

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

| FY06 Estimates | FY06 Actual | Cumulative Accomplishment Through FY06 | FY07 Approved Estimate | FY08 Proposed Estimate | FY09 Proposed Estimate | FY10 Proposed Estimate |
|----------------|-------------|--|------------------------|------------------------|------------------------|------------------------|
| \$0 | \$0 | \$0 | \$145,000 | \$145,000 | \$0 | \$0 |

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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 and passive manner.

Connections with Other Work Tasks (past and future): This work migrated out of G3. This work task may determine future PIT-tag equipment purchases in work task B8.

Project Description: This is a 2-year evaluation of native fish monitoring equipment. Reclamation will purchase and test the effectiveness of flat plate, circular and directional antennae, and associated hardware and software for remote sensing of PIT tagged RASU and BONY. The project will evaluate designs for weir-type guided as well as non-guided systems for the detection of PIT-tagged fish at spawning areas, and methods for collecting, storing, and retrieving contact data. Current efforts to contact repatriated native fish are labor intensive and require direct handling of fish during the spawning season. Remote sensing may prove to be less costly, more efficient, and less stressful on these sensitive native fish species.

Previous Activities: This is a new start for 2007.

FY06 Accomplishments: None

FY07 Activities: Equipment will be deployed under a controlled laboratory application at Willow Beach NFH in conjunction with fish-tagging operations. Flat-plate PIT-tag antennae will be set in the bottom of holding tanks with tagged fish being introduced above the antennae. Netting will be set at known distances (0, 2, 4, and 6 inches) above the antennae. Individual detections will be recorded to determine maximum detection distance. In the field, flat-plate antennae will be deployed on the lake bottom at RASU spawning sites to detect PIT-tagged

RASU that swim over the antennae. Data will be evaluated in a final report with recommendations for final application to the system monitoring program.

Proposed FY08 Activities: Expanded field testing of remote detection equipment at known RASU and BONY spawning sites will be conducted. A final report will be developed documenting results of the 2-year evaluation.

Pertinent Reports: The study plan is available upon request from the LCR MSCP.