

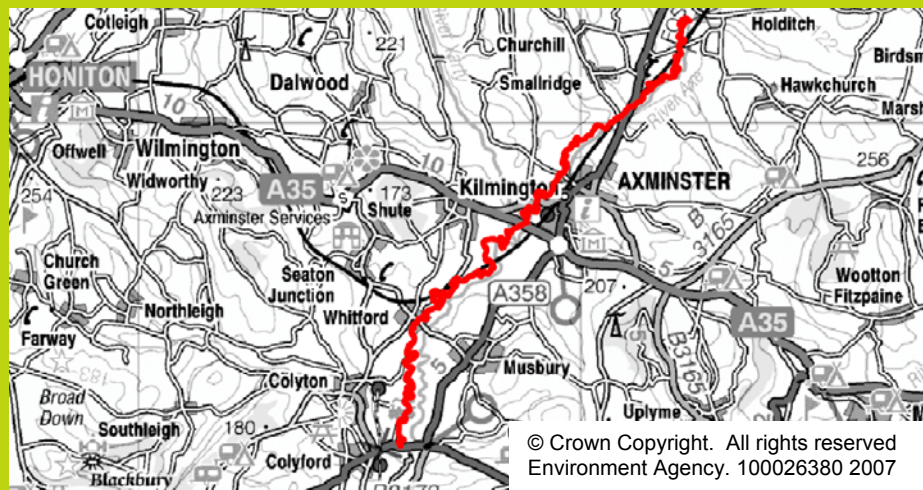
River Axe Special Area of Conservation

Implementing the Habitats Directive

Laws have been introduced under the Habitats Directive to safeguard Europe's most endangered plants, animals and habitats.

As part of this, the Environment Agency, has to review all the existing permissions that we regulate to ensure there are no adverse effects on the nature conservation interests of designated sites such as Special Areas of Conservation (SAC) and Special Protection Areas (SPA).

Location



We call this process the 'Review of Consents' and have developed a four-staged approach:

- Stages 1 & 2 List all permissions and decide which are likely to have a significant effect
- Stage 3 Look in detail at whether significant permissions have an adverse affect on site integrity
- Stage 4 Review options for removing these adverse effects

About this site

The SAC covers 13 km of the lower and middle reaches of the River Axe from the confluence with the Blackwater River to the tidal limit near Colyford. The site has been designated for:

- Diverse aquatic and marginal flora dominated by *Ranunculus* species
- Bullhead, Brook lamprey and Sea lamprey

These are the site interest features. The SAC also includes stretches that are nationally important for their geomorphological processes (meander formation). Salmon stocks are improving in the river following successful habitat rehabilitation and stocking programmes.

Predominant land use in the area is improved dairy pasture and there is limited recreational use of the river.

Review of Consents

The permissions that we reviewed in Stages 1 and 2 included discharge consents and abstraction licences because as a riverine SAC, the main risks to the interest features were related to water quality and flow. Together with Natural England we have developed generic targets for water quality and flow for use in the Review of Consents. During Stage 3 we assessed all of our monitoring data for the SAC and compared it to these targets. This showed that whilst flows in the river were sufficient to support the interest features of the SAC, the whole of the SAC was suffering from elevated nutrient levels, with levels of phosphate above the target of 0.06 mg/l. Potential impacts on the site included increased algal growth which could reduce fish egg survival and affect the abundance of sensitive plant species.

Other issues

The investigations for the Review of Consents highlighted a number of other impacts on the River Axe SAC including:

- Nutrient enrichment from natural and non-regulated sources, e.g. agricultural run-off and rural communities with no sewerage connections.
- Build up of sediment on the riverbed from natural and unregulated sources, e.g. bank erosion.
- Invasive alien plant species, e.g. himalayan balsam

Where appropriate we will work with other partners, including Defra and Natural England to address these impacts through various measures at European, national and local level.

Four discharge consents were considered at Stage 4. Water quality models were used to work out how much phosphate was produced by each discharge and how this compared to unregulated and natural sources of phosphate in the river catchment. We were also able to predict the effect of altering the concentrations of phosphate from each discharge. Using the results of these models we were able to show that the most sustainable and fair solution was to reduce the amount of phosphate discharged from two sites. Whilst the phosphate target is still unlikely to be met, we have ensured that a fair proportion of the phosphate from permissions that we regulate has been dealt with. We have notified all the Stage 3 permission holders of the outcome of the Review of Consents for the River Axe

Contact Emma-Rose Herrera for further details on this site.

Other information can be found at:

**www.environment-agency.gov.uk under Conservation > Habitats Directive
Guidance can be requested from enquiries@environment-agency.gov.uk**

Conclusions

Nutrient enrichment can cause an increase in algal growth and subsequent adverse effects on the interest features of the River Axe SAC. The potential adverse effects have been removed by limiting the amount of phosphate that is produced by point source discharges. This will be achieved by modifying two discharge consents. The work will be completed on the ground by March 2008.

Other issues identified during the assessment were:

- Diffuse sources of nutrient enrichment
- Sedimentation
- Alien invasive species

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