





## NATIVE WILD FISH SPECIES ACTION PLAN

### 1. INTRODUCTION

There are 38 species of freshwater fish native to Great Britain, which can be found living in habitats such as streams, rivers, ponds and lakes. Migratory fish are those that feed in the sea and breed in freshwater. This plan covers the native wild fish species listed below, both resident freshwater and migratory species. Although no UK species action plans have been prepared they are seen as important for biodiversity conservation locally, particularly in relation to the quality of the rivers and streams of Caerphilly county borough.

#### Resident Species:

- **Brook lamprey**                      *Lampetra planeri*
- **Bullhead**                              *Cottus gobio*
- **Native brown trout**              *Salmo trutta*
- **Stone loach**                         *Noemacheilus barbatulus*
- **Three-spined stickleback** *Gasterosteus aculeatus*

#### Migratory Species:

- **Common eel**                         *Anguilla anguilla*
- **Salmon**                                 *Salmo salar*
- **Sea Trout**                             *Salmo trutta*

Relevant Legislation/Species Status			
	brook lamprey	bullhead	salmon
priority species (P) or species of conservation concern (S)	S	S	S
EC Habitats and Species Directive	Annex II a	Annex II a	Annex II a, I Va
Conservation Regulations 1994	-	-	Sch. 3
Berne Convention 1982	App. III	-	-
Bonn Convention 1979	-	-	-
CITES 1975	-	-	-
WCA 1981			
IUCN Red List of Threatened Animals 1994	lower risk – least concern	-	-
Other legislation			Salmon and Fisheries Act 1975

### 2. CURRENT STATUS

#### 2.1 RESIDENT SPECIES

##### 2.1.1 Brook Lamprey

This is not strictly a fish, although it lives in water, has an eel-like shape and is popularly regarded as a fish. It is placed in the class of jawless fish because it has no gill covering, no pectoral or pelvic fins and it has an open disc-like sucker mouth.



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It spawns in freshwater and the young can be found in rivers and streams, but they eventually migrate to the sea, from which the adults later return to spawn<sup>4</sup>. Unlike the other two species of lamprey, the brook lamprey is not parasitic on other fish, but in fact it does not feed at all as an adult. The species has been identified as a species of conservation concern in the UK and

there are a number of casual records in the Rudry area of Caerphilly county borough. However, further survey work is required to determine its distribution throughout the area.

### **2.1.2 Bullhead**

This is a freshwater fish usually found in running water, mainly on stony beds, but also around lakeshores and in muddy streams throughout England, Wales and southern Scotland.



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It skulks under large, hollow stones or in dense weed beds, only emerging into open water at night. It feeds on insect larvae and crustaceans<sup>4</sup>. Its distribution in Caerphilly county borough is not known, and surveys are needed to identify the current status of bullheads in the area.

### **2.1.3 Native Brown Trout**

Although trout vary considerably in colour, size and shape, there is only one native species. The typical brown trout of smaller rivers and lakes ranges from light olive to black, with white, golden or silvery bellies. There are always dark spots on the back, often with a light halo.



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In larger rivers and lakes the fish tend to be more silvery. Smaller fish eat mainly insects, snails and crustaceans, while larger trout will eat other fish. Spawning takes place during the winter, usually on gravel banks washed by running water<sup>4</sup>. The eggs sink into the gravel and hatch in about 77 days at 6 °C. Survey work is required to determine the distribution of brown trout in Caerphilly county borough.

### **2.1.4 Stone Loach**

This species is abundant in running water, particularly shallow, stony streams, throughout Britain apart from the Scottish Highlands. Its back is dark olive or blue-black, its sides are buff and there are brown spots over the whole body.



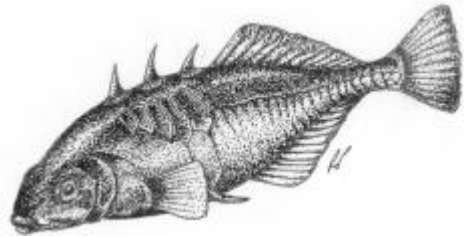
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It can grow to a length of 5". Although mainly active at night, it can often be seen in daylight darting through shallow water if the stones under which it hides are overturned. It feeds mainly on insect larvae, worms and algae, and is preyed upon by trout, eels and sometimes birds. It is sensitive to pollution and so its presence in a stream is considered a sign of good water quality<sup>4</sup>. Its current distribution in the county borough is not known and further surveys are required.

### **2.1.5 3-spined Stickleback**

Probably the most familiar freshwater fish in the British Isles, the stickleback is found in rivers, lakes and ponds throughout Britain, except in mountainous regions. It is also seen in salt water; in estuaries, rock pools and brackish dykes. They can grow up to 4" long, but most measure less than 2.5". They have 3 dorsal spines in front of the dorsal fin, the upper parts are blue-black or green, with paler colours below.

Sticklebacks eat worms, insects and crustaceans, and in turn are eaten by pike, perch, otters and kingfishers<sup>4</sup>. This species is known to occur in ponds, lakes and streams in the county borough, but surveys are required to identify its current distribution.



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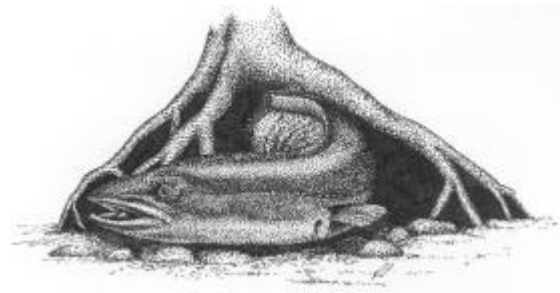
## 2.2 MIGRATORY SPECIES

Since the demise of the coal mining industry within South Wales, many of the rivers within Caerphilly county borough have returned to a condition close to that prior to the industrial revolution. Cleaner, higher quality water has resulted in the return of migratory fish species such as the common eel, salmon and sea trout. It is vitally important that river channels, riparian habitats and water quality are maintained or improved in order to allow a continued growth in migratory fish populations.

Both salmon and sea trout are declining nationally. Most salmon and sea trout rivers in England and Wales are in the northeast, west and southwest. The Environment Agency is introducing fish annually into the rivers Ebbw (including the Sirhowy) and Rhymney to supplement the spawning of wild fish in an attempt to restore the stocks of migratory salmonid populations.

### 2.2.1 Common eel

The eel is very common around Britain and is present in most rivers, streams and lakes that are accessible from the sea. Eels are a key species in the ecology of many freshwater habitats because they are important predators of invertebrates (insects, snails, crayfish), small fish and frogs and prey for otters and some birds, especially in the rivers of West Wales where there are few large fish.

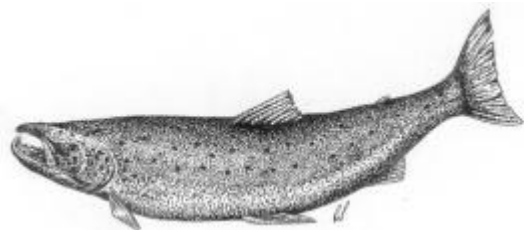


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They can live out of water and may travel overland for short distances in the autumn when the ground is saturated, breathing aerated water carried in their gills. The abundance of the eel in Europe has declined since the 1970s, which is thought to be related in part to the position of the Gulf Stream currents running from the spawning grounds near the Caribbean (Sargasso Sea) to the coast of Europe. Other factors influencing the eel stock are pollution, barriers to freshwater migration as well as over fishing. The distribution of the common eel in Caerphilly county borough is not accurately known, and further survey work is therefore required.

### 2.2.2 Salmon

Although the salmon breeds in freshwater, much of its life is spent at sea. It returns thousands of miles to its native stream each year to breed. They begin breeding in late November, and egg laying continues until February.

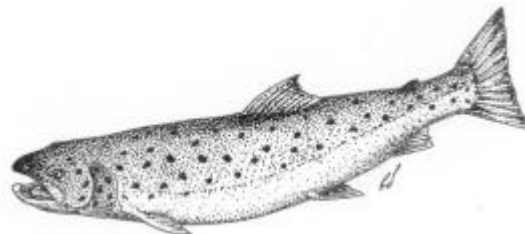


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'Fry' hatch in March/early April, emerging from the gravel in about a month and migrating to the sea for 1 – 4 years around the European coastline but return to spawn in around a year. After spawning many of the adults die, although some recover in the sea and return to spawn again<sup>4</sup>. There has been a decline in the abundance of salmon in many rivers since the 1960s, a pattern seen in many other areas of the North Atlantic. Despite this general decline, some estuaries have shown significant increases since the 1970s because of improving water quality, access and active management of freshwater habitats. In Caerphilly county borough, the Sirhowy and Rhymney rivers now see small numbers of salmon returning to spawn. Salmon have recently (Nov/Dec. 2000) been found spawning in tributary streams of the river Rhymney.

### 2.2.3 Sea Trout

Sea trout are the migratory form of the brown trout (see 2.1.3), sharing the same scientific name (*Salmo trutta*), but spending some time in the sea before returning to spawn in freshwater. Research has shown that this is due to a number of factors.



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These factors are mainly genetic, for example, the offspring of sea trout will also be migratory, and environmental; the sea is a relatively rich feeding ground compared to many rivers, attracting fish in impoverished catchments. The Sirhowy and Rhymney rivers now also see moderate numbers of sea trout (or 'sewin') within Caerphilly county borough.

## 2.3 Links with Habitats

- **Wetlands** (rivers and streams, ponds, lakes and reservoirs)

The requirements of native wild fish should be considered in conjunction with the Wetland Habitat Statement and future HAPs.

## 3. CURRENT FACTORS AFFECTING THE SPECIES

The Environment Agency has identified a number of factors that effect water quality and consequently fish stocks in the Eastern Valleys LEAP<sup>15</sup> area. They include:

- Water Quality Decline
  - unsatisfactory discharges from CSOs
  - inadequate sewerage system
  - impact of pollution from industry
  - the impact of minewater from abandoned coal mines
  - inadequate sewerage infrastructure
  - pollution risk from agricultural waste and sewage sludge to land
- Eutrophication
- Siltation of spawning sites by organic matter
- Problems of water borne litter and sewage derived litter
- Potential impact of road improvement schemes on the natural environment
- Degradation of river corridors and wetland habitats
- Competition from introduced roach
- Predation by introduced non-native ruffe

Other factors affecting **migratory species**:

- Over-exploitation of stocks at sea and within estuaries by commercial fishermen (over-fishing)
- Pollution of water courses by raw sewage, industrial and agricultural effluent discharges and bioaccumulation of organic chemicals
- Accidental disturbance or destruction of spawning grounds by agricultural and industrial practices
- Deposition of atmospheric pollutants into catchment areas resulting in the acidification of water courses
- Physical barriers to movement of species up river to their spawning grounds
- Loss of freshwater habitat
- Infection by the swim bladder parasite

**4. CURRENT ACTION**

- 4.1 The EA has produced Local Environment Action Plans (LEAPs) for the period 2000 to 2005, within which a number of issues are documented. Caerphilly county borough falls within the boundaries of the Eastern Valleys LEAP<sup>15</sup>, and migratory fish are dealt with in Issue EA/12. Action includes the identification of species and habitats; the promotion of rivers and their improvement; the monitoring of fish populations, etc.
- 4.2 Although no action plans have been written for migratory fish in general, EA plans are currently being developed for migratory salmonid species on a catchment-by-catchment basis.
- 4.3 The EA is responsible for the management of eel fisheries in Wales and has recently published a consultation document on its proposal for a national eel management strategy.

**5. OBJECTIVES AND TARGETS**

**5.1 UK Objectives and Targets**

Not applicable to these species.

**5.2 Caerphilly Objectives and Targets**

- 5.2.1 Determine the current status of native wild fish, both resident and migratory species, in the county borough by 2005.
- 5.2.2 Improve knowledge of the biology, management and fishery of native wild fish (Target: 2005).
- 5.2.3 Improve stocks of native wild fish (Target: 2010).
- 5.2.4 Increase numbers of migratory fish returning to the rivers to spawn (numbers to be determined following surveys of existing stock) (Target: 2008).

## 6. ACTION AND KEY PARTNERS

Action	Key Partners		Year to be complete or in place by:								
	Lead	Partners	2003	4	5	6	7	8	9	10	11
<b>6.1 Policy and Legislation</b>											
6.1.1 Promote the conservation of river corridors and the creation and improvement of wetlands via consent procedures and planning responses.	EA	CCBC	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.2 Recommend refusal of planning permission in areas where development is likely to increase the risk of unacceptable environmental impact.	EA	CCBC	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>6.2 Site Safeguard and Management</b>											
6.2.1 Identify presence and distribution of significant rivers, streams, lakes and reservoirs.	EA	CCBC CCW			✓						
6.2.2 Improve fisheries habitat and access for <b>brown trout</b> through targeted collaborative projects.	EA	CCBC		✓	✓	✓	✓	✓	✓	✓	✓
6.2.3 Maintain, improve and develop habitats and access for fish.	EA	CCBC	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.2.4 Encourage greater involvement of anglers in the maintenance of fisheries: promote catch-release for wild fish; encourage bag trout and self-help catch record monitoring of fish via rod catch logbook schemes.	EA	Anglers KWT WW/DC	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.2.5 Improve quality of high altitude lake fisheries by regular restocking and management of coarse fish pops.	EA	-	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.2.6 Carry out pollution prevention programme based on inspections and follow-up actions to reduce the risks to the environment.	EA	CCBC		✓		✓		✓		✓	
6.2.7 Identify, prioritise and review mine waters requiring remediation and contaminated surface water outfalls.	EA	CCBC		✓			✓			✓	
<b>6.3 Species Management and Protection</b>											
6.3.1 Continue to support and promote the Afonydd Glan (Clean Rivers) litter project.	CBP	(KWT)	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>6.4 Advisory</b>											
6.4.1 Educate local populations of the needs of fish species within the river systems of the county borough.	EA	CCBC Anglers KWT	✓	✓	✓						✓
<b>6.5 Future Research and Monitoring</b>											
6.5.1 Initiate fish surveys amongst the county borough's angling clubs, to document all catches of fish including migratory, resident, coarse and game.	EA	KWT CCBC WW/DC	✓								
6.5.2 Continue to monitor populations of native wild fish and undertake regular monitoring surveys of coarse fish populations in rivers, using a combination of fishery survey techniques and angler (creel) surveys.	EA	Anglers KWT	✓	✓	✓	✓	✓	✓	✓	✓	✓

Action	Key Partners		Year to be complete or in place by:								
	Lead	Partners	2003	4	5	6	7	8	9	10	11
<b>6.5 Future Research and Monitoring (continued)</b>											
6.5.3 Encourage reporting of catches by anglers to the EA or a local contact, so that fish populations and distributions are continually monitored.	EA	CCBC	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.5.4 Regularly monitor Trehir Tip.	CCBC	EA	✓		✓		✓		✓		✓
<b>6.6 Communications and Publicity</b>											
6.6.1 Improve communication between anglers/angling clubs and the EA, particularly in reporting and discussing fish populations, problems and solutions.	CBP	Anglers	✓								
6.6.2 Promote the importance of clean rivers and streams in the county borough among the general public; e.g. increase number of river care groups.	CBP	KWT	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.6.3 Improve awareness and understanding of the river system by providing information to anglers but making it more widely available.	CBP	-	✓	✓	✓	✓	✓	✓	✓	✓	✓