

ADDENDUM TO SOW 17-21, SAN JUAN RIVER LARVAL RAZORBACK SICKER AND COLORADO PIKEMINNOW MONITORING – EXPANSION OF THE STUDY AREA UPSTREAM OF SHIPROCK, NM

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During the February 2016 SJRBRIP Biology Committee meeting in Durango Colorado, the option of expanding the study area upstream of Shiprock, NM for the larval fish monitoring program was discussed. This addendum addresses the field logistics, data integration with the current larval fish monitoring program, and potential costs associated with increased upstream monitoring.

Project Justification:

Between 1998 and 2012, the increasing upstream distribution of larval Razorback Sucker has necessitated the upstream expansion of the existing larval fish monitoring study area. In 2001, the upper boundary of the study area was moved from river mile (RM) 127.5 to 141.5 (Cudei, NM). The study area was expanded again in 2012 from RM 141.5 to 147.9 (Shiprock, NM). These expansions were accompanied by increasing the length of existing larval fish survey sampling trips. Those trips (accessing suitable habitats via a raft) were able to be expanded with minimal increases in budget and time; a feasible boat launch farther upstream was all that was required. Immediately after each of these expansions, larval Razorback Sucker was documented in the newly expanded study area.

This type of expansion is no longer possible. The area upstream of Shiprock, NM has restricted access in areas that fall within the Navajo Nation, or is otherwise private property with little or no access to the San Juan River. Additionally, the presence of the PNM weir and Hogback diversion structure that are impassible to watercraft necessitate a new approach to study area expansion.

This new approach would closely follow the successful protocols of other SJRBRIP research projects currently being conducted between Farmington and Shiprock, NM; notably non-native removal, small-bodied, and sub-adult and adult monitoring. Rather than a continuous sampling effort, the area between Farmington and Shiprock, NM would be divided in three discrete sections of river. These sections would be as follows:

- RM 180.6 – 168.4 (Animas River confluence to Hatch Brother’s trading post)
- RM 166.6 – 159.4 (Directly below PNM weir to landowner Buck Wheeler’s property)
- RM 158.6 – 147.9 (Directly below Hogback diversion to Shiprock, NM)

These proposed sampling reaches would allow for a 32.7 mile upstream expansion of the current larval fish monitoring project while only restricting sampling access to 2.6 miles of river. The 1.8 mile gap between RM 168.4 and 166.6 as well as the 0.8 mile gap between RM 159.4 and 158.6 are required to bypass the impassable structures of the PNM weir and Hogback diversion. These proposed reaches are contingent on securing private property access through

Mr. Buck Wheeler and at the Hatch Brother’s trading post. Both of these landowners have allowed access to SJRBRIP researchers in the past.

Currently, these reaches would only be sampled during the presumed spawning and hatching period of Razorback Sucker (May and June) and would target the collection of Razorback Sucker larvae. This sampling effort would be independent of ongoing larval fish monitoring taking place below Shiprock, NM, but data would be seamlessly integrating into the existing long-term larval fish monitoring database.

Methods:

Field Work:

Sampling for Razorback Sucker larvae would be done during the presumed spawning and hatching period of Razorback Sucker (May and June). Access to the river will be gained through the use of inflatable rafts equipped with all of the necessary equipment to successfully sample nursery type habitats. Sample crews will consist of two people and two separate vehicles. The sampling of discrete river reaches requires the use of two vehicles to daily shuttle materials and personnel to the upstream and downstream end of each reach. A proposed schedule for each sampling trip is as follows:

- Day 1 Fieldwork preparation.
- Day 2 Travel from Albuquerque to Farmington NM, sample RM 166.6 – 159.4.
- Day 3 Sample RM 180.6 – 168.4.
- Day 4 Sample RM 158.6 – 147.9.
- Day 5 Travel from Farmington to Albuquerque NM, clean and maintain field sampling gear, deposit specimens at the Museum of Southwestern Biology, UNM.

The collection and preservation of specimens, gathering of physical data, field work safety, laboratory work, quality assurance and control, and data analysis will follow the methodology outlined for the San Juan River larval Razorback Sucker and Colorado Pikeminnow Monitoring program. Larval fish monitoring project history, as well as goals and objectives of this project as they relate to the SJRBRIP Long Range Plan, can also be found in the San Juan River larval Razorback Sucker and Colorado Pikeminnow Monitoring scope of work (SOW 17 21).

2017 BUDGET: EXPANDED SAN JUAN RIVER LARVAL ENDANGERED FISH MONITORING
Based on three sampling trips per year

Personnel

Field Data Collection

Animas River confluence to Shiprock (two staff, one raft) - RM 180.6 – 147.9

Fisheries Biologist I (1 staff x 3 trips x 5 days x 8 hrs/day):\$ 6,662

Fisheries Technician (1 staff x 3 trips x 5 days x 8 hrs/day):\$ 4,099

Lab Work

All Reach Samples Combined

Fisheries Biologist I (20 staff days/sampling year):\$ 8,883
 Tasks: Laboratory identification, developmental staging, specialized endangered fish processing, data entry, data query and review, database development

Fisheries Technician (20 staff days/sampling year):\$ 5,466
 Tasks: Post-trip sample processing, juvenile identification, Post-identification – processing, measures, review of counts

Office Work (Report Development)

Fisheries Biologist I (5 staff days year):\$ 2,221
 Tasks: Data analysis and integration into long-term larval fish monitoring database, inclusion of data in annual draft report, incorporate data into presentation of study for annual meetings, annual reporting related to state and tribal permitting of sampling activities

Project Oversight

Senior Fisheries Biologist (2 staff days year):\$ 1,503
 Tasks: Project coordination, project and data review, data management, report review

Personnel (Field, Lab, Office, Oversight): Subtotal \$ 28,834

SJRBRIP Meetings

Four meetings/year required; 2 days/meeting. (Costs are covered under SOW 17 21)

Fisheries Biologist I (8 staff days/year):\$ 0

Senior Fisheries Biologist (8 staff days/year):\$ 0

Personnel (Meetings): Subtotal \$ 0

Personnel: Total \$ 28,834

Materials and Supplies

Safety dedicated first aid gear: *(In kind contribution)*\$ 0

Raft and rafting associated gear: *(In kind contribution)*\$ 0

Fish Sampling and associated electronic recording gear: *(In kind contribution)*\$ 0

Water quality measuring electronic meters (\$14/day GSA rate x 9 days):.....\$ 126

Materials and Supplies: Total \$ 126

Travel and Per Diem

Field Data Collection

Animas River confluence to Shiprock (three trips) - RM 180.6 – 147.9

Travel - 4 x 4 pickup trucks (488 miles x \$ 0.54/mile x 3 trips x 2 trucks):.....\$ 1,581
 Per Diem - 4 field days per trip x 2 staff (\$51/day GSA M&IE rate) x 3 trips:\$ 1,224
 Per Diem - 3 hotel days per trip x 2 staff (\$89/night GSA lodging rate) x 3 trips:\$ 1,602

Travel and Per Diem (Field):Subtotal \$ 4,407

SJRBRIP Meetings (Costs are covered under SOW 17 21)

Travel (one vehicle at 430 miles r.t. x 4 trips x \$ 0.54/mile):\$ 0
 Per Diem (2 GSA lodging + 3 M&IE per diem days/meeting x 4 meetings x 2 staff):\$ 0

Travel and Per Diem (Meetings):Subtotal \$ 0

Travel and Per Diem: Total \$ 4,407

2017 Project Totals

Personnel: Total \$ 28,834
Materials and Supplies: Total \$ 126
Travel and Per Diem Total \$ 4,407
2017 Scope of Work: GRAND TOTAL \$ 33,367

Projected Out-year funding (Adjusted by 3% annually)

FY 2018\$ 34,368
FY 2019\$ 35,399
FY 2020\$ 36,461