

**SJRIP PIT TAGS
2020 Project Proposal**

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BACKGROUND:

PIT tags are used to individually mark fish for use in movement studies and for mark-recapture estimates in the San Juan River Basin. PIT tags are not specific to any particular project, but are used by several different projects. PIT tags and readers purchased for the SJRIP will be combined with the purchase made for the UCRIP to save money by purchasing larger quantities and save expenses associated with administering the contract. All PIT tags and readers will be shipped to USFWS in Grand Junction C/O Travis Francis at:

U.S. Fish and Wildlife Service
Colorado River Fishery Project &
Ouray Nat'l. Fish Hatchery - Grand Valley Unit
445 West Gunnison Ave., Suite 140
Grand Junction, Colorado 81501-5711
(970) 628-7204

TASKS – 2020

1. Purchase PIT tags and readers and distribute to end-users

In FY2020, \$20,000.00 is allocated in the workplan to purchase 5,000 PIT tags and associated equipment (readers, antennas, implanters, etc.).

FY 2019 BUDGET

Funding source		Projected expenditure in FY19
FY2020 Annual funding		\$20,000.0
Total		\$20,000.00

Projected funding:
FY-2021 \$30,000.00
FY-2022 \$30,000.00

Response to comments

Scope #	Project	PI(s)
12	SOW-20-12-SJRIP PIT TAGS	McKinstry

Wayne Hubert, Peer Reviewer

How can the technical aspects of this SOW be improved?

There is insufficient information in the SOW to provide a science based review.

A concern regarding the overall SJR PIT tagging effort is the opportunistic manner in which it has evolved and the lack of a systematic design. This concern addresses SOWs 12 and 32. The SOWs would benefit from a thorough assessment and description of the current status of the PIT-tagging work in the SJR. A huge amount of work has been done in PIT-tagging fish, developing and installing antennas for PIT-tag detection, and assimilating Pit-tag detection data into databases. The overall structure of the PIT-tagging work is in need of review. Because of the opportunistic way in which PIT-tagging efforts, there is not a “project” with defined goals and quantitative objectives, an experimental design, or mechanism for assessing project success or future needs. The SOWs regarding PIT tagging would greatly benefit from a formal review of PIT-tagging work and development of a formal PIT-tagging project to direct and assess these efforts into the future.

What is this SOW’s contribution to recovery?

PIT tagging of the endangered species has become an integral part of recovery efforts and is yielding substantial amounts of information on movements of the species.

Response: Unfortunately the analysis of the data collected by this SOW is disconnected from the SOW to buy PIT tags and install the antennas. I agree that more effort could/should be put into analyzing the data collected from these sites, but we don’t have specific plans at this point. The criticism on the lack of experimental design for the sites is valid, but other than the restoration site, we have an experimental design in place, which was explained in the SOW and are more detailed below:

PNM—several antennas have been positioned in the fish passage to show movements of fish up through the passage, indicating sequential movement through the passage and ultimately the success or failure of passage. Antennas have also been installed at the weir to identify fish that hit the weir and either find the passage or not. Lastly, antennas have been installed at the outlet for the passage to quantify success of fish navigating the structure. While formal reporting on these results has not been done, the data have been used to modify

operation of the passage in a flow-through mode during March- May in an effort to increase passage rates. A more formal analysis of the data is planned once we have several years to report on the operation of the facility.

Hogback—Hogback antennas were planned/designed in an effort to show passage through this weir structure. To date, we have used the antennas to show that few stocked fish actually go over the weir and no wild fish go over the weir. The antennas in the bypass and those planned for the fish passage are useful for showing fish that are not using the passage and give detections that are useful in survival analyses. We have the data for this site and we are planning to publish it shortly.

Piute Farms Waterfall—antennas at this location were installed to quantify the number of fish stacking up at this site and have demonstrated that more than 1900 endangered fish have hit this barrier in the lower river. This information is being used to formulate passage options and the data have been used in several publications that are either completed or in press.

This SOW has never been a formal “project” with annual reporting but rather the results have been discussed at meetings where we use the data to formulate management changes (like opening the passage) and discuss what can be done to improve the data collection. Efforts are in place to publish many of the data.