SITE NOTIFIED TO THE SECRETARY OF STATE ON 30 JANUARY 1997

COUNTY: SOMERSET SITE NAME: RIVER BARLE

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

Local Planning Authorities: SOMERSET COUNTY COUNCIL, West Somerset District Council, Exmoor National Park Authority

National Grid Reference: SS 723 423 to SS 907 290

Length of River SSSI: Approx 30km

Area: 104.18 (ha.)

Ordnance Survey Sheets 1:50,000: 180, 181

Date Notified (under 1981 Act):

Other Information:
The site lies entirely within Exmoor National Park. Parts of the site lie within North Exmoor SSSI, South Exmoor SSSI and Barle Valley SSSI.

Offer, Salmon, Brook Lamprey and Bullhead are all included on Annex IIa of the EC Habitats and Species Directive (92/43/EEC). Offer is also included on Annex IV and Salmon on Annex V (with respect to freshwater only) of that same Directive. Kingfisher is included on Annex 4.1 of the EC Wild Birds Directive.

Otter and Kingfisher are protected under Schedule 5 and Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) respectively.

Description and Reasons for Notification:
Key Features
The Barle is a natural river of very high quality which has hardly been modified at all by pollution, water abstraction or river engineering. The upper reaches are oligotrophic, flowing off moorland. These gradually change to a typical upland sandstone type, with mesotrophic plant communities. The flora is diverse and dominated by mosses and liverworts. The river supports a rich invertebrate fauna, including three nationally-scarce beetles. The floodplain contains a wide variety of mire, swamp, mesotrophic and acid grassland, woodland and open water communities.

Aquatic Flora
The River Barle rising at about 400m has vegetation typical of the most oligotrophic waters flowing from acid peat. Among the few purely aquatic higher plants which characterise this type of oligotrophic stream community are Alternate-flowered Water-milfoil *Myriophyllum alterniflorum*, Bog Pondweed *Potamogeton polygonifolius* and Intermediate Water-starwort *Callitriche hamulata*. The bryophytes *Scapania undulata* and *Racomitrium aciculare* are common on rocks whilst *Pellia epiphylla* is

widespread on moist banks. Over the first 10km of its course the river falls more than 100m and becomes swifter and more unstable, this limits the truly aquatic higher plants to just one main species *Myriophyllum alterniflorum*. There is, however, a natural enrichment as the water flows over the richer substrates of Devonian sandstone and in the mid section of the river *Ranunculus peltatus* occurs. The river bed has frequent large submerged and emergent rocks which are generally clothed with bryophytes including *Rhynchostegium lusitanicum*, *R. riparioides* and *Thamnobryum alopecurum*. The lichen communities present are those associated with clear, unpolluted upland streams. Wholly submerged crustose species of *Verrucaria* are abundant on the river bed rocks and *Dermatocarpon luridum* and *Collema flaccidum* are abundant species on partially submerged rocks. Of the twelve algae recorded species of *Hildenbrandia*, *Batrachospermum*, *Lemanea* and *Heribaudiella* are widespread and often abundant, indicating the unpolluted nature of the river. Occurring throughout the mid to lower reaches, attached to submerged rocks or to tree roots exposed by the erosion of the river banks, is the nationally scarce liverwort *Porella pinnata*. The banks support, and are often dominated by, bryophytes particularly *Pellia epiphylla*, *Rhizomnium punctatum*, *Hookeria lucens* and in places *Amblystegium fluviatile* and *Conocephalum conicum*.

Two emergent species which are ubiquitous in the shallow water by the banks in the mid reaches of the river are Hemlock Water-Dropwort *Oenanthe crocata* and Reedgrass *Phalaris arundinacea*.

Floodplain Flora

The mid reaches of the river around Withypool are bordered by areas of ground which are regularly flooded in winter, whereas elsewhere along the river the ground generally slopes more abruptly to the river channel. The vegetation of the floodplain is predominantly a mixture of various mesotrophic grassland and mire communities, with small areas of swamp and acid grassland in the wettest and driest areas respectively. The mire communities are either dominated by Purple Moorgrass *Molinia caerulea*, Tufted Hairgrass *Deschampsia cespitosa* and Soft Rush *Juncus effusus* (all usually occurring as large tussocks), Sharp-flowered Rush *Juncus acutiflorus* or Meadowsweet *Filipendula ulmaria* or combinations of these. Plants frequently found in these mires include: Valerian *Valeriana officinalis*, Angelica *Angelica sylvestris*, Bog Violet *Viola palustris*, Marsh Bedstraw *Galium palustre*. Greater Bird's-foot Trefoil *Lotus uliginosus* and Ragged Robin *Lychnis flos-cuculi*. The most frequently occurring swamp community is that dominated by Floating Sweetgrass *Glyceria fluitans*, but small areas of Bottle Sedge *Carex rostrata* or Bogbean *Menyanthes trifoliata* are also present. Amongst the many plant species in the grasslands are: Greater Burnet *Sanguisorba officinalis*, a plant found very rarely in Somerset, Betony *Stachys officinalis*, Devil's-bit Scabious *Succisa pratensis* and Black Knapweed *Centaurea nigra*. Bankside trees are abundant in the mid to lower reaches and are predominantly Ash *Fraxinus excelsior*, Alder *Alnus glutinosa* and Sallow *Salix cinerea*. Finally small areas of swamp woodland dominated by Sallow and ponds with Broad-leaved Pondweed *Potamogeton natans* add to the overall diversity of the area.

Pinkworthy Pond

This is the largest body of upland standing water within this site and only one of three such habitats on Exmoor. It has flora typically associated with such habitats: Bottle

Sedge and Water Horsetail *Equisetum fluvatile* grow on the fringes of the pond and aquatic plants include Floating Club-rush *Eleogiton fluitans* and Small Bur-reed *Sparganium minimum*, a plant which is rare in southern Britain.

Invertebrates

Three species (all Coleoptera) considered as nationally scarce occur in the River Barle: *Laccobius atratus* and *L. atrocephalus* are both water beetles found in acidic conditions, at the margins of rivers. *Hydrocyphon deflexicollis*, also a beetle, has an aquatic larva though the adults are terrestrial and most often found on *Sallow* bushes.

Overall the Barle has a diverse invertebrate fauna, though none are national rarities. Many of the invertebrates are characteristic of swift flowing rivers and streams with stony substrates. These include the Beautiful Demoiselle *Calopteryx virgo* and the Golden-ringed Dragonfly *Cordulegaster boltonii*. The water beetle fauna too, shows a characteristic suite of species for a southwestern river including *Oreodytes sanmarki*, *Platambus maculatus* and *Hydraena gracilis*. The whirligig *Orectochilus villosus* is another species frequently recorded from swift flowing rivers.

Fish

The Barle is an important spawning ground for Salmon *Salmo salar* and Brown Trout *Salmo trutta*. The other species of fish found include: Brook Lamprey *Lampetra planeri*. Bullhead *Cottus gobio*, Grayling *Thymallus thymallus*, Stone Loach *Noemacheilus barbatulus* and Eel *Anguilla anguilla*. This is a typical example of a fish community in an unpolluted, fast flowing, upland river.

Birds

The Barle provides a valuable nesting and feeding habitat for Kingfisher *Alcedo atthis*, Dipper *Cinclus cinclus* and Grey Wagtail *Motacilla cinerea*. The floodplain provides habitat for Grasshopper Warbler *Locustella naevia* and Reed Bunting *Emberiza schoeniclus*.

Mammals

Otters *Lutra lutra* have been regularly recorded along the River Barle.