

HYDROLOX S1800 SCREENS SAFEGUARD AQUATIC LIFE WHILE REDUCING EQUIPMENT DOWNTIME



Customer Objectives

Northumbrian Water needed a new screen solution to meet the 2009 EEL Regulations at its River Wear intake at Chester-Le-Street, where 57 million liters of water are abstracted each day. The water company needed a low-approach velocity solution that would preserve eel stocks in adherence with a local regulation which requires that all such water intake structures adequately protect eel life at their abstraction points. Further, Northumbrian Water sought to reduce the heavy operator input and cleaning requirements of its existing inline bowl filters, which were causing excessive and costly downtime. In fact, during the region's six-month storm season (October through March), the filters required weekly manual cleaning by two to three people, often outside of normal working hours.

Hydrolox Execution

The Hydrolox engineering, design, and project teams partnered with Northumbrian Water and its framework partner, Mott MacDonald Bentley, to implement four Hydrolox™ Series 1800 Mesh Top™ screens with debris flights. Made from lightweight, UV-resistant, and corrosion-free materials, the S1800 screens prevent fish entrainment, improve debris removal, optimize water filtration, reduce maintenance costs with a self-cleaning mechanism, and virtually eliminate downtime. Northumbrian Water selected these screens for their ability to meet both current and anticipated regulations for the protection of eels and other fish species, ensuring ongoing compliance in an ever-changing environmental landscape.

Results

The change in Northumbrian Water's screening approach will not only exceed eel stock regulations, but it will also significantly improve aquatic biodiversity and fish protection within the river for generations to come. The new screens also increase the reliability of water intake and drastically reduce unscheduled downtime and manual cleaning—from four to five cleanings every month between October and March to only one or two cleanings in that entire six-month period. Northumbrian Water was so pleased with the results that they went on to install another 13 Hydrolox screens across four sites, with yet another project in the works. Hydrolox Account Manager Karl Bousfield said, "Installation of Hydrolox screens has given Northumbrian Water security of supply compared to other technologies on the market today; we are pleased they have seen the value that we bring to their operations and have chosen Hydrolox for future projects."

**72–180
HOURS**

**CLEANING
PERSONNEL TIME
SAVED OVER
SIX MONTHS**

“The screens will improve resilience of the water supply to Lumley WTW, and the improvement on strainer cleaning has taken away a huge operational challenge for us!”

Peter Bell, Northumbrian Water Operations

“The new screens will greatly reduce the number of fish and eels entrained at the pumping station, and will remove a significant hazard to migratory species, particularly sea trout, eels, and salmon. These benefits will be felt along the entire 100-km length of the river, from source to sea.”

Mott MacDonald Bentley Water Projects Online Article

