

**COUNTY:** OXFORDSHIRE

**SITE NAME:** BIX BOTTOM

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

**Local Planning Authorities:** South Oxfordshire District Council

**National Grid Reference:** SU715880

**Ordnance Survey Sheet 1:50,000:** 175 **1:10,000:** SU78 NW

**Date Notified (Under 1949 Act):** 1972 **Date of Last Revision:** 1977

**Date Notified (Under 1981 Act):** 1986 **Date of Last Revision:**

**Area:** 103.0 ha 245.5 ac

**Other information:** Owned by Berkshire, Buckinghamshire and Oxfordshire Naturalists Trust and managed as a nature reserve.

### **Description and Reasons for Notification**

This site is a complex mosaic of ancient woodland (shown on maps of 1768), secondary woodland and open habitats. The site has a variety of soil types and supports an exceptionally rich flora and fauna. Over 500 species of vascular plants have been recorded, including eighteen species of orchid and over fifty plant species which, in southern England, are characteristic of ancient woodland. There is a diverse invertebrate fauna which includes several rare butterflies, moths, flies and molluscs.

Bix Bottom occupies a large, sinuous, dry valley and its tributaries. Together they cut through the Upper and Middle Chalk producing every aspect and with gradients of up to 20°. Weathered chalk constitutes the parent material of many of the shallow, lime-rich soils of the Icknield series on the steeper valley sides. Calcareous soils of the Coombe series cover the valley floors and flinty chalk drift soils of the Charity 2 series occur over some land to the west. Small areas at high elevations in the extreme north and most westerly points are covered by acid, loamy soils of the Winchester series.

The woodland is dominated by beech and ash high forest with pedunculate oak and silver birch sub-dominant in places. Other tree species include yew, whitebeam, field maple, bird cherry and turkey oak. Sessile oak, an uncommon tree in Oxfordshire, occurs in small numbers. Areas of pure beech also occur, some of which are derived from ancient coppice management. The understorey includes hazel, dogwood, hawthorn and elder. The ground flora is variable but tends to be dominated by dog's mercury *Mercurialis perennis* and bramble *Rubus fruticosus* agg. with bracken *Pteridium aquilinum* common in some compartments. Uncommon herbs include dwarf mallow *Malva neglecta*, corn buttercup *Ranunculus arvensis*, weasel's snout *Misopates orontium*, soft shield fern *Polystichum setiferum*, hairy rock-cress *Arabis hirsuta*, herb Paris *Paris quadrifolia*, greater butterfly orchid *Platanthera chlorantha*, narrow-lipped helleborine *Epipactis leptochila* and violet helleborine *E. purpurata*.

There are two wide grassy clearings in the woodland, each supporting a rich chalk flora. Several uncommon plant species occur including sweet briar *Rosa rubiginosa*, long-stalked cranesbill *Geranium columbinum* and the Chiltern gentian *Gentianella germanica*, a species which, in Britain is largely confined to the chalk of southern England.

There are two main areas of scrub which are dominated by hazel, silver birch and dogwood. Uncommon species in the ground flora include white helleborine *Cephalanthera damasonium* and meadow clary *Salvia pratensis*, a species listed in the British Red Data Book of Plants.

Over 650 species of fungi have been identified, including many nationally rare species. Some, like the ivory wax cap *Hygrophorus eburneus* are associated with beech leaf-litter. Others, including *Amanita solitaria*, *A. verna*, *Boletus*

*pruniatus* and *Mycaena maculata* are associated with broad-leaved woodland on calcareous soils.

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The rich invertebrate fauna of this site includes 37 species of butterfly and over 260 species of (macro) moth. The butterflies include white-letter hairstreak, purple emperor, silver-washed fritillary and dark green fritillary. Moths such as the pale oak beauty *Serraca punctinalis*, square spot *Ectropis consonaria*, brindled white-spot *E. extersaria* and the maple prominent *Ptilodentella cucullina* are typically associated with ancient woodland and are uncommon nationally. The plumed prominent *Ptilodentella plumigera* has a very restricted national distribution and is normally associated with chalk grassland habitats in southern England. The site has several nationally rare flies including the hoverflies *Chelosia velutina* and *Rhingia rostrata*, the fungus gnat *Keroplatus testaceus* and others including *Rhagio annulatus*, *R. strigosus*, *Platypalpus luteolus* and *Callomyia dives*. All these flies are described as vulnerable or rare in the British Red Data Book of Insects. Other insects recorded include the uncommon woodland grasshopper *Omocestus rufipes*. Over thirty-six species of mollusc have been recorded, among which are the uncommon species *Ena montana* and *Abida secale* and several other species which are normally associated with ancient woodland.

Over seventy-five species of bird have been recorded, thirty-four of which are known to have nested, including sparrowhawk, woodcock, firecrest and the three British species of woodpecker. Mammals include muntjac, fallow deer, badgers and dormouse. The last named is an uncommon species in Oxfordshire. Adders, slow worms, grass snakes and common lizards are found in grassy areas on the site.