

Work Task C23: Evaluation of Remote Sensing Techniques for PIT Tagged Fish

FY05 Estimate	FY05 Actual	Cumulative Accomplishment Through FY05	FY06 Approved Estimate	FY07 Proposed Estimate	FY08 Proposed Estimate	FY09 Proposed Estimate
\$0	\$0	\$0	\$0	\$145,000	\$145,000	\$ 0

Contact: Tom Burke, (702) 293-8711

Start Date: FY07 **Expected Duration:** FY08

Long-Term Goal: Conduct long-term system monitoring and adaptively manage augmentation stockings of razorback sucker and bonytail.

Conservation Measures: BONY5 and RASU6

Location: Reaches 2 and 3 and Willow Beach NFH, AZ, NV, and CA

Purpose: Monitor augmentation stockings in a cost-effective manner.

Connections with Other Work Tasks (past and future): None.

Project Description: This is a two-year evaluation of monitoring equipment. Reclamation will purchase and test effectiveness of flat plate, circular, and directional antennae and associated hardware, and software for remote sensing of PIT tagged RASU and BONY. Project will evaluate designs for weir-type guidance at spawning areas and methods for storing and retrieving collecting contact data. Current efforts to contact repatriated fish are labor intensive and require handling of fish during the spawning season. Remote sensing may be less costly, more efficient, and less stressful on the fish.

FY06 Activities: This is a new start in FY07.

Proposed FY07 Activities: This research will acquire and test various PIT tag detection equipment for remote sensing of RASU and BONY. Equipment will be deployed under both laboratory and field applications for testing. Laboratory testing will occur at Willow Beach NFH in conjunction with fish tagging operations. Flat plate PIT tag receiver antennae will be set on the bottom of holding tanks with tagged fish being introduced above the antennae. Netting will be set at measured distances (0, 2, 4, and 6") above the antennae to separate fish from receiver and detection counts will be recorded. In the field, flat plate antennae will be deployed on the lake bottom at RASU spawning sites to detect tagged RASU which swim over the antennae. Data will be evaluated in a final report with recommendations for application to system monitoring program.

Pertinent Reports: Study plan is available upon request.