

Freshwater Fish of Norfolk



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Pastel and crayon drawings by David Richmond
based on photographs in the selected bibliography.

Data for maps courtesy of Norfolk Biodiversity Information Service (NBIS)
based mainly on data received from the Environment Agency
Download date 30.9.2020

Bibliography

The Broads (Collins New Naturalist no 46) – E.A. Ellis (1965)
Collins Field Guide to Freshwater Life – Fitter and Manuel (1986)
Fauna Britannica (Weidenfeld & Nicolson) – Duff Hart-Davis (2002)
Britain's Freshwater Fishes (*WILD Guides*) – Mark Everard (2013)

Key to maps

Latest record:  **1961-1980**  **1981-2000**  **2001-2020**

Freshwater Fish of Norfolk

Mammals, Birds, Reptiles, Amphibians, Fish – we are all familiar with the five classes of vertebrates, but the fish are perhaps the least well known to the modern generation of naturalists.

This has not always been the case, Sir Thomas Browne writing in the 17th century was particularly interested in birds and fishes. *“Lampries great and small found plentifully in Norwich river and even in the Citty about May whereof some are very large and well cooked are counted a dayntie bitt especially in pyes.”*

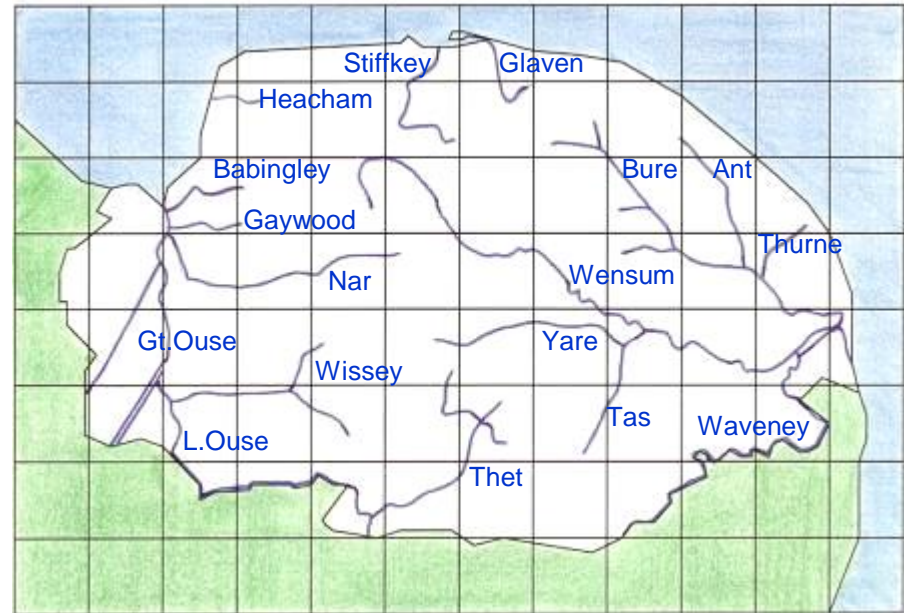
In the 1800's, Richard Lubbock described the prodigious harvests of fish and birds eggs still available to the marshmen in the Broads.

In the mid 20th century Ted Ellis also included a chapter on freshwater fish in his book on the Broads (Collins New Naturalist no 46, 1965).

The most recent studies are by the Environment Agency and we are grateful to them for supplying records to the Norfolk Biodiversity Information Service, who in turn have made their data available to the Society for the production of maps.

This presentation is now shared in the hope that it will encourage others to be less neglectful of this group, and to help observers put a name to at least some of the fishes which they may see in our clearer rivers and streams.

Norfolk river systems



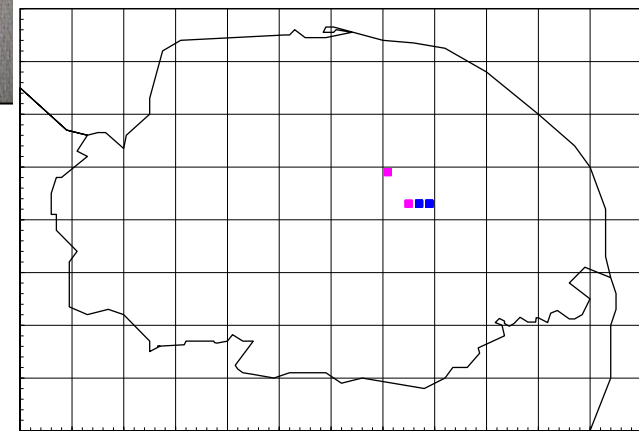
Distribution maps in the species accounts show the 2km squares within which species have been recorded.

Barbel

Barbus barbus

A fairly large, olive green shoaling fish, maturing at 30-50cms. It has a projecting snout with four distinctive barbels.

It lives on the bottom of the middle reaches of fast, clear rivers. In Norfolk it is recorded from just four tetrads along the River Wensum, at Drayton, Costessey, Ringland and Lenwade.

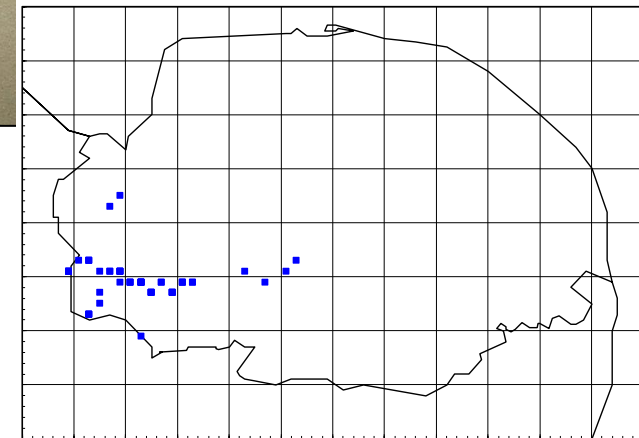


Bleak

Alburnus alburnus

A small, silver shoaling fish which is usually seen near the shores of lakes or slow flowing rivers. It is greenish on the back, and has rather a long anal fin. It typically reaches 12-15cm at maturity.

In Norfolk it is restricted to the Great Ouse and the River Wissey, and a few other Fenland waters.

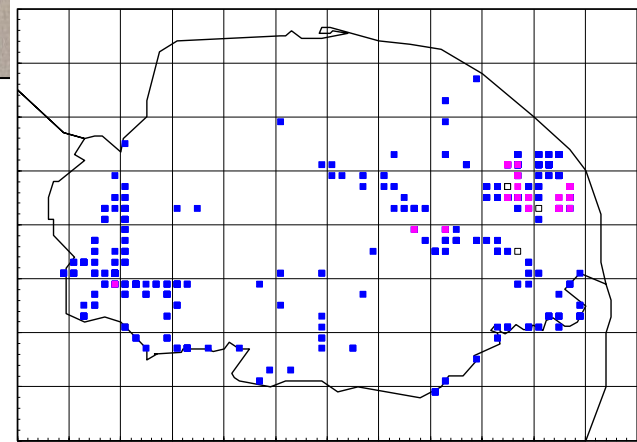
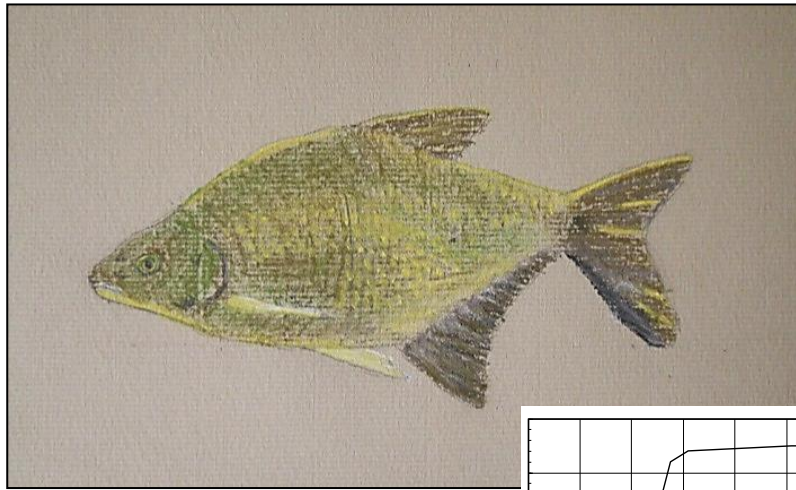


Common Bream

Abramis brama

Found in large shoals in slow-moving rivers and broads. Mature fish reach 30-40cms or more and are bottom-feeding fish taking molluscs, worms and insect larvae from the mud.

Spawning takes place in May in shallow water, with the fish rolling and breaking the surface.

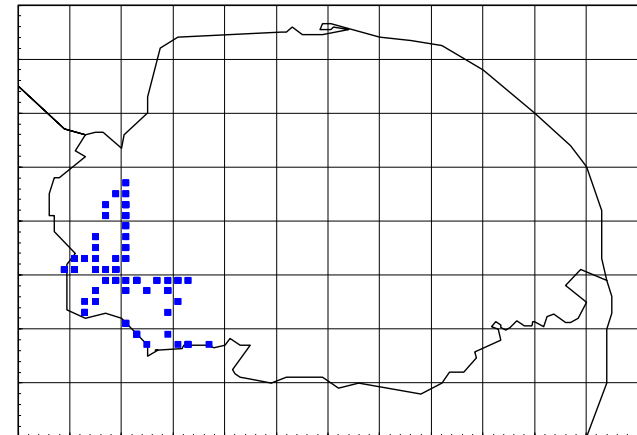


Silver Bream

Blicca bjoerkna

Silver Bream differ from Common Bream in being silvery with a greenish back, and having red-based and grey-tipped lower fins.

NBIS data record them only from the west of the county, although Ellis reported that they were present in most of the Broads in the mid-20th century and particularly abundant in Fritton Lake.



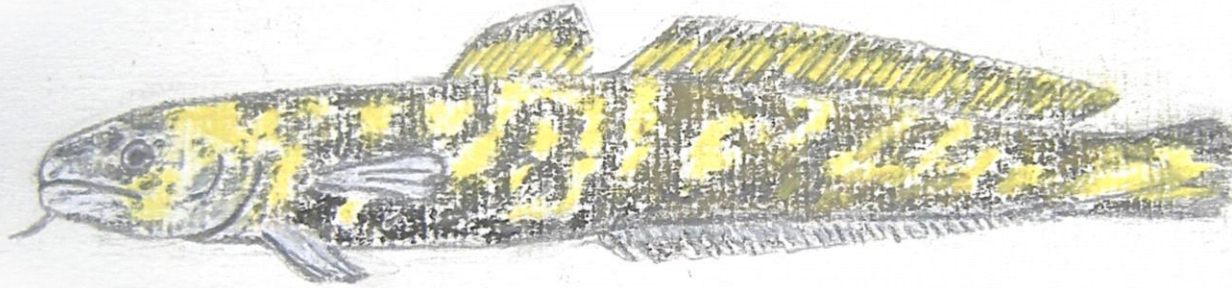
Burbot

Lota lota

Last recorded in Norfolk in 1941 on the River Thet at East Harling. Nationally there have been no documented catches since the 1970s and it is believed to be extinct in Gt Britain.

It is a large, bottom-living fish maturing at 40-80cms, and is a freshwater relative of the Cod. It is generally marbled brownish, greyish, greenish and yellowish and has three distinct barbels, including a prominent one on the lower jaw.

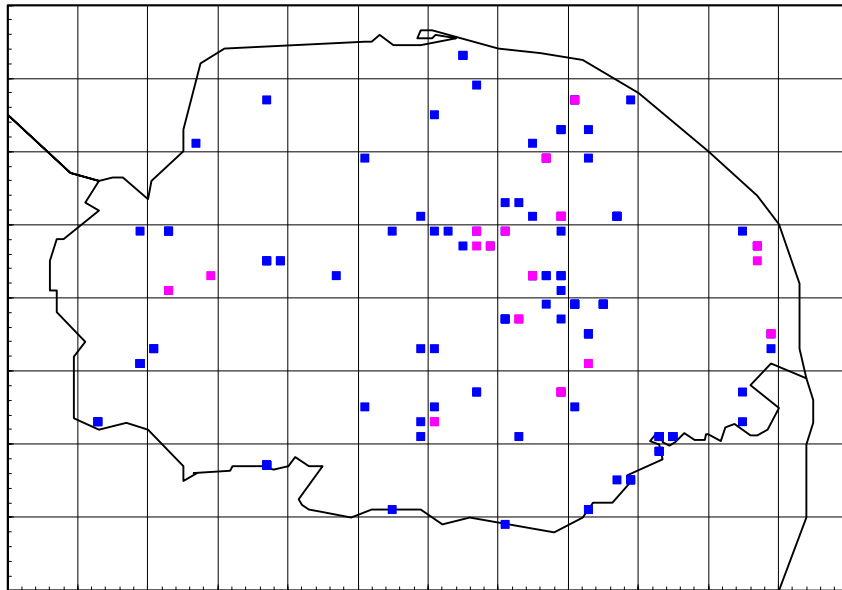
It has two dorsal fins, a blunt tail fin, and a long anal fin matching the posterior dorsal fin for length..



Carp

Cyprinus carpio

Carp are a non-native fish, introduced to Britain many centuries ago. They were a favourite alternative to meat in monastic communities which kept them in artificial ponds. Feral fish prefer slow moving or still water surrounded by dense vegetation.



They were present in the Broads to the end of the 19th century but subsequently became scarce possibly because of the effect of increasing incursion by sea water.

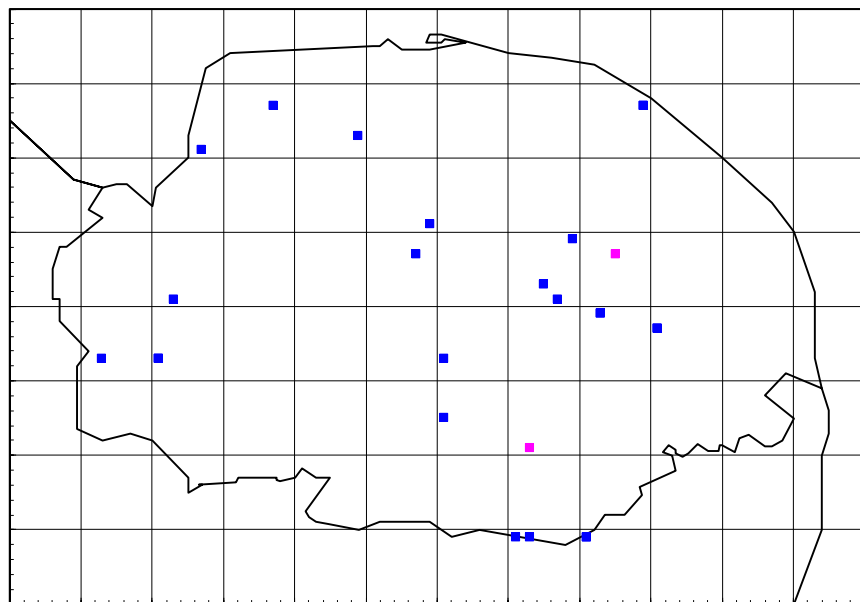
Present in Fenland waters where they are said to be increasing.

Crucian Carp

Carassius carassius

Crucian Carp is a freshwater fish once thought to be native to south-eastern England, but recent genetic research suggests it could be a medieval introduction.

It is typically found in small weedy ponds but has declined in recent decades as a consequence of droughts and the neglect of pond management. It also suffers from hybridisation / competition with introduced Common Carp and Goldfish.



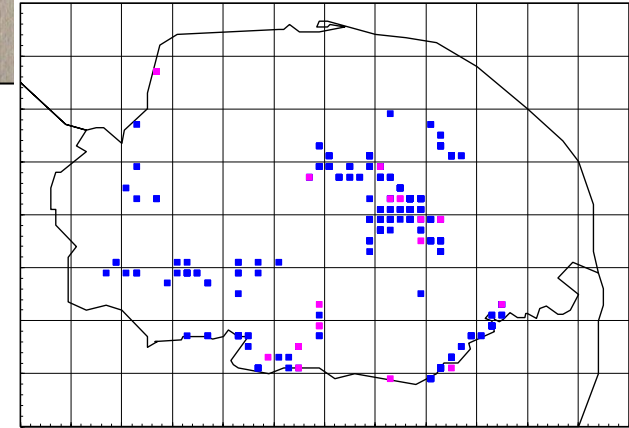
Conservation work in Norfolk, led by the UCL Pond Restoration Group, has returned the species to places where it had been lost, but these sites are not yet reflected in the mapped data.

Chub

Squalius cephalus

Ellis reported that the Chub was not indigenous to any of the eastward-flowing rivers in Norfolk, but did occur in the west. It was introduced to the Bure and the Waveney in the mid 20th century, and is now well established in the Wensum catchment area.

Similar to Dace but maturing larger to 40cm and having black-edged scales and less deeply cut tail fin.

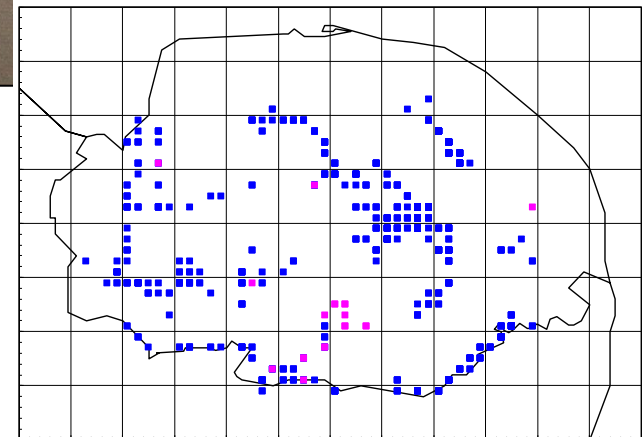


Dace

Leuciscus leuciscus

The Dace is common in the upper parts of rivers throughout the county. Ellis reported that it sometimes wandered downstream to reach some of the Broads.

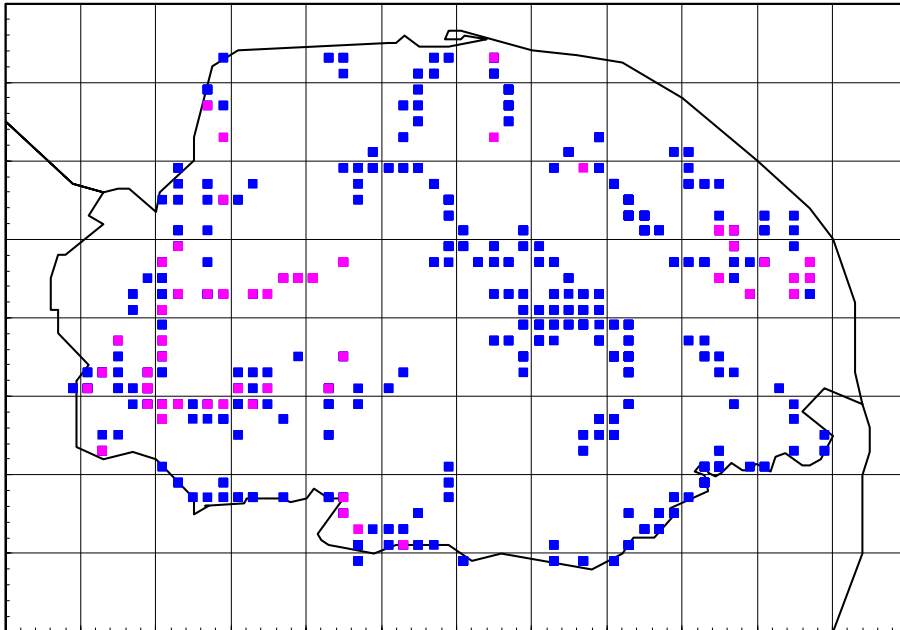
It matures at 15-25cms and has yellowish eyes.



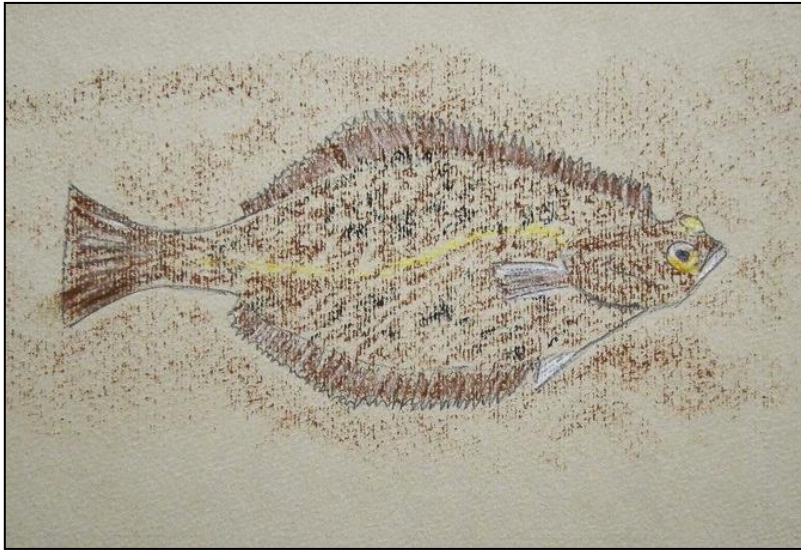
Eel

Anguilla anguilla

All European eels spawn in the Sargasso Sea in the tropical western Atlantic. Their larvae drift eastwards in the Gulf Stream, only becoming eel-shaped after three years. These elvers ascend rivers and spend from five to twelve years maturing in fresh waters. At maturity, they cease feeding, become more silver in colour (rather than yellow with a dark back) and return to salt waters in the autumn.



Formerly common throughout all Norfolk river systems and the Broads, and once an important part of the local economy; it is now a UK Biodiversity Action Plan species.



Flounder

Platichthys flesus

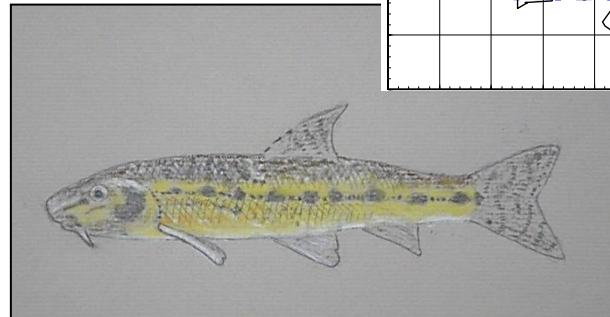
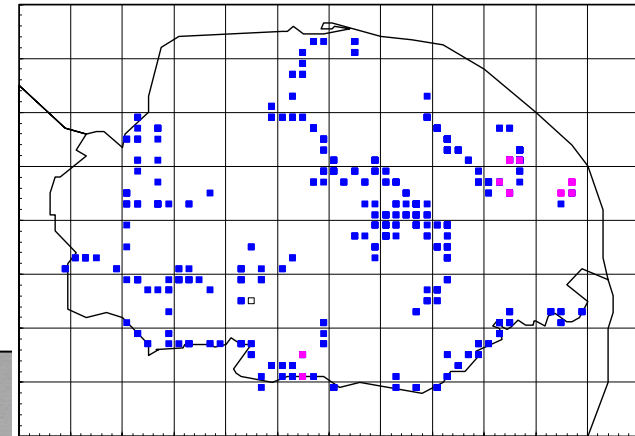
The Flounder is the only one of the flat-fishes that can survive in fresh water, although it has to go to the sea to breed. Spawning takes place in late winter. Eggs and young are carried into harbours and estuaries, from where many young and some adults ascend the Norfolk rivers in both the east and the west, and also enter the Broads. Mark Cocker has reported seeing Cormorants catching Flounders in the River Yare in Norwich.

Gudgeon

Gobio gobio

A small fish (8-14cm) with a single pair of barbels at the corner of its mouth. It is brownish or greenish above, and silvery or golden on the sides.

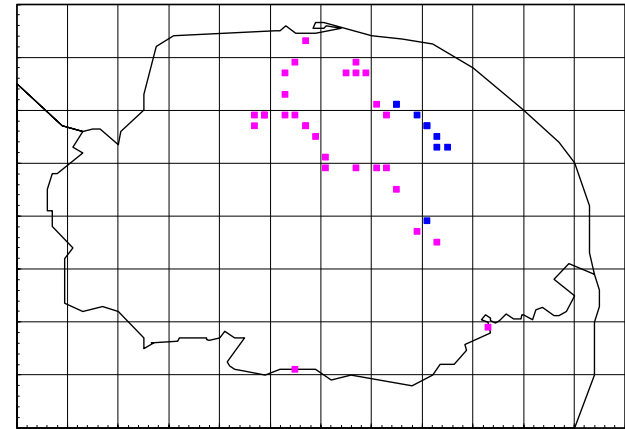
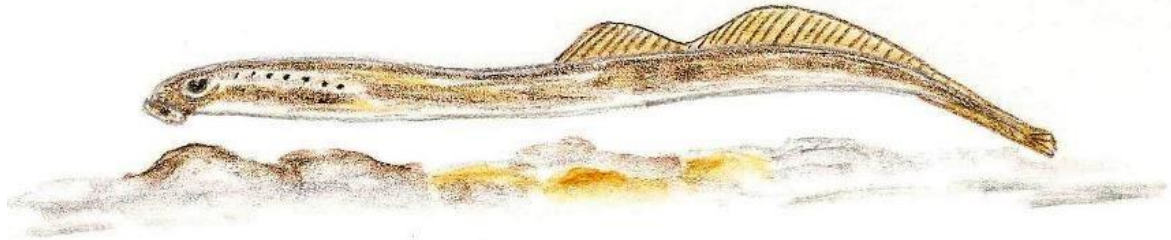
Ellis reported the Gudgeon as present in the upper reaches of local rivers and becks, occasionally taking up residence near the outfall of sluices. It is widespread across Norfolk, and is occasionally found in the Broads though it is not typical of those waters.



Brook Lamprey

Lampetra planeri

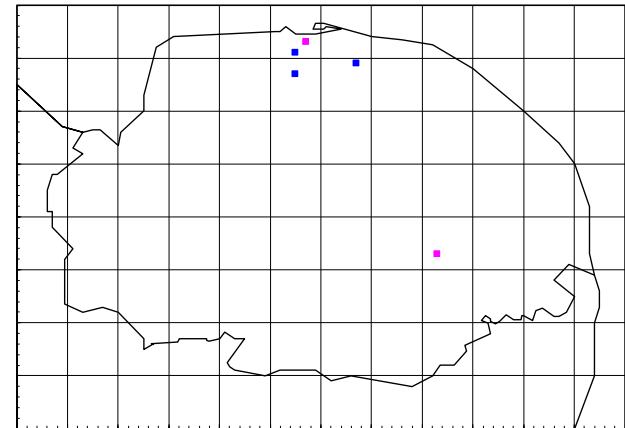
The Brook Lamprey is non-migratory spending its entire life in flowing, fresh water. It reaches a maximum length of 20cm.



River Lamprey

Lampetra fluviatilis

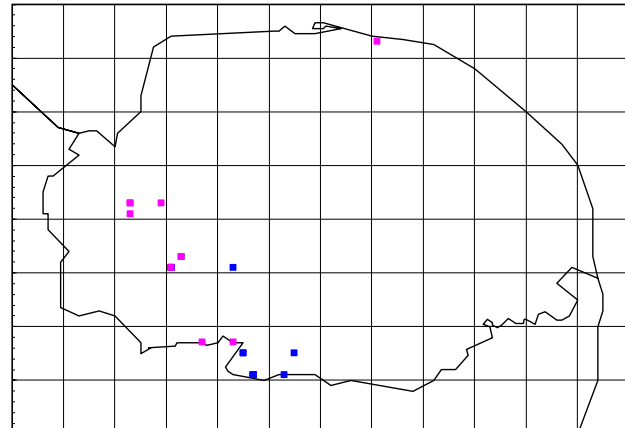
The River Lamprey (or Lampern) is a silvery white, eel-like fish, tinged blue or green on the back, with a gap in the middle of the long dorsal fin. It is only finger thick but can reach 30-40cm in length. It breeds in the upper reaches of rivers where the larvae remain for 3-5 years, before descending to the sea as adults where they attach themselves parasitically to fish such as flounders and sprats. They return to fresh water to spawn after one or two years, before dying.



Sea Lamprey

Petromyzon marinus

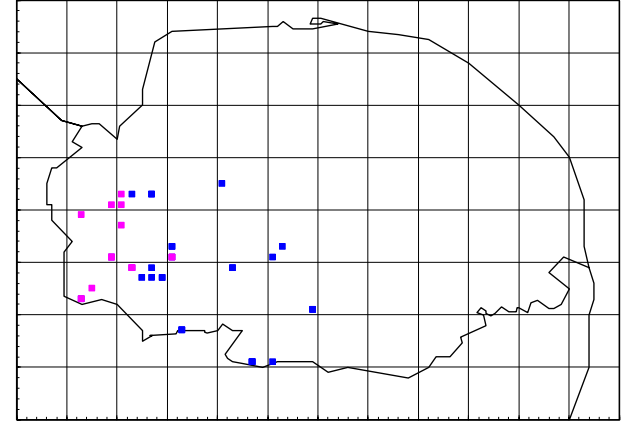
Ted Ellis reported that the Sea Lamprey used to be taken from the Yare and the Waveney in large numbers in the 19th century, but numbers declined greatly over the first half of the 20th century. The NBIS database now only shows records for the west of the county for this Biodiversity Action Plan species, which can reach up to 120cms.



Spined Loach

Cobitis taenia

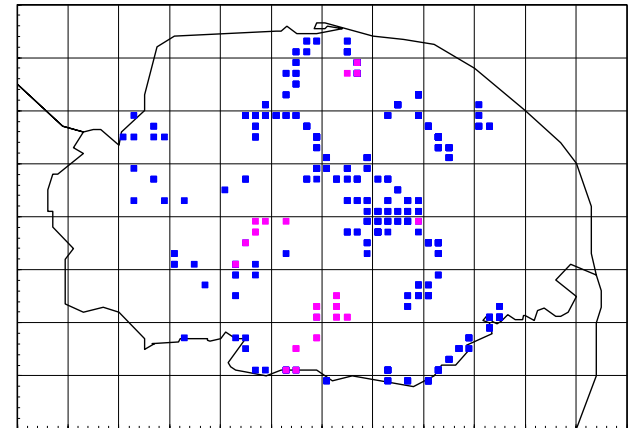
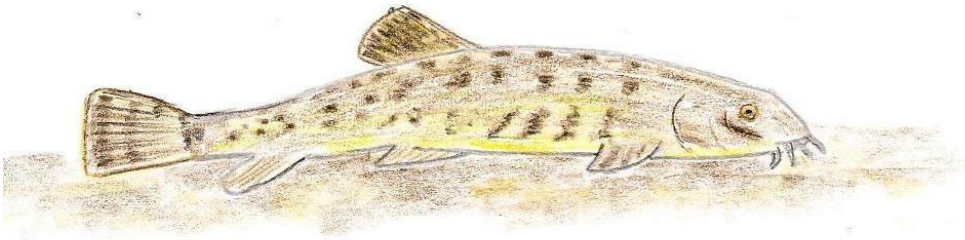
The Spined Loach differs from Stone Loach in being smaller (5-10cm at maturity) with a row of large square spots along each side. It is restricted to the west of the county and is a BAP species.



Stone Loach

Nemacheilus barbatulus

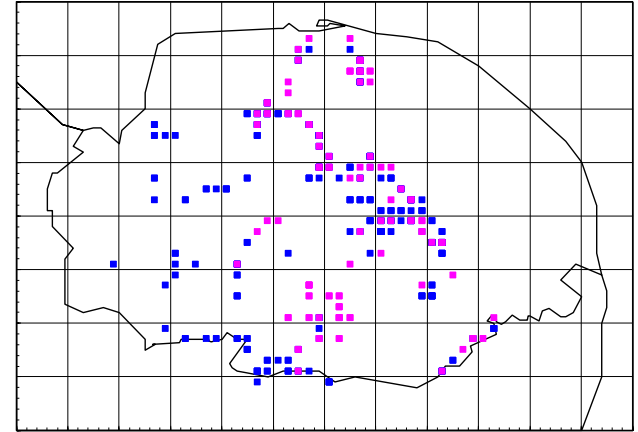
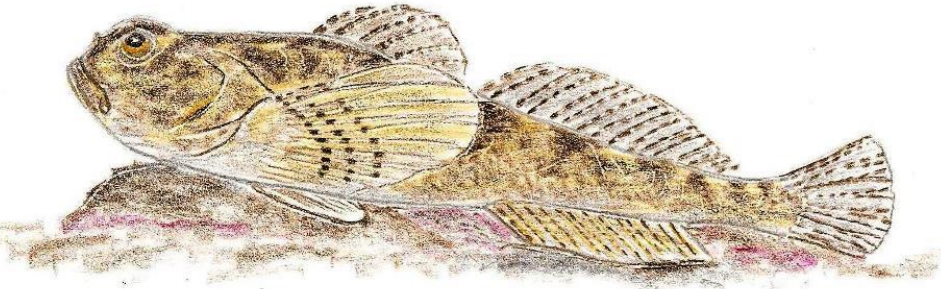
The Stone Loach prefers small becks and abounds in the upper reaches of rivers with a sandy or gravelly bottom, usually hiding under stones. It seldom wanders into sluggish waters lower down. It is a small fish only reaching 8-12cm at maturity.



Miller's Thumb (or Bullhead)

Cottus gobio

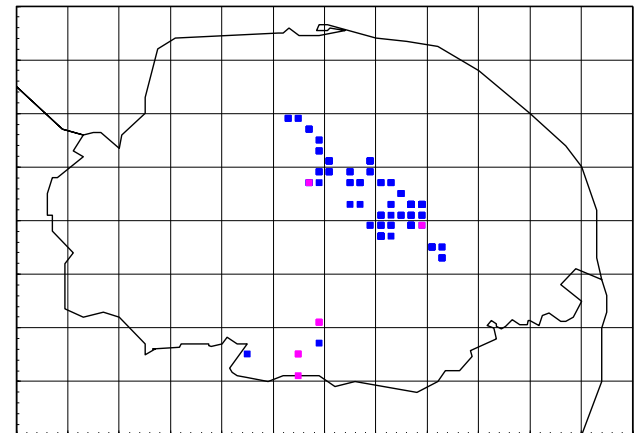
A small fish, 10-18cm long with a large head and wide, fleshy-lipped mouth. Ellis reported it from most of the little streams or becks of the Broads district, but not from the Broads themselves. It was known to Sir Thomas Brown in the 17th century who reported it “*in Norwich rivers, in the runnes about Heveningham Heath, in the north rivers and streames thereof*”.



Minnow

Phoxinus phoxinus

A small fish up to 10cm long, often in large shoals in the upper reaches of rivers and clean streams, principally within the Wensum catchment area. Easily told from Sticklebacks by its blunt snout and lack of spines, the forward position of the dorsal fin and its forked tail.

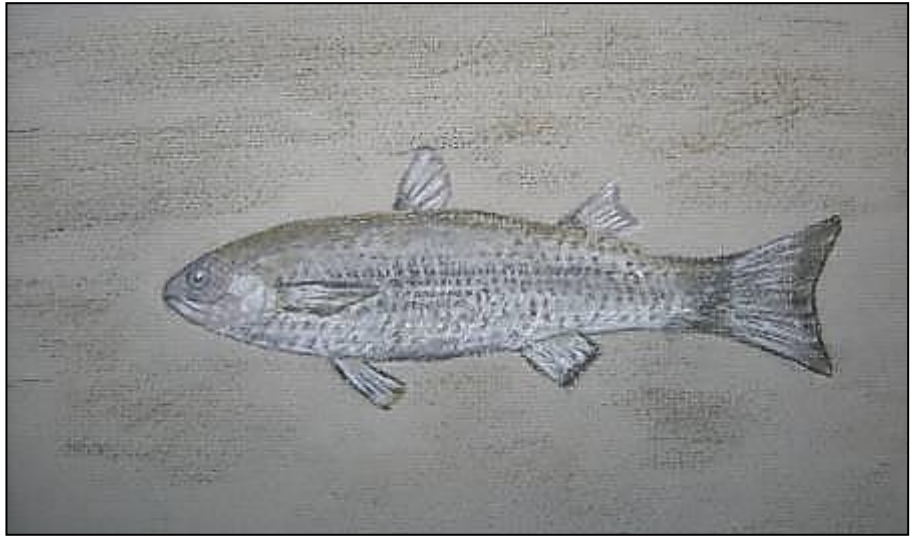


Mullet

Chelon labrosus

Migratory shoals of Mullet periodically enter Great Yarmouth harbour and visit Breydon Water. Ellis reports that odd examples had been known to travel upstream as far as Barton Broad.

In September 2009, Eastern Daily Press angling notes reported about a dozen in the River Yare at Hardley Staithe and one taken from Loddon Quay.

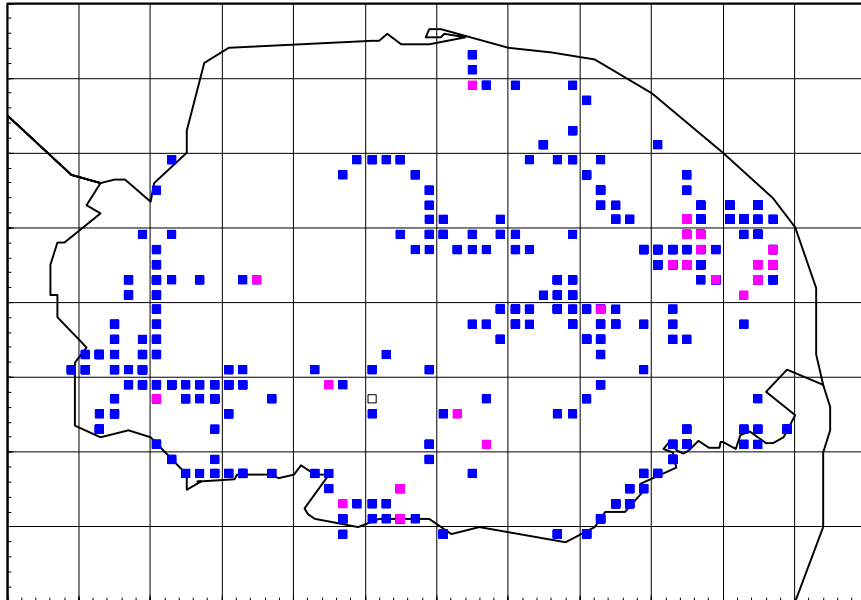
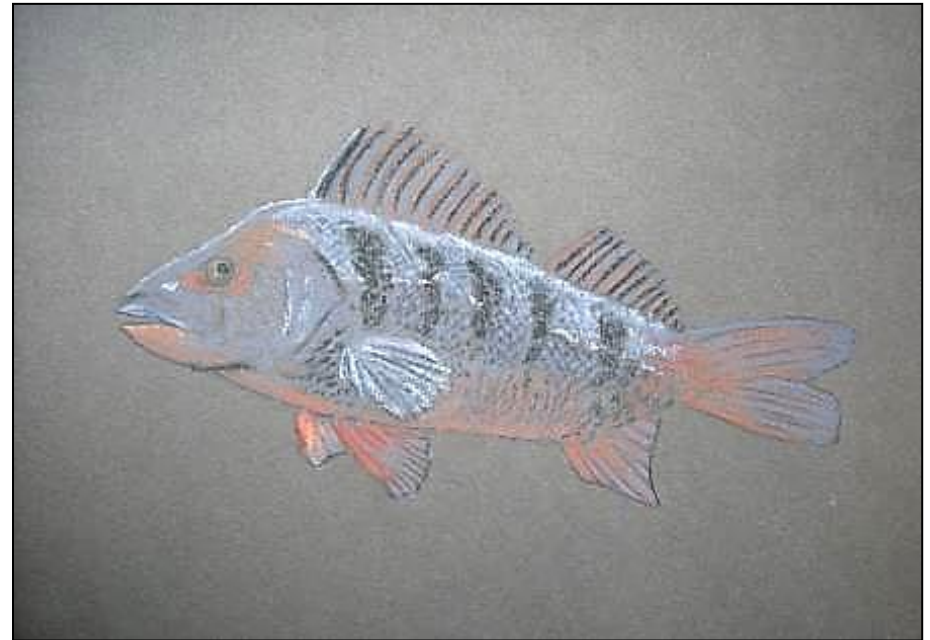


Perch

Perca fluviatilis

A medium sized shoaling fish, maturing at 25-45cms
It is particularly noted for its barred flanks and red lower and tail fins.

It is widely distributed across Norfolk in both upper and lower reaches of rivers.



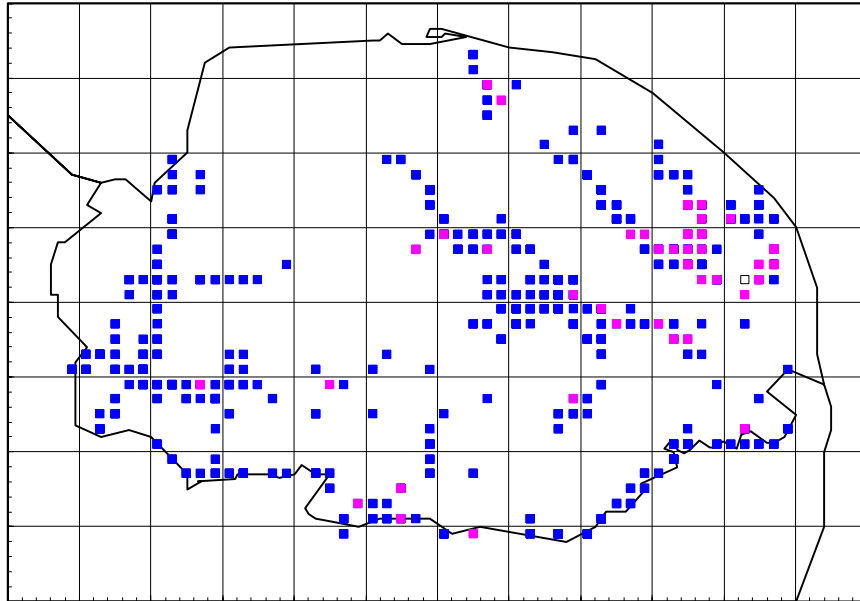
Ellis (1965) reported that Perch frequented the slightly brackish waters above Breydon and that they occurred in varying numbers in most of the Broads. It was however nowhere near as plentiful in Broadland as in the past, possibly because of disturbance of floating spawn by motor-craft, and because of the silting up of the main river channel.

Pike

Esox lucius

Easily recognised by its elongated body, broad, flat snout, and dorsal fin set well back above the anal fin. It is a fish of lakes and slow moving rivers and is an important sport fish with many heavyweight individuals being taken.

It is a predator of other fish and water birds, but can itself be a prey item for Otters and Herons.



Widespread across Norfolk, except in the uppermost reaches of rivers.

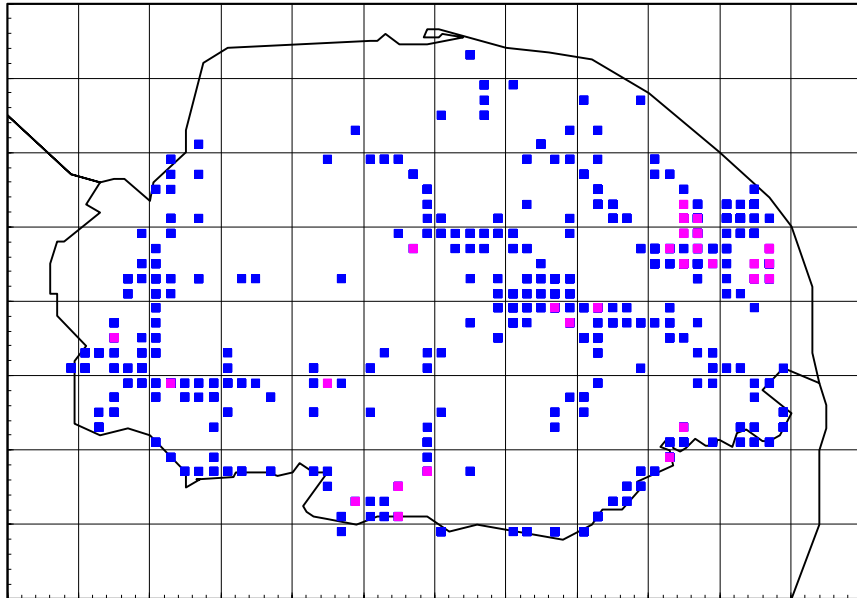
Pike are abundant in the Broads and dykes of East Norfolk, and are important predators in the rivers and drains of West Norfolk

Roach

Rutilus rutilus

A common shoaling fish, maturing at 10-25cms. It is silvery, often greenish on the back, with red-tinged eyes and lower fins.

Spawning takes place in May when large shoals gather in certain reaches of the rivers, and in Broadland dykes and channels.

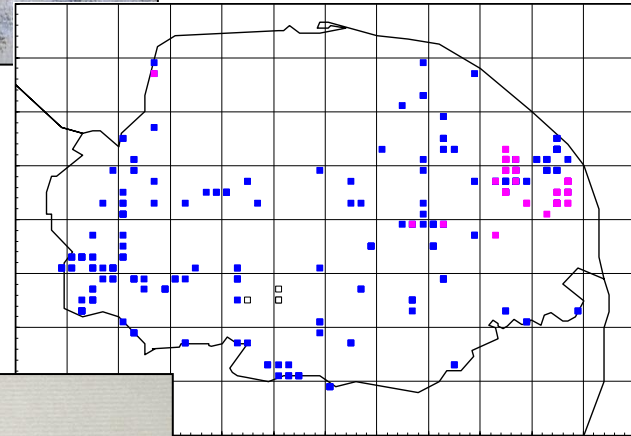


Ellis (1965) considered this the most widely distributed and abundant of Broadland fishes. NBIS data show it to be present in almost all of the river systems of the county.

Rudd

Scardinius erythrophthalmus

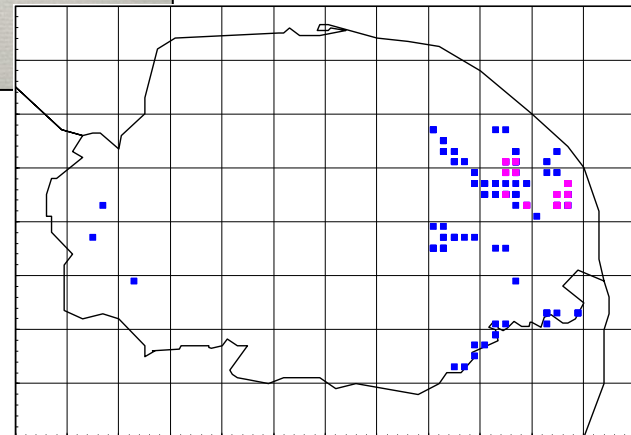
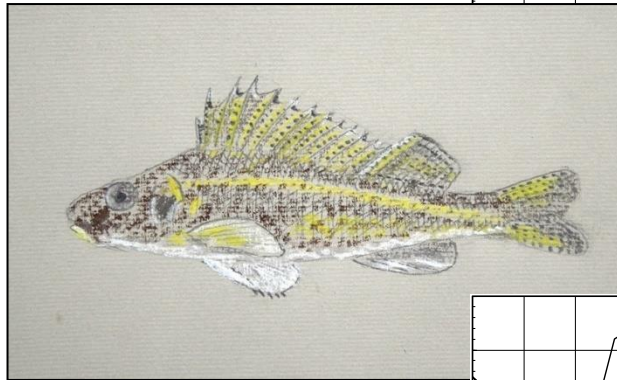
The Rudd may be distinguished from Roach by its deeper body, golden sides and straight-edged dorsal fin, set further back on the body than the ventral fin. In addition the fins and tail tend to be a more brilliant red than those of Roach. Eyes are yellow or orange.



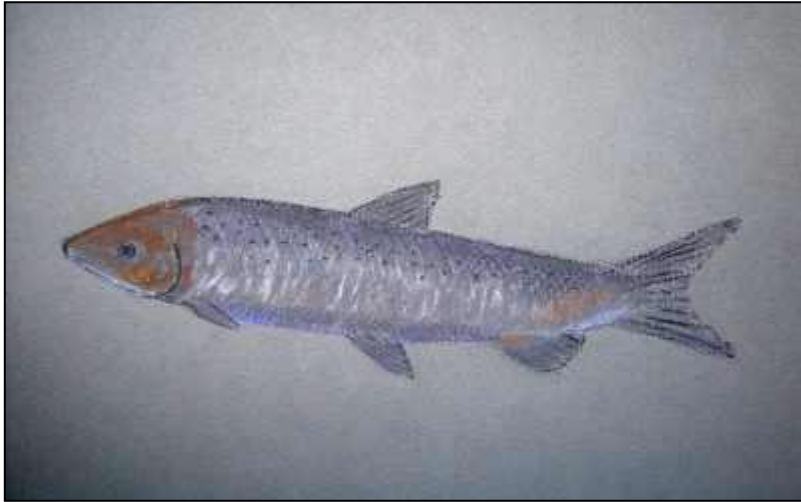
Ruffe

Gymnocephalus cernua

Smaller than Perch, maturing at 12-25cm, and with darker marbling rather than barring. The two dorsal fins are joined together and the lower and tail fins lack the reddish colour of Perch.



Ellis (1965) reported that Ruffe were found in the upper reaches of the East Norfolk rivers, and were also present in the Broads where they were able to adapt to life in somewhat brackish water. NBIS data also show three isolated records in the west of the county.



Salmon

Salmo salar

Ellis reported that Salmon only very rarely enter Norfolk rivers. In the 17th century Sir Thomas Browne remarked “*Salmon: no common fish in our rivers though many are taken in the Owse, in the Bure, in ye Waveney and in ye Norwich river butt seldome.*”

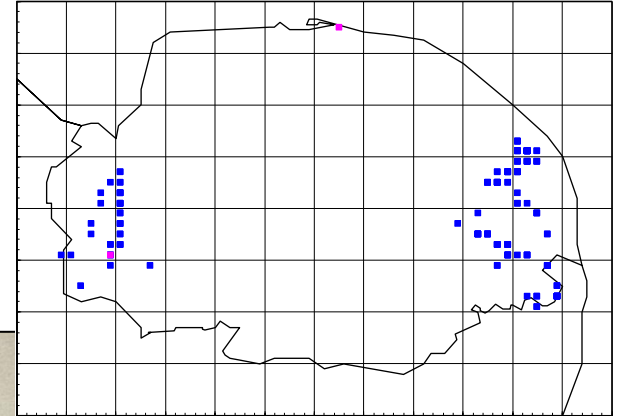
There is one NBIS record from Wramplingham on the Upper Yare in 2006.

Smelt

Osmerus eperlanus

A sea fish that runs up the rivers for the purpose of spawning in fresh water.

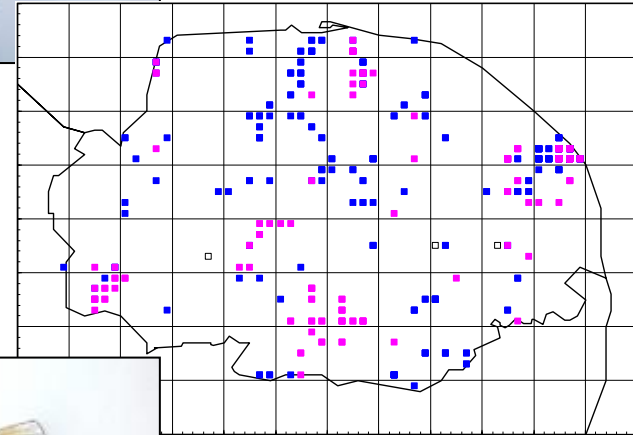
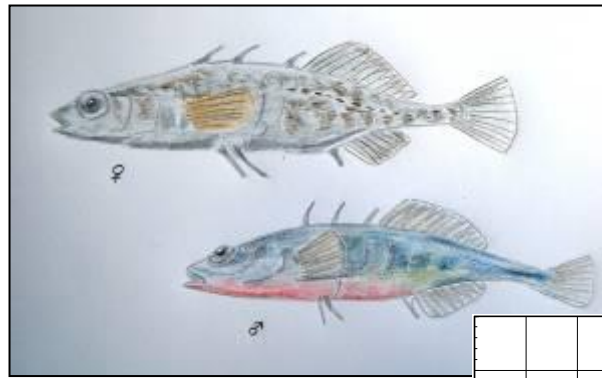
Ellis reported that there used to be a considerable run up the river Yare but by the mid 20th century the river was too polluted, though small numbers still entered the Broadland rivers. NBIS data appears to show a recovery in the 1980s and 90s. NBIS records also show a presence in the Gt Ouse and the Middle Level Main Drain in the west of the county. (BAP species).



Three-spined Stickleback

Gasterosteus aculeatus

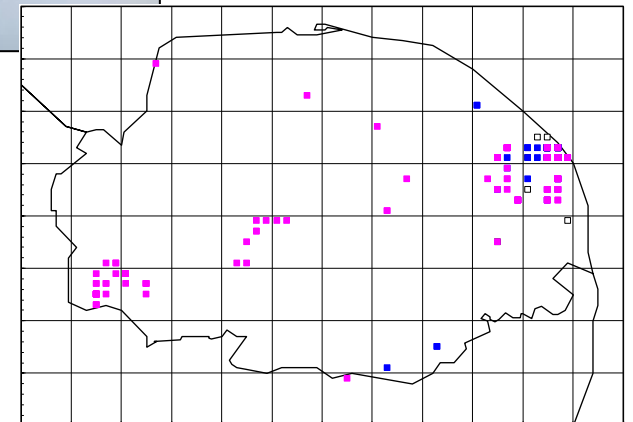
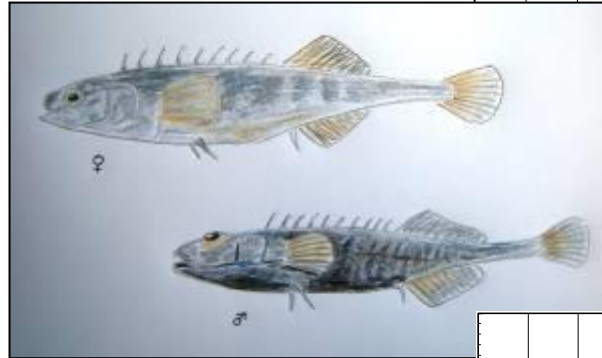
A small shoaling fish up to 8cm in length, with three prominent spines on its back and two on its belly. Breeding males with red underparts. In Broadland, it is abundant in marsh ditches and rivers and sometimes enters the more tidal Broads. It goes right down to the sea where it used to be taken in longshore draw nets and herring drift nets.



Nine-spined Stickleback

Pungitius pungitius

Slightly smaller than the Three-spined Stickleback, from which it is distinguished by its seven to twelve spines on the back. The breeding male is dark brown. It is widely distributed in marsh dykes and broads, but is less tolerant of saltwater than the Three-spined Stickleback.



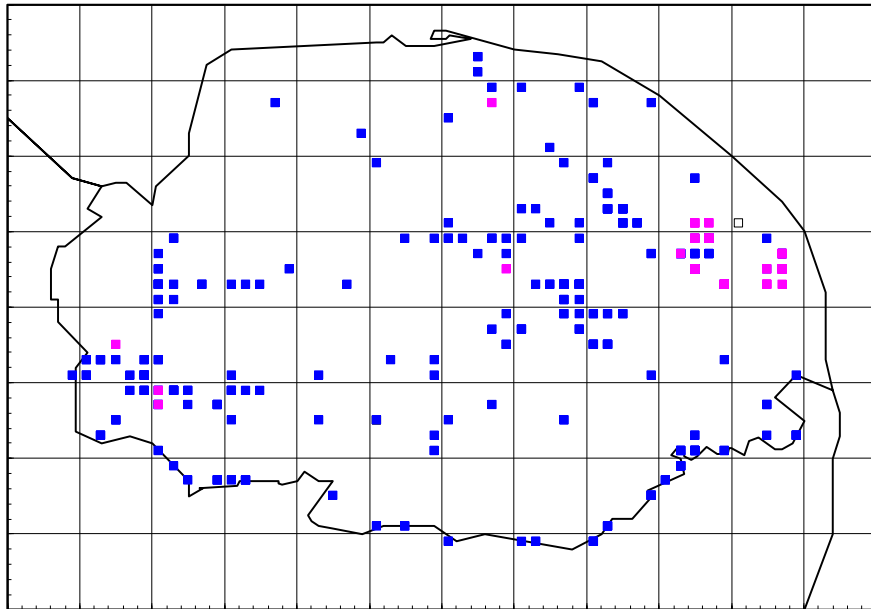
Tench

Tinca tinca

A chunky-looking member of the Carp family maturing at 25cms. The Tench has an olive-brown skin, large grey fins and a red eye.

It is a fish of still, fairly deep waters where there is soft mud below. Spawning takes place between late April and early August.

It is widely distributed across Norfolk.



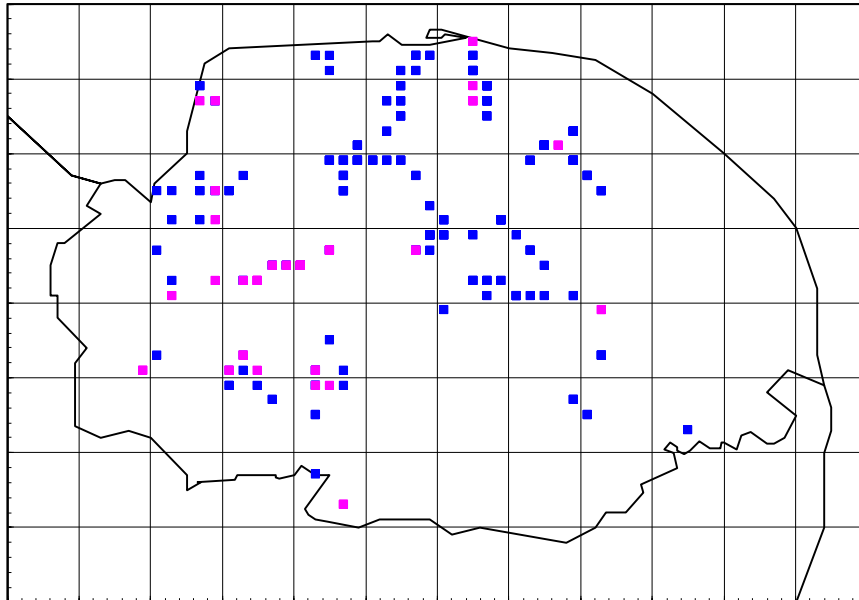
Trout

Salmo trutta

The Brown Trout spends its whole life in freshwater and is found in the upper reaches of rivers.

It can be found in the Bure, Wensum, Glaven, Stifkey and Burn in North Norfolk; and in the Heacham and Gaywood Rivers, and the Nar and the Wissey in the West of the county.

There are also records from the Upper Yare and the Tas. It is a Biodiversity Action Plan species.



The **Sea Trout** *Salmo trutta subsp. fario* occasionally ascends local rivers.

There are confirmed records of runs from the Nar in 1993 and the Yare in 2006.

Zander

Sander lucioperca

A predatory game fish introduced to the Gt Ouse Relief channel in the 1960s, and now naturalised in many Fenland waters. It feeds in much the same manner as a Pike, lurking in ambush and making sudden rushes to attack other fish such as Bream, Roach and Perch. It does well in cloudy rivers and can reach over 1m in length.

