

Razorback Sucker Augmentation at NAPI Grow-Out Ponds Fiscal Year 2016 Project Proposal

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Background

The Long Range Plan for recovery of endangered fishes in the San Juan River calls for propagation and augmentation of razorback sucker (RBS). Nine ponds have been built on Navajo Agricultural Products Industry (NAPI) lands to grow out RBS for stocking into the San Juan River. The Coordination Committee has decided to only utilize three of the nine existing ponds on NAPI during FY 2014.

Avocet Pond was originally a single pond built for watering cattle. On March 2, 1998 Avocet was divided into 2 ponds known as Avocet East and West. Avocet West is 3.4 acres and holds 18 acre-feet of water. Avocet West has a siphon for draining the pond. Avocet East is 3.52 acres and holds 19.6 acre-feet of water. Avocet East had no siphon when the ponds were divided, so draining was accomplished by renting a battery of water pumps. A siphon was installed in Avocet East during FY 2008 and the water can now be managed independent of Avocet West and without the need for pumping.

In October of 1999, Hidden Pond was built to rear razorback sucker. Hidden Pond is 2.83 acres. The dam was breached due to a storm event and the fish were lost. The dam was re-built in FY 2000 and a toe drain and spillway were built to protect the dam. Hidden Pond was lined with bentonite and contoured and a kettle was installed to facilitate fish harvest. A siphon was installed in July 2003. A salamander fence was installed around the Hidden Pond perimeter in August of 2003 to exclude predatory tiger salamanders.

Responsibility for Management of the NAPI ponds was originally shared between the U.S. Fish and Wildlife Service (Service), Bureau of Indian Affairs (BIA), Keller-Bliesner Construction and Ecosystems Research Institute. The Service was responsible for determining which ponds would receive RBS and when. In addition, the Service conducted sample counts and harvested the ponds with the assistance of the BIA. Keller-Bliesner was responsible for design and construction of the Six Pack ponds and re-construction of Hidden Pond. The BIA was responsible for monitoring water quality and Ecosystems Research was responsible for fertilization of the ponds and for developing a pond management plan.

Original pond management was for multiple cohorts to be raised in the ponds. Harvesting would be done passively with fyke nets so that the ponds would not be drained on an annual basis. In FY 2007, it was determined to change pond management direction. All of the ponds would be drained and harvested and single cohort management would replace the multiple cohort approach. During the first harvesting and draining of a Six-pack Pond, high mortality resulted when the number of fish remaining in the pond could not be removed before they succumbed to the rapidly warming water. Adjustments were made to reduce the mortality in future harvesting and draining events. The adjustments consisted of increasing the trapping effort prior to de-watering to reduce the number of fish remaining in the pond. In addition, the final fish removal would be accomplished with a higher pool of water to slow the warming of the water during the time of final harvest. This resulted in less mortality.

The Navajo Nation Department of Fish and Wildlife (NNDFW) was contracted to assume responsibility for daily management of the NAPI ponds in 2007. The Service assists the NNDFW with pond harvest as needed.

The ponds have been fenced and electric lines have been installed at each of the ponds. Aerators have been installed

at each of the ponds to improve water quality. Water quality issues have caused fish mortalities in some of the ponds in the past. Water quality issues appear to have been resolved since installation of the aerators.

Objectives

(NAPI Ponds Management)

Manage razorback sucker grow-out in East Avocet, West Avocet, and Hidden ponds to provide an additional source of RBS to supplement the augmentation program. Harvest, Passive Implant Transponder (PIT) tag, and stock razorback sucker from the three grow-out ponds into the San Juan River, in order to assist in fulfilling the tasks and objectives outlined in the current version of *An Augmentation Plan for Razorback Sucker in the San Juan River* (Ryden 2003).

- 1) Manage three grow-out ponds using a single cohort strategy; including passive and active harvest techniques.
- 2) Annually stock 3,500 (\geq 200mm) razorback sucker per pond.
- 3) Harvest all ponds on an annual basis.
 - a. Implant all razorback sucker with a PIT tag prior to stocking.
 - b. Stock all fish regardless of size at harvest.
 - c. Stock ~ 4,200 to 6,300 fish based on 40-60% return.
 - 3c. Investigate and utilize multiple stocking localities.
- 4) Experimentally acclimatize, as guided by SRRIP – Biology Committee, razorback sucker from both NAPI ponds and Uvalde National Fish Hatchery.

Location

The RBS grow-out ponds are located in Block III of Region 2 on NAPI lands, south of Farmington, New Mexico. Avocet East and West are located NW of the intersection of N 4062 and N 4087, which is approximately 3 miles southwest of the Ojo Amarillo NHA Housing Subdivision. Hidden Pond is located SE of the intersection of N 4087 and N 4095 approximately 1 mile northwest of the NAPI Region II Complex.

Methods/Approach

The NNDFW will be responsible for overall management of the NAPI ponds regarding daily management duties, harvesting, and stocking. The Service, Region 2, will be responsible for coordinating the stocking of the ponds with Dexter NFH and NNDFW per US Fish and Wildlife Service Region 2 stocking policy. The NNDFW will be responsible for daily management of the three grow out ponds on NAPI with assistance by the Service, Region 2. Harvesting, tagging, and stocking will be conducted by NNDFW, with assistance from the Service if additional personnel are needed. Associated data management and reporting for the project will be handled by staff from the NNDFW.

Pond management requires that staff monitor and record water quality and quantity, and feed the fish on a daily basis. In addition, staff manages water quantity to ensure that water quality is optimal. Maintenance includes operating and repairing valves and aerators, evaluating the pond perimeters for erosion problems, operating the propane cannons to scare away predators, repairing fences, monitoring aquatic vegetation and maintaining a log book and database for management of the ponds.

During FY 2014, East Avocet, West Avocet, and Hidden ponds will be managed for a single cohort of RBS. NNDFW will implement passive harvest using fyke nets to trap, tag, and stock RBS into the SJR for several days or months prior to dewatering the ponds. As the ponds are dewatered, NNDFW and Service staff will work together to do the final RBS removal, tagging, and stocking into the SJR.

Maintenance

In recent years maintenance has been conducted by NNDFW personnel (when able to do so), Keller-Bliesner

Construction and Ecosystems Research Institute, or NAPI maintenance personnel. Often repairs, installment of irrigation lines, valves repair/replacement, and other pond infrastructure require specialized tools and heavy equipment operation, which NNDFW does not have access to. NAPI has multiple equipment yards and an abundance of heavy equipment located near the ponds, which allow for frequent availability and can be onsite when called as problems and repair work is needed. Because of their extensive inventory of parts for irrigation on NAPI lands, they generally have valves, pipe, and miscellaneous parts on hand for repairs. Over the last two seasons (2010 and 2011) we have used NAPI exclusively for repairs and installations, then invoiced to either the NNDFW or Program office. It has been expressed that there is a need for a consistent process for repairs/maintenance to solve billing issues that have arisen in the past and which will indicate who will conduct the work.

When the ponds are drained, they will be evaluated for structural stability. Areas away from ponds that may be impacted by dewatering will also be evaluated. Staff will identify and document any structural damage to the ponds and dewatering areas if necessary. Feasibility will determine whether improvements are made or not. Repairs and general maintenance will be done as needed.

Under this Scope of Work, NAPI will be the obligated party under a sub-contract with NNDFW to conduct all maintenance, repair work, and future installations of which NNDFW is unable to do because of limited resources. NAPI will conduct this work as requested by NNDFW personnel and billed to NNDFW. Work will include [as needed] valve repairs/replacement, irrigation line repair/replacement, kettle dredging, graveling where needed, general dirt work (digging out irrigation lines, valves, etc.), and any other repairs/installations which are unforeseeable and can feasibly be done by NAPI personnel.

Products/Schedule

In the spring of 2014, Dexter National Fish Hatchery will deliver 10,500 \geq 200 mm RBS to the three NAPI grow-out ponds. In the fall of 2014, the NAPI ponds will be de-watered and the RBS, which are targeted to be \geq 300 mm will be harvested and transported to the San Juan River for stocking. A database summarizing numbers of fish, stocking locations and PIT tag numbers will be submitted to the SJRIP Program Coordinators Office by 31 March 2014. A draft report will be submitted by 31 March 2014 and finalized by 1 June 2014. Maintenance, repairs, installations, and billing records from NAPI will also be included in the annual report.

Budget Fiscal Year 2016

| BUDGET WORKSHEET – Program Base Funding | | |
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| Razorback Sucker Augmentation at NAPI Grow-Out Ponds | | |
| Personnel (salary/benefits) | USFWS NMFWCO | NNDFW |
| Daily Pond Management .30 FTE (GS-9-8) USFWS R2 and Active/passive Harvesting Assistance .5 FTE NNDFW X \$42,554.72 | \$ 31,191 | \$ 23,249 |
| Wildlife Technician .5 FTE NNDFW X \$23,302.76 | | \$ 12,732 |
| Fringe Benefits \$32,125 X 42.28% | | \$ 15,972 |
| Personnel Subtotal | \$ 31,251 | \$ 51,954 |
| Travel | | |
| Per Diem Lodging and Meals | \$ 562 | \$ 1,092 |
| Vehicle Mileage and Maintenance | \$ 2,320 | \$ 19,669 |
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| Travel Subtotal | \$ 2,882 | \$ 20,761 |
| Office Supplies and Equipment | | \$ 546 |
| General Operating Supplies (includes fish transport costs, i.e. oxygen, salt, stress coat, etc.) | | \$ 2,731 |
| Electricity Costs (Aeration) | | \$ 1,092 |
| Feed Cost (\$1.55/lb – 5,000 lbs) | | \$ 8,469 |
| Uniforms | | \$ 546 |
| Printing/Binding/Photocopying | | \$ 109 |
| Fuel – Propane/Cannon Guns | | \$ 218 |
| Repairs and Maintenance – Paint, sealant, lubricants, plumbing supplies, water quality probes, etc. | | \$ 546 |
| Support Subtotal | \$ -0- | \$ 14,260 |
| NAPI maintenance (Large repairs/installations) | | |
| Irrigation line and valve repair/installation | | \$ 5,463 |
| Heavy equipment operation (graveling, dirt work, etc) | | \$ 5,463 |
| Parts and labor | | \$ 5,463 |
| NAPI maintenance Subtotal | | \$ 16,390 |
| Total | \$ 34,073 | \$ 103,367 |
| NNDFW Admin charge (18.05%) \$93,625/1.1805 X .1805 = \$ | \$ 1,022 | \$ 15,805 |
| USFWS/NNDFW Totals | \$ 35,095 | \$ 119,173 |
| Grand Total | | \$ 154,268 |

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Under the heading “Funding for participation of other agencies.” Costs for participation of the U.S. Fish and Wildlife Service, New Mexico Fish and Wildlife Conservation Office, Albuquerque, NM in FY-2016.

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| Daily pond management activities .30 FTE (GS-8; \$76,003*/year) | \$ 25,081.00 |
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| Active Harvest | |
| Fish Biologist (GS-9*) - 5 days @ \$324/day | \$ 1,620.00 |
| Biological Science Technician (GS-8*) – 5 days @ \$358/day | \$ 1,790.00 |

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| Project Oversight and contract management | |
| Supervisory Fish Biologist (GS-13) – 5 days @ \$540/day | \$ 2,700.00 |

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| | Personnel subtotal \$ 31,191.00 |
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Travel and Per Diem (Based on Published FY-2015 Federal Per Diem Rates)

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| Hotel Costs – 4 nights (4 nights @ \$83/night – single occupancy) | \$ 332.00 |
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| Per Diem (Hotel Rate) – 5 days @ \$46/day | \$ 230.00 |
| | Travel subtotal with 3% added for inflation \$ 562.00 |

Equipment

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| Vehicle Maintenance & Gasoline 4,000 miles @ \$0.58/mile (based on | \$ 2,320.00 |
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| | Equipment subtotal with 3% added for inflation \$ 2,320.00 |
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| USFWS – NMFWCO Total | \$ 34,073.00 |
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| USFWS Region 2 Regional Office Administrative Overhead (3%) | \$ 1,022.00 |
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| USFWS – Region 2 Total | \$ 35,095.00 |
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*includes 32% overhead for benefits