



Saylorville/Big Creek Fish Escapement Study - Planning Assistance to States (PAS)

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG ®

Location

Saylorville, Iowa

State(s)

IA

Congressional District(s)

IA-3

Status

This study is currently be coordinated with the Iowa DNR through Section 22 of the Water Resources Development Act of 1974, as amended, which provides authority for the Corps to provide planning assistance to states and tribes. The Planning Assistance States (PAS) Program permits the Corps to use its technical planning expertise to supplement and support state and Indian tribe efforts to undertake water resources planning. As required by Federal law and in accordance with Section 22 of the Water Resources Development Act of 1974, the study cost would be divided 50% Federal and 50% non-Federal Sponsor. Finished coordinating and negotiating the cost share agreement between the USACE and Iowa DNR, signed 26 January 2015. The initial stakeholder meeting took place on 9 July 2015 at the Saylorville Corps office. A population estimate for both walleye and muskellunge was completed at Big Creek Lake. A pilot sampling was completed at Brushy Creek Lake and future sampling sites were identified. A draft conceptual plan was designed for the Big Creek Lake PIT tag reader system. The preferred tag size and tagging location for both walleye and muskellunge was determined through tag retention and mortality studies.

Description

Big Creek Lake is a sub-impoundment to Saylorville Lake and is located in Big Creek State Park upstream of Saylorville reservoir, just north of Polk City, Iowa. A diversion dam which forms the 866-acre Big Creek Lake was primarily developed as a flood risk management project. Management of fisheries occurs at both Saylorville and Big Creek and is influenced by numerous factors, including diverse stakeholder interests, socioeconomic conflicts, watershed land use, flood control, novel food web interactions, habitat alterations, and degraded water quality. One of the challenges to managing reservoir fisheries is fish escapement that may result in substantial loss of populations of fish over the spillway. Yet, little is known regarding escapement rates of reservoir fishes, factors influencing escapement, or management options for reducing escapement. In collaboration with Iowa DNR, the USACE will provide assistance with determining: 1) movement patterns and habitat use of Walleye and Muskellunge, 2) Walleye and Muskellunge escapement rates and influential factors, and 3) the effects of different physical barrier configurations on escapement. The partners will provide recommendations for modifying the current Big Creek fish barrier.

Summarized Project Costs

	Project
Estimated Federal Cost	\$499,000

Updated on 2016-Aug-31

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Estimated Non-Federal Cost	\$499,000
Total Estimated Cost	\$998,000

Financial Status

	Project
Allocations through FY 2015	\$100,400
Funding Allocation for FY 2016	\$100,000
FY 2016 Funding (Budget Amount)	\$100,000
Balance to Complete	\$198,600

Major Work Item (This Fiscal Year)

FY 2016, The passive integrated transponder (PIT) tag antennas were installed on the outlet of Brushy Creek (no barrier) and Big Creek (outlet has a barrier) during spring. Stocked Walleye and Muskellunge were injected with a PIT tag for individual recognition and stocked into both Brushy and Big Creek. Data collection was completed and analyzed.

Major Work Item (Next Fiscal Year)

Each year, stocked Walleye and Muskellunge will be injected with a PIT tag for individual recognition and stocked into both Brushy and Big Creek. Additionally, Walleye and Muskellunge will be collected from each reservoir using a combination of gill nets, trap nets, and electrofishing. Captured fish will be measured for length and weight, gender will be determined, and a PIT tag will be internally implanted before the fish is released. PIT tag antennas on the outlets of each reservoir will then be used to identify individual fish that pass over the spillway of each reservoir. Environmental data (e.g., temperature, water level, flow rates, time, etc.) will be monitored continuously and used to evaluate factors influencing escapement. Escapement rates and influential factors will be compared between the reservoir with a physical barrier (Big Creek) and the control reservoir without a physical barrier (Brushy Creek). PIT tagging and recapture events will take place from spring 2016 through fall 2020, providing sufficient time to collect information about escapement under a wide range of environmental conditions. This information will then be used to guide management decisions about barrier installation at these and other reservoirs. MVR will continue to provide administrative overview, quality assurance and project management. The study will continue to monitor and collect fish escapement and associated environmental data.

Authority Details

Phased allocation of Planning Assistance to States funding over 5 years

Point of Contact: NONE PROVIDED
Phone: NONE PROVIDED
Email: NONE PROVIDED



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