

Notified to the Secretary of State 14 March 1995

County: Dorset **Site Name:** Bourne Valley

District: Poole

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

Part Local Nature Reserve (LNR) declared under Section 19 of the National Parks and Access to the Countryside Act 1949.

Local Planning Authority: Poole Borough Council, Dorset County Council

National Grid Reference: SZ 060937 **Area:** 72.81 (ha) 179.92 (ac)

Ordnance Survey Sheet 1:50,000: 195 **1:10,000:** SX 09 SE, SW

Date Notified (Under 1981 Act): 1984 (part), 1985 (part), 1995

Other Information:

The site includes Alder Hills LNR which is managed by the Dorset Wildlife Trust.

There are several boundary and exclusions at this notification, and the Talbot Pit SSSI is also included.

Description and Reasons for Notification:

Bourne Valley SSSI is part of a complex of heathland sites which together comprise the Dorset Heathlands. This is one of the major lowland heathland areas in Britain, with the sites showing a high degree of ecological cohesion and clear ecological trends and patterns. The heathlands are important in a European and international context for their plant and animal communities.

The Bourne Valley site covers the largest tract of heathland that has survived within the spread of the Bournemouth-Poole conurbation on the formerly extensive heaths that once bordered Poole Bay. Sequences of heath, mire and fen woodland vegetation types are well developed and typical of a lowland valley heathland in southern Britain. These habitats, the Bourne stream and several ponds support a range of rare and uncommon plants, birds, reptiles and invertebrates. The assemblage of dragonfly and damselfly species is especially rich.

The heathland is centred on a deep and narrowly enclosed section of the Bourne Valley, extending along a 3 kilometre length from near the valley head on the border of Canford Heath. Several other heathland fragments lie in an adjoining, parallel valley on the south side which is more extensively developed. Such fragmentation has occurred throughout the Dorset heaths, with about 86% having been lost since the mid 18th century. The Bourne Valley contains the only substantially intact valley heathland that remains along the many deeply incised valleys and chines leading to Poole Bay.

The valley ridges lie on river terrace deposits of gravels and sands, probably laid down by an ancient Solent river system during the Quaternary era. In the valley these deposits have been removed with the downward cutting of a formerly more substantial Bourne stream, creating steep slopes on the underlying sands and clayey sands of the Branksome Sand. This geological history has provided poor and mostly well drained soils which have favoured the development

of dry heath. Heather *Calluna vulgaris* is widely dominant, with typical associated plants such as bell heather *Erica cinerea*, bristle bent *Agrostis curtisii*, gorse *Ulex europaeus* and scattered invasion of Scots pine *Pinus sylvestris*, birch *Betula* species and bracken *Pteridium aquilinum*. Western gorse *Ulex gallii* is also common, a distinctive feature of the Dorset heaths lying north of Poole Harbour.

Where soil conditions are less dry, typically on the lower slopes, there are transitions to humid heath characterised by an increased presence of cross-leaved heath *Erica tetralix* and purple moor-grass *Molinia caerulea*. In places water seepage is more distinct. This gives rise to wet heath in which these two species gain dominance and bog mosses such as *Sphagnum compactum*, heath rush *Juncus squarrosus* and deergrass *Trichophorum cespitosum* can also occur. Other flushes have a different character, supporting for example, bog pimpernel *Anagallis tenella*, common yellow-sedge *Carex demissa* and southern marsh-orchid *Dactylorhiza praetermissa*, indicative of slightly base-rich water.

A mostly abrupt fall of the valley slopes to a flat valley bottom creates sharp transitions to mosaics and zonations of wet heath, mire, bog pool and fen woodland vegetation types. Drainage is poor and there is seasonal inundation from the accumulation of ground water. Much of this land is dominated by tussocky expanses of purple moor-grass mire containing prominent stands of bog-myrtle *Myrica gale*. In other areas and around small pools there is a more species rich valley mire vegetation. This is characterised by a variety of bog mosses including *Sphagnum magellanicum* and the nationally scarce *S. pulchrum*, and other plants such as bog asphodel *Narthecium ossifragum*, white beak-sedge *Rhynchospora alba* and oblong-leaved sundew *Drosera intermedia*. The bog pool vegetation includes bog pondweed *Potamogeton polygonifolius* and lesser bladderwort *Utricularia australis*.

Alongside much of the Bourne stream, through the middle of the valley bottom, the heathland is divided by a belt of fen woodland. Birch species occur on the better drained ground and scrub willow *Salix* species dominate where there is waterlogging. The ground flora is varied, ranging from purple moor-grass mire to nutrient enriched fen vegetation that includes meadow sweet *Filipendula ulmaria*, gipsywort *Lycopus europaeus* and marsh woundwort *Stachys palustris*.

The stream is the most significant in size and length within the Dorset heaths. Some stretches are shallow, gravelly and fast flowing, others are deeper and sluggish. Several ponds along its length support swamp communities comprising species such as bulrush *Typha latifolia*, branched bur-reed *Sparganium erectum* and common spike-rush *Eleocharis palustris*.

The site supports a distinctive heathland fauna with a broad range of the rarer species characteristic of the Dorset heaths. Among the breeding birds are the rare Dartford warbler *Sylvia undata*^{1,3}, stonechat *Saxicola torquata* – a species showing a major decline in its British breeding distribution – and nightjar *Caprimulgus europaeus*¹. All six British reptile species are present. The endangered and specially protected sand lizard *Lacerta agilis*² occurs widely on the heathland slopes and there are several populations of smooth snake *Coronella austriaca*², also an endangered and specially protected species.

The invertebrates of the heathland are less well studied but records of nationally rare and scarce species from several insect groups indicate the presence of a significant interest. These include species of Orthoptera such as the nationally rare heath grasshopper *Chorthippus vagans* and the nationally scarce bog bush-cricket *Metrioptera brachyptera*; Lepidoptera such as silver-studded blue *Plebejus argus* and dark tussock moth *Dicallomera fascelina*, both nationally scarce species; Hymenoptera such as the nationally scarce hairy sand wasp *Podalonia hirsuta*

and nationally rare Diptera species such as a bee fly *Thyridanthrax fenestratus* and a parasitic fly *Myopa fasciata*.

The site is particularly significant for a rich and diverse assemblage of dragonflies and damselflies. More than 20 species have been recorded, at least 18 with breeding evidence, and this reflects the variety of aquatic habitats and terrestrial feeding habitats. A few species use the acidic bog pools and wet heath seepages, notably keeled skimmer *Orthetrum coerulescens* and small red damselfly *Ceriagrion tenellum* which is nationally scarce. For others, including golden-ringed damselfly *Cordulegaster boltonii* and large red damselfly *Pyrrhosoma nymphula*, the Bourne stream provides breeding habitat. The less acidic and well vegetated ponds support the largest and most diverse faunas with species such as the nationally scarce downy emerald *Cordulia aenea* and the local black-tailed skimmer *Orthetrum cancellatum*. The swamp vegetation of these ponds is also of interest for several rare and local reed beetle *Donacia* species.

¹ Species listed in Annex 1 of the EC Birds Directive.

² European protected species listed in Schedule 2 of Habitats Regulations 1994.

³ Specially protected species listed in Schedule 1 of the Wildlife and Countryside Act 1981.