

Manage the risk of fish and eels being trapped in pumps & turbines

Project Summary

Title: Gold Corner Pumping Station Eel Passage

Location: East Huntspill, Somerset, England

Technique: Installation of eel passage system

Cost of implementation: £££

Overall cost of scheme: ££££

Benefits: ££

Dates: 2013

Mitigation Measure(s)

Manage the risk of fish and eels being trapped in pumps and turbines

Remove or modify structures to increase access for fish and eel

How it was delivered

Delivered by: Environment Agency

Partners: KLAWA, Fisktek, Royal HaskoningDHV

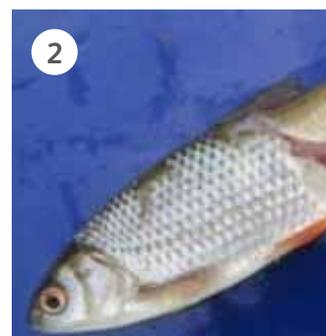


Background / Issues

Gold Corner Pumping Station, located approximately 8 km north east of Bridgwater (ST 36802 43049), is the largest and most complicated land drainage pumping station in Southwest England. The station was a major barrier to fish and eel migration, and site visits confirmed fish mortality associated with the pumping operations.

The Environment Agency required an effective, low cost solution that would increase silver eel escapement at Gold Corner into the downstream Huntspill River to enable eels to continue their journey to the Sargasso Sea to spawn.

The KLAWA silver eel passage system was recommended by Royal HaskoningDHV for use at this location due to positive indicative test results. It is the first of its kind to be used in the UK. This system has been tested effectively at hydropower stations, and provides a low-cost solution to eel entrainment.



- (1) Eel mortality due to pumping station;
- (2) Fish injury due to pumping station;
- (3) Fish mortality due to pumping station;
- (4) Fish mortality due to pumping station.

Step-by-step

Pre-construction monitoring

Eel and fish mortality monitoring is undertaken prior to installation of the new system to inform design.

Eel passage construction (August/September 2013)

The silver eel bypass system consists of a special perforated zig-zag collection-pipe, the main element of this system, and a bypass-pipe which flushes out collected migratory silver eels which have entered the zig-zag-pipe into the backwater of hydropower stations unharmed. Construction also includes the installation of bristles upstream of the pipe (see picture) to create optimum flow conditions to allow eel ingress into the pipe.

Post-construction monitoring

Post-hoc monitoring is undertaken to determine the success of the scheme in terms of reducing eel entrainment.



KLAWA silver eel bypass systems

Benefits

- It is anticipated that the KLAWA eel bypass system will significantly increase eel (and potentially fish) passage at Gold Corner Pumping Station thus allowing adult eels to spawn in the Sargasso Sea and complete their life cycle.



Eel entering pipe

Lessons Learnt

- The applicability of the KLAWA system in this case indicates the success to be gained through investigating innovative low cost solutions for fish entrainment.

Project contact: Flood and Coastal Risk Management, Wessex Area, Environment Agency