

# Prussian Carp - a newly discovered non-native fish

We have recently confirmed the presence of an invasive non-native freshwater fish in fisheries called Prussian carp in a few fisheries in England. Detailed investigations are underway at our National Fisheries Laboratory to establish the physical and genetic characteristics of this cryptic fish species and to better understand the risk it poses to our native fish stocks and fisheries. Please report any suspected sightings of this fish to us, so we can follow these up promptly and limit their distribution.

## Prussian Carp

Prussian carp (*Carassius gibelio*), are native to central and eastern Europe but they have been introduced to many other countries, either intentionally for food or angling, or inadvertently due to their similarities with other *Carassius* species. It is illegal to import them into the UK due to the risk to native fish populations. Prussian carp may also go by the names gibel carp, gibelio, carassio and silver crucians. Until recently, Prussian carp were considered a sub-species of goldfish, but are now considered to be a distinct species.



## What risk do Prussian carp pose to our fisheries?

Once introduced, Prussian carp can rapidly expand their population size, leading to impacts on native fish species and our fisheries. Prussian carp can reproduce in an unusual way, using the sperm of other fish species to fertilise their eggs. This is called gynogenetic reproduction, which effectively produces clones of the Prussian carp parent. This method of reproduction can increase their ability to establish new populations and aid invasion success. Prussian carp have been shown to cause environmental harm where they have been introduced elsewhere in Europe. They can reduce native biodiversity, outcompete other fish species for resources and can readily hybridise with other *Carassius* species, including crucian carp.

## What are we doing about them?

Staff at our National Fisheries Laboratory have been leading the way on the identification of Prussian carp through detailed analysis of their physical and molecular (DNA) characteristics. We have also provided expert input to risk assessments to better understand the biology of this fish and the risk it poses to our fisheries.

A Response Group, comprising of the Environment Agency, Cefas, Fish Health Inspectorate, Natural England and GB Non-native Species Secretariat (GBNNS) has been convened as part of Defra's Contingency Plan for Invasive Non-native Freshwater Animals. We have placed movement restrictions on all waters where Prussian carp have been confirmed. Work is also underway to establish how they might have arrived in the country and to assess further distribution across England. We have currently confirmed the presence of Prussian carp in 4 fisheries and suspect them in a further 9 waters.

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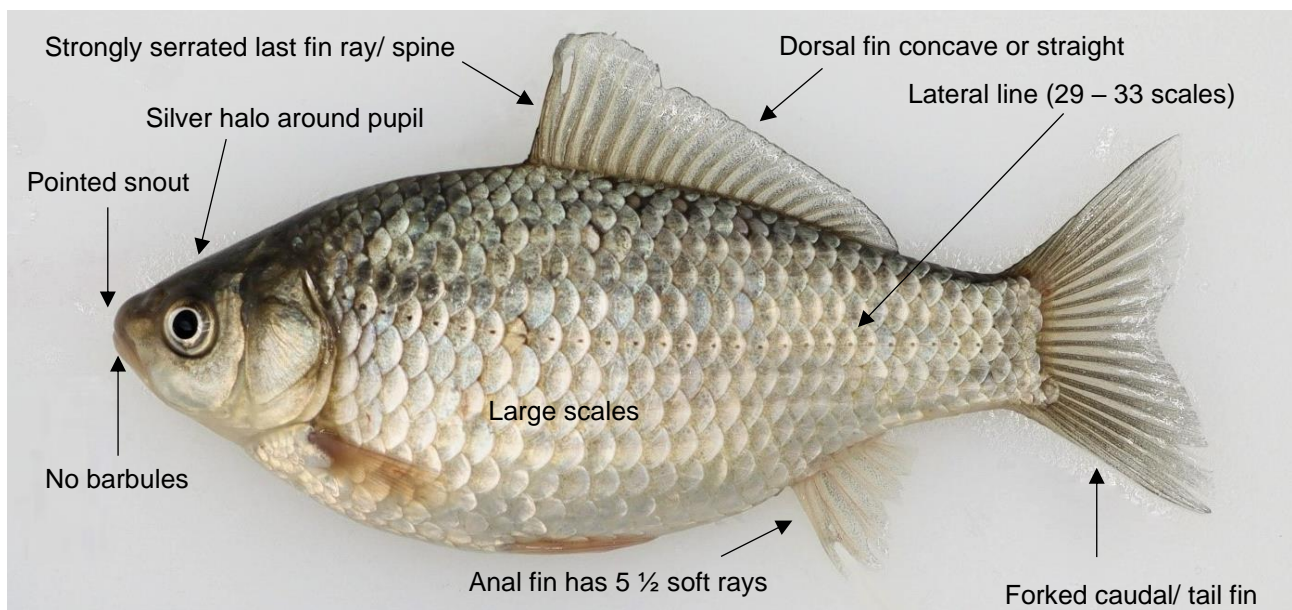
## The challenge of identification

Identifying Prussian carp is extremely challenging due to the similarity of these fish with other species of carp from the *Carassius* genus, including goldfish, crucians and “F1” carp hybrids (hybrids of goldfish or crucians with common carp). Many Prussian carp features are not easy to confirm and a lot of historic data on this fish is unreliable or confused, making it difficult to compare findings from other countries.

Currently, confirmation of Prussian carp relies on molecular tests on tissue samples within the laboratory. Molecular tests examine the DNA of fish and enable identification based on genetic characteristics. Staff at our National Fisheries Laboratory have been working with experts at the Natural History Museum to develop the molecular tools needed to identify Prussian carp and distinguish these from other, closely related species. This can now be done from fish scales, allowing us to support wider monitoring of fisheries to better understand distribution and prevent spread.

## How to recognise a Prussian carp

Based on the most common external physical features, Prussian carp are almost indistinguishable from brown goldfish. However, a number of features can help raise suspicion of Prussian carp and these are being used to inform monitoring and sampling within fisheries. Prussian carp are a deep-bodied fish, usually no more than 35 cm in length with relatively large scales. They are often silvery in colour, but larger specimens can darken to a golden brown. Prussian carp also lack barbules, which helps distinguish them from carp. The image below highlights some of the features that can be used to help distinguish Prussian carp from other similar fish found in England. Many of these features are shared by other fish, but together they can identify fish needing further examination.



## What you should do

We are encouraging anyone to report any suspected sightings or suspicion of Prussian carp to our incident helpline on 0800 80 70 60. If you suspect you have captured a Prussian carp, please take images of the fish and email them to us: [non-natives@environment-agency.gov.uk](mailto:non-natives@environment-agency.gov.uk). For further information on Prussian carp or any other non-native fish, please contact:

**National Fisheries Laboratory – Fish Health, Ageing and Non-native Species, Environment Agency, Bromholme Lane, Brampton, Huntingdon, PE28 4NE.** Email: [non-natives@environment-agency.gov.uk](mailto:non-natives@environment-agency.gov.uk)

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