

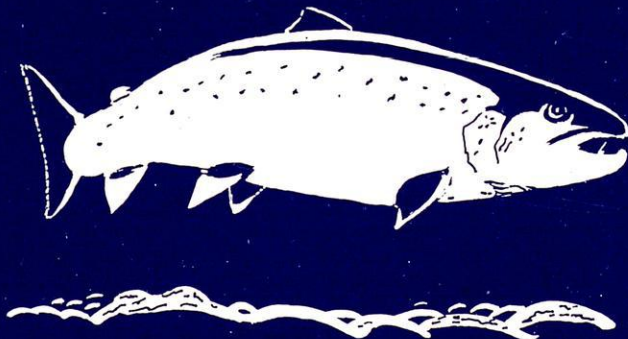


ATLANTIC SALMON TRUST

# PROGRESS REPORT

(including Audited Accounts)

December 1989



The Atlantic Salmon Trust  
Moulin, Pitlochry  
Perthshire PH16 5JQ  
Telephone: Pitlochry (0796) 3439

Patron: HRH The Prince of Wales

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Observers: K. O'Grady, B.Sc., Ph.D., M.I.F.M., F.L.S.  
(National Rivers Authority)  
A representative from the Department of Agriculture and Fisheries for Scotland

## INTERNATIONAL CONSERVATION ORGANISATIONS WITH WHICH THE TRUST IS IN CONTACT

France:	Association Internationale de Defense du Saumon Atlantique
Belgium:	Belgian Anglers Club
Ireland:	Irish Game Fish Protection Federation
Norway:	Jeger of Fiskerforbund and Laksen of Oslo
Sweden and Scandinavia:	Theodor Dalensson, Scandinavian Atlantic Salmon Group
Spain:	Asturian Fishing Association of Oviedo
U.S.A.:	Restoration of Atlantic Salmon in America Inc.
Canada and U.S.A.:	Atlantic Salmon Federation

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## FOREWORD

Six months ago I wrote in the summer Progress Report about the indications of a dry summer. I don't think any of us thought it would be so dry! The salmon ran very late in most rivers but reports indicate a good stock of fish on the spawning beds on many rivers.

Early in the New Year the Government will announce its findings on the east coasts netting review. An equally important development on the international scene could be the effort in the USA and Canada to outlaw drift netting worldwide. The implication of such a move, possibly through the United Nations, will be very interesting. At the same time there are moves originating in Iceland, to buy out the Faroese and Greenland quotas for two years in the hope that with the low value of salmon in the market place, that the long liners and drift netters will not wish to restart salmon fishing. This is an exciting development and it will be of the greatest interest to see what happens, how much money in total is required to be raised and what contribution might be expected from the UK. This private initiative has already been welcomed by the Atlantic Salmon Federation in Canada and the United States. Discussions are taking place with Governments of other Atlantic Salmon nations and with NASCO. The Atlantic Salmon Trust welcomes the initiative in principle and will be keeping closely in touch.

The problems of fish farming and planning continue and it is hoped that Ministers will respond positively in the near future to the representations made to them by the Trust. The National Conservancy Council and Scottish Wildlife and Countryside Link are commissioning a study of the environmental effect of cages in fresh water. The Director has been asked to assist in this study.

The Trust is heavily involved in an experiment in the far north of Scotland where some 40 farmed and wild fish have been radio tagged and are being followed right through to spawning. I would like to acknowledge the very close co-operation that is being achieved by John Webb, the scientist responsible who is employed by the Trust, and the Department of Agriculture and Fisheries for Scotland.

The Trust is glad to see that the Government, in its response to the Salmon Advisory Committee Report, sees an increased power for the National Rivers Authorities in England and Wales and the District Salmon Fishery Boards in Scotland. The time is ripe for the Association of Scottish District Salmon Fishery Boards and individual Boards themselves to take a more active role. Proprietors should be encouraged to form new Boards in those areas where no Board exists at present.

In my last report I touched on fishing methods and the need for restraint among salmon anglers. The reported behaviour of a small number of owners and their tenants on the lower reaches of the Tay and the Aberdeenshire Dee seems to be deplorable. More District Fishery Boards should apply to the Secretary of State to ban the use of natural baits and especially the use of shrimp and prawn towards the end of the season. All those who have responsibility for rod fishings have in my opinion, a duty to ensure that the sport is conducted in a sportsman-like way and that rod catches are not excessive. The adverse publicity and the effect both on Ministerial

and public opinion caused by reports from Scotland this autumn, at a time when both the fish farming industry and the legal netmen are under great pressure, has an effect out of all proportion to any damage that may be done to local stocks.

The policy of catch and release is widely practiced in North America. It is increasingly being advocated in this country particularly for hen fish in the autumn. Not enough is known as to the effects of catching and releasing a salmon near to spawning time. This is something that the Trust will try to look at in the future.

May I end by drawing attention to the Trusts Annual Auction and say that the catalogues (bright yellow, this year) are available from Moulin.

A very happy Christmas to you all and good luck in 1990.

David Nickson  
Chairman

#### DIRECTOR'S REPORT

My Report is very brief this year as time seems to be very short! The most exciting development is the initiative, as mentioned by the Chairman, of Mr. Orri Vigfusson from Iceland to raise funds to buy the Faroese and Greenland high seas fisheries. As this report goes to press, Jeremy Read is attending a meeting in Oslo of organisations from the salmon producing countries, to discuss how a formal approach can be made to the Faroese and Greenland Fisheries and their Governments, with the aim of providing investments for alternative sources of income (which would be more profitable, given the falling price of salmon) and how funding for a permanent buy-out should be agreed and organised.

May I wish you all a very happy Christmas and a happy New Year.

D. J. Mackenzie

AN ECONOMIC EVALUATION OF SALMON FISHERIES IN GREAT BRITAIN  
(by Aaron Hatcher BSc MSc)

As many of the Trust's supporters will already be aware, this long overdue study into the economic value of the recreational and commercial salmon fisheries in Scotland, England and Wales, is currently being undertaken by the Marine Resource Research Unit (soon to become the Centre for Marine Resource Economics) at Portsmouth Polytechnic. The Unit is a multidisciplinary group of economists and biologists with considerable experience of research and consultancy in marine and freshwater fisheries.

The study is funded by the Economics (Resource Use) Division of the Ministry of Agriculture, Fisheries and Food, and has an Advisory Committee that includes representatives from the national Rivers Authority, the Atlantic Salmon Trust and the national Federation of Fishermen's Organisations. The reference year for the evaluation is 1988, and the completed report will be presented to the ministry in Spring 1990. It is anticipated that the results will be widely available and will prove to be of considerable interest to all involved with salmon.

The need to assess and understand the economic significance of the fisheries that native stocks of Atlantic salmon support is not difficult to appreciate. The allocation of funds to research into the biology and ecology of the species is more readily justified to funding bodies in the knowledge of its economic importance, as of course is the effort put into protection and policing on rivers and in coastal waters. Increasingly, there will be a requirement to predict the true economic costs of pollution incidents that affect juvenile and adult fish populations. In a wider sense, the likely economic consequences of any environmental changes or management decisions that affect salmon stocks and their exploitation need to be assessed. In an international context too, the results of the evaluation will provide the Government with a sound basis from which to represent the interests of Britain's salmon fisheries within the North Atlantic area.

It becomes clear from consideration of the reasons for the study that what is required is not simply a single grand sum that will impressively describe the total economic value of salmon fisheries to the Nation or a particular region, but in addition some idea of the likely changes in value that would accompany any changes in the fortunes of those fisheries. An estimate of total value only informs us about the 'change' in value arising from the complete loss of a fishery and as such is of limited use for predictive purposes. Economists refer to smaller changes in value as marginal values because they describe events occurring 'at the margins'. A marginal value is quite distinct from an average value, which merely describes the ratio of total production to total value, although in some cases the two may be equal. In the long run the marginal value to a fishery of the gain or loss of, say, one fish is not necessarily the same as the average value of each fish caught.

It is necessary, therefore, to develop a methodology for the evaluation that will enable estimates to be made of both total and marginal values. In addition, this methodology should accommodate both the commercial and recreational fisheries, which differ significantly

in terms of what they produce. The 'product' of a recreational fishery is primarily 'fishing opportunities/experiences' rather than simply fish, although obviously catches have a critical bearing. For the purposes of evaluation, distinction is made between the recreational (rod) fisheries and the commercial (net) fisheries, but it is important to appreciate that some rod fisheries are run on a 'commercial' basis, and that not all netmen fish for their livelihood; many haaf netmen, for example, consider their fishing to be purely recreational.

Having adopted a methodology that can be applied consistently and objectively to all salmon fisheries, both rod and net, to attempt an assessment of economic values at a regional or national level we require from individual fisheries or fishing operations fairly detailed information concerning capital values, income and expenditure, employment supported, catches, and the number of days fished.

This information is being collected in England and Wales by distributing questionnaires to as many proprietors and lessees of rod fisheries as can be contacted and to net fishing licencees of the Water Authorities (now regional NRA units). In view of the sensitive and confidential nature of much of the data required, it is important that all completed questionnaires are anonymous. Moreover, the results will be sufficiently aggregated that information relating to individual fisheries or fishermen cannot be identified.

In addition to a direct evaluation of the fisheries themselves, the economic importance of angling tourism is being assessed on a regional basis by distributing questionnaires concerning angling-related expenditure to a sizeable sample of salmon anglers fishing during the 1988 season.

The situation with regard to data collection in Scotland is complicated by the fact that a similar study funded by the Scottish Tourist Board and the Highlands and Islands Development Board has been running concurrently with ours. In order to avoid a duplication of effort the Sponsors of that study have very kindly agreed to allow us access to their findings on rod fishing in Scotland. Because of the rather different nature of the two studies, however, our requirements for data on Scottish net fishings could only be satisfied by further survey work from Portsmouth, and this is now in hand.

The response to our questionnaires has been very encouraging, but obviously the more response we receive the more authoritative and definitive the results of this important study will be. I would like to take this opportunity, therefore, to urge particularly any rod fishery proprietors who have had doubts about responding to do so, in complete confidence. Indeed if any proprietors of rod fisheries in England and Wales reading this article have not received questionnaires we would be only too happy to forward copies to them!

(Mr. Hatcher can be contacted at the Marine Resources Research Unit, School of Economics, Portsmouth Polytechnic, Portsmouth, Hampshire PO4 8JF. Telephone: 0705 844087)



"TWEED TOWARDS 2000". A REPORT OF A SYMPOSIUM ON THE FUTURE  
MANAGEMENT OF THE TWEED FISHERIES

A review by G. D. F. Hadoke

Those people who were fortunate to attend the Tweed Foundation's Symposium entitled "Tweed Towards 2000" will have appreciated that they were present at a remarkable conference which endeavoured to review the whole state of fisheries of this great river. The Foundation has now published the papers and addresses given at the meeting so that a much wider public can appreciate, and assess, the comprehensive information and data which was given about the River Tweed. A great variety of scientists and experts contributed no less than 16 papers dealing with the many aspects of river management, including water quality, hydrology, illegal fishing, the English North East drift net fishery, genetics and NASCO. Every paper given at the meeting contained interesting information relating to fish stocks, especially salmon stocks.

Mr. William Shearer in his paper gave a fascinating assessment of all the catch and other data that he has found available and the diagrams and graphs that he gives encompasses mainly a period from 1950 on, although some figures produced by the former Berwick Salmon Fisheries Company cover a period from 1800 to the present time. His discussion of the decline of the spring runs of the river is well considered and he suggests that the evidence may indicate that salmon catch levels can recover from a low one without significant assistance from man. This was a well-researched paper. Mr. Veitch's paper on illegal fishing is not only informative on the ways of poachers but he even estimates the catches of salmon made by illegal fishermen in 1982 and 1988.

It was wise of the Foundation to ask Mr. Tony Champion of the Northumbrian Region of the NRA to talk about the north east of England drift net fishery since that fishery plays an important part in the management of the Tweed River salmon stocks, and is indeed the subject at present of a review by MAFF. Although the Trust has always been against drift netting as a method of salmon fishing, it is clear that the north east fishery is a very tightly controlled one with relations between Mr. Champion's staff and the fishermen excellent.

The Editor of the Brochure, Dr. Mills, gives a very detailed account of the fish populations in the river and their interaction to a changing environment. Dr. Mills has of course done much work himself on the juveniles and spawning of Tweed salmon so that his paper is very significant. He discusses brown trout and sea trout and poses the question as to whether fluctuations in sea trout stocks mirror those of brown trout or do they alternate with one another? He ends his paper with some useful suggestions as to how the stocks can be improved.

Many conferences on salmon end up by being merely events during which people have talked about their favourite subject. But "Tweed Towards 2000" was designed not only to review the data on the river but to establish a management plan for the river based on the information available to the Foundation, and the Tweed Commissioners. Mr. Yonge, the Chairman of the Foundation's Technical Advisory Group, in fact outlines the objectives for such a plan, and it is understood that the Foundation has agreed to appoint its own biologist, and with the

agreement and support of the Commissioners, to establish such a management plan. Mr. Yonge naturally appreciates the importance of scientists and their acquired information to enable a plan to be implemented, and it is clear that the Foundation is the co-ordinating organisation among many bodies which have a role in developing the fish stocks of the Tweed.

Professor Dunnet (Aberdeen) has summed up the Symposium in a very practical and interesting way, and he puts forward the suggestion that indices of abundance of juvenile fish, of smolt runs, of redds and of catches should be established to identify trends of change. This is an excellent idea, and indeed the annual report of the River Wye illustrates the kind of information that, if recorded each year, will provide the material for assessing changes in stock.

Mr. W. A. C. Thomson, the Chairman of both the Foundation and the Commissioners is to be congratulated on his foresight at devising such an interesting and absorbing symposium. The brochure, with its excellent and fascinating photographs, is a valuable record of the proceedings. Let us hope that there will be planned a further symposium called "Tweed Towards 2010" to review the implementation of the management plan.

\* \* \* \* \*

STATISTICS - STOP PRESS

The catch statistics for Scotland, England and Wales are as follows:

SCOTLAND

<u>SALMON &amp; GRILSE</u>		<u>SEA-TROUT</u>	
Rod & Line	96,500	Rod & Line	47,800
Net & Coble	79,800	Net & Coble	37,700
Fixed Engine	<u>85,000</u>	Fixed Engine	<u>10,900</u>
Total	<u>261,300</u>	Total	<u>96,500</u>

ENGLAND & WALES

<u>SALMON &amp; GRILSE</u>		<u>SEA-TROUT</u>	
Rod & Line	32,846	Rod & Line	49,619
Commercial		Commercial	
Instruments	<u>77,317</u>	Instruments	<u>73,184</u>
	110,163		122,802
Of which N.E. drift net catch was	<u>47,465</u>	N. E. drift net catch was	<u>26,016</u>
Total ex NE	<u>62,698</u>	Total ex NE	<u>96,786</u>

# TWEED TOWARDS 2000



(Size 11½ x 8 inches, 128 pages, 26 colour plates)

The proceedings of the Tweed Foundation Seminar held earlier this year are now available in the form of a beautifully illustrated book covering all aspects of the river - the salmon, sea trout and trout fisheries; water quality; the natural history and distribution of its fish stocks; caulds and fish passes; illegal fishing and the economics of the salmon fisheries. In addition, there are chapters on the north-east England drift net fishery, the Atlantic Salmon Conservation Trust and the North Atlantic Salmon Conservation Organization. Order now for immediate delivery from:

**Tweed Foundation,  
27 Main Street,  
Tweedmouth,  
Berwick-upon-Tweed. TD15 2AB**

Prices: £12.50

£10.00 to Tweed Foundation Members

(£1.50 postage and packing)

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To: Tweed Foundation, 27 Main Street, Tweedmouth,  
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Please send details of Tweed Foundation Membership  
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STUDY OF THE BEHAVIOUR IN RIVERS OF WILD SALMON AND SALMON OF  
FARMED ORIGIN  
(By John Webb)

The growth of the salmon farming industry and its continuing expansion in the coastal waters of west Scotland has led to increasing concern over the potential impact of escapes from culture upon wild salmon populations. A range of projects have been initiated by DAFS at the Marine Laboratory, Aberdeen, to address the various questions being raised. In particular, various biochemical techniques are being applied to wild and cultivated populations of salmon, to determine the genetic differences between them, and to establish whether escaped fish are capable of altering the genetic constitution of wild stocks. In addition, the AST is sponsoring a full time worker, based at the Marine Laboratory, to look at the behavioural interactions between escaped fish and wild fish at spawning time.

As a result of an accident in February 1989, almost 200,000 growing salmon (1 and 2SW) were liberated from a raft of cages on Loch Eriboll, Sutherland. These fish had been reared at a hatchery on the river Polla, the largest river entering the Loch. Rod and net catches over the course of this summer indicated that in addition to the normal run of wild fish, significant numbers of farmed 'escapees' were also entering the river. This combination of events has provided the opportunity to compare the behaviour of farmed and wild fish within a small river system, typical of many similar streams on the west coast of Scotland.

Work began in the late summer of this year. Forty fish, some wild, and others clearly identifiable as fish escaped from farms, were caught in the lower reaches of the Polla in late August, radiotagged and released. Radio-tracking of the fish within the river started in late August. The behaviour of both the wild and farmed salmon within the river is being studied and observations will continue up until the end of the spawning period.

It is probable that a number of the 1SW growers lost during the course of the same accident will become sexually mature in 1991. As a result, there may well be a further entry of 2SW fish of farmed origin into the river over the course of 1990. This may provide a further opportunity to monitor patterns of river entry, confirming or extending the observations made in 1989.

This study will be the first attempt in Scotland to assess the impact of escaped salmon within a river sustaining a wild population of salmon. Though further studies may be required to examine the behaviour of farmed fish within larger river systems, these early observations will help in establishing the magnitude of the problem and, ultimately, may lead to the development of appropriate management procedures for reducing any impact of escaped fish upon wild populations.

## THE 1989 GAME FAIR

The highlight of the Game Fair was the visit to the Atlantic Salmon Trust caravan by Her Majesty The Queen and His Royal Highness The Duke Of Edinburgh. Her Majesty was obviously very interested in the video of Spawning Salmon in the Girnock Burn on the River Dee.

The Game Fair was a success and the Trust's thanks must go to the Department of Agriculture and Fisheries for Scotland, Marine Laboratory, for producing the very excellent display illustrating the radio tracking work being done jointly by the Trust and DAFS. The spawning video has now been updated and is available for hire (see back page).





The Trust was recently asked to make a submission to the Clerk of the Agriculture Committee, the Director's letter is reprinted below:-

The Clerk of the  
Agriculture Committee  
House of Commons  
London SW1A 0AA

9th October, 1989

Dear Sir

The Atlantic Salmon Trust is a charity devoted to the wellbeing of wild salmon. It tries to present the true facts about salmon and does not take part in any net versus rod controversy. A leaflet describing the work and objectives of the Trust is attached.

One of our main current concerns is the rapid development of fish farms particularly in Scotland. These concerns were spelt out in a letter from the Trust Chairman, Sir David Nickson to Lord Sanderson dated 4th January. Lord Sanderson in his reply (both letters in June 1989 Progress Report) makes the point that the industry must look to good husbandry practices and standards of control. The Trust accepts that salmon growers are trying to achieve these aims. The Trust is also doing all it can to foster a meaningful dialogue between interested parties and the relations between the Trust and the Scottish Salmon Growers Association are very good.

The Minister then talks of the situation not being out of control. The facts are that the granting of leases for salt water sites is in the hands of the Crown Commissioners, who many regard as being a law unto themselves. There is considerable dissatisfaction about their consultative procedures, and the new arrangements for consultation referred to by the Minister are not regarded as being much of a step forward. Appeal is only permitted from the statutory bodies and no one else!

The guidelines issued by the Scottish Development Department for fresh water fish farms, were actually issued some ten years ago. This was before the salmon farming industry began to expand at an ever increasing rate. They have never been updated or reissued. In the Atlantic Salmon Trusts view, planning remains in a mess, with differing local authorities taking quite different views. The Trust has through the Association of Scottish District Fishery Boards, urged fishery boards to make their feelings known to their local planning authority, however, this is unlikely to have any effect where the planning authority such as Tayside just does not want to know and considers that planning consent is not required for the establishment of what they regard as an agricultural development, whereas Highland Regional Council, for example, consider that planning consent is required and act accordingly.

The Trust welcomes the new regulations which mean that the discharge from farms is treated as trade effluent.



Since these letters were exchanged, the nature Conservancy Council have published their booklet on wild and farmed salmon in Scotland, which sets out their concerns over the possible genetic consequences of escapees from fish farms interbreeding with wild fish. In its conclusion the NCC states -

"Unfortunately the lack of published research on the genetics of Scottish wild salmon is a significant factor limiting assessment of the issues raised in this leaflet. However, research from other countries, and on other salmonids, has highlighted the possible genetic degradation of wild salmon stocks by fish of farmed origin. In Norway, where salmon farming has been established for some 20 years, stock selection has progressed to the extent that the genetic problem is now regarded as the greatest potential threat facing wild salmon. The Norwegians have introduced measures banning salmon farming in sea areas outside rivers holding significant salmon stocks. Salmon farming is still comparatively young in Scotland, and it is important that as the industry evolves, adequate measures are taken to protect native salmon stocks.

Until more evidence is available, it should be assumed that all releases or escapes of non-native salmon to the wild are potentially harmful to the local stock. In the absence of an overall approach to the management of Scottish salmon waters, some precautionary measures have been suggested in this leaflet for consideration by managers of salmon farms and salmon fisheries. These suggestions need to be developed further by the salmon industry, in conjunction with the statutory authorities, to ensure the future survival of wild stocks of salmon in Scotland". One of their general suggestions with which the Atlantic Salmon Trust entirely agrees is - "Stocks in important salmon rivers should be maintained and protected in each geographic area. The east coast rivers, which accounted for 72% of Scotland's wild salmon catch in 1988, are of particular concern in this respect. In these areas, stocking and hatchery practices should be more strictly controlled and fish farm developments subject to wider consultation and more careful monitoring than is presently the case".

The North Atlantic Salmon Conservation Organisation (N.A.S.C.O.) at its meeting in Edinburgh, in June, held a special session on Aquaculture during which great concern was expressed by scientists and delegates from all the wild salmon producing countries of the North Atlantic, about the possible effect of Aquaculture on the wild stocks.

The Trust has published its own Blue Book by Dr. Tom Cross entitled "Genetics and the Management of the Atlantic Salmon". One of Dr. Cross's conclusions is - "Salmon escaping from farms or ranching programmes may be genetically damaging to wild populations. The extent of such effects must be established. Meanwhile, every effort should be made to quantify the number of escaping fish and how many of these survive to spawn. The salmon farming industry might help to reduce the numbers of escapes by adopting quality standards for cages. In the longer term, the use of either sterile or native salmon for farming could eliminate or minimise the possible impact. Ranching should not be allowed with strains of foreign origin. It should be confined to native fish until a lot more is known about the genetics of wild and reared Atlantic salmon".

This year the salmon farming industry has been suffering from over production world wide. The average catch of wild salmon in Scotland

by all methods is 1,000 metric tons/year. In 1989 the farmed production in Scotland, including Shetland is expected to be in the region of 29,000 tonnes. The low price paid for fish is likely to have a dramatic effect on the viability of some fish farms and it is understood that several sites are on the market. In such a situation it seems ludicrous that further expansion of the number of sites is permitted.

The situation in Norway has become particularly serious and wild salmon stocks have been seriously depleted in many rivers by the spread of the parasite Gyrodactylus Salaris from a fish farm. It has now spread to over 30 rivers, wiping out entire stocks of wild salmon. The "Directorate of Nature Management" is very concerned about the possible influence of farmed fish on wild stocks where the total farmed production was in excess of 80,000 tonnes in 1988. Gyrodactylus Salaris has not spread outside Norway and Sweden, but there is always the threat of disease spreading from farmed to wild fish, although luckily up to now in this country disease from wild fish are more likely to influence farmed fish. Never the less the potential threat is always present.

The Trust is not against the fish farming industry, but it is firmly of the opinion that planning permission for the establishment of fresh water fish farm cages must be made a requirement and that clear up to date guide lines are issued. It is also thought that the Crown Commissioners consultative procedures for granting permission for sea cages should be re-examined and the appeal procedure clarified. The Trust considers that there should be a common approach to planning consent across the country. If no consent is required, no objectors can be heard. All the Trust wants is for the objectors to be allowed to state their case, it is then up to the elected members of the local authorities planning committee to make up their minds. It is thought that the Aquaculture industry would welcome standardisation of planning procedures.

The Trust also feels that as the Government reaffirmed the importance and the role of Salmon District Fishery Boards in the management of wild Atlantic salmon, and over 70% of the Scottish resource are in the east coast rivers, it is vital that District Fishery Boards should be given more power over control of fish farming within their own systems.

Enough has been said by other bodies concerning the environmental effect of fish farms. Good working practices are essential and the Trust has no wish to ban the use of such chemicals as Nuvan unnecessarily, but they must be used properly and the operators must be trained in their safe application. It is good to see that the Scottish Salmon Growers association have been taking great steps to try to ensure that this is so.

The Atlantic Salmon Trust would welcome the opportunity to give verbal evidence.

D. J. Mackenzie  
Director

## ANNUAL REPORTS FOR 1988

The Trust has received three interesting annual reports for 1988 from fishery organisations; two are from Water Authorities and the other from the Salmon Research Trust of Ireland. Details are given below:

### The Fisheries Department of the Northumbrian Water Authority

This report compiled by the Fisheries Manager, Mr. Tony Champion, is an excellent one because it gives the reader detailed accounts and figures relating to the state of the fisheries in this area. The supporters of the Trust are always interested in these reports since of course the drift net fishery of the N. E. England is centred in this area. MAFF is due to review this fishery in the coming months and it will be of interest to anglers and netsmen in Scotland as to whether the north east drift net effort in the past three years has shown that less Scottish salmon are being captured. Mr. Champion suggests, although no figures are given, that the catch of local fish had increased and the catch of Scottish fish has been depressed by a reduction in the fishing effort. Although the Trust does not favour drift netting for many valid reasons, it does appear that this particular fishery is a controlled one, unlike the fishery in Ireland.

The Authority is convinced that restocking is required throughout the system to bring all its rivers up to an acceptable level of stock rearing. Thus the Kieløer Hatchery at the beginning of the year held 515,000 salmon eggs from the Tyne and 225,000 sea trout eggs; a further 450,000 salmon and 350,000 sea trout ova were laid down in the hatchery at the end of the year. It would be interesting to learn the fate of the sea trout hatching; did the Authority enhance the brown trout stock or that of the sea trout? But the Authority does not rely only on the possible enhancement of the stocks by planting out salmon parr, it does give a table indicating the densities of 0 + salmon parr in three rivers and their tributaries. It is difficult to compare the densities of parr in various rivers but this procedure is an excellent way of learning the true state of stock in individual rivers. It will be possible over a number of years to compare figures for each river and a picture of stock enhancement, or decline, will eventually appear.

Interesting graphs of catches by the nets and rods are given in the report and the increase in the rod catch of the River Tyne system is particularly significant.

### Wye Area: Fisheries Conservation Department of the Welsh Water Authority

The attractive thing about this report compiled by Mr. P. G. Hilder, the Area Fisheries and Conservation Officer, is that it gives detailed information about the state of the salmon fisheries of the River Wye which is perhaps one of the most important rivers in England and Wales. The Water Authority has for many years enabled its Fisheries Officer for the River Wye to compile these reports which set a high standard, and are models for many other river conservation bodies to follow. The hope is that the new NRA will take this matter in hand soon, and that there will emerge a set of annual river reports which at the very least will contain the information which is so excellently given in the current Wye Report.

The River Wye is of course remarkable for the unexplained decline in its large salmon, mostly multi-sea winter fish, and indeed the excellent table 7 in the report highlights this point very well covering such a long period as from 1945-88. Last year the percentage total of over 14lb. fish in the total catch by the rods was only 9.7% compared with 30% in 1976. But still the river yields good sized fish in that nearly 50% of the total are between 8lb. and 14lb.; a number of these must be multi-sea winter fish. During April the largest fish of the season, one weighing 39lb. was caught. But the concern of the anglers and the owners on the river was demonstrated in the last two months of the season when a number of anglers adopted the policy of returning hen fish to the river. The rod catch for the year was 6,401 fish, which was the best year since 1975, but the average weight was the lowest on record.

Like the Northumbrian Water Authority, the Welsh Water Authority ensure that electro-fishing of the juvenile salmon is undertaken each year with the object of obtaining estimates of annual densities. Over 60 sites were sampled but unfortunately the sites were graded according to their relative densities, and there is no indication as to whether certain areas of the river are improving in density of stock or not, nor is the average juvenile density estimated for the river as a whole and compared from year to year.

The report also gives an account of the micro-tagging work achieved over the year to ascertain where some of the Wye fish are caught. 1,595 wild smolts were captured and tagged, and of 39 reported caught so far 19 were captured off the coast of Ireland from the North around the West to the South East. It is remarkable that Wye fish should emigrate to the Atlantic by way of the West coast of Ireland rather than proceed North through the Irish sea.

There is just one complaint about this otherwise excellent report. The graphs, or some of them, do not come out in clear print. It is difficult at first to distinguish redd count and rod catch in Figure 10 for example.

#### Salmon Research Trust of Ireland

This report deals with the work of one of the most distinguished salmon research bodies, and is compiled by a friend and supporter of the Atlantic Salmon Trust, Dr. David Piggins. The Trust will be undertaking some radical changes in organisation during the coming year in as much as Arthur Guinness and Son Ltd., which jointly founded the body with the Dublin Department in 1955, is due to end its connection and funding. The firm has, however, transferred certain assets such as the smolt-rearing unit and housing etc. to the Trust. The Department of the Marine, will now assume responsibility for the Trust and for its research programme. Apart from this major change, Dr. Piggins will retire from the Directorship at the end of this year. Dr. Piggins has been responsible for a remarkable tenure of office at Newport, in which his prestige and that of the Research Trust has been acknowledged world-wide. It is very satisfying for the Atlantic Salmon Trust that we have had the wise advice of Dr. Piggins from his membership of the Honorary Scientific Advisory Panel.

The report, as usual, contains a wealth of information about salmon rearing and ranching. Micro-tagging of the reared salmon is an

important tool for the research station and it has published the following very interesting results in respect of the 1988 programme:

	SMOLTS	
	S1	S2
%survival to coast before exploitation by nets	14.2	10.7
%exploitation by nets (including unreported catch)	79.0	61.0
%survival to the home river	2.9	4.9

In 1988 it is estimated that the survival of smolts to grilse at sea was very good at 12%. As a result, a small brood stock of 1984 more than reproduced itself. In the year over 1,000 sea ranched fish returned to the river made up of 985 grilse and 22 two-sea-winter fish. It is estimated that bearing in mind the micro-tagging results, the first sales value of the fish caught by nets, and returning to the river, exceeded the actual cost of rearing the smolts.

Of particular interest to the Atlantic Salmon Trust is the account about the escape of farmed fish during a storm in February 1988. Some of these fish, which were privately owned, appeared in the Trust's traps and were small, thin and dark. But Dr. Piggins remarks that the local gene pool is unlikely to have been damaged since all the fish were derived from the Research Trust's line-bred grilse strain. Dr. T. F. Cross, a Bensinger-Liddle Fellow, was called in to do the necessary genetic analysis.

Let us hope that the Research Trust will continue under its new management to produce such interesting reports.

ICES MEETING IN THE HAGUE, THE NETHERLANDS  
(By Dr. Derek Mills, Department of Forestry and Natural Resources, University of Edinburgh.)

The 77th Statutory Meeting of the International Council for the Exploration of the Sea (ICES) was held in The Hague during the first and second week of October. The papers on salmon presented at the Anadromous and Catadromous Fish Committee are described in the Review of Current Literature. One paper of particular interest because of its local nature was that on the "Data on Dutch fisheries on salmon (1863-1957) and trout (1886-1986) in the River Rhine" by Dr. de Groot. This historical description of the fisheries and an analysis of the long-term catch data was of special significance because of plans to reintroduce salmon to the Rhine which gave rise to the Ecological Rehabilitation of the River Rhine programme, an initiative shared by France, the German Federal Republic and the Netherlands. An international and national wish is expressed to have salmon return to the Rhine. It is appreciated that they may never again be present in former numbers but their presence in the future would at least demonstrate that the water quality had improved sufficiently to support a natural salmon population. A comprehensive document on the Rhine salmon fisheries has been prepared and should be available shortly.

Very few papers on salmon farming were presented in the Mariculture Committee and the only significant one for salmon farmers was "Genetic threats to wild salmon stocks". This was a report of a joint meeting

of the ICES Working Group on Introductions and Transfers of Marine Organisms, the ICES working group on Genetics and NASCO representatives held in Dublin in May. This paper was also fully discussed by the Anacat committee. The subject of the presence of farmed salmon in the wild salmon fisheries was mentioned in the Report of the Working Group on North Atlantic Salmon. It was noted that about 20% of the salmon caught in some commercial fisheries in Norwegian homewaters in 1988 were of reared origin. In the Faroese fishery during the 1987/88 season 8.2% of a sample of salmon was classified as reared. From Iceland, a significant upstream migration of reared fish was reported in one river, and in Ireland reared fish were observed in a large number of rivers on the west coast. It was a little disturbing to read the Scottish report which simply said that on the east coast only very small numbers of escapees were recorded. I pointed out that this was a most misleading statement as the situation in the rivers on the west coast of Scotland, where most of the salmon farms are located, was entirely different and numbers of farmed fish in some of these rivers were very large.

With regard to the Working Group on Introductions and Transfers, there was an opportunity during the Anacat committee discussions to refer to its experience in relation to the EC proposals on fish health. I put forward a recommendation that the Working Group's experience should be brought to the attention of the EC. This was supported by Dr. Parrish, the past General Secretary of ICES. The recommendation was that:

'The Council should bring to the attention of the EC the experience of the Working Group on Introductions and Transfers as their expertise could be of immense benefit to the EC in assisting them to strengthen their regulations relevant to the importation of live salmonids and other fish species and also to make them more effective after the completion of the single market in 1992.'

This was discussed at both Consultative Committee and Delegates meeting and approved as a resolution. The justification for this recommendation was also passed on and is:

'This expertise would be of immense benefit to the EC in assisting them to strengthen their regulations relevant to the import of live salmonids and other fish species and also to make them more effective after the completion of the single market in 1992. The EC [Directorate General for Agriculture (VI./B.11.2)] has a draft proposal for a Council regulation (EC) No..... on health conditions governing the intracommunity movement and imports from third countries of animals and products from aquaculture (Preliminary Draft No./VI/2512/89 EM. Rev.1) (Puet/2864). If these regulations are passed, they may allow for the import of diseased fish from third parties into, e.g., the UK.'

During the Anacat meetings notice was given of a forthcoming conference on "Interactions between cultured and wild Atlantic salmon" to be held in Norway in April, 1990.

The 78th Statutory Meeting of ICES will be held at its headquarters in Copenhagen in October, 1990.

INSTITUTE OF FISHERIES MANAGEMENT - 20TH ANNUAL STUDY COURSE  
GALWAY, 12TH - 14TH SEPTEMBER, 1989  
(Report by the Deputy Director)

In the December 1986 Progress Report, Gerry Hadoke described the Study Course organised by the Northern Ireland branch of the Institute of Fisheries Management in Coleraine. This year, the Republic of Ireland branch organised and hosted a very successful course at the Regional Technical College, Galway. The speakers dealt almost exclusively with salmonid subjects, except for a brave and well-presented intervention from East Anglia on the status and management of coarse fisheries in the region, and an interesting dissertation on crayfish culture in the British Isles.

The Trust's Honorary Scientific Advisory Panel was very well represented, both among the authors of papers and in the audience. The initial lecture, on the development of salmonid aquaculture in Ireland, was a sparkling tour de force by Professor Noel Wilkins, and set the scene well for a thoroughly interesting and enjoyable three days. Other Trust contributors were Dr. Derek Mills (a most timely survey of the interaction between aquaculture and wild fisheries) and Dr. Gersham Kennedy (an encouraging description of salmon enhancement on the River Bush), and the final summing up was done deftly by Dr. David Piggins. Among other participants in the course were John Solbe and Dr. Kevin O'Grady (who is now the National Rivers Authority's Fisheries, Recreation and Conservation Manager) and Dr. Tom Cross, whose Bensingher-Liddell Fellowship paper on Genetics and the Management of the Atlantic Salmon has just been published as a Blue Book, and who was co-author of a paper on a twenty-year study of sea-trout on the Burrishoole.

Other papers ranged from assessment of the current status of fish farming from the salmon growers' point of view, which included an interesting examination of the trend towards the use of larger off-shore cages, to two papers from Wales and Scotland on the effects of afforestation and the means of minimising them. A particularly important paper on priorities for Irish salmon research was given by Dr. Ken Whelan, of the Central Fisheries Board, who is shortly to relieve David Piggins as Director of the Salmon Research Trust of Ireland. He argued strongly for work on the improvement and management of natural habitats, on stock enhancement, on the development of models to predict fishery performance (coupled with the means of gathering better statistical data), on the setting-up of a genetic database, on the impact of aquaculture, on ocean ranching, and on continuing an up-dated study of the economics of ownership.

The most dramatic input to the course was the revelation of the drastic decline in sea-trout catches on the west coast of Ireland (echoed on the west coast of Scotland, but not elsewhere in the British Isles). Various theories were advanced for the significant reduction in numbers, which was becoming noticeable in 1988 but has been very severe in 1989. This problem has now been more widely reported, and urgent action to identify the cause is being discussed between the Central Fisheries Board and the Department of Agriculture and Fisheries for Scotland. Another very topical subject was that of the Irish problem in the protection of salmon; the Regional Manager of the Western Regional Fisheries Board described the massive scale of the task, particularly as regards attacking illegal drift-netting and

the limited resources available, even though the acquisition of new (ex-RN) patrol craft and the use of the Air Corps have helped in offshore surveillance.

An open-air afternoon offered sight-seeing and trout fishing on Lough Corrib; your correspondent opted for the third choice, which involved travelling across Connemara to visit the state-owned River Erriff fishery and a major salmon farm installation in Killery Bay. It was a most enjoyable and interesting excursion, and epitomised the whole course, which provided a first-class programme in most congenial company. The Irish Branch of the IFM deserved and received the warmest congratulations.

VISIT TO ICELAND, SUMMER, 1989.  
(by Derek Mills)

During a two-week visit to Iceland in late June and early July there was an opportunity to learn something about the present state of salmon farming and ranching in the country through the kind offices of Mr. Arni Isaksson, Director of the Institute of Freshwater Fisheries, and Mr. Thor Gudjonsson.

Since earlier visits to the country in 1981 and 1982, and as recently as 1986, I noticed a dramatic increase in salmon farming as opposed to the more common Icelandic practice of salmon ranching, which has been steadily increasing since the mid-1960s, and in 1990 will constitute almost 80 per cent of the Icelandic salmon catch. Cage-rearing, as practised in Norway and Scotland, had met with little success in Iceland in the past due to lack of sites sheltered from severe gales and near freezing winter sea temperatures, and many attempts off south-west Iceland had met with failure. However, with the advent of more sturdily-built ocean cages, such as those constructed by Farmocean, cage-rearing off south-west Iceland in the vicinity of Reykjavik and Hvalfjordur, in Eyafjordur in the north and in the Westmann Islands has met with more success and the regular monitoring of sea temperatures is undertaken by the Marine Fisheries Institute. In addition to cage-rearing, onshore tank units have been developed and some such as Islandslox near Grindavik have a targeted annual production of 500 tons. Other major onshore tank units, sited between Rekjavik and Keflavik, which are increasing their production, are Vogarlax and Lindalax. These, together with other units, produce around about 13 million smolts annually and it is calculated that smolts being raised in 1989 should result in at least 11,000 metric tons of farmed salmon in 1990. According to News from Iceland, in 1988 the Iceland salmon farming operations alone yielded about 800 tons of fish, and the total was expected to rise to 4,000 tons this year. There has been an over production of smolts recently and, because of lack of outlets, it is estimated that between 2 and 3 million have been released in the sea. This does not include the number of smolts released from salmon ranching operations.

In some instances the initial financial outlay in salmon farming has been made without sufficient thought being given to likely technical problems and planning and marketing, with the result that some firms have become insolvent. For example, one onshore tank unit found that the temperature of its water supply was insufficient for optimum



growth and in order to rectify this a supply of geothermal water would need to be piped from some distance at great cost. In other cases too many smolts have been produced with no possibility of finding purchasers. There is also some secrecy enshrouding some of these developments and access was sometimes prohibited. So my general impression was that salmon farming was getting slightly out of hand while salmon ranching continued to increase more steadily.

A new outlet for farmed and ranched salmon has been found in Japan. Since January, Flying Tigers freight airline flies about 15 tons of fresh sea food, mainly salmon, to Japan weekly. All salmon exported in this way by Samband Seafood comes from Islandslox which has managed to farm fish with an especially rich red flesh colour, a requisite for the Japanese market.

There is also a limited amount of rainbow trout farming in Iceland, mostly in tank and pond units although there is some sea cage culture. The company Laxalon, in addition to selling its popular product to local markets, has been exporting about 1,000 kg of trout a week to Belgium and expects sales to increase over the next two years and to extend to France.

Exports of salmon, trout and other fish will be assisted by the decision of Icelandair to boost its regular air freight space this autumn to Europe and the USA. Its new schedule provides for two round trips a week to New York and three to Europe - Copenhagen, London, and probably Luxemburg.

Icelandic scientists and anglers alike are worried that cage-farmed salmon are escaping in some numbers, mixing with wild salmon and entering rivers to an extent that will cause degeneration of wild stocks. Recent measurements of the presence of farmed salmon in the Ellidaar River in Reykjavik, for example, point to a steady increase since last summer when it was estimated that 16 per cent of the salmon run was of reared origin. Rainbow trout have also been escaping and have been recaptured in the Ellidaar and the Hvita system in Borgarfjordur. One solution for preventing interbreeding suggested locally is the production of triploids by subjecting the ova to either heat treatment or pressure. Unfortunately, not everyone is convinced of the dangers of interbreeding and, according to News from Iceland (June, 1989), the Managing Director of the National Union of Fish Farmers and Sea Ranchers expressed his doubts when he remarked:

"As someone once said, it would be thought no big deal if someone here were to marry a girl from the north. The same goes for this supposed mixing of stocks."

The rapid development of salmon farming and ranching resulted in July, 1988, in a regulatory measure being enacted, based on the Freshwater Fisheries Act. The measure set the minimum separation distances between aquaculture operations of 2 km and a minimum distance of 15 km that sea cages and salmon ranches can be sited from the estuaries of major salmon rivers (i.e. rivers with annual catches of more than 500 salmon) and 5 km in the case of minor salmon rivers (annual catches of less than 500 salmon). There were, furthermore, imposed restrictions on the movement of wild brood fish and their progeny between areas and watersheds. Another regulatory measure limited the use of imported Norwegian strains to land-based farms in order to prevent the mixing

of these strains with indigenous Icelandic salmon. Another problem which is likely to be controlled by an additional measure under the Freshwater Fisheries Act is the transport and introduction of live farmed fish to river systems holding wild salmon. In the last two years an angling club has purchased farmed salmon which it has then introduced to the Nordlingfljot river, a tributary of the Hvita river in Borgarfjordur, which, because of falls, is inaccessible to salmon. This put-and-take salmon fishery has been successful and a large proportion of the fish have been caught by the anglers, but some of the fish do drop downstream to the Hvita where they could breed with wild fish.

During a visit to the experimental salmon ranching station at Kollafjordur it was noticed that a number of the returning adults bore net marks. It would appear that there is now a small amount of illegal salmon netting operating off the coast, particularly in the north-east, and this information came from two independent sources. This may be a function of the advent of salmon farming and the presence of so many escapees.

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The following is reproduced from The Welsh Region N.R.A. News, The Kingfisher, Autumn 1989.

#### MENAI POACHERS

The drama about to be told was unfolded over a four day trial in Caernarfon Crown Court in September, but its origin was the beautiful stretch of water between the two bridges which cross the Menai Straits in the county of Gwynedd. The whole episode took place on a late October evening in 1988.

It was dark, but the lights on both Stephenson's Britannia Bridge and Telford's Menai Suspension bridge, provided an almost theatrical backdrop. Altogether, perhaps the most spectacular setting in Great Britain for the traditional and ancient crime of salmon poaching. What has changed poaching in the 1980's is that the stakes are much higher. Salmon can fetch £3 per pound and a commercial poaching gang might take a few hundred pounds worth in a night's netting.

The technology has become more effective: single strand nylon netting is virtually invisible in the water to the fish but strong enough to hold even the largest of them. Large gill nets like this, staked out across the migration routes from boats, offer no mercy and little chance of escape. Why the Menai Straits? Well, salmon are migratory fish, spending half their lives in the open sea but making their way back to their native freshwater rivers to spawn in the Autumn, laying thousands of precious eggs in the gravel beds of small streams to keep the species going - a fantastic journey which only a few per cent of fish can survive to make a second attempt.

The Menai Straits is the main channel for this desperate journey, acting like a funnel for salmon making the long passage from the Atlantic, past South West Ireland and on to the rivers Ogwen, Conwy

and Seiont. The experienced poacher knows that on a quiet night he can hear large salmon breaking the placid water, waiting impatiently for enough water to get up the rivers, their heads already lightened by the heady mix of salt and fresh waters.

Poaching cases are not unique in the Western parts of Wales but in this case, in the Royal Borough of Caernarfon, was the first Crown Court case to be taken by the National Rivers Authority since its inception on September 1. The jurors, Judge, Counsel and all the staff, as well as hearing the conventional evidence, visited the area late in the evening to try for themselves a pair of Image Intensifiers as used with devastating effect in the Falklands Crisis. The otherwise black Straits leapt out in an eerie green lightness, slightly enlarged: the transformation which makes a bailiff's work so much more effective by letting him "see in the dark".

The simple facts of the case before this Court were that two local men, one an experienced fisherman, used three monofilament gill nets to catch four large salmon on the evening of October 18. They did not know they were being observed by no less than seven Water Bailiffs with two night sights, perched precariously on vantage points high above them, including the bridges. As the bailiffs watched, they saw the two men hide the fish behind a wall near a boathouse on the mainland side of the Straits.

The defence was simple too: it was claimed that there had been someone else out with a boat that night, lurking behind one of the many islands on the Straits. Evidence was given that the journey across the Straits by boat is treacherous and only the foolhardy would risk the watery path that had seen many a shipwreck including that of HMS Conway.

The jury had to assess whether the stakes were high enough for men to navigate those waters with their future takings, some £100 worth of salmon. The defendants also said that they knew it was illegal to take salmon. The prosecution said this could have been a convenient explanation put forward to explain why over 1200 fish scales were found in the boat and nets, and two fishery scientists gave detailed evidence of the fish scales found in the boat and how similar they were, all being four years old, to the ones taken from the shoulder of the salmon recovered by the bailiffs. A sea louse, a most innocent creature, was also a "witness" in the case: the fishery scientist said its presence on the salmon suggested a fresh catch which disproved the suggestion that the fish could have been hidden there some days before by some other poachers.

The clinical result of this one case was that Michael John Williams of Bangor had his 20' cabin boat, outboard motor and three nets forfeited by Assistant Recorder Patrick Harrington. (the equipment plus the fish would have been worth over £1,000.) Williams was also given a nine month prison sentence suspended for two years plus a £1,000 fine, and was ordered to pay £350 costs.

With him that night was Brian Pritchard from Bethseda, also fined £1,000 plus £1,500 costs to the prosecution. The Judge said: "If that makes your eyes water, it is because it is intended to be a punishment." That such evidence about fish scales and night sights would be necessary to tackle a crime which must be among the oldest in

history might have amazed the old-time poacher, but the threat posed today by sustained illegal netting is a very real one for the salmon stocks are taken each year by illegal fishing, and cases such as this suggest that the Courts are recognising the effect upon the community and the environment, and are imposing the appropriate penalties.

#### BARRAGES (by J. B. D. Read)

A year on from the article on barrages in the December 1988 Progress Report, it seems timely to review the progress of the various tidal barrage schemes that were mentioned there.

Only one project has reached the stage of construction, and that is the Tawe Barrage at Swansea. This is expected to take something over two years to complete. It is an amenity barrage, designed to maintain an upstream water level more attractive in terms of local redevelopment, and it will result in partial impoundment, which means that the barrage will be overtopped by most high tides. Provision is being made for two pool and traverse fish passes and a fish trap. A monitoring programme is under development, in order to investigate the behaviour of fish in the vicinity of the barrage, and to assess its actual effect on fish passage and the maintenance of stocks.

The Cardiff Bay barrage, another amenity project, has completed its feasibility studies and is the subject of a Private Bill which is under consideration by the House of Commons at the time of writing, having been accepted by the House of Lords. This barrage was described by Graeme Harris at the Lancaster workshop on the Safeguarding of Fisheries in connection with Water Schemes, the report of which has just been published as a Blue Book. If construction is approved, it will have a unique fish pass, to provide access even when the tide is higher than the totally impounded fresh water upstream of the barrage. This pass is designed to include a fresh water holding pool, which will be contained by gates and kept pumped up to provide a downstream flow over the barrage when the tide is at this state.

Inevitably, most publicity has centred on the Severn and Mersey power schemes. The Severn project is huge in scale, forecast to cost over £8 billion, and with a predicted output of 7 per cent of the demand in England and Wales. The General Report of the recent studies funded jointly by the Severn Tidal Power Group (an industrial consortium), the Department of Energy and the Central Electricity Generating Board has just been issued. It concludes that the project is feasible, but understandably points out that the options for its promotion and financing cannot be explored until the privatised electricity companies are formed and operating. It is possible that the apparently "green" approach may have difficulty in attracting commercial support unless Government assistance is forthcoming.

The report itself does not cover the effect on fisheries in any great detail, as was reflected in the "Times" report on its publication, which prompted the Director to write to the paper to draw attention to the need to consider this aspect. It is somewhat dismissive of fears that have already been expressed over potential problems such as the possible damage to fish running upstream through the turbines while

they are "sluicing" on the flood tide, or being used as pumps to increase the head of water at the top of the flood. It quotes the lack of evidence of fish damage at La Rance in Brittany; it does not point out that migratory fish do not run that barrage, nor that the main evidence of fish damage at Annapolis in Canada (a major experimental tidal generation installation) was obtained by diving, which does not appear to have been undertaken at La Rance. However, the report does acknowledge that further work is needed to develop more accurately the understanding of turbine damage to fish and shrimp, and to study possible designs for fish passes and deterrents. It is understood that the studies on fish damage will soon be proceeding as part of general investigations into tidal barrage possibilities. In the meantime, the detailed ecological section of the report should be published shortly, and is awaited with much interest.

The Mersey Barrage would be a much cheaper project, quoted in current studies at £850 million, but there are still uncertainties as to the possible site, and as to engineering details. However, it has naturally been suggested that this could well be a more likely project than a Severn Barrage.

Of the other potential barrage projects, the Tees amenity barrage, which is envisaged as being sited well up the tidal reach at some ten miles from the estuary, has completed feasibility studies, and is now in the Parliamentary stage; a number of objections have been raised. Feasibility studies are also complete in the case of the Loughor barrage in South Wales, and the decision on whether or not to proceed has yet to be made. In the case of the proposed River Forth barrage at Rhyll, the project has been shelved.

The Conway scheme is still at the stage of feasibility studies, as is the potentially very significant amenity proposal for the Usk at Newport. The environmental study in connection with this project is expected to complete in the spring of 1990. If a decision to move forward is taken, a bill could be before Parliament in 1990, leading to the start of construction in 1991. However, there is much to be investigated before then, even to the extent of whether the proposed barrage should give complete or partial exclusion of tidal water.

The December 1988 Article outlined the potential effects of barrage construction: alteration to tidal regimes and water circulation, changes to water quality, salinity, turbidity and sedimentation patterns, physical obstruction to fish passage and the danger of killing fish passing through power generation turbines. The studies that have been completed so far tend to emphasise how difficult it is to estimate these effects accurately. It is essential that investigation of any barrage project should be accompanied by detailed planning for:

- the monitoring of the effects of construction and operation of the barrage (not easily agreed, given the margins for error in fish population studies)
- early design work to ensure the safest possible fish passage (the earlier the cheaper, in general)
- strategies to mitigate unavoidable effects of the barrage (e.g.

selective stock enhancement)

- compensation for any eventual damage to fisheries.

As the number of barrage proposals increases, so these principles become better known. Experience of the effects of a barrage will begin to be gained once the Swansea project is complete, but it is not possible to wait for that while other schemes are being investigated. The NRA Regional Officers, actively represent fishery interests during the consultation and design phases for any scheme, but it is important that local fishery and fishing organisations should keep themselves as well informed as possible on proposals in their areas, and ensure that they too are consulted. The advice of those who are already involved in the process in other parts will always be available.

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SUCCESSFUL SEA TROUT ANGLING  
(by Graeme Harris and Moc Morgan)

A review by Andy Walker

This is a major reference book on sea trout angling written by Graeme Harris and Moc Morgan. Although it has a strong Welsh flavour, it provides authoritative coverage of the sport throughout the British Isles. Comprising 399 closely typed pages and illustrated with over 80 line illustrations, 60 black and white and 8 pages of colour photographs, it delves into all aspects of sea trout biology and conservation, modern developments in tackle technology, flies and fly tying, fish care and cookery and an absorbing, comprehensive review of previous sea trout angling literature. This book is mainly for the technically-minded angler who wishes to explore the sport and the nature of the quarry in some depth. One could quibble about the photograph showing the River Luce 27lb fish and described as the largest authenticated British sea trout when one of over 28lbs, which was well-publicised, was taken in the River Tweed in 1987. Doubtless that one was missed due to the time required to get the book printed. I just felt I ought to have a quibble somewhere! "Successful Sea Trout Angling" will sit very comfortably beside the superb works of Falkus. Is there any better recommendation?

Published by Blandford Press. Price £17.95

A special "Collectors Edition" limited to 50 signed, leather bound copies, is available from Dr. Graeme Harris, Greenacre, Cathedine, Bwlch, Brecon, Powys LD3 7PZ. Price £75.

## SOME RECENT ANSWERS TO PARLIAMENTARY QUESTIONS

(House of Lords Official Report, 27/6/89, Written Answer)

The Lord Moran: To ask Her Majesty's Government whether, in view of the threat to the genetic integrity of Atlantic salmon stocks in this country from escapes of farmed salmon, they will establish living gene banks for Atlantic salmon in order to preserve the genetic diversity of wild stocks, as is now being done in Norway.

Lord Sanderson of Bowden: I am aware of current concern in Norway about the effects on wild stocks of acidification of rivers, damage by the gyrodactalus parasite and escapes from its very large salmon industry.

Techniques of cryopreservation of fish sperm are now well-established particularly in aquaculture. Facilities for preservation and storage of genetic material are commercially available in the UK already. Studies are in progress on the nature and significance of genetic diversity of wild salmon stocks. Given limited resources, however, the best safeguard against unnatural genetic change is to ensure that wild fish remain numerous and therefore genetically diverse, in spawning rivers.

The possible use of gene banks to protect threatened stocks of wild salmon was discussed at the Sixth Annual Meeting of the North Atlantic Salmon Conservation Organisation (NASCO) Council in June at a special session on the impact of aquaculture on wild stocks. The NASCO Secretariat has been asked to consider possible draft guidelines for the establishment and operation of gene banks where these are established and will also be obtaining more information on threatened stocks.

Details of current and planned research on genetic problems were given in my reply to the Noble Lord Mason of Barnsley on 29 June.

DAFS and MAFF will continue to contribute positively to international co-operation on the genetic impact of farmed salmon on wild stocks in the scientific work of ICES and in the European Communities' delegation to NASCO.

(House of Lords Official Report, 29/6/89, Written Answer)

### SALMON: FISHERY RESEARCH

The Lord Mason of Barnsley asked Her Majesty's Government: Whether they will conduct research with the North Atlantic Salmon Conservation Organisation into the dangers of Scottish-farmed salmon released from fish farms interbreeding with wild salmon and creating genetic harm and infections.

Lord Sanderson of Bowden: The scientific input to the North Atlantic Salmon Conservation Organisation (NASCO) is provided by the International Council for Exploration of the Sea (ICES) and the European Communities (EC) is the contracting party representing member states. UK fisheries departments, principally DAFS and MAFF, make a leading contribution to the work of ICES and provide support as appropriate to the EC delegation at the annual meetings of NASCO.

A scientific seminar on the genetic impact of aquaculture on wild salmon stocks was held jointly by NASCO and ICES in Dublin on 23rd May. This seminar was chaired by a DAFS scientist and scientists from DAFS and MAFF contributed papers and to the discussions. At its meeting in Edinburgh on 13th-15th June the NASCO Council agreed to ask the contracting parties to encourage further research on genetic differences between wild and farmed fish and the behaviour, migration and possible breeding patterns of released or escaped farmed fish.

DAFS and MAFF are already studying various aspects of the genetic relationship between salmon populations including biochemical genetic analysis, the physiological basis of variations in life history patterns and field studies of the biology of salmon populations. The research programme is designed to identify any problems which may arise through the genetic interaction of wild fish with escapes of releases from culture, and to suggest management remedies if this proves necessary.

The work in Scotland is being carried out with the co-operation of district salmon fishery boards and fish farmers in the areas of study and with direct financial support for some aspects of the work from the Atlantic Salmon Trust and the Scottish Salmon Growers Association. There are continuing exchanges of literature and frequent contacts with scientists engaged in similar work in Canada and Norway.

Reports of mortalities in either farmed or wild fish are investigated and there is continuing Government funded research on various aspects of fish diseases in salmonids. There is no evidence that disease problems in fish farms have caused corresponding mortalities in wild fish in Great Britain.

Further discussion on the scientific research and possible development of management guidelines are expected to take place in both ICES and NASCO in the coming year. The UK fisheries departments will continue to contribute actively to all these discussions.



STRATEGIES FOR THE REHABILITATION OF SALMON RIVERS

The Institute of Fisheries Management (as part of its 21st Anniversary celebrations) and the Atlantic Salmon Trust are planning a joint conference on Strategies for the Rehabilitation of Salmon Rivers, to be held on 29th and 30th November, 1990. The conference will take place at the Linnean Society, Burlington House, Piccadilly, London.

The aim of the conference is to collect and compare experience in the restoration of salmon to failed rivers, in order to provide guidance for launching, planning and evaluating future projects. Rehabilitation techniques (water quality control, habitat improvement, stocking methods, etc., will be outlined, but unless they are new and previously unreported they will not be a major focus of attention. The intention is to discuss and agree on principles, covering such subjects as the decision on whether a project is viable, the organisation of support, the appraisal of success, the assessment of the implications for river management, and international support and regulation. The first day of the conference (Thursday 29th November) will be given up to the presentation of papers and discussions on these and other principles. These will be illustrated by case studies on the second day (Friday 30th November). Formal business will complete at lunchtime on that day.

It is planned to organise hotel booking facilities at advantageous rates to cover the period of the conference.

You are invited to register interest by completing and returning the attached slip. Further details and booking forms will be available in the Spring of 1990.

---

To: The Deputy Director, The Atlantic Salmon Trust, Black Cottage, Wickham, Fareham PO17 6HU

I would like to receive further information and a booking form for the joint IFM/AST conference on Strategies for the Rehabilitation of Salmon Rivers.

Name:.....

Address:.....  
.....

Organisation:.....

THE ATLANTIC SALMON TRUST LTD.

The Constitution of the Company is as follows:-

REGISTRATION

The Company, which is limited by guarantee, is registered in England and its registered number is 904239. The charity registration number is 252742.

PRINCIPAL OFFICE

This is located in Scotland at Moulin, Pitlochry, Perthshire PH16 5JQ.

MANAGEMENT COMMITTEE

Members of the Management Committee during the year were:-

President	The Duke of Wellington
Vice-Presidents	Vice-Admiral Sir Hugh Mackenzie Mr. David Clarke
Chairman	Sir David Nickson
Vice-Chairmen	Lord Moran Sir Ernest Woodroffe
Director	Rear Admiral D. J. Mackenzie
Deputy Director	Captain J. B. D. Read
Secretary	Mr. M. R. T. O'Brien
Treasurer	Mr. K. S. Waters
Members	Ambassador Claude Batault Mr. Gordon Bielby Dr. W. M. Carter Mr. J. A. G. Coates The Hon. Mrs. Jean Cormack The Hon. E. D. G. Davies Sir William Gordon Cumming Mr. N. W. Graesser Mr. G. D. F. Hadoke Major General J. C. O. R. Hopkinson Mr. M. D. Martin Dr. D. Mills Mr. I. Mitchell Mr. Moc Morgan Mr. W. A. C. Thomson Mr. C. Tyrrell Mr. H. Blakeney

BANKERS

Midland Bank plc  
20 Eastcheap  
London EC3M 1ED

## INVESTMENT ADVISERS

Schroder Investment Management  
36 Old Jewry  
London EC2R 8BS

## AUDITORS

Mitchell, Curran and Company  
167 King Street  
London W6 9JT

## CHAIRMAN'S REPORT

The Chairman presents his report and the audited accounts for the year ended 30th June 1989:-

## OBJECTIVES AND FUNDING

The main objective of the Atlantic Salmon Trust is to enhance the stocks of wild salmon in the U.K. for the good of the community. To do this it draws to the attention of appropriate authorities the particular dangers facing the salmon; it gives advice to Government ministers, their Departments, and to the EEC; and it finances scientific research, arranges workshops and international conferences and publishes booklets on matters of general and scientific interest about salmon, for salmon managers, scientists and anglers. In order to raise the finance to achieve those objectives, the Trust is entirely dependent on donations.

The direct and indirect costs of running the Trust are mainly funded by investment income. It is an objective of the Management Committee that investment income will be increased in the future to at least offset these direct and indirect costs.

## REVIEW OF THE YEAR

The general activities of the Trust remained similar to those of 1988. Certain matters occurred during the year which do deserve particular mention, and those are set out below:-

### Annual Postal Fishing Auction

Once again the Auction was an outstanding success and the Trust's income from this activity increased to £31,928. This year the Trust continued to act as agents for the Tweed and Wye owners.

### Special Projects

Expenditure on special projects maintained the same levels as in 1988 although the accounts show a decrease. This is due to the fact that there was no Bensinger-Liddell Fellowship in the 1987 accounts, and the radio tracking equipment has not been depreciated to such an extent as in the previous year, as it is now expected to have a longer life.

### Deficit

The deficit of £6,327 last year has been turned into a surplus of £683. The Trust is extremely grateful for the continuing generosity of everyone who donates to its work each year.

### STAFF

Jeremy Read as well as his tasks as Deputy Director, has successfully taken over the public relations of the Trust and he has quickly established himself with the media.

Gillian Hines has left after nearly 4 years as the Director's Secretary. Mrs. Brenda Ward has taken her place.

Finally, I wish to thank everyone concerned with the Trust for their hard work during the year.

D. Nickson  
Chairman

REPORT OF THE AUDITORS  
TO THE MEMBERS OF ATLANTIC SALMON TRUST LIMITED  
( A COMPANY LIMITED BY GUARANTEE )

We have audited the financial statements on pages 1 to 7 in accordance with approved auditing standards.

In our opinion, the financial statements, which have been prepared under the historical cost convention, give a true and fair view of the state of affairs of the company at 30 June 1989 and of the income and source and application of funds for the year then ended and comply with the Companies Act 1985.

*Mitchell Curran & Co*

MITCHELL CURRAN & CO  
Chartered Accountants  
167 King Street  
London W6 9JT

15 November 1989

THE BOARD OF DIRECTORS OF THE COMPANY HAS REVIEWED THE FINANCIAL STATEMENTS OF THE COMPANY FOR THE YEAR ENDED 31st DECEMBER 1999 AND IS OF THE OPINION THAT THE FINANCIAL STATEMENTS GIVE A TRUE AND FAIR VIEW OF THE FINANCIAL POSITION OF THE COMPANY AT THE END OF THAT YEAR AND OF THE RESULTS OF THE COMPANY'S OPERATIONS AND OF THE CASH FLOWS OF THE COMPANY DURING THAT YEAR.

THE FINANCIAL STATEMENTS HAVE BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE COMPANIES ACT 1985 AND THE COMPANIES (FINANCIAL STATEMENTS) REGULATIONS 1985, AS AMENDED, AND THE ACCOUNTING STANDARDS SET BY THE BOARD OF ACCOUNTS IN GREAT BRITAIN.

THE ACCOUNTING STANDARDS REFERRED TO ABOVE ARE THE ACCOUNTING STANDARDS WHICH ARE APPLIED BY THE COMPANY IN PREPARING ITS FINANCIAL STATEMENTS. THE ACCOUNTING STANDARDS WHICH ARE APPLIED BY THE COMPANY IN PREPARING ITS FINANCIAL STATEMENTS ARE THE ACCOUNTING STANDARDS WHICH ARE APPLIED BY THE COMPANY IN PREPARING ITS FINANCIAL STATEMENTS.

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*[Signature]*

CHIEF FINANCIAL OFFICER  
DIRECTOR  
1st Floor, 100 Broad Street  
London EC2R 2EJ  
12 December 1999

THE ATLANTIC SALMON TRUST LIMITED

(A COMPANY LIMITED BY GUARANTEE)

FINANCIAL STATEMENTS

30 JUNE 1989

THE ATLANTIC SALMON TRUST LIMITED  
INCOME AND EXPENDITURE ACCOUNT: YEAR ENDED 30 JUNE 1988

<u>1988</u>			
	<u>OPERATIONAL INCOME</u>		
	Investments:		
	On quoted investments, including income tax recoverable	41056	
36843	On investment deposit account	10782	
561	On ordinary bank deposit account	<u>213</u>	52051
42660	Trust activities:		
	Postal fishing auction	31928	
27938	Profit on sale of promotional items	<u>368</u>	
585	General charitable donations	32296	
28523	<u>TOTAL OPERATIONAL INCOME</u>	<u>14638</u>	
18368		<u>£98985</u>	
£89551	<u>OPERATIONAL EXPENDITURE</u>		
	Direct costs of promoting salmon conservation and enhancement	41926	
41608	Administration costs	<u>27284</u>	
21698	Progress Reports	69210	
63306	Trust publications: "Blue Books": cost less sales	5130	
4451	Special projects:	148	
1272	<u>Sponsored projects:</u>		
	Salmon tracking		
	Pre-afforestation drainage research		
	Other projects		
13297	Tweed Foundation: River Tweed project	3000	
	Spey Research Trust: Spring progeny project	2000	
	DAFS/AST: Share of genetic symposium	1637	
	Bristol University: radio tracking workshop	939	
	Review of scientific literature	<u>500</u>	
6671		£20593	£(13760) 6833
			(Note 2)
19968	Donations and grants		
1040	Accountancy fee	5000	
	Less: contribution by Fishmongers Company	<u>4000</u>	
1000	Investment advisory fee		
2632	<u>TOTAL OPERATIONAL EXPENDITURES</u>	£93575	
£93669	<u>OPERATIONAL SURPLUS FOR THE YEAR BEFORE DEPRECIATION (DEFICIT 1988)</u>	<u>5410</u>	
(4118)	Deduct:		
	Depreciation of fixed assets	(4227)	
(2209)	<u>EXCESS OF INCOME OVER EXPENDITURE FOR THE YEAR (DEFICIT 1988)</u>	<u>£ 683</u>	
£(6327)			



THE ATLANTIC SALMON TRUST LIMITED

BALANCE SHEET AT 30 JUNE 1989

<u>1988</u>					
	<u>ACCUMULATED FUND</u>				
	At 30 June 1988				588816
	<u>Add:</u>				
	Governated donations receivable, including income tax recoverable	29774			25324
	Net gains on disposals of quoted investments	<u>23683</u>			<u>23994</u>
		595143			638134
	( 63227)				<u>683</u>
	588816				<u>638817</u>
	<u>At 30 June 1989</u>				<u>63825</u>
	<u>Excess of income over expenditure for the year (deficit 1988)</u>				<u>1642442</u>
					<u>63834</u>
	<u>DEFERRED SPONSORSHIP CONTRIBUTIONS RECEIVED (Note 3)</u>				
	<u>TOTAL FUNDS</u>				
	<u>Employment of Funds</u>				
	<u>FIXED ASSETS</u>				
	Scottish Headquarters: freehold property at cost	41831			41831
	Other fixed assets at net book value (Note 4)	<u>22003</u>			<u>22003</u>
		68204			63834
	<u>Investments:</u>				
	Quoted investments at cost (market value £584,000)	444752			443936
	Investment deposit account	<u>95923</u>			<u>138829</u>
		540675			582765
	<u>CURRENT ASSETS</u>				
	608879				646599
	Stocks of promotional items at cost	766			810
	Debtors (Note 5)	9773			6783
	Prepaid expenditures	1675			1056
	Bank and cash balances: operational funds	4300			11635
		<u>16514</u>			<u>20284</u>
	<u>Deduct:</u>				
	<u>CURRENT LIABILITIES</u>				
	Creditors and accruals:				
	Amounts falling due within one year (Note 6)	(24202)			(24441)
	<u>Net current liabilities</u>	(7688)			( 4137)
	<u>TOTAL EMPLOYMENT OF FUNDS</u>	<u>£601191</u>			<u>£642442</u>
	..... SIR DAVID NICKSON (Chairman)				
	..... D. J. MACKENZIE (Director)				
	..... K. S. WATERS (Treasurer)				

THE ATLANTIC SALMON TRUST LIMITED  
STATEMENT OF SOURCE AND APPLICATION OF FUNDS  
YEAR ENDED 30 JUNE 1989

	<u>1989</u>	<u>1988</u>
<u>SOURCE OF FUNDS</u>		
Net increase in Accumulated Fund:		
Governanted donations receivable, including income tax recoverable	25324	25774
Net gains on disposals of quoted investments	23994	23683
Surplus (deficit 1988) on Trust activities, per Income and Expenditure Account	683	(6327)
	50001	47130
Deferred contributions received:		
Salmon tracking project	3000	8000
Education project	-	1000
	3000	9000
	53001	56130
	5094	5686
	£58095	£61816
Adjustments for items not involving the movement of funds:		
Depreciation of equipment, including salmon tracking equipment	724	15641
<u>TOTAL FUNDS GENERATED FROM ACTIVITIES DURING THE YEAR</u>		
<u>APPLICATION OF FUNDS</u>		
Purchase of fixed assets		
Increase (decrease) in Investments:		
Quoted investments	(816)	3327
Investment deposit accounts	42906	60612
	42090	63939
Current year utilisation of prior period sponsorship contributions received:		
Salmon tracking project	11750	11625
Trust publications	-	1000
	11750	12625
Increase (decrease) in net current liabilities (outflow)	54564	9205
	3531	(2085)
	£58095	£61816
<u>Increase (decrease) in net current liabilities</u>		
Stocks of promotional items	44	466
Debtors and prepaid expenditures	(3609)	(1572)
Bank and cash balances: operational funds	7355	(15716)
	3770	(16822)
Creditors and accrued expenditures	(239)	(13567)
	£ 3531	£(30389)

THE ATLANTIC SALMON TRUST LIMITED

NOTES FORMING PART OF THE ACCOUNTS: YEAR ENDED 30 JUNE 1989

1. Accounting policies

The accounts have been prepared under the historical cost convention, adopting the following principal accounting policies.

Depreciation

- (i) Depreciation is provided on a straight line basis to write off the cost of fixed assets (excluding the freehold property) over their estimated useful lives
- (ii) The following annual rates of depreciation have been applied:
- |                                      |     |
|--------------------------------------|-----|
| Office computer and photocopier      | 20% |
| Other office furniture and equipment | 10% |
| Director's motor car                 | 20% |
| Publicity caravan                    | 10% |
- (iii) The equipment purchased specifically for the salmon tracking project was previously being written off over the three year period of the project, ending 30 September 1989. A new project related to wild salmon and salmon farming is shortly to be commenced and will utilise the existing tracking equipment for a further two years. The depreciation provision has therefore been amended to reflect a total five year life, the appropriate accounting adjustment having been made in the accounts for the year ended 30 June 1989. Details are shown in Note 4.

Valuation of investments

The quoted investments held as fixed assets have been incorporated into the accounts at the cost of acquisition. The market value at 30 June 1989 of £584000 (1988: £558000) is based on a report by Schroder Investment Management Limited, as investment portfolio advisers to the Trust.

Donations received under deeds of covenant

Covenanted donations, including the income tax recoverable thereon, are treated as part of the permanent capital of the Trust and are therefore credited direct to Accumulated Fund. All other donations are included in the Income and Expenditure Account.

(continued)

2. Sponsored projects

(i) Salmon tracking project

The project, which terminates on 30 September 1989, has been sponsored during the second and third years of its three year duration, as follows:

Central Scottish Water Development Board	10000
Grampian Council	5000
North Scottish Hydro Electricity Board	5000
Tay District Salmon Fishery Boards	6000
	£26000

The total project costs from inception to 30 June 1989, less sponsorship contributions attributable to the 1988 and 1989 accounting periods have amounted to £12434. Deferred sponsorship contributions at 30 June 1989 of £2625 (Note 3) will be deducted from the gross project costs incurred for the final period 1 July 1989 to 30 September 1989, ie. in the accounts for the year ending 30 June 1990.

(ii) Pre-afforestation drainage research

The project is being conducted by the Freshwater Biological Association initially over a two year period. The Atlantic Salmon Trust and the Scottish Forestry Trust have to date contributed a total of £16720 towards the salary costs of the research personnel, in the following proportions:

	<u>1988</u>	<u>1989</u>	<u>Total</u>
The Atlantic Salmon Trust	6360	6360	12720
The Scottish Forestry Trust	2000	2000	4000
	£8360	£8360	£16720

NOTES FORMING PART OF THE ACCOUNTS: YEAR ENDED 30 JUNE 1989

(continued)

3. Deferred sponsorship contributions received

These relate to the proportion of total contributions received to 30 June 1989 attributable to future accounting periods for the undermentioned projects:

	<u>Total received</u>	<u>Allocated 30.6.88</u>	<u>Allocated 30.6.89</u>	<u>Deferred 30. 6.89</u>
Salmon tracking	26000	11625	11750	2625
Education	1000	-	-	1000
	<u>£27000</u>	<u>£11625</u>	<u>£11750</u>	<u>£ 3625</u>

4. Other fixed assets

	<u>Office equipment</u>	<u>Motor car</u>	<u>Publicity caravan</u>	<u>Tracking equipment</u>
<u>Cost</u>				
At 30 June 1988	12081	12297	3000	8866
Additions	724	-	-	-
<u>At 30 June 1989</u>	<u>£12805</u>	<u>£12297</u>	<u>£ 3000</u>	<u>£ 8866</u>

Accumulated depreciation

At 30 June 1988	3937	815	600	4519
Provision 1989	1969	2459	300	366
<u>At 30 June 1989</u>	<u>£ 5906</u>	<u>£ 3274</u>	<u>£ 900</u>	<u>£ 4885</u>
<u>Net book values</u> £22003	<u>£ 6899</u>	<u>£ 9023</u>	<u>£ 2100</u>	<u>£ 3981</u>

The reduction in the depreciation charge of the salmon tracking equipment (1988: £3477) reflects its extended useful life for a further two year period on the new wild salmon/salmon farming project (Note 2(i)).

NOTES FORMING PART OF THE ACCOUNTS: YEAR ENDED 30 JUNE 1989

(continued)

<u>5. Debtors</u>	<u>1989</u>	<u>1988</u>
Covenanted and other donations receivable	60	1190
Income tax recoverable	2842	2665
Postal fishing auction: proceeds receivable	1100	3352
Pre-afforestation drainage project:		
1989 contribution receivable (Note 2(ii))	2000	2000
Investment income receivable	781	566
	<u>£6783</u>	<u>£9773</u>

6. Creditors and accrued expenditures

Pre-afforestation drainage research:		
1989 contribution payable (Note 2(ii))	8360	8360
Postal fishing auction	1307	1332
Progress report: June 1989	3163	2347
Investment advisory fee	2911	2632
Other operational creditors and accruals	8700	9531
	<u>£24441</u>	<u>£24202</u>

7. Deeds of covenant

At the current basic rate of income tax (25%), the gross amount of covenanted donations potentially receivable in future accounting periods from covenants unexpired at 30 June 1989 (391) is estimated at £59000 (1988: £76000), as under:

1990	21500
1991	17600
1992	11400
1993 and later years	8500
	<u>£59000</u>

THE ATLANTIC SALMON TRUST LTD.

DEED OF COVENANT

Please insert full name and address in BLOCK LETTERS

I, .....  
of.....  
.....

HEREBY COVENANT with THE ATLANTIC SALMON TRUST LTD. that for a period of

(i) ..... years from the date hereof or during my lifetime whichever period shall be the shorter, I will pay ANNUALLY to the said Trust for such charitable purposes of or connected with the Trust as the Trust shall think fit such a sum as will after deduction of Income Tax at the basic rate for the time being in force leave in the hands of

the Trust a sum equivalent to (ii) £.....

(..... pounds) such sum to be paid from my general fund of taxed income so that I shall receive no personal or private benefit in either of the said periods from the said sum or any part thereof.

IN WITNESS WHEREOF I have hereunto set my hand and seal this

(iii) .....day of .....19..

SIGNED SEALED AND DELIVERED by the said

.....

in the presence of Witness .....

Address .....

Occupation .....

-----  
(i) Insert number of years. A covenant must run for a minimum of four years.

(ii) Enter the ANNUAL amount you wish to subscribe, in figures and words.

(iii) This date must be the same as or later than the date on which the Deed is signed.  
-----

The most convenient method of payment is by Banker's Order. Please complete the form overleaf and send it with your Deed of Covenant to The Atlantic Salmon Trust, Moulin, Pitlochry, Perthshire PH16 5JQ.





## ATLANTIC SALMON TRUST PUBLICATIONS

		£
Atlantic Salmon: Planning for the Future (Proceedings of the 3rd International Atlantic Salmon Symposium, Biarritz, 1986)	edited by D. Mills and D. Piggins -	45.00
The Biology of the Sea Trout (Summary of a Symposium held at Plas Menai, 24-26 October, 1984)	by E.D. Le Cren	1.50
Salmon Stocks: A Genetic Perspective	by N.P. Wilkins	1.50
Report of a Workshop on Salmon Stock Enhancement	by E.D. Le Cren	1.50
Salmonid Enhancement in North America	by D.J. Solomon	2.00
Salmon in Iceland	by Thor Gudjonsson and Derek Mills	1.00
A Report on a Visit to the Faroes	by Derek Mills and Noel Smart	1.00
Problems and Solutions in the Management of Open Seas Fisheries for Atlantic Salmon	by Derek Mills	1.00
Scotland's King of Fish (out of print)	by Derek Mills	1.85
Atlantic Salmon Facts	by Derek Mills and Gerald Hadoke	0.50
The Atlantic Salmon in Spain	by C.G. de Leaniz, Tony Hawkins, David Hay and J.J. Martinez	1.50
Salmon in Norway	by L. Hansen and G. Bielby	1.50
Water Quality for Salmon and Trout	by John Solbe	2.50
The Automatic Counter - A Tool for the Management of Salmon Fisheries (Report of a Workshop held at Montrose, 15-16 September, 1987)	by A. Holden	1.50
A Review of Irish Salmon and Salmon Fisheries	by K. Vickers	1.50
Water Schemes - Safeguarding of Fisheries (Report of Lancaster Workshop)	by J. Gregory	2.50
Genetics and the Management of the Atlantic Salmon	by T. Cross	2.50

## FILMS AND VIDEO CASSETTES AVAILABLE FOR HIRE

"Will There Be a Salmon Tomorrow"	- 16 mm film
"Salar's Last Leap"	- 16 mm film
"The Salmon People"	- Video (VHS)
"Irish Salmon Harvest"	- Video (VHS)
"Managing Ireland's Salmon"	- Video (VHS)
"Salmon Tracking in the River Dee"	- Video (VHS)

Films and videos may be obtained from the Trust for private showing by Clubs, Fishery Managers, etc. A donation to AST funds is required in return.

