

SITE NOTIFIED TO THE SECRETARY OF STATE ON 7 MAY 1999

CITATION

COUNTY: DEVON, DORSET SITE NAME: RIVER AXE

DISTRICT: EAST DEVON, WEST DORSET

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act, 1981, as amended

Environment Agency Region: South West

Water Company: South West Water plc

Local Planning Authority: DEVON COUNTY COUNCIL; East Devon District Council; Dorset County Council, West Dorset District Council.

National Grid Reference: ST 325023 (confluence with the Blackwater River) to SY 259927 (Colyford Bridge).

Length of SSSI: Approximately 13 km

Ordnance Survey Sheets 1:50,000: 193 1:10,000: ST 30 SW; SY 39 NW; SY 29 NE; SY 29 SE

Date Notified (under 1981 Act):

Other Information:

A new river SSSI. The SSSI incorporates Geological Conservation Review interest. Part of the SSSI passes through the East Devon Area of Outstanding Natural Beauty (AONB).

The site hosts the following species relevant to the EC Directive on The Conservation of Habitats and of Wild Flora and Fauna:

Salmon <i>Salmo salar</i>	Annex II & V
Bullhead <i>Cottus gobio</i>	Annex II
Otter <i>Lutra lutra</i>	Annex II
Medicinal Leech <i>Hirudo medicinalis</i>	Annex V

The site also hosts Kingfisher *Alcedo atthis*, which is listed on Annex I of the EC Directive on the Conservation of Wild Birds.

Description and reasons for notification:

Key Features

The River Axe SSSI extends for 13 kilometres from the confluence with the Blackwater River to the tidal limit near Colyford, meandering through a flood plain dominated by improved dairy pasture. The majority of the SSSI is in Devon, with less than 150 metres flowing through Dorset. The underlying geology of the riverbed is alluvium with areas of valley gravel, clay,

shale and marl. The water is base-rich with a high content of dissolved solids. The main flow at Whitford is 5 cubic metres per second, though the river is subject to winter and spring spates averaging over 20 times the mean flow.

The SSSI supports an exceptionally diverse aquatic and marginal flora. A variety of plant communities are represented, including in the higher reaches a community type usually confined to sandstone catchments in Scotland. In the lower reaches, this gives way to a community more typical of rivers flowing slowly over clay. All of the community types represented within the SSSI have an above average diversity of higher plants.

The diverse flora results from a number of contributing factors. Firstly, the lower reaches of the Axe have a high bed stability compared to the upper reaches where the steep banks concentrate the energy of floodwaters onto the riverbed. Secondly, the river has few trees along its banks, allowing much light to reach the riverbed. Finally, the active geomorphology of the river has generated a range of natural features (including long riffles, deep pools, islands and meanders), which provide a variety of ecological niches.

The SSSI is notable for a large population of Short-leaved Water-starwort *Callitriche truncata*, a nationally scarce species more usually associated with ditches. The river also supports diverse communities of invertebrates, including some that are nationally scarce or rare. The presence of Medicinal Leech *Hirudo medicinalis* is of particular interest.

The river also contains geomorphological interest of national importance, demonstrating contrasting patterns of meander formation.

#### Flora

The river channel is dominated by River and Stream Water-crowfoot *Ranunculus fluitans* and *R. penicillatus* ssp. *pseudofluitans*. Many other species are commonly found, including Perfoliate and Fennel Pondweed *Potamogeton perfoliatus* and *P. pectinatus*, Amphibious Bistort *Polygonum amphibium*, Brooklime *Veronica beccabunga*, Horned Pondweed *Zannichellia palustris* and Spiked Water-milfoil *Myriophyllum spicatum*. The mosses *Fontinalis antipyretica* and *Rhynchostegium riparioides* and algae such as *Hildenbrandia* species are also present.

The margins are typically colonised by tall emergents such as Reed Canary-grass *Phalaris arundinacea*, Branched Bur-reed *Sparganium erectum*, Reed Sweet-grass *Glyceria maxima* and Great Willowherb *Epilobium hirsutum*. A variety of smaller species are also frequent, including Water Mint *Mentha aquatica*, Marsh Woundwort *Stachys palustris* and Water Forget-me-not *Myosotis scorpioides*. The locally uncommon Flowering Rush *Butomus umbellatus* is present and the river represents the most westerly record on the British mainland of Great Yellow-cress *Rorippa amphibia*.

The flora becomes slightly richer in the lower reaches of the SSSI, being augmented by species such as Small and Broad-leaved Pondweed *Potamogeton berchtoldii* and *P. natans* and Various-leaved Water-starwort *Callitriche platycarpa*. Common Reedmace *Typha latifolia* is present on the river margins.

The nationally scarce Short-leaved Water-starwort *Callitriche truncata* is found throughout the SSSI.

## Invertebrates

The river provides a wide variety of habitats for invertebrates. Several dragonflies and damselflies have been recorded on the river, including the White-legged Damselfly *Platynemis pennipes*, a species of restricted distribution in Britain, and the Banded Demoiselle *Calopteryx splendens*, which is seen on the river in large numbers.

The bug *Aphelocheirus aestivalis* is another species with a restricted distribution, as is the nationally scarce alder fly *Sialis nigripes*. Two notable caddis flies, the nationally scarce *Ylodes conspersus*, the larvae of which live in vegetation (frequently *Ranunculus* spp.) in fairly fast-flowing rivers, and the nationally rare *Leptocerus interruptus*, whose larvae occur in marginal vegetation, have also been reported from the river.

Of particular interest is the presence of the nationally rare Medicinal Leech *Hirudo medicinalis*. This species, which normally only occurs in lakes, is protected under Schedule 5 of the Wildlife and Countryside Act, 1981, as amended.

## Breeding birds

The river provides a valuable habitat for a variety of bird species, including Kingfishers *Alcedo atthis*, an uncommon species in Devon where there are few slow-flowing rivers with suitable nesting banks. Sedge Warblers *Acrocephalus schoenobaenus* are present on the lower reaches of the river, whilst Reed Buntings *Emberiza schoeniclus* and Grey Wagtails *Motacilla cinerea* are found throughout the length of the SSSI.

Several of the actively eroding banks on the river's numerous meanders are important breeding sites for Sand Martins *Riparia riparia*.

## Fish

The SSSI contains species of fish considered to be important within a European context, with Atlantic Salmon *Salmo salar* and Bullhead *Cottus gobio* both present. In addition, the river supports a run of Sea Trout *Salmo trutta* and has a population of the non-migratory Brown Trout *Salmo trutta fario*.

## Mammals

Otters *Lutra lutra* are present in small numbers.

## Geomorphology

The main geomorphological interest of the River Axe SSSI is located in two sites south of Axminster. The Axe is an active river system, demonstrating contemporary planform change in a lowland gravel bedded river. Downstream translocation of meanders, changes in sinuosity and meander wavelength may all be observed along this stretch of the river.

Near Axminster, individual meanders are developing through the lateral, unconstrained growth of the channel. Near Whitford, the channel is confined by a railway embankment, which constrains lateral migration causing the meander forms to migrate downstream.

Together the two sites clearly demonstrate important aspects of lowland stream mobility and in particular the effects of control on river planform changes.