Work Task C47: Genetic Monitoring and Management of BONY Recruitment in Hatchery Rearing Ponds

FY10 Estimates	FY10 Actual	Cumulative Accomplishment Through FY10	FY11 Approved Estimate	FY12 Proposed Estimate	FY13 Proposed Estimate	FY14 Proposed Estimate
$0	$0	$0.00	$220,000	$250,000	$250,000	$250,000

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Start Date: FY11

Expected Duration: FY14

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

Conservation Measures: BONY3, BONY4, and BONY5.

Location: Off-site rearing stations (Dexter NFH, Achii Hanyo Rearing Station and Uvalde NFH).

Purpose: To assess effects of volunteer spawning by BONY in holding ponds on the genetic integrity and goals of the captive management plan for this species.

Connections with Other Work Tasks (past and future): This work is related to Willow Beach National Fish Hatchery (B2), Dexter National Fish Hatcher (B4), Uvalde National Fish Hatchery (B10), and Bonytail Rearing Studies (C11).

Project Description: This three year study will characterize the genetic diversity of inadvertently spawned BONY in ponds at Achii Hanyo Rearing Facility, Dexter NFH, and Uvalde NFH and compare these to the founder population of BONY broodstock at Dexter. This project will determine average diversity of pond recruitment. The study will also assess utility of using a biological control (piscivorous fish) to reduce or eliminate inadvertent spawns in grow-out ponds.

Previous Activities: This effort is building upon research conducted under Dexter National Fish Hatchery (B4), Uvalde National Fish Hatchery (B10), and Bonytail Rearing Studies (C11).

FY10 Accomplishments: New start in FY11.

FY11 Activities: Tissue samples will be collected from young of year BONY resulting from inadvertent spawning in rearing ponds at Dexter NFH and Achii Hanyo Rearing Station. Uvalde NFH will provide tissue samples preserved from the 2010 recruitment year class. Samples are to be analyzed and compared to the diversity in the original

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broodstock of BONY, and evaluated to assess impact of inadvertent recruitment by determining the average number of parental contributors.

Investigate biological controls (piscivorous fish) to reduce or eliminate inadvertent spawns which may lead to overcrowding, high densities resulting in oxygen depletion, and increased susceptibility to disease. Trials will be conducted at Dexter NFH and Achii Hanyo Rearing Station to develop biological controls for pond recruitment in BONY. Treatments include BONY with no piscivorous fish, one half pound piscivorous fish for every 50 pounds of BONY, and one pound piscivorous fish for every 50 pounds of BONY.

Proposed FY12 Activities: Tissue samples will be taken from an additional 1,000 bonytail and analyzed. Initial treatment protocols looking at a biological control will be repeated in FY12, and adjustments based on previous year's results.

Pertinent Reports: Scopes of work are available upon request.