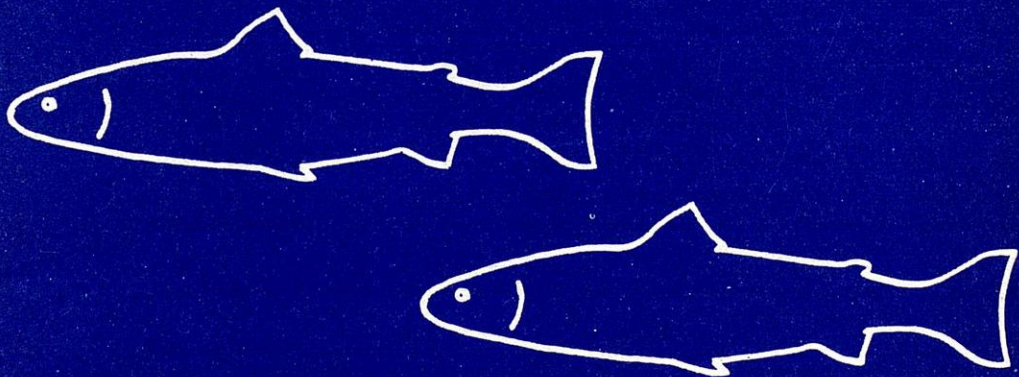


# Atlantic Salmon Trust

## Progress Report

October 1980 ~ March 1981



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Dr. J.W. Jones, O.B.E., Ph.D., D.Sc., F.I.Biol.  
Dr. D.H. Mills, Ph.D. (Dept. of Forestry and Natural  
Resources, Edinburgh University)  
Mr. E.D. LeCren, M.A., M.S., F.I.Biol. (Freshwater  
Biological Association)  
Dr. Graeme Harris, Ph.D. (Welsh Water Authority)  
Observers: Mr. I.R.H. Allan (Ministry of Agriculture, Fisheries  
and Food)  
Mr. A.V. Holden (Dept. of Agriculture and Fisheries  
for Scotland)  
Mr. H.J. Killick (Natural Environment Research Council)

INTERNATIONAL ADVISORY GROUP (EUROPEAN SECTION)

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



## PROGRESS REPORT OCTOBER 1980 - MARCH 1981

### Aims and Objectives of The Trust

The prime objective of the Trust is to stimulate and encourage Governments to control and protect Atlantic Salmon Fisheries. In order to do this effectively it acts as a focal point for the collection and dissemination of new knowledge and factual information about salmon. Furthermore, it identifies dangers and potential threats to the salmon resource and works in the closest co-operation with other organisations currently striving for better management and improvement of salmon stocks. Provided funds are available it will continue to sponsor research and travel fellowships and to organise special conferences and working groups to deal with specific subjects or problems.

### The Management of The Trust

The final administrative arrangements for the change in the title of the Trust were completed in 1980. The successful outcome of this operation was due largely to the efforts of Mr. G.W. Radcliffe, Solicitor, who was one of the Founders of the Trust. Although the word 'Research' has been omitted from its original name, the Trust hopes that in the not too distant future funds will be available to sponsor research projects.

In the hope that many Scottish members would attend and offer their views on how the Trust could better achieve its aims, an extraordinary General Council meeting was held in Edinburgh in October, 1980. At this meeting it was unanimously decided to appoint Vice-Admiral Sir Hugh Mackenzie as Chairman. Fifteen members of the Council attended the meeting and, in addition, Mr. R.B. Williamson, Inspector of Salmon and Freshwater Fisheries for Scotland, Dr. D.H. Mills, University of Edinburgh, and Mr. W. Mackenzie, Highlands and Islands Development Board were invited as observers. During a general discussion, Council members recommended that consideration should be given by the Trust to the initiation of talks to produce an agreed Policy for British Salmon Conservation. The support of the Association of Scottish District Salmon Fishery Boards was promised for such a project.

Mr. John Golding, M.P. for Newcastle-under-Lyme, agreed to become a member of the Council early in 1981. He is a keen supporter of the Salmon and Trout Association.

### The Appeal

Mr. David Clarke, the Chairman of the Appeal Committee, has submitted the following report on the progress of the Appeal:



"The total now stands at over £250,000. This total includes grossed up covenants, pledges and promises. It should be pointed out that the actual cash received is in no way anywhere near this figure. However, whilst it is hoped that the income now generated from the Trust's investments will help with the day to day expenditure, this income will have to be considerably augmented in the future if the Trust is to expand the really minimum work that it is at present undertaking.

During the last nine months various meetings have been held, including two very successful evenings at Dumfries and Carlisle. From these it became apparent that, quite apart from fund raising, it is essential for the Trust to continue to 'show the flag' in as many places and as often as possible.

Among many fund raising events were: two evenings run by Mr. Walker at Nottingham which raised £1,700; an auction in South Wales run by Mr. Barnes which raised £1,000; an evening arranged by the Norfolk and Suffolk Branch of the Salmon and Trout Association at which Arthur Oglesby and Hugh Falkus spoke and showed their films, which raised £1,000; Angus Greenleas and his dog did a sponsored run and raised £50 - this was an individual effort entirely off his own bat.

The sales of the prints, poems and bronzes are continuing and to date have brought in over £4,500. The Trust has been given a very fine oil painting of a salmon by Douglas Anderson which will be sold or raffled at some suitable future occasion.

In order to try to speed up the enormous amount of work that still needs to be done, we have retained the services of Richard Maurice Ltd. One of their campaign directors, Wing Commander Peter Dodson, is shortly undertaking a pilot scheme in Oxfordshire, Buckinghamshire, Berkshire and Hampshire. If this is successful, we would hope to continue employing them on a wider basis. Peter Dodson has recently completed a very successful fund raising scheme on behalf of WAGBI."

#### The International Advisory Group

The European Section of the Group had no occasion in the past six months to hold a meeting, but members were kept fully informed by the Trust of developments in the field of international salmon management and they themselves provided the Trust with information on this matter.

However, the most important event affecting the Group was the sad and unexpected death of Dr. Arthur Went who represented Ireland for many years. Arthur Went was Scientific Adviser and Inspector of Fisheries in Dublin from 1946 to his retirement in 1975. His work on fisheries was known and respected throughout the world and his appointment as President of the International Council for the Exploration of the Seas from 1966 - 1969 confirmed this reputation. Sir Richard Levinge, who knew Arthur well and worked with him to establish the important Salmon



Research Trust of Ireland has written:

"Arthur Went was truly a "man for all seasons". Outside his professional activities he contributed greatly to the scientific and cultural life of Southern Ireland. An ardent antiquarian, he knew more about the history of his adopted country than the majority of Irishmen. The Dublin Zoo was one of his great loves; he served for 30 years on its Council and 3 years as President - years in which the Zoo grew from a small provincial concern to become one of Europe's most efficient and attractive zoological gardens. His many friends will take comfort from the manner of his death - after no illness, quietly "in harness" whilst waiting his turn to give evidence in court as a professional witness in a fisheries case. He died, as he lived, a man dedicated to fisheries".

Finally Advocat Knut Rom of the Norwegian World Wildlife Organisation announced at the end of 1980 that he wished to relinquish his appointment as Norwegian representative on the Group. Knut had been a strong and helpful supporter of the Trust and had sought our assistance in some of the problems affecting salmon fisheries in Norway. However, it is pleasant to record that Mr. Ole Swang of the Fish and Wildlife Department of the Department of the Environment has agreed to serve on the Group. He will be a most welcome addition since he is on his country's official delegation to the International Atlantic Salmon Convention discussions and so has a wide knowledge of the problems of salmon conservation.

#### International Management and Conservation of Atlantic Salmon

The Trust has continued to devote a large part of its work to advising individuals, Members of Parliament and fishery authorities about the basic principles of salmon conservation. In particular, it is fortunate that it has been able to comment directly on proposals being currently made for the drafting of a new International Atlantic Salmon Convention. There have been two meetings held recently (Brussels in December 1980 and Ottawa in January 1981) to consider a draft agreement. As far as can be ascertained the discussions still concern convention arrangements which involve the establishment of a General Council and three separate regional Commissions, namely, the North American Commission to cover the waters of the U.S.A. and Canada, to which only the U.S.A. and Canada would belong; The West Greenland Commission, the members of which would be the U.S.A., Canada and the E.E.C.; and the North East Commission which would include the E.E.C., Norway, Sweden and Iceland. It would seem, however, that some of the issues which have concerned, and may continue to concern, the Convention parties, include the following:-



## The General Council

At present it is understood that the role of the Council will be to act as a forum for the study of salmon conservation, to arrange for fisheries research to be undertaken through such bodies as I.C.E.S. and to co-ordinate the external relations of the body. Thus it is not intended at present to give the Council any power to supervise, criticise, or co-ordinate the regulatory functions which are to be given to each regional commission. In its first draft for a convention, the U.S.A. visualised one all-embracing Council with regulatory powers. Canada, however, has never been attracted to this idea as it has made clear its views that it wants no interference by any other country in the way it manages its salmon fishery programmes. Both countries have changed their positions quite considerably since the publication of the first U.S.A. draft agreement, but agreement between these countries on the proposed organisation is not yet complete.

## North American Salmon Commission

The different attitudes of the U.S.A. and Canada to the proposed convention have to some extent also centred on the proposed North American Salmon Commission. The area involved includes the extensive Newfoundland Salmon Fishery which is known to intercept salmon en route to United States rivers as well as to Canadian ones. The U.S.A. wants the proposed Commission to regulate this fishery so that pressure on American salmon stocks may be reduced, while the Canadians have been concerned at what they see as an attempt by America to obtain a voice in Canada's entire salmon management programme. It was reported, however, that in the January 1981 Convention Meeting in Ottawa, it was agreed that the proposed Commission could discuss any and all matters relating to Canadian "interceptions" of U.S. stocks, and adopt proposals designed to minimise such interceptions.

## The West Greenland Salmon Commission

The discussions about the establishment of a West Greenland Salmon Commission have given rise to problems and dissensions. As might be expected the Danish representatives have sought concessions and conditions before they agree within the E.E.C. negotiating sphere to the establishment of a Commission, the main purpose of which is to regulate the Greenland Fishery. The general feeling which exists among the Danish and Greenland interests is that any proposed Convention should impose restrictions on salmon producing countries similar to those imposed on the intercepting states such as Greenland. Canada and the U.S.A. oppose this contention, though in different ways. It is believed that our own country's approach to this matter would be to propose that each state reports annually its plans for conservation to the proposed General Council, and it is possible that such plans could be discussed within that Council's deliberations.

However, it is satisfying that the latest draft agreement prepared by the European Commission contained what the Trust has always believed to be the basic principle for the international management of Atlantic salmon, i.e.:

the recognition that the salmon producing countries must have the primary interest in and responsibility for its salmon stocks.

#### United Nations Law of the Sea Conference

The ninth session of the Conference took place in 1980 and sufficient progress was made, it is reported, for yet another revised negotiating text to be prepared. Fortunately the issues which directly involve the conservation of Atlantic salmon - in particular Article 66 of the earlier texts - do not appear to have been disputed further, and it was planned that a final session of the Conference would take place in March, 1981. However reports which have emanated from that meeting held in New York suggest that there was an atmosphere of confusion and concern resulting from a decision of the American Administration to carry out a review of several important agreements and decisions negotiated over the past seven years of discussions. One issue which is believed to be causing concern to America is that relating to deep sea mining. But reports suggest that the American change of policy is so fundamental that there is danger that the whole concept of a new Law of the Sea Convention will be abandoned.

#### The Joint Expedition to the West Greenland Salmon Fishery

As reported in the last Progress Report, the Trust and the Foundation decided to sponsor an expedition of salmon conservationists to West Greenland in August 1980. The Trust was delighted that its two representatives should be such well-known and experienced scientists as Dr. Derek Mills of Edinburgh University and Mr. Gordon Bielby of the South West Water Authority. As many supporters of the Trust will know the expedition was a great success and the report written by one of the Foundation's representatives - Mr. Henrik Kreiberg - was a most comprehensive and valuable document. The report has been published by both the Foundation and Trust and can be obtained from either headquarters. The essential terms of reference were:

- (a) To obtain first-hand information on the West Greenland Fishery and to attempt to verify the extent of compliance with the quota established by earlier international agreement.
- (b) To establish regular contacts with Greenland's fishermen's organisations and Government officials.



The team listed eleven separate conclusions which they reached during their visit; among them were the following:

- (a) Greenland and the various responsible administrative bodies make every effort to adhere to the limits set out in the negotiated quotas. Over-runs are accidental and are no reflection upon the mechanism for reporting and control which appears adequate and reliable.
- (b) International expertise in aquaculture of salmon and stream enhancement for natural production of arctic char could be applied in Greenland on an experimental basis in the hope of augmenting current resources.
- (c) There is a distinct need for public information programmes in Greenland to increase awareness of conservation restoration and pollution control programmes being carried out in the spawning grounds of salmon.

In making its seven recommendations the Team seemed satisfied that the West Greenland Fishery was a reality and must be accepted as such. It felt that a flexible quota concept for annual catches should be implemented under certain conditions, one of which would be a later opening of the fishing season. It was felt that the Greenlanders should be made more aware of the contributions of finance and effort made by the salmon producing countries to conserve their salmon stocks, and on a positive tone it was suggested that some form of stock enhancement, such as sea ranching, should be explored jointly by Greenland and the salmon producing countries.

Perhaps the two resolutions which might cause some concern were those which suggested that "Greenland's entitlement to a grazing fee in respect of growth to maturity of salmon feeding off its shores, should be acknowledged" and that "there should be evolved a method of regulating the entire catch of salmon by all producing and harvesting states such as exists in Greenland".

Of course, the grazing "fee" for Greenland refers to the catch of salmon in its home waters and not to any monetary payment. In any case the role of a harvesting nation is fully recognised in the draft U.N. Law of the Sea Conference and it is believed that the European Commission has accepted the basis of Article 66 in that draft. The proposal that all salmon-producing countries should have their catches regulated - possibly, it is implied, by the imposition of quotas, will meet with fairly universal opposition, particularly in Canada which has already indicated its views in the discussions on the proposed convention. Nevertheless the recommendation has some point when it is appreciated that there does not exist in the United Kingdom an agreed policy for the conservation of its salmon. As is well known drift netting is prohibited off Scotland's shores but not off those of Northumbria or Northern Ireland; sales of salmon are regulated

in Northern Ireland but not elsewhere; monofilament nets are prohibited for salmon in Northern Ireland, and in the areas covered by the North West Water Authority and the South West Water Authority, but not elsewhere. This situation does not, in the Trust's view, assist our endeavours to arrange for the proper management of salmon stocks and the position may well be highlighted if, and when, the new convention comes into operation. In an attempt to bring the unsatisfactory position to the attention of the public, the Trust, in co-operation with the Salmon and Trout Association, has drafted a paper entitled "Towards a Common British Salmon Conservation Policy" for consideration and later adoption by other interested organisations.

In the wake of the Greenland Expedition much is needed to be done to implement those resolutions on which there is no contention. It is hoped that a joint approach by the Foundation and Trust can be launched during the present year, particularly on those matters regarding enhancement programmes in Greenland and a dissemination of information about the U.K. and North America's salmon conservation programmes. In the meantime the Trust is awaiting the reaction of the Greenlanders to what is firmly believed to have been an authoritative and most positive-thinking report.

One final point about the expedition: the Trust wishes to acknowledge the generosity of the Highlands and Islands Development Board which agreed to sponsor the cost of sending our two representatives to Greenland. This support for the Trust and its work is greatly appreciated.

#### The Faroes Salmon Fishery

The Joint Expedition to Greenland reported that it had learnt from two reliable and disinterested sources that there was in existence a large unreported salmon fishery off the Faroes. The information was, unfortunately correct although the fishery to which reference was made had, in fact, been established in 1968 by a number of Faroese and Danish fishermen who operated baited long lines. What had, however, changed since 1968 was the number of fish captured. In 1979 some 50 metric tonnes were captured by Faroese boats but in 1980 5 or 6 Danish boats and 17 Faroese boats took 693 m.t. of salmon. The Danish boats operated to the south of the Islands, while the local Faroese boats fished 30 - 120 miles north east of their homeland and caught some 492 m.t. out of the total. In recent years the fishing has taken place during the winter and following spring (November to June), and it has been reported from Norway (which is actively concerned with this new development) that the mean weight of the Faroese-caught fish was 4.2 Kg. (9.2 lb.) indicating mainly 2 sea winter salmon, and that of the Danish-caught fish was 3.2 Kg (7.0 lb.) and consisting mainly of one-sea winter fish. Since 1969, of 1751 fish tagged in Faroese waters, 29 were destined for Norway, 31 for Scotland, 13 for Ireland and 5 for England and Wales.

It will be appreciated that grilse en route from the Faroes to the United Kingdom rivers are unlikely to put on much weight before



reaching 'home' because of the comparatively short distance they must travel. But the significant point which so far arises is that 2 sea-winter salmon are being taken in larger numbers than grilse so that on the face of it this would appear to be a serious extension of the Greenland problem. However, Norway has also reported that in November 1980, 40 Faroes and 6 Danish boats were fishing in the Faroes area and that up to the end of that month some 40 Norwegian smolt tags had been recaptured. Some of the Faroes salmon were landed at Aberdeen - at one stage 50 tons a fortnight - and reports have recently come in that salmon are turning up in Scottish rivers with hooks on them.

Unlike the Greenland salmon drift netting, long line fishing with baited hooks makes no discrimination as to size of fish caught. Whereas with drift netting smaller salmon may escape the nets, although many will be damaged in doing so, baited hooks will catch fish of any size. It may, or may not, be significant that one of the features of the 1980 salmon season in the United Kingdom was the relatively small numbers of grilse in some rivers. This was particularly true for some Scottish rivers. The River Foyle, which is predominantly a grilse river in fact improved its catch over that for 1979, but the mean weight for all fish caught by its Government-controlled Londonderry Fishery dropped to 5.9 lb. compared with 6.1 lb. the previous season - in 1972 the figure was 8.2 lb.!

It is still too early to ascertain the effect on 'home' fisheries of this further escalation of the Faroes salmon fishery, but M.A.F.F. is, naturally, fully aware of the situation and it is hoped that the I.C.E.S. Working Party on North Atlantic Salmon will be able to give further information about the catches in May 1981. What compounds the problem further is the fact that the Faroes, not being a member of the E.E.C., is not bound by any European regulations, so that only agreement on an international level can regulate this particular fishery.

The Trust took a lead in publicising the problems likely to be created by the escalation of fishing off the Faroes and it will continue to co-operate with such countries as Iceland and Norway and press for a satisfactory conclusion to the debate about a new Salmon Convention.

#### The European Economic Community

The Trust has continued to maintain close contact with the Directorate General for Fisheries in the European Commission and with members of the European Parliament. In addition the Trust was invited by the House of Lords Select Committee on the European Community to submit evidence on Atlantic salmon. The Trust's comprehensive memorandum, which was later published in the Committee's report endeavoured to emphasise the importance of the United Kingdom's salmon stocks and at the same time to outline the problems and factors which at present are prejudicing the development of these stocks.



However, two important decisions were made in 1980 which enhanced the outlook for the salmon's future.

Firstly, the European Commission announced on 1 October, 1980, that it had decided to confirm a previous international arrangement to prohibit salmon fishing outside the 12 mile limits of each member state. This is an important decision as the prohibition now becomes a part of Community law rather than being a 'gentleman's agreement'. It is understood that the prohibition is likely to be included within the Common Fisheries Policy which has yet to be agreed upon. Thus for the first time the Commission has declared itself in favour of a regulation to conserve salmon, and it must be admitted that in recent times its attitude to salmon conservation appears to have changed for the better since the 1979 meeting which members of the International Advisory Group had with Mons. Simmonet of the Directorate-General for Fisheries. At that discussion the latter said that:

"..... he did not believe that only one sovereign state should own the salmon it produced..... We should try and do away with the idea that salmon belonged to anyone; it was public property in the widest sense..... he held to the principle that the open seas were free and that there was a right granted to the fishermen to fish in the seas."

The Commission has accepted the general principles outlined in Article 66 of the United Nations Law of the Seas Conference, and no doubt much is due to the United Kingdom which must have played an important role in changing the Commission's attitude - helped we hope by the advice offered by the Trust!

The second most important decision has been the agreement between Canada and the E.E.C. affecting the Greenland annual salmon catch quota. The existing quota of 1190 m.t. has been confirmed for a further three seasons (1981 - 83) unless there is international agreement to change the basis for computing the quota.

This is excellent news for salmon conservationists and it indicates that something is now moving in Brussels in favour of the salmon's proper role.

On the darker side, the fact that no agreement has been reached on a Common Fisheries Policy means that no plans for salmon protection within our fishing limits can be drawn up and endorsed by the Community. Although in many quarters it had been suggested that the Trust had over-reacted to the danger of member states exploiting our salmon stocks "up to our beaches", it is a fact not only that an obstacle to the conclusion of a Common Policy is the lack of agreement over access to each state's fisheries, but the French Government made it clear that they wanted to fish up to our shores after December 1982, and it refused to contemplate any limitation on their



fishermen's freedom of access to British coastal waters. Some Government Departments have suggested that salmon is a 'special case' as it cannot be managed in the way that other fisheries can since management must embrace both marine and fresh waters. The view of the Directorate General for Fisheries in the E.E.C., however, is that it considers that the "Community has competence for the management of all biological resources".

In spite of all this uncertainty the Trust is confident that the U.K. Government is playing an important role within E.E.C. discussions to ensure the continuance and development of our salmon resource.

### Investigation and Research

Economic Evaluation of Salmon Fisheries. The Honorary Scientific Advisory Panel has not met since July, 1980, but work has progressed to implement some of the recommendations made at that meeting. In particular the Trust has arranged to call a meeting of leading fishery administrators and economists in April, 1981, to consider the setting up of a desk study to evaluate the salmon fisheries in the United Kingdom. The need for this work to be done has been emphasised by the support which the Trust has received from both the Government and University sectors. It is hoped that the meeting will agree that a desk study can be carried out and will lay down the methods that should be used. If this proposal can be successfully achieved under the sponsorship of the Trust, valuable information will be made available to Government Departments and Members of Parliament for inclusion in future debates on the development and conservation of our salmon resource.

Data Collection. Relative to this proposed investigation is another project initiated by Professor Edwards (Chairman, Honorary Scientific Advisory Panel). As the E.E.C. moves towards a fishery policy involving catch quotas for deep sea fisheries, inevitably those salmon-producing countries will be required to demonstrate the impact of such catch control and to defend their own policies of both commercial and sport exploitation. Furthermore, fishery plans and programmes are increasingly needed for specific catchments which are based on clearly defined objectives of management and which need basic census data. The collection and production of the annual statistics of salmon catches in the United Kingdom has never been a satisfactory operation except in a few selected areas (the River Wye and the Northumbria areas for instance). The Trust therefore proposes to hold a one-day conference in the Autumn to which representatives of the Government Departments and Water Authorities will be invited to consider this comprehensive issue and to make proposals on how to improve the collection, publication and use of fishery data.

Evaluation of the River Wye. The long-awaited report by the Marine Resources Research Unit of the Portsmouth Polytechnic on "An Economic Survey of the R.Wye Recreational Salmon Fishery", a project sponsored



by the Trust and the Welsh Water Authority, was published in late 1980. The remainder of the survey, which will cover the Rivers Tamar, Mawddach and Lune, is still awaited from the Unit.

In view of the proposal by the Trust to call a meeting of Economists and Administrators in April to discuss the Evaluation of all the U.K. salmon fisheries, the publication of this Wye report is opportune. It is a most comprehensive work and a valuable one. For the record, the survey arrives at the following estimates of value of the recreational fishery on the river:

1. The total net value of the fishery is £12 m. approximately.
2. The gross expenditure by anglers fishing the River in 1977 was estimated at £1,044,423.

These are remarkable figures when it is remembered that a Government spokesman stated that in 1980 the economic value of the entire Scottish recreational and commercial fisheries was estimated to be in the region of £20 m.

Dr. T. Murphy's Thesis - "Studies on Precocious Maturity in Artificially reared 1 + Atlantic Salmon Parr". Some years ago in consultation with the University of Stirling and the Salmon Research Trust of Ireland, Dr. Murphy was granted a fellowship by the Trust to work on salmon parr which had been reared artificially. His thesis was published recently and although its findings may appear complex to many supporters of the Trust, it is of interest to salmon fish farmers who may receive a copy of the full text on application to the Trust's Headquarters.

Foreign Interceptions of Salmon in European Waters. Numerous verbal and other reports have been made from time to time of salmon tagged as smolts in one country being captured in the waters of a second country. Papers on movements of salmon around the coasts of some European countries, Norway and Iceland for example, are fairly numerous but they tell us little of the interceptions in foreign waters of fish which are derived from known rivers. The Trust decided to invite Dr. Went to investigate this subject by visiting each European salmon producing country and extracting the appropriate information from local files. Unfortunately Dr. Went's unexpected death has prevented, for the time being, this project being realised, but it is hoped that in the near future another scientist may be persuaded to take up the work proposed.

Sea Trout Investigations. In recent years research and investigation into sea trout has not received much publicity and so the leaflet (No. 108), prepared by Dr. Edward Fahey, and recently published by the Irish Department of Fisheries and Forestry on this particular



species is most welcome. The leaflet gives details of the runs and catches of Irish sea trout in 1980 and contains a section dealing with research. It is interesting to learn that the Department plans to try to discover the reason for the heavy mortality (approx. 90%) of sea trout after their migration to sea, and proposes to expand its existing work to include the hatchery rearing of sea trout and the examination of their mortality under controlled conditions in salt water. The outcome of these experiments will be awaited with interest by all who are involved in sea trout fisheries.

### Field Investigations

The Trust has been associated with survey work on two small river systems in Scotland. In connection with the Suirstavat River and Loch System on the Isle of Lewis, the Trust through the valuable and generous services of Dr. Graeme Harris, has been able to provide management and biological advice to a Charitable Trust established for the purpose of sponsoring research into sea trout and salmon stocks. Work in the past has consisted in the main of constructing and developing the necessary facilities required for undertaking the proposed investigation which is designed to study sea trout runs and hopefully re-introduce salmon runs into the system. It is hoped that during the next three years the investigation will start to produce results which will be of interest to many fishery owners.

In the second investigation involving the Applecross River in the Wester Ross area, the Trust is indebted to Dr. Derek Mills for providing expert advice in connection with a field study sponsored by the Applecross Trust. The main purpose of the survey carried out by two post-graduate students under the supervision of Dr. Mills was to ascertain whether land fertilisation had any effect on the water chemistry of the system resulting in improved stream productivity and increase in parr growth rate. The conclusions reached indicated that there was no present evidence of fertilisation having any effect on either the water chemistry, numbers of food organisms or the growth rate of young fish, but there may have been a temporary improvement at the time the fertilisation took place - some 5 to 6 years earlier.

### Aerial Surveys

Solway Firth Nets. In the previous Progress Report mention was made of the generous offer of Mr. Akroyd-Hunt to provide aircraft for an aerial survey of the Solway Firth fixed nets. The survey was duly carried out and an excellent pictorial record of the sites and nets was produced. The Trust is delighted to have this important record although it does not plan to use it for any purpose other than historical.

The Water of Girvan. The aerial survey of the Solway Firth nets was extended to cover the severe pollution in the Water of Girvan, Ayrshire. The excellent and dramatic photographs which were taken at the time



were sent to the Anglers Co-operative Association which has been actively concerned with attempts to deal with this particular problem. The pollution began after the National Coal Board abandoned Dalquharran Colliery, Dailly, Ayrshire, and later floodings of the mine workings caused a discharge of highly toxic water into the river causing high mortality to salmon and other fish. Following action in the Sheriff's Court in 1978 which went in favour of the Coal Board, the matter came before the Justiciary Appeal Court in February 1981. In a most important judgement which is likely to have wide repercussions, the Judges agreed with the Crown case that there had been a continuous link in the "actings and decisions" of the Board which were responsible for the contamination of the water. Lord Wheatley is reported as saying that the decision of the Board to stop the pumps after the mine closure was a positive act and it resulted in a danger which had been created but kept latent, becoming a real one. In reply to the Board's submission that it would now be faced with the same problem every time a mine was closed, Lord Wheatley said that if there was a breach of the law, it was no answer to say that conviction posed problems for the offender. It was for the National Coal Board, not the Court, to decide how to deal with the problem.

#### Acid Rain Conference

Acid rain, or more correctly acid deposition, has now been generally realised as an extremely serious problem in North America although Scandinavians have been aware of the problem for many years. The "acid rain" is produced from the burning of sulphur-based fossil fuels and its deposition on lakes and waters has caused their sterilisation. As stated in the previous Progress Report, a conference on this problem, co-sponsored by the International Atlantic Salmon Foundation, the Natural Resources Council of Maine, the Sport Fishery Research Foundation and Trout Unlimited, was held in Maine last November. The Trust was kept fully informed of the proceedings through the generous gesture of Mr. Alexander Bielak of the University of Waterloo, Canada. During the Conference, some of the statements made included the following:

- (a) In Norway all the brown trout in 150 lakes had been killed; in 7 major rivers all the salmon had disappeared.
- (b) Acclimatisation of juvenile fish to acid waters was not feasible, but there was some hope for breeding genetically slightly resistant strains.
- (c) A U.S. Senator warned that in America pressures on rivers would increase as the country starts to burn more coal which normally emits even more sulphur dioxide than oil. He said there were major economic pressures to burn coal even without the use of controls to reduce air pollution.



In the United Kingdom some concern has been expressed by Government Departments, especially in Scotland, because there has apparently been an increase in the acidity of certain waters. It is appreciated that this condition can be caused by a number of factors, including of course, land drainage and forestry development work. At present it would seem that the scientists' main concern is about the acid levels in the waters of the south west of Scotland, where the lack of limestone as a 'buffer' against the acidity of the rainfall, and the proximity of industrial areas, appears to aggravate the problem.

Within the E.E.C. some action has already been taken to implement a convention on 'Long-range Transboundary Air Pollution' which was adopted by member countries at the end of 1979. Arrangements have been made for the necessary research programmes to be drawn up, and guidelines were agreed upon for the completion of a document setting out the strategies and policies for the abatement of air pollution caused by the burning of sulphur-based fuels. It is reported that each country will be required to present information on actual and planned measures for sulphur emission control.

In spite of all the discussion on this issue, however, it is important to appreciate that in the long run political and economic considerations are likely to prevail, particularly when the huge cost of controlling emissions is realised. Nevertheless the problem does underline, once again, the need for an evaluation of the resource which is being threatened so that counter arguments can be raised when control costs are mentioned.

#### Points from National Salmon Fishery Reports

##### CANADA

Salmon Catches. It was to be hoped that the 1980 salmon season in Canada would show a considerable improvement over the extremely poor previous one; and this was the case. Both commercial and sport catches were generally good. The Miramichi yielded over 12,000 salmon, an increase of 20% over 1979, while the Gaspé peninsula of Quebec yielded 12,300 salmon to anglers, the highest total ever recorded. Only in Nova Scotia was there a decline in the anglers catch from 7,143 fish in 1979 to 7,059 in 1980. In spite of an excellent commercial season in Newfoundland (4½ million pounds), and the operation of a daily bag limit, the angling catch reached 43,000 salmon.

Tagging System. An interesting development in New Brunswick has been the introduction of a salmon tagging system instituted primarily to control the entry of illegally-taken salmon into the legitimate commercial trade within the Province. To achieve this objective all angler-caught fish were tagged, as well as those taken in commercial fisheries outside New Brunswick but brought into that Province's

commercial market. (There is no commercial fishing for salmon in New Brunswick).

In order that the tagging system for angler-caught salmon operated efficiently it was necessary to impose a season limit on the taking of fish and to issue a similar number of tags throughout the Province along with angling licences. The tag, a printed and numbered plastic strip, is inserted into the tail of the fish and tied. The New Brunswick Fish and Wildlife Branch of the Department of Natural Resources considers that the new scheme

- (1) gives a measure of the incidental commercial catch of Atlantic salmon along the shores of the Province
- (2) had at least some influence in reducing inland poaching on a wholesale scale.

Ban on Commercial Salmon Fishing. It has been reported in the Foundation's Newsletter that the Canadian Minister for Fisheries and Oceans, Romeo Le Blanc, announced recently that the eight-year prohibition on commercial salmon fishing off New Brunswick and a part of Quebec may be 'selectively' lifted this year. The Federal Government has been compensating commercial fishermen during the period of the prohibition and it is thought that this cost, together with the encouraging run of salmon in 1980 may have influenced the Minister's statement.

#### FRANCE

Although rod catches of salmon were low in 1979 (1321 fish), the 1980 figure rose to 4,148. This indication that salmon runs may be improving is encouraging.

#### SPAIN

The following interesting report on Spanish salmon fisheries has been sent to the Trust by Senor Jose Lara Alen. It is not often that we get an opportunity to learn of the state of the salmon in Spain so the report is doubly welcome.

"The Atlantic salmon lives in the rivers of the north and north-west of Spain, from the River Bidaso to the River Mino. The rivers it inhabits are the following: Bidasoa, Ason, Miera, Pas, Nansa, Deva, Cares, Sella, Narcea, Canero, Navia, Eo Mandeo, Masma, Oro, Landro, Sor, Eume, Tambre, Ulla, Lerez, Verduga, Porcia, Umia, Puron y Mino.

In general the waters of the Spanish rivers are public property, and likewise the fish which inhabit them. In continental waters, the administration of which is the



responsibility of the National Institute for Nature Conservation, only salmon fishing with a rod is allowed; that is to say, only for sport.

The salmon catches (which have been inspected) over the last century have been the following:-

1971	2,721
1972	7,026
1973	4,169
1974	2,750
1975	4,615
1976	3,626
1977	3,226
1978	5,516
1979	5,039
1980	8,226

As you will see, the number of catches has risen considerably in 1980, and we have also established that an abundance of future re-producers is left in the rivers. In other words, a great number of salmon have come in during 1980. This number of catches has only been exceeded three times since 1949 (when records of catches were started): in 1954 with a catch of 8,914 salmon, in 1959 with a catch of 9,040 and in 1969 with a catch of 9,326.

The average weight is usually 5 - 6 kilos, and so the catch of 1980 totals about 45,000 kilos.

Our salmon feed in the seas around Greenland: this was confirmed in 1970 when a salmon marked by the Biological Station of Sant John, in Disko Bay, was caught in the River Ason in the province of Santander. Another salmon marked by the same organisation was caught in 1972. It seems that approximately one year elapsed between the time of the marking and the salmon's capture in Spain.

As a general rule, with a few exceptions, the entry of salmon into our rivers follows this pattern: from the middle of February to the middle of April, only a small number of salmon arrive, but these are usually very large and can occasionally weigh up to 16 kilos. From the middle of April to the beginning of June there is a greater influx of salmon, but these are smaller, with an average weight of about 4 kilos. Finally, from the middle of June to the beginning of August the last salmon arrive, and these tend to be the smallest of all.

The spawning usually takes place in December. Our smolt usually go into the sea in April and May. "

#### UNITED STATES OF AMERICA

Mr. Richard Buck, Chairman of Restoration of Atlantic Salmon in America, Inc. has summarised the 1980 season and development work in the U.S.A., and the following are extracts from his report:

##### Maine

In excess of 3,300 and 240 fish returned to the Penobscot and Union Rivers respectively. Rod catches in the Penobscot River amounted to 837 fish; an all-time record. Rod catches in the Union, Narraguagus, Dennys, Machian, Pleasant, and Sheepscot Rivers reached 515 fish. Many of these latter catches were generated from wild fish.

The egg-take obtained from fish captured in the Penobscot and Union Rivers exceeded 1.5 million. A percentage of these eggs, based on a newly negotiated co-operative agreement between the state and the United States Fish and Wildlife Service (USFWS), will be utilised in other New England programs.

##### Connecticut River

The four-state Connecticut River Atlantic salmon restoration effort experienced a healthy year. Adult returns to the river increased substantially from those of 1978 (90) and 1979 (58). One-hundred and seventy-five (175) adults were captured during the 1980 season; eventually culminating in an egg-take of 312,000. The size of the run and the egg-take were both record breaking events for the program.

Providing anadromous fish access to upriver areas on the mainstem of the Connecticut River continued at a rapid pace. A three-fish-passage facility complex (the largest fish passage facility in the U.S. outside of the Columbia river basin) was completed at the second upstream barrier, the Turners Falls Dam. Fish passage construction is also under way at the Vernon Dam, the third upstream barrier. A fish passage facility was also constructed at the lower-most barrier on the Salmon River tributary.

#### REPUBLIC OF IRELAND

1981 will see the new Fishery administration incorporating a reduced number of Conservancy Boards and a Central Authority, taking control of



inland fisheries in the Republic. If 1980 is a year to go by, their task will be a heavy one. In that year many of the netsmen refused to lift their nets on the closing date (20 July) and fished on instead for another four or five weeks. Furthermore, the imposition of a 10% first sales levy on salmon seriously disrupted the excellent and well-tried licensing system for salmon dealing because many salmon were taken out of the Republic to avoid the new tax. However, there were indications that spring salmon fishing was improving provided the 1980 results can be maintained.

#### NORWAY

Following the introduction of restrictions on drift netting off the coast of Norway prior to the 1979 season, further conservation measures were introduced in 1980. Firstly the salmon fishing season for a number of rivers has been shortened, and secondly all river netting has been prohibited.

Although there was a significant increase in the drift net catch for 1979, improved angler catches were also reported. For instance, the weight of rod catches on the famous Laerdal river increased from 4,885 Kg in 1978 to 8,516 Kg in 1979, and the Nausa - mainly a grilse river - increased its catch from 4,200 Kg to 11,048 Kg in the same period.

#### WALES

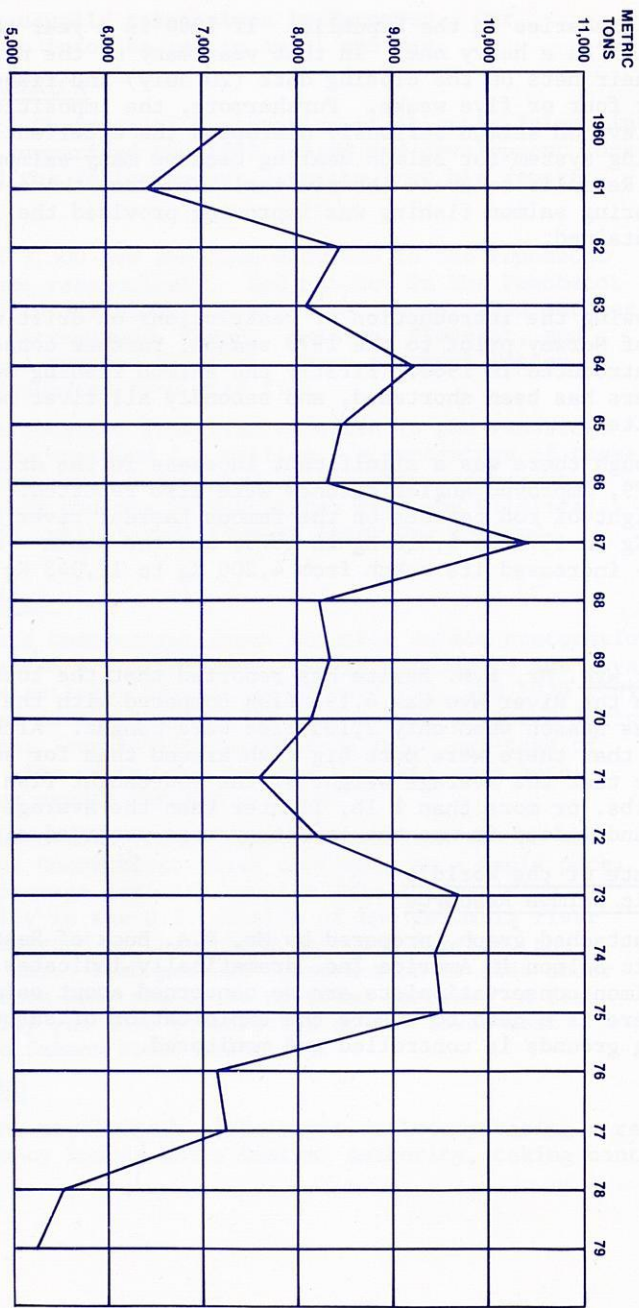
River Wye. Mr. E.M. Staite has reported that the total rod catch in 1980 on the River Wye was 4,195 fish compared with the disastrous previous season when only 2,135 fish were caught. Although Mr. Staite writes that there were more big fish around than for some time, the fact is that the average weight of the rod-caught fish fell to 10.26 lbs. or more than 1 lb. lighter than the average for the previous year, and indeed it was the lowest average recorded since 1945.

#### The State of the World's Atlantic Salmon Resource

The attached graph, prepared by Mr. R.A. Buck of Restoration of Atlantic Salmon in America Inc. dramatically indicates why the Trust and salmon conservationists are so concerned about salmon stocks, and why there is a need to ensure the exploitation of salmon on their feeding grounds is controlled and monitored.

# CATCH OF ATLANTIC SALMON IN HOME WATERS 1960-1979

(Excluding West Greenland, and the Norwegian and Baltic Seas Fisheries)



- NOTE:**
1. Figures are for commercial and sport fishing effort, including both salmon and grilse.
  2. Figures not available from USSR since 1975 (normally in approximate range of 400-800 tons.)
  3. 1979 figures are provisional, and not yet available from Iceland and France.

Source: Chart prepared by RASA (Restoration of Atlantic Salmon in America, Inc.) from figures supplied by ICES (Int'l. Council for Exploration of the Seas), FAO, United Nations.





