

Work Task C38: Stable Isotope and Microchemistry Analyses of Fin Rays to Determine Habitat Use and Movement Patterns of Razorback Sucker in Reach 3

FY08 Estimates	FY08 Actual	Cumulative Accomplishment Through FY08	FY09 Approved Estimate	FY10 Proposed Estimate	FY11 Proposed Estimate	FY12 Proposed Estimate
\$0	\$0	\$0	\$0	\$80,000	\$80,000	\$35,000

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Start Date: FY09

Expected Duration: FY12

Long-term Goal: Assess effectiveness of system monitoring protocols and age specific habitat use data which could be used for habitat creation goals.

Conservation Measures: RASU3, RASU6

Location: Reach 3 to include main stem and backwater habitats.

Purpose: To determine habitat use and movement patterns of RASU at all life stages and relative to post stocking with in Reach 3 using microchemistry analyses.

Connections to Other Work Tasks (past and future): This work is related to C29 and D8. Fin ray segments that were collected for aging will be retained and further analyzed relative to their stable isotope and microchemistry composition. The results of this work will assist in directing our system monitoring efforts for the program.

Project Description: This study will look at age related habitat use for RASU within Reach 3 of the Colorado River. This technique will allow us to determine the hatchery origin, habitat types, river locations, and movement patterns of RASU using stable isotopes and microchemistry analyses of pectoral fin ray samples used in the Reach 3 aging study. Similar chemical signatures found in the water samples and portions of the fin rays will identify the association of age specific habitat use and migration patterns.

Water samples will be collected and analyzed throughout Reach 3. Sample areas will include main stem, backwaters, inflows and major washes. Each of these sites will retain a chemical signature specific to a section of river. Pectoral fin rays will also retain this chemical signature when a fish inhabits these same river sections for a minimal amount of time. Chemical signatures of both water samples and fin ray segments will then be compared to provide site-specific habitat use data.

Previous Activities: N/A

FY08 Accomplishments: N/A

FY09 Activities: Initial work captured under C29 (fin ray tissues) and G3 (water samples for background markers).

Proposed FY10 Activities: Research activities are pending promising results from stable isotopes and microchemistry analyses being conducted under Work Task G3. If successful in determining different isotopic signatures among different river locations and matching those to isotopic signatures on pectoral fin ray growth rings, this research will be expanded in FY10.

Pertinent Reports: N/A