00	$ 1,380.00

Cost Element	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Trip #	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	Task 5 (cont.)	
From-To	to Craig, CO	to Craig, CO	to Craig, CO	to Craig, CO	to Craig, CO	
Reason	Field Work	Field Work	Field Work	Field Work	Field Work	
# of Days (include travel days)	1	1	1	1	1	
Airfare						
Lodging (Per Night)						
MI&E Per Day	$ 27.00	$ 27.00	$ 27.00	$ 27.00	$ 27.00	
Auto Rental Per Day						
Misc Costs/Adjustments/Trip	Did not use formula	Did not use formula	Did not use formula	Did not use formula	Did not use formula-see notes	
Total Per Trip	$ 27.00	$ 27.00	$ 27.00	$ 27.00	$ 27.00	
No. of persons	2	2	2	2	2	
Mileage rate						
Total miles						
SUBTOTAL =	$ 54.00	$ 54.00	$ 54.00	$ 54.00	$ 54.00	$ 270.00

	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
TOTAL COST BY PERIOD =	$ 23,484.00	$ 8,652.00	$ 8,652.00	$ 23,484.00	$ 23,484.00	$ 87,756.00

SUMMARY OF EQUIPMENT COSTS

SUMMARY OF EQUIPMENT

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

				Year 1			Year 2		
	Task # or Description	Item Description	Rationale for Proposed Cost	Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal
1	2	ETS Unit	Mark, ETS 608-661-0599	$ 6,500.00	1	$ 6,500.00	$ 6,500.00	0	$ -
2	2	Honda EG6500 Watt Generator	https://www.murdochs.com/search/?query=honda%20generator&sortBy=production_murdochs_variants	$ 1,979.99	0	$ -	$ 1,979.99	1	$ 1,979.99
3				$ -	0	$ -	$ -	0	$ -
4				$ -	0	$ -	$ -	0	$ -
5				$ -	0	$ -	$ -	0	$ -
6				$ -	0	$ -	$ -	0	$ -
7				$ -	0	$ -	$ -	0	$ -
8				$ -	0	$ -	$ -	0	$ -
9				$ -	0	$ -	$ -	0	$ -
10				$ -	0	$ -	$ -	0	$ -
11				$ -	0	$ -	$ -	0	$ -
12				$ -	0	$ -	$ -	0	$ -
13				$ -	0	$ -	$ -	0	$ -
14				$ -	0	$ -	$ -	0	$ -
15				$ -	0	$ -	$ -	0	$ -
16				$ -	0	$ -	$ -	0	$ -
17				$ -	0	$ -	$ -	0	$ -
18				$ -	0	$ -	$ -	0	$ -
19				$ -	0	$ -	$ -	0	$ -
20				$ -	0	$ -	$ -	0	$ -
21				$ -	0	$ -	$ -	0	$ -
22				$ -	0	$ -	$ -	0	$ -
23				$ -	0	$ -	$ -	0	$ -
24				$ -	0	$ -	$ -	0	$ -
25				$ -	0	$ -	$ -	0	$ -
26				$ -	0	$ -	$ -	0	$ -
27				$ -	0	$ -	$ -	0	$ -
28				$ -	0	$ -	$ -	0	$ -
29				$ -	0	$ -	$ -	0	$ -
30				$ -	0	$ -	$ -	0	$ -
			TOTAL:			$ 6,500.00			$ 1,979.99

SUMMARY OF EQUIPMENT COSTS

SUMMARY OF EQUIPMENT	Yr 3 Escalation Rate	2.00%	Yr 4 Escalation Rate	2.00%	Yr 5 Escalation Rate	2.00%

			Year 3			Year 4			Year 5			
	Task # or Description	Item Description	Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal	Unit Price	Unit Quantity	Subtotal	TOTAL
1	2	ETS Unit	$ 6,630.00	1	$ 6,630.00	$ 6,762.60	0	$ -	$ 6,897.85	1	$ 6,897.85	**$ 20,027.85**
2	2	Honda EG6500 Watt Generator	$ 2,019.59	1	$ 2,019.59	$ 2,059.98	1	$ 2,059.98	$ 2,101.18	0	$ -	**$ 6,059.56**
3			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
4			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
5			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
6			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
7			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
8			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
9			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
10			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
11			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
12			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
13			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
14			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
15			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
16			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
17			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
18			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
19			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
20			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
21			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
22			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
23			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
24			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
25			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
26			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
27			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
28			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
29			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
30			$ -	0	$ -	$ -	0	$ -	$ -	0	$ -	**$ -**
					$ 8,649.59			**$ 2,059.98**			**$ 6,897.85**	**$ 26,087.41**