

**Rearing Endangered Fish at the
Horsethief Canyon Native Fish Facility Ponds for
Stocking into the San Juan River
Draft Fiscal Year FY-2016 Project Proposal
31 March 2015**

Principal Investigators:

Dale Ryden, Thad Bingham and Brian Scheer
U. S. Fish and Wildlife Service
Colorado River Fishery Project
445 West Gunnison Avenue, Suite 140
Grand Junction, Colorado 81501
(970) 628-7200

dale_ryden@fws.gov thad_bingham@fws.gov
brian_scheer@fws.gov

Contract or Agreement number(s):

R13PG40052 for USFWS – Grand Junction, CO

Reporting Dates: 10/1/2014 through 9/30/2015

**Operation & Maintenance of the
Horsethief Canyon Native Fish Facility Ponds
Fiscal Year 2016 Project Proposal
31 March 2015**

Principal Investigator: Dale Ryden, Thad Bingham & Brian Scheer
U. S. Fish and Wildlife Service, Colorado River Fishery Project
445 West Gunnison Avenue, Suite 140
Grand Junction, Colorado 81501
(970) 628-7200
dale_ryden@fws.gov thad_bingham@fws.gov brian_scheer@fws.gov

The Ouray National Fish Hatchery – Grand Valley Unit (NFH-GVU) consists of several distinct facilities located in and around Grand Junction, CO. One of these facilities is the Horsethief Canyon Native Fish Facility (HCNFF) pond complex (about 7½ miles west of the main hatchery building) near Fruita, CO.

The HCNFF consists of 22 ponds, ranging in size from 0.1 to 0.5 surface acres, with a total surface acreage for the entire facility of 6.2 acres. Each pond is 5-6 feet deep and is equipped with a fabric liner to prevent seepage. Each pond also has a concrete kettle and drain structure to facilitate draining and concentrating of fish for ease of harvest. This facility is a multi-species broodstock, production, and rearing facility dedicated to rearing the three endangered Colorado River fishes: Razorback Sucker, Humpback Chub, and Bonytail.

Until 2012, the operation and maintenance (O&M) of the entire Ouray NFH-GVU complex (Project 29a: Operation and Maintenance of Ouray National Fish Hatchery – Grand Valley Unit) was funded by Upper Colorado River Endangered Fish Recovery Program (UCREFRP). On 25 March 2010, the Coordination Committee of the San Juan River Basin Recovery Implementation Program (SJRBRIP) voted to cost-share 1/6 of the operation and maintenance costs for the HCNFF pond complex. This equates to a total of one surface acre of pond rearing and production space.

Currently, the one surface acre of grow-out ponds allotted to the SJRBRIP is being used to rear Razorback Sucker that are progeny of paired matings of appropriate genetic lineage, produced annually from Razorback Sucker broodstock being held at Ouray NFH-GVU. After spawning, fertilized eggs are reared in flow-through egg jars at HCNFF. As these fish approach 200 mm TL, they are stocked back out into grow-out ponds at HCNFF to be reared until they reach their target stocking size (≥ 300 mm TL). It is anticipated that 2,000-4,000 Razorback Sucker (≥ 300 mm TL) can be reared in the one surface acre of ponds allotted to the SJRBRIP. Razorback Sucker of the appropriate target stocking size will be made available to the SJRBRIP in October of each calendar year for stocking (after the annual fall fish community monitoring studies are completed).

The SJRBRIP will have the option to change the management approach and species being reared in their ponds as they see fit, but will need to coordinate such changes with Ouray NFH-GVU hatchery staff, allowing enough lead time to prepare for changes in importation/exportation permitting, purchasing of feed proper for the species being reared, etc. Changes in numbers of fish desired, species being reared, etc. may lead to adjustments in future years' budgets. For instance, if the SJRBRIP decides to rear Colorado Pikeminnow (a species not currently being held on station at Ouray NFH-GVU), appropriate lead time will be needed to arrange attaining young fish from another facility.

Cost Share with Upper Colorado River Endangered Fish Recovery Program

As stated earlier, the SJRBRIP's Coordination Committee voted to cost-share 1/6 of the O&M costs for the HCNFF pond complex. However, the O&M of the HCNFF ponds is in reality part of a much larger picture of the overall

O&M of the Ouray NFH-GVU itself. So, the following staffing breakdowns were used to determine the overall O&M of the entire Ouray NFH-GVU:

- 1) 24-Road Hatchery building will require 100% staffing for 6 months of the year
- 2) 24-Road Hatchery building will require 50% staffing for the other 6 months of the year
- 3) Peter's ponds complex, Horsethief SWA ponds & lease-free grow-out ponds will require 10 % staffing for 6 months of the year
- 4) The HCNFF ponds will require 40% staffing for 6 months of the year
 - a. One-sixth of the O&M of the HCNFF ponds will be paid for by the SJRBRIP

Possible Outyear Cost Adjustments

If the SJRBRIP decides to change stocking strategies (species, sizes, times of year at which fish are being stocked, etc.) outyear budgets may need to be adjusted to account for this. The costs presented in this workplan represent the best estimates we can develop, based on the species, numbers, and timing of fish to be stocked from our facility to the San Juan River.

FY-2016 Budget:

(Based on projected FY-2016 costs)

Note: The FY-16 and outyear costs have been adjusted for the GS-5 Bio Tech line items to reflect new guidance from Office of Personnel Management (OPM) to the USFWS requiring the USFWS to provide health insurance to all federal employees, if they work for the federal government longer than 60 days (480 total hours).

Costs Shared by UCREFRP and SJRBRIP (i.e. O&M Costs)

Personnel/Labor Costs (Federal Salary + Benefits)

	UCREFRP Project 29a	SJRBRIP Cost
Principal Biologists (GS-11) – 1,960 hours @ \$53.03/hr X 2 people (130 total hours covered by SJRBRIP or 65 hr/person)	207,878	6,943
Biological Technician (GS-7) – 1,960 hours @ \$33.70/hr (65 total hours covered by SJRBRIP)	66,052	2,206
Biological Technicians (GS-5) – 600 hours @ \$24.96/hr X 2 people (40 total hours covered by SJRBRIP or 20 hr/person)	29,952	998
Overtime:		
Biological Technician (GS-7) – 120 hours overtime @ \$50.55/hr (4 total hours of overtime hours covered by SJRBRIP)	6,066	203
Biological Technician (GS-5) – 40 hours @ \$37.44/hr X 2 people (2.7 total hours covered by SJRBRIP or 1.35 hr/person)	2,995	101
Subtotal	312,943	10,451

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

Project Leader (GS-14) – 320 hours @ \$83.42/hr (10.7 total hours covered by SJRBRIP)	26,694	892
Administrative Officer (GS-9) – 320 hours @ \$44.72/hr	14,310	478

(10.7 total hours covered by SJRBRIP)

	Subtotal	41,004	1,370
--	-----------------	--------	-------

In-Kind Services

Bozeman Fish Technology Center

Grind and sift fish food for larval Razorback Suckers	(\$2,732)	(92)
---	-----------	------

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). 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	2,452
---------------------------	--------	-------

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

Finquel 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	962

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 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	1,061
Office Supplies			
Staples, copier paper, pencils/pens, paperclips, note pads, cleaning supplies, toilet paper, paper towels, etc.			
	Office Supplies Subtotal	1,500	50
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	366
Electricity = \$6,800			
For pump and spawning shed at the Horsethief State Wildlife Area brood ponds			
8 months operation at \$850/month			
	Electricity Subtotal	6,800	227
	Operations Subtotal	153,223	5,118
	Subtotal for All Shared Costs	507,170	16,939

**Costs Unique to SJRBRIP (Harvest, PIT-Tagging & Stocking Costs)
Personnel/Labor Costs (Federal Salary + Benefits)**

	SJRBRIP Cost
Pond Harvest, PIT-Tagging, Stocking and Database Management	
Principal Biologist (GS-11) – 80 hours @ \$53.03/hr (2 days X 2 people/day for fish harvest) (6 days X 1 person/day for PIT-tagging)	4,242
Biological Technician (GS-7) – 136 hours @ \$33.70/hr (2 days for fish harvest) (6 days for PIT-tagging) (5 days for database and records management) (2 stocking trips X 2 days each X 1 person)	4,583
Biological Technician (GS-5) – 320 hours @ \$24.96/hr (2 days X 3 people/day for fish harvest) (6 days X 5 people/day for PIT-tagging) (2 stocking trips X 2 days each X 1 person)	7,987
Subtotal	16,812
Lodging and Per Diem (Based on Published FY-2015 GSA Per Diem Rates)	
Lodging 2 nights lodging in Farmington, NM X 2 people at \$83.00/night =	332
Per Diem 4 days hotel rate (Farmington, NM) X 2 people at \$46/day =	<u>368</u>
Subtotal	700
Fuel	
Stocking truck (gets 8 miles per gallon) X 2 trips from Grand Junction, CO to Farmington, NM (660 miles round trip) X 2 trips (= 1,320 total miles) = 170 gallons of gas at \$4.00/gallon	678
Water pump for tempering fish = 20 gallons gas at \$4.00/gallon	<u>80</u>
Subtotal	758
Subtotal for Costs Unique to SJRBRIP	18,270
Total of All Costs Incurred by SJRBRIP:	
USFWS-CRFP (Grand Junction, CO) Total	35,209
USFWS Region 6 Administrative Overhead (3.00%)	<u>1,056</u>
USFWS Region 6 Total	36,265

Cost/Fish Comparison:

Workplan total cost in FY-2016 = \$36,265

Estimated production in FY-2016 = 2,000-4,000 fish

For 2,000 Razorback Sucker produced, the cost/fish = \$18.13

For 3,000 Razorback Sucker produced, the cost/fish = \$12.09

For 4,000 Razorback Sucker produced, the cost/fish = \$ 9.07