AquaticEngineering

Working Above Water, On Water & Under Water

Case Study : Durleigh Reservoir – Algae Control

Client: Wessex Water
Date: 2012 & 2013

Durleigh (Somerset) is a lowland supply reservoir controlled by Wessex Water, it covers 80 acres (32 ha) and is one of the oldest reservoirs in the region being formed in 1938 when Durleigh brook, a tributary of the River Parrett, was dammed.

As it is extensively used for coarse fishing, as well as being the base for Durleigh Sailing Club, where members can sail or windsurf and is also used for training by Somerset Youth and Community Sailing Association, disruption to these amenities isn't possible.

However as with many supply reservoirs across the UK algal and cyanobacteria blooms historically cause problems which seriously affect water quality.

Wessex Water initially approached AquaticEngineering in early 2011 to look at ways of improving overall water quality on some of their large waters.

As traditional barley straw applications would seriously disrupt the fishing and sailing due to their footprint, AquaticEngineering proposed using bulk dispensers which would be less disruptive.

The application of barley straw in water to control many algae species has been tested in a wide range of situations throughout the world and has proved to be very successful in most situations with no known undesirable side-effects.

When barley straw is put into water, it starts to decompose and during this process chemicals are released which inhibit the growth of algae.

Initially 8 tonne of barley straw was floated on Durleigh Reservoir in early May 2012 using AquaticEngineering's unique bulk straw dispenser system; this keeps much of the straw above the water line for gradual decomposition.
A linear installation was preferred so as to remain compact and utilise prevailing winds for 'mixing'.

By installing the AquaticEngineering bulk dispenser system, barley straw can be active throughout almost 12 months of the year – by filling twice, usually in February and late May. This system with its gradual release of decomposing barley straw chemical compounds is better suited as an algae inhibitor rather than trying to control established blooms.

Dispensers were subsequently topped up in July 2012 and (above) in February 2013

Following the initial capital expenditure for the bulk dispensers and their installation, this method of applying bulk barley straw to large water bodies becomes far more attractive economically. If weather conditions and access are favourable it is relatively easy to refill dispensers with upward of 5 tonne of straw per day with a three man team – using boats and a floating pontoon system.

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Kingarth Lodge, Church Road, Binstead, Isle of Wight PO33 3SZ www.aquaticengineering.co.uk

Tel No 1: 01983 616668 Mob No: 07891 438666 caroline@aquaticengineering.co.uk

The AquaticGroup : AquaticEngineering : AquaticResponse : AquaticConsultancy