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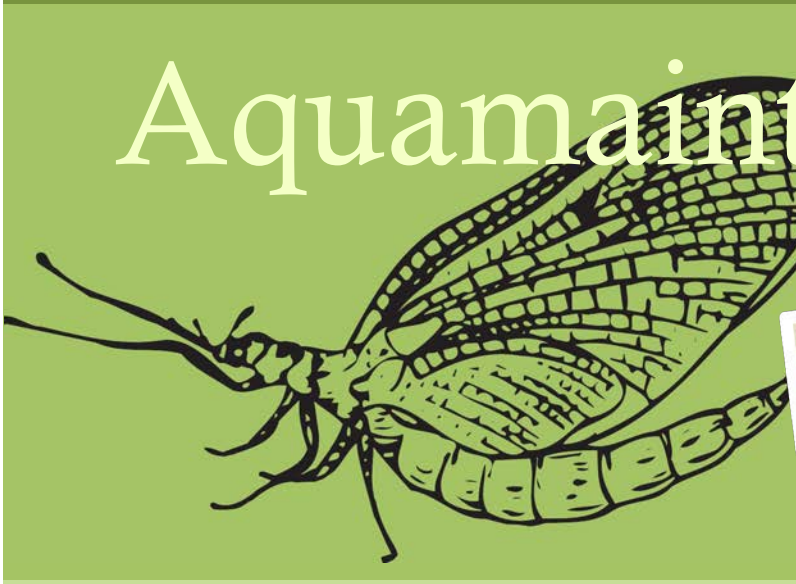

Case Study

River Colne, Fish Easement and Eel Pass – Lower Mill Farm

Background

The River Colne, a tributary of the River Thames rises as a spring in North Mymms Park (Hertfordshire) where it runs through Hertfordshire and further downstream becomes a boundary between Buckinghamshire and the London Borough of Hillingdon.

The main branch of the river then flows into the River Thames at Staines-upon-Thames. There are a number of barriers that pose issues to fish migration along its length. Several barriers to migration were identified during a survey carried out by the River Restoration Centre with the aim being to improve fish passage through removal or installation of easements.

Scope of the Project

Lower Mill Farm is located at the upstream end of Stanwell Moor and at a distance of 3520m from the River Thames. Here the old mill thorough diverts around a small island, with a bypass weir on the right. The bypass weir was reconstructed in or around 1980 and comprises stone filled gabion baskets. Both weirs have a head drop of around 0.70m.

"This project was in partnership with Groundwork South and the Environment Agency and was funded by Affinity Water and the Heritage

Solution

In order to provide fish passage without removing the weirs and lowering the water level it was decided to install a rock baffle easement in the millrace.

This solution provided an aesthetically pleasing solution for the owner along with being relatively low cost solution to fish passage at the location.

Firstly, the millrace was dammed using a geo design barrier cofferdam to provide a safe dry working area in which to install the new easement.

The crest or the weir was then lowered to ensure constant flow during low flow conditions.

A new reinforced concrete slope was then poured to create a more suitable flow regime with reduced velocities more acceptable for migrating fish to traverse.

Within the reinforced concrete slope nine rows of stones were installed to create a baffle effect further reducing velocities and providing rest spaces for roving fish.

A staggered low flow notch of 250mm was created during the installation of the lateral stones to provide a path for the numerous fish species and size ranges found to be present in the river.

Removable boards were also installed on the verticall walls of the millrace to provide passage to migrating Eels, a protectted and vulnerable fish species which have different requirements when it comes to overcoming obsticals compaird with more commonly fish species.

For More Information…

Aquamaintain LTD
Frensham Vale Stables,
Gardeners Hill Rd,
Frensham,
Surrey, GU10 3JB

(01252) 856385

www.aquamaintain.co.uk
info@aquamaintain.co.uk

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