

Work Task C53: Sonic Telemetry of Juvenile Flannelmouth Sucker in Reach 3

FY14 Estimate	FY14 Actual Obligations	Cumulative Expenditures Through FY14	FY15 Approved Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate	FY18 Proposed Estimate
\$120,000	\$117,501.56	\$249,405.81	\$120,000	\$120,000	\$100,000	\$100,000

Contact: Jeff Lantow, (702) 293-8557, jlantow@usbr.gov

Start Date: FY12

Expected Duration: FY18

Long-Term Goal: Support flannelmouth sucker conservation

Conservation Measures: FLSU1 and FLSU3

Location: Reach 3, Arizona/Nevada/California

Purpose: To evaluate habitat selection and use for juvenile flannelmouth sucker in Reach 3 and provide recommendations to enhance juvenile flannelmouth sucker habitats as a requirement of LCR MSCP habitat creation goals

Connections with Other Work Tasks (Past and Future): Work conducted under this task is related to Work Tasks C15 (closed) and C45.

Project Description: Flannelmouth sucker were reintroduced into the Colorado River below Davis Dam by the AGFD in 1976 by transfer of fish captured at the confluence of the Colorado and Paria Rivers at Lee's Ferry, Arizona. This stock has persisted for three decades and now represents the only known population of this native species in the Colorado River downstream from Davis Dam.

Five years of research on this population of flannelmouth sucker were completed under the LCR MSCP. All life stages of this species were contacted, and telemetry of adults provided insight on the movements and habitat use of adult flannelmouth sucker. Inference may be limited, as only nine juvenile flannelmouth sucker > 100 mm and < 350 mm TL were contacted during this study. Similar difficulties contacting juveniles were encountered during studies undertaken by the U.S. Geological Survey in the 20 river miles above Lake Havasu, but it was found that, while flannelmouth sucker contacts were rare, the majority (85%) of flannelmouth sucker captured consisted of these smaller size classes. The habitats used by these younger fish will be better defined, and a complete life history of flannelmouth sucker within Reach 3 will be provided.

Previous Activities: A surrogate population of flannelmouth sucker from the Colorado River at the Lake Mead inflow was utilized to initiate telemetry work in FY13. In March 2013, 20 subadult fish were surgically implanted with a 90-day sonic transmitter, held at the Lake Mead Fish Hatchery and observed until determined healthy, then released downstream from Laughlin, Nevada. Manual tracking was initiated immediately following release accompanied by SURs to help determine fish locations. Fish were tracked and habitat data were recorded until mid-June. Fish proved difficult to track with manual equipment, and the majority of detections were from SURs. Seven fish were either mortalities or never detected, and the majority of active tags (10 of 13) were only detected by SURs. Fish were detected in a mix of backwater and riverine habitats. We also recorded at least one instance of continuous backwater use at the BBCA; this fish was contacted in the backwater repeatedly for 10 days.

FY14 Accomplishments: Subadult flannelmouth sucker surrogates were collected from the Lake Mead inflow. Thirty subadult flannelmouth sucker were surgically implanted with 90-day sonic tags, and eight were implanted with 100-day very-high-frequency radio transmitters. Tagged fish were released downstream from Laughlin, Nevada, in late February 2014. Manual tracking was initiated immediately following release accompanied by SURs to help determine fish locations. Tracking and habitat data collections continued until mid-June. More SURs were deployed this year and were placed strategically to help bracket fish locations and increase detectability in backwater habitats. Sonic and radio tags were both effective, and habitat data were collected on 5 radio- and 13 sonic-tagged fish. In lower turbidity environments (i.e., main channel and select backwaters), fish were associated with stands of bulrush. Fish remained concealed during daylight hours and moved out during the evenings and night, presumably to forage, and then returned to the same bulrush stand each day. This association with emergent vegetation was not seen in habitats with higher turbidity; fish in these environments remained stationary in the open water of the backwater. Multiple fish were detected within the backwater at the BBCA; a radio-tagged fish was detected in the dense bulrush stand in the center of the backwater for multiple weeks.

FY15 Activities: Due to the success with radio tags from FY14, tracking and habitat data collection will be repeated for FY15. Up to 12 fish will be outfitted with this technology. Additional time and emphasis will be dedicated to detailing individual fish movements throughout the day and night.

Proposed FY16 Activities: Activities will be similar to those from FY15; however, release locations will differ greatly. The study site will be shifted, and fish will be released into the large backwater/marsh habitats found in the 20 river miles immediately upstream of Lake Havasu in Topock Gorge. Age-0 flannelmouth sucker have been detected in seine hauls within this area, and subadults have sporadically been captured during other research and monitoring. Based on recent telemetry research and available habitats, this section of river

presumably serves as nursery habitat for the Reach 3 flannelmouth sucker population. We expect that this will be a multi-year effort and have estimated budgets through FY18. Budgets after FY16 have been reduced to reflect anticipated increases in efficiency resulting from combining these efforts with other ongoing monitoring in the area (D8 and C64).

Pertinent Reports: A study plan was developed in FY11 and is available upon request. A report summarizing the previous year's findings will be completed and posted on the LCR MSCP Web site.