The Positive Impact of Fishways on Our Local Fish Populations

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INTRODUCTION

In the U.S. Army Corps of Engineers National Inventory of Dams, there are over 79,000 man-made dams recorded in the U.S., 66,000 of those dams located on rivers (Irvin, 2014). Dams were created to store water for when energy or water levels are low, as well as raise the level of water to increase "hydraulic head," or the difference in height between the reservoir and the river downstream (McCully, 2001).

While dams prove to be beneficial to humans and even some land animals, those barriers in the waterways have serious implications on a number of aquatic species, specifically fish, due to the sudden halt of their migrations. It is in a fish’s nature to want to lay their eggs relatively close to the location where they were hatched, however, if fish are unable to complete their migrations to this specific location, they are forced to lay their eggs in less suitable locations with detrimental factors such as predators and lack of food. In addition, other detrimental risk factors to fish include increased predation while swimming in the slow waters of the reservoir above the dam and the downstream from the dam to the river. Fish eggs are also not guaranteed to have a safe trip back downstream (Hayes, 2013).

A fishway (Fig. 2), another term for a fish ladder, is a ladder-like structure that makes it more accessible for fish to continue migration upstream over an obstacle such as a dam, and is more cost effective than removing an unnecessary dam (Zimmer, 2014). However, some factors to consider before installing a fishway include the depth of water below the obstacle, the height of the barrier, the water velocity over and through the barrier, the quantity and quality of fish habitat upstream in relation to the barrier, and fish movement patterns. Different species of fish also require specialized ladders because of certain physical characteristics (Garrity, 2014).

Yet, 4,000 dams still obstruct sections of various rivers in Connecticut alone (Shahin, 2015), and few property owners understand the importance of fishways. The purpose of this research and educational project is to demonstrate how fishways help fish bypass these barriers in the waterways; therefore, allowing them to complete their migrations and further increase the fish population. This project will also help people better understand the importance of maintaining fishways and how they make a positive impact on the environment.

REFERENCES

For example, the Fishway Implementation Policies (Bethesda, 2015), which is a comprehensive guide to fish passage structures, provides a wealth of information on how to install and maintain fishways in order to help encourage the migration and spawning of fish, and therefore, ensure the increase and protection of future fish populations.