

COUNTY: Norfolk

SITE NAME: RIVER NAR

DISTRICT: West Norfolk

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

Local Planning Authority: Breckland District Council, Kings Lynn & West Norfolk Borough Council.

National Grid Reference: TF 897198 to TF 622184          Area: 233.43 (ha) 576.8 (ac)

Length of River SSSI: 40.5 km

Ordnance Survey Sheet 1:50,000: 133, 144          1:10,000: TF 61 NW, SE, SW,  
TF 71 NE, SE, SW,  
TF 81 NE, NW, SW,  
TF 91 NW

Date Notified (Under 1949 Act): –

Date of Last Revision: –

Date Notified (Under 1981 Act): 1992

Date of Last Revision: –

Other Information:

New site.

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

The River Nar originates as a spring-fed stream, west of Mileham in Norfolk and flows for 42 km before joining the River Great Ouse at Kings Lynn, where a sluice prevents the penetration of seawater at high tide. The River combines the characteristics of a southern chalk stream and an East Anglian fen river. Together with the adjacent terrestrial habitats, the Nar is an outstanding river system of its type.

The solid geology of the catchment is dominated by chalk of the Upper Cretaceous, which is overlain by glacial drift deposits of varying thickness. The source of the Nar lies in an area of clays, sands and gravels, though near Castle Acre this gives way to exposed chalk. At West Acre the Nar flows over the river valley gravels and then over alluvial silt from Narborough through the fens. The river water is base-rich, alkaline and recharged by clear springs flowing from the underlying chalk.

The upper Nar has a wide range of natural physical features incorporating riffles, pools, gravel beds and meanders, whilst the lower reaches below Narborough are embanked and steep sided with water flowing sluggishly through a predominantly arable flood plain. The variation in physical features and the influence of the underlying chalk give rise to a rich and diverse flora. Amongst the 78 species of riverine and bankside plants are many eutrophic and mesotrophic species, including 5 pondweeds and 8 bryophytes.

The flora of the first 10 km of the river, to West Lexham, is typical of a calcareous, lowland ditch community with an abundance of starwort *Callitriche* spp. and reed sweet-grass, *Glyceria maxima*. The next 12 km of the River, to Narborough Mill, is fast flowing over stoney substrates and is rich in chalk stream plants including narrow-leaved water-parsnip, *Berula erecta*; mare's-tail, *Hippuris vulgaris*; greater tussock-sedge, *Carex paniculata*; water crowfoot, *Ranunculus pseudofluitans* var. *vertumnus* and opposite-leaved pondweed, *Groenlandia densa*. The wet margins, with a constantly high water table typical of chalk streams, support a wide range of emergent plants. The final 18.5 m is embanked and although less physically diverse than the upper reaches, it possesses a contrasting flora with several species not found in the upper river. These plants are characteristic of sluggish flows and include 3 pondweeds, *Potamogeton* spp.; 2 water crowfoots, *Ranunculus* spp.;

hornwort, *Ceratophyllum demersum*; water-milfoil, *Myriophyllum spicatum*; and river water-dropwort, *Oenanthe aquatica*.

The Nar is well-known locally for its brown trout, *Salmo trutta*. Since 1985, trout numbers have increased steadily; pike, *Esox lucius*, numbers have remained fairly stable whilst roach, *Rutilus rutilus*, and eel, *Anguilla anguilla*, have continued to be the dominant species in the river. A further 11 species have been recorded in the Nar although they contribute only a small amount to the total fish biomass e.g.: chubb, *Leuciscus cephalus*; tench, *Tinca tinca*; gudgeon, *Gobio gobio*; rudd, *Scardinius erythrophthalmus*; bullhead, *Cottus gobio*; rainbow trout, *Salmo gairdneri*; spined loach, *Cobitis taenia*; and roach x bream, *Abramis brama*, hybrids.

The chalk acts as a natural aquifer and thus maintains flows throughout the year, peaking in the spring with frequent flooding of adjacent land. This has led to the development of a range of adjacent semi-natural inundation communities and wetland habitats. Many have their water-tables intricately linked to and therefore dependent on the river whilst others are dependent on seasonal inundation. In the upper reaches of the river extensive areas of traditionally managed unimproved pasture survive. A combination of summer cattle grazing and hay making have encouraged the establishment of a variety of wetland species, including southern marsh orchid, *Dactylorhiza majalis subsp. praetermissa*; yellow rattle, *Rhinanthus minor*, and bogbean, *Menyanthes trifoliata*.

Where land adjacent to the river is seasonally flooded and has not been reclaimed as pasture, areas of rough fen and unmanaged scrub remain. Further downstream this scrub has developed into mature wet woodland, dominated by alder carr. The result is a river corridor of considerable importance to wildlife. Although the river channel can be regarded as nationally important in its own right, the quality and type of adjacent habitats increases its value for fauna which use both the river and floodplain. Breeding birds include snipe, lapwing, redshank, sedge and grasshopper warblers.

The variations in river profile including slope, width and depth are important factors in the provision of nesting sites for kingfishers and sand martins, and the combination of water meadow, fen, scrub and woodland in the upper Nar provides feeding and resting grounds for a number of other birds including grey wagtail, reed warblers, teal, marsh harriers, willow and marsh tits. Entomological studies are incomplete but 12 different species of dragonfly were recorded in 1991 at several locations along the Nar; this represents an outstanding assemblage for the UK.