

COUNTY: HAMPSHIRE

SITE NAME: BASINGSTOKE CANAL SSSI

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

Local Planning Authorities: Hampshire County Council/Surrey County Council
Hart District Council/Rushmoor Borough Council/Guildford Borough Council/Surrey
Heath Borough Council/Woking Borough Council/Runnymede Borough Council

National Grid Reference: SU 719514 to SU 967575
TQ 016597 to TQ 046616

Ordnance Survey Sheets: 1:50,000 186 1:10,000 SU 75 SE, SU 75 SW,
SU 85 NE, SU 85 SE, SU 85 SW
SU 95 NE, SU 95 NW
TQ 05 NW
TQ 06 SW

Hectares/Acres: 99.15 (ha.) 244.99 (ac.)

Date Notified (1949 Act): 1955 Date of Last Revision: 1975

Date Notified (1981 Act): 1985 Date of Last Revision: 30 September 1994

Date Confirmed: 22 June 1995

Other Information:

Basingstoke Canal SSSI incorporates and extends the Basingstoke Canal (Greywell -- Odiham Castle) and Basingstoke Canal (Eelmoor) SSSIs in Hampshire, notified under the Wildlife and Countryside Act, 1981 and the Basingstoke Canal East and West SSSI in Surrey, notified under the National Parks and Access to the Countryside Act, 1949. It is largely owned by Hampshire and Surrey County Councils. Eelmoor, Claycart and Rushmoor Flashes (Hampshire) are managed by the Hampshire Wildlife Trust under an informal reserve agreement. The Basingstoke Canal was declared a Nature Conservation Review (NCR) Site in 1989.

Description and Reasons for Notification:

The Basingstoke Canal, together with associated 'flashes' and heathland, is nationally important for aquatic plants and invertebrates. The transition from calcareous spring water to slightly acidic conditions produces an extremely diverse flora, containing approximately half (87) of Britain's native aquatic higher plant species, including 5 nationally scarce* species. The Basingstoke Canal is botanically the most species-rich aquatic system in England. Twenty-four species of dragonfly occur on the Canal and other insects, including two nationally rare** (Red Data Book) species, are well represented.

Two sections of the Basingstoke Canal are of SSSI status. The western section lies between Greywell in Hampshire and Hermitage Bridge in Surrey; the eastern section lies

between Monument Bridge and Scotland Bridge in Surrey. The relative lack of pollution in the Canal and the variation in water chemistry throughout its length have given rise to a diversity of plant species and communities that has no parallel elsewhere in Britain. This, together with a rich and varied invertebrate fauna, makes the Basingstoke Canal a waterway of exceptional value to nature conservation:

The Canal is largely supplied by calcareous water from springs situated at the junction of the chalk and Reading Beds (clays) at Greywell. Moving downstream, it is supplemented by progressively more acidic spring and stream water from the Aldershot heathland district. Due to a slight west-east gradient, which gives rise to a definite water movement, the overall system is analogous to a slow-flowing river with initially alkaline water which gradually becomes more acidic and less charged with calcium. Such a combination is a rare feature in Britain.

The vegetation types reflect this gradual change in water chemistry. At Greywell the flora is typical of that of a nutrient-rich southern chalk stream. Here it is dominated by the moss *Fontinalis antipyretica*, the starworts *Callitriche obtusangula* and *C. stagnalis*, fool's watercress *Apium nodiflorum*, lesser water-parsnip *Berula erecta* and the water crowfoot *Ranunculus pencillatus* subspecies *pseudofluitans* var. *vertumnus*, the latter here in its *locus classicus*, from which it was formally studied and described. As the calcareous water moves across the London Clays the flora changes, with locally abundant mare's tail *Hippuris vulgaris*, river water dropwort *Oenanthe fluviatilis*, arrowhead *Sagittaria sagittifolia*, the pondweeds *Potamogeton alpinus* and *P. berchtoldii* and stoneworts including *Nitella flexilis* and several varieties of *Chara vulgaris*.

The Canal then passes onto the Bracklesham Beds and Bagshot Sands of the Aldershot heathland district. In the downstream stretch some of the species abundant upstream disappear, to be replaced by a very species-rich flora which comprises a remarkable assemblage combining both nutrient-rich and acidic elements. Amongst the characteristic plants of this long stretch are the pondweeds *Potamogeton natans* and *P. perfoliatus*, water soldier *Stratiotes aloides*, Canadian and Nuttall's pondweeds *Elodea canadensis* and *E. nuttallii* and greater bladderwort *Utricularia australis*. Frogbit *Hydrocharis morsus-ranae* and greater duckweed *Spirodela polyrhiza* occur amongst the emergent vegetation.

Plants typical of acidic waters, which occur in this stretch, are bulbous rush *Juncus bulbosus*, floating club-rush *Eleogiton fluitans* and alternate-flowered water-milfoil *Myriophyllum alterniflorum*.

The Monument Bridge–Scotland Bridge stretch at Sheerwater to the east of Woking, is rich in open water and emergent species characteristic of the main part of the Canal such as the pondweed *Potamogeton natans*, frogbit *Hydrocharis morsus-ranae*, greater duckweed *Spirodela polyrhiza*, water plantain *Alisma plantago-aquatica*, and narrow leaved water plantain *Alisma lanceolatum*. Of particular note within the Monument Bridge–Scotland Bridge stretch are the nationally scarce pondweed *Potamogeton trichoides* and the nationally scarce tasteless water pepper *Persicaria laxiflora*

Certain stretches of the Canal are less species-rich, due to shading by overhanging trees, or very localised pollution problems, but these stretches have been included in the SSSI

because they enable the continuum from calcareous to acidic water to be expressed within the SSSI:

Ninety species of aquatic plants, including a number of native stoneworts (charophytes) and the aquatic moss *Fontinalis antipyretica*, have been recorded in 1992 and 1993 from the main line of the canal and its extensions (or 'flashes'); an additional 16 native wetland species have been recorded on the Canal system since 1986: Of the 90 plants recorded in 1992 and 1993, 5 are nationally scarce* being river water dropwort *Oenanthe fluviatilis*, the pondweed *Potamogeton trichoides*, tasteless water pepper *Persicaria laxiflora*, the horsetail *Equisetum × litorale* and the water crowfoot *Ranunculus pencillatus* subspecies *pseudofluitans* var. *vertumnus*. The nationally scarce water soldier *Stratiotes aloides* and fringed water lily *Nymphoides peltata* have been introduced.

Other noteworthy plants include needle spike rush *Eleocharis acicularis* and various-leaved pondweed *Potamogeton gramineus*.

The invertebrate fauna is correspondingly rich. Twenty-four species of Odonata (dragonfly and damselfly) have been recorded on the Canal in 1992 and 1993, making the Canal one of the most important sites for Odonata in terms of species diversity in Britain. Surveys undertaken during 1992 and 1993 revealed evidence of breeding of 19 species. Of particular note are populations of the nationally scarce brilliant emerald *Somatochlora metallica*, the hairy dragonfly *Brachytron pratense* and the downy emerald *Cordulia aenea*. In addition to the Odonata fauna, the Canal supports a wide range of other insects, associated particularly with the rich emergent and bank vegetation. Hoverflies are well represented. About eighty-five species have been recorded along the Canal, including the nationally scarce *Anasimyia contracta*, *Didea intermedia*, *Epistrophe diaphana*, *Volucella inanis* and *Xylota tarda*. The scarce snail-killing fly *Psacadina verbeckei*, the nationally rare (Red Data Book)** solitary bee *Macropis europaea* and the scarce dentated pug moth *Anticollix sparsata* are also present. The Canal also supports populations of water birds such as little grebe, kingfisher and grey wagtail which are of considerable local importance.

Several off-line 'flashes' have been included in the site, as they are an integral part of the hydrological system and provide shallow-water conditions which are rare in the restored main line of the Canal. Of particular significance are Eelmoor Flash, the extensive Mytchett Lake and Great Bottom Flash and the small, shallow Potter's Pool.

Great Bottom Flash is fringed on the eastern side with reed *Phragmites australis* and supports a rich marginal flora including water violet *Hottonia palustris* and royal fern *Osmunda regalis*. Mytchett Lake is an extensive area of open water with abundant white water lily *Nymphaea alba* and common bulrush *Schoenoplectus lacustris* and is notable for its fringing colony of purple willow *Salix purpurea* which is rare in Surrey. The lake supports a large colony of red-eyed damselfly *Erythromma najas*. Potter's Pool, adjacent to open heathland, is an excellent site for dragonflies and supports a rich flora dominated by greater bladderwort *Utricularia australis*, with bottle sedge *Carex rostrata* in the emergent fringe of vegetation.

Adjacent to the Canal, but not linked to it, is New Pond at Pirbright, which supports an acid bog marginal flora including a number of plants not recorded from the Canal, for

example marsh St John's wort *Hypericum elodes*, bog myrtle *Myrica gale*, many-stalked spike-rush *Eleocharis multicaulis*, cotton grass *Eriophorum angustifolium* and lesser bladderwort *Utricularia minor*. Of additional note are the sedges *Carex rostrata*, *C. vesicaria* and *C. curta* and floating club-rush *Eleogiton fluitans*.

Dogmersfield Lake is included within the SSSI as it forms part of the Canal's water catchment, and supports a rich flora including some species which are very rare in or extinct from the remainder of the Basingstoke Canal system, for example lesser water plantain *Baldellia ranunculoides*, bogbean *Menyanthes trifoliata* and water purslane *Lythrum portula*. The lake also has strong populations of needle spike rush *Eleocharis acicularis* and fan-leaved water crowfoot *Ranunculus circinatus*.

The hinterland of woodland, heath, unimproved meadows and fens through which the Canal flows increases the value of the aquatic habitats. Pondtail Heath (Fleet) has been included within the SSSI since it is of direct importance to invertebrates such as the dragonflies which hawk over this area. Pondtail Heath comprises an area of largely wet heath dominated by ling *Calluna vulgaris*, cross-leaved heath *Erica tetralix* and purple moor-grass *Molinia caerulea*. The flora is rich, with species such as oblong-leaved sundew *Drosera intermedia*, meadow thistle *Cirsium dissectum*, petty whin *Genista anglica* and blunt-flowered rush *Juncus subnodulosus*, the latter in an atypical acidic locality. The invertebrate fauna includes the nationally rare** (Red Data Book) hoverfly *Pelecocera tricincta* and a population of the keeled skimmer *Orthetrum coerulescens*, which breeds in small bog pools on the heath.

*Nationally scarce species occur in 16–100 of 10 × 10km squares in Britain.

**Nationally rare species are listed in the relevant Red Data Book, i.e. 'British Red Data Book 2: Insects'.