

# CARMARTHENSHIRE'S STATE OF NATURE – FISH



European Eel © Dave Mee



Atlantic Salmon © Dave Mee



Shad © Wye and Usk Foundation

## HEADLINES

- There are 13 species of native freshwater fish recorded in Carmarthenshire.
- There are 10 freshwater 'Section 7' Priority Species in Wales and seven have been recorded in Carmarthenshire since 2000.
- The [biggest fish](#) ever taken on a rod and line in freshwater in the UK was a Sturgeon caught on the River Tywi in 1932 – 176kg. The last sturgeon in UK waters was seen in the river in 1993.
- The invasive species, Topmouth Gudgeon (*Pseudorasbora parva*) is now recorded in water bodies in Llanelli.

## OVERVIEW

Fish are a crucial part of the aquatic food chain and play an important role in freshwater ecosystems - such as recycling nutrients. They can also act as indicators of ecosystem health as they are sensitive to changes in water quality, habitat and temperatures. Carmarthenshire has a number of nationally significant watercourses (Tywi, Teifi, Tâf), which, along with their tributaries are important for a number of native fish species, including the migratory Atlantic salmon and sea trout (sewin) which enter the river each spring and early summer to breed in the tributaries. The Tywi and Tâf are also home to a number of other protected species, including the rare Twaite shad and Allis Shad, Brook, River and Sea Lampreys, and the critically endangered European Eel. Our rivers also contain populations of Brown Trout and a variety of small fish species which are essential to the wider ecology of the watercourses.

Fish that inhabit the rivers of Carmarthenshire need cool, clean, well-oxygenated water and gravels to spawn on, as well as to ensure good populations of insects such as stoneflies and mayflies which they feed on.

In *general*, water quality is thought to have improved since the 1970s, however many waterbodies are still failing to achieve 'Good' Ecological Status under the Water Framework Directive, due to a range of rural and urban water quality pressures. These include agricultural, from the run-off of excess nutrients and pesticides on the land and soil loss which smothers spawning gravels; forestry, which puts pressures on acidity levels in upland reaches, impacting both aquatic invertebrate and fish populations; sewage, which contributes excess nutrients and other pharmaceuticals and other urban inputs, such as road-runoff, industrial discharges, landfill and historic mining. Many of these land-use pressures contribute phosphorus to our rivers, and the current levels of this naturally occurring nutrient in some of our watercourses are having an adverse impact.

Habitat modifications such as over-widening and straightening of rivers, loss of trees on banksides, development on floodplains and the addition of in-river barriers such as weirs has also resulted in the removal and fragmentation of many aquatic habitats.

The introduction of invasive non-native species, including American Signal Crayfish and Topmouth Gudgeon can be problematic (the latter has been identified at Sandy Water Park in the Millennium Coastal Park, Llanelli - one of only 34 known Topmouth Gudgeon populations in the wild in the UK). Invasive non-native species are also an issue along riverbanks. For example, both Himalayan Balsam and Japanese Knotweed cause erosion and damage to riverbanks, contributing excess soil into rivers and out-competing other native vegetation.

## CURRENT PRESSURES

- Climate change - increases in surface water temperature affect species such as salmon, which require colder water. Climate change also results in flow extremes, with fluctuating low and high flow events which are detrimental to most aquatic species.
- Migration barriers – weirs, dams, and culverts are still present that block or impede fish passage, as well as preventing the natural flow of rivers.
- Water quality – as a result of poor land-use management, poor water quality can directly (through exposure to chemicals and acidified waters) and indirectly (through runoff of silt and excess nutrients) impact on fish and other aquatic species.
- Invasive species such as Signal Crayfish, Topmouth Gudgeon and riparian plants such as Japanese Knotweed and Himalayan Balsam can have negative effects. These may be exacerbated by climate change, increasing competition, predation and disease.
- Channel realignment, straightening and draining of floodplains.
- Disease spread by poor biosecurity and illegal movement of fish.

## RECOMMENDATIONS FOR LOCAL ACTION

- Improvements to river and stream habitat diversity and naturalisation of modified watercourses.
- Removal/modification of weirs and introduction of fish easement structures.
- Invasive species control
- Increase biosecurity, following the Check, Clean, Dry campaign.
- Continue to improve water quality and reduce inputs of nutrients from agriculture, sewage, forestry and run-off from roads.
- Promote habitat improvement strategies, e.g. introduction of large woody material and suitable riparian tree planting schemes.

### CASE STUDY

[Four Rivers for LIFE](#) - is an ambitious, large-scale river restoration project to improve the condition of four major rivers in Wales: Teifi, Cleddau, Tywi and Usk. These four rivers are classed as [Special Areas of Conservation \(SAC\)](#) which means they are of international importance for their wildlife and plants such as Atlantic salmon, lamprey, shad, Otter and Water Crowfoot.

All four rivers are currently in an unfavourable condition as a result of multiple pressures.

A total of 776 km of river will be improved in mid and south Wales over the next four years. The project will aim to restore the rivers to a better condition.



Fish passage on the Mynys River,  
Llanwrda NRW

## WANT TO FIND OUT MORE?

[Priority Fish in Carmarthenshire](#)

[Natural Resources Wales / Salmon and sea trout plan of action 2020](#)

[Assessment of Salmon Stocks and Fisheries in England and Wales in 2021 - GOV.UK \(www.gov.uk\)](#)

**Commented on by NRW and the West Wales Rivers Trust**