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scale readings

The newsletter of The Atlantic Salmon Trust

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A time for change

There are stirrings of hope that runs may be increasing this year – they are accompanied by encouraging signs that there may be some improvements in wild salmon and sea trout management in the United Kingdom.

The report of the Review Group on Salmon and Freshwater Fisheries in England & Wales was published in March. The Atlantic Salmon Trust had earlier submitted evidence to the Review Group, in co-ordination with other fisheries interests, through a committee chaired by our Vice-President, Lord Moran. The Report contains no less than 195 recommendations for the better management and development of fisheries, of which some 60 refer to salmon or sea trout. Virtually all the recommendations and supporting discussion, such as the open criticism of the Government's dwindling contribution to fisheries expenditure in comparison with support for activities such as opera and ballet, can be greeted with enthusiasm. The especially positive proposals for ending mixed-stock salmon fisheries are described on page two.

In April the Scottish Executive published 'Protecting and Promoting Scotland's Freshwater Fish and Fisheries'. This document sets out the problems and explores possible solutions, without making specific recommendations. It is welcomed by the 'Angling for Change' group, which represents the whole range of fishery interests in Scotland, including the Atlantic Salmon Trust.



This group has been working for some months, and will be submitting the outline of a comprehensive management structure for all types of freshwater fishery, in all Scottish waters. Under these proposals, Salmon Fishery Boards would keep their current duties, and would have an input to Fisheries Management Committees representing all fishery interests in a catchment area. These would be buttressed by an extension of the network of Fishery Trusts, to provide information and scientific support. In a separate move, the Scottish Executive has taken up two outstanding recommendations of the Salmon Strategy Task Force Report by publishing proposals that would empower Salmon Fishery Boards to respond more speedily and flexibly to changing situations.

We may be about to see real progress.

From the Chairman

Welcome to the Trust's Summer Newsletter, which replaces the Progress Report. It aims to provide you with a résumé of the Trust's activities in an easily readable format. I hope that it will appeal to you.

The last six months have been particularly busy, with attention focused on:- the comprehensive report by the Review Group on Fisheries in England and Wales; the Tripartite Working Group on the decline of West Highland salmon and sea trout; and the successful Workshop on Predation. Recently, the Scottish Fisheries Minister announced a Review of Fisheries in Scotland, to which the Trust will shortly be responding. These and other activities are covered elsewhere in this newsletter.

It is encouraging to hear of some small improvement in the numbers of early-running fish returning to some rivers. While there may be an understandable temptation for anglers to retain more fish, this must be firmly resisted. Overall, the numbers of early-running fish returning from the sea remain well below the numbers required for spawning, and every effort must be made to preserve that vital component of the stock.

Field work on the important five year research programme using DNA techniques is complete and practical reports are being prepared. I should again like to express our thanks to The Robertson Trust, The Dulverton Trust and The Fishmongers' Company for their generous and essential support. The Trust remains most grateful to them all.



Survival of the fittest

First results from five year DNA study

This unique project has been the most significant item in the Atlantic Salmon Trust's recent support of research. In one of the most detailed investigations so far conducted, using the latest DNA 'finger-printing' techniques, the study has probed the production and survival of highly valued spring salmon in their natural environment. Important findings include information on how young fish colonise rearing habitats, and how different families of fry compete for the resources of food and space. This is leading to further work on the ability of single or mixed family groups to make best use of these resources.

It all began in 1993, when eggs from eleven different pairs of salmon were planted out by John Webb, the Trust's Biologist, in the Baddoch Burn, an upper tributary of the Aberdeenshire Dee. At the end of the first summer, fry which had been caught by electro-fishing were identified by DNA analysis of tissue samples, carried out at the Marine Laboratory, Aberdeen. Families planted in adjacent redds showed quite different patterns of colonisation, with particular families often dominating an area,

and growing at different rates.

This led on to a major investigation of survival and smolt production. Since 1995 family groups, of about 3000 eggs each, have been planted out, and the resulting parr and smolts leaving the burn have been captured in a trap near its mouth. DNA analysis of three and a half thousand adipose fin samples is showing significant variations between different families in the number of smolts that they produce, and in the timing of their migration. Trapping of returning adults completes the picture of the lifetime success of the respective families.

The main field work is now over, but analysis is still continuing. It will be possible to confirm if areas of the burn support consistent levels of juvenile production, so that the characteristics of the most successful can be identified. Further work will result in a better understanding of the differences between families in their performance from egg to smolt, and then to returning adult. This will be particularly important if spring salmon numbers continue to decline. The aim is to determine how maximum production can be achieved in the streams where the springers spawn. All of this will be used to develop and refine new and existing guidance for management and restoration programmes.

Important findings include information on how young fish colonise rearing habitats, and how different families compare in sending smolts to sea.

Understanding the trust

The Atlantic Salmon Trust is a voluntary organisation which works for the maintenance and improvement of wild salmon and sea trout stocks. Established in 1967, it first concentrated on practical research in this field. The Trust has continued to promote and sponsor selected research projects – a list of recent and current work is on page six – but its role soon grew wider. Through its experienced Council of Management and its Honorary Scientific Advisory Panel, the Trust seeks to ensure, in the United Kingdom and internationally, that salmon conservation and management decisions at every level are taken wisely, and on the basis of the best available information.

Predation - a way forward

The latest in the Trust's series of scientific workshops focused on the subject of predation on salmon and sea trout. In our tradition of looking at all aspects of a subject, the participants included members of official and unofficial conservation and animal welfare organisations, as well as representatives of rod and netting interests, fisheries science and Government. The informal nature of the workshop, which took into account a large body of recent work, permitted very free discussion of the scale of the problems posed by fish-eating birds, by seals and by other mammals. This was followed by exploration of methods currently and potentially available to reduce the effects of predation.

The workshop opened the way for the development and agreement of future policies. Predominant was the view that both the effects of predation and appropriate countermeasures have to be approached on a local basis, and that action taken to prevent or mitigate predation must be carefully targeted. Wide-scale measures are likely to be unjustified as well as unacceptable. As in so many aspects of salmon management, different catchments present different problems and need their own solutions.

A healthy parr – we need more of these.



Trust campaigns to close interceptory nets

It is universally accepted that taking salmon outside their river of origin – in mixed-stock 'interceptory' fisheries – is contrary to sound management. It cuts across the basic principle of managing the exploitation of salmon on a catchment basis, so as to reflect the conditions in the catchment and to ensure that enough fish survive to spawn. This principle was confirmed in 1991 when the Government decided that the North East Coast drift net fishery should be phased out. However, this phase out is only being achieved by not renewing netting licences when they are surrendered, so it is unacceptably slow.

When the Salmon and Freshwater Fisheries Review for England & Wales was set up, the Trust was already in the process of preparing a definitive paper on interceptory netting, in conjunction with the North Atlantic Salmon Fund (UK), which has been working since 1993 to support agreements for reducing the effect of the high seas fisheries off West Greenland and the Faroes. This paper repeated the case against interceptory netting which had been made in many other reports. More significantly, however, it emphasised the need to speed the closure of UK fisheries and made proposals for funding the necessary compensation on the basis of joint Government and private contributions. The paper was submitted to the Review Group in May 1999.

A definitive paper on interceptory netting has led to important recommendations regarding the phase out of mixed-stock salmon fishing.

It clearly had effect. When the Group reported in March of this year, the AST and NASF(UK) were very encouraged by two particular recommendations. One was that the phase out should be accelerated, and that compensation should be offered to netsmen to encourage them to leave the fishery on a voluntary basis as soon as possible. This was followed by a recommendation that Government should provide substantial pump-priming funds to launch the compensation arrangements and should take the lead in setting these up.

The Chairmen of AST and NASF(UK) have therefore written to the Fisheries Ministers in England and Wales to urge them to accept these recommendations and to offer NASF(UK)'s fund-raising experience to assist in their implementation.

The Review of Scottish Freshwater Fisheries is now underway. Although drift netting for salmon in Scottish waters was banned in 1962, there are a number of coastal fixed nets which also take mixed stocks. The two Chairmen have therefore also submitted the joint paper to Scottish Fisheries Ministers, urging that it should be taken into account in the Review and making similar proposals for arranging compensation.

There is now a genuine opportunity to end all mixed-stock salmon fishing in the United Kingdom. If it is taken, the highly damaging Irish drift nets, as the only remaining interceptory fishery, will be under increasing pressure to close. Decisions in the next few months will be very important.

News from NASCO

The June meeting of the North Atlantic Salmon Conservation Organisation was held beside a notable salmon river, the Miramichi, though few fish were seen. The state of Canadian salmon stocks is a source of considerable concern and, during the course of the meeting, the Canadian Fisheries Minister pledged to continue working with organisations such as the Atlantic Salmon Federation (our North American counterpart) 'to build a North Atlantic salmon fishery that is anchored in sustainability'. The Canadian Government has spent \$80 million on compensation for closing fisheries, which has been matched by considerable restraint by anglers.

NASCO agreed that stocks all around the North Atlantic are at seriously low levels. The scientific advice to the Council was that mixed stock fisheries present particular threats to conservation and, as far as the high seas are concerned, this advice was heeded. For the second year running, the Greenland fishery will be restricted to salmon for local consumption – about 20 tonnes. For the Faroes fishery, which has regularly received an unjustifiably high quota, no quota was set. However, the Faroese agreed to exercise restraint by using the Precautionary Approach. In fact, only one boat had fished at the beginning of this year, taking just eight tonnes.

Most encouragingly, NASCO intends to develop ideas for a co-ordinated international research programme on the problems of increasing salmon mortality at sea. The Trust has been arguing for this for years, notably during its 1998 scientific workshop on marine mortality.

This was also the theme of one of four joint resolutions put forward by all the Non-Government Observers (NGOs), who have been steadily developing a common approach to increase their influence at NASCO. The NGOs agreed to use the International Atlantic Salmon Accord (launched by them at NASCO in 1998) as a checklist to assess the performance of national governments in attacking the causes of salmon stock decline.

Towards the restoration of West Highland rivers

The Tripartite Working Group, which brings wild fishery organisations and salmon farmers together under Scottish Executive Chairmanship, has been working throughout the year. Wild fish interests represented include those of District Salmon Fishery Boards, the West Coast Fishery Trusts, angling organisations, and the Atlantic Salmon Trust itself. The Working Group has been seeking a common approach to resolving the issue of sea lice and other problems related to fish farms, and to promote measures for the restoration and maintenance of healthy stocks of wild sea trout and salmon, and of farmed fish.

The Group has succeeded in developing a proposal for establishing a series of local Area Management Agreements between wild and farmed fish interests. These agreements are focused on the common objective of achieving a target of zero egg-bearing lice in farms, especially at the time of the smolt run. This will be tackled by a combination of co-ordinated stock rotation and fallowing regimes and the strategic use of some of the new and more environmentally acceptable in-feed treatments. While this is a very testing target, it is the only one that will achieve real improvement for wild fish and the fact that it has been accepted is significant.

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At the time of writing this report, two Area Management Agreements have been signed, for Loch Laxford and in the Western Isles. Others are in negotiation, with the eventual aim of covering all areas containing salmon farms. The Tripartite Working Group will monitor the success of the agreements, and will seek to resolve any problems that arise. It will consider further ideas on reducing the impacts of aquaculture and has set out a framework for supporting work to restore wild stocks when environmental conditions have improved.

The key to the whole scheme is the reaching of local agreements. This can often be difficult, and is taking time. In some areas, there are significant problems to overcome on both sides, but the discussions have not stalled, contrary to some reports. The Atlantic Salmon Trust believes that real progress has already been made and that opportunities for moving forward remain good.



Loch Torridon

In the Public Eye

Once again, there has been a full programme for the Trust's display caravan this year. The list of engagements covered:

6-7 May

Chatsworth Angling Fair

17-18 June

Welsh Game Fair, Llandeilo

1-2 July

Game Conservancy Scottish Fair, Scone

28-30 July

CLA Game Fair, Blenheim

4-5 August

Highland Field Sports Fair, Moy

Appearance at these shows gives an opportunity for supporters of the Trust to get up-to-date information on our work, and for the wider public to learn all about us. A stock of publications and posters – see elsewhere on this page – is available for sale, as are AST ties and some particularly attractive glasses engraved with the AST logo. Visitors are always welcome.

ATLANTIC SALMON TRUST



Our website is now up and running, so visit us online at www.atlanticsalmontrust.org.

As well as general information about the Trust, the site features the entire collection of 'Atlantic Salmon Facts' for easy reference, along with a listing of all current AST publications.

Publications

Hot off the press is the Trust's latest Blue Book – 'Habitat Restoration for Atlantic Salmon' by David Smart. This account of the author's AST-funded study of current techniques in North America is a readable and compact instruction manual, well provided with photographs and diagrams.

It is available from the Trust at a cost of £12.50, and is expected to attract a wide readership.

A selection of other AST publications is provided below – a full list is available from the Moulin office, and also appears on our website, www.atlanticsalmontrust.org.

General Subjects

Atlantic Salmon Facts

D.H. Mills, G. Hadoke & J.B.D. Read FREE

Genetics and the Management of the Atlantic Salmon

T. Cross £2.50

Acidification of Freshwaters:

The Threat and its Mitigation

R. North £3.00

Water Quality for Salmon and Trout (second, revised edition)

J. Solbé £3.50

Enhancement of Spring Salmon

(Proceedings of a one day Conference held at the Linnean Society of London 1996)

edited by D.H. Mills £12.00

Fish Counters

(Proceedings of an AST/IFM Seminar held in Perth, 1997)

edited by A.V. Holden & G. Struthers £3.00

The Ocean Life of Atlantic Salmon

(Proceedings of a Workshop held at Faskally in 1998)

edited by D.H. Mills £29.75

(Price reflects 50% discount available on orders placed by AST supporters)

National Overviews

Salmon Fisheries in Scotland

R. Williamson £3.00

Salmon Fisheries in England & Wales

W. Ayton £3.50

Posters and Postcards

Salmon Recognition – a fisherman's guide

Poster £4

Postcard 50p

Atlantic Salmon Life Cycle

Poster £5

Postcard 50p

Reports and Proceedings

Strategies for the Rehabilitation of Salmon Rivers

(Proceedings of a joint Conference held at the Linnean Society, 1990)

D.H. Mills £5.00

Salmon in the Sea and New Enhancement Strategies

(Proceedings of the 4th International Atlantic Salmon Symposium, St. Andrews, NB, 1992)

edited by D.H. Mills £30.00

Funding the Trust – How you can help

- By single donation (cash or cheque)
- Regular contributions by Bankers Order. If you sign a Gift Aid Declaration form, your donation will be worth almost a third more to us at no extra cost to you. This means that for every £1 you donate to us, we can claim an additional 28p from the Inland Revenue. (We can only reclaim tax from the Inland Revenue if you are a tax payer.)
- By gifting stocks and shares to the Trust, you receive Capital Gains and personal tax relief on the value of your gift
- By remembering the Trust in your will. A bequest to charity is free of Inheritance Tax.

Please contact us on 01796 473439 for more information on any of these points. The Trust has no official funding and is financed entirely by private contributions, so you can be sure that your support is greatly appreciated.

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Support of research projects

These projects, which the Trust has funded during 1999 and 2000, illustrate our involvement in practical work to improve management of wild stocks.

Maximising progeny numbers from natural and artificial spawning – the DNA finger-printing study

£25,000

This project is described in detail on page two. It involves DNA identification of individual 'families' of fish in order to investigate and compare their behaviour and survival. The research will result in significant guidance for habitat restoration and stock enhancement work.

DNA Profiling using semi-automated micro-satellite screening

£6,000

This work at the Marine Laboratory, Aberdeen, has supported the development of a much improved, faster and cheaper technique for analysis of DNA samples, and is greatly assisting the conduct of the DNA finger-printing project described above.

River Eden – Spring Salmon Radio Tracking

£2,500

A contribution to the cost of a stock enhancement study to determine where spring salmon spawn in the River Eden (Cumbria). This was co-ordinated with comparable work on Tweed (see below).

River Tweed – assistance with purchase of micro-tagging equipment

£1,000

This project was similar in its aim, which was to determine where spring fish spawn in the Upper Tweed, and to investigate whether summer and autumn salmon also use spring spawning areas.

Spey Research Trust – portable resistivity counter trials

£5,000

The project involved the construction, use and validation of a simple electric resistivity counter. The technique offers the possibility of installing counting facilities in rocky rivers where it is not possible or too expensive to construct the weirs normally required.

Analysis of sea trout growth and survival on the Welsh Dee

£2,500

Eight years' data from fish sampled and tagged at the Chester Weir trap are being analysed. The project is investigating growth and survival patterns during that time, in relation to variations in climate and other factors, in view of recent declines in sea trout populations.

Spawning flow requirements in upland streams

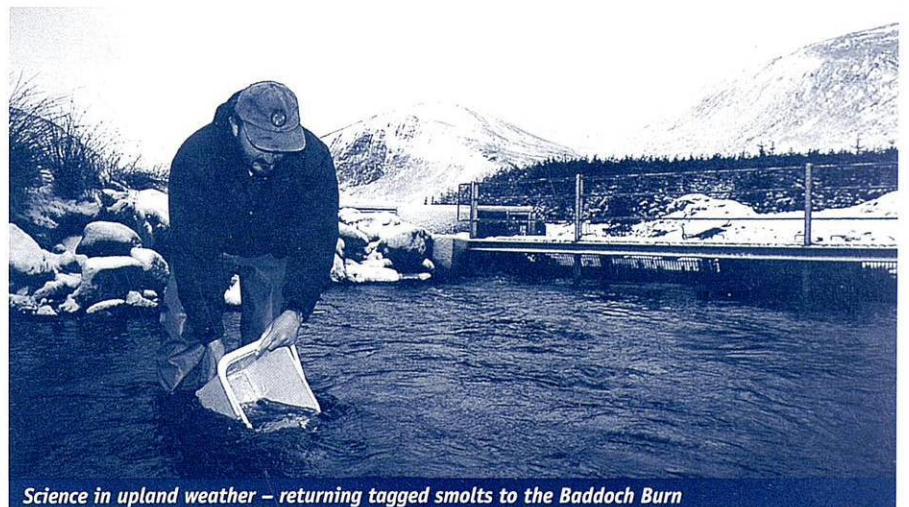
£5,250

This project examines how varying flow rates affect the timing and location of salmon spawning. This will have implications for regulating water abstraction and compensation flows, and in determining when and where habitat enhancement to improve spawning will be justified by adequate water flow.

Effects of climate change on the decline of spring salmon

£4,000

This explores a possible new factor in the current high mortality at sea of MSW salmon. It is investigating whether warming in upper tributaries is affecting the characteristics of the smolt run and subsequent survival at sea.



Science in upland weather – returning tagged smolts to the Baddoch Burn