

Work Task B2: Willow Beach National Fish Hatchery

FY14 Estimate	FY14 Actual Obligations	Cumulative Expenditures Through FY14	FY15 Approved Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate	FY18 Proposed Estimate
\$300,000	\$305,132.56	\$2,854,125.46	\$325,000	\$325,000	\$325,000	\$325,000

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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: To annually contribute razorback sucker and bonytail to the LCR MSCP Fish Augmentation Program

Connections with Other Work Tasks (Past and Future): The Willow Beach NFH receives larval razorback sucker under Work Task B1 and bonytail under Work Task B4. A portion of the fish from the hatchery are reared at the Achii Hanyo Native Fish Rearing Facility (B3). Some fishery research actions described in Species Research (Section C) have occurred at the Willow Beach NFH, including Work Tasks C10 and C30 (closed).

Project Description: The Willow Beach NFH is managed by the USFWS. The hatchery receives program funding to rear razorback sucker and bonytail for the LCR MSCP Fish Augmentation Program. There are three primary tasks at this hatchery:

1. **Receive fish to be reared.** The Willow Beach NFH annually receives wild razorback sucker larvae collected from Lake Mohave and fingerling bonytail (25–75 mm TL) from the SNARRC (B4).
2. **Provide fish to other hatcheries.** Initially, the Willow Beach NFH was to provide fingerling razorback sucker to the Bubbling Ponds Fish Hatchery to be further reared and ultimately stocked into Reaches 3–5, provide fingerling razorback sucker from wild-caught larvae to the SNARRC for further rearing and eventual repatriation into Lake Mohave, and provide juvenile bonytail to the Achii Hanyo Native Fish Rearing Facility for further rearing and ultimately for stocking into Reaches 3–5.

Due to quagga mussel infestations, the Willow Beach NFH is only delivering fish to the Achii Hanyo Native Fish Rearing Facility and the Lake Mead Fish Hatchery.

3. **Annually rear razorback sucker for release into the LCR.** The Willow Beach NFH will rear 8,000 subadult razorback sucker for stocking into Reaches 2–5 and, in addition, rear up to 1,000 razorback sucker greater than 400 mm TL for repatriation into Lake Mohave. All razorback sucker stocked into Reaches 2 and 3 will be a minimum of 300 mm TL. All razorback sucker stocked into Reaches 4 and 5 will be a minimum of 305 mm TL.

Previous Activities: This cold-water 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% of its rearing capacity to warm-water fish production. Each year since 1996, the hatchery has received wild razorback sucker larvae, reared juvenile razorback sucker, and repatriated fish back into Lake Mohave.

During January 2007, the exotic quagga mussel was discovered in Lake Mead and was subsequently found at the Willow Beach NFH. Larval razorback sucker that were to be transferred to the Bubbling Ponds Fish Hatchery were not collected (B1), and no razorback sucker were delivered to waters outside the LCR corridor. Quagga mussels have not severely impacted the maintenance or operation of the Willow Beach NFH; however, they continue to have an impact on the delivery of fish.

FY14 Accomplishments: During 2014, 28,937 razorback sucker larvae were received from Lake Mohave, 755 razorback sucker juveniles were stocked into lake-side rearing ponds (B7), 12,072 razorback sucker were repatriated into Lake Mohave (Reach 2), and 44 razorback sucker were stocked at Deer Island (Reach 4). A total of 713 FY12 razorback sucker and 9,000 FY14 bonytail were transferred to the Achii Hanyo Native Fish Rearing Facility (B3) for further grow-out. The majority of funds were for salaries and consumable materials (fish feed, medicines, chemicals, etc.). Installation of two new wells, along with pumps and associated electrical parts, began at the Willow Beach NFH. In addition, a new pump, with associated electrical parts, was installed on an existing well.

FY15 Activities: The Willow Beach NFH will receive razorback sucker larvae from Lake Mohave and will continue to rear and distribute the razorback sucker and bonytail currently at the hatchery. This includes 1,581 razorback sucker of the 2010 year class, 4,770 of the 2011 year class, 11,463 of the 2012 year class, 20,157 of the 2013 year class, and 19,882 of the 2014 year class.

The installation of two new wells, along with pumps and associated electrical parts, and the installation of a new pump, with associated electrical parts, on an existing well, is expected to be completed in FY15. Well water would supply the Willow Beach NFH with a reliable source of pathogen-free water, thereby helping to eliminate quagga mussels from this facility.

During this fiscal year, the rearing strategy has changed in order to produce larger fish for stocking into Lake Mohave. In addition, genetic samples may be collected at the time of tagging in order to improve data for inference regarding genetic trends of the Lake Mohave broodstock. This change in genetic sampling may also reduce future needs for intense netting efforts during the spawning season. Discussions are ongoing, but depending on any necessary changes in effort, budget estimates may need to be altered in subsequent years. Budget estimates in FY15 and later reflect these potential needs in terms of both new rearing strategies and ongoing improvements in the water supply at the hatchery.

Proposed FY16 Activities: The hatchery will continue to receive razorback sucker larvae from Lake Mohave and to rear and distribute razorback sucker and bonytail for the LCR MSCP Fish Augmentation Program.

Pertinent Reports: Annual administrative reports are available upon request.