

COLORADO RIVER RECOVERY PROGRAM
FY-2016/2017 PROPOSED SCOPE OF WORK for:
Operation and Maintenance of Ouray National Fish Hatchery - Grand Valley Unit

Project No.: 29a

Reclamation Agreement number: R13PG40018
Reclamation Agreement term: June 3, 2013 – Sept. 30, 2017

Lead Agency: Fish and Wildlife Service
Ouray National Fish Hatchery - Grand Valley Unit (Ouray NFH-GVU)

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Category

- Ongoing project
 Ongoing-revised project
 Requested project
 Unsolicited proposal

Expected Funding Source

- Annual funds
 Capital Funds
 Other

I. Title of Proposal: **Operation and Maintenance of Ouray National Fish Hatchery - Grand Valley Unit**

II. Relationship to 2013 RIPRAP:

General Recovery Program Support Action Plan:

- IV. Manage genetic integrity and augment or restore populations (stocking endangered fishes).
IV.A. Genetics Management.
IV.A.4. Secure and manage the following species in hatcheries (according to the Genetics Management Plan).
IV.A.4.a. Razorback sucker.
IV.A.4.a.(2) Upper Colorado River.
IV.A.4.b. Bonytail.
IV.A.4.c. Humpback chub.

- IV.A.4.c.(1) Black Rocks Canyon (Broodstock currently represented by wild fish in the river).
- IV.B. Conduct annual fish propagation activities.
- IV.B.2. Implement integrated stocking plan (2012 Revised Integrated Stocking Plan of the Upper Colorado River Endangered Fish Recovery Program).
- IV.C. Operate and maintain facilities.
- IV.C.2. Ouray NFH – Grand Valley Unit

Four program documents are used to plan, implement, and coordinate genetics management and artificial propagation activities for endangered fishes at Ouray NFH-GVU. These are the Genetics Management Guidelines, Genetics Management Plan, Coordinated Hatchery Facility Plan (Facility Plan), and Revised Integrated Stocking Plan (Integrated Stocking Plan Revision Committee 2015).

III. Study Background/Rationale and Hypotheses

This project is directly related to Section 2.4 IV. A Conserve Genetic Integrity and Augment or Restore Populations (Stocking Endangered Fishes) (USFWS 2013). One of five elements in the Recovery Program is native fish stocking. The goal of this element is to produce sufficient captive-reared endangered fishes for conducting laboratory and field research and to develop brood stocks with genetic diversity similar to the wild stock used as founders (Williamson and Wydoski 1994). The need for captive-reared endangered fish and propagation facilities is identified in Wydoski (1994).

Endangered fishes have been cultured and reared in the upper basin since 1987. Propagation began in the Grand Valley in 1991 with construction of Horsethief Refugia Ponds at Horsethief State Wildlife Area. The refugia ponds were constructed to develop and hold broodstock consisting of the last wild razorback suckers captured from the upper Colorado River. Production of razorback suckers began in 1996 when an intensive-rearing, water-reuse hatchery building (24-Road Hatchery) was built. The hatchery was expanded in 1998 and is currently capable of producing about 28,000 young razorback suckers averaging 200mm long each year. During the 2000s, numerous constructed and leased grow-out ponds were used to rear razorback suckers large enough for stocking into the rivers of the upper basin. However, these ponds were not only geographically widespread, but also very disparate in terms of shape, size, depth, ease of access, security, productivity, and rates of return. From 2010-2015, all but one of these leases were allowed to expire. The Recovery Program now only maintains one leased (Aubyn Morse pond – through 23 April 2016) and a few “freebie” grow-out ponds (e.g., CDOT Pond). The Horsethief Canyon Native Fish Facility (HCNFF) ponds, completed in summer 2012, replaced these older, less efficient grow-out ponds. This facility located near Fruita, CO consists of 22 (6.2 total acres of) lined ponds that will allow Ouray NFH-GVU to better standardize producing, rearing, and managing endangered fish production.

To summarize, the Ouray NFH-GVU currently consists of several separate facilities, all of which are managed by hatchery staff to achieve the same goal. These include the 24-Road Hatchery building, the newly constructed HCNFF ponds, the older Horsethief refugia ponds, Peter's Ponds, Morse Pond (leased through April 2016) and several other "freebie" grow-out ponds.

The first young razorback suckers produced at what is now Ouray NFH-GVU were stocked into the Gunnison River in 1995. More than 100,000 razorback suckers have been stocked into the Gunnison and Colorado rivers since then. Ouray NFH-GVU annually maintains a broodstock of 500-1,000 adult razorback sucker, including offspring (f_1 s) from several distinct year-classes. Fish from younger year classes (f_2 s) are also being held and will be added to the broodstock as they mature. Accurate records of lineage for all fish are maintained to ensure that the maximum amount of original genetic material is maintained in the broodstock. Spawning is controlled to ensure that equal numbers of offspring (eventually encompassing several generations) from the original, wild broodstock will be stocked into the river system over the duration of the propagation program.

In May 2013, bonytail were brought to Ouray NFH-GVU from the Colorado Parks and Wildlife's Mumma Hatchery. These fish are held both for production of broodstock and for production of fish for stocking into the rivers of the upper Colorado River basin.

Also in 2014, the Colorado River Fishery Project (CRFP) office in Grand Junction, CO collected (via seining) and brought in wild juvenile chub (*Gila* spp.) from the Black Rocks area of the Colorado River near the Colorado-Utah state line to Ouray NFH-GVU. These fish will be reared to a size where species can be determined. If wild humpback chub are among them, these fish will be held at Ouray NFH-GVU for development of a broodstock and as a refugia population. Any wild roundtail chub from this group of fish will be repatriated to the Colorado River.

IV. Study Goals, Objectives, End Product:

Goal: To operate a genetically sound captive propagation program for high priority endangered fish species for the RIP in the Upper Colorado River Basin in accordance with the Annual Stocking Plan (Nesler et al. 2003).

Objective: Operate and maintain propagation facilities that are needed to hold, rear, or produce captive-reared endangered fishes for the RIP in the Upper Colorado River Basin in accordance with the Annual Propagation Operation Plan.

End Product: Maintenance of endangered fish in refugia to prevent extinction; development of genetically sound broodstocks for production of young fish for stocking to stabilize or enhance wild stocks; production of captive-reared endangered fish for priority laboratory and field experiments.

V. Study Area:

Upper Colorado River Basin; Ouray NFH-GVU propagation facilities are located in and around Grand Junction and Fruita, CO.

VI. Methods/Approach:

Conduct all tasks associated with the operation and maintenance of Ouray NFH-GVU facilities in accordance with the Genetic Management Plan (Williamson and Wydoski 1994; Czaplá 1999), the annual propagation plan, and the latest version of the Integrated Stocking Plan for Razorback Sucker and Bonytail (UCREFRP 2015).

VII. Task Description and Schedule:

All tasks are done annually

1. Develop and maintain captive broodstock for:
 - a. Razorback sucker
 - b. Bonytail
2. Spawn broodstock and produce family lots for culture at either the HCNFF ponds or the 24-Road Hatchery building
 - a. Razorback sucker
 - b. Bonytail.
3. Intensively rear razorback sucker and bonytail.
 - a. Also maintain a refugia population of humpback chub brought into captivity.
4. Stock 200mm razorback suckers into grow-out ponds in spring.
5. Maintain water level, water quality, and productivity in HCNFF ponds, Morse Pond and “freebie” grow-out ponds.
6. Operate and maintain Ouray NFH-GVU facilities to:
 - a. Hold, produce, and rear razorback sucker and bonytail
 - c. Hold and rear humpback chub brought in from the wild
7. Harvest, PIT tag, and stock target numbers of endangered fish annually:
 - a. 6,000 razorback sucker (mean = 350 mm TL) into the Gunnison and Colorado rivers (anticipated at 3,000 in each river)
 - b. 10,000 bonytail (mean = 250 mm TL) with stocking locations to be determined by hatchery and state managers along with the Recovery Program Office as time of stocking approaches.

VIII. Yearly Budgets

Fiscal Year 2016 Budget:

(Based on projected FY-2016 costs for Tasks 1-7)

Personnel/Labor Costs (Federal Salary + Benefits)

Fishery Biologist (GS-11 – 1,960 hrs {245 days} @ \$53.03/hr)	\$103,939
Fishery Biologist (GS-11 – 1,960 hrs {245 days} @ \$53.03/hr)	\$103,939
Biological Technician (GS-7 – 1,960 hrs {245 days} @ \$33.70/hr)	\$ 66,052
Biological Technicians (Two GS-5 – 600 hrs {75 days} each {1,200 total hrs} @ \$24.96/hr)	\$ 29,952
Overtime:	
Biological Technician Overtime (GS-7): 1 person 120 total hrs O/T @ \$50.55/hr 10 weekend days @ 8 hrs O/T per day (80 hrs) 20 weekdays @ 2 hrs O/T per day (40 hrs)	\$ 6,066
Biological Technicians Overtime (GS-5): 2 people 80 total hours O/T @ \$37.44/hr 20 weekdays @ 2 hrs per day X 2 people	<u>\$ 2,995</u>
Sub Total	\$312,943

Permitting; Coordination; Data Input, Analysis, Management & Presentation; Report Writing; Office & Administrative Support (Federal Salary + Benefits)

Project Leader (GS-14 - 320 hrs {40 days} @ \$83.42/hr)	\$ 26,694
Administrative Officer (GS-9 – 320 hrs {40 days} @ \$44.72/hr)	<u>\$ 14,310</u>
Sub Total	\$ 41,004

In-Kind Services

Bozeman Fish Technology Center

Grind and sift fish food for larval razorback suckers

*** see FY-2014 budget for line item breakdowns

FY-2015 Budget Cost	<u><\$2,652></u>
Subtotal with 3% added for inflation	<u><\$2,732></u>

Operations (Fish Food, Chemicals and Fertilizer, Hatchery Supplies, Vehicles and Fuel, Electricity)

Fish Food (from Skretting USA)

Actual costs = 4 orders of fish food per year (1 order per fiscal quarter) at \$18,350 each = \$73,400. The line items below represent one of our four orders (placed April 2015).

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This fish food order will last us 90 days. We have several different sizes of fish on station, thus the different sizes of food in each order.

Trout # 1 Crumble: 1,000 lbs @ \$1.18 per lb = \$1,180
Trout # 2 Crumble: 1,000 lbs @ \$1.17 per lb = \$1,170
1.0 mm RZ Grower 2,000 lbs @ \$1.00 per lb = \$2,000
2.0 mm RZ Grower 4,000 lbs @ \$1.00 per lb = \$4,000
3.0 mm RZ Grower 8,000 lbs @ \$1.00 per lb = \$8,000
4.0 mm RZ Grower 2,000 lbs @ \$1.00 per lb = \$2,000
Fish Food Subtotal \$ 73,400

Chemicals and Fertilizer

Exact use of the money in this line item will vary from year to year depending on specific chemical/fertilizer/herbicide needs in a particular year. It will also depend on if there are outbreaks of pathogens that need to be treated (e.g., "Ich") in a given year. Funds for a "typical" field season for one study would likely include the following:

Sodium Bicarbonate (pH increaser) = \$5,600
Eighty 50-lb bags @ \$70 per bag annually
Copper Sulfate = \$4,825
Ten 50-lb bags (pellets) @ \$95 each = \$950
50 gallons 10% solution @ \$77.50/gallon
= \$3,875
Spartan Sparquat 256 Germicidal Cleaner = \$300
10 gallons @ \$30 per gallon
Chloram-X (dechloriator) = \$1,440
Sixteen 10 lb buckets (4/case, 4 cases/year)
@ \$90/bucket
Fiquel brand MS-222 anesthetic = \$900
Two 1 kg bottles @ \$450/bottle
Chloramine-T = \$880
Two 55-lb containers @ \$440 per container
Formalin (10% fixative) = \$2,100
Four 55-gallon drums @ \$275 each
Specialized Haz-Mat shipping @ \$1,000
Denatured ethyl alcohol = \$760
Eight 5-gallon jugs @ \$95 per jug
Distilled water = \$300
Ten 2-gallon jugs @ \$30 per jug
Stress Coat (slime coat replacement) = \$290
Two 5-gallon containers @ \$145 each

No-Foam De-Foamer = \$210
 6 gallons @ \$35/gallon
 Weed killer (2,4-D and Roundup) = \$3,200
 2,4-D 40 quarts of concentrate @ \$35 each
 Roundup 10 gallons concentrate @ \$180 each
 Aquashade (water colorant) = \$3,000
 50 gallons @ \$60 per gallon
 Dimilin 25W (for anchor worm control) = \$5,000
 Twenty 5 lb boxes @ \$250 per 5 lb box
Chemicals and Fertilizer Subtotal \$ 28,805

Hatchery Supplies and Equipment Repair and Replacement

Exact use of the money in this line item will vary from year to year depending on specific equipment repair, replacement, or upgrade needs needs in a particular year. Funds for a “typical” field season for one study would likely include the following:

Egg hatching jars – Model J30 = \$455
 5 @ \$85/each
 24-hr belt feeder = \$2,700
 Repair/replace 10 annually @ \$270 each
 Waders = \$225
 Replace 3 pair annually @ \$75 each
 Duraframe dip nets = \$1,500
 Replace 5 annually @ \$300 each
 Digital scale repair, replace battery, recalibration = \$1,500
 (3 scales per year @ \$500 per service per scale)
 YSI brand water chemistry meters = \$2,000
 (dissolved oxygen, pH, salinity) – repair, replace, recalibrate annually
 HVAC service = \$1,200
 Done annually
 Service fish food cooler refrigeration unit = \$750
 Done annually
 Service the backup generator = \$700
 Done annually
 Pump & motor maintenance/service = \$5,700
 Labor & parts to rebuild:
 One portable water pump/year = \$1,700
 One hatchery motor/pump set/year = \$4,000
 Fluorescent hatchery lights = \$2,200
 Replace ½ of all hatchery lights annually
 Tank Cleaning Supplies = \$235

Scotch-Brite pads, scrubbing handles
 Maintenance tool replacement = \$400
 Screwdrivers, crescent wrenches, monkey
 wrenches, vise grips, hammers, rubber mallets,
 ratchets & sockets, drills & drill bits, chop saw
 blades
 Plumbing supplies = \$2,000
 PVC pipe, couplers, primer & glue
 Refill compressed oxygen bottles = \$2,500
 50 per year @ \$50 each
 Air stones, tubing couplers, hose clamps = \$1,500
 0.4" air stones – 20 @ \$50 each = \$1,000
 Tubing, couplers, hose clamps = \$500
 Screens and pond boards = \$3,700
 10 screens @ \$300/screen
 PVC lumber for making screen frames
 Metal mesh for making screens
 Redwood pond boards
 100 boards (2" X 8" X 6') @ \$7 each = \$700
 Koch rings = \$500
 For aerating water in packed columns
 Sand = \$2,000
 For sand filters - 1 pallet = twenty 80 lb bags
Hatchery Supplies Subtotal \$ 31,765

Office Supplies
 Staples, copier paper, pencils/pens, paperclips,
 note pads, cleaning supplies, toilet paper, paper
 towels, etc.
Office Supplies Subtotal \$ 1,500

Vehicles (maintenance & repair) and fuel
 Vehicles: GSA-lease rate (@ \$365/month lease = \$12.17 per
 day based on 30 days in an "average" month + \$0.33/mile)
 Hatchery pickup truck = \$9,803
 24-Road Hatchery Building to Horsethief Canyon Native
 Fish Facility ponds (45 mile round trip X 1 vehicle X
 365 days per year = 16,425 total miles per year)

Fuel
 Diesel fuel = \$350
 For Kubota tractor – one 55-gallon drum of diesel @
 \$250 (includes fuel, barrel & delivery)
 For back-up generator at hatchery – 25 gallons @
 \$4.00/gallon

Repair/replace shocks, struts, brakes = \$800	
Vehicles and Fuel Subtotal	\$ 10,953
Electricity = \$6,800	
For pump and spawning shed at the Horsethief State Wildlife Area brood ponds 8 months operation at \$850/month	
Electricity Subtotal	<u>\$ 6,800</u>
Operations Subtotal	<u>\$153,223</u>
Fish and Wildlife Service CRFP Total	\$507,170
Bureau of Reclamation	
Utilities for 24 Rd Hatchery (gas, electricity, phone)	\$ 43,000
FY-2016 Total	\$550,170

Fiscal Year 2017 Budget:

(Based on projected FY-2017 costs for Tasks 1-7)

Personnel/Labor Costs (Federal Salary + Benefits)

Fishery Biologist (GS-11 – 1,960 hrs {245 days} @

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\$54.63/hr)	\$107,075
Fishery Biologist (GS-11 – 1,960 hrs {245 days} @	
\$54.63/hr)	\$107,075
Biological Technician (GS-7 – 1,960 hrs {245 days} @	
\$34.71/hr	\$ 68,032
Biological Technicians (Two GS-5 – 600 hrs {75 days} each {1,200 total hrs} @ \$25.70/hr)	\$ 30,840
Overtime:	
Biological Technician Overtime (GS-7): 1 person	
120 total hrs O/T @ \$52.07/hr	
10 weekend days @ 8 hrs O/T per day (80 hrs)	
20 weekdays @ 2 hrs O/T per day (40 hrs)	\$ 6,248
Biological Technicians Overtime (GS-5): 2 people	
80 total hours O/T @ \$38.55/hr	
20 weekdays @ 2 hrs per day X 2 people	<u>\$ 3,084</u>
Sub Total	\$322,354

Permitting; Coordination; Data Input, Analysis, Management & Presentation; Report Writing; Office & Administrative Support (Federal Salary + Benefits)

Project Leader (GS-14 - 320 hrs {40 days} @ \$85.92/hr)	\$ 27,494
Administrative Officer (GS-9 – 320 hrs {40 days} @ \$46.06/hr)	<u>\$ 14,739</u>
Sub Total	\$ 42,233

In-Kind Services

Bozeman Fish Technology Center	
Grind and sift fish food for larval razorback suckers	
*** see FY-2016 budget for line item breakdowns	
FY-2016 Budget Cost	<u><\$2,732></u>
Subtotal with 3% added for inflation	<u><\$2,814></u>

Operations (Fish Food, Chemicals and Fertilizer, Hatchery Supplies, Vehicles and Fuel, Electricity)

*** see FY-2016 budget for line item breakdowns	
FY-2016 Budget Cost	<u>\$153,223</u>
FY-2017 cost held at FY-2016 levels	\$153,223

Fish and Wildlife Service CRFP Total \$517,810

Bureau of Reclamation
Utilities for 24 Rd Hatchery (gas, electricity, phone) \$ 43,000

FY-2017 Total \$560,810

**Out-year budgets for Operation and Maintenance of Ouray
National Fish Hatchery – Grand Valley Unit: 2016-2018**

**THESE BUDGETS ARE ESTIMATES ONLY AND MAY
NOT REPRESENT ACTUAL COSTS**

Fiscal Year 2018 Budget:

(Based on projected FY-2018 costs for Tasks 1-7)

Personnel/Labor Costs (Federal Salary + Benefits)

Fishery Biologist (GS-11 – 1,960 hrs {245 days} @
\$56.27/hr)

\$110,289

Fishery Biologist (GS-11 – 1,960 hrs {245 days} @ \$56.27/hr)	\$110,289
Biological Technician (GS-7 – 1,960 hrs {245 days} @ \$35.75/hr)	\$ 70,070
Biological Technicians (Two GS-5 – 600 hrs {75 days} each {1,200 total hrs} @ \$26.48/hr)	\$ 31,776
Overtime:	
Biological Technician Overtime (GS-7): 1 person 120 total hrs O/T @ \$53.63/hr	
10 weekend days @ 8 hrs O/T per day (80 hrs)	
20 weekdays @ 2 hrs O/T per day (40 hrs)	\$ 6,436
Biological Technicians Overtime (GS-5): 2 people 80 total hours O/T @ \$39.72/hr	
20 weekdays @ 2 hrs per day X 2 people	\$ 3,178
Sub Total	\$332,038

Permitting; Coordination; Data Input, Analysis, Management & Presentation; Report Writing; Office & Administrative Support (Federal Salary + Benefits)

Project Leader (GS-14 - 320 hrs {40 days} @ \$88.50/hr)	\$ 28,320
Administrative Officer (GS-9 – 320 hrs {40 days} @ \$47.44/hr)	\$ 15,181
Sub Total	\$ 43,501

In-Kind Services

Bozeman Fish Technology Center Grind and sift fish food for larval razorback suckers *** see FY-2016 budget for line item breakdowns	
FY-2017 Budget Cost	<u><\$2,814></u>
Subtotal with 3% added for inflation	<u><\$2,898></u>

Operations (Fish Food, Chemicals and Fertilizer, Hatchery Supplies, Vehicles and Fuel, Electricity)

*** see FY-2016 budget for line item breakdowns	
FY-2017 Budget Cost	<u>\$153,223</u>
Subtotal with 3% added for inflation	<u>\$157,820</u>

Fish and Wildlife Service CRFP Total \$533,359

Bureau of Reclamation
Utilities for 24 Rd Hatchery (gas, electricity, phone) \$ 43,000

FY-2018 Total \$576,359

Fiscal Year 2019 Budget:

(Based on projected FY-2019 costs for Tasks 1-7)

Personnel/Labor Costs (Federal Salary + Benefits)

Fishery Biologist (GS-11 – 1,960 hrs {245 days} @ \$57.96/hr)	\$113,602
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Fishery Biologist (GS-11 – 1,960 hrs {245 days} @ \$57.96/hr)	\$113,601
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Biological Technician (GS-7 – 1,960 hrs {245 days} @ \$36.82/hr	\$ 72,167
Biological Technicians (Two GS-5 – 600 hrs {75 days} each {1,200 total hrs} @ \$27.27/hr)	\$ 32,724
Overtime:	
Biological Technician Overtime (GS-7): 1 person	
120 total hrs O/T @ \$55.24/hr	
10 weekend days @ 8 hrs O/T per day (80 hrs)	
20 weekdays @ 2 hrs O/T per day (40 hrs)	\$ 6,629
Biological Technicians Overtime (GS-5): 2 people	
80 total hours O/T @ \$40.91/hr	
20 weekdays @ 2 hrs per day X 2 people	\$ 3,273
Sub Total	\$341,996

Permitting; Coordination; Data Input, Analysis, Management & Presentation; Report Writing; Office & Administrative Support (Federal Salary + Benefits)

Project Leader (GS-14 - 320 hrs {40 days} @ \$91.16/hr)	\$ 29,171
Administrative Officer (GS-9 – 320 hrs {40 days} @ \$48.86/hr)	\$ 15,635
Sub Total	\$ 44,806

In-Kind Services

Bozeman Fish Technology Center	
Grind and sift fish food for larval razorback suckers	
*** see FY-2016 budget for line item breakdowns	
FY-2018 Budget Cost	<\$2,898>
Subtotal with 3% added for inflation	<\$2,985>

Operations (Fish Food, Chemicals and Fertilizer, Hatchery Supplies, Vehicles and Fuel, Electricity)

*** see FY-2016 budget for line item breakdowns	
FY-2018 Budget Cost	\$157,820
FY-2019 cost held at FY-2018 levels	\$157,820

Fish and Wildlife Service CRFP Total \$544,622

Bureau of Reclamation
Utilities for 24 Rd Hatchery (gas, electricity, phone) \$ 43,000

FY-2019 Total \$587,622

Fiscal Year 2020 Budget:

(Based on projected FY-2020 costs for Tasks 1-7)

Personnel/Labor Costs (Federal Salary + Benefits)

Fishery Biologist (GS-11 – 1,960 hrs {245 days} @ \$59.70/hr)	\$117,012
Fishery Biologist (GS-11 – 1,960 hrs {245 days} @ \$59.70/hr)	\$117,012
Biological Technician (GS-7 – 1,960 hrs {245 days} @ \$37.92/hr)	\$ 74,323

Biological Technicians (Two GS-5 – 600 hrs {75 days} each {1,200 total hrs} @ \$28.09/hr)	\$ 33,708
Overtime:	
Biological Technician Overtime (GS-7): 1 person 120 total hrs O/T @ \$56.88/hr 10 weekend days @ 8 hrs O/T per day (80 hrs) 20 weekdays @ 2 hrs O/T per day (40 hrs)	\$ 6,826
Biological Technicians Overtime (GS-5): 2 people 80 total hours O/T @ \$42.14/hr 20 weekdays @ 2 hrs per day X 2 people	<u>\$ 3,371</u>
Sub Total	\$352,252

**Permitting; Coordination; Data Input, Analysis, Management
& Presentation; Report Writing; Office & Administrative Support
(Federal Salary + Benefits)**

Project Leader (GS-14 - 320 hrs {40 days} @ \$93.89/hr)	\$ 30,045
Administrative Officer (GS-9 – 320 hrs {40 days} @ \$50.33/hr)	<u>\$ 16,106</u>
Sub Total	\$ 46,151

In-Kind Services

Bozeman Fish Technology Center Grind and sift fish food for larval razorback suckers *** see FY-2016 budget for line item breakdowns	
FY-2019 Budget Cost	<u><\$2,985></u>
Subtotal with 3% added for inflation	<u><\$3,075></u>

**Operations (Fish Food, Chemicals and Fertilizer, Hatchery
Supplies, Vehicles and Fuel, Electricity)**

*** see FY-2016 budget for line item breakdowns	
FY-2019 Budget Cost	<u>\$157,820</u>
Subtotal with 3% added for inflation	<u>\$162,555</u>

Fish and Wildlife Service CRFP Total \$560,958

Bureau of Reclamation
Utilities for 24 Rd Hatchery (gas, electricity, phone) \$ 43,000

FY-2020 Total \$603,958

IX. Budget Summary:

FY-2016

USFWS-GJ	\$507,170
BoR	<u>\$ 43,000</u>
2016 Total	\$550,170
FY-2017	
USFWS-GJ	\$517,810
BoR	<u>\$ 43,000</u>
2017 Total	\$560,810

2016-2017 Total = \$1,110,980

Estimated Budget Summary for Fiscal Years 2018-2020:

FY-2018

USFWS-GJ	\$533,359
BoR	<u>\$ 43,000</u>
2018 Total	\$576,359

FY-2019

USFWS-GJ	\$544,622
BoR	<u>\$ 43,000</u>
2018 Total	\$587,622

FY-2020

USFWS-GJ	\$560,958
BoR	<u>\$ 43,000</u>
2018 Total	\$603,958

2018-2020 Total = \$1,767,939

5-Year Total = \$2,878,919

X. Reviewers:

Service and Recovery Program staff.

XI. References:

Czapla, T.E. 1999. Genetics Management Plan. Upper Colorado River Endangered Fish Recovery Program, Denver, Colorado.

USFWS (U. S. Fish and Wildlife Service). 2003. Recovery implementation program for endangered fish species in the upper Colorado River basin. U. S. Department of the Interior, Fish and Wildlife Service, Region 6, Denver, Colorado.

Integrated Stocking Plan Revision Committee. 2015. Revised Integrated Stocking Plan for Razorback Sucker and Bonytail. Upper Colorado River Endangered Fish Recovery Program, Denver, Colorado.

Nesler, T.P., K. Christopherson, J.M. Hudson, C.W. McAda, F. Pfeifer, and T.E. Czapla. 2003. An integrated stocking plan for razorback sucker, bonytail and Colorado pikeminnow for the Upper Colorado River Endangered Fish Recovery Program, Addendum to State stocking plans. Upper Colorado River Endangered Fish Recovery Program, Denver, Colorado.

Upper Colorado River Endangered Fish Recovery Program - Integrated Stocking Plan Revision Committee. 2015. Revised Integrated Stocking Plan. Upper Colorado River Endangered Fish Recovery Program, Denver, Colorado.

Williamson, J. H., and R. S. Wydoski. 1994. Genetics management guidelines. Recovery implementation program for endangered fish species in the upper Colorado River basin. U. S. Department of the Interior, Fish and Wildlife Service, Region 6, Denver, Colorado.

Wydoski, R. S. 1994. Coordinated hatchery facility plan: need for captive-reared endangered fish and propagation facilities. Recovery implementation program for endangered fish species in the upper Colorado River basin. U. S. Department of the Interior, Fish and Wildlife Service, Region 6, Denver, Colorado.