

Work Task C44: Management of Fish Food Resources in Off-channel Native Fish Habitats

FY10 Estimates	FY10 Actual	Cumulative Accomplishment Through FY10	FY11 Approved Estimate	FY12 Proposed Estimate	FY13 Proposed Estimate	FY14 Proposed Estimate
\$0	\$0	\$0.00	\$60,000	\$100,000	\$100,000	\$0

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Start Date: FY11

Expected Duration: FY13

Long-term Goal: To maintain effectiveness of restored fish habitats.

Conservation Measures: BONY5, RASU6.

Location: Various off-channel fish grow-out ponds and native fish refugia.

Purpose: To evaluate techniques for maintaining ample food resources for native fishes in off-channel ponds within the Colorado River floodplain.

Connections with Other Work Tasks (past and future): This work is related to Lake-Side Rearing Ponds (B7), Overton Wildlife Management Area (B11), Imperial Ponds Native Fish Research (C25), Characterization of Zooplankton Communities in Off-Channel Native Fish Habitats (C34), Post-Development Monitoring of Fish Restoration Sites (F5), and Adaptive Management Research Projects (G3).

Project Description: This three year study will evaluate means to enhance food resources in the various flood-plain ponds being used within the LCR to hold and/or rear RASU and/or BONY. Off-channel habitats, including both man-made and natural flood-plain ponds are being used to support communities of RASU and BONY. In some ponds the fish are fed prepared feeds, in other ponds organic and/or inorganic fertilizers are used based on the assumption that they boost development of plankton for food, and in some cases neither feed nor fertilizer are added to the ponds and the fish must subsist on whatever food is naturally available. To maximize management of these habitats, the amounts of zooplankton in these ponds must be determined. This study evaluates ways to manipulate zooplankton communities to benefit native fishes, as well as develop recommendations for adding feed and/or fertilization to maintain food levels needed by native fish to attain targeted growth rates.

Previous Activities: Information characterizing the zooplankton communities of 33 separate native fish ponds was collected quarterly during FY09 and FY10. This

information was gathered through Characterization of Zooplankton Communities in Off-Channel Native Fish Habitats (C34), and will be used as a baseline for comparison.

FY10 Accomplishments: New start in FY11.

FY11 Activities: The first year of this study will investigate the effects of pond fertilization on composition, density, and duration of zooplankton communities in Lake-Side Rearing Ponds (B7) on Lake Mohave. Ponds will be fertilized prior to being stocked with native fish in early spring, and zooplankton samples will be collected monthly following fertilization. Zooplankton samples will also continue to be collected from all other native fish rearing ponds previously sampled under Characterization of Zooplankton Communities in Off-Channel Native Fish Habitats (C34). Results of fertilized pond sample analysis will be compared to baseline data to evaluate the most effective ways to manipulate zooplankton communities to the benefit of native fishes.

Proposed FY12 Activities: Investigation into the effects of pond fertilization on zooplankton communities in native fish rearing ponds will continue. Based on findings from the first study year, modifications may be made to the study design and additional treatments or methods of fertilization may be tested. All tests will focus on ways to manage food resources in off-channel habitats to improve quantity and quality of fish reared for the program.

Pertinent Reports: A report characterizing zooplankton communities in off-channel native fish habitats will be completed in 2011.