

Work Task B2: Willow Beach National Fish Hatchery

FY12 Estimate	FY12 Actual Obligations	Cumulative Expenditures Through FY12	FY13 Approved Estimate	FY14 Proposed Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate
\$250,000	\$298,730.97	\$2,201,971.21	\$609,000	\$315,000	\$315,000	\$320,000

Contact: Ty Wolters, (702) 293-8463, twolters@usbr.gov

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), 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.** Willow Beach NFH annually receives wild RASU larvae collected from Lake Mohave, and fingerling BONY (25-75 mm TL) from SNARRC (B4).
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, provide fingerling RASU from wild-caught larvae to SNARRC 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. Due to the current infestation of quagga mussels, Willow Beach NFH is only delivering fish to Achii Hanyo and Lake Mead SFH.

3. **Annually rear RASU for release to Lower Colorado River.** Willow Beach NFH will rear 8,000 subadult RASU to 300 mm TL for stocking into reaches 2-5, and rear up to 1,000 RASU greater than 400 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, the USFWS and Reclamation cooperatively added solar heating systems to the hatchery, converting 50 percent 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 was subsequently found at Willow Beach NFH. Larval RASU that were to be transferred to Bubbling Ponds SFH were not collected (B1) and no RASU were delivered to waters outside the lower Colorado River corridor. Quagga mussels have not severely impacted the maintenance or operation of the facility; however, they continue to have an impact on delivery of fish. Fish transport protocols are being tested (see C30).

FY12 Accomplishments: During 2012, 25,003 RASU larvae were received from Lake Mohave, 901 RASU juveniles were stocked to lake-side rearing ponds (B7), and 7,770 RASU were repatriated into Lake Mohave (Reach 2). A total of 5,300 FY10 RASU were transferred to Achii Hanyo Rearing Station (B3) for further grow out. The majority of funds were for salary and consumable materials (fish feed, medicines, chemicals, etc.) but a portion of the funds were used to acquire motors, feeders, aluminum tubing, PVC pipe, tools, a trailer, and probes for monitoring ammonia, nitrate, and dissolved oxygen. A second well was drilled on station that will be able to supply 250 gpm at 19°C. Rehabilitation of one functioning well on station improved capacity from 120 gpm to 250 gpm. These two wells will be able to supply the hatchery with 500 gpm of pathogen-free water. Investigations into methods for removing quagga mussel from transport tanks at Willow Beach NFH (C30) were completed this year.

FY13 Activities: Willow Beach NFH will receive RASU larvae from Lake Mohave, and continue to rear and distribute RASU and BONY currently on station. This includes 1,899 RASU of the 2008 year class, 4,486 RASU of the 2009 year class, 13,022 RASU of the 2010 year class, 15,170 of the 2011 year class, and 16,295 RASU of the 2012 year class. BONY have not been reared at the hatchery since 2010. BONY from SNARRC (B4) are delivered directly to Achii Hanyo Rearing Station (B3). Additional funding of \$358,000 is to install a third well and pump, and a second pump with associated electrical parts will be installed on an existing well. Well water would supply Willow Beach NFH with pathogen-free water, thereby helping eliminate quagga mussel from this facility.

Proposed FY14 Activities: The hatchery will continue to receive RASU larvae from Lake Mohave and to rear and distribute RASU and BONY for the LCR MSCP Fish Augmentation Program. Budget increases in FY14 are due to anticipated cost increases associated with raising fish to target size.

Pertinent Reports: Annual administrative reports are available upon request.