



## Bedford Pumps SAF Range are proven Fish Friendly

Bedford Pumps Ltd have been awarded an “Excellent” rating for their new SAF Range of Fish Friendly pumps.

The credential was granted by independent research consultants, VisAdvies BV (specialists in the field of water management, focusing on the environment of fish in all types of inland waterways), following extensive and stringent trials. The results prove conclusively that Bedford Pumps’ SAF Range of pumps are fish and eel friendly with no direct mortality observed from exposure to the pump.

EU legislation was brought into effect in 2007 to tackle the rapid decline in global populations of the European eel. Eels are a migratory species and in order to breed must return to their spawning grounds of the Sargasso Sea - a distance of approximately 6500km. Obstructions which impede their journey, such as pumping stations, may be a contributing factor in their fall in numbers.

The EU legislation “EU Eel Regulations”, proclaims that each Member State shall implement appropriate measures to reduce eel mortality. In 2009 UK legislation empowered the Environment Agency to undertake activity to satisfy EU regulations. To this effect the Environment Agency can serve notice where the safe passage of eels is impeded and enforce a resolution to preserve the life of eels. This legislation is specific to the eel population but it is generally accepted by all concerned that protecting fish stocks is an added bonus of utilising this type of pump.

Eel and fish friendly pumping solutions will shortly become a requirement at the majority of pumping station and water extraction points where eel populations have been identified.

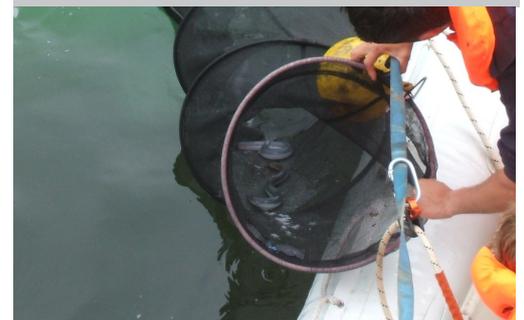
Bedford Pumps Axial Flow Fish Friendly pump underwent rigorous tests in a dry dock in Hellevoetsluis, Holland. VisAdvies BV performed the evaluation by means of forced exposure of the fish to the pump. Three representative groups of fish were used in two size classes, 0-15cm and 16cm plus. The pump was tested at a duty of 1300 l/s at 1.5m head, running at speeds of 330, 425 and 518rpm consecutively.



*Assembling the test rig in a Dry Dock in Holland*



*Fully Assembled*



*Inserting the eels*



*Safely through the pump*

# Fish Trials

The pump achieved 100% survival of eels passing through the pump. The most severe damage that occurred was some scale loss on the coarse fish. This was not caused by the pump impeller but by the impact of the fish hitting the water after passing through the pump. In an actual Land Drainage application the discharge point would be below the water level.

Bedford Pumps SAF Range of Fish Friendly pumps cover from 400 to 7,000 l/s at 2 to 6m head and are ideally suited for Land Drainage, Flood Defence and Fish Farm applications. Larger capacity pumps can also be designed to meet specific requirements.

In addition to protecting the fish, the new design demonstrates a significant improvement in hydraulic efficiency resulting in an 8% reduction in power absorbed. Consequently the new range will satisfy objectives of eel protection and carbon reduction.

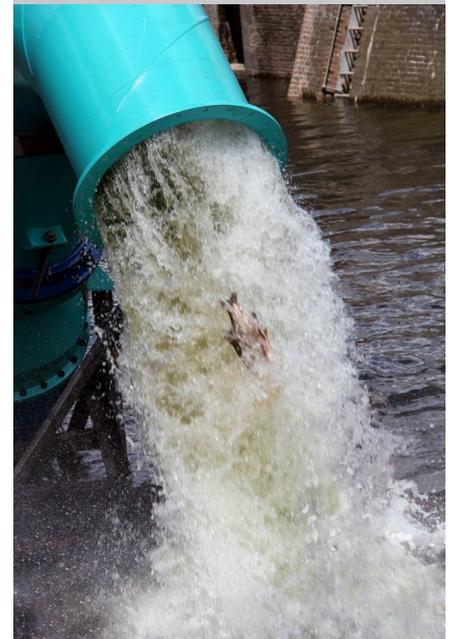
Bedford Pumps have just installed their first Fish Friendly pump for the Environment Agency at a new pumping station in Kempsey. The pumps will discharge water from Hatfield Brook, a waterway which has caused flooding to the village 23 times in the past 30 years. Hatfield Brook is home to an eel population, so the new pumping station will be the station in the UK to comply fully with the new EU regulations.



*Bedford Pumps' Fish Friendly Impeller*



*Before the test*



*Fish passing through the pump*



*Completely unscathed after the test*



*Being checked over by VisAdvies BV*

