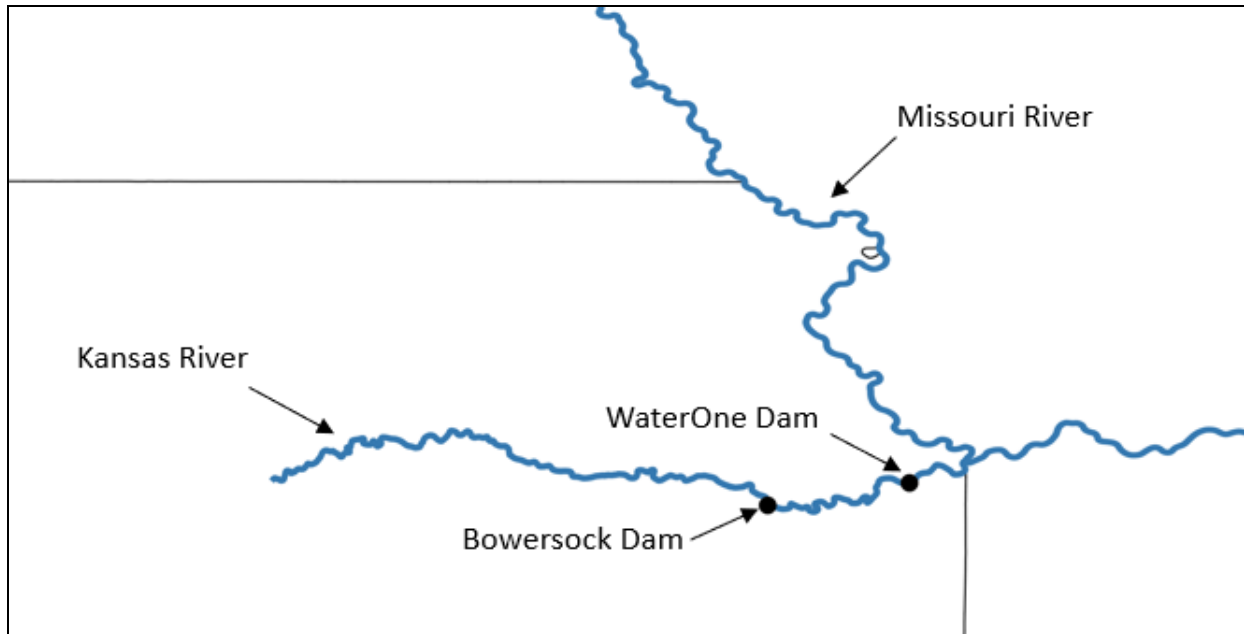


Project Title: Containment of Invasive Carp in the Missouri River Basin
(formerly submitted as Control and Containment of Invasive Carp in the Missouri River Basin)

Geographic Location: Kansas River at Bowersock Dam (RKM84)



Lead Agency: Kansas Department of Wildlife and Parks (KDWP), Chris Steffen, chris.steffen@ks.gov and Liam Odell, liam.odell@ks.gov.

Participating Agencies: NA

Statement of Need:

Populations of invasive carp (silver carp, bighead carp, black carp, and grass carp) have rapidly expanded throughout the Mississippi River basin. Management and control of invasive carp is necessary to reduce their impact on native species, the ecosystem, and the economy. In response to these threats, many states throughout the Mississippi and Great Lakes basins have been working to find effective strategies to manage existing populations and to control the expansion of invasive carp into adjacent aquatic systems. Appropriations for the Department of Interior indicate that ‘while the Committees (House Subcommittee on Interior, environment, and Related Agencies and the Senate Subcommittee on Interior, Environment, and Related Agencies) recognize the importance of studying and understanding invasive carp patterns, the Service is encouraged to take action on a strategy that increases the focus on biomass removal and restricts carp progression by coordinating with other Federal partners on constructing invasive carp deterrents. This project addresses the need for invasive carp deterrents with the goal of installing a deterrent at Bowersock Dam to prevent invasive carp from expanding their range upstream into the currently uninvaded portion of the Kansas River (Figures 1 and 2) .

Project Objectives:

- 1) Install a physical deterrent at Bowersock Dam to prevent upstream movement of invasive carp.

Project Highlights:

- Preliminary feasibility project completed successfully
- KDWP has located and contracted with necessary and qualified engineering firms (Ducks Unlimited and Olsson, Inc.) for the project
- Project partners, Bowersock Mills and Power Company and the City of Lawrence, continue to be supportive of the installation of a carp deterrent on Bowersock Dam

Methods:

Funds from this grant are being applied towards the planning, designing, engineering, installation, and monitoring of a physical deterrent at Bowersock Dam. KDWP is utilizing funds to contract with engineering firms (Ducks Unlimited and Olsson, Inc.) to conduct the necessary steps to install the invasive carp deterrent.

The contractors are required to work closely with KDWP, the City of Lawrence (dam owner), and the Bowersock Mills & Power Company (hydropower operator) to account for their needs, concerns, and requirements throughout the process. The contracted engineering firms are responsible for the designing, specification, engineering, building, and installation of the invasive carp deterrent at Bowersock Dam. The deterrent design will be based on a common carp deterrent developed by Ducks Unlimited for the Iowa Department of Natural Resources, nicknamed “head bangers” (Figures 3 and 4). The deterrents have been successfully used to prevent common carp from jumping over dams and migrating into shallow Iowa wetlands to spawn and reduce water quality (Meerbeek & Hawkins, 2021; Figure 4).

Results and Discussion:

In October 2023 a preliminary project (funded directly by KDWP using state funds) was completed to determine the feasibility of adding the proposed carp deterrent to the existing North Powerhouse on Bowersock Dam. The project determined that adding the carp deterrent is indeed feasible with minor adjustments to the design (Figures 5 and 6).

Upon award of USFWS carp grant funds in October 2024, KDWP initiated internal processes to secure contracts with the engineering firms needed to complete all steps needed to install a carp deterrent on Bowersock Dam. KDWP engineering staff have completed internal review of the project, approved moving forward with the project, and approved a proposal from Ducks Unlimited and Olsson, Inc. for services needed to complete the deterrent installation. However, work has stalled as Ducks Unlimited and Olsson, Inc. have so far failed to reach an agreement on financial liabilities related to the installation of the invasive carp deterrent. Exact completion date of project is not yet known as - until liabilities are agreed upon - bidding of construction services will not begin. KDWP remains committed to this project and seeking a solution to the current liability challenge and is hopeful that the project will be completed in the future.

Tables and Figures:



Figure 1. Southeast (downstream) view of the North Powerhouse, including proposed location of invasive carp deterrent.



Figure 2. Concept sketch of the North Powerhouse, including the proposed location of the invasive carp deterrent.

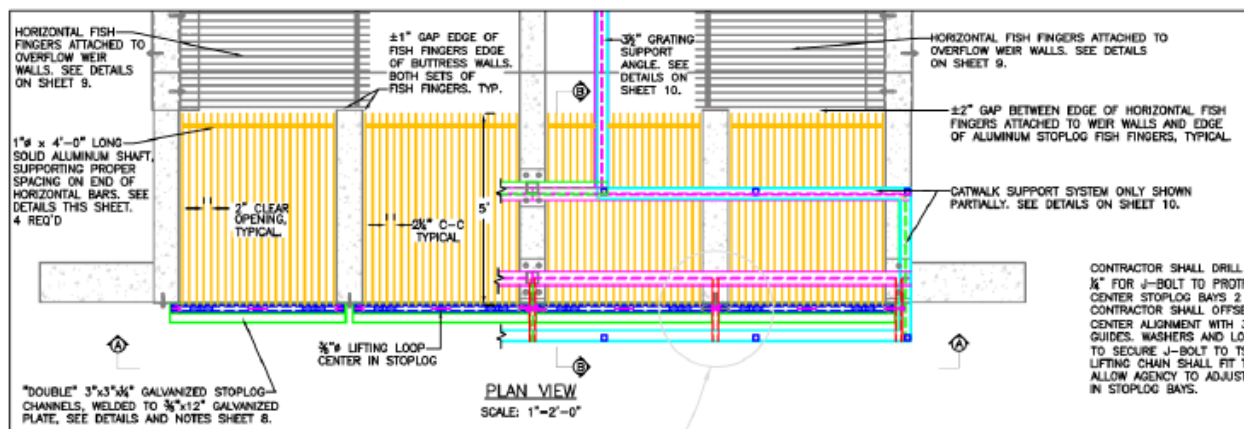


Figure 3. *Drawing of Ducks Unlimited barrier system to be adapted to Bowersock Dam to deter upstream movement of invasive carp.*



Figure 4. *Photo of installed Ducks Unlimited barrier system from Lost Island Lake project in Iowa.*

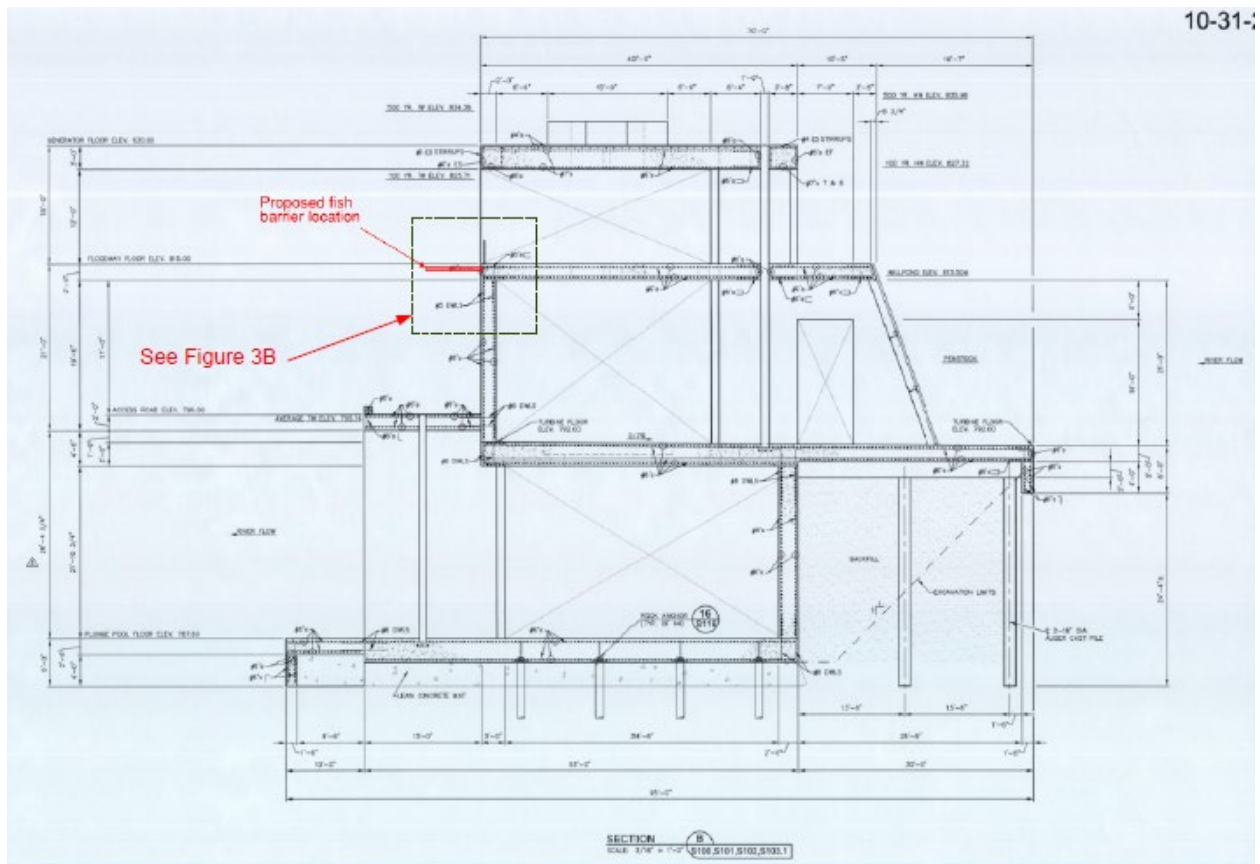


Figure 5. *Structural drawing showing location of proposed invasive carp deterrent.*

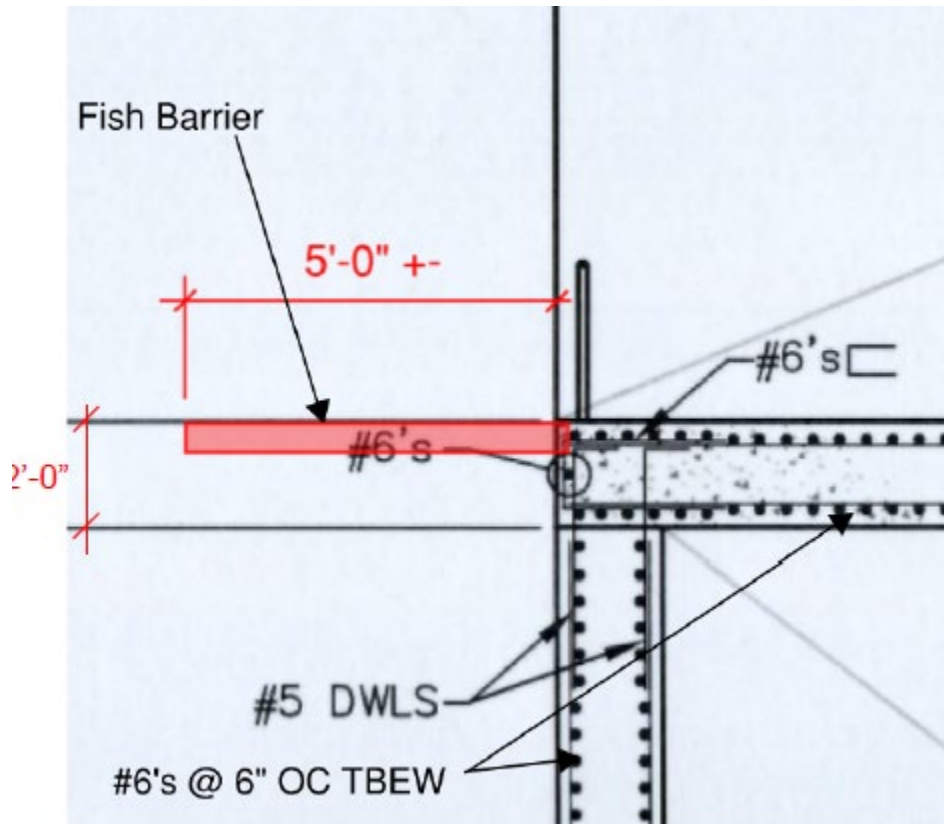


Figure 6. Detailed structural drawing showing location of invasive carp deterrent.

Recommendations: While delayed, continue with project as initially planned.

References:

Meerbeek, Jonathan & Hawkins, Michael. (2021). The Lost Island Lake renovation project – design, implementation, and adaptive management.