

# **Atlas of Freshwater and Marine Fish of North East England**

**Part 1**

**Freshwater and Migratory Species**

**Draft edition, June 2012**



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## **Introduction**

With the publication of the Natural History Society's "Mammals, Amphibians and Reptiles of the North East" in 2012, there are now up to date accounts of the distribution of all of the vertebrates in the Northumbria region, except for fish.

The main purpose of the production of this Atlas is to demonstrate the feasibility of an account of the region's fish fauna, to promote the recording of fish species, and to encourage the contribution of records from individuals and organisations. Updated editions will be produced when there is sufficient new data, probably on an annual basis initially.

This Atlas is a first attempt at an account of our one hundred or so freshwater, migratory and marine fish species. It is based on about five thousand records compiled from my personal data, sea fishing, freshwater angling and diving websites, ecological surveys for planning permission, historic accounts and other published data. The data is quite thin and patchy, though it already shows patterns of distribution in space and time for many species, and it highlights the relative numbers of records between species.

Part 1 of the Atlas covers the freshwater and migratory species, Sea Lamprey and Flounder. Part 2 covers the marine species.

Distribution data is presented as a single age class for records, displayed as 2km dots within 10km squares. A few records lack precise grid references, and are not mapped, but mentioned in the text. The maps show the major rivers. The species are listed in alphabetical order of scientific name. Due to file size constraints, the downloadable pdf is viewable on-screen but will not print very well. A larger size file is available by e mail.

## **The Freshwater and Migratory species**

While our marine species are native to the North Sea or vagrants from the Atlantic or Arctic Oceans, most of our freshwater species are human introductions from South East England or from further afield.

When the ice receded after the last ice age, there would have been many more ponds, lakes and wetlands in our region than we have now. Initially, there would have been no fish. Some of the river catchments would have been markedly different, for example the Derwent flowed temporarily through Howns Gill to the Wear, and the Wear probably flowed into the Tyne. However, all of our rivers would have flowed into the saline North Sea, unlike the rivers south of the Humber, which may have flowed into major “Doggerland” or Rhine river systems.

Consequently, fish reaching our rivers and lakes as the sea level rose would have been limited to the migratory species such as Salmon, Brown Trout, Eel and the Lampreys, plus species that can tolerate salt water sufficiently to enable them to move between estuaries via the sea, such as the Sticklebacks. There is also the possibility that the North Sea was temporarily slightly less saline.

There is a tiny possibility of eggs, fry or adult fish being transported alive by birds or by violent weather events such as tornados. While the annual probability is very low, over a time period of millennia this cannot be discounted.

On the whole, though, most freshwater species are introduced, with many of the introductions having been documented, particular for the Tweed and Derwent catchments. Early introductions would have been for food, mainly to still waters, with subsequent anthropogenic spread or accidental escape during flood events. Modern introductions are mainly for angling, with deliberate or accidental release of non-target species as food species for the more desirable catch or as live bait. These non-target species may include Minnows, Gudgeon, Roach, Dace, and Stone Loach. While the release of angling species is in theory regulated, there are many unofficial introductions of fish to new ponds.

In recent years there has been an enormous increase in the stocking of existing ponds and the creation of new ponds for fishing. Some of these are for the trout fly-fishing market, others for coarse fish. There are far more of these south of the Tyne than there are in Northumberland, with a strong distribution east of the A68. Apart from formally managed angling waters, coarse fish have also been informally transferred to many other ponds, often to the detriment of the original ecology.

At the moment, in this first edition of the Atlas, all species are under-recorded. The angling species, particularly Salmon and Trout, are best recorded, with information on the smaller species such as Minnow and Bullhead much sparser. Data on the native, non-angling species such as Brook Lamprey is very deficient.

There are no records for-

Bleak

Bitterling

Grass Carp

Largemouth Bass

Pikeperch

Ruffe

Spined Loach

Wels

### **Biodiversity and Conservation**

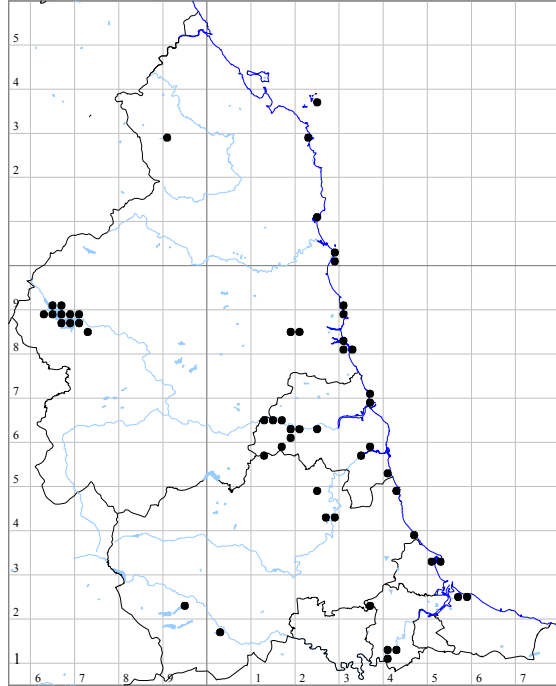
Fish tend to be the poor relations in Biodiversity Action Plans.

The Northumberland Red Data Book (1998) lists the three Lampreys, Basking Shark, Sturgeon, Allis and Twaite Shads, Salmon, Grayling and Bullhead, but not Brown Trout, as being species of conservation concern. The Northumberland BAP lists the three Lampreys, Salmon, Brown Trout and Bullhead.

The Tweed Foundation lists Bullhead as an undesirable alien species, at least in that catchment.

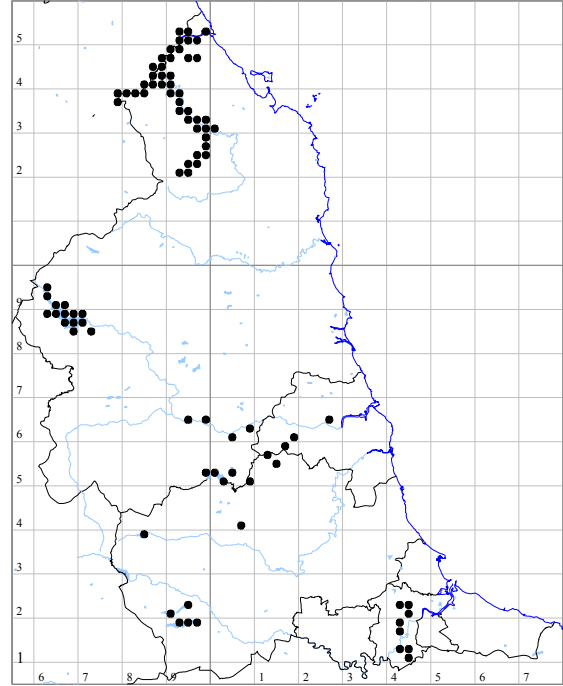
The Durham BAP lists Salmon, Brown Trout and Eel.

*Anguilla anguilla* (Eel)



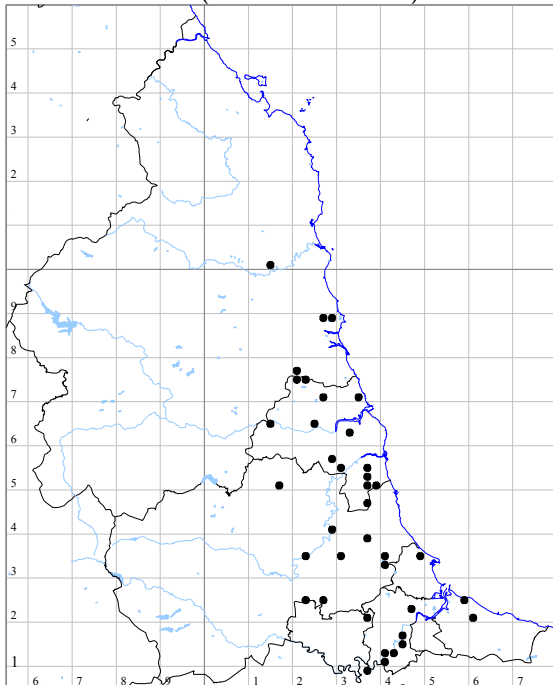
Native. Probably ubiquitous.

*Barbatula barbatula* (Stone Loach)



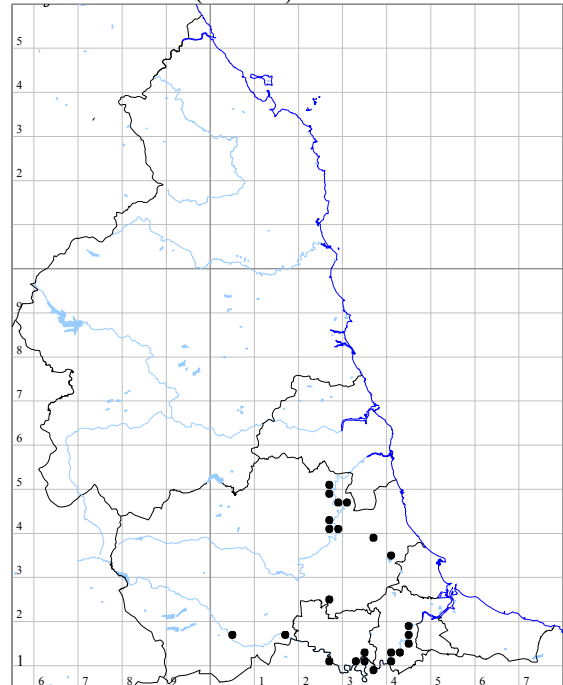
Probably much more widely distributed.

*Abramis brama* (Common Bream)



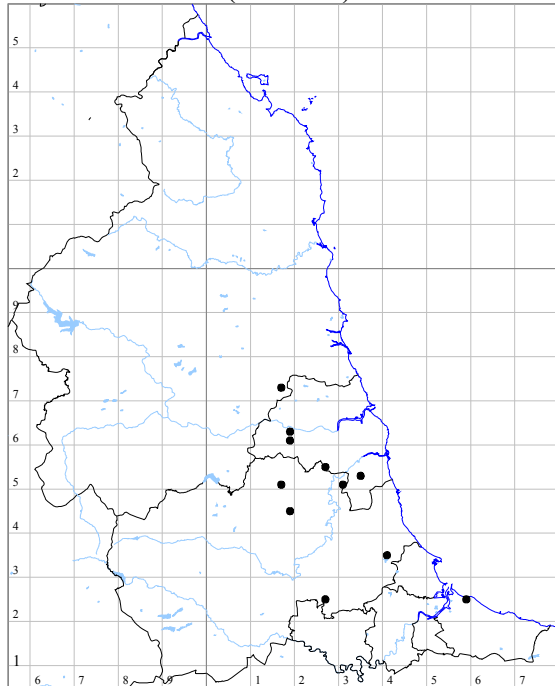
Almost entirely in stocked angling ponds.

*Barbus barbus* (Barbel)



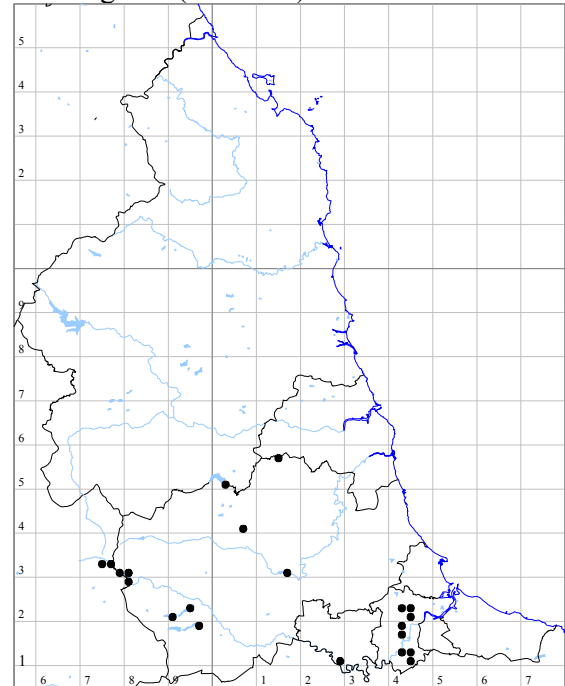
Mainly in stocked angling ponds, also in the lower Tees.

*Carassius auratus* (Goldfish)



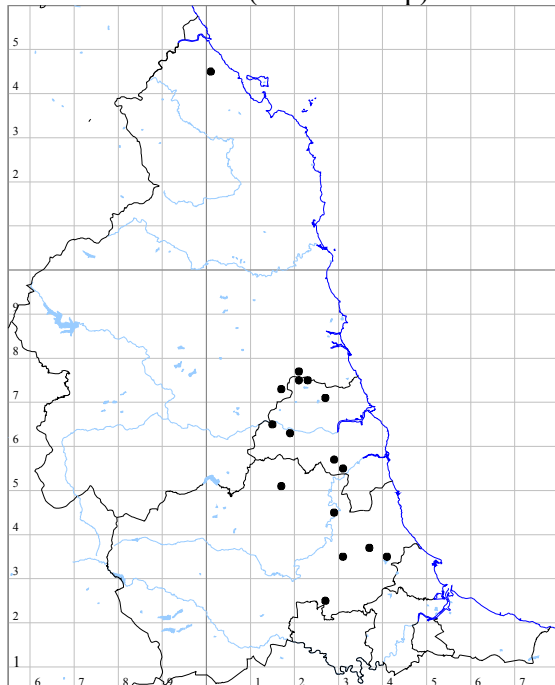
Established in town park lakes and occasionally elsewhere by flooding. Originally from Asia.

*Cottus gobio* (Bullhead)



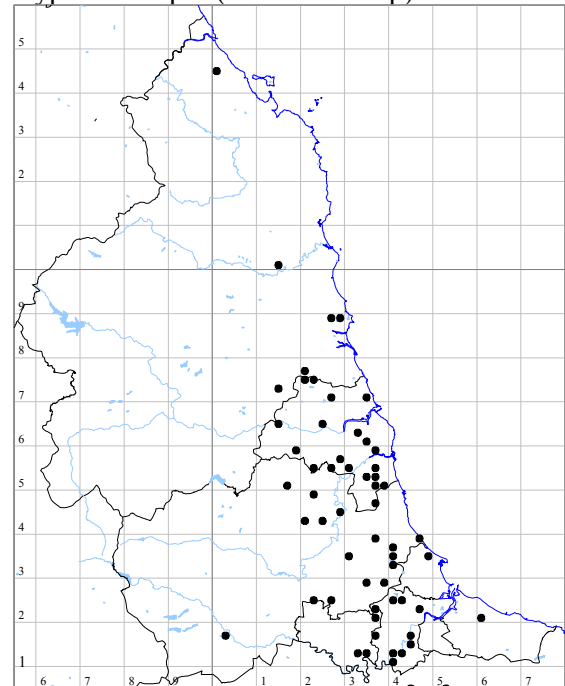
Mainly recorded from the Tees, rarely from the Derwent, Wear and Tweed.

*Carassius carassius* (Crucian Carp)



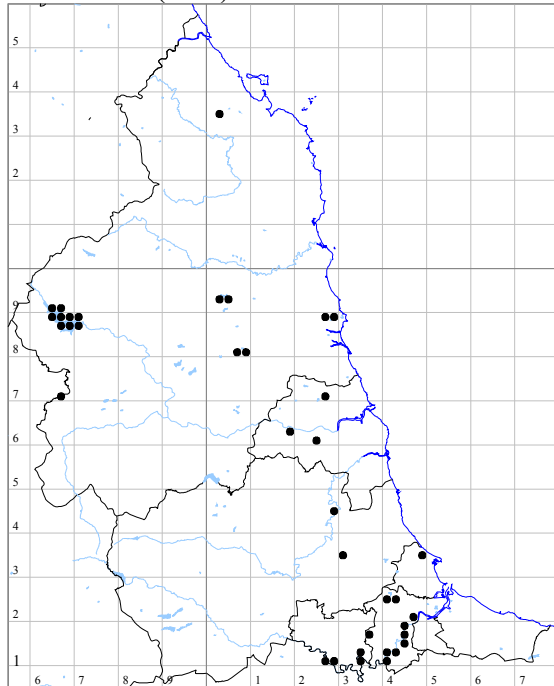
Almost entirely in stocked angling ponds.

*Cyprinus carpio* (Common Carp)



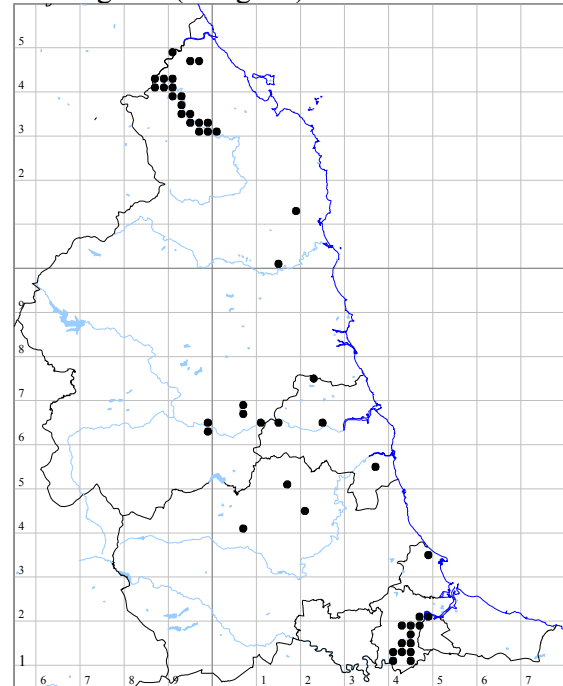
Mainly in stocked angling ponds, also in the lower Tees.

*Esox lucius* (Pike)



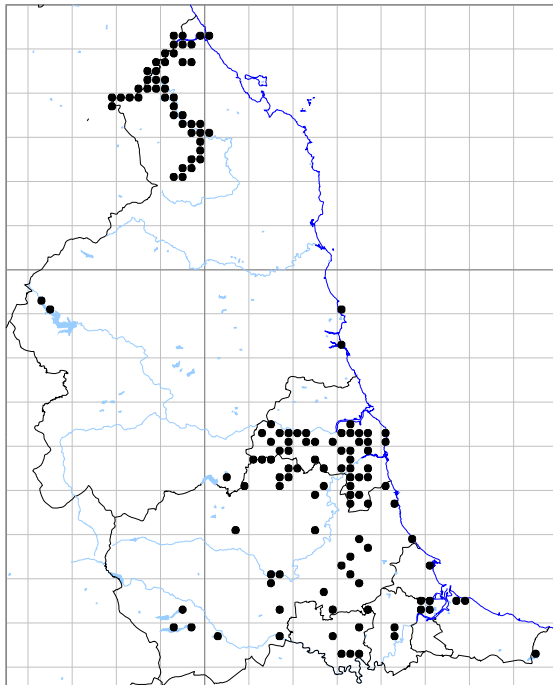
Mostly in stocked angling ponds, but also established in the lower Tees and in Kielder Reservoir.

*Gobio gobio* (Gudgeon)



Well established in the Till and the lower Tees.

*Gasterosteus aculeatus* (Three-spined Stickleback)

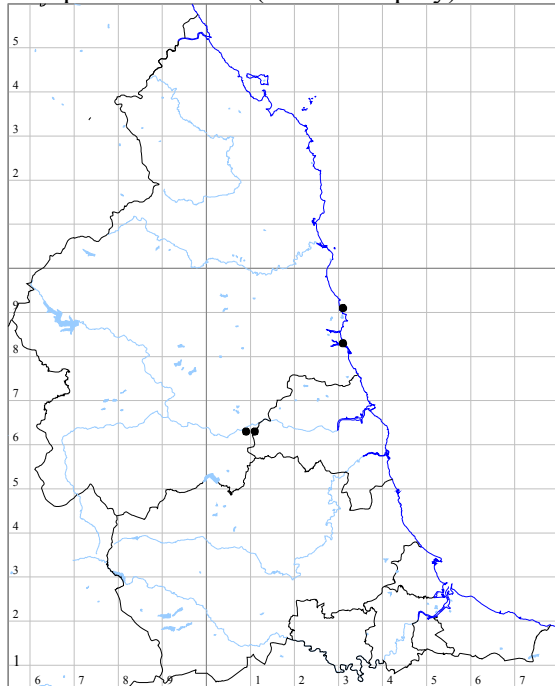


Probably ubiquitous and native. Poorly recorded from ponds in Northumberland. Most records are from newt surveys.

### ***Ictalurus* sp.**

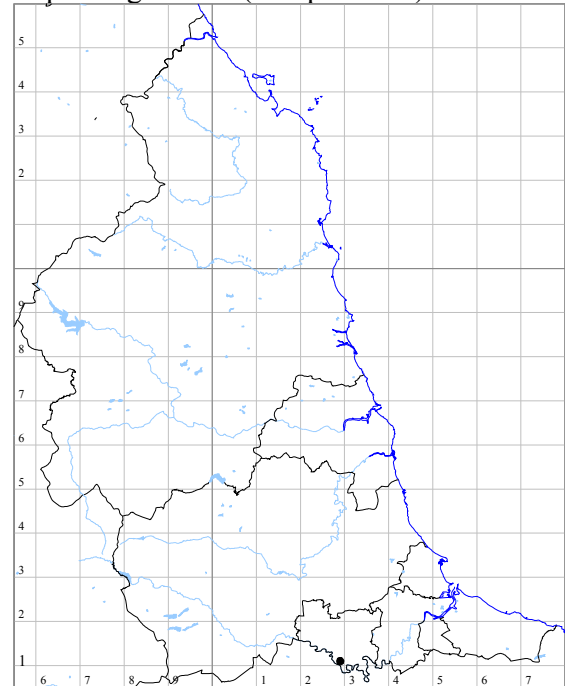
Coldwater catfish have occasionally been recorded in the Tyne and Derwent, but not to species level. These are probably deliberate introductions of one or a few specimens from aquaria.

*Lampetra fluviatilis* (River Lamprey)



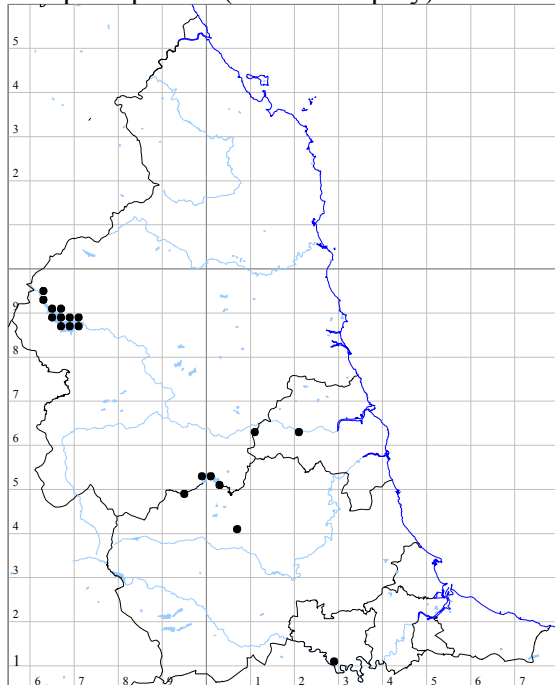
Native. Rarely recorded from estuaries and from pumped cooling sea water.

*Lepomis gibbosus* (Pumpkinseed)



A single record from NZ21.

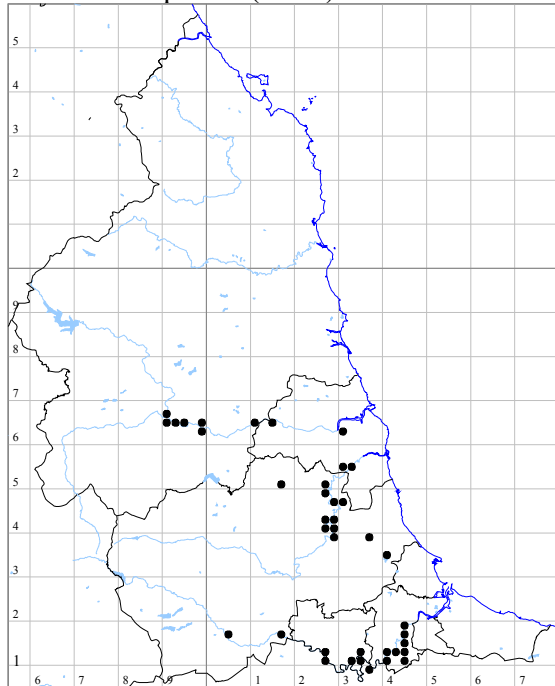
*Lampetra planeri* (Brook Lamprey)



Native. Recorded from Kielder Reservoir, and occasionally from the Derwent and the Tees.

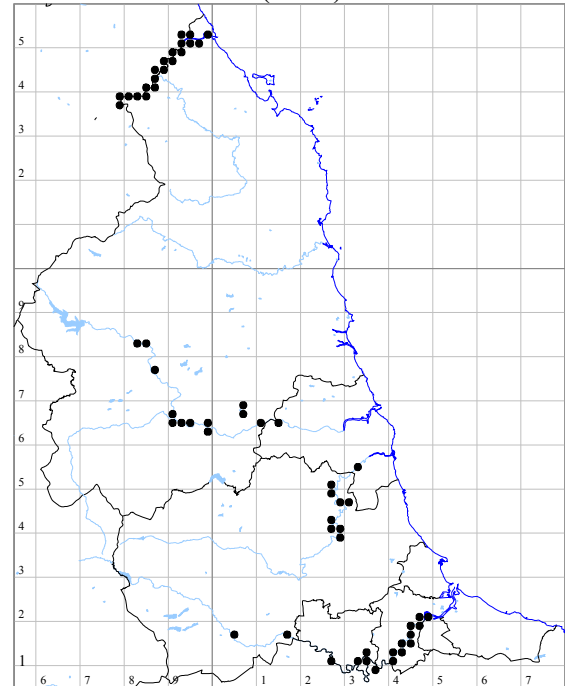


*Leuciscus cephalus* (Chub)



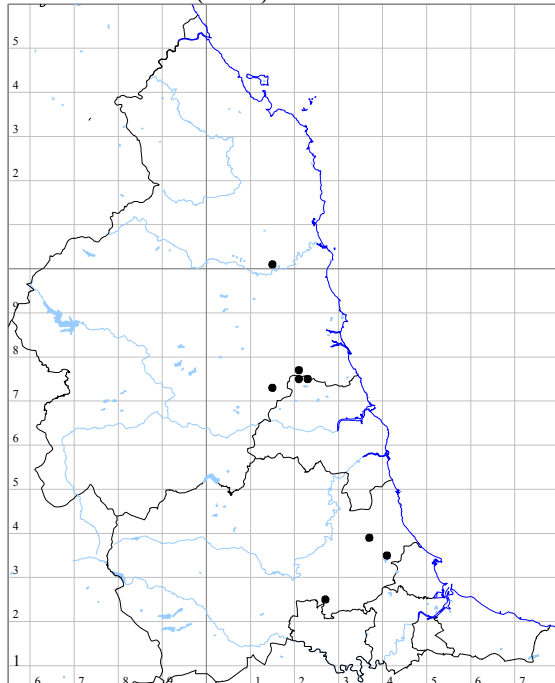
Mainly in stocked angling ponds, also in the lower Tees and mid Tyne.

*Leuciscus leuciscus* (Dace)



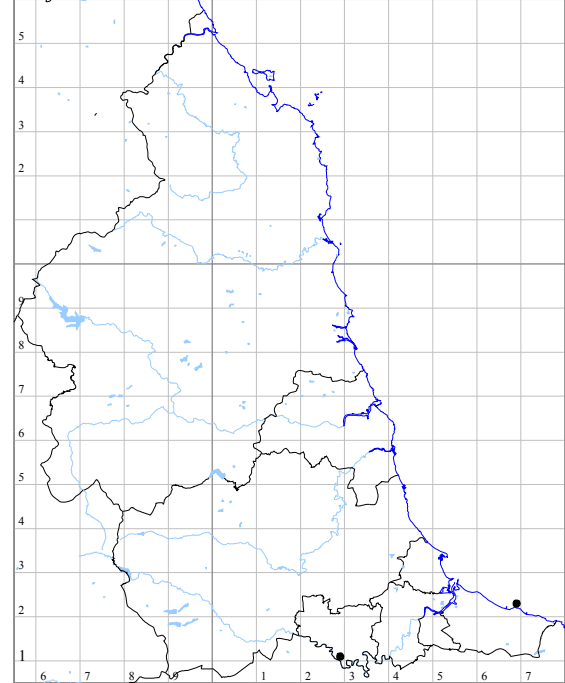
Introduced into the Tweed, Tyne, Wear and Tees.

*Leuciscus idus* (Orfe)



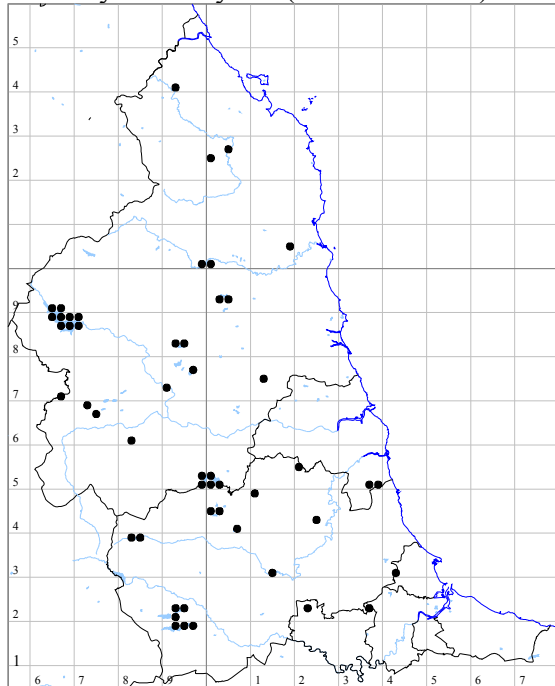
Almost entirely in stocked angling ponds. Originally from mainland Europe.

*Lota lota* (Burbot)



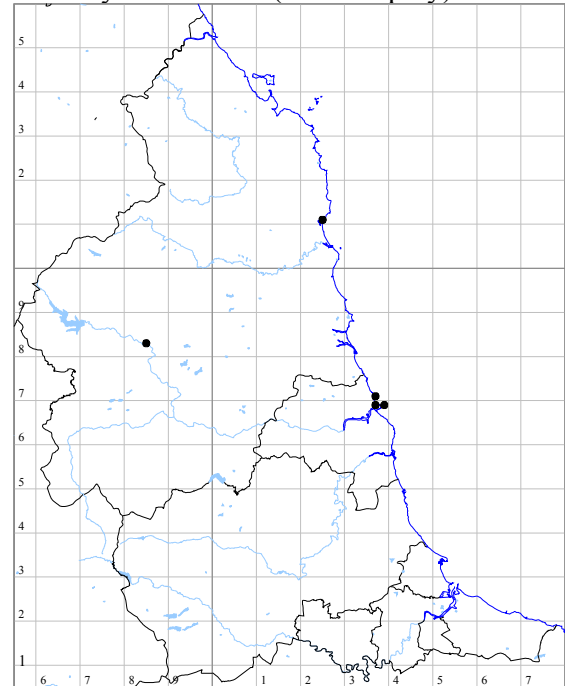
Old historic records from the Tees and Redcar coast, probably extinct now. May have been native.

*Oncorhynchus mykiss* (Rainbow Trout)



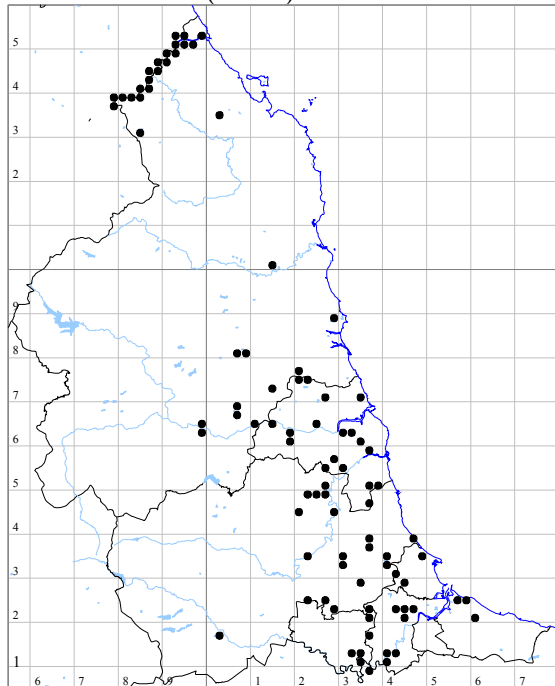
Almost entirely in stocked angling ponds and Northumbrian Water reservoirs.

*Petromyzon marinus* (Sea Lamprey)



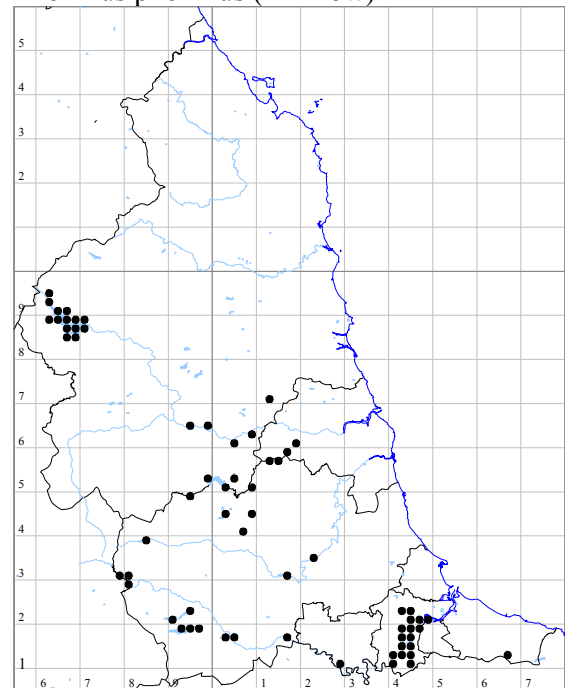
Native. Rarely recorded, from the Tweed and the Tyne estuaries.

*Perca fluviatilis* (Perch)



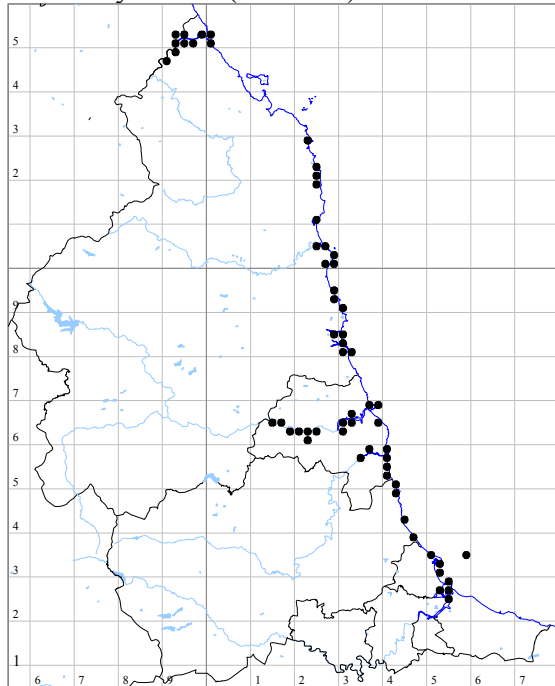
Mainly in stocked angling ponds, also in the lower Tees and Tweed.

*Phoxinus phoxinus* (Minnow)



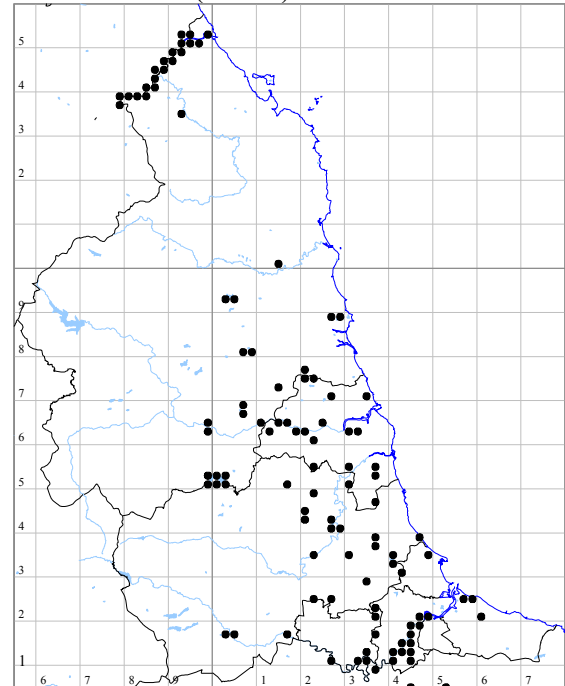
Very under-recorded.

*Platichthys flesus* (Flounder)



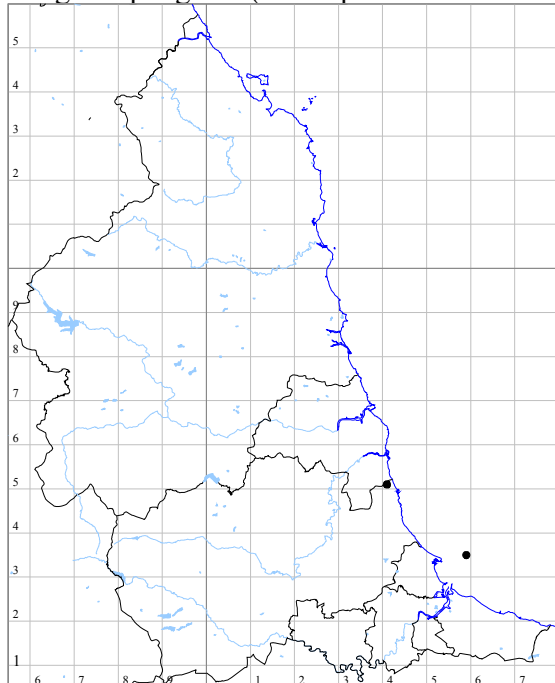
Well recorded from sandy coasts and estuaries.

*Rutilus rutilus* (Roach)



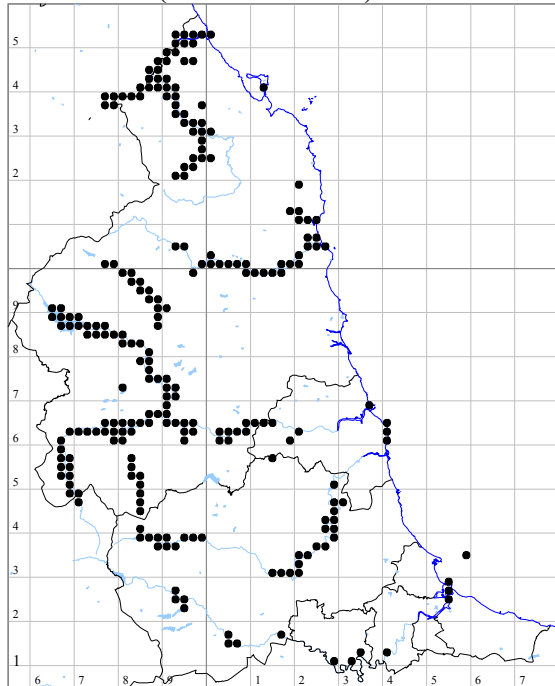
Mainly in stocked angling ponds, also in the lower Tees and the Tweed.

*Pungitius pungitius* (Nine-spined Stickleback)



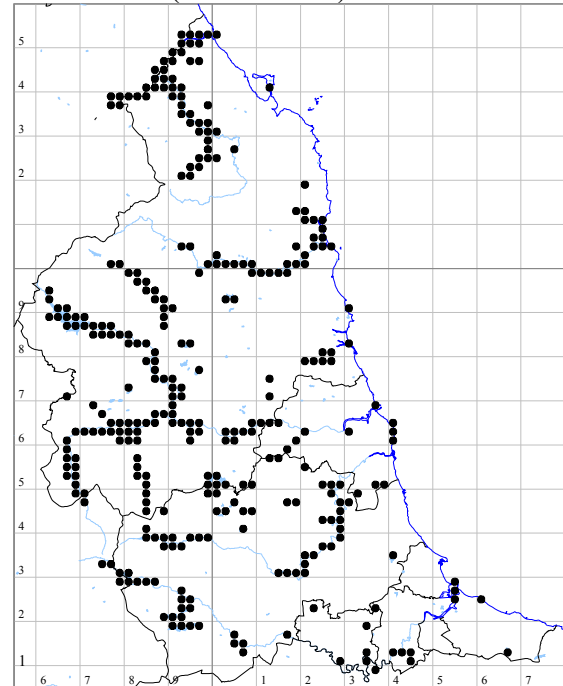
Native, rarely recorded at the coast.

*Salmo salar* (Atlantic Salmon)

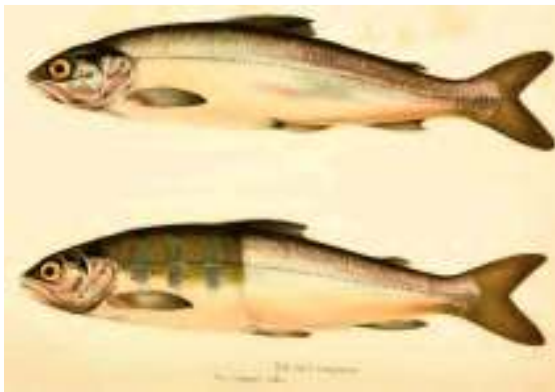


Native, though many are captive bred. Probably one of the best recorded species, from all of the cleaner rivers.

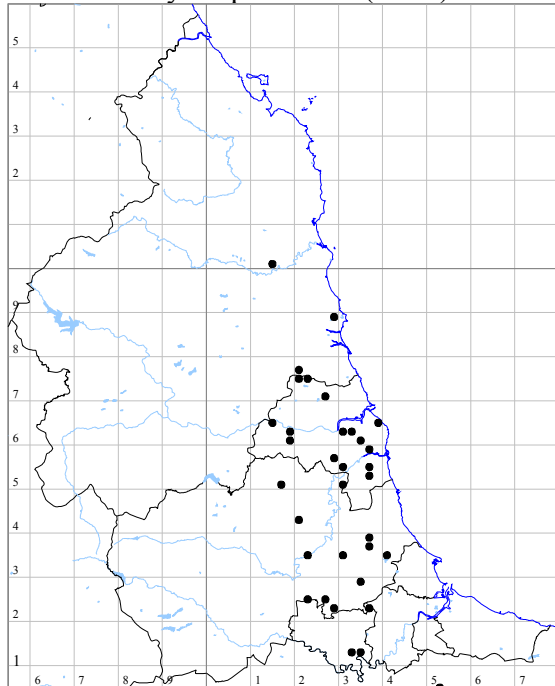
*Salmo trutta* (Brown Trout)



Probably the best recorded freshwater species, the map shows natural river populations, and introduced river and pond populations.

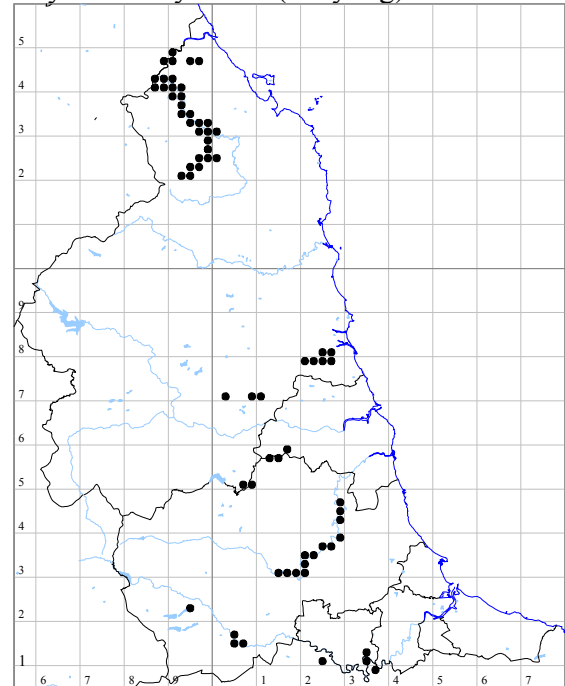


*Scardinius erythrophthalmus* (Rudd)



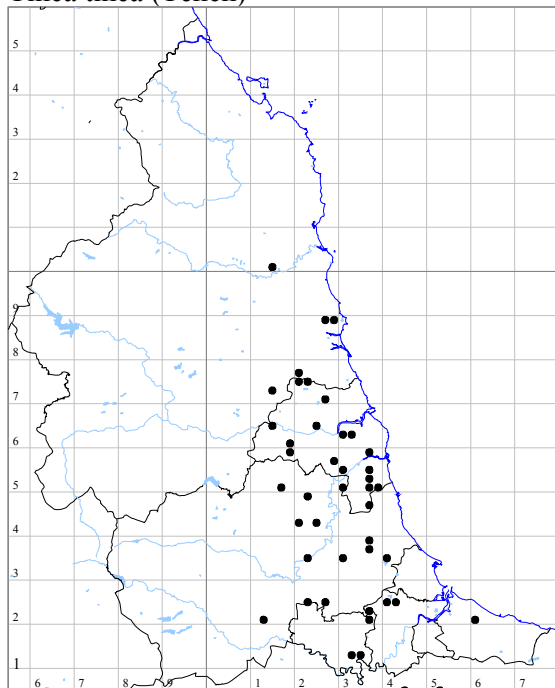
Almost entirely in stocked angling ponds.

*Thymallus thymallus* (Grayling)



Introduced into the Till, Blyth, Derwent, Wear and Tees.

*Tinca tinca* (Tench)



Almost entirely in stocked angling ponds.