



scalereadings

September 2002

The newsletter of The Atlantic Salmon Trust

From the Chairman

This newsletter appears later than usual, due to an especially busy programme in 2002. The Sixth International Atlantic Salmon Symposium in July was sandwiched between appearances by the Trust at the Scone Fair and the CLA Game Fair at Broadlands in Hampshire, closely followed by the Highland Field Sports Fair at Moy. All this came in a period of considerable other activity.

The Salmonid Fisheries Forum (a grouping of the Association of Salmon Fishery Boards, the Association of West Coast Fishery Trusts, the Atlantic Salmon Trust, the Salmon & Trout Association and the Scottish Anglers National Association) has consistently maintained pressure for the effective regulation of salmon farming to underpin the development of voluntary Area Management Agreements (see the Tripartite Working Group report). During the Parliamentary Inquiry, conducted by the Transport and Environment Committee, the Forum had argued the case for regulating the process of aquaculture by ensuring adherence to officially determined codes of best environmental practice, covering matters such as sea lice management, prevention of escapes, and control of disease. A joint statement, signed by our Director, on behalf of the Forum, and by the Chairman of Scottish Quality Salmon (SQS), whose members comprise the majority of the industry, endorsed the need for effective regulation, and confirmed that it should be achieved by mandatory implementation of such codes. This was presented to the Inquiry by SQS, and the Scottish Fisheries Minister subsequently gave a formal commitment to achieve this enforcement, making use of provisions in the

Water Environment and Water Services Bill which will implement the European Water Framework Directive.

Developments in England and Wales, especially in the work of the Environment Agency, appear elsewhere in this Newsletter. At the time of writing, negotiations with the netsmen for a buy-out of the North East Coast Drift Net fishery are still continuing, and stronger support from Government is being sought. This was one of the subjects covered in the successful July Symposium, which the Trust organised in conjunction with the Atlantic Salmon Federation. Both the Symposium and the June meeting of the North Atlantic Salmon Conservation Organisation (NASCO), also reported here, expressed concern at the threat posed to migrating post smolts by near-surface trawling for mackerel, described overleaf by Dr Richard Shelton (now Chairman of the Trust's Honorary Scientific Advisory Panel).

The Board of Directors, supported by the Committee of Members, is currently examining the work of the Trust in the light of present financial stringencies. A most generous grant from the Westminster Foundation has, however, helped to fund the work of our Field and Research Biologist. But the need for careful planning and for the continued support of all our donors and subscribers has never been more important.

H F O Bewsher
Chairman



(photo by David Hay)

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Finance Director: John Gray

Field and Research Biologist: John Webb

STOP PRESS

Greenland Netting

The North Atlantic Salmon Fund has announced an agreement by the Greenland fishermen to suspend all except subsistence fishing for salmon.

What the Trust does

The Atlantic Salmon Trust is a voluntary organisation whose primary objective is to promote the conservation, protection and improvement of wild Atlantic salmon and sea trout stocks, in the countries bordering the North Atlantic Ocean, for the public benefit.

It seeks to support the improvement and integration of management methods and scientific knowledge, and works for positive action for the benefit of salmon and sea trout, both at public and private levels, taken on the basis of the best available information.

To achieve this, the Trust:

- promotes and sponsors practical research
- organises workshops and conferences to investigate specific problems
- issues regular and special reports, and publishes the results of its work
- advises Government Departments, Members of the Parliaments and Assemblies, and fishery authorities

Funding the Trust - how you can help

- By a single donation – cash or cheque.
- By regular contributions through a Banker's Order.
- If you sign a Gift Aid declaration, your donation will be worth almost a third more to us at no extra cost to you – for every £1 you donate, we can claim an additional 28p from the Inland Revenue. (We can only reclaim tax if you are a UK tax payer).
- By gifting stocks and shares to the Trust. You will receive relief on Capital Gains Tax and personal income tax for the value of the 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 needed and will be greatly appreciated.

Countering marine threats to salmon and sea trout

Sea trout and salmon make most of their growth in the sea, which, in our latitudes, is a much more productive place than fresh water. Both species exploit the extra output generated at 'edges' where nutrients and light combine to stimulate the production of plankton and young fish. Sea trout are adapted for life in estuaries and coastal waters, where land run-off and the bright light of shallow seas support their foraging. Even higher levels of production are generated where nutrient-rich waters from the deep sea are exposed to light at areas of 'upwelling', such as those created where the north Atlantic meets the Arctic ocean. This is the world of the Atlantic salmon. Coastal home waters, so important to sea trout, are rapidly left behind by post-smolt salmon in their passage north to the Norwegian Sea and beyond. We know from the work of British, Canadian and Norwegian scientists that this passage is made close to the surface by groups of post smolts, often, on the evidence of tag recoveries, of fish from the same river system.

By living in the upper few metres of the sea, young salmon can generally avoid the largest fish predators. What they cannot avoid is inadvertent capture by large pelagic trawlers fishing at the surface for species like mackerel. This is a particular problem in the international zone of the Norwegian Sea, where a substantial fishery of this kind, which I have observed at first hand, is prosecuted by former eastern Bloc vessels. The Trust is actively engaged in promoting efforts by the North Atlantic Salmon Conservation Organisation to reduce the effects of this fishery.

Their strongly coastal habit helps protect sea trout from the danger of accidental capture. Their most serious challenge is infestation by sea lice from fish farms, a problem whose resolution the Trust has consistently sought. I have recently returned from a joint investigation of louse levels on sea trout in Irish waters. The work was undertaken from a chartered 85 foot stern trawler using a buoyed-up pelagic net, fitted with a separator assembly and a special cod end to retain live fish. The sampling grid extended from Galway to Donegal and, in addition to fishing offshore in convergent surface currents, included inshore tows in bays and harbours and to the west of Clare Island. Twenty three sea trout were caught in all, some heavily infested with both juvenile sea lice and egg-bearing adults. These results will be combined with those from previous offshore sampling, and their infestation levels compared with those from the large numbers of weakened sea trout sampled after returning prematurely to fresh water.

Richard Shelton

Chairman, Honorary Scientific Advisory Panel



Boarding party returning to FPV Westra from Russian Trawler (photo by Richard Shelton)

The Tripartite Working Group

Progress & problems

The Tripartite Working Group (TWG) continues to make slow, and at times, painful progress. The group, which includes the wild fishery interests, fish farming and the Scottish Executive, is attempting to tackle fish health problems with particular regard to sea lice.

Recent developments include the signing of the Loch Linnhe/Sound of Mull Area Management Agreement (AMA) – an extremely complex agreement in one of the most intensively fish farmed areas on the West Coast of Scotland. It involves Fishery Boards and Trusts in the area and the two principal, as well other smaller, fish farming companies (Scottish Sea Farms – formerly Hydro Seafoods – and Marine Harvest). This takes the number of agreements to 7, and a further 3 are in advanced stages of completion. After some delay, the TWG Development Officer has now been recruited and will start work in September. Negotiations with the Scottish Executive and Highlands & Islands Enterprise continue to make good progress towards achieving some funding assistance for regional work by the TWG.

Against this background of progress, there have been considerable problems in reconciling the expectations of both parties and in establishing the necessary balance and common ground between a developing industry wishing to grow and interests which are acutely nervous of any further expansion. In some cases, striking this balance has been impossible – a situation likely to remain, given current and emerging serious problems such as Infectious Pancreatic Necrosis (IPN).

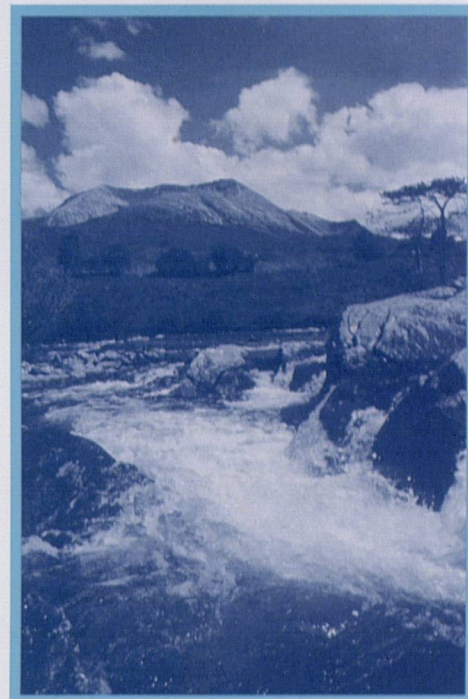
The industry is still showing concern at the importance attached to sea-lice in the decline of wild stocks. The view long expressed by wild fisheries interests has been that freshwater issues such as acidification, habitat loss, climate change and exploitation, as well as marine predation, by-catch and over-exploitation of prey species, have all contributed to wild salmonid stock problems north of the Clyde.

Equally, migratory salmonids have been experiencing problems all over Scotland and the North Atlantic. However, it is also indisputable that the problems on the West Coast are on an entirely different scale from those experienced elsewhere in Scotland. The resulting conclusion that the impact of salmon farming has been a significant factor is now widely accepted by Government and private opinion alike. Indeed, the issue of sea lice was included in the establishment of the TWG, with the agreement of the fish farmers, with the specific aim and priority of achieving good fish health in both wild and farmed fish populations.

Concern has been expressed that there has been too much focus on sea lice. This ignores all the other work being conducted by fisheries and Trusts and Boards on the West Coast. Since the formation of the Trusts, their network alone has resulted in an additional spend of approximately £400,000 a year on a whole range of aspects of fisheries research and management in this area, including predation and improvements to riparian habitat and water quality. The Trusts' annual reports reveal that sea-lice, whilst a priority, is by no means a sole fixation.

Sea lice cost the industry £27m a year and are widely agreed to have a significant impact on marine survival of post smolts, even if this effect has not been quantified. There is sufficient common interest for this problem to be tackled in a concerted and co-operative way, without having to establish degrees of blame. It is now the duty of both parties involved in the TWG to get on with this task. It is a strength of the TWG process that the issues with which it is primarily concerned – improvements in fish health, reduction of escapes and effective stock restoration are matters over which there should be little opportunity to disagree.

Many have said that AMAs will not work fully



The River Ewe (photo by David Hay)

until backed up by regulation. They may be right. But, for the time being, those that are working are working sufficiently well to justify their continued development and expansion. The regulatory issues are being picked up by: the Parliamentary Enquiry, whose recent report, strongly in favour of clearer and more effective regulation, has resulted in new commitments by the Executive; the current Aquaculture Strategy Review; and the Water Environment and Services Bill. The ASFB will be giving evidence to the Transport and Environment Committee on these issues and the draft Bill in September.

With the expected evolution of AMAs into agreements involving a wider array of interests that will become part of the fabric of Coastal Zone Management and planning policy, all this suggests that most of the principal concerns will eventually be addressed. In the meantime, with no practical alternative, we must encourage those on both sides of the debate to make these current initiatives work as best we can.

Andrew Wallace, Director,
Association of Salmon Fishery Boards

Salmon and freshwater fisheries in England and Wales

The Trust has been continuing to press the Environment Agency to implement the recommendations of the Salmon and Freshwater Fisheries Review Group. A particularly useful meeting was held, at Fishmongers' Hall on 23rd January, between members of the Moran Committee and Baroness Young, Chief Executive of the Environment Agency. During this she undertook to ensure that the Agency would conduct a regular audit of its activities in relation to the Salmon and Freshwaters Fisheries Review and would provide a regular update for the future. She said that it was unlikely the Agency would receive any increase in Grant in Aid, and that this could have an impact on work in England. However, the Welsh Assembly appeared to be somewhat more generous in its funding of the Agency in Wales. An immediate effect of the constraints on funding has been a slow-down in the development of new Salmon Action Plans and the implementation of existing plans. Addressing more general issues, she recognised the need to coordinate Government fisheries research and that conducted by non-governmental bodies. Pressed on the Agency's interpretation of its Fisheries Duty, she confirmed that its responsibility to maintain, improve and develop fisheries remained unqualified.

The recently implemented initiative to introduce all-embracing Fishery Action Plans appears to be stalling. Only three have been published to date, and it is clear that there is a need for them to be more realistic in setting achievable objectives, with a clearly stated line as to who has responsibility for their implementation; this will, of course, include both the Agency itself and interested stakeholders. The Agency has recently published the report of an economic evaluation of inland fisheries, based on the compilation of information from questionnaires sent to a representative cross section of fisheries. The total value for England and Wales was assessed at £3,032 million, of which £127 million was attributable to migratory salmonids.

In the 2001 fisheries figures, a reduction has been reported in the number of migratory fishing licences taken out. Compared with 2000, rod licence numbers fell from 19,223 to 14,149, and nets were also down from 403 to 388. Not surprisingly, catches were also down. Rod catches, including fish released, decreased by about 5,000 to 14,383, while the percentage of fish released remained virtually constant at just under 43%. Net catches were down overall by 7,750 to 43,251, of which the North East Coast took 36,115, again a drop of over 7,000. Unreported and illegal catches were estimated to represent some 15% of the total weight of salmon caught and killed. 80% of salmon netted in the North East net fishery were estimated to have originated in Scotland. There were very few records of tagged fish being taken from other countries. Depressingly, spawning escapement was deemed to be above the conservation limit in only 29% of rivers. Elsewhere, the majority of salmon stocks continued to be considered "in a depleted state".

On the subject of fish-eating birds the Moran Committee has entered into a useful dialogue with the RSPB, which resulted in the latter being prepared to endorse the recently published Cormorant Fact Sheet. The European Parliament's Fieldsports, Fisheries and

Conservation Intergroup met in Strasbourg on 15th May to discuss the apparent explosion in population of both *Carbo carbo* and *Carbo sinensis* throughout Europe in recent years and to consider if there was now sufficient justification to place both species of Cormorant on Annex II of the Birds Directive, which would allow them to be "hunted" within the EU. At this meeting, the Deputy Director was invited to give the views of both the Trust and FACE(UK) (which represents UK country sports associations in Europe). He made the point that considerable research into the problem of predation by fish eating birds had been conducted in the UK by a consortium of the Government agencies, and had been examined during the Trust's own seminar on predation, held in Edinburgh in 2000. Both had indicated that the problem should be managed locally, rather than on the basis of seeking general permission to shoot Cormorants. However, he did recommend that the increase in populations should be formally recognised by the European Commission, which should then encourage EU countries to take a more relaxed approach to the management of the species. In particular, due regard should be given to the Precautionary Approach, rather than waiting until the onset of predation before being prepared to authorise action.



The River Eden (photo by Andy Gowans)

NASCO 2002

The 19th AGM of the North Atlantic Salmon Conservation Organisation was held in June, in the Faroe Islands. The NGOs agreed and delivered joint statements in the opening Plenary Session and to the West Greenland and Northeast Atlantic Commissions calling for:

- A zero quota for the Greenland fishery, in view of the very low scientific expectation of stocks, with the recommendation for a long-term conservation agreement.
- Greater commitment towards reduction of mixed stock fisheries in home waters, particularly by the UK and Ireland.
- Precautionary action against the impact of the by-catch of post-smolts in the near-surface pelagic trawl fishery for mackerel in the Norwegian sea.
- Adoption of enforceable codes of best practice in order to achieve environmental sustainability in salmon farming.
- Establishment of aquaculture exclusion zones to protect vulnerable wild salmon stocks.
- Investigation of the possibility of seal exclusion zones for salmon river estuaries,

Only just over 42 tonnes had been caught in the 2001 Greenland season. The 2002 quota was set on a flexible basis, to be adjusted according to the abundance indicated by the rate of catch in the initial fishing period (for this year the maximum catch was limited to 55 tonnes). No quota was set for the Faroes fishery, but the government indicated that no fishing would take place, except for research purposes.

Particular attention was paid to the estimate, based on Norwegian research, that the mackerel fishery could take as many as 950,000 smolts in a year (about 25% of the forecast abundance). It was agreed that the scale of the threat required urgent validation, but the NGOs urged the need for action without waiting for the results of this further research. They also called for international action to prevent the spread of *Gyrodactylus salaris*.

NASCO announced that the Governments who are signatories to the North Atlantic Convention had committed some £4 million in 2002 to initiate co-operative research into salmon mortality at sea. The Council also reaffirmed its stance against cage rearing of genetically modified salmon.

Sixth International Atlantic Salmon Symposium

15-18 July 2002: A Report

The Symposium, which is jointly organised by the Atlantic Salmon Trust and the Atlantic Salmon Federation about every five years, returned to the University of Edinburgh this summer. When it was last held in the city, in 1978, The Prince of Wales gave the opening address. His Royal Highness was unable to attend this year's gathering, but he sent a message of support and encouragement, wishing this Symposium as much success as its predecessor which had passed a Resolution that resulted in the foundation of NASCO.

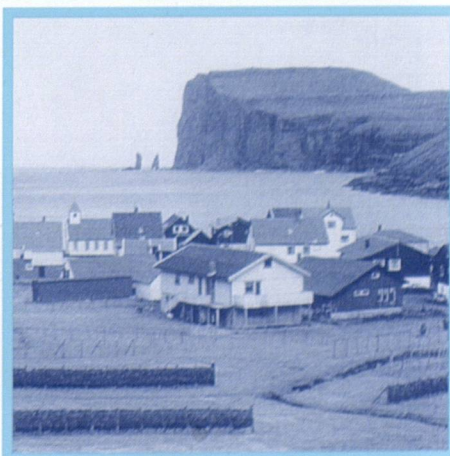
This year's theme, "Salmon at the edge", mainly explored the problems faced by salmon and sea trout in estuaries, in the coastal zone, and in their first months at sea; it also looked at prospects for the future. After a challenging opening speech on the scientific and social consequences of climate change for coastal regions delivered by Sir Frederick Holliday, Chairman of Northumbrian Water, twenty speakers covered a wide range of subjects during five sessions. These included:

- new information on the migration of post-smolts
- predation and mixed stock interceptory fishing
- the problems of aquaculture and the development of solutions
- experience in attaining higher smolt production through conventional measures such as improving water quality and riparian habitat and increasing access, as well as the use of new techniques such as the addition of measured quantities of nutrients
- the implications of the Water Framework Directive for catchment management

The presentations were of uniformly excellent quality, and the atmosphere during follow-on discussion periods was exceptionally constructive. On the final day, each session chairman summarised the conclusions and recommendations in respect of his sub-theme.

During the Symposium, participants were welcomed to Edinburgh at a reception hosted in the Castle by Allan Wilson MSP, Deputy Minister for the Environment and Rural Development, and they also dined in the Playfair Library Hall in the Old College. After the end of the meeting, a small party toured research and fisheries management facilities on the Rivers Tay, Dee and North Esk.

The full Proceedings of the Symposium will be published next spring. In the mean time, abstracts of the papers will be available on the Trust's website (www.atlanticsalmontrust.org)



The Faroe Islands (photo by Faroese Tourist Board)

together with the text of four Resolutions which were passed in the closing session. Developing the consideration of themes which had arisen at the NASCO meeting, these related to:

- the regulation of aquaculture
- measures to counter near-surface pelagic trawling
- the management of international collaborative marine research
- the need for early closure of mixed stock fisheries in home waters.

Symposium Sponsors

The Atlantic Salmon Trust and the Atlantic Salmon Federation gratefully recognise the generous support towards the funding of the Symposium which was provided by:

The Scottish Executive,
The Canadian Department of Fisheries and Oceans,
The Fishmongers' Company,
Scottish & Southern Energy,
The Crown Estate,
Aberdeen Asset Management,
Joseph F. Cullman 3rd, John Gray,
The House of Bruar, The House of Hardy,
Johnstons of Elgin, Lycetts, The Macallan,
McEwens of Perth,
Murray Beith Murray WS,
Stewart Ivory Wealth Management,
Turcan Connell Solicitors, and
Woods of Perth.

The Atlantic Salmon Atlas

A comprehensive guide to the world's salmon fisheries where worthwhile angling is to be found, this will contain 200 pages of text illustrated with over 150 colour photographs and maps. It is to be published in October by Silver Run Publishing, Heidervagur 16, 230 Keflavik, Iceland (FAX: +354 437 2084). 30% of the purchase price (£30 + postage per copy until 30 September; then £35) will be donated to the Atlantic Salmon Trust for every copy ordered by a supporter.

Obituaries

It was with great sadness that we learned of the deaths of two valued friends of the Trust.

Sir Ernest Woodroffe, a renowned scientist and passionate salmon fisher who became Chairman of Unilever; chaired the Honorary Scientific Advisory Panel from 1982 to 1988 with humour, firmness and vision. His straight-forward criteria for the support of research and for the conduct of scientific workshops continue to influence the policy of the Trust.

Dr Lindsay Laird, a Senior Teaching Fellow in the Zoology Department of Aberdeen University, was a noted authority on both wild salmon and aquaculture and served on the Salmon Advisory Committee. Also a member of the Salmon Strategy Task Force, she was always ready with thoughtful and constructive advice and information, and she will be greatly missed. The Trust acknowledges with sincere gratitude a most generous donation of £2,000 in her memory, from her husband, Professor Monty Priede.

Supporting research

Support for the following projects was approved in 2001 and 2002. They illustrate our involvement in practical research to improve the management of wild salmon and sea trout.

PROJECTS

Lifetime fitness of spring salmon - the Baddoch project £25,000

This is the Trust's major research project. It has involved the DNA identification of individual "families" of fish in an upland stream over five years, to investigate and compare their productivity and survival in fresh and salt water, in relation to their habitat. Detailed analysis, which is continuing, is resulting in the production of scientific papers on a number of aspects, and a principal output will be an AST Blue Book, to give guidance to managers on a range of issues involved in sustainable salmon management, including the increase of smolt production. The sum quoted has been provided annually by the Trust for the support of our biologist on this project and other work.

River Eden - Effect of water temperature on spawning dates £1,000

This aims to examine how water temperature can affect the time at which salmon spawn, and should help to assess the effects of water abstraction. Work was delayed by excessive water flows at spawning time in 2000 and the Foot and Mouth outbreak in 2001, but is now scheduled for 2002.

Influence of environmental factors on the production and survival of juvenile salmon in the River Bush £2,000

This grant helped to support a study which is examining how environmental conditions on the River Bush in Northern Ireland have affected survival from egg to smolt, and which is seeking to determine the possibility of predicting future smolt production from observed conditions.

Predation and scavenging along spawning streams in Scotland £4000

This is investigating the extent of predation, primarily by otters (especially at spawning time) and its significance in affecting spawning success and the subsequent population levels.

The use of DNA to identify salmonid material in seal scats £4000

This is aimed at validating DNA analysis techniques in identifying soft remains from salmon and sea trout in seal faeces. This should give a more representative indication than looking for otoliths (small bones in the head), with better quantitative assessments of seal predation.

Long-term salmon changes in relation to plankton and climatic variability £5000

Building on work financed by the Trust which established correlation between data on plankton distribution and downward trends in catches, this seeks to forecast changes in salmon abundance in the context of climate change.

Indices of marine survival and freshwater productivity: a low-tech approach £4000

This is aimed at validating the use of snorkelling techniques to estimate populations in West Highland rivers not equipped with counters or fish traps.

Relationships between stream morphology and micro-habitat requirements in upland streams £4000

This follows earlier research on the relationship between water flow and spawning performance and seeks to develop a general tool for assessing spawning habitat.