Work Task B2: Willow Beach National Fish Hatchery

FY07 Estimates	FY07 Actual	Cumulative Accomplishment Through FY07	FY08 Approved Estimate	FY09 Proposed Estimate	FY10 Proposed Estimate	FY11 Proposed Estimate
$225,000	$233,348	$619,834	$235,000	$350,000	$250,000	$250,000

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Start Date: FY05

Expected Duration: FY55

Long-term Goal: Fish augmentation.

Conservation Measures: RASU3, RASU4, RASU5, RASU6, BONY3, and BONY4.

Location: Reach 2, Willow Beach, AZ.

Purpose: Annually contribute RASU and BONY to the LCR MSCP Fish Augmentation Program.

Connections with Other Work Tasks (past and future): Much of the activity at Willow Beach NFH is related to other work tasks in Section B, because most of the RASU and BONY reared for the LCR MSCP Fish Augmentation Program spend time at Willow Beach NFH. (For further information, please see the Fish Augmentation Plan, which provides an overview of the program and shows the interrelationships between the various hatcheries). Some of the fishery research actions described in Section C are ongoing at this facility, including Razorback Sucker Growth Studies (C10), Bonytail Rearing Studies (C11), and Humpback Chub Monitoring Program (C14).

Project Description: Willow Beach NFH is managed by the USFWS. The hatchery receives funding from the LCR MSCP for rearing of RASU and BONY for the Fish Augmentation Program. There are three primary tasks at the hatchery:

1. *Receive fish to be reared:* Annually receives wild RASU larvae collected from Lake Mohave and fingerling BONY (25-75 mm TL) from Dexter NFH.

2. *Provide fish to other hatcheries:* Each year Willow Beach NFH is to 1) provide fingerling RASU to Bubbling Ponds SFH to be further reared and ultimately stocked into reaches 3-5 of the LCR, 2) provide fingerling RASU from wild-caught larvae to Dexter NFH for further rearing and eventual repatriation to Lake Mohave, and 3) provide juvenile BONY to Achii Hanyo Rearing Facility for further rearing and ultimately for stocking into reaches 3-5 of the LCR.

3. *Annually rear RASU for release to LCR:* Rear 6,000 subadult RASU to 300 mm TL for stocking into Reach 3; rear up to 5000 RASU to 500 mm for repatriation to Lake Mohave.

Previous Activities: This coldwater trout hatchery began operation in 1962 to produce rainbow trout for recreational fishing. Between 1994 and 1997, USFWS and Reclamation cooperatively added solar heating systems to the hatchery, converting 50% of its rearing capacity to warmwater fish production. Each year since 1996, the hatchery has received wild RASU larvae, reared juvenile RASU, and repatriated fish back to Lake Mohave. Similarly, the hatchery has provided fry to Bubbling Ponds SFH every year since 1997 for rearing and ultimately for return to the LCR. Since the inception of the LCR MSCP, through 2006 a total of 20,564 RASU have been repatriated to Reach 2, and a total of 6,264 RASU have been stocked into Reach 3, bringing the cumulative total of RASU stocked from Willow Beach NFH into the LCR to 26,828.

FY07 Accomplishments: A total of 20,568 RASU larvae were received from Lake Mohave, fingerling BONY were distributed to Achii Hanyo for further rearing, and RASU juveniles for repatriation back to Lake Mohave are currently being reared. A total of 1,014 RASU juveniles (>380 mm TL) were distributed to lakeside rearing ponds (B7). A total of 601 RASU were repatriated into Lake Mohave (Reach 2), and 6,286 RASU were stocked into Lake Havasu (Reach 3). A total of 576 RASU were stocked into Imperial Wildlife Refuge Ponds on November 5, 2007 for the dedication of the site (Reach 5). The majority of funds were for salary and consumable materials (fish feed, medicines, chemicals, etc.).

Willow Beach NFH takes water directly out of the Colorado River. During October 2006, a severe, local thunderstorm deposited sand and gravel in the river above the intake, which subsequently resulted in reduced water passage through the intake system. In 2007, repairs were made, debris was removed, and sand was passed through the system, restoring operation to its previous level of efficiency.

During January 2007, the exotic quagga mussel were discovered in Lake Mead, and subsequently found in both Lake Mead SFH and Willow Beach NFH. Larval RASU that were to be transferred to Bubbling Ponds SFH were not collected (B1) and no RASU of any size or year-class were delivered to waters outside the LCR corridor. Quagga mussels have not severely impacted the maintenance or operation of the facility. However, quagga mussels continue to have an impact on delivery of fish. Fish transport protocols for the LCR corridor have been developed and are under review by cooperating resource agencies.

FY08 Activities: Willow Beach NFH will receive up to 40,000 RASU larvae from Lake Mohave. Facilities will continue to rear and distribute RASU and BONY that are currently on station for the LCR MSCP Fish Augmentation Program. This includes 14,000 RASU of the 2005 year class, 12,100 RASU of the 2006 year class, and 13,000 RASU of the 2007 year class. At the end of 2007 there were approximately 10,000 BONY of the 2005/2006 year classes, and 17,000 BONY of the 2007 year class at the hatchery. Some of these fish will be transferred to Achii Hanyo for rearing and stocking to the LCR under the LCR MSCP (B3). Fish transport protocols will be tested and revised under G3.

Proposed FY09 Activities: Facilities will receive RASU larvae from Lake Mohave and continue to rear and distribute RASU and BONY for the LCR MSCP Fish Augmentation Program. Protocols developed for addressing issues with quagga mussel during fish distribution will be incorporated into the stocking program.

Production levels are expected to increase in FY09 and again in FY10 to reach annual RASU production of 12,000 fish for research as required in the HCP (see conservation measures RASU3.1 and RASU6). Increased funding will cover costs of increased production as well as facility maintenance and repair. Scheduled FY09 activities include replacement of solar panels originally installed in 1996 and 1997.

Pertinent Reports: *2007 Fish Augmentation Summary* is in preparation and will be posted to the LCR MSCP Web site.