

## Current Status - UK and Local

LBAP Partnership area Status: Local Priority Species

The River Clyde and its tributaries form a large water catchment area which supports a substantial Brown Trout fishery. It was also known for large numbers of migratory Sea Trout and Atlantic Salmon, but many decades of pollution from local heavy industries eliminated these fish from the upper Clyde system. With the decline of heavy industry and the introduction and enforcement of legislation to improve the environment, Salmon have returned to the river. The following plan, whilst largely concerned with Atlantic Salmon, will also protect the Sea Trout (*Salmo trutta*).

## Ecology and Management

The Atlantic Salmon has, over the last 30 years, recolonised parts of the Clyde catchment in increasing numbers, due to improvements in water quality and habitat management work. Access for anglers has also been improved. Whilst declining salmon stocks in Northern Europe and North America are a cause for international concern, Atlantic Salmon in the Clyde catchment appear to be on the increase, with a slow but perceptible increase in numbers being reported. Most riverine habitats are used, but salmon require clean headwater streams with suitable grades of gravel bed for successful spawning which takes place mainly in the autumn and early winter.

## Factors Causing Loss or Decline

The complex life cycle of the Atlantic Salmon involves numerous threats at every stage. Young fish (parr and smolts) use different sections of the river system for two or more years before migrating to the open ocean for periods from one to three years and occasionally longer, then they return to their native river to spawn.

The widespread decline in salmon stocks in Western Europe and other parts of Scotland may involve several of the following factors: some are outside the scope of this action plan but may require lobbying at the appropriate political levels:

- ★ Increasing pollution at sea
- ★ Overfishing at sea of both the Atlantic Salmon and some of its prey (e.g. capelin and sandeels), especially through seine / drift netting
- ★ Changes in temperature, currents or food availability resulting from global warming
- ★ Increased toxicity from pesticides in the upper water catchment areas during summer
- ★ Alterations in the sex of some fish resulting from increasing levels of oestrogen in water courses.

Local Factors may include:

- ★ Obstruction of fish movement caused by weirs (without fish passes) and culverts
- ★ Loss of spawning areas due to silt deposition from drainage works, run-off from surrounding land, erosion or changes in river structure
- ★ Diffuse pollution from agriculture, industry and road run-off
- ★ Specific pollution incidents

★ Overfishing, poaching, and predation by introduced American Mink

★ Influences caused by the introduction of non-native fish species in Inland Waters.

## Opportunities and Current Action

Legislation covering the Atlantic Salmon is complex, tending to concentrate on the control of fishing activity rather than on the fish's habitat or the ecological factors affecting water quality. However, the Salmon (Fish Passes and Screens) (Scotland) Regulations 1994 do attempt to ensure that both Atlantic Salmon and Sea Trout have physical access to their spawning rivers and burns. Other relevant acts include the Salmon and Freshwater (Protection) Act 1868, the Salmon and Freshwater (Protection) Act 1951, the Freshwater and Salmon (Scotland) Act 1976 and the Salmon Act 1986.

Most of the trout and salmon fisheries management issues are handled by a network of angling clubs whose rights are leased from the Crown Estate Commissioners. In 1984 the clubs initiated the formation of the River Clyde Fisheries Management Trust Ltd (RCFMT). The Trust coordinates fishery management in each catchment and includes representation from the relevant local authority. The angling clubs are responsible for managing their fishery but can call for assistance from other members of the Trust. Current actions include:

- ★ A bailiffing system to control poaching
- ★ Work undertaken by angling clubs to improve fish habitats such as the formation of pools / croys and managed riverbank realignment
- ★ Limited stocking with sea trout
- ★ The Clyde River Foundation (CRF) established in 1999 undertakes scientific research into ecological issues in the Clyde catchment. Preliminary work has been done on the distribution and population structure of fish species and their habitat in the Clyde catchment including the White Cart, Black Cart and Gryfe. It also runs an education project (Clyde in the Classroom) with primary schools in the LBAP Partnership area.

Opportunities could include:

- ★ The European Water Framework Directive could have positive implications for many waterways, leading to the improvement of water quality and tighter controls on



Inverclyde  
Renfrewshire  
East Renfrewshire  
LBAP



Atlantic Salmon © Norman Tait

# ATLANTIC SALMON

(*Salmo salar*)

Adult Atlantic Salmon weigh between 4-20 lbs. and measure up to 90cm in length. Salmon in the sea are silvery on the sides and belly, while the back varies with shades of brown, green, and blue. Atlantic Salmon also have numerous black spots, usually "X"-shaped and scattered around the body. When spawning, both sexes take on an overall bronze-purple colouration and may acquire reddish spots on the head and body. The shape, length of head, depth of body and colour of this fish vary with each stage of sexual maturity.

diffuse pollution. This directive will require the adoption of an integrated catchment management plan (CMP) for all river systems.

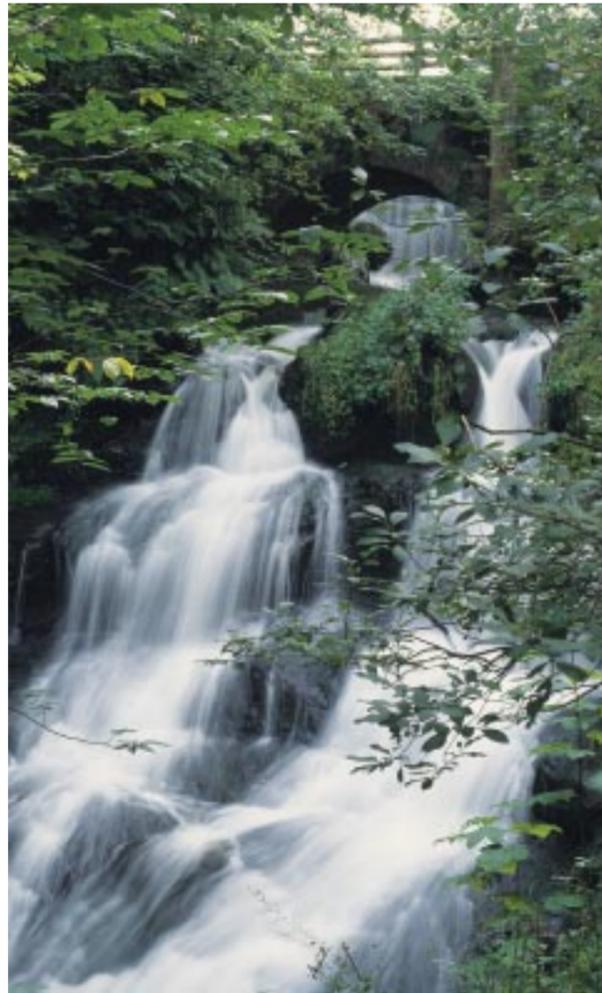
★ As part of the CMP, carrying out research studies in order to:

- Determine population numbers of salmon present in inland waters
- Identify areas requiring improvement to instream and / or bankside structures and habitats, in order to benefit salmon stocks
- Examine the influence of stocking policies and introduced genetic material on the long-term population of the species (inland water).

### Action Plan

The key priority is to ensure that stocks of Atlantic Salmon (and Sea Trout) are maintained and enhanced throughout the Clyde water catchment area. This would include seeking to carry out specific management work and research that will benefit salmon in the River Clyde and its tributaries.

Objective 1 Maintain and enhance the present Atlantic



Auldhouse Burn, Rouken Glen

### Objectives and Targets

Salmon population.

Objective 2 Introduce appropriate water catchment management to improve water quality.

Objective 3 Establish current distribution and population status of the River Clyde and its tributaries.

Objective 4 Review this plan on an annual basis, beginning in 2005.

We will achieve these objectives by:

Action	Actioned by	Timescale
Ensuring no net loss of species numbers or range.	RCFMT SEPA	Ongoing
Participating in the production of a Catchment Management Plan for the River Clyde and its tributaries.	SEPA LAs RCFMT CRF	2004 - 2007
Recording known and reported sites in the area and monitoring population trends.	RCFMT SEPA CRF	2004 - 2007
Monitoring and recording actions towards these objectives. Local Records Centre	LBAP Steering Group LBAP Officer	Ongoing / annual

### Links with other Action Plans

Rivers & Streams, Standing Waters

Further Information can be obtained from The Biodiversity Officer 0141 842 5281

