

Work Task B2: Willow Beach National Fish Hatchery

FY10 Estimates	FY10 Actual	Cumulative Accomplishment Through FY10	FY11 Approved Estimate	FY12 Proposed Estimate	FY13 Proposed Estimate	FY14 Proposed Estimate
\$250,000	\$352,255.56	\$1,809,731.63	\$250,000	\$250,000	\$250,000	\$250,000

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Start Date: FY05

Expected Duration: FY55

Long-term Goal: Fish augmentation.

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

Location: Reach 2, Willow Beach, Arizona.

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

Connections with Other Work Tasks (past and future): Willow Beach NFH receives larval RASU from B1, and BONY from B4. Fish from Willow Beach are reared at Achii Hanyo (B3). Some fishery research actions described in Section C are ongoing at this facility, including Razorback Sucker Rearing Studies (C10), Bonytail Rearing Studies (C11), and Development and Evaluation of Measures to Reduce Transport of Quagga Mussel During Fish Transfer and Stocking Activities (C30).

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.** Initially, Willow Beach NFH was to provide fingerling RASU to Bubbling Ponds SFH to be further reared and ultimately stocked into reaches 3-5 of the lower Colorado River, provide fingerling RASU from wild-caught larvae to Dexter NFH for further rearing and eventual repatriation to Lake Mohave, and provide juvenile BONY to Achii Hanyo Rearing Station for further rearing and ultimately for stocking into reaches 3-5 of the Lower Colorado River. Due to the current infestation of quagga mussels, Willow Beach NFH is only delivering fish to Achii Hanyo.

3. **Annually rear RASU for release to Lower Colorado River.** Rear 6,000 subadult RASU to 300 mm TL for stocking into Reach 3; rear up to 5,000 RASU to 500 mm for repatriation to Lake Mohave.

Previous Activities: This coldwater 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.

During January 2007, the exotic quagga mussel was discovered in Lake Mead, and subsequently found at 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 lower Colorado River 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 Lower Colorado River corridor are being tested (see C30).

FY10 Accomplishments: During 2010, 33,889 RASU larvae were received from Lake Mohave, 2,609 fingerling BONY were transferred to Achii Hanyo for further rearing, and 698 RASU juveniles (>300 mm TL) were stocked to lake-side rearing ponds (B7). A total of 6,195 RASU were repatriated into Lake Mohave (Reach 2) and a total of 400 RASU were stocked into Beal Lake (Reach 3). The majority of funds were for salary and consumable materials (fish feed, medicines, chemicals, etc.). Additional funds that became available in FY10 were used to fund planned work including acquiring gabions, aluminum screens, wire tags, wire tag readers, Jacuzzi pumps, PVC pipe, right angle gear drive, water filters, chemicals, and fish feed. The last two units of solar heating panels for warming water in the recirculating raceways were replaced during the year. Platforms used on recirculating raceways were replaced and improved to allow waste water to drain away from the raceways. Bird netting was replaced and gates were modified to exclude bird entry. Additionally, the feed room flooring was replaced.

FY11 Activities: Willow Beach NFH will receive RASU larvae from Lake Mohave, and continue to rear and distribute RASU and BONY that are currently on station. This includes 5,655 RASU of the 2007 year class, 7,946 RASU of the 2008 year class, 10,165 RASU of the 2009 year class, and 29,668 RASU of the 2010 year class. At the end of 2010 there were no BONY at the hatchery. BONY from Dexter NFH (B4) will be delivered directly to Achii Hanyo (B3). Investigations into methods for removing quagga mussel from transport tanks at Willow Beach NFH (C30) will continue.

Proposed FY12 Activities: The hatchery will continue to receive RASU larvae from Lake Mohave and will continue to rear and distribute RASU and BONY for the LCR MSCP Fish Augmentation Program.

Pertinent Reports: The *2005-2009 Fish Augmentation Summary* is in preparation and will be posted to the LCR MSCP website.