

## Work Task B10: Uvalde National Fish Hatchery

FY08 Estimates	FY08 Actual	Cumulative Accomplishment Through FY08	FY09 Approved Estimate	FY10 Proposed Estimate	FY011 Proposed Estimate	FY12 Proposed Estimate
\$60,000	\$74,191.86	\$391,313.86	\$60,000	\$85,000	\$100,000	\$100,000

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**Start Date:** FY06

**Expected Duration:** FY16

**Long-term Goal:** Maintain fish-rearing capability to provide RASU and BONY for the LCR MSCP Fish Augmentation Program.

**Conservation Measures:** RASU3, RASU4, BONY3, and BONY4.

**Location:** Uvalde, Texas.

**Purpose:** Provide backup source and rearing capacity for RASU and BONY as needed for Fish Augmentation Program, and provide a facility where species research can occur.

**Connections with Other Work Tasks (past and future):** This work is related to B4, as RASU and BONY for Uvalde NFH will be supplied by Dexter NFH. The work is also related to B1 and B2, as Uvalde NFH may also rear RASU for repatriation to Lake Mohave. Finally, the work is related to C10 and C11, as species research relative to rearing and growth of BONY and RASU may be conducted at this facility.

**Project Description:** Uvalde NFH is a large warmwater fish culture facility established in southwest Texas in 1934. The facility has 47 ponds totaling more than 50 surface acres for fish production. Water is supplied by two deep wells, which provide 72°F water year-round. A third, undeveloped well (Wilson Well) will be developed to secure the long-term water supply for rearing ponds. The facility was shut down for renovation in 2001 following a major flood event and is now again ready for fish culture activities.

The LCR MSCP and the San Juan River Recovery Implementation Program are sharing costs for upgrading water supply systems and for rearing native fishes. The LCR MSCP will utilize the facility to assess rearing capacity for BONY, rear RASU for brood stock development at Lake Mohave, and conduct research on fish hauling and transportation.

The LCR MSCP has a requirement to stock 12,000 BONY each year for 5 consecutive years. This is beyond the current capacity of the LCR MSCP Fish Augmentation Program, primarily because of the target size being 300 mm TL (12 inches). Bonytail tend to be sexually mature by the time they reach 150 mm TL. During pond culture, these fish typically spawn and increase the

number of fish in the pond. This in turn results in slow growth of the original fish. Initial actions at Uvalde NFH will focus on capability and techniques to grow BONY to target size in one growing season.

**Previous Activities:** During 2006, both fry and fingerling BONY were brought on station from Dexter NFH to assess growth rate and rearing capacity of Uvalde NFH for this species. The fingerling fish averaged 172 mm TL and were stocked into four 1-acre ponds; two ponds were at densities of 500 fish per acre and two ponds were at densities of 1,000 fish per acre. In October, these fish were harvested from the ponds and hauled by tank truck to Dexter NFH. After a 2-week rest period, the fish were measured and tagged for distribution. A total of 2,397 BONY having an average length of 325 mm TL were stocked into Reach 3 of the LCR at Park Moabi, south of Needles, California. Survival following the 180-day growing period, fish harvest, and transport was excellent at 92% (2,744 fish). Growth was remarkable, with 86% of the BONY having attained the target size of 300 mm TL or more in this short time period.

During 2007, BONY fry from 2006 were sorted and measured. A total of 7,500 of these fish averaging 196 mm TL were stocked into grow-out ponds in April. Three 1-acre ponds received 1,000 BONY and three 1-acre ponds received 1,500 BONY. Ponds were harvested in October. One pond that had received 1,000 fish had been lost over summer due to a mechanical problem. Of the remaining five ponds that had started out with 6,500 BONY, more than 5,992 BONY had survived (92%) and roughly 88% reached the target size of 300 mm TL.

During routine fish health inspections in July 2007, a subsample of Guadalupe largemouth bass on station tested positive for Largemouth Bass Virus. This is a restricted pathogen in both Arizona and California. Bonytail were also tested and came up negative; however, the states of Arizona and California have asked that no fish from this facility be stocked into the Colorado River until the hatchery receives a Class A rating. As a result, no BONY were stocked from Uvalde NFH into the LCR during 2007. The fish are being held at Uvalde NFH for future research.

The Guadalupe bass that had been infected were removed from the hatchery and the ponds were dried and completely disinfected. Subsequent tests of all fishes and ponds on station in 2007 came up clean for the LMB Virus.

**FY08 Accomplishments:** Uvalde NFH continued rearing of BONY remaining on station from 2007, which had not been stocked due to LMB Virus issues. These fish are now in the 400+ mm size range. BONY growth studies were repeated using the similar densities as had been used in 2007; however, most of the fish were smaller to start with (94 mm versus 196 mm in 2007). Some 7500 fish were stocked into six ponds in early May and harvested in late October. Over the 173 days in the pond, there was 72% survival, with most fish attaining target size. In July 2008 the hatchery was tested for LMB Virus and was clean.

**FY09 Activities:** BONY growth research will continue at Uvalde NFH. Tests during 2009 will compare stocking densities of 1,500 fingerlings per acre with 2,000 fingerlings per acre. Future work at the hatchery is dependent upon reinstatement of the hatchery's Class A rating. This will be determined following fish health tests scheduled for July 2009. If the hatchery is clean at that

time, fish on station will then be available for transport and stocking into the lower Colorado River.

**Proposed FY10 Activities:** Continue BONY research on fish growth relative to size and density. Coordinate and cooperate with fish feeding trials utilizing the new BONY diet formulation being developed under Work Task C11. Tag, transport, and stock out BONY as available from completed research actions.

**Pertinent Reports:** The scope of work is available upon request from the LCR MSCP. A report covering the growth study research is available on the LCR MSCP Web site.