LOCAL SPECIES ACTION PLAN

Atlantic Salmon

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Scientific Name:
Salmo salar

Current 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 outwith the scope of the action plan but may require lobbying at the appropriate levels:

- Increasing pollution at sea
- Over-fishing at sea, especially seine/drift netting
- Changes in temperature, currents or food items resulting from global warming
- Increased toxicity from pesticides especially in the upper catchments in summer
- Alterations in the sex of some fish resulting from increased oestrogen in the water
- Obstruction of fish movement caused by weirs (without fish passes) and culverts
- Loss of spawning areas because of silt deposition from drainage works, erosion or changes in river structure
- Pollution from agriculture, industry, road and other hard surface run-off
- Specific pollution incidents
- Over fishing, poaching and predation, for example by American Mink.
- Influences caused by the introduction of non-native fish species

Current status

The River Clyde and its tributaries cover a large catchment area, and support a substantial Brown Trout fishery. They were 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 the Atlantic Salmon has returned to the river. The following plan, whilst largely concerned with Atlantic Salmon will also serve to facilitate the Sea Trout (*Salmo trutta*).

The Atlantic Salmon has, over the last 30 years, re-colonised parts of the Clyde catchment in increasing numbers, due to improvements in water quality and environmental management work. Whilst declining Atlantic Salmon stocks in northern Europe and North America are cause for international concern, in the Clyde catchment there has been an increase in the numbers being reported. Most river 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. There do not appear to be any spawning grounds reported within the Glasgow City area.

Current action

The legislation covering the 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 does 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 Fisheries (Scotland) Act 1868, the Salmon and Freshwater (Protection) Act 1951, the Salmon and Freshwater (Scotland) Act 1976 and the Salmon Act 1986.

Most of the Sea Trout and Atlantic Salmon fisheries management issues are handled by a network of angling clubs whose rights are leased from the Crown Commissioners. In 1984 the clubs initiated the formation of the River Clyde Fisheries Management Trust Ltd. (RCFMT). The Trust co-ordinates 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 the other member clubs of the Trust. The angling clubs within the Glasgow area are the *Kelvin Angling Association*, the *Mid Clyde Angling Association*, the *Abercorn Angling Club* and the *Busby Angling Club*. Some of the actions already taken include:

- A bailiffing system to control poaching is in operation.

- The angling clubs, recognising that there was a requirement for a more scientific base management structure, initiated the formation of The Clyde River Foundation (CRF) with the aim of employing a freshwater biologist to initiate and co-ordinate this research work. The Foundation was officially launched on the 23rd October 1999.

Objectives and targets

The following objectives form an initial stage of a more detailed action plan for both Atlantic Salmon and Sea Trout in the Clyde catchment.

Objective 1: To ensure that stocks of Atlantic Salmon (and Sea Trout) are maintained and enhanced throughout the River Clyde catchment area.

Objective 2: To carry out specific management work and research, which will benefit salmon in the River Clyde and its tributaries.

Objective 3: To liase with adjoining local authorities and other interested bodies to aid the development and broader effectiveness of an overall Catchment Area Plan for Atlantic Salmon (and Sea Trout).

Proposed Action with Lead Authorities

Action	Lead	Delivery	Objective
Policy and Legislation			
Continue where possible to increase the level of enforcement of the various pieces of legislation which relate to salmon and its habitat quality, food supply and capture.	RCFMT	SEPA, GCC, RCFMT, Angling Clubs, Private Owners.	1
Site Safeguard and Management			
Continue to report all sources of pollution whether from point sources or diffuse for investigation by SEPA.	RCFMT	SEPA, GCC, RCFMT, Angling Clubs, Private Owners	1
Encourage best practice from developers and riparian owners, particularly in disposal of run-off and agricultural operations.	RCFMT	SEPA, GCC, RCFMT, Angling Clubs, Private Owners	1
Seek to install fish passes or ladders wherever man-made obstructions prevent the access of salmon to spawning beds.	RCFMT	CRF, GCC, RCFMT, Angling Clubs	1, 2
Initiate habitat improvements on lengths of streams used by spawning salmon.	RCFMT	CRF, RCFMT, GCC, Angling Clubs, SNH.	1, 2
Advisory			
Ensure that advice is provided to landowners and developers on habitat quality and on the safe use and disposal of chemicals etc.	RCFMT	SEPA, CRF, FWAG, GCC.	1, 3
Future Research and Monitoring			
Develop more comprehensive river habitat surveys and regular monitoring for biological and ecological indicators of water quality throughout the catchment area.	RCFMT	CRF	2, 3
Encourage further research on population numbers, stocking policies and habitat needs.	RCFMT	GCC, RCFMT	2
Determine numbers of Atlantic Salmon present.	RCFMT	-	2
Investigate improvements to instream and/or bankside structures that could benefit salmon stocks without detriment to other species.	RCFMT	-	1, 2
Examine the influence of stocking policies and introduced genetic material on the long-term population of the species.	RCFMT	-	2
Communication and Publicity			
Continue to implement the "Clyde in the Classroom" school projects	RCFMT	GCC, SNH	3
Links with other Action Plans			
The Plan should be considered in conjunction with that for Rivers and Streams.		-	-