

Work Task C39: Post-Stocking Distribution and Survival of BONY in Reach 3

FY10 Estimates	FY10 Actual	Cumulative Accomplishment Through FY10	FY11 Approved Estimate	FY12 Proposed Estimate	FY13 Proposed Estimate	FY14 Proposed Estimate
\$90,000	\$251,804.17	\$251,804.17	\$250,000	\$250,000	\$250,000	\$250,000

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Start Date: FY10

Expected Duration: FY15

Long-term Goal: Assess the effectiveness of the fish augmentation program.

Conservation Measures: BONY3, BONY5.

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

Purpose: To determine the distribution and post-stocking survival of BONY within Reach 3.

Connections with Other Work Tasks (past and future): This work is related to work tasks B2, B3, and B4, all of which provide BONY for augmentation stocking. Study results will add to the database used to complete D8.

Project Description: This study will follow stocked fish after they are released into Reach 3 of the Colorado River to design and test ways to improve post-stocking survival. Techniques for monitoring will include marking, tagging, netting, electro-fishing, and visual observations. A final report will make recommendations for future BONY augmentation stockings.

Previous Activities: N/A

FY10 Accomplishments: A contract was awarded midyear to conduct the first three years of the BONY survival study. Program funds were available and expended to fund the first year of the project which extends into FY11.

The first round of acoustic telemetry implemented under the reported work task was completed. Twenty bonytail reared at Dexter National Fish Hatchery and Technology Center were each surgically implanted with an acoustic transmitter and released with 1,900 additional bonytail into Lake Havasu at the Bill Williams River National Wildlife Refuge boat ramp. Fish were monitored for a three month post-stocking period using active and passive tracking techniques to determine survival and dispersal. All acoustic

tagged bonytail were contacted and by the end of the 90-day study period fish had dispersed as much as 30-km upstream from the stocking area. Post-stocking survival over the course of the study was high (95%); only one transmitter was recovered by divers from the bottom of the reservoir. All other fish were thought to be living at the end of the study.

Concurrent to the work in Lake Havasu, a captive fish experiment was implemented at Dexter National Fish Hatchery and Technology Center to assess our surgical techniques and to monitor fish health and tag retention over a three month period. Twenty bonytail (ten implanted with 3-month acoustic tags and ten with six-month acoustic tags) and twenty control fish were held in an indoor raceway for a period of three months. At the conclusion of the study, all fish remained healthy and no transmitters were shed. No adverse affects of tag implantation were apparent when necropsies were performed on five fish.

FY11 Activities: Activities during FY11 will focus on a second round of acoustic telemetry which will utilize six-month transmitters implanted in bonytail reared at Achii Hanyo. This work will rely more intensively on Submersible Ultrasonic Receivers, some of which will be retrievable exclusively via SCUBA, to determine the extent of post-stocking dispersal and survival. Active tracking of bonytail will consist of bi-monthly sampling trips. Annual bonytail and razorback sucker trammel netting surveys will be conducted with USFWS, AZDFG, BLM, CDFG, and BLM during February 2011. Continued communication with anglers will be made via flyers and using personal communication to learn more about potential predation events and from hook and line capture of bonytail.

Proposed FY12 Activities: Another iteration of acoustic telemetry to determine post-stocking survival and dispersal of bonytail is planned. All bonytail destined for Lake Havasu will each receive a 134 kHz PIT tag. Remote PIT-scanning stations will be deployed in areas of concentrated habitat use as determined by results from preceding acoustic telemetry work. Annual netting surveys will continue in collaboration with partnering agencies.

Pertinent Reports: Study plans are available upon request and annual reports will be posted to the MSCP website upon completion.