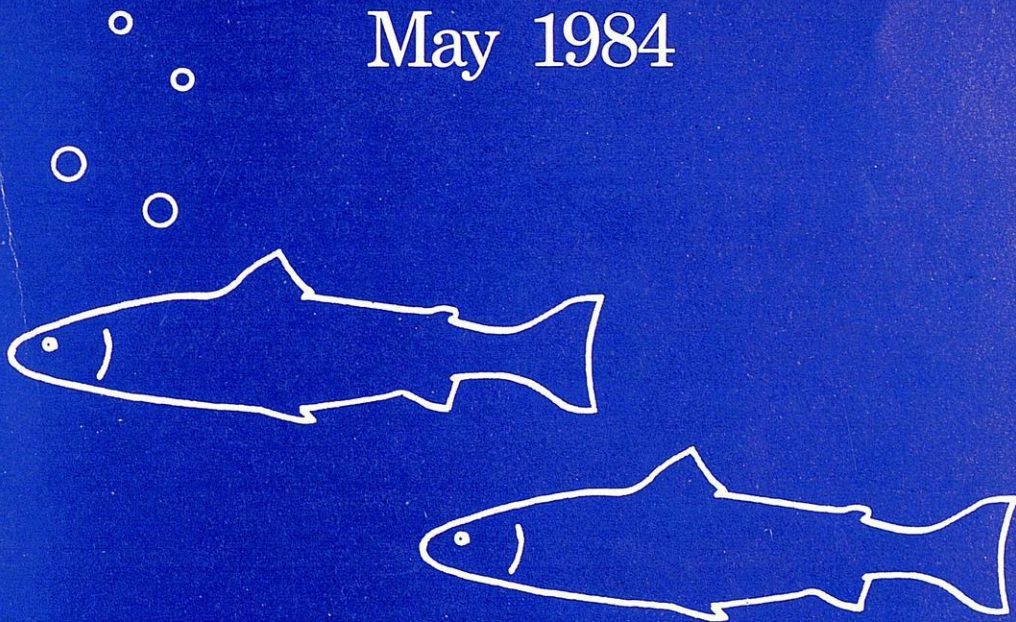


# Atlantic Salmon Trust

## Progress Report

May 1984



The Atlantic Salmon Trust  
41 Downing Street, Farnham, Surrey  
Tel. (0252) 724400





Patron:

HRH The Prince of Wales

GENERAL COUNCIL

President:  
Vice-President  
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Vice-Chairman:  
Members:

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\*Vice-Admiral Sir Hugh Mackenzie  
\*Mr. David Clarke  
\*Sir Ernest Woodroffe  
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The Rt. Hon. The Lord Biddulph  
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Mr. R.A. Buck  
\*Dr. W.M. Carter  
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\*Mr. Philip Tallents  
Mr. Michael G.T. Webster  
\*A representative of the British  
Field Sports Society  
A representative of the Spey  
Fishing Trust

Director:  
Secretary:  
Treasurer:

Mr. G.D.F. Hadoke  
Mr. E. Earl  
Mr. M. O'Brien

\* Members of Committee of Management

#### HONORARY SCIENTIFIC ADVISORY PANEL

Sir Ernest Woodroffe, Ph.D., F.Inst.P., F.I.Chem.E. (Chairman)  
Mr. I.R.H. Allan, M.A.  
Professor R.W. Edwards, B.Sc., Ph.D., F.I.Biol. (University of  
Wales Institute of Science and Technology)  
Dr. Graeme Harris, Ph.D. (Welsh Water Authority)  
Dr. G.J.A. Kennedy, Ph.D. (Department of Agriculture for  
Northern Ireland)  
Mr. E.D. Le Cren, MA., M.S., F.I.Biol.  
Dr. D.H. Mills, Ph.D. (Dept. of Forestry and Natural Resources,  
Edinburgh University)  
Dr. D.J. Piggins, Ph.D., B.Sc., (Salmon Research Trust of Ireland, Inc.)  
Miss E. Twomey, M.Sc. (Department of Fisheries & Forestry, Dublin)  
Observers: Mr. B. Stott (Ministry of Agriculture, Fisheries and Food)  
Mr. W. Shearer (Department of Agriculture and Fisheries  
for Scotland)

#### INTERNATIONAL ADVISORY GROUP (EUROPEAN SECTION)

Mr. J.R.W. Stansfeld (Chairman)	U.K.
Mr. Thor Gudjonsson	Iceland
Dr. R. Vibert	France
(Vacancy)	Norway
(Vacancy)	Ireland
Dr. Nils Johansson	Sweden
Sr. Jose Lara Alen	Spain
Sir Richard Levinge	U.K.

#### 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 og Fiskerforbund
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 & U.S.A.	Atlantic Salmon Federation



## THE MANAGEMENT OF THE TRUST

Since the last Progress Report, which was published in October 1983, there have been meetings of the Committee of Management in December 1983 and February 1984. December 1983 was also the month that the Annual General Meeting and the Meeting of the General Council took place, and when a number of important new appointments were made. The previous Progress Report contained news of the decision of HRH The Prince of Wales to become Patron of the Trust. At the December meetings the Chairman, Vice-Admiral Sir Hugh Mackenzie announced that he had decided to resign. The Duke of Wellington, who had previously indicated his willingness to accept an invitation to become the Trust's President, paid tribute to the enormous contribution made to the Trust by Sir Hugh as its first Director and then as Chairman. It was the unanimous decision of the Committee of Management that Sir Hugh should become Vice-President and Sir Hugh accepted with pleasure.

The Committee of Management then proceeded to invite Mr. David Clarke, who had so successfully organised the Appeal Campaign, to become its Chairman, an invitation which was accepted.

At the Trust's earlier meeting held in Edinburgh during October 1983, a number of additional appointments were proposed and accepted by the persons concerned. They were:-

To be Vice-Chairman: Sir Ernest Woodroffe, Chairman of the Honorary Scientific Advisory Panel

To be a member of the General Council: Dr. Graeme Harris, Principal Scientific Officer, Welsh Water Authority, and a Member of the Honorary Scientific Advisory Panel

To be a member of the General Council and Committee of Management: Mr. Ian Mitchell, a Scientist and Managing Director of the Tay Salmon Fisheries Company

Finally at the meeting held in London in February 1984 an invitation was extended to Mr. Richard A. Buck, Chairman of the Restoration of Atlantic Salmon in America Inc., and a member of the United States delegation to the North Atlantic Salmon Conservation Organisation, and subsequently accepted by him, to become a member of the General Council. In having as members of the Council, representatives of both R.A.S.A. and the Atlantic Salmon Federation, the Trust has greatly enhanced its position as an independent and international salmon conservation organisation.

During 1983 the Trust received with regret the resignation of the Hon. A.D. Tryon from the General Council and Committee of Management.

Although the Trust has recently reviewed its management structure, it decided that the only change should be the appointment of a new fund-raising committee to replace the existing Appeal Committee.



During the early months of 1984 consideration would be given to the appointment of a Chairman and members of this important Committee.

#### THE APPEAL CAMPAIGN IN SCOTLAND

As indicated in the previous Progress Report the campaign of fund raising in Scotland under Wing Commander Derrick Adams was not as successful as had been hoped due to a number of factors outside the control of the Trust and Wing Commander Adams. It was therefore reluctantly decided to close the Scottish Appeal Office down in October 1983 and to consider ways and means of establishing a Trust 'presence' in Scotland, provided further funds could be found. This subject has been under constant discussion during the current year but as yet no decision has been taken on it.

#### PUBLIC RELATIONS

Mrs. Jenny Botsford has again represented the Trust with the national papers and fishing magazines, and has brought to the attention of a number of journalists the important activities and work of the Trust. Mrs. Botsford achieved considerable success in promoting the 1984 Fishing Auction organised by Mr. Alex Prichard, Assistant to the Director, and as a result the Trust received an enormous amount of good publicity. The publication of Dr. D.H. Mills' book on the "Problems and Solutions in the Management of Open Seas Fisheries for Atlantic Salmon" on the eve of the newly established North Atlantic Salmon Conservation Organisation in January 1984 also gave Mrs. Botsford an opportunity to publicise the Trust's role in international Atlantic salmon management.

In recent months considerable discussion has taken place in correspondence to the Fishing press on the subject of the role of the Trust, particularly in relation to the work of the Salmon and Trout Association. Part of the confusion arises because many of the Trust's supporters are also officers and members of the Salmon and Trout Association and there is a close liaison between the two bodies. However, in the Trout and Salmon Magazine of March 1984 many friends of the Trust, including the President, the Duke of Wellington, wrote outlining the special features of the Trust and, in doing so, supported the views of the Chairman which were given full treatment in the same edition. The basic difference between the Association and the Trust is that whereas the former is a membership organisation, established for the purpose of conservation and the interests of its members, the latter is a Charity supported by voluntary donations, which is concerned solely with the conservation and development of the Atlantic salmon. But the most important fact which arises from this correspondence is the point that has been stressed again and again by the President, and that is the imperative need for all pro-salmon bodies to urgently present a united case for the improvement of the management processes for our salmon. Unless such a united front can be established quickly, the opportunity for persuading Government to introduce new legislation will be lost.

1983 saw the completion of Arctic Films' "Will There be Salmon Tomorrow". Filmed entirely on location in Iceland by Jon Hermannsson, a keen salmon fisherman, this is a 30 minute documentary made with



the support of the Trust, and deals primarily with the efforts being made by Iceland with a view to conserving and increasing their stocks of Atlantic salmon. The film has an introduction by Dr. Wilfred M. Carter, Executive Director of the Atlantic Salmon Federation, and includes some marvellous underwater footage of salmon being played and caught by rod and line. With some of the current trends in overfishing that take place in the United Kingdom, W. Europe and North America, combined with the pollution problems clearly evident in these countries, this film provides a sharp contrast. It shows that stricter laws and harsher penalties are needed to obviate the current overfishing and pollution situation. Iceland has shown that a determined and long term conservation programme, combined with stricter controls, can ensure an abundant supply of salmon; a situation that is and probably will be the envy of other countries for many years to come. The film is now available to interested parties direct from Dee Dee Productions, Ltd. London (Tel: 01-560 0464) who will be pleased to provide further information and can advise how copies of this film can be obtained.

Both the Director and the Assistant to the Director were invited during the past six months to talk to fishing groups about the Trust. The Director had an extremely interesting meeting with members of the Wye Salmon Fishery Owners Association in December, 1983, while Mr. Prichard attended a meeting in February of the Surrey Branch of the Salmon and Trout Association where he showed the film "Will There Be Salmon Tomorrow" and gave a talk on the objectives and activities of the Trust. The meeting was very well attended and an interesting question and answer session followed the film.

Game Fairs. The Chairman has most generously donated to the Trust a specially built exhibition caravan which it is proposed should be on view at some of the major Game Fairs, including the Holkham Game Fair, Norfolk, 21 July, 1984, and the C.L.A. Game Fair at Broadlands, Hampshire, 26 - 28 July, 1984. Mr. Clarke hopes very much that friends and supporters of the Trust will offer their services to assist him at these Fairs to present the Trust and its objectives to the general public.

Fishing Auction. For the second year in succession the Trust ran a Postal Fishing Auction as a fund-raising exercise, with gratifying success. Fortunately, the Press coverage obtained by Mrs. Botsford was very wide indeed, covering such national dailies as The Times and The Daily Telegraph, as well as local newspapers and the specialised periodicals, such as The Field, Trout and Salmon, etc. The Assistant to the Director was also interviewed on one of the Welsh radio stations on the subject of the Auction, and particularly as it affected the Wye and the Usk. Because of the Trust's other fund-raising activities in Scotland at the time, a greater effort was put into finding fishing in England and Wales, and the catalogue finally contained some 82 Lots. Over 800 catalogues were sent out, and some 310 bids were received. The total sum raised was close to £8,000. This is a very agreeable way of raising money, since to give a day or so's fishing is a comparatively painless exercise for the riparian owner, and the purchaser feels that he is getting value for money while supporting a cause in which he is interested. The Auction also serves the valuable purpose of bringing the Atlantic Salmon Trust to the attention of members of the public who would otherwise know nothing about it. The Committee of Management believes that these Auctions should become established annual events provided it



can continue to receive such valuable support from its friends in this manner. The Trust wishes to express its appreciation to all those owners who donated fishing this year.

#### FINANCE

The Balance Sheet and Accounts for the year ended 30 June, 1983, are published as an Appendix to this Report. The Trust's Finance Committee, after considering the Accounts, agreed that the following statement should be made by the Chairman to the Annual General Meeting:-

"In presenting the Trust's Accounts for the year to 30th June, 1983, you will see from the Balance Sheet that there has been a considerable improvement in our financial position since the previous year. Over the previous 4 years to provide the Trust with essential income, the Management Committee pursued a policy of high dividend yield but with attendant capital risks.

In the autumn of 1982 the Committee decided that with the growth in the appeal funds and the risk of further capital losses, the investment policy should be changed and that new Investment Advisers be appointed. Our new Advisers have made considerable changes in our investment portfolio, involving some losses. The new portfolio consists of Gilt Edged Stock and Blue Chip investments with Market Values at present higher than cost.

As you will see from our Income and Expenditure Account, our total expenditure is still greater than our income, when one considers our covenants and donations to be capital to provide income for the future."

Since its formation, the Finance Committee's aim is to bring investment and other income into line with expenditure.

#### HONORARY SCIENTIFIC ADVISORY PANEL

The Panel met in the University of Surrey, Guildford, on 9 April, 1984, when it reviewed the position of work "in progress".

(a) Overall Economic Evaluation of U.K. Salmon Resource. Professor John McInerney has, unfortunately, still to make a start on the Ministry-backed evaluation study of the salmon resource. The delay has been due to a number of factors, but mainly to the move which Professor McInerney made to Exeter University from Reading. Hopefully the study will get under way shortly. The Trust has emphasised to the Ministry the need to ensure that the Scottish salmon fishings form the greater part of the study in view of their size and importance; the Trust has offered to facilitate liaison between the Scottish salmon interests and Professor McInerney.

(b) Digital Mapping of River Area. The Welsh Water Authority have already undertaken much work in connection with this new method of mapping river areas, and examples of their work were distributed to members of the Panel to inspect.



(c) Sea Trout Workshop. Dr. Graeme Harris indicated that he and the Welsh Water Authority were organising a Workshop on Sea Trout to take place in Bangor, North Wales, from 24 - 26 October, 1984.

(d) Trust/I.F.M. Travel Scholarship. The Trust is now awaiting details from the Institute as regards the procedure to be adopted for selection of the first Travel Scholar.

The Panel also considered a number of projects including investigation into the estuarial behaviour of salmonids and a proposed Workshop on the study of the Ocean Life of the Atlantic Salmon. On the subject of the estuarial behaviour of salmon, the Panel considered the project to be one of great practical significance and hoped that it could be realised. Some members of the Panel did not consider that sufficient work had been carried out on the behaviour of young salmonids from the time they entered salt water as smolts to the time they reached the feeding grounds to make any workshop on the subject a meaningful one, but others considered the proposal to be worthy of further consideration. However, the Panel did agree that provided sufficient work had already been done on the subject, a Workshop on the effects of insidious pollution on salmonids would be of great value.

Illegal Fishing. Although the Trust obtained some information and details about illegal fishing from Water Authorities and elsewhere, the general view held by the senior fishery staff in those authorities was that the position of illegal fishing was well-known to the two Departments - DAFS and MAFF - and it was not believed that further study would achieve any tangible results. Mr. Eric Staite, on being approached by the Trust to consider studying the matter, was prepared to cover the Welsh, Wessex and South West Areas, but in spite of this there was no encouragement from the Water Authorities. The point made by many officers was that by seriously considering the proposed salmon tagging scheme MAFF and DAFS had recognised the state of illegal fishing and hoped the new scheme would alleviate it. If this was so, there was no point in publicising the matter further.

#### SALMON CONSERVATION

The State of the Salmon Stocks. In a most interesting talk to a meeting of salmon fishery interests in Inverness last December, which was attended by the Director, Dr. R.G.J. Shelton, the Director of the Department of Agriculture and Fisheries Laboratory at Pitlochry, gave a fascinating insight into the scientists' assessment of the causes of the decline in the multi-sea winter salmon originating in our rivers. He pointed out firstly that the strengths of recruiting age groups of juvenile salmon are determined early on in their freshwater life by the interplay of density dependent and independent factors. This is important because many biologists believe that the time a smolt enters the sea can affect the strength of that sea year class. For instance, if the food supply in the sea was at a low level when the smolts left freshwater, then the growth of the juvenile salmon would be restricted and the fish would become more susceptible to enhanced mortality.

Dr. Shelton makes four observations:-

- (1) Research indicates that although smolt production has been maintained in Scotland, the mean age of the smolts has declined.
- (2) Possibly because of the decline in the mean age of the smolt, an increasing proportion of the runs in Scotland's rivers take place after the annual close season for nets.



- (3) There is circumstantial evidence for the earlier maturation of salmon which in turn suggests that there will be a corresponding increase in the proportion of fish returning as grilse and a drop in the proportion returning as salmon, especially in the Spring. One of the reasons for this change may lie in Arctic oceanographic changes.
- (4) There is evidence from investigations on one river in Scotland that total marine mortality rates on grilse and salmon are significantly greater now than during the past 20 years.

These observations are not only interesting and significant but they illustrate the great variety of factors which influence the health of our salmon stocks. Unfortunately many of these factors are outside national and even international control.

Position Paper on the Management and Conservation of the Atlantic Salmon Resource. In April the Trust decided to issue a paper addressed to delegates attending the forthcoming (May 1984) meeting of the North Atlantic Salmon Conservation Organisation in which the present situation of the Atlantic salmon resource is examined. Both the Atlantic Salmon Federation and the Restoration of Atlantic Salmon in America, Inc. have also issued similar papers which are reviewed later in this report.

The Trust's paper notes the decline in the stocks of multi-sea winter salmon and shows that the decline commenced in the early 1960s. In the Trust's view considerable research is needed to ascertain whether the present state of the salmon stocks is due to normal cyclical movements or whether other factors, including changes in feeding habits and the two major high seas fisheries off West Greenland and the Faroes, must also be taken into account. The Trust recommends continued co-operation with the Faroese and Greenlandic Home Governments in the monitoring of fish stocks in the North Atlantic, and proposes that a salmon sales control system is adopted by all salmon producing and harvesting countries, under the supervision of NASCO, for the purpose of establishing an adequate and efficient control of salmon marketing throughout the area. The paper concludes with two further recommendations. Firstly, it is suggested that NASCO makes representations to member countries to phase out drift netting in all those countries with the exception of West Greenland and, secondly, it recommends that an internationally-organised salmon smolt tagging programme is set up and designed to assess the effect of all off-shore fisheries on the salmon stocks of rivers of origin.

Salmon Improvement Schemes. Recently there have been four encouraging developments in connection with action by fishermen to improve the conservation of their salmon stocks.

Firstly, the Wye Salmon Fisheries Owners Association are seeking to study the juvenile stock levels and their distribution and the spawning activity to provide a base line for subsequent comparison. The Welsh Water Authority has expressed an interest in the proposals and hopefully their active participation can be counted upon, not only by assisting with the provision of staff but also by supervising the study.

Secondly, owners of fishings on the River Tweed have established



a Foundation designed to provide additional funds for such purposes as:

- (a) a research and hatchery facility for salmon and trout in order to study in depth the changing ecology of the river.
- (b) a replacement for the fisheries patrol vessel which in recent seasons has been used with great effect to curb the intensive off-shore illegal fishing operations.

Thirdly, the Spey District Salmon Fishery Board has posed two problems for study:

- (1) Can differences be detected by the time the juveniles reach the smolt stage in the progeny arising from stockings in similar streams using ova obtained from multi sea-winter fish (salmon) which returned during the spring and autumn and fish which returned after spending one winter in the sea (grilse)?
- (2) Do the progeny of spring and autumn running salmon and grilse stocked in similar streams in the upper reaches of the River Spey maintain their identity and return to freshwater true to type?

and has sought help from the Trust to ensure that the proposals can be implemented. It will be recalled that in the previous Progress Report (October 1983) details were given of a scheme to study the exploitation and availability of spawning salmon in the river system.

Finally, it has been reported that the South West Water Authority, which has had some experience in self-help schemes among anglers and netmen, has published a poster setting out a kind of code of practice for fishermen to encourage maximum production of salmon and sea trout in the Taw and Torridge.

#### ENVIRONMENTAL MATTERS

Acidification of Waters. This highly complex problem of pollution from the sky and land has received a great deal of attention, not only in the news media but in countless meetings and conferences. Recently it was reported that a number of scientists now believed that the effect of emissions of sulphur concentrations from power stations on the quality of rivers and lakes may have been grossly exaggerated. Swedish scientists have suggested that acidification of Swedish lakes could have been caused by afforestation - a fact which must hardly be surprising to any salmon fisheries worker who has been sampling river quality over the years! It was suggested by the same scientists that the most economic way to deal with the problem was not to install devices to reduce the acid content from power station emissions, but to lime the affected waters instead. This is, of course, what the Swedish scientists have been doing for some time, and one of them - Mr. Bengtsson - reported on his experiences to a one-day conference at Two Lakes Fishery, Hampshire, at the end of last year. Not to be outdone by Sweden, the Welsh Water Authority announced in March of this year that it proposed to place two tons of lime in the lake at Llyn Pendam, near Aberystwyth, in an attempt to reduce the acidic condition of the water. It will be interesting later to learn the results of the experiment in both economic and



chemical terms, but it must be said that Mr. Bengtsson, in his lecture at Two Lakes, was adamant that liming was only a stop gap and some other permanent solution had to be found.

The Government has announced in Parliament that it has initiated a three-year research programme into the effects of acid deposition. It is perhaps significant that in the Government's view as expressed in the House of Commons, the cost of the "retro-fitting of desulphurisation plant" at existing power stations would involve enormous cost and increase the cost of electricity to the consumer.

The Trust, in its endeavour to improve the stocks of Atlantic salmon and to act as a watchdog for the resource, finds it increasingly difficult to adopt any positive action on the subject in view of the size and complexity of the problem. For the time being, therefore, it will continue to study the various reports of the interested parties and where it is considered appropriate attend conferences on the subject. In the meantime it wishes the Welsh Water Authority success in its liming experiment.

Introducing Pink Salmon to United Kingdom Waters. Up to the time of writing this report, no further information has been received regarding the study initiated by the Ministry on the possible introduction of pink salmon to United Kingdom waters. However, what has come to hand is an account of a pink salmon population explosion in the Great Lakes, Canada, as the result of an accidental dumping of pink salmon in Thunder Bay on the northern shore of Lake Superior, Ontario, in 1953. Although the production of pink salmon in large lakes may not have any relevance to the sea ranching of the species off the coast of the United Kingdom, it is clear that no-one seems able to forecast accurately the interactions provided by the introduction of a non-indigenous variety of salmon. Canadian scientists admit they are baffled by the population explosion and fear for the stocks of rainbow trout and lake trout.

#### INTERNATIONAL SALMON DEVELOPMENTS

North Atlantic Salmon Conservation Organisation. January 1984 saw the start of the new International salmon conservation body - the North Atlantic Salmon Conservation Organisation - established by resolution of the Reykjavik Convention of 1982. The first meeting of the Organisation, which has as its main aim the promotion of the conservation, restoration, enhancement and rational management of salmon stocks in the North Atlantic through international discussion and co-operation, was held in Edinburgh. It is significant that the Press Release issued by the NASCO authorities recognised the fact that the new body had as its origin the Salmon Symposium arranged jointly by the Trust and the International Atlantic Salmon Foundation (now re-named the Atlantic Salmon Federation) in Edinburgh in 1978. This is the second instance of the Trust, acting in co-operation with its North American friends, initiating a major development in the field of international salmon management; in 1969 a similar jointly arranged conference aimed specifically at devising means to bring to an end the then totally uncontrolled high seas drift net fishery for salmon off the west coast of Greenland, resulted in the cessation of all fishing for salmon off Greenland by outside nations and the application of a quota system to the catches by the local Greenlandic fishermen.

The first meeting of the Council of the Organisation and its three



regional Commissions was opened by Mons. A. Bordes, representing the Council of the European Communities which was responsible for all the organisational details. The parties belonging to the new body are Canada, Denmark in respect of the Faroes, the European Economic Community, Iceland, Norway and the United States of America. Sweden, which signed the Reykjavik Convention but has had reservations about joining the Organisation, and Finland, attended as observers. It was later decided that Finland could accede to the Convention and become a full member of the Organisation.

At its first meeting the Council elected Mr. G. Eiriksson (Iceland) as President and Mr. A.E. Petersen, Jr.(USA) as Vice-President. Chairmen of the three Regional Commissions were appointed as follows:

North East Atlantic:	B. Smøgrav (Norway)
North America:	Dr. G.A. Nadeau (Canada)
West Greenland:	L. Andreassen (E.E.C.)

The Council had considerable discussion about the appointment of a Secretary to the Organisation and eventually had to settle with an interim appointment to be held by a MAFF Scientist, Dr. Malcom Windsor, who has delighted the Trust by contacting the Director soon after his appointment and then deciding to attend the Trust's Workshop on Stock Enhancement, which was held in April.

Although many of the discussions held during the first meeting of the Council and its Regional Commissions tended to be concerned with administrative and procedural matters, the Organisation established its first scientific research links with the International Council for the Exploration of the Sea, whose General Secretary, Mr. Basil Parrish, was appointed an observer for future meetings. Mr. Parrish, who is a strong supporter of the Trust, has given much useful advice to us in connection with a possible future Workshop.

During a reception given for all the delegates by the Trust, with the very great help of Mr. David Nickson and the Scottish and Newcastle Brewery Co., many friends of the Trust from all parts of the salmon world were present. Very useful meetings were held with Mr. Richard Buck, Chairman, Restoration of Atlantic Salmon in America, Inc. and a member of the American delegation to NASCO, Mr. John Pearson, who headed the E.E.C. delegation, Mr. Thor Gudjonsson, Director of Iceland's Freshwater Fisheries Institute and a member of our own International Advisory Group, Miss Eileen Twomey, Fisheries Research Centre, Dublin, and a member of our Scientific Advisory Panel, and Mr. Arni Olafsson from the Faroes, who hopes to head his country's delegation to see the United Kingdom's salmon fisheries in May of this year.

The Trust has formally submitted an application for observer status at future meetings of the Organisation's Council and Commission meetings and it is understood that the matter will be considered at the next meeting due to be held in May, 1984. Both the E.E.C. and Mr. Buck of the U.S.A. delegation have been requested to support our application.

It is perhaps of importance to observe that the E.E.C. by virtue of its larger share of the Atlantic salmon catch becomes the senior member of the Organisation in principle and is due to contribute the



largest amount to the central funds. This is of great significance to the United Kingdom since in future the international welfare of our salmon is closely linked and indeed subject to the policies laid down by the Commission. It was perhaps prudent of the Trust to establish at an early stage a close liaison with both the Commission and the Parliament. Already the E.E.C. by its early decision to prohibit salmon fishing outside the 12 mile limits and its ability to negotiate the catch quotas in respect of both West Greenland and the Faroes has indicated its ability to take positive action to protect our salmon stocks.

Finally, it is interesting to note the different attitudes taken by member states in appointing delegates to NASCO. Whereas all the delegates appointed by the E.E.C. are members of the Commission itself, those of Sweden, Iceland and the Faroe Islands contain important salmon scientists, being Mr. Nils Johansson, Mr. Thor Gudjonsson and Mr. Jakupsstovu respectively. Both Mr. Johansson and Mr. Gudjonsson are members of our own International Advisory Group. The delegation from Canada comprises a senior Civil Servant - Dr. A.W. May, the Secretary Treasurer of Newfoundland Fishermen Food & Allied Workers Union - Mr. E. McCurdy, and a representative of the Angling Organisation known as Association des Pecheurs sportifs de saumon de Quebec - Dr. G.A. Nadeau. The United States of America delegation contains Mr. Richard Buck, the Chairman of R.A.S.A.

#### E.E.C. AND EUROPEAN PARLIAMENT

Since the holding of the special two-day salmon "Hearing" in Brussels in July, 1983, the Trust has eagerly awaited the presentation to the European Parliament of the report on the event by the sponsor, the Working Group on Fisheries. Unhappily, although a report has been drafted there is some doubt as to whether the available time will permit its debate and presentation before the elections to the Parliament take place later this year. If this does happen, it would be most unfortunate as it would mean that the Parliamentary work on the report would have to start all over again under the new Parliament and new Working Group.

In the Trust's view, the proposed report, which it is understood was due to be presented by Mrs. Joyce Quinn (M.E.P. for South Tyne and Wear) contains many important elements of a sound Atlantic salmon conservation policy for the waters of the Common Market countries, so that its temporary demise would prevent possible implementation of that policy in forthcoming meetings of the North Atlantic Salmon Conservation Organisation.

#### VISIT OF FAROESE DELEGATION

During the meeting of the North Atlantic Salmon Conservation Organisation in Edinburgh during January, 1984, an invitation was issued to Mr. Arni Olafsson, Director of Administration in the Faroes Government, to head a small delegation to visit the United Kingdom salmon fishing stations and research installations. The invitation has been accepted and the delegation, comprising in addition to Mr. Olafsson, Mr. Hjalti i Jakupsstovu, Mr. Andrian Reinert (both biologists), and Mr. Osmund Justinussen, Managing Director and Chairman of the Faroese Fishing Vessel Owners Association, will arrive



in Scotland on 14 May, 1984, and stay approximately one week. The object of the visit is the same as that for the 1983 visit of the Greenlandic fishermen, namely, to inform the visitors of the nature and extent of the investment and effort put in by Government and fishery owners to ensure the conservation and development of our salmon stocks. The Trust believes that greater understanding of our research and development work by the visitors will ensure that the latter will continue to adopt a balanced attitude towards the high seas harvesting of salmon stocks. However, the opportunity will be taken also to discuss major problems confronting the conservation of the stocks, including the North East of England drift net fishery and the widespread illegal fishing, and to indicate possible remedies.

Arrangements have been made for the visitors to see West Coast of Scotland salmon cage rearing sites and North East of Scotland laboratories and fishing stations, as well as to meet representatives of the fishing interests.

Last year the Tay Salmon Fisheries Company gave a most generous donation to the Trust to meet the cost of entertaining the visiting Greenland delegation. The Company has again made a further large donation to assist the Trust in covering the expenses of the Faroese visit. This double act of generosity is greatly appreciated by the Trust.

#### LEGAL MATTERS

##### Important Fisheries Judgements affecting Salmon.

Northumbrian Water Authority. Perhaps one of the most important judgements affecting salmon fisheries in England and Wales was given by Lord Justice Stephen Brown and Mr. Justice Taylor following the hearing of an appeal by way of case stated in the case of Champion v Maughan and Groves. Mr. Champion is Chief Fisheries Officer for Northumbria and he took action on behalf of his Water Authority against two men observed setting a net off the beach during darkness. The case was taken under Section 6(1)(a) of the 1975 Salmon & Freshwater Fisheries Act which has been the cause of much contention and correspondence between the Ministry and the Water Authorities and which states that:

'any person who places a fixed engine in any inland or tidal waters shall be guilty of an offence'.

In previous cases of this nature the view had been held in many quarters that if the fishermen in question could justify their intention of fishing for sea fish other than salmon or sea trout, then no offence would be against them.

However, in this particular instance although the fishermen caught a fish in the net which was not of the migratory species, the Authority decided to prosecute them under Section 6(1)(a) of the 1975 Act because it was considered that failure to do so would exacerbate the salmon poaching problem in the area caused by people using 'cod' nets to catch migratory fish. Although in the Magistrate's Court the decision went against the Authority, Lord Chief Justice Brown ruled as follows:

"Section 6(1)(a) provides in ten words a very clear prohibition. Any person who "places a fixed engine in any inland or tidal



waters....." shall be guilty of an offence. Upon agreed facts the justices found that the respondents had placed a fixed engine in tidal waters. In my judgement there is no escape, upon that finding, from concluding that the information had been proved. This is not a difficult question. It is a question of construction, and it relates to words which are clear and unambiguous."

On the face of it the result would seem not only to justify the excellent work by Mr. Champion and his bailiffs, but to provide the biggest single development in recent years for combating the extensive illegal fishing throughout the country. However, unfortunately the judgement raises some problems. It can now be argued, for instance, that Water Authorities should seize any fixed engine set in an estuary but such action would be against the operations of legitimate fishermen who place fixed engines for the purpose of catching non-migratory species. The Authorities would not want to operate in such a manner even though the judgement removed any ambiguity from the interpretation of the relevant section of the Act. However, an important observation by Mr. Justice Taylor was to the effect that under the 1975 Act, the Minister may by Order modify the provisions of the Act which relate to the regulation of the Fisheries. Thus the Minister might be able to exempt certain well-defined fixed engines from the provisions of Section 6(1)(a) and by doing so allow the bailiffs a clear hand to take action against any other fixed engines. Such Ministerial modifications of the Act, however, must surely not be done on a national basis but must relate to the special and individual needs of each Water Authority. Hopefully the Ministry will react in a positive way to this important judgement and by doing so demonstrate its continued support to the Water Authorities in their effort to reduce the extensive illegal fishing of salmon and sea trout.

Kerry Fishery District - Drift Net Fishery. An equally remarkable and significant judgement affecting the conservation of salmon stocks was given in the Republic of Ireland's High Court on 10 February, 1984, when the Kerry Salmon & Trout Protection Federation successfully challenged the Republic's Minister for Fisheries who signed a bye-law in 1981 allowing 40 extra drift nets to be fished in the Kerry area. The Ministerial bye-law had replaced three other Orders dating from 1913 prohibiting drift netting in tidal waters in an area 12 miles off the coast between Dunmore Head on the north side of Dingle Bay and Crowe Head on the north side of Bantry Bay. The 1959 Fisheries (Consolidation) Act in Ireland provides that "any person aggrieved" by the making of a bye-law has a right of appeal to the High Court. It is a costly operation, however, and the Federation had to seek the help of many anglers and estuary fishermen to enable it to raise the necessary funds. The result of the case was, however, a great victory for the Federation and salmon conservation and, indeed, for the provisions of the Fisheries (Consolidation) Act which allowed the voice of conservation to be heard through the mouth of the Judge.

In essence, Mr. Justice Costello annulled the Ministerial bye-law because he did not find the arguments made in support of it to be convincing and the overwhelming weight of the scientific evidence convinced him that the bye-law was not "expedient for the more effectual government, management, protection and improvement of the fisheries" as it was required to be by the terms of the 1959 Act. In his hour-long judgement, Mr. Justice Costello examined in great detail the evidence placed before him as a result of an earlier enquiry,



and it is perhaps significant that he relied heavily on the evidence produced by Dr. Alec Gibson, Chief Scientific Adviser and Mr. Dan Good, the local Fisheries Inspector, in coming to the conclusion that the Minister's decision to abolish a major conservation measure which prevented drift netting, could not be justified.

The officers and members of the Kerry Salmon & Trout Protection Federation, and all the other conservation groups that supported them, are to be congratulated on the magnificent stand they have taken in the interests of salmon. The Trust, which is voluntarily supported by many of the scientists from both the United Kingdom and the Republic of Ireland, is delighted at the significant support which the Judge gave to the scientific evidence provided by Dr. Gibson and, in doing so, gave notice that scientific consideration in this case was more important than political ones.

The effect of this important judgement on the representative organisation of a section of the Irish sea fishermen was to be expected. The Irish Fishermen's Organisation, which does not represent the traditional estuarial salmon net fishermen, has announced that:

- (a) present stocks of salmon are capable of carrying a much larger number of operators - i.e. more drift netters.
- (b) Monofilament and multifilament nets should be permitted.
- (c) Depths and lengths of drift nets should be increased, and the restrictions on the size of nets used for salmon fishing abolished.

In an attempt to balance these outrageous recommendations the Organisation suggests the creation of a development fund to be used for increasing stocks and to which each licensed fisherman should contribute. However, the existing salmon licence fees must be frozen!

#### LIAISON WITH UNITED KINGDOM CONSERVATION BODIES

Over the past number of years the Trust has developed a close relationship with many of the United Kingdom Conservation bodies which, among many other interests, consider salmon conservation matters from time to time. A brief account of meetings of these organisations is given below:

Standing Conference on Countryside Sports. The Conference holds two one-day meetings a year and it includes all organisations connected with countryside sports. Of special interest to the Trust was the publication last year of the Conference's specially commissioned Survey of the Economic Significance of Countryside Sports - including angling. This survey was carried out by Cobham Resource Consultants of Oxford and reported on in the last Progress Report. At a recent meeting, the Trust's Director gave the Conference details of the proposed National Economic Survey of the Salmon Resource to be undertaken by the Ministry and Professor John McInerney of Exeter University. The Trust was also invited to present a 'profile' of itself to delegates to the Conference at the same meeting.

British Field Sports Society. The Trust has been invited to send



a representative to attend meetings of the Society's special Fisheries Committee and it has been very pleased to do so. This extremely active Society has shown its desire to assist and promote improvements in the management of our salmon fisheries and has asked the Trust to provide information on various matters. The Trust's Director reported to the Society on a meeting on Acid Rain held at Two Lakes Fishery, Hampshire, in late 1983, and has reported also on the work being carried out in Scotland by the Association of Scottish District Salmon Fishery Boards to obtain a review of the current legislation. The Society is as anxious as the Trust to ensure that salmon conservation groups should co-operate and present a case for review of the United Kingdom's legislation which is acceptable to all salmon interests.

The United Kingdom Federation of Field Sports Associations of the E.E.C. (F.A.C.E.). For some time the Trust has associated itself with the United Kingdom F.A.C.E. organisation because of its close links with Brussels-based E.E.C. Departments and with members of the European Parliament. Until recently F.A.C.E. has not been greatly concerned with the sport of angling, but there are indications that this position may change shortly. The Trust has a direct contact with Dr. Yves LeCocq, Secretary-General to the European F.A.C.E. Organisation in order that it can be kept fully advised on current rulings and regulations about salmon stocks. This facility has been most generously provided by Dr. LeCocq who has also agreed to try to further the Trust's application for observer status on the Council of Europe's special Committee for dealing with the environment and natural resources.

Campaign for Country Sports. The Trust has been active in the Executive Committee of the Campaign for Country Sports under the Chairmanship of the Rt. Hon. Sir Humphrey Atkins, M.P. At a meeting in January, Sir Stephen Hastings, the Chairman of the British Field Sports Society, spoke on the question of salmon conservation and referred to an all party Parliamentary Committee, steered by Mr. Cranley Onslow, M.P., who was also at the meeting. Mr. Prichard, for the Trust, was able to report on steps taken both in Scotland and in England and Wales in an attempt to up-date legislation, and he described the salmon tagging scheme. This scheme was well known to Mr. Cranley Onslow and had his full support, and it seems possible that Parliamentary action will be forthcoming in the not too distant future. This is a matter to which the Trust attaches the highest importance since it would be a major step in the campaign to bring the illegal fishing of salmon under control.

Salmon & Trout Association. Links between the Trust and the Salmon and Trout Association are close due to the fact that many supporters of the Trust are also members of the Association, and this applies to some of the officers of both Organisations as well. The Trust's Director has also been invited to serve on the Association's important Migratory Fish Committee along with other members of the Trust. In recent weeks, in spite of the fishing media displaying much concern at the differing roles of the two bodies, the Trust and the Association continue to serve the interests of their supporters and members respectively and to co-operate whenever the need arises, such as joining together to present a case on salmon management to Government ministers.

#### LIAISON WITH NON-UNITED KINGDOM CONSERVATION BODIES

France. The Trust continues in its efforts to strengthen relations with the continental organisation which most resembles



itself, that is to say, the Association Internationale de Defense du Saumon Atlantique (AIDSA) in France, and a representative of the Trust regularly attends meetings of the AIDSA. Relations are excellent. The French organisation is particularly interested in the evaluation of the salmon fisheries in France, and the Trust has offered to help in the design and execution of such a study. It is possible that the AIDSA may call upon a British organisation with previous experience in such studies to carry out the work. Meanwhile, the French have serious internal problems, mainly in the maintenance of their rivers, but there are signs of improvement.

At the instigation of the Trust, the AIDSA is seeking some sort of representation at the North Atlantic Salmon Conservation Organisation meetings in Edinburgh. This is a source of satisfaction because of the high regard in which the French scientists are held, and because the remit of the AIDSA, like that of the Trust, is to concern itself primarily with the salmon rather than the interests of those who fish for it.

Atlantic Salmon Federation. Our sister organisation in North America - the Atlantic Salmon Federation - has made a great impact on the salmon world with the publication of a "Position Paper" on the state of the North American Atlantic salmon fisheries. The Federation contends that the situation in respect of salmon stocks is now critical, and it attributes this to two factors:

- (a) the chronic marine exploitation of mixed Atlantic salmon stocks by commercial fisheries.
- (b) the ill-conceived management of the resource over decades.

In order to rectify the unsatisfactory position, the Federation has petitioned the delegates to the North Atlantic Salmon Conservation Organisation and its own home Governments with a five-point set of recommendations, the most important of which is a 5-year moratorium on all commercial harvesting of Atlantic salmon. If this suspension of fishing did not produce a dramatic improvement in the spawning escapements of Canadian rivers, then the Federation favoured the total abolition of salmon harvesting.

Most interestingly, the Federation recommends to the North Atlantic Salmon Conservation Organisation the adoption by all its member states of a universal adult salmon tagging scheme similar to that now in operation in New Brunswick and proposed by the former National Water Council for England and Wales. The Trust has included a similar recommendation in its own 'Position Paper'.

Attached to the Federation's 'Position Paper' was an interesting report by the Canadian Atlantic Fisheries Scientific Advisory Committee. After reviewing the generally reduced catches and spawning escapements, the Report suggests that low spawning escapements in 1978 and 1979 cannot be the sole cause of the low abundance of salmon in Canadian rivers during 1983. Commenting on the low 1983 Greenland catch referred to earlier in this report, the Committee states that any analysis is complicated by reports of unusually cold water, which may have made salmon unavailable to the fishery. This point was also made by the 1983 Greenlandic delegation to the United Kingdom in respect of the 1983 low catch. Concluding its report, the Committee suggests that



as catches of grilse are positively correlated with catches of multi-sea winter salmon in the following year, the low abundance of grilse in 1983 heralds a below average run of early salmon in 1984.

Restoration of Atlantic Salmon in America, Inc. The Restoration of Atlantic Salmon Inc., under the chairmanship of Mr. Richard Buck, like the Atlantic Salmon Federation, also issued late in 1983 a 'Position Paper' covering the "Atlantic Salmon Crisis". In line with the Federation, R.A.S.A. proposed a six-year moratorium on the harvesting of Atlantic salmon throughout the North Atlantic, together with "the adoption by Governments of regulations for river management, including complete bans on angling wherever and whenever necessary" to enable salmon runs to be restored so that all the available spawning habitats are substantially utilised.

R.A.S.A. expresses strong arguments in support of its proposals and once again makes its case for the promotion of "river harvest", a concept with which the Trust is in agreement inasmuch as it means the abolition of indiscriminate drift netting off the shores of the United Kingdom.

Scandinavian Atlantic Salmon Group. This recently formed group has been established through the initiative of Mr. Theodor Dalenson of Stockholm. Everyone interested in the conservation of Atlantic salmon will welcome Mr. Dalenson to their ranks and rally to his side when such support is needed.

Mr. Dalenson has kindly submitted a report on the Scandinavian rivers in 1983, which is paraphrased below:-

Norway. Although angling results were down on the previous year Norwegian drift netmen did well, catching some 826,083 kg of salmon, compared with 590,000 kg in 1982. It is believed that the real catch may be higher because, as in other countries, fishermen fear the activities of the Income Tax Department if they declare high returns. It is most interesting, in view of the Trust's campaign about drift netting, that many rod-caught fish had a high percentage of net marks; during some periods of the season this percentage was as high as 80. Mr. Dalenson, like the Trust, contends that drift netting is a wasteful method of salmon fishing which causes many fish to die uncaptured after breaking through the meshes of the net. He reports also that Sport Fishing organisations in Norway started a campaign early in the year to persuade Government to reduce the number of drift net licences issued. The campaign, in fact, helped to prolong the close season period in one of the districts.

Mr. Dalenson states that another serious problem is the spread of the disease known as Gyrodactylus Salaris - a parasite that kills salmon parr during their first and second years in the rivers. It has been present for many years in Swedish rivers, but apparently caused little damage. Since its spread to Norway, however, it has killed the entire parr population of one river system and is spreading rapidly. Fortunately some of the major rivers, such as the Alta, Gaula Laerdal, Namsen and Stjordal have not yet been affected.

The long-standing campaign against the building of a power station on the Alta appears to have been of no avail in spite of support for the



opponents of the scheme coming from most of Europe. Work on constructing the power station commenced in the summer of 1983.

Sweden. Mr. Dalenson writes that river catches in Sweden showed some improvement and the future prospects seem brighter. The River Morrun in the south of Sweden has shown a big increase in returning salmon, the reason probably being the restocking operations from the large smolt-rearing station on the river. No final decision has yet been taken about the proposal to build a power station on the River Em which has not only a good stock of salmon, but one of the best and largest stock of sea run brown trout in the world.

The main problem for Swedish salmon apart from acid rain (which surprisingly Mr. Dalenson does not mention in his report), is the netting operations in the Baltic sea. It is rumoured that following discussions at a salmon conference in Lulea last year, the Government has decided to impose some restrictions on the netting.

#### SALMON MANAGEMENT: UNITED KINGDOM AND IRELAND

Northumbrian Water Authority. Mr. A.S. Champion, Chief Fisheries Officer, has reported that the overall picture in the North East during 1983 was optimistic in that salmon and sea trout were plentiful along the coast and until drought conditions prevailed in the summer, anglers enjoyed good sport in the rivers Wear and Coquet. The run of salmon in the Tyne was disappointing but the general upward trend of catches continued. Salmon were again caught in the Tees and were present in quite large numbers during the autumn. However, the recovery of the river as a salmon fishery suffered a severe setback when pollution affected approximately 36 miles of river. Approximately 300 salmon were killed before spawning.

His bailiffs have been particularly active in their attempts to curb the illegal fishing in the area, and it is reported that some 273 persons were prosecuted for fishery offences, of whom 218 pleaded guilty. The range of offences was wide, indicating illegal fishing with net in river and at sea and fishing with prohibited instruments. The total value of the fines levied in the offences was over £15,000.

North West Water Authority. It has been reported that the 1983 salmon season was generally a poor one throughout the Region, for rods and nets alike. However, paradoxically the run of salmon into the Solway Firth was exceptionally good and catches by the haaf netters were the best in living memory. These conditions also applied on the Border Esk where the returned rod catch on the English part of the river was 269 fish against an average for the past 5 years of 105. It is understood that the main club fishing the Scottish part of the river had a total catch which was the best for something like 20 years. Unfortunately the River Eden by comparison produced a catch only 10% up on the average for the past 5 years.

Mr. Desmond Kelsall, the Regional Fisheries Officer for the area, reported that the Authority's activities in Cumbria in the field of artificial propagation have been severely handicapped since last June, when the Ministry placed a 16-day Order on their hatchery at Holm-wrangle on the Eden, following a check for IPN which proved positive. As a result of this Order, none of the juvenile salmon and sea trout still remaining on site (the greater part of the stock, in fact)



could be planted out, and they have had to be held over into this year in the hope that the second of two checks at 6-monthly intervals, which has recently been carried out, will prove negative. This situation precluded the laying down of any ova in the hatchery in the Autumn of 1983, so that the next batch of juveniles will not be available for planting out until the summer of 1985, assuming that all goes well. At Middleton Hatchery, Sedbergh, on the River Lune, where no restrictions are in force, it was possible to lay down a total of a little over 0.5 million salmon ova and 145,000 sea trout ova, both these being taken from fish obtained from the River Lune and from rivers in South Cumbria. About 100,000 additional salmon ova, bought in from Scottish sources, have also been laid down at Middleton.

Scotland. Major matters of concern to Scottish salmon owners and managers have remained unchanged during the past year. Nevertheless the Association of Scottish District Salmon Fishery Boards has pursued its important self-imposed task of updating the management of the salmon fisheries. It was encouraging to note that towards this end the Association has held meetings with Lord Grey of Contin and officials of the Scottish Office and discussed future powers and financing of new District Salmon Fishery Boards. It is encouraging to learn that the Association, and indeed many other organisations and individuals, are backing in principle the proposed adult salmon tagging scheme as already proposed for England and Wales, no doubt because the Association realises that this would be one method of curbing the illegal salmon fishing off the Scottish coast. The Association considers, however, that two of its main worries are, firstly, future plans for financing the new District Boards, since Government has made it clear that it can provide no funds and that, in addition, it does not favour the licensing of rod or net fishing. Secondly, the Association views the continued existence of the North East of England drift net fishery, the annual catch of which comprises 94% Scottish salmon, as a matter of great concern to the future well-being of Scottish east coast rivers.

In a well-reasoned paper, Mr. Ian Mitchell, a member of the Trust's Committee of Management, writes as follows on the impact which this drift net fishery has on the Scottish rivers:-

"In the 9 years 1974-82 the average reported catches of salmon and grilse were Northumbria 41364, Yorkshire 6943 and Scotland 'East' 79741. This average N.E. England catch of 48307 underestimates the real stock loss to Scottish rivers. MAFF reports have put a composite loss of a further 20% of this total due to seal predation at the nets and drop out and subsequent death of fish temporarily enmeshed. The real impact of North East England drift net fishery is a reduction of 57968 fish per annum in total stocks. Tagging results suggest that the Tweed, Forth and Tay contribute 77% of the N.E. of England catch and hence the annual loss of stock from these rivers is 44635. This represents an annual catch loss of 11158 salmon and grilse and more importantly an escapement loss of 33477.

Although such losses are themselves serious the underlying trend cannot continue. 5 year running averages of catch in the period 1974-82 show that whereas the intercepting fisheries off England have increased by 7000 the fisheries



in the areas producing the bulk of the fish have decreased by 14,000."

The Highland Regional Council, through its Depute Director of Development, Mr. John Moir, prepared a comprehensive report on the salmon industry in Scotland, with particular reference to its economic and social importance to the Highland area. The report suggested that the Council should support the efforts being made by such organisations as the Association of Scottish District Salmon Fishery Boards and the Trust, to establish for Scotland a stable pattern of control and management and to support any new legislation towards this end. A seminar, organised by the Highlands and Islands Development Board in Inverness last December, also highlighted the decline in salmon stocks due to many factors, including illegal fishing, seals, and the operations of interceptory fisheries, such as those off the coasts of West Greenland, Faroes and the North East of England.

Regrettably it has been reported that the Development Committee of the Regional Council decided that the only action it should take on the matter was to "note" the report, and by doing so would seem to have ignored the inherent dangers to the local economy of declining salmon stocks.

Republic of Ireland. It is to be expected that the Electricity Supply Board of the Republic should produce an interesting report on its salmon fisheries each year because the Secretary of the Board, Mr. Jack Williams, was once a member of the Trust's Committee of Management. The report for the 1982 season is indeed an interesting one. The Board has agreed with the Department of Fisheries and Forestry to co-operate on increasing the nation's production of salmon smolts in order to not only benefit the rivers in need of re-stocking, but also the developing salmon farming industry. As a result Mr. Williams reports the completion of a new hatchery at Cathaleen's Fall on the Erne, with the object of producing 600,000 salmon smolts and thus double the rearing potential of the Board. It is of interest to learn of this development in view of the comparatively small artificial production of smolts in England and Wales. Significant, too, is the fact that the Electricity Supply Board received a substantial financial contribution from the European Economic Community through the Department of Fisheries and Forestry.

However, Mr. Williams' Board once again reports that the salmon runs in all the rivers with which the E.S.B. is involved showed a continuing decline. Even in the River Lee the salmon stocks of which are largely derived from hatchery-produced smolts, it was estimated that the spawning stock was insufficient for its own rehabilitation and salmon eggs had to be imported from Norway and Scotland. The Board issued a clear warning to the Government in the following terms:

"For many years now the ESB has been drawing attention to the depletion of stocks of salmon in the rivers in which it is engaged. It has voluntarily ceased commercial fishing itself in the interests of the dwindling stock and is engaged in expensive remedial measures. The reduced stocks reflect the position of the national salmon stock and is a result of undue exploitation of a diminishing resource. This is a complex socio-economic problem and is outside the ESB's control. The national objective to sustain a



healthy and profitable salmon industry is clear but a plan is required which will be acceptable to all sections of the industry. The stock of salmon represents a most valuable self-renewing resource which can be of immense value to the whole country and the present methods of exploitation call for a rational national harvesting policy. Such a policy must receive clear commitment from all sections of the industry if it is to succeed. Other countries have found it possible to develop such a policy and the ESB calls for a re-examination and re-assessment of the position before it is too late. The supply of salmon smolts which the ESB is providing for re-stocking will not, of itself, sustain the industry; it merely provides another tool in a rehabilitation process."

Clearly a national policy which allows over 80% of the total catch to be reaped by a section of the industry - the drift net fishermen - many of whom are also grant-aided in respect of their boats, needs reviewing, particularly in view of the economic cost of the re-stocking programme.

The Central Fisheries Board of the Republic has published provisional catch figures for the 1983 season. 483,434 fish were landed (1982: 288,374 fish) adding up to the sixth highest catch ever recorded. It will be appreciated that by far the greatest proportion of the catch comprises one sea winter grilse so that comparisons cannot be made with the majority of Scottish and English river catches. In spite of the very heavy toll taken by the drift netmen to the disadvantage of estuary commercial fishermen and the upstream anglers, the Department of Fisheries and Forestry consider that the escapement of fish to the spawning areas was reasonably satisfactory; if this is the case the Department's views are in sharp contrast to those expressed in the Electricity Supply Board's report noted above which, however, referred to the 1982 season.

#### REVIEW OF CURRENT LITERATURE ON SALMON RESEARCH AND DEVELOPMENT

(Anyone having difficulty in obtaining copies of the publications in which the mentioned articles appear is asked to write to the Trust which will do all it can to provide photocopies at a reasonable price.)

##### (a) Behaviour.

- (i) The autumn and spring emigrations of juvenile Atlantic salmon, Salmo salar L., from the Girnock Burn, Aberdeenshire. A.F. Youngson, R.J.G. Buck, T.H. Simpson and D.W. Hay. Journal of Fish Biology, 1983, 23(6): 625 - 639

Peaks in the emigratory activity of sexually immature, juvenile Atlantic salmon, Salmo salar, occur in autumn and early winter and in spring at the Girnock Burn in Aberdeenshire. Stream temperature is apparently without effect on the release of potentially emigrant fish from the stream. Migrants tend to leave the stream when stream discharge rate is elevated. Whereas downstream movements in autumn and the earlier part of the spring are made almost invariably when the stream's discharge rate is higher than the seasonal norm, later in spring they often occur when discharge rates are lower than the seasonal norm and when no apparent increase in absolute stream discharge rate has



occurred. Emigration is depressed in the lunar quarter centred on the full moon. The nature of the relationship between the autumn and spring emigrations is discussed.

- (ii) Behaviour of Atlantic salmon smolts during seaward migration. I. Preliminary Report on ultrasonic tracking in a Norwegian fjord system. M. Holme, I. Huse, E. Waatevick, K. Døving and J. Aure. International Council for the Exploration of the Sea. CM.1982/M:7.

In order to find the most effective releasing techniques for future ocean ranching programmes, the behaviour of wild and hatchery-reared Atlantic salmon smolts during seaward migration was studied by tracking fish tagged with acoustic transmitters. Four fish were tracked in 1981 and seven fish in 1982. The tentative results of this study indicate that the smolt follow the outgoing currents and that they tend to mill around and start diving activities when they come to areas with complicated current patterns.

- (iii) Peculiarities of the behaviour of hatchery Atlantic Salmon downstream migrants (Salmo salar) after release into natural environment. E.L. Bakshtansky, V.D. Nesterov and M.H. Nekludov. International Council for the Exploration of the Sea. CM.1983/M:3.

In the Baltic, the survival rate of hatchery migrants is about two times lower than that of wild migrants. In the Atlantic Ocean it is 4.3 times lower. Different survival rates depend, to a great extent, on the inadequacy of the behaviour of hatchery young in the natural environment. This is a general review of Russian work and the authors conclude that to ensure hatchery young fish survival measures should be worked out that will bring their behaviour closer to that of wild fish.

#### (b) Stock-Recruitment

- (i) Recreational catch as an index of Atlantic salmon spawning escapement. E.M.P. Chadwick. International Council for the Exploration of the Sea. CM.1983/M:43.

Recreational catch was examined as an index of Atlantic salmon spawning escapement on Newfoundland rivers. On eight rivers with fishways and counting weirs there was a significant correlation between recreational catch and river escapements. An exploitation rate was calculated on several rivers.

- (ii) The relation between stock size and progeny of Atlantic salmon, Salmo salar, L., in a Scottish Stream. R.J.G. Buck, and D.W. Hay. Journal of Fish Biology, 1984, 24(1): 1 - 11.

Large variations in the number of female adult salmon spawning in the Girnock Burn each year (range 28 - 127) produced smaller variations each year (range 290 - 5,600) in the number of juvenile migrants. The relative constancy of the parr migrations was achieved by changes in their age composition. There may be no advantage in allowing ova deposition to exceed a level around 200,000 (3.4 ova per square metre,  $3.4\text{m}^{-2}$ ) in the Girnock Burn which would give rise to an average level of about 4,000 juvenile migrants ( $0.07\text{m}^{-2}$ ) per season. Large numbers



of ova (up to 12.5 ova per square metre) did not decrease the number of juvenile migrants.

(c) Exploitation

Salmon exploitation in Iceland. T. Gudjonsson from:  
International Symposium on Salmon Problems, Lulea, 1983

Iceland is in an unusual position to study the exploitation rate of the salmon stocks in individual rivers, since salmon fishing, with a minor exception, takes place in the rivers. The average annual exploitation rate by rods on the Ellidaar over a period of 42 years was 34% (18 - 47%). The total exploitation rate on the Grimsa (nets and rods) is estimated to be 81 - 85% and the escapement 15 - 19%, while on the Nordura the exploitation rate is 50%. In the glacial river Blanda the exploitation rate was 85%. Methods for measuring rates of exploitation included direct counts, the use of mechanical and resistivity fish counters and mark and recapture.

(d) Biological Characteristics

An update: the use of scale characters and multi-variate analysis to discriminate between Atlantic salmon (Salmo salar L.) of North American and European origin caught at West Greenland. D.G. Reddin and R.F. Burfitt. International Council for the Exploration of the Sea. CM.1983/M:11.

Scale samples collected in 1980 from Atlantic salmon caught in Europe and North America, were used as "learning" samples to identify variables and form a data base for classification of fish caught at West Greenland.

(e) Competition

Salmon - Capelin interactions. D.G. Reddin and J.E. Carscadden. International Council for the Exploration of the Sea. 1982/M:17.

Possible interactions of salmon and capelin are discussed in relation to their ecology. Adult capelin are known to be important but not exclusive components of the diet of adult salmon. Possible relationships relating salmon and abundance of capelin on which they might have been feeding were tested by correlation analysis, but none were significant. The poor sea survival of the 1977 smolt class cannot be attributed to the recent decline of capelin due to poor recruitment. However, since the prey species for post-smolt salmon are unknown and mortality on the 1977 smolt class may have occurred during the post-smolt stage, low capelin abundance could not be completely eliminated as a factor contributing to the failure of the 1977 smolt class.

(f) Physiology

- (i) Studies on the effects of a low pH on weight gain, sexual maturation, androgen production and reproduction in the Atlantic salmon (Salmo salar), H.C. Freeman, G.B. Sangalang, M. McMenemy, G. Burns and T. Goff. International Council for the Exploration of the Sea. 1983/M:19.

Wild Atlantic salmon captured in the low pH Westfield River (pH 4.6 - 5.3)



had lower plasma androgen limits at sexual maturity compared to wild male salmon sampled in the less acidic Medway River. Atlantic salmon held and fed daily in cages in the low pH Westfield River during the last 3 to 4 months of their sexual maturation cycle gained less weight, produced smaller eggs and had abnormal steroid hormone metabolism compared to similar fish held under similar conditions in the less acidic Medway River (pH 5.4 - 6.1). Mortality of eggs taken and fertilised from salmon in the low pH Westfield River exceeded 90%.

- (ii) Physiological stress and mortality of Atlantic salmon, Salmo salar, l. in acid water with high levels of aluminium. B.O. Rosseland and O.K. Skogheim. International Council for the Exploration of the Sea. 1982/M:29.

Mortality and physiological stress was measured in Atlantic salmon during a 3 days experiment in acid water with 4 different concentrations of aluminium. The water had a constant pH of 5.0 and the levels of labile aluminium, the fraction believed to include the toxic form, varied from 130 to 463 ug Al/l. The most sensitive of the 3 stages used - eyed eggs, yearlings and pre-smolt, was the pre-smolt which showed a 100% mortality within 50 hours at 245 ug labile Al/l. At the highest Al concentration death started after 10 hours. All the yearlings died in the highest Al concentration, death started after 18 hours. No eyed eggs died during the experiment. These findings indicate that the most sensitive stage of salmon is not, as earlier considered, the youngest stage, but the smoltification stage. This might explain the episode of salmon death in River Vikedal in 1981, where the fish kill during an acid snowmelt was primarily on salmon smolts migrating downstream.

- (iii) Age at sexual maturity in Icelandic stocks of Atlantic salmon (Salmo salar). D.L. Scarnecchia. Canadian Journal of Fisheries and Aquatic Sciences 1983, 40(9): 1456 - 1468.

For Icelandic stocks of Atlantic salmon in 77 rivers, the combination of June ocean temperature, length of river ascended by the salmon, discharge of the river in July - September, and latitude, explained much of the variation in percentages of grilse - 72% for females and 62% for males. For both sexes, percentage of grilse was directly related to ocean temperature but inversely related to length of river, discharge of river and latitude. For stocks in 23 Southwest coast rivers, length of river explained 72% of the variation in percentage of females that were grilse. Females in stocks south of the thermal gradients separating Atlantic from Arctic or Polar water tended to return as grilse; females north of the gradients tended to return after more than one winter at sea. The decline in percentages of grilse clockwise from south western to north eastern rivers corresponded closely with the decline in June ocean temperatures between these areas.

(g) Tagging

Coded wire microtag applications in Newfoundland, the first three years. V.A. Pepper and M.F. O'Connell. International Council for the Exploration of the Sea. 1983/M:15.

After 3 years of wild smolt microtagging in 2 rivers of insular Newfoundland, it is apparent that there are some deficiencies in application of this technology for routine monitoring of wild Atlantic



salmon stocks. Most of the problems associated with microtagging stem from the impracticality of changing head moulds to accommodate the range of smolt sizes found in wild stocks and from abrasions to the snout region that returning adults often suffer during their river ascent to the spawning areas. These abrasions may result in loss of microtags. Possible means of surmounting these problems are proposed.

#### (h) Fish Counters

The reliability of population data obtained from the use of a resistivity counter in a major salmon river.  
D.A. Dunkley and W.M. Shearer. International Council  
for the Exploration of the Sea 1983/M:25.

Fish behaviour patterns which have been found to be sources of error or causes of spurious counts are discussed in relation to the reliability of population data obtained from the use of a resistivity fish counter across the North Esk. Proposals for a more accurate counter are discussed.

#### (i) Fry Rearing

- (i) The impact on survival and growth of Atlantic salmon (Salmo salar) and sea trout (Salmo trutta) by using incubators with artificial substrate. 1. Hatchery and first summer. A.C. Eriksson and G. Westlund.  
Swedish Salmon Research Institute Report. 1983: 2

The impact on survival and growth, in full hatchery scale, by using incubators with artificial substrate, has been studied during a four-year period. A total number of 163,000 eggs have been used in the experiments. Both survival and growth are improved with the use of Astro-turf as a substrate. Grids of lining wood gave no improvement on the survival, but a better growth.

- (ii) Atlantic salmon fry rearing experiments in Newfoundland during 1982. V.A. Pepper, T. Nicholls and N.P. Oliver.  
International Council for the Exploration of the Sea.  
1983/M:14.

This paper describes the first attempts at semi-natural rearing of Atlantic salmon fry in Newfoundland. In keeping with low level technology applications to salmon enhancement in Newfoundland, experiments are being conducted to attempt to increase fry to smolt survival through semi-natural production of 90 day parr for release to lake and stream habitats. After an initial 42 day start-feeding period in which fry were retained in feeder pens in a rearing channel, parr were allocated to these two rearing options, 60% survived the 48 day rearing channel experiment, while 94% survived in the lake cage. The 90 day average release weight was 1.9 g for parr from the rearing channel and 2.2 g for parr from the lake cage. Growth of parr in these rearing experiments resulted in a size advantage of approximately 3 x over parr captured from stream habitat at the end of the experiment.



(j) Rearing of Young Salmon in Lakes

Stocking of fingerlings of Atlantic salmon, Salmo salar L. in lakes, a possible smolt production method.  
L.P. Hansen and C. Senstad. International Council  
for the Exploration of the Sea. 1982/M:31

Preliminary results of stocking of fin-clipped fingerlings of Atlantic salmon in Lake Storevatnet, Imms, S.W. Norway in September, 1980, have so far given a recapture rate of 6.8% in the smolt trap at the river mouth. Compared with naturally produced salmon in the river system the stocked fish showed an excellent growth rate, but they migrated as smolt later in the year and over a longer period than the natural smolt. The importance of this with regard to ocean survival is not known.

(k) Salmon Farming

A method of distinguishing wild salmon from those originating from fish farms on the basis of scale structure. I. Antere and E. Ikonen. International Council for the Exploration of the Sea 1983/M:26

Attempts were made to distinguish wild from reared salmon using a method based on the scale structure formed during the freshwater phase. The conditions in the hatcheries differ so much from those in natural surroundings that the zones of the freshwater phase in scales of the hatchery-reared smolts are usually different from those of the wild smolts. On this basis it is often possible to distinguish the wild from the reared salmon in catch samples.

(l) Introduction and Transfer of Alien Fish Species

Report of the Working Group on Introductions and Transfers of Marine Organisms. International Council  
for the Exploration of the Sea. 1983/F:27

The report covers national summaries dealing with relevant laws and other procedures.

(D.H. Mills)











HONORARY AUDITOR'S REPORT

TO THE MEMBERS OF THE ATLANTIC SALMON TRUST LIMITED

I have audited the annexed accounts of The Atlantic Salmon Trust Limited ("the Trust") which have been prepared under the historical cost convention.

In the accounts for the previous year ended 30 June 1982, a specific provision amounting to £39,300 was created against possible future losses on quoted investments and the Accumulated Fund was reduced accordingly. During the year ended 30 June 1983 the investments concerned were sold, giving rise to actual losses less gains of £14,890. The surplus provision of £24,410 no longer required has accordingly been written back to Accumulated Fund in the year ended 30 June 1983.

In my opinion, the accounts give a true and fair view of the state of affairs of the Trust as at 30 June 1983 and of its excess of income over expenditure for the year ended on that date. I have obtained all the information and explanations which I have considered necessary for the purposes of my audit. In my opinion, the Trust has maintained proper books and records which are in accordance with the accounts and which comply with the Companies Acts 1948 to 1981.

  
P.J. TOMLIN F.C.A.

Cedar Lodge  
6 Beech Road  
Reigate  
Surrey RH2 9LR

20 September 1983



THE ATLANTIC SALMON TRUST LIMITED

BALANCE SHEET AT 30 JUNE 1983

1982

<u>ACCUMULATED FUND</u>		
136,998	At 30 June 1982	104,863
	<u>Add:</u>	
20,694	Excess of income over expenditure for the year	39,447
<u>157,692</u>		<u>144,310</u>
	<u>Add:</u>	
	Provision for unrealised losses on investments written back:	
(39,300)	Provision at 30 June 1982	39,300
	<u>Less:</u>	
(13,529)	Realised losses less gains	14,890
<u>(52,829)</u>		<u>24,410</u>
<u>104,863</u>	<u>At 30 June 1983</u>	<u>168,720</u>
<u>CURRENT LIABILITIES</u>		
42,219	Amount due to stockbrokers for purchases of investments	-
4,849	Sundry creditors and accruals	5,712
<u>47,068</u>		<u>5,712</u>
<u><u>£151,931</u></u>		<u><u>£174,432</u></u>

  
VICE-ADMIRAL SIR HUGH MACKENZIE

  
G.D.F. HADOKE

  
M.R.T. O'BRIEN



1982

95,834	<u>QUOTED INVESTMENTS AT COST</u>	120,554
	(Market value £129,594)	
	<u>Deduct:</u>	
39,300	Provision for unrealised losses	-
<u>56,534</u>		<u>120,554</u>
	<u>CURRENT ASSETS</u>	
1,904	Stocks of prints and poems	1,898
45,856	Amount receivable from stockbrokers on sales of investments	-
4,177	Income tax recoverable	4,503
24,384	Sundry debtors and prepayments	1,275
-	J. Henry, Schroder Wagg: Special deposit account	42,332
19,076	Bank and cash balances	3,870
<u>95,397</u>		<u>53,878</u>
<u>£151,931</u>		<u>£174,432</u>



THE ATLANTIC SALMON TRUST LIMITED

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 30 JUNE 1983

1982

INCOME

58,894	<u>Appeals (Notes 1 and 2)</u>	
	Charitable donations	79,630
34,831	<u>Deduct:</u>	
	Appeal expenses	32,360
<u>24,063</u>		<u>47,270</u>
	<u>Other activities:</u>	
-	Fishing auction proceeds	12,955
-	Sales of paintings	3,155
1,861	Lottery proceeds	1,247
1,053	Profit on sales of prints	23
183	Commission: sale of bronze figures	-
<u>3,097</u>		<u>17,380</u>
<u>27,160</u>		<u>64,650</u>
	<u>Investment income:</u>	
20,661	Quoted securities, including income tax recoverable	13,216
850	Deposit account interest	2,895
<u>21,511</u>		<u>16,111</u>
<u><u>£48,671</u></u>		<u><u>£80,761</u></u>



1982

EXPENDITURE

<u>Administrative costs</u>		
11,096	Salaries and State contributions	15,365
1,112	Rent, rates and services (Note 3)	-
7,091	Office expenses and publicity	11,406
3,527	Travelling expenses	4,273
250	Audit fee	300
<u>23,076</u>		<u>31,344</u>
<u>Deduct:</u>		
-	Grant from Fishmongers Company	773
<u>23,076</u>		<u>30,571</u>
<u>Projects</u>		
3,358	Bessinger-Liddell Scholarship	4,252
-	Greenland	5,003
1,543	Other: progress reports	1,188
<u>4,901</u>		<u>10,443</u>
-	<u>Donations</u>	300
<u>EXCESS OF INCOME OVER EXPENDITURE</u>		
20,694	<u>TRANSFERRED TO ACCUMULATED FUND</u>	<u>39,447</u>
<u>£48,671</u>		<u>£80,761</u>

THE ATLANTIC SALMON TRUST LIMITED

NOTES TO ACCOUNTS

1. Appeals: charitable donations

Covenanted donations, including income tax recoverable

Pledged donations not under covenant

Other donations and sponsorship

2. Deeds of covenant spread over 4 to 10 years

Subject to future cancellations and changes in the basic rate of income tax (currently 30%), the gross amounts of covenanted donations and other pledged donations as at 30 June 1983 were as follows:

Covenanted donations

Pledged and other donations

3. Rent, rates and services

The Trust moved from No. 14 to No. 41 Downing Street, Farnham with effect from 25 March 1983 at an annual rent of £3,500. No rent or rate demands for No. 14 Downing Street had been received since first occupation to 30 June 1982 but the Trust provided £2,140 for accounts purposes to cover these items. The actual rent charged in respect of No. 14 Downing Street for the entire period of occupation amounted to £1,000 and the resultant overprovision for rent and rates was accordingly written back to Income and Expenditure Account during the year ended 30 June 1983. The net result of these adjustments created a small credit balance of £49 which has been deducted from office expenses and publicity costs for accounts purposes, leaving a nil charge on the rent, rates and services account.



3 0 J U N E 1 9 8 3

First Appeal	Second Appeal	Scottish Appeal	Total
3,613	42,618	508	46,739
479	9,260	-	9,739
27	22,998	127	23,152
£ 4,119	£ 74,876	£ 635	£ 79,630
101,242	334,729	3,650	439,621
66,049	203,491	127	269,667
£167,291	£538,220	£3,777	£709,288

THE ATLANTIC SALMON TRUST LIMITED

YEAR ENDED 30 JUNE 1983

SOURCE AND APPLICATION OF FUNDS STATEMENT

SOURCE OF FUNDS

Net increase in Accumulated Fund 63,857

Deduct:

Non-monetary items : provision for losses  
on quoted investments written back 39,300

Net funds from activities £ 24,557

APPLICATION OF FUNDS

Increase in quoted investments 24,720

Deduct:

Decrease in net current assets (below) 163

£ 24,557

Decrease in net current assets

	<u>Increase</u>	<u>Decrease</u>
Stock of prints		6
Net amount due from stockbrokers		3,637
Income tax recoverable	326	
Sundry debtors		23,109
Sundry creditors		863
Cash and bank deposits	27,126	
	<u>27,452</u>	<u>27,615</u>
	27,615	
	<u>£ 163</u>	





