

COOPERATIVE RESEARCH REPORT

No. 45

REFERENCE REPORT ON BALTIC SALMON
with additional information on Baltic sea trout
compiled by
the Working Group on Baltic Salmon
edited by
O Christensen and N Johansson

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FOREWORD

The Working Group on Baltic Salmon was established in 1958 as a standing Committee on Baltic salmon problems. At its first sitting it decided to compile available data as a basis for further studies because even if the object of the Working Group was that of a contact group for mutual information and stimulation as to studies of Baltic salmon, the desirability of some kind of report to be presented to the Salmon and Trout Committee of that time was immediately evident.

In 1962 at the sixth sitting of the Group a programme recommendation was made and the following year a draft of a "Progress Report, No.1" was presented and discussed. The outline of this report largely corresponded to the present Reference Report. As several items needed a more thorough treatment and especially as the prerequisites necessary for the construction of a population model were not fulfilled, it was decided to look further into these questions, before a new draft was prepared. The completion of the work was however delayed, mainly because material for certain items of the Report proved not to be readily accessible.

The presentation of this Report is primarily due to Dr B Carlin, the Chairman of the Working Group for 10 years and the promoter of the activities of the Group in general. He took the initiative, prepared the outline and made the greatest efforts to complete the Report before he died in 1971.

Contributors to the Report are listed below:

Denmark:	O Christensen
Federal Republic of Germany:	R Kändler F Thurow
Finland:	E Halme J Toivonen
Poland:	F Chrzan S Zarnecki R Sych
Sweden:	B Carlin A Lindroth N Johansson P-O Larsson
U.S.S.R.:	N M Lishev A Mitans.

ACKNOWLEDGEMENT

This Report was initiated in 1962 and has received help and encouragement from many sources. The editors wish to express sincere thanks for the splendid cooperation of all contributors and cooperators. We are especially grateful to K A Pyefinch, who has kindly read the entire manuscript in order to correct the English language and who has given us very helpful advice during the editing of the Report.

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EDITORIAL NOTES

As indicated by the title the object of the Reference Report is to supply basic information on Baltic salmon and to a certain extent on Baltic sea trout as well.

Greater weight is attached to salmon than to sea trout because salmon, as a wider migrating species, is subjected to extensive exploitation far from home waters and consequently needs international cooperation in research and management to a far greater extent.

On the other hand, a variety of problems are shared by both species and also find common solutions; for that reason a partial inclusion of sea trout was thought to be reasonable. The existence in the Baltic of stocks of wide-migrating sea trout besides populations with more limited migration routes further supports this point of view. The wide-migrating sea trout - showing great resemblance to salmon not only regarding migration pattern, but also as to growth - originate in the river Vistula and in the West Pomeranian rivers. Besides giving rise to an important local fishery they are an important component of the offshore salmon catches of several nations, as it is evident from the catch statistics in Section 4. These are the reasons why special attention is devoted to sea trout in the Polish contributions to the present Report.

Baltic salmon are considered to be the stock of salmon living in the Baltic Sea and in the connected gulfs and affluents, separated from the "true" Atlantic salmon by the Danish Belt Seas. Swedish tagging experiments have clearly demonstrated the small amount of overlapping of these two populations. Out of 114 000 recaptures resulting from smolt taggings in 1951-70 in Swedish rivers running into the Baltic, only 0.4% were reported from outside the Baltic area. The main part of these extra-Baltic migrants, or 0.3% of the total recaptures, was taken between the Danish Islands. Correspondingly the proportion of recaptures in the Baltic from tagging experiments with Atlantic salmon on the Swedish west coast in 1966-70 amounted to 0.8%. (Personal comm. from the Salmon Research Institute, Sweden).

Figure 1 shows the area of distribution of Baltic salmon.

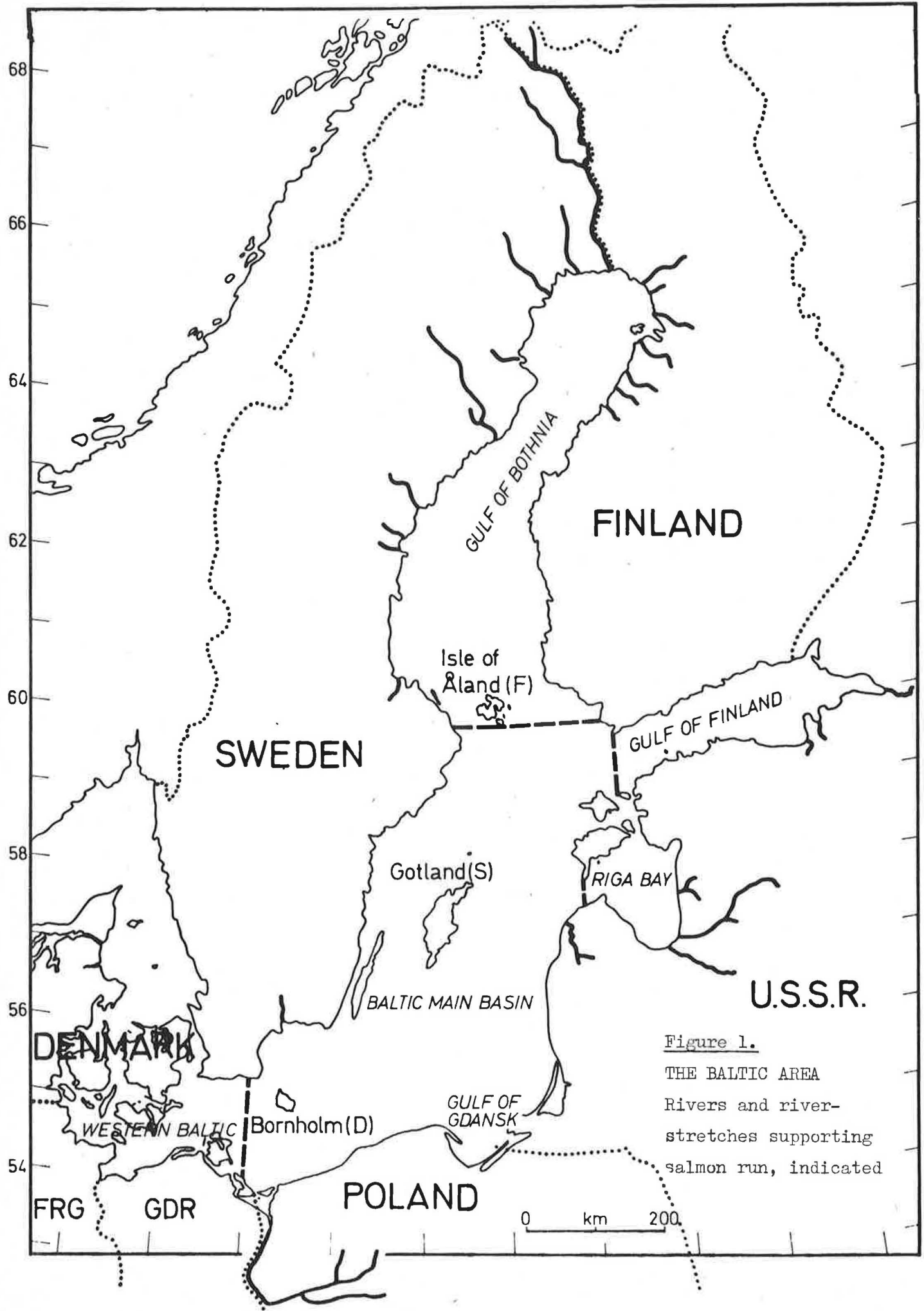


Figure 1.

THE BALTIC AREA

Rivers and river-stretches supporting salmon run, indicated

SECTION 1: INTRODUCTION

1.1 Review of Baltic Salmon Management Problems

Until the 20th century the study of Baltic salmon was the object of a few scientists, amateurs and fishery administrators. During 1860-70 interest in artificial fertilisation of salmonids - a technique at that time re-discovered in France - arose and hatcheries were established in some rivers in an attempt to supplement the natural production. The decline of the stocks of Baltic salmon about the end of the century and the establishment of the International Council for the Exploration of the Sea however gave the decisive impetus to salmon research.

In 1903, the year after the inaugural meeting of the International Council, a Subcommittee within Committee C for the Baltic area was formed under the leadership of Dr F Trybom (Sweden) to consider the salmon and sea trout problems of great concern to the nations bordering the Baltic and a number of reports were presented in the following years. Estimates were made of the level of the salmon fishery in the Baltic, information was provided on hatcheries and liberation of salmon and sea trout in Baltic rivers and on the national measures taken to protect the salmon stocks. Because of the decreasing yield of the salmon fishery suggestions were made for international agreements on propagation and protection of the stocks.

In 1912 a special section of representatives from the Baltic countries was formed to consider the main problem, the reason for the decline of the stocks in the Baltic rivers and the possibilities of an improvement in the situation. For this purpose 5 rivers situated in Russia, Sweden, Denmark, Finland and Germany respectively were chosen as subjects for observations and investigations. A report by Dr H Henking (Rapp. p.-v. Réun. Cons.int.Explor.Mer, 16, 1913) described the salmon fishery in the Baltic and the research rivers, but the First World War interrupted cooperative work. However, in his second report (Rapp.p.-v.Réun. Cons.int.Explor.Mer, 23, 1916), Dr Henking announced progress in research as some of the countries had reported on catch statistics, tagging of adult salmon and natural and hatchery-reared smolts, scale analyses and other special studies.

After the war, the Baltic salmon and sea trout were dealt with in the Limnological Committee of ICES which promoted the publications of two papers by Dr Henking: Untersuchungen an Salmoniden I and II (Rapp.p.-v. Réun. Cons.int.Explor.Mer, Vol.61 (1929) and Vol.73 (1931)), which dealt with racial studies of salmon and sea trout.

At the meeting of ICES in May 1927, it was resolved that, before the next Annual Meeting, a meeting of the Transition Area Committee and the Baltic Area Committee should take place in order to discuss the scientific basis for practical measures to be taken regarding i.e. the salmon. At this meeting several special papers concerning the proposals for protection of the salmon and sea trout in the Baltic were presented and it was agreed to recommend an international size limit for salmon and sea trout in the Baltic (Rapp.p.-v.Réun. Cons.int.Explor.Mer, Vol.48 (1928)).

At the ICES meeting in 1931 the name of the Limnological Committee was changed to the "Salmon and Trout Committee". The following year a meeting of experts, to consider the methods of investigations employed

for salmon and trout was recommended and, in 1933, a Sub-Committee was appointed to draft the programme for this meeting. This took place in the same year and made the following recommendations (Rapp.p.-v.Réun. Cons.int.Explor.Mer, Vol.91 (1934)):

1. That the questions concerning the protection and improvement of salmon in the Baltic should be treated in the Baltic Committee.
2. That the scales for age determination of salmon and sea trout can be taken from different parts of the body of the fish but, for determination of the calculated rate of growth, scales taken immediately above the lateral line and below the dorsal fin were recommended.
3. That the general method of measuring of the length of salmonoid fish should be from the tip of the snout to the end of the central ray of the caudal fin.
4. That in every scientific publication involving statistics the method of dealing with statistical matters should be clearly indicated.
5. That in expressing the results of scale reading, the years in the river and the years in the sea should be expressed with a decimal point between the figures; the spawning mark should be expressed by the letter "G"; part of a year should be expressed by a cross "+", and a whole year by the number "1".
6. That in publishing the results of scale reading the amount of erosion should be expressed according to a scheme used in Scottish investigations and expressed by the Latin letter "E" and a number.
7. That photographs of typical sea trout and salmon scales should be collected with a view to the publication of a short treatise by the International Council to serve as a guide to workers on the subject.
8. That for expressing the value of the coefficient of condition "K", separate formulae should be used for Salmon and Sea Trout:
The formula for salmon should be: $K = 100 W/L^3$
The formula for sea trout should be: $K = 84.3 W/L^3$
The weight (W) should be expressed in grammes; the length (L) in centimetres.
9. That it is advisable to issue from time to time additional editions of the "Guide to Fishmarks" in order to include the most recent types of marks.
10. That the question of the practical and economic value of artificial propagation of salmon and sea trout in place of natural methods is of great importance; accordingly, experiments on a comprehensive scale should be conducted, the results of which would be applicable and accepted generally.

Subsequent to the establishment of the Salmon and Trout Committee more detailed information on the work on Baltic salmon carried out by the

different countries were published in the annual "Administrative Reports" of ICES. In the following years many papers on Baltic salmon problems were published by ICES in the "Rapports et Procès-Verbaux des Réunions"; the papers mentioned below are of general interest:

- | | |
|--------------------------------|--|
| G Alm | Salmon in the Baltic precincts (Vol. 92, 1934) |
| T H Järvi and
W J M Menzies | The interpretation of zones on scales of salmon, sea trout and brown trout (Vol. 97, 1936) |
| T H Järvi | Fluctuations in the Baltic stock of salmon (Vol. 106, 1938) |
| T H Järvi | On the periodicity of salmon reproduction in the northern Baltic area and its causes (Vol. 119, 1948). |

(The reader is further referred to the comprehensive list of publications in Section 6 of this Report).

The Second World War imposed a break in the salmon work. When the activities of the Salmon and Trout Committee were resumed at the meeting of ICES in 1945, the interest in Baltic salmon increased because of:

- 1) The immense peak in the Baltic salmon stock and in the coast and river catches, which unexpectedly occurred in the mid-forties.
- 2) The menace to the natural propagation of Baltic salmon by the hydro-power projects developed in Finnish and Swedish salmon rivers.

As far as Sweden was concerned this led to the constitution of a "Migratory Fish Committee" (later "The Salmon Research Institute"). At the ICES meeting in 1946 a cooperation between this body and the Salmon and Trout Committee was proposed (Rapp.p.-v.Réun.Cons.int.Explor.Mer, Vol.117, 1947).

The growing interest in salmon in general and especially in the Baltic stock, as manifested by the increasing activities of the Salmon and Trout Committee, resulted in a resolution at the ICES meeting in 1957 that a Symposium should be arranged in connection with the next meeting of ICES and that the subject matters to be discussed should be:

- (i) the effectiveness of liberating fry, parr or smolts of salmon and sea trout under different conditions, and
- (ii) tags for salmon and trout and their relative effectiveness.

At this Symposium twenty papers were read on tagging methods, smoltification, liberation, population dynamics and salmon conservation. A number of recommendations were proposed, including one that a working group to consider Baltic salmon problems should be established. This was approved by the Salmon and Trout Committee and the Council (Rapp.p.-v. Réun.Cons.int. Explor.Mer, Vols. 146 and 148, 1959). Further details about the establishment and the activities of the Working Group on Baltic Salmon are given on page 9.

At the ICES meeting in 1953 Dr G Alm, Sweden, communicated a paper to the Baltic Sub-Committee on the subject of the necessity to impose restrictions on capture of salmon in that region. The suggestions, comprising closed season, minimum size for salmon and minimum mesh and hook size were approved by the Sub-Committee and adopted by the Consultative Committee. In accordance with a resolution of the Council the proposals were submitted to the Governments of Denmark, Federal Republic of Germany, Finland and Sweden.

After negotiations in 1953, 1954 and 1957 between the Governments mentioned above, an international agreement was drafted in 1962. The agreement "The Baltic Salmon Fisheries Convention of 1962" was ratified by Denmark, Federal Republic of Germany and Sweden in 1963 and came into force in 1966. The Articles of the Convention are set out in an Appendix to the present Report. As no official version in English of the Convention exists, the most important Articles should be briefly emphasized:

- Article 1 The Convention Area includes the Baltic Sea, the Gulf of Bothnia and Gulf of Finland, limited by a line from Falsterbo (the southwestern point of Sweden) to southern Zealand, the southern Danish islands and Sønderborg (Jutland).
- Article 5 Minimum mesh size of salmon drift nets of natural and synthetic fibres: 170 and 160 mm respectively.
Minimum gap (shortest distance between point and shaft) of salmon hooks: 19 mm.
- Article 6 Minimum length of salmon: 60 cm.
- Article 10 The establishment of a Permanent Commission in which each Contracting Party is represented. The duty of this Commission is to establish contacts with scientists and research institutes in order to promote conservation and rational exploitation of the stock of Baltic salmon and to consider the expediency of changes in and additions to the Convention.

At the request of this Commission several investigations and experiments with drift nets and long lines were carried out. Papers on the results were submitted to the Commission at meetings in 1968, 1969 and 1970.

In 1969 the Permanent Commission agreed on a recommendation about closed seasons and the prohibition of pelagic trawling for salmon fishing. The Contracting Parties adopted these additions to the Convention, but on account of formal problems they were not ratified when the editing of this Report was completed.

In 1971 Poland also joined the Convention. Already in 1964 Finland enacted regulatory rules similar to the Articles of the Convention.

As the exploitation of Baltic salmon by U.S.S.R. exclusively takes place in rivers, river mouths and surrounding coastal areas, no special legislation is elaborated by this nation for the offshore salmon fishery in the Baltic apart from a general minimum size of 60 cm for salmon.

Salmon problems were considered at "The Baltic Sea Conference 1972" in Stockholm arranged by "The Swedish Federation of Fisheries' Associations" attended by Delegates from all the countries bordering the Baltic. In a resolution from the Conference it was stressed that strict protective measures were urgently required if the natural resource represented by salmon was not to be lost. Each state should therefore restore or by stocking compensate for their former smolt production, establish new spawning areas by construction of fish ways, investigate the effect of different fishing methods, follow the fishery statistically and not allow too intensive fishing. As the most urgent step however the Conference agreed that all states should ratify the Baltic Salmon Fisheries Convention, and in addition proposed closed seasons and provisions regarding details of gear mounting and maximum amount of gear per fishing vessel.

1.2 Formation and Activities of the Working Group on Baltic Salmon

At the Symposium on Salmon and Sea Trout held at Charlottenlund in 1958 in connection with the Annual Meeting of ICES, proposals were made about the establishment of a standing committee on Baltic salmon problems in order to promote cooperation in research and management of the salmon stock confined to the Baltic area.

The proposal was adopted as one of the recommendations of the Symposium and approved by the Salmon and Trout Committee and the Council, and it reads as follows:

- (f) that the Salmon and Trout Committee should establish a Working Group to consider the problems of salmon and sea trout in the Baltic;
- (g) that the Working Party on Salmon in the Baltic meet, if possible, in Sweden in March 1959 to further their consultations.

The following members of the Committee were nominated:

Denmark:	Mag. K Larsen, Mag. J Knudsen
Finland:	Prof. E Halme
Federal Republic of Germany:	Prof. R Kändler, Dr. F Thurow
Poland:	Prof. St Zarnecki, Prof. F Chrzan
Sweden:	Dr. B Carlin (Chairman), Dr. A Lindroth
U.S.S.R.:	Prof. N J Koshin, Dr. N M Lishev.

In 1964, the member list was revised as appears from the recommendation from the Salmon and Trout Committee quoted in the section on the activities of the Working Group.

According to a further revision in 1972 the members of the Group are the following persons:

Denmark:	Mag. O Christensen
Finland:	Fil.lic. J Toivonen
Federal Republic of Germany:	Prof. F Thurow (Chairman), Prof. H Mann
Poland:	Prof. F Chrzan, Dr. Chelkowski, Dr. R Sych
Sweden:	Fil.lic. N Johansson
U.S.S.R.:	Dr. B Evtjukhova

The same year Mag. O Christensen was elected as Chairman and Fil.lic. N Johansson as Secretary.

The following survey of recommendations and excursions gives an idea of the activities of the Working Group.

- A. Recommendations submitted to and adopted by the Salmon and Trout Committee, quoted from Procès-Verbal de la Réunion, i.e. according to the wording given by the Committee and the Council when approved

1959

1. The Salmon and Trout Committee recommends that the work of the Baltic Group should be continued in order to discuss sampling methods and treatment of data and to exchange information on the progress of investigations. The next meeting of the Baltic Working Group will be held in Copenhagen on 15-20 March 1960 (C.Res.1959/17:g:3).
2. The following recommendations submitted by the Baltic Working Group were adopted by the Committee (C.Res.1959/17:g:4):
 - (a) A survey of Baltic salmon rivers ought to be made to contain data on original and recent production capacity of natural smolts of salmon and sea trout, and recent and planned production of smolts by means of liberations of reared parr or smolts.
 - (b) Tagging operations are highly desirable, especially of:
 - (i) smolts, both natural (wherever possible) and reared in Sweden and especially in Finland, U.S.S.R., and Poland,
 - (ii) kelts whenever such are liberated after stripping,
 - (iii) clean fish in the sea, especially by such countries as the Federal Republic of Germany and Denmark, which, for obvious reasons, cannot take part in the tagging of smolts.
 - (c) Studies on the river life and post-smolt period are important, especially:
 - (i) size and growth rate of parr and their variability,
 - (ii) size and age of smolts, their variability and its causes (environmental conditions),
 - (iii) mortality and its causes,
 - (iv) food organisms and feeding conditions.
 - (d) Investigations into predation on post-smolt and adult stages of salmon and sea trout.
 - (e) Sampling data on size, age classes, growth, condition factors, sex ratio, fecundity, sexual stages and food, from unselected commercial catches, data on catch, effort and catch per unit effort.
 - (f) Wherever large catches or landings of salmon are made the opportunity should be used to determine the relation between catch of different sea age classes and recovering of tagged fish made within these lots in order to make smolt number estimates possible.

1960

It was recommended that the important investigations on commercial catches of Baltic salmon reported on by Danish and German representatives be continued, and, if possible, extended to permit estimations of abundance of year classes and other basic data for the study of population dynamics and biology of the Baltic salmon, necessary for the management of the stock on an international basis (C.Res.1960/10:h:3).

1961

After the Scale-Reading Symposium the Committee decided, upon recommendation of the Baltic Working Group, to consider a standardisation of

- (i) scale sampling for back-calculation purposes as to position of sample on the fish, and
- (ii) back-calculation methods for salmon and sea trout.

As the Group found it desirable to meet in Poland to study i.e., the salmon and sea trout in the river Vistula, the Committee was asked to make the necessary arrangements for that meeting (C.Res.1961/14:7:e).

1962

It was decided to support the following recommendations of the Baltic Working Group (C.Res.1962/10:7:d):

- (i) that the Working Group should continue, especially to study the population dynamics of the Baltic stocks of salmon and sea trout;
- (ii) that the next meeting of the Baltic Working Group should be held in 1963. Dr. Lishev promised to examine the possibilities of arranging the meeting in the U.S.S.R., together with an excursion to study salmon conservation in the field. The main subject of discussion at this meeting would be population dynamics. Dr. Lishev and Dr. Thurow promised to give a survey of their work on this subject.

1963

(C.Res.1963/9:b). - That the countries exploiting the salmon stocks in the Baltic should be requested to give annually the following information on their fisheries:

- (a) monthly catches, if possible divided into salmon and sea trout,
- (b) statistics on weight categories,
- (c) length and/or age composition data, and
- (d) catch per unit of effort data (e.g. catch per 100 nets and 1 000 hooks, if possible including seasonal and regional variations).

1964

Recommendations submitted by the Working Group to the Salmon and Trout Committee: 1. That the member list should be revised. 2. That the Working Group should continue its work and the next meeting be held in Finland. 3. That an authoritative terminology of stages and types of salmon and sea trout is desirable - were adopted as quoted below:

1. That the Baltic Working Group should continue to function during the forthcoming year and that its members should consist of the following persons: K Larsen and O Christensen (Denmark); E Halme and J Toivonen (Finland); R Kändler and F Thurow (Federal Republic of Germany); F Chrzan and S Zarnecki (Poland); B Carlin and A Lindroth (Sweden) and N M Lishev and N I Koshin (U.S.S.R.), and that the next meeting be held in northern Finland in the autumn of 1965 (C.Res.1964/4:7).
2. That a Questionnaire drafted by the Chairman should be sent to all members asking them to revise as far as possible the list of names for various stages in the life of salmon and sea trout etc., including natural and reared fish as published in earlier Council papers and to return the completed Questionnaires to Mr I R H Allan of England, who had offered to act as Rapporteur for this purpose (C.Res.1964/11:8:c).

1965

1. That smolt taggings in the western Baltic, Riga Bay and the Bay of Finland and adult salmon taggings in the open Baltic should be carried out by member countries (C.Res.1965/4:19).
2. That experiments involving the transfer of salmon between rivers should be carried out by Baltic member countries to test out the feasibility of such transfers on a large scale (C.Res.1965/4:20).

1966

1. That in view of the interference in a variety of ways with rivers flowing into the Baltic and the adverse effects on salmon and sea trout stocks resulting therefrom, the member countries concerned should be asked to consider what steps should be taken to improve the position, including such matters as the control of pollution, facilitating the movement of ascending and descending fish and rearing of fish by artificial means (C.Res.1966/4:18).
2. That, as it seems likely that there will be a need for keeping under review the stocks of salmon in the Baltic for several years to come, the Baltic Salmon Working Group should continue, it being understood that the first definitive report will be available for the next meeting of the Committee (C.Res.1966/4:21).

B. Recommendations within the Working Group

1960 (March)

1. A bibliography on scale-reading is wanted. Dr Lindroth undertook the compiling of a list of papers pertaining to the study of body/scale relationship.

2. If possible the Group should send a member to the ICNAF meeting on scale-reading in Bergen in May this year and invite representatives from ICNAF to visit the Scale Symposium of ICES in Moscow in the autumn.
3. The Group is interested in an excursion to the Baltic salmon rivers in U.S.S.R. in connection with the ICES meeting in Moscow. Dr Bogdanov should convey this desire to the Chairman of the Salmon and Trout Committee, Prof. G V Nikolsky.
4. The Group should meet in Moscow in the autumn for a business sitting and again in Kiel next year for two to three days in the period 15 March to 15 April.

1960 (September)

1. That the next meeting was to be held in Copenhagen the day before the Symposium on Reading of Salmon Scales in connection with the 1961 meeting of the Council.
2. That the main subject for discussion should be salmon population dynamics in the Baltic.

1962 (July)

1. The member countries should during 1963 supply, to the Chairman or the Secretary:
 - Data for survey of salmon rivers,
 - Bibliography on Baltic salmon to the year 1962 inclusive,
 - List or diagram of organisations concerned with Baltic salmon,
 - List of agreements concerning terminology and methods.
2. Remaining programme recommendations made up to now should during 1963 be systematized and, as proposed now, the following new items are to be considered. Sea trout of the wide-migrating form is to be included in the work (Zarnecki).
 - Statistical data on sea catch should not refer to calendar year but to fishing season or both (Christensen).
 - Food of small salmon in the sea should be studied (Carlin).
 - Transplantations for experimental purposes should be studied (Zarnecki).

1962 (October)

- (a) Since the importance of sea trout is increasing in Denmark, Germany and Poland, this fish should be given increased attention by the Working Group.
- (b) The survey of Baltic salmon rivers should be widened to cover the trout streams (it was mentioned that the survey of Danish rivers now almost completed, will cover all rivers).
- (c) A joint German-Danish project of releasing tagged salmon smolts in the western part of the Baltic is now under way and the first smolts will be released in 1964.

1963 (June)

- (a) A progress report should be prepared along the lines discussed by this meeting. A sub-group (Carlin, Christensen, Thurov) shall discuss the Section devoted to the Baltic salmon population model.
- (b) Sea catch in the Baltic proper should if possible be recorded as catch per month or half year.
- (c) The next meeting is proposed to be held in Kiel in March 1964.

1966 (August)

Institutes which report on foreign tags should forward the tag to the country to which it belongs together with a map indicating the place of recapture.

1968 (October)

As "Sea life of Atlantic salmon" was accepted as main subject for the meeting in 1969 of the Anadromous and Catadromous Fish Committee, the Working Group decided to contribute with a relevant joint report on Baltic salmon. In order to compile and discuss the material necessary for the report it was proposed to arrange a meeting in Hamburg or Kiel, February 1969.

1971 (September)

The proposal that the Working Group should be continued at least until the Reference Report has been completed and the assessment of salmon in the Baltic is taken a further stage, was approved by the Committee.

C. Excursions in connection with the sittings of the Working Group

Sweden, March 1959

Excursions to the Hölle Salmon Laboratory of the Migratory Fish Committee (now Salmon Research Institute), to the Forsmo salmon rearing station of the State Power Board and Bergeforsen's salmon rearing station of the Bergeforsen's Hydroelectric Power Company.

Denmark, October 1959

Excursions 2-3 October to the trout ponds at Højenkær, at Vingsted and Spjarup, to the fish harbour and trout processing plant in Esbjerg, and to the "Danish Trout Pond Farmers Experimental Station" at Brøns.

Denmark, March 1960

Excursions to the fishing harbour of Rønne in Bornholm.

Poland, July 1962

Excursions to the Sea Fisheries Institute in Gdynia, to the rivers Raba and Dunajec in south Poland, Lopuszná rearing station, Rożnów and Czchów power stations and Mydlniki Fisheries Research Station.

U.S.S.R., June 1963

Excursions to Daugava and Gauja rivers, to Tome rearing station and Zvejniek collective fishery farm.

Federal Republic of Germany, March 1964

Excursions to sea trout brooks and hatcheries and to the "Hydrobiologische Anstalt" in Plön and to the "Bundesforschungsanstalt für Fischerei" in Hamburg-Altona.

Finland, August 1966

Excursions to river Oulujoki with Montta rearing station, Maalismaa at Iijoki, Ischaara power plant at Kemijoki, and Muonio rearing station at Torneojoki.

SECTION 2: ORGANISATIONS, PROJECTS AND BIOLOGISTS CONCERNED

WITH BALTIC SALMON

2.1 Denmark

- 2.1.1 Danmarks Fiskeri- og Havundersøgelser,
(Danish Institute for Fisheries and Marine Research)
Charlottenlund Slot, DK-2920 Charlottenlund,
Denmark.

Population studies; catch and effort statistics;
tagging experiments in order to check stocking
efforts; gear experiments.

Cand.mag. Ole Christensen.

2.2 Federal Republic of Germany

- 2.2.1 Bundesforschungsanstalt für Fischerei,
Institut für Küsten- und Binnenfischerei,
(BFA, KÜBiFi), Labor. Kiel,
23 Kiel 14, Wischhofstrasse 1-3,
F.R.G.

Population dynamics; catch composition; distri-
bution of catch and effort in the Baltic.

Professor, Dr. F Thurow.

- 2.2.2 Bundesforschungsanstalt für Fischerei,
Institut für Küsten- und Binnenfischerei,
2000 Hamburg 50, Palmaille 9,
F.R.G.

Mariculture; feeding experiments with post-
smolts in cages in brackish water.

Dipl.Biol. H Koops.

- 2.2.3 Institut für Meereskunde an der
Universität Kiel,
Labor. Seefischmarkt,
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Wischhofstrasse 1-3,
F.R.G.

Mariculture, the use of brackish water warmed by a power plant for pen-rearing and feeding of salmonids.

Dipl.Biol. H Grave.

2.3 Finland

- 2.3.1 Finnish Game and Fisheries Research Institute,
Fisheries Division, P.O.Box 260,
Pitkäsillanranta 1A,
SF-00531 Helsinki 53,
Finland.

Population studies and tagging experiments on salmon. - Fil.lic. Jorma Toivonen.

Studies on salmon blood and food experiments on hatchery-reared salmon. - Fil.lic. Kai Westman

Hatchery-rearing experiments on salmon.
Fil.lic. Olli Sumari.

Laukaan keskuskalanviljelylaitos 41360 Valkola.

- 2.3.2 Fisheries Foundation,
Liisankatu 12 E,
SF-00170 Helsinki 17,
Finland.

Rearing experiments on salmon in natural ponds. - Director Tapani Sormunen.

- 2.3.3 Husö Biological Station,
Pålsböle,
SF-66220 Bergö, Åland.

Population studies and tagging experiments on salmon. - Fil.mag.Karl Stora.

Salmon rearing experiments in brackish water.
Fil.mag. Karl Stora.

- 2.3.4 Parasitological Institute of the Finnish
Scientific Society,
Porthaninkatu 3,
SF-20500 Turku 50,
Finland.

Parasite studies on salmon.
Fil.lic. Göran Bylund.

2.4 Poland

- 2.4.1 Sea Fisheries Institute,
Aleja Zjednoczenia 1,
81-345 Gdynia,
Poland.

Salmon and sea trout: age and growth, composition of catches; tagging experiments.
Prof. F Chrzan.

- 2.4.2 Inland Fisheries Institute,
Zabieniec,
05-500 Piaseczno near Warsaw,
Poland.

Sea trout: scale reading, composition of catches,
construction of models for fishery-biological and
commercial purposes.
Dr Roman Sych.

Salmon, sea trout and rainbow trout: breeding and
rearing experiments, tagging experiments in order
to study the migrations and effects of stocking.
Dr Ryszard Bartel,
ul. Bytowska 5, 80-328 Gdańsk-Oliwa, Poland.

- 2.4.3 Polish Academy of Sciences,
ul. Slawkowska 17,
31-016 Cracow,
Poland.

Sea trout: composition of fish populations and arti-
ficial propagation in the Upper Vistula tributaries.
Dr. Wladyslaw Kolder.

Lake trout: methods and effects of introductions into
dam reservoirs.
Dr. Zbiginiew Wajdowicz.

- 2.4.4 Academy of Agriculture in Cracow,
Experimental Station of Fisheries,
32- 081 Mydlniki near Cracow,
Poland.

Salmon, sea trout, lake trout and brown trout: studies
on growth, ripening and behaviour of several successive
generations bred in ponds and crossed; tagging experi-
ments in order to study migrations.
Dr. Stanislaw Skrochowska.

- 2.4.5 Academy of Agriculture in Szczecin
Szczecin,
Poland.

Salmon and sea trout: structure of populations in West
Pomeranian rivers and tagging experiments mainly in
order to study the migrations.
Dr. Zygmunt Chelkowski, M.Sc. Bozena Chelkowska,
ul. Broniewskiego 1 Bl. 30, 71-460 Szczecin, Poland.

Salmon and sea trout: biochemical components of blood
serum.
Dr. Cecylia Felińska,
ul. Królewicza Kasmierza 4, 71-552 Szczecin, Poland.

Salmon and sea trout: embryophysiology, and some
physiological problems of ripening and spawning.
Dr. Aleksander Winnicki,
ul. Królewicza Kazimierza 4, 71-552 Szczecin, Poland.

- 2.4.6 Academy of Agriculture in Poznań,
ul. Wojska Polskiego 71 c
60-625 Poznań,
Poland.

Salmon, sea trout and lake trout: age and growth
of spawning population, number and structure of
young fish population in the Warta river system.
Dr. Michael Iwaszkiewicz,
M.Sc. Jerzy Mastyrski,
M.Sc. Antoni Przybyl.

- 2.4.7 Academy of Agriculture in Olsztyn,
10-725 Olsztyn-Kortowo,
Poland.

Lake trout: structure of spawning population and
fluctuations of fish number in Wdzydze Lake.
Dr. Jan A Szczerbowski.

- 2.4.8 Polish Angling Association,
ul. Dzierżyńskiego 18
30-048 Cracow,
Poland.

Sea trout of Upper Vistula: studies on migration
and effects of stocking by means of tagging.
M.Sc. Wacław Palka

2.5 Sweden

- 2.5.1 Royal Board of Fisheries,
Fack,
403 10 Gothenburg 2,
Sweden.

Central administration:
Director: Dr. J Hult

Laboratories:

Institute of Freshwater Research, Drottningholm, Sweden.
Prof. G Svärdson

Institute of Marine Research, 453 00 Lysekil, Sweden.
Dr. A Lindquist

- 2.5.2 Swedish Salmon Research Institute,
S-810 70 Älvkarleby 1,
Sweden.

Tagging experiments in order to study migration of
salmon; the population structure and dynamics in
the Baltic; the effects of the Swedish salmon con-
servation programme and the effects of breeding
experiments.

Fil.lic. N. Johansson,
Fil.kand. P-O Larsson

Selective breeding experiments.
Prof. A Nygren,
Landbrukshögskolan, S-755 90 Uppsala, Sweden.

Seasonal and developmental variations in the mineral regulation capacity and the haemoglobin polymorphism of salmon.

Prof. H J Koch, Zoological Institute, B-3000 Leuven, Belgium.

Physiological investigations of hatchery-reared salmon.
Fil.lic. C Wendt.

Food experiments on hatchery-reared salmon.
Fil.mag. Eva Bergström.

The effects of PCBs on salmon.
Fil.lic. Nils Johansson.

Studies of gill hyperplasia in hatchery-reared salmon.
Fil.lic. Nils Johansson.

- 2.5.3 State Power Board,
Fack,
S-162 87 Vällingby 1,
Sweden.

Construction and operation of fish culture facilities.
Salmon rearing technique. Seven salmon rearing stations.
Fil.lic. E Montén.

- 2.5.4 Water-Power Companies.

Salmon rearing at eight stations.

- 2.5.5 University of Umeå,
Biological Institute,
Section of Ecological Zoology,
S-901 87 Umeå,
Sweden.

The Baltic salmon, its natural and artificial regulation.
Prof. A Lindroth.

Sensory mechanisms in fish orientation.
Dr. G Bertmar.

The ecology of salmon post-smolts in the Baltic.
Dr. L Österdahl.

- 2.5.6 Swedish Museum of Natural History,
Stockholm, Sweden.

Chlorinated hydrocarbons, mercury and heavy metals in herring, cod, flounder and salmon in the Baltic.
Prof. A Johnels.

2.6 U.S.S.R.

- 2.6.1 BaltNIIRH,
Baltiysky nauchno-issledovatel'skiy institut rybnogo khoziastva
(Baltic Fisheries Research Institute),
Riga - 49, 6, Daugavgrivas Str.,
U.S.S.R.

Fundamental studies of natural and artificial reproduction of Baltic salmon, the improvement of the technique of breeding and artificial foods, physiological and biochemical investigations, estimation of rate of recapture, rational use of fishery stocks and catch forecasting.

Lishev, M. N. - Dr. of Biol., Deputy Director.
Malikova, E. M. - Dr. habil. of Biol., Head of Laboratory.
Mitans, A. R. - Senior Scientific Worker.
Kotova, N. I. - Senior Engineer.
Peslaks, Ja. K. - Scientific Worker.
Glagoleva, T. P. - Scientific Worker.

- 2.6.2 GosNIORH
Gosudarstvenny nauchno-issledovatel'skiy institut ozernogo i rechnogo
rybnogo khoziastva (State Research Institute of Lake and River
Fisheries),
Leningrad V - 53, 26 Makarov Embankment,
U.S.S.R.

Artificial reproduction of Baltic and lake salmon, egg incubation and breeding technique improvement, physiology and parasitology of juveniles, rate recapture investigations.

Petrenko, L. A. - Dr. of Biol., Deputy Director of GosNIORH.
Jandovskaya, N. I. - Dr. of Biol., Senior Scientific Worker.
Melnikova, M. N. - Dr. of Biol., Senior Scientific Worker.
Popov, L. N. - Dr. of Biol., Senior Scientific Worker.
Bogdanova, E. A. - Dr. of Biol., Senior Scientific Worker.
Shimanovskaya, L. N. - Head of the Laboratory.
Kazakov, R. V. - Dr. of Biol., Scientific Worker.
Leizerovitch, H. A. - Scientific Worker.
Maerkovitch, I. V. - Scientific Worker.

- 2.6.3 ZIN AN SSSR
Zoologicheskiy institut Akademii nauk SSSR
(Zoological Institute of the Academy of Sciences of USSR),
Leningrad V - 164, 1, University Embankment,
U.S.S.R.

Biology of Baltic and lake salmon.
Khalturin, D. K. - Dr. of Biol., Senior Scientific Worker.

- 2.6.4 LGU
Leningradskiy gosudarstvennyy universitet
(University of Leningrad),
7/9 University Embankment,
U.S.S.R.

Salmon breeding and ichthyology, biological and physiological investigations of juveniles.

Vernidub, M. F. - Dr. of Biol., Assistant Professor.
Gorodilov, U. N. - Senior Scientific Worker.
Khalturina, M. I. - Scientific Worker.

- 2.6.5 Petergofsky biologichesky institut LGU
(Peterhof Biological Institute LGU),
Leningrad region, Old Petergof, 2, Oranienbaum Highway,
U.S.S.R.

Salmon breeding and ecology.

Persov, G M. - Dr. Habil. of Biol., Head of Laboratory.
Sakun, O F. - Dr. of Biol., Senior Scientific Worker.

Tsentrálnaya laboratoriya po vosproizvodstvu rybnykh
zapasov Glavrybvoda (Central Laboratory of Fish Stocks
Reproduction of Glavrybvod),
Leningrad - 22, 24/52 Prof. Popov Str.
U.S.S.R.

Endocrinology and ecology of salmonids.

Baranenkova, I A. - Dr. Habil. of Biol., Director of the
Central Laboratory.
Krasnodembskaya, K D. - Senior Scientific Worker.
Bajunova, N N. - Scientific Worker.

- 2.6.6 Baltrybvod
Baltiyskoe basseynovoe upravlenie po ohrane i vosproizvodstvu
rybnykh zasposov i regulirovaniyu rybolovstva (Baltic Basin
Management of Protection and Reproduction of Fish Stocks and
Fishery Control),
Riga, 14 Pils Str.
U.S.S.R.

Artificial reproduction of Baltic salmon at fish
breeding plants, protection of salmon and salmon
rivers, fishery control and ichthyological obser-
vations.

- 2.6.7 Sevzaprybvod
Severo-zapadnoe basseynovoe upravlenie po ohrane i vosproiz-
vodstvu rybnykh zasposov i regulirovaniyu rybolovstva (North-
Western Basin Management of Protection and Reproduction of
Fish Stocks and Fishery Control),
Leningrad, 63 Neva Avenue,
U.S.S.R.

Artificial reproduction of Baltic salmon at fish
breeding plants, protection of salmon and salmon
rivers, fishery control and ichthyological obser-
vations.

SECTION 3: SURVEY OF BALTIC SALMON RIVERS

3.1 Denmark

No Danish stream flowing into the Baltic supports a salmon run, nor
does any information exist on runs in former times. In 1972
stocking experiments with salmon were carried out from the Island of
Bornholm situated in the Baltic main basin. A number of 2 000 salmon
smolts were tagged and released in two small trout streams: Læså and
Øleå.

Of the Danish water courses draining into the Baltic Sea, 168 are, by nature, fit for sea trout spawning. Early in the century about 110 were used regularly by sea trout. In 1960 the number was reduced to 80 as a consequence of human activities, 20 running into the Baltic main basin (from Bornholm) and the remaining into the Western Baltic.

3.2 Federal Republic of Germany

No German streams flowing into the Baltic Sea support salmon runs nor does any information exist on runs in former times. In the years 1966-73 stocking experiments were carried out in two small streams running into Kiel Bay and about 12 000 hatchery-reared salmon smolts were added. None of these have been reported as ascending adult fish.

About 50 streams of the Federal Republic of Germany drain into the Western Baltic. At present 15 support a sea trout run.

Since 1965 a considerable decrease in the catches of sea trout has been noticed, probably a consequence of declining smolt production.

3.3 Finland

In former times sea trout existed in 47 Finnish rivers running into the Baltic. The total run of sea trout smolts at that time is estimated to 500 000.

Sea trout have now disappeared from 15 rivers and the total smolt production has decreased to 100 000.

Ref. Hurme, S., 1966: Suomen Itämeren puoleiset lokija taimenjoet. Erämies 20 (11):13-17. English summary: Salmon and trout rivers on the Baltic side of Finland.

See also Table on smolt production in Baltic salmon rivers, p. 23, and chart on Baltic salmon rivers in Finland, p.24.

Finland

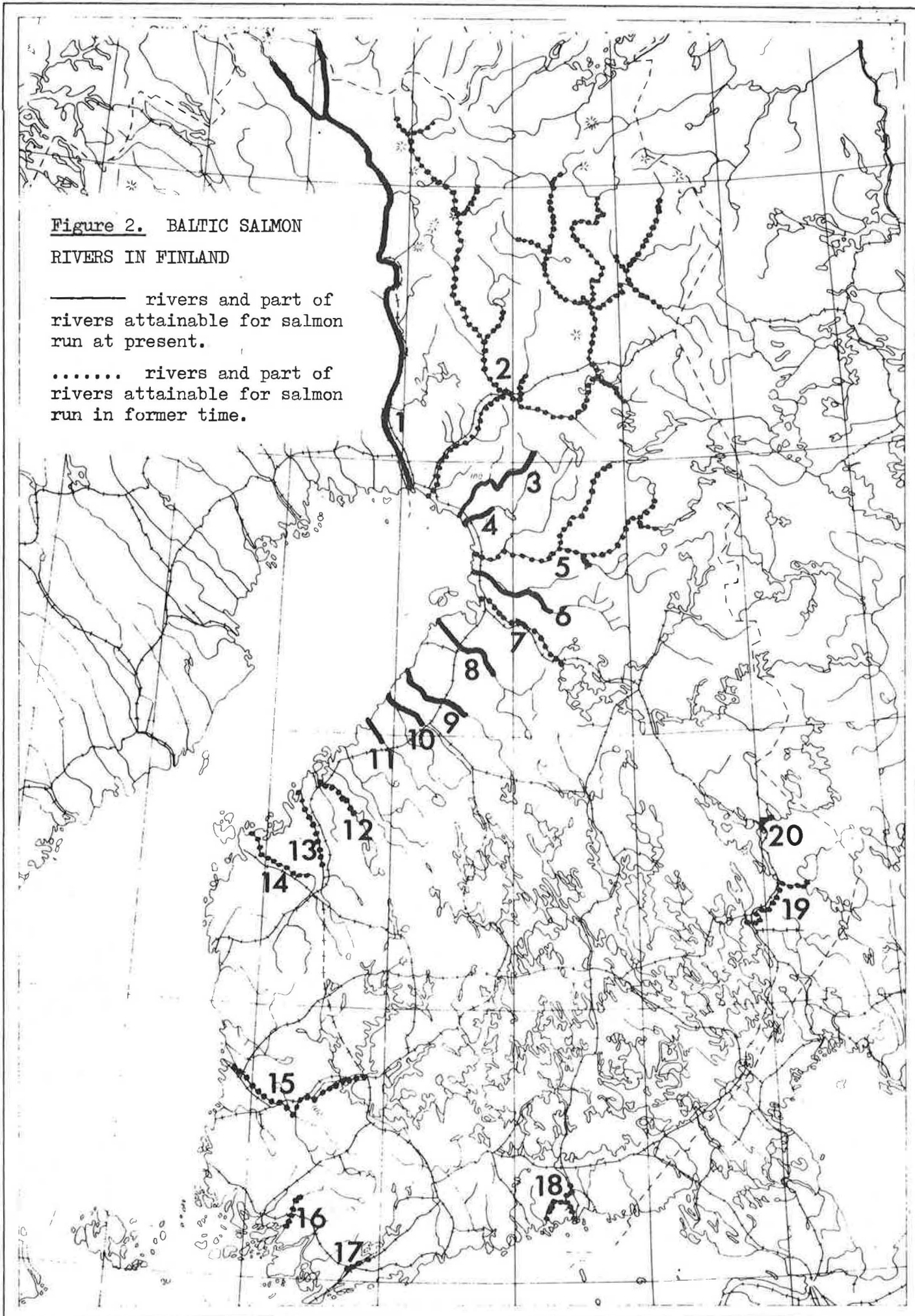
Survey of Baltic salmon rivers.

River		Estimated Smolt Production		
No.	Name	Original	Recent (1972)	
			Natural	Reared
1.	Tornionjoki	(1 000 000 total)		
		325 000 Finnish side	325 000	-
2.	Kemijoki	1 000 000	-	20 000
3.	Simojoki	55 000	45 000	-
4.	Kuivaniemenjoki	10 000	5 000	-
5.	Iijoki	320 000	-	-
6.	Kiiminginjoki	40 000	30 000	-
7.	Oulunjoki	450 000	-	100 000
8.	Siikajoki	20 000	10 000	-
9.	Pyhäjoki	20 000	10 000	-
10.	Kalajoki	20 000	5 000	-
11.	Lestijoki	10 000	5 000	-
-				
15.	Kokemäenjoki	450 000	-	-
-				
18.	Kymijoki	400 000	-	-
Some small salmon rivers (salmon stock died out before 1900):				
12.	Ähtävänjoki,			
13.	Lapuanjoki,			
14.	Kyrönjoki,			
16.	Paimionjoki, and			
17.	Mustionjoki			
	all together	70 000	-	-
T o t a l		3 190 000	435 000	120 000
				435,000
				555 000
<u>Landlocked Salmon</u>				
19.	Pielisjoki (Lake Saimaa)	100 000	-	-
20.	Lieksanjoki (Lake Pielinen)	25 000	-	-
T o t a l		125 000	-	-

Figure 2. BALTIC SALMON
RIVERS IN FINLAND

———— rivers and part of
rivers attainable for salmon
run at present.

..... rivers and part of
rivers attainable for salmon
run in former time.



3.4 Poland

Survey of Baltic salmon rivers. (See also Figure 3, p.27).

River		Tributary		Run	
No.	Name	No.	Name	In former time	Recently
1.	Vistula			+	-
		1.1	Sola	+	-
		1.2	Skawa	+	-
		1.3	Wisloka	+	-
		1.4	Brda	+	-
		1.5	Wda	+	-
		1.6	Wierzyca	+	-
2.	Reda			(+) never abundant	Only on exceptional occasions
3.	Leba			(+) " "	" "
4.	Lupawa			(+) " "	" "
5.	Slupia			(+) " "	" "
6.	Wieprza			(+) " "	" "
		6.1	Grabowa	(+) " "	" "
7.	Parseta			(+) " "	" "
		7.1	Radew	(+) " "	" "
8.	Rega			(+) " "	stocking with fry
		8.1	Molstowa	(+) " "	"
9.	Odra			+	+
		9.1	Warta	+	+
		9.2	Welna	+	+
		9.3	Noteć	+	+
		9.4	Drawa	+	+
		9.5	Plociczna	+	+
		9.6	Gwda	+	+
Total production:				1 000 smolts which are mainly due to stocking	

Survey of sea trout rivers.*)(See also Figure 4, p.27).

River		Tributary		Run	
No.	Name	No.	Name	In former time	Recently
1.	Pasleka			+	+
2.	Bauda			+	+
3.	Narusa			+	+
4.	Vistula			+	+
					in lower part
		4.1	Sola	+	-
		4.2	Skawa	+	-
		4.3	Rudawa	+ introduced stock	-
		4.4	Raba	+	-
		4.5	Dunajec	+	-
		4.6	Wisloka	+	-
		4.7	Drweca	+	+
		4.8	Brda	+	-
		4.9	Wda	+	-
		4.10	Wierzyca	+	-
5.	Reda			+	+
6.	Leba			+	+
7.	Lupawa			+	+
8.	Slupia			+	+
9.	Wieprza			+	+
		9.1	Grabowa	+	+
10.	Uniesta			+	+
11.	Parseta			+	+
		11.1	Radew	+	+
12.	Rega			+	+
		12.1	Molstowa	+	-
13.	Gowienica			-	+ introduced stock
14.	Odra			+	+
		14.1	Ina	+	+
		14.2	Warta	+	+
		14.3	Welna	+	+
		14.4	Noteć	+	+
		14.5	Drawa	+	+
		14.6	Płociczna	+	+
		14.7	Gwda	+	+
Total production: 300 000 smolts mainly as a result of stocking					

*) including only wide-migrating stocks.

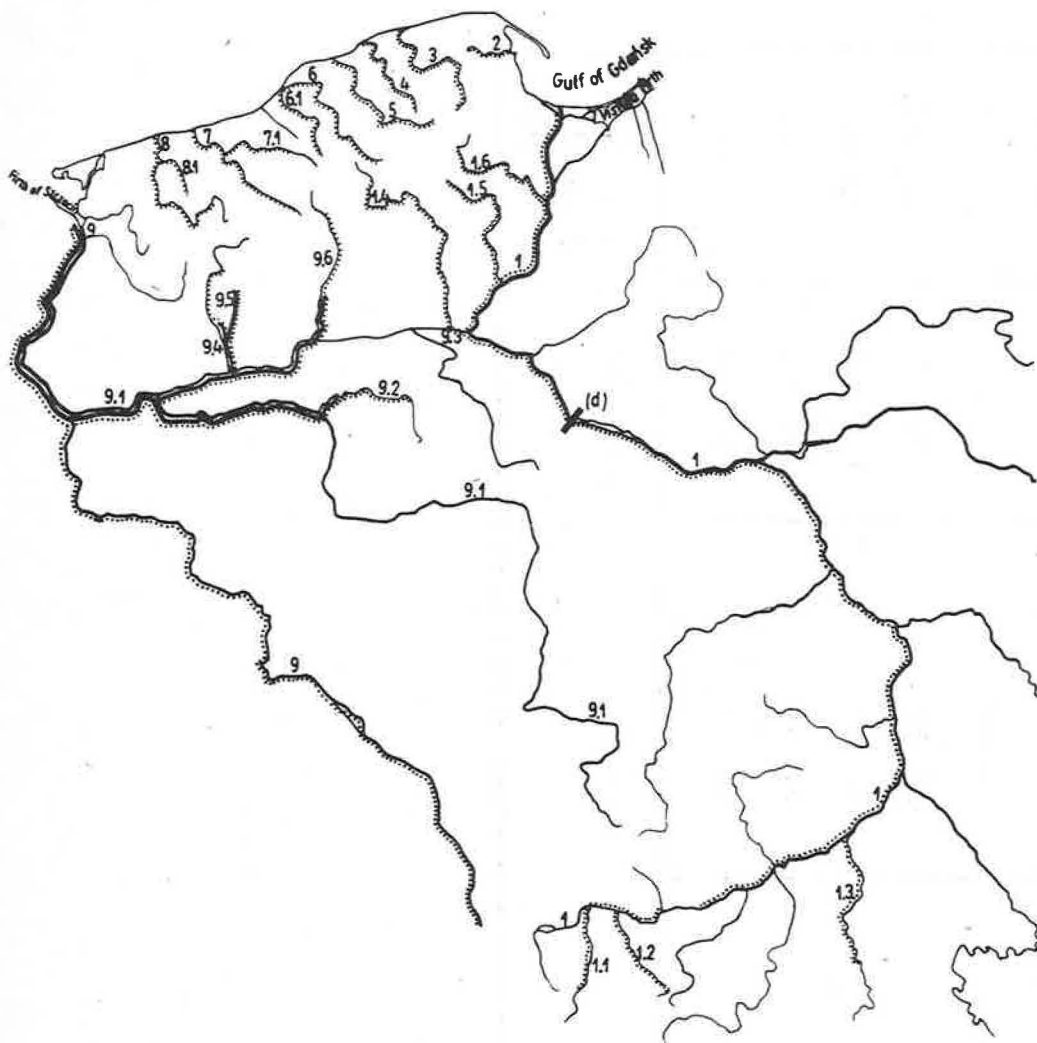


Figure 3. SALMON RIVERS IN POLAND

- recently, i.e. in 1972
- in former time, since 17th century
- (d) the dam built in 1968.

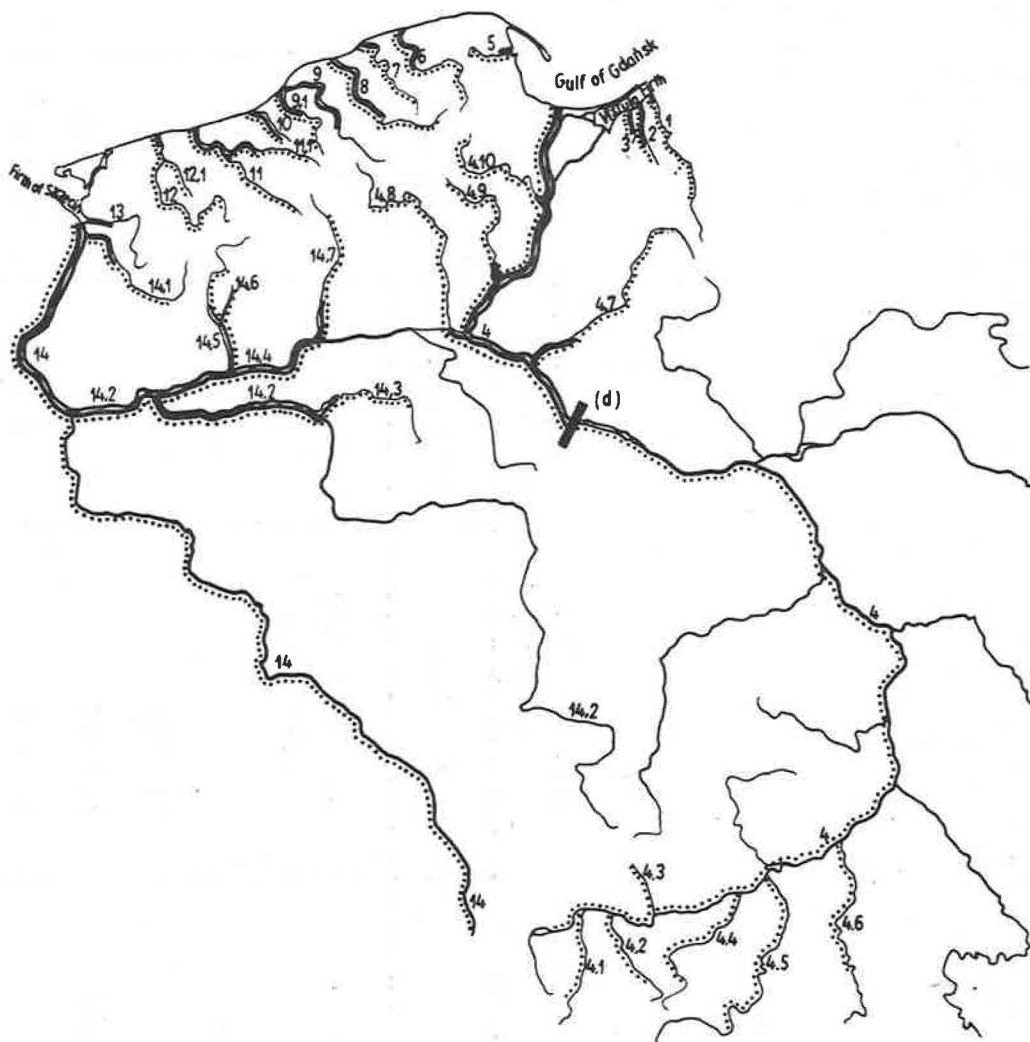


Figure 4. SEA TROUT RIVERS IN POLAND

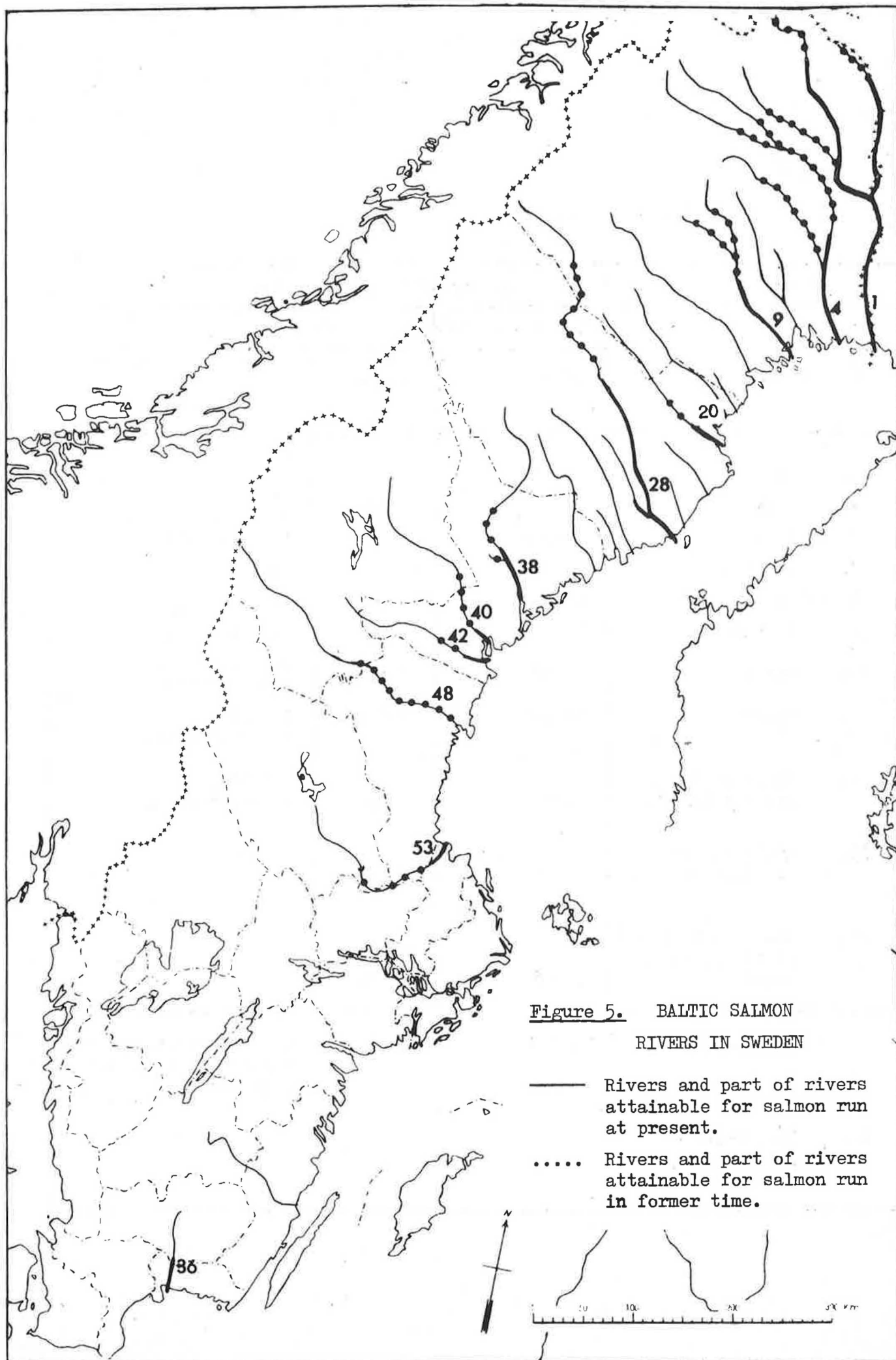
(including only the wide-migrating stocks)

- recently, i.e. in 1972
- in former time, since 17th century
- (d) the dam built in 1968.

3.5 Sweden (Figure 5)

Survey of Baltic salmon rivers.

River		Estimated Smolt Production		
No.	Name	Original	Recent	
			Natural	Reared
1.	Torne älv	(1 000 000 total) 675 000 Swedish side	675 000	-
4.	Kalix älv	250 000	250 000	-
9.	Lule älv	540 000	-	540 000
20.	Skellefte älv	110 000	-	110 000
28.	Ume älv	350 000	250 000	100 000
38.	Ångermanälven	300 000	-	300 000
40.	Indalsälven	320 000	-	320 000
42.	Ljungan	300 000	100 000	25 000
48.	Ljusnan	400 000	100 000	200 000
53.	Dalälven	350 000	50 000	70 000
86.	Mörrumsån	400 000	125 000	-
T o t a l		3 555 000	1 550 000	1 665 000 <u>1 550 000</u> 3 215 000



3.6 U.S.S.R. (Figure 6)

Survey of Baltic salmon rivers.

River		Estimated Smolt Production		
No.	Name	Original(1900)	Recent (1970)	
		Natural	Natural	Reared (the number of released salmon juveniles)
1.	Neva	40 000	4 000	155 000 two-summer old and two year old
2.	Luga	20 000	1 000	
3.	Narva	20 000	1 000	
4.	Salatsa	100 000	20 000	400 000 yearlings and two-summer old
5.	Gauya	15 000	3 000	
6.	Daugava	400 000	165 000	
7.	Venta	5 000	3 000	20 000 two-year old
8.	Niemen	50 000	1 000	120 000 one-summer old
9.	Small rivers of the Finnish Gulf	15 000	2 000	150 000 one-summer old
10.	Small rivers of the Gulf of Riga	15 000	2 000	
11.	Some small rivers of the Baltic coast	20 000	2 000	
T o t a l		700 000	204 000	575 000 yearlings, two- summer old and two- year old.
12.	The rivers of Lake Ladoga (Lake salmon)	?	?	

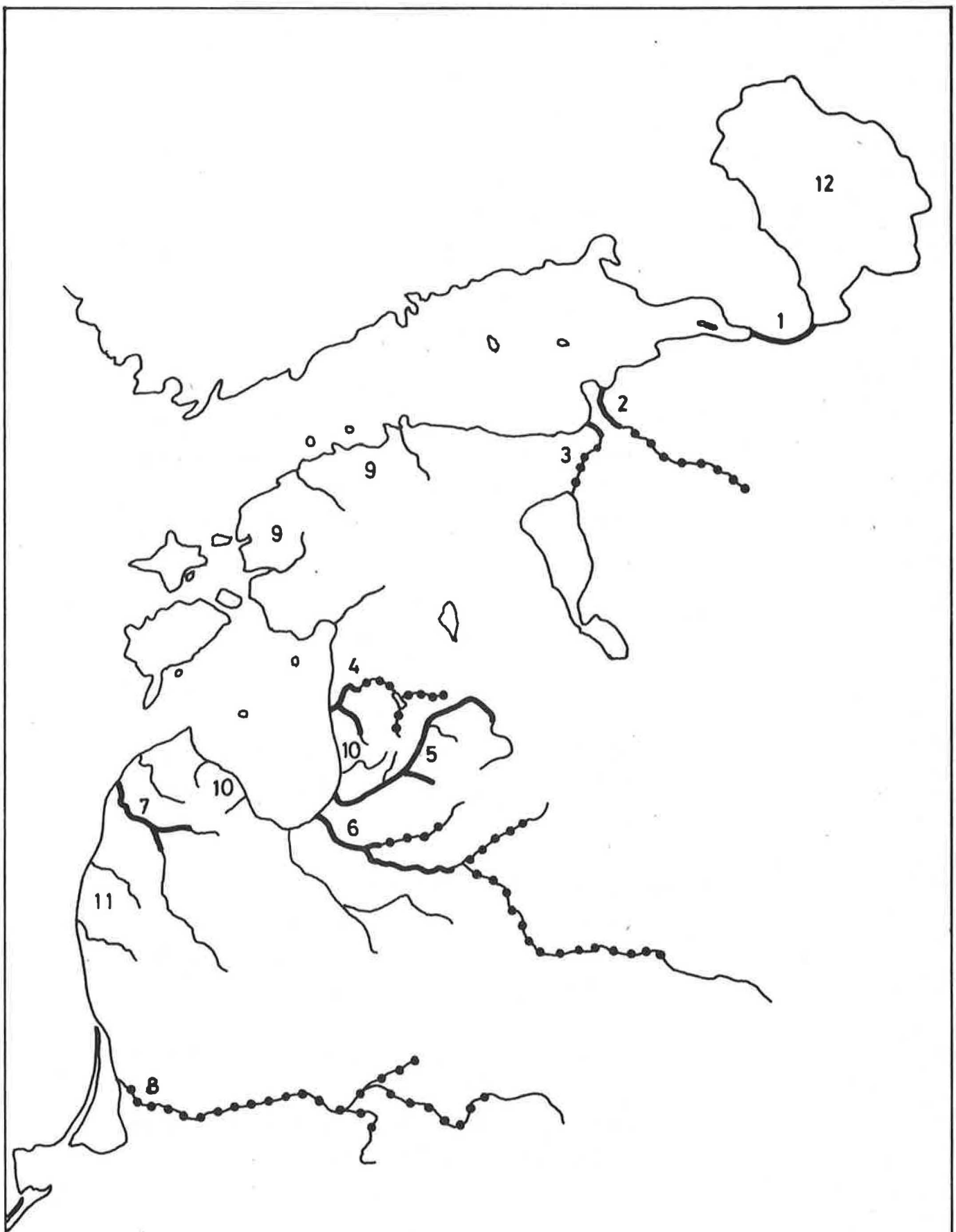


Figure 6. BALTIC SALMON RIVERS IN USSR

- rivers and part of rivers attainable
for salmon run at present.
- rivers and part of rivers attainable
for salmon run in former time.

SECTION 4: CATCH STATISTICS

4.1 Denmark

Notes to the Tables

Weight: gutted.

Sea trout (of the wide-migrating stocks) included.

Proportion of the catches 1.2 - 5.6 % during 1962-72, annual mean 2.8 %.

For the years 1885-1909 sea trout of local origin also included.

Gear: before 1946 mainly coastal fishery with fixed hooks and drift nets.

From 1946 to about 1955 mainly offshore fishery with long lines and drift nets.

Since 1955 exclusively offshore fishery with long lines and with increasing dominance of drift nets.

Fishing area: Baltic main basin.

Since the 1950s a small part of the fishery took place in the Gulf of Bothnia (0 - 5.4% during 1962-72, annual mean 1.8%).

Ref.: Fiskeriberetning for årene 1889-1971. Published by the Danish Ministry of Fisheries.

Monthly catches: personal communication by the Danish Ministry of Fisheries.

Table 1. Danish catches (in metric tons) of Baltic salmon and sea trout.

<u>Year</u>	<u>m.tons</u>	<u>Year</u>	<u>m.tons</u>	<u>Year</u>	<u>m.tons</u>
		1910	49	1940	47
		11	34	41	78
		12	33	42	127
		13	30	43	153
		14	30	44	142
1885	122	15	56	45	157
86	106	16	23	46	470
87	-	17	18	47	620
88	-	18	17	48	940
89	97	19	72	49	836
1890	73	1920	83	1950	1 317
91	69	21	77	51	1 096
92	103	22	42	52	1 328
93	86	23	41	53	753
94	75	24	16	54	962
95	55	25	38	55	610
96	108	26	46	56	961
97	68	27	67	57	893
98	44	28	44	58	894
99	27	29	23	59	933
1900	29	1930	42	1960	1 062
01	31	31	63	61	1 387
02	17	32	158	62	1 252
03	18	33	134	63	943
04	21	34	57	64	1 434
05	23	35	65	65	1 621
06	21	36	57	66	1 382
07	25	37	27	67	1 599
08	38	38	28	68	1 699
09	37	39	35	69	1 335
				1970	1 190*)
				71	950

*) In "Fiskeriberetning for året 1970" erroneously stated as 1 224 tons.

Table 2. Danish catches (in metric tons) of Baltic salmon and sea trout.

Year	Months												Total		Grand total
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	I-VI	VII-XII	
1952	222.0	200.3	105.9	190.4	127.3	4.0	0.2	0.1	2.8	56.4	224.2	193.9	849.9	477.6	1 327.5
1953	100.1	40.0	83.4	107.6	45.8	3.9	0.2	0.5	1.2	29.3	124.6	216.4	380.8	372.2	753.0
1954	116.6	64.9	47.4	82.0	45.7	11.9	0.5	1.3	24.8	105.6	240.7	219.6	368.5	592.5	961.0
1955	83.5	86.0	44.5	68.5	41.4	52.3	13.3	2.8	0.2	24.0	121.3	72.1	376.2	233.7	609.9
1956	69.1	21.7	3.5	92.9	174.9	47.8	1.6	1.3	23.4	124.7	212.1	188.3	409.9	551.4	961.3
1957	149.7	89.6	66.9	79.6	101.2	33.7	0.4	0.1	0.7	63.4	102.0	205.4	520.7	372.0	892.7
1958	97.3	37.2	66.4	79.4	85.2	23.4	0.2	0.1	0.2	73.6	132.4	298.8	388.9	505.3	894.2
1959	210.3	128.4	96.1	82.9	68.5	15.6	0.2	0.1	1.2	95.2	120.5	114.2	601.8	331.4	933.2
1960*)	126.2	85.0	92.5	75.2	24.2	9.7	0.4	0.2	82.7	116.4	154.1	329.6	412.8	683.4	1 096.2
1961	155.0	179.1	139.5	61.9	20.3	1.8	0	3.8	58.6	115.3	290.2	320.5	557.6	828.4	1 386.0
1962	267.4	73.1	133.0	84.9	68.2	26.5	0.8	0.7	49.6	75.4	229.2	243.4	653.1	599.1	1 252.2
1963	105.5	59.8	110.5	97.8	74.8	5.4	0.9	1.1	14.0	130.4	196.0	146.9	453.8	489.3	943.1
1964	230.2	131.9	78.6	86.0	23.8	23.8	0.2	52.3	170.5	219.1	169.0	247.6	574.3	858.7	1 433.0
1965	226.6	132.1	154.0	122.6	82.5	37.1	1.0	95.5	205.9	188.7	162.4	213.4	754.9	866.9	1 621.8
1966	174.5	114.0	132.1	28.3	52.3	47.1	0.9	50.6	175.5	185.2	201.8	220.0	548.3	834.0	1 382.3
1967	103.7	101.1	97.9	79.7	78.8	140.3	0.5	75.2	253.7	178.7	254.3	234.6	601.5	997.0	1 598.5
1968	170.0	193.2	80.6	92.4	108.8	38.1	1.5	43.8	95.2	387.3	254.2	233.7	683.1	1 015.7	1 698.8
1969	164.4	94.2	85.5	47.4	30.6	28.0	2.1	1.3	187.3	336.7	157.0	200.5	450.1	884.9	1 335.0
1970	210.9	109.4	91.4	35.0	21.9	29.3	0.2	4.5	192.1	298.5	85.8	111.1	497.9	692.2	1 190.1
1971	102.1	46.7	23.0	27.5	45.4	18.1	0.4	13.5	176.4	226.4	101.8	168.2	262.8	686.7	949.5

*) Preliminary data without possibilities for correction. According to "Fiskeriberetning for året 1960" the total catch was in fact 1 062 tons.

Table 3. Danish catch per unit effort of salmon in the Baltic Sea (weighted seasonal mean).

Season	Number of Salmon caught	
	per 100 nets	per 1 000 hooks
1957/58	-	17.2
58/59	-	20.4
59/60	-	11.3
1960/61	-	14.6
61/62	5.4	16.2
62/63	5.7	11.9
63/64	7.4	13.7
64/65	8.9	20.2
65/66	9.2	27.2
66/67	6.9	20.9
67/68	7.3	19.1
68/69	7.8	17.8
69/70	9.0	15.6
1970/71	6.0	11.1
71/72	7.9	22.4

An increase in the effort of salmon drift nets occurred during the seasons 1963/64 - 1967/68 as a consequence of the replacement of hemp nets by nets of synthetic fibres and reduction of the length of the strops connecting the net with the floating rope from 40-60 cm to 10-15 cm.

In the season 1969/70 the hook size was changed. Hooks with a gap of 15 mm formerly used were replaced by hooks with a gap of 19 mm according to the Convention. No statistically significant change of the effort of this gear is demonstrated however.

4.2 Federal Republic of Germany

Notes to the Tables

Weight: gutted.

Sea trout included. Proportion of the catches
4-16 % during 1957-68, annual mean 7 %.

Gear: since about 1870 fixed hooks up to 20 naut.
miles offshore in autumn and winter, set net
and beach seines in summer and autumn inshore,
around 1900, at latest, drift nets in spring
inshore.

Between 1900 and 1948 mainly fixed hooks and
drift nets.

Since 1948 offshore fishery by long lines and
drift nets with increasing dominance of drift
nets.

Fishing area: Baltic main basin, between Arkona Basin
and Gotland basin (both included).

Between 1957 and 1968, 0.3 % of the total catches
have been taken in the Bothnian Sea.

Since 1948 landings of the Federal Republic of
Germany only; the figures for the German Demo-
cratic Republic not available, but known to be
insignificant.

Ref.: Thurow, F., 1966: Beiträge zur Biologie und
Bestandskunde des Atlantischen Lachses in der
Ostsee. Ber.dt.Wiss.Kommn Meeresforsch. 18 (3/4).

Table 4. Catches (in metric tons) by the Federal Republic of Germany of Baltic salmon and sea trout.

<u>Year</u>	<u>m.tons</u>	<u>Year</u>	<u>m.tons</u>	<u>Year</u>	<u>m.tons</u>
		1920	68	1950	183
		21	43	51	136
		22	105	52	144
		23	93	53	75
		24	64	54	116
1895	243	25	68	55	157
96	254	26	151	56	286
97	344	27	202	57	344
98	250	28	343	58	194
99	175	29	189	59	243
1900	180	1930	146	1960	217
01	230	31	160	61	345
02	90	32	275	62	218
03	70	33	159	63	181
04	70	34	193	64	292
05	80	35	118	65	231
06	80	36	100	66	178
07	43	37	55	67	170
08	79	38	66	68	194
09	104	39	37	69	122
1910	75	1940	(35)	1970	118
11	30	41	(30)	71	96
12	52	42	(40)		
13	83	43	(10)		
14	78	44	-		
15	47	45	-		
16	124	46	-		
17	99	47	-		
18	169	48	6		
19	108	49	59		

Figures in brackets are estimates.

Table 5. Catches (in metric tons) by Federal Republic of Germany of Baltic salmon and sea trout.

Year	Months												Total		Grand Total
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	I-VI	VII-XII	
1948	-	-	-	-	-	-	-	-	-	-	-	6.0	-	6.0	6.0
1949	7.9	6.1	5.4	6.2	3.5	-	-	-	-	3.0	8.8	18.1	29.1	29.9	59.0
1950	23.4	28.0	23.9	12.0	5.6	-	-	-	-	8.4	34.1	47.6	92.9	90.1	183.0
1951	27.6	36.8	30.1	9.6	1.8	0.2	-	-	-	0.2	1.2	28.2	106.1	29.6	135.7
1952	38.5	28.9	15.0	18.7	4.6	-	-	-	-	0.1	10.6	28.1	105.7	38.8	144.5
1953	11.8	5.5	10.2	5.8	2.3	-	-	-	-	0.1	7.8	30.9	35.6	38.8	74.7
1954	24.3	2.7	2.6	3.5	3.5	-	-	-	-	0	37.9	41.2	36.6	79.1	115.7
1955	29.0	18.0	27.7	17.1	23.7	-	-	-	-	-	16.7	25.1	115.5	41.8	157.3
1956	18.9	4.2	27.4	29.9	14.4	3.4	-	-	-	19.4	74.7	94.1	98.2	188.2	286.4
1957	73.9	30.2	44.9	26.1	11.6	-	-	-	-	20.0	70.3	67.2	186.7	157.5	344.2
1958	30.8	13.3	13.5	13.8	12.4	-	-	-	-	1.0	33.3	75.9	83.8	110.2	194.0
1959	46.3	35.0	54.9	14.2	6.3	-	-	-	-	4.5	45.5	36.5	156.7	86.5	243.2
1960	15.5	15.1	22.9	15.1	11.4	2.6	-	-	3.2	11.5	55.8	63.9	82.6	134.4	217.0
1961	50.7	52.4	20.4	20.6	3.5	-	-	-	3.5	25.8	73.7	94.4	147.6	197.4	345.0
1962	43.4	23.0	36.2	13.5	19.5	5.9	-	0.2	4.7	11.5	24.7	35.5	141.5	76.6	218.1
1963	0.3	-	-	21.5	30.3	1.5	-	-	10.4	18.4	41.7	57.1	53.6	127.6	181.2
1964	34.9	32.7	21.1	24.0	5.1	0.3	-	-	13.2	45.1	48.9	66.6	118.1	173.8	291.9
1965	37.7	18.0	29.4	17.0	18.2	1.1	-	3.4	22.5	26.8	23.6	33.2	121.4	109.5	230.9
1966	19.2	19.6	20.8	11.0	10.5	3.8	-	3.4	20.5	17.9	21.5	29.4	84.9	92.7	177.6
1967	18.0	14.7	10.9	7.0	7.5	17.8	-	-	29.2	25.5	21.4	18.4	75.9	94.5	170.4
1968	4.1	19.9	9.7	15.0	21.4	2.7	-	-	13.0	52.2	25.3	30.3	72.8	120.8	193.6
1969	4.7	12.3	5.9	4.4	2.6	1.4	-	-	35.4	19.3	12.0	23.9	31.3	90.6	121.9
1970	5.8	3.8	15.4	4.2	2.3	6.0	-	-	24.8	30.9	4.2	20.4	37.5	80.1	117.6
1971	13.7	2.5	2.7	9.8	5.9	1.8	-	-	29.3	13.8	7.2	9.4	36.4	59.7	96.1

Table 6. Federal Republic of Germany - Catch per unit effort of salmon in the Baltic Sea (weighted seasonal mean).

Season	Number of Salmon caught	
	per 100 nets	per 1 000 hooks
1954/55	-	12.9
55/56	9.0	10.8
56/57	7.2	18.9
57/58	8.7	12.0
58/59	10.5	18.1
59/60	6.3	9.2
1960/61	8.4	11.6
61/62	8.7	15.2
62/63	5.7	9.1
63/64	9.0	14.7
64/65	7.6	11.7
65/66	7.2	21.6
66/67	6.5	18.9
67/68	7.0	15.4
68/69*)	7.6	13.3

*) preliminary.

About 1962/63 through 1965/66 hemp were replaced by nets of synthetic material, and the length of the strops connecting the net with the floater line was reduced from 40-60 cm to 10-15 cm. (See notes to Danish data, p.35).

4.3 Finland

Notes to the Tables

Weight: ungutted

Sea trout included, 8-10% of the catches.

Gulf of Bothnia: mainly offshore fishery with long lines and drift nets in the Bothnian Sea and coastal fishery with bagnets in the Bothnian Bay.

Gulf of Finland: mainly offshore fishery with long lines. During World War II no fishing took place in the eastern part of the Gulf.

Isle of Åland: offshore fishery chiefly in the Baltic main basin and in the Gulf of Bothnia with drift nets and to a less extent with long lines, but a small part of the fishery is carried out in the Gulf of Finland. Salmon fishing has been carried out in earlier times from the Isle of Åland, but catches were insignificant until 1946.

Rivers: for the years 1877-1919 the catch statistics of the Gulf of Finland rivers included the catches of lake Ladoga. For the years 1945-52 the catch statistics of the Gulf of Bothnia rivers included the catches of river Tana (running to the Arctic Ocean). River catches of salmon were 10-20 tons in the 50s and are now about 2-3 tons annually.

Ref.: 1877-1902: Statistisk årsbok för Finland. Statistiska Centralbyrån, 1903. Helsingfors.
1903-1920: Statistisk årsbok för Finland, 1905-1922.
1921-1935: Järvi, T. H., 1938: Fluctuations in the Baltic stock of salmon. Rapp.p.-v. Réun.Cons.int.Explor. Mer, 106:1-114.
1936-1944: Järvi, T. H., 1948: On the periodicity of salmon reproduction in northern Baltic area and its causes. Rapp.p.-v. Réun. Cons.int.Explor.Mer, 119: 1-113.
1945-1952: Statistisk årsbok för Finland, 1946-1953. Statistiska Centralbyrån, 1948-1954, Helsingfors.

1953: Liedes, M., 1954: Kalansaalis ja sen arvo v. 1953. -
Suomen Kalastuslehti, 61: 175-180.
1959: Heikkinen, J., 1960: Vuoden 1959 kalasaalisarvio. -
Suomen Kalastuslehti, 67:146-151.
1962-1970: official statistics (unpubl. data).

Table 7. Finnish catches (in metric tons) of Baltic salmon and sea trout.

Year	Gulf of Bothnia and Gulf of Finland Sea and rivers
1877	444
78	396
79	382
1880	414
81	435
82	366
83	398
84	573
1885	660
86	595
87	762
88	657
89	642
1890	643
91	538
92	590
93	592
94	564
1895	585
96	548
97	587
98	437
99	501
1900	371
01	224
02	310

Table 8. Finnish catches (in metric tons) of Baltic salmon and sea trout.

Year	Gulf of Bothnia		Gulf of Finland		Total
	Sea	Rivers	Sea	Rivers	
1903	63	62	7	186	318
04	44	71	30	82	227
1905	42	85	17	64	208
06	30	75	62	68	235
07	54	56	88	104	302
08	52	72	69	91	284
09	52	68	53	76	249
1910	71	63	49	66	249
11	68	52	43	64	227
12	62	61	45	50	218
13	69	60	48	46	223
14	65	50	43	38	196
1915	108	82	44	38	272
16	215	82	41	50	388
17	128	98	39	28	293
18	112	91	25	20	248
19	114	92	31	20	257
1920	147	97	53	4	301
21	204	121	41	5	371
22	148	102	47	4	301
23	128	167	56	3	354
24	122	140	37	3	298
1925	130	58	26	4	218
26	118	45	25	4	192
27	91	42	21	6	160
28	96	43	35	4	178
29	104	43	32	3	182
1930	134	46	23	4	207
31	172	41	45	3	261
32	160	42	62	1	265
33	132	92	27	0	251
34	168	66	32	0	266
1935	161	61	76	0	298

Table 8 (ctd)

Year	Gulf of Bothnia		Gulf of Finland		Isle of Åland	Total
	Sea	Rivers	Sea	Rivers	Sea	
1936	142	60	19	2	-	223
37	127	33	18	2	-	180
38	103	23	19	2	-	147
39	99	39	13	2	-	153
1940	135	23	4	1	-	163
41	128	39	3	0	-	170
42	185	33	9	0	-	227
43	225	40	7	1	-	273
44	222	45	8	1	-	276
1945	-	-	-	-	-	244
46	465	124	7	-	3	599
47	386	237	7	-	2	632
48	278	144	7	-	4	433
49	245	61	8	-	7	321
1950	370	60	18	-	11	459
51	323	40	19	-	9	391
52	327	36	43	-	13	419
53	207	6	101	-	39	353
54	-	-	-	-	-	-
1955	-	-	-	-	-	-
56	-	-	-	-	-	-
57	-	-	-	-	-	-
58	-	-	-	-	-	-
59	247	-	30	-	16	293
1960	-	-	-	-	-	-
61	-	-	-	-	-	-
62	-	-	-	-	-	342
63	254	-	78	-	37	369
64	285	-	119	-	63	467
1965	170	-	103	-	68	341
66	125	-	91	-	98	314
67	168	-	114	-	143	425
68	151	-	118	-	197	466
69	197	-	140	-	169	506
1970	193	-	136	-	121	450

Table 9. Finnish catches of salmon and sea trout (in metric tons) by registered fishing boats in the Gulf of Bothnia.

Year	Months				Total
	I-III	IV-VI	VII-IX	X-XII	
1966	-	0	0	1	1
1967	0	2	0	11	13
1968	0	2	0	11	13
1969	2	2	2	10	16
1970	1	1	2	11	15

Table 10. Finnish catches of salmon and sea trout (in metric tons) by registered fishing boats in the Gulf of Finland.

Year	Months				Total
	I-III	IV-VI	VII-IX	X-XII	
1966	1	13	0	37	51
1967	4	16	1	29	50
1968	2	17	6	33	58
1969	18	8	25	66	117
1970	10	5	12	38	65

Table 11. Finnish catches of salmon and sea trout (in metric tons) by registered fishing boats from the Isle of Åland.

Year	Months				Total
	I-III	IV-VI	VII-IX	X-XII	
1966	-	2	57	24	83
1967	2	19	85	37	143
1968	3	1	68	115	187
1969	10	14	79	47	150
1970	6	8	52	33	99

4.4 Poland

Notes to the Tables

Weight: gutted and ungutted.

Salmon sea fishing: coastal and offshore.

Gear: drift nets, hooks and long lines.

Fishing area: Gulf of Gdańsk and Baltic main basin.

Salmon river fishing: for the present less than 1 ton annually.

Sea trout sea fishing: coastal

Gear: gill nets.

Fishing area: mainly Gulf of Gdańsk.

Sea trout river fishing: including catches in lakes and Firth of Vistula and Firth of Szczecin, comprising however only a small proportion of the total river catches. The main part of the catches in river Vistula.

Gear: gill nets, fyke nets and electrofishing in the upper parts of the river systems.

Ref.: Sea catches 1920-1955: Chrzan, F.: Prace MIR 1959, No.10/A.

1956-1968: Chrzan, F.: ICES C.M.1959/Doc.No.30 and personal communication.

1969, Chrzan, F.: ICES C.M.1970/M:3.

1970-1971. The data of Sea Offices and Fishing Cooperatives, compiled by R. Sych.

River catches 1920-1952. From various published and unpublished notes, compiled by R. Sych.

1953-1971. The data of Fishing Cooperatives, Polish Angling Association and State Fish Farms, compiled by R. Sych.

Table 12. Polish catches (in metric tons) of salmon and sea trout in the Baltic sea and rivers.

Year	Sea		River	
	Salmon	Sea Trout	Sea Trout	
1920-24	78	-		
1925-29	132	-		
1930-34	84	-	10	Approximate annual mean
1935-39	48	-		
1940-44	-	-		
1945	11	17		
46	213	66		
47	416	64	100	Approximate annual mean
48	346	60		
49	240	47		
1950	313	54	86	
51	82	46	84	Approximately
52	43	24	40	
53	24	47	56	
54	43	102	83	
1955	17	26	40	
56	156	41	33	
57	133	52	61	
58	134	70	64	
59	79	160	98	
1960	64	256	138	
61	50	142	69	
62	55	239	51	
63	52	283	44	
64	33	324	73	
1965	12	164	60	
66	6	110	33	
67	7	54	20	
68	7	133	40	
69	27	58	31	
1970	10	56	28	
71	10	41	29	

Table 13. Polish catches of salmon (metric tons) in the Baltic Sea.

Year	Months												Total
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
1957	26.7	2.1	11.2	37.0	20.7	3.7	-	-	-	0.1	9.2	22.3	133.0
1958	22.0	3.4	3.0	45.7	19.2	-	-	-	-	-	11.8	28.9	134.0
1959	16.8	0.8	-	49.7	-	-	-	-	-	-	7.5	4.6	79.4
1960	2.0	1.1	14.2	9.3	1.8	-	-	-	-	-	15.3	20.4	64.1
1961	10.4	4.8	2.4	10.3	0.8	-	-	-	-	1.1	5.3	15.3	50.4
1962	12.1	0.8	1.3	2.5	0.6	0.4	-	-	-	-	8.1	29.0	54.8
1963	0.7	0.1	0.4	14.3	3.9	-	-	-	-	1.8	5.7	25.2	52.1
1964	2.0	0.3	2.2	8.0	4.5	-	-	-	-	0.4	5.9	9.8	33.1
1965	7.3	1.3	2.2	0.6	-	-	-	-	-	-	0.1	0.9	12.4
1966	0.8	0.9	2.1	0.2	-	-	-	-	-	-	1.2	0.8	6.0
1967	0.2	1.0	1.0	0.3	-	-	-	-	-	-	2.1	2.4	7.0
1968	0.7	2.1	1.4	-	-	-	-	-	-	-	1.8	1.0	7.0

Table 14. Polish catches of sea trout (in metric tons) in the Baltic Sea.

Year	Months												Total
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
1957	3.3	4.2	3.6	3.6	1.7	0.5	1.7	2.8	0.3	4.5	13.6	12.0	51.8
1958	5.6	5.3	3.9	10.3	4.4	4.1	4.1	2.4	1.3	1.8	12.1	17.9	70.2
1959	25.8	8.2	34.5	17.4	2.8	3.3	5.8	3.1	3.1	5.0	19.4	31.3	159.7
1960	10.3	9.9	38.5	30.7	16.6	9.8	18.3	3.1	1.9	13.1	56.7	47.0	255.9
1961	16.9	24.0	16.3	13.7	4.7	6.7	15.4	3.9	3.2	4.1	10.2	23.2	142.3
1962	24.7	7.5	9.6	25.5	0.8	5.1	15.2	9.6	6.4	18.5	68.0	47.7	238.6
1963	8.3	23.4	51.9	61.8	17.2	6.7	19.4	13.0	11.6	7.0	33.6	29.1	283.0
1964	33.6	10.5	27.2	27.1	8.1	1.6	26.0	20.9	12.0	16.0	84.5	56.7	324.2
1965	36.1	9.0	21.6	17.9	3.5	3.2	10.5	8.8	4.8	4.8	9.9	34.3	164.4
1966	13.2	12.0	24.8	4.5	1.0	1.3	7.7	3.7	2.9	5.9	17.9	15.2	110.1
1967	2.8	6.0	7.0	2.7	1.0	2.0	4.0	7.0	6.0	4.0	5.9	5.6	54.0
1968	8.3	19.9	8.6	2.0	7.0	5.0	28.0	11.0	12.0	6.0	12.2	13.0	133.0
1969	6.7	8.7	9.3	10.2	1.9	2.5	8.4	0.8	0.4	1.0	6.1	2.0	58.0
1970	3.2	5.0	22.6	8.1	0.5	0.2	2.4	0.3	0.4	1.4	6.6	5.3	56.0
1971	3.8	4.3	4.2	3.7	1.5	1.9	3.0	1.3	2.7	3.4	5.1	6.1	41.0

4.5 Sweden

Notes to the Tables

Weight: gutted.

Sea trout not included.

Gear: mainly offshore fishery with long lines and drift nets with increasing dominance of drift nets. Before 1945 anchored lines with one hook only, and drift nets were used.

To a less extent coastal fishery with big traps. This fishery is carried out only at the east coast and especially in the Gulf of Bothnia.

In rivers mainly fixed engines and draft seine fishing.

Fishing areas: Baltic Sea main basin, Gulf of Bothnia and rivers.

Ref.: data for the years 1915-1949 from Alm (The salmon catch and the salmon stock in the Baltic during recent years; Svenska Vattenkraftföreningens publ. 1954:5);

for the years 1950-1960 from Alm (Salmon Res.Inst. Rep., 8/1961);

for the years 1961-1970 from Sjögren (Salmon Res.Inst. Rep., 9/1962, 6/1963, 12/1964, 12/1965, 7/1966, 12/1967, 6/1968, 6/1969, 6/1970 and 9/1971);

and for the year 1970 from Sallerberg (Salmon Res.Inst. Rep., 4/1972).

Table 15. Swedish salmon catches in the Baltic and in the Baltic rivers 1915-1949.

(1915-1939 5 year averages and from 1940 each year)

Year	Baltic Sea		Rivers		Total Swedish Catches
	Metric tons	%	Metric tons	%	Metric tons
1915-19	150	53.2	131	46.8	281
1920-24	281	60.0	187	40.0	468
1925-29	203	-	- *)	- *)	-
1930-34	312	75.7	100	24.3	412
1935-39	256	69.4	113	30.6	369
1940	176	67.4	85	32.6	261
1941	267	63.9	151	36.1	418
1942	345	67.7	165	32.3	510
1943	592	70.7	246	29.3	838
1944	700	76.5	215	23.5	915
1945	1 233	69.2	548	30.8	1 781
1946	1 474	70.6	613	29.4	2 087
1947	1 217	74.3	421	25.7	1 638
1948	1 248	75.3	410	24.7	1 658
1949	1 102	75.1	365	24.9	1 467

*) no data available.

Table 16. Swedish salmon catches in the main Baltic basin, Gulf of Bothnia and in the Baltic rivers 1950-1971.

Year	Baltic Sea - Main basin		Gulf of Bothnia		Baltic Catches Total	Rivers		Total Swedish Catches
	Metric tons	%	Metric tons	%	Metric tons	Metric tons	%	Metric tons
1950	943	67	456	33	1 399	351	20	1 750
1951	713	65	385	35	1 098	211	16	1 309
1952	454	57	337	43	791	221	22	1 012
1953	258	63	154	37	412	171	29	583
1954	354	74	127	26	481	100	17	581
1955	175	59	121	41	296	107	27	403
1956	522	78	148	22	670	142	18	812
1957	176	52	164	48	340	123	28	472
1958	177	61	111	39	288	107	27	395
1959	206	57	152	43	358	114	24	472
1960	291	69	134	32	425	114	21	539
1961	319	60	217	40	536	209	28	745
1962	176	51	172	49	348	134	28	482
1963	210	60	139	40	349	95	21	444
1964	403	71	164	29	567	101	15	668
1965	314	68	147	32	461	108	19	569
1966	247	67	121	33	368	75	17	443
1967	331	74	121	26	444	99	18	543
1968	308	74	109	26	417	97	19	514
1969	333	80	85	20	418	69	14	487
1970	310	76	101	24	411	-	-	-
1971	249	71	99	29	348	-	-	-

Table 17. Swedish salmon catches in metric tons in the Baltic (main basin) per month, 1956-1971
half years and calendar years.

Year	Months												Total		Grand Total
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	I-VI	VII-XII	
1956	5	-	-	37	52	5	-	42	104	42	167	68	99	423	522
1957	23	12	9	12	16	2	2	10	20	40	23	7	74	102	176
1958	1	-	7	41	34	5	-	4	5	46	23	11	88	89	177
1959	2	8	44	33	31	10	-	-	4	43	21	10	128	78	206
1960	3	3	46	32	14	12	6	3	84	50	29	9	110	181	291
1961	6	6	45	58	16	3	3	13	77	64	22	6	134	185	319
1962	2	-	6	38	41	14	-	4	28	30	14	6	101	82	183
1963	2	1	7	12	19	4	15	4	65	56	19	6	45	165	210
1964	4	12	8	28	12	12	48	53	129	65	20	12	76	327	403
1965	9	9	34	25	13	13	22	34	82	35	22	16	103	211	314
1966	10	25	2	5	5	13	13	42	42	42	34	14	60	187	247
1967	3	6	4	6	13	30	20	90	93	33	20	13	62	269	331
1968	15	15	15	23	28	6	3	3	96	74	15	15	102	206	308
1969	20	20	13	20	20	13	7	7	97	70	33	13	106	227	333
1970	19	3	12	9	3	31	19	16	121	53	15	9	77	233	310
1971	13	3	3	5	15	5	3	25	122	22	18	15	44	205	249

4.6 U.S.S.R.

Notes to the Table

Weight: ungutted.

Sea trout: included, about 10% of the catches.

As a rule only maturing salmon enter the catches.

Salmon captured for artificial reproduction are included.

The catches are made exclusively in rivers, river mouths and in Gulf areas by means of stake nets, fyke nets and stake traps.

Fishing period: June - September.

Table 18. Catches of Baltic salmon and sea trout in U.S.S.R. (in metric tons).

Year	Metric tons
1930-34	253
1935-39	195
1940-44	-
1945-49	215
1950-54	142
1955-59	200
Annual Mean	
1957	64
58	68
59	84
1960	83
61	134
62	170
63	182
64	189
65	192
66	173
67	126
68	148
69	135
1970	101
71	95

SECTION 5: STOCK ASSESSMENTS

5.1 Population Models Based on Swedish Tagging Experiments

5.1.1 Model based on tagging experiments in 1950-55 (Carlin, 1959).

Three factors affect the number of salmon of a certain year class in the Baltic Sea, fishing mortality, spawning migration and natural mortality.

Losses to the population caused by fishing can be estimated fairly correctly from recaptures of tagged fish even if they are a little too low as a consequence of tagging mortality and lost and unreported tags.

Escapement from the feeding grounds by spawning migration can be estimated from data on river and coastal catches and from the ratios of catch and escapement in rivers of ascending, tagged fish.

Losses to the population caused by natural mortality are unknown, but may be considered as the remaining mortality, if the two other factors can be estimated. The problem, however, is to distribute appropriate proportions of these natural losses among single age groups.

An estimate can be made on the following three assumptions:

- (a) that few of the original population remain as maiden fish in the Baltic after three years,
- (b) that the difference between natural mortality in the second and third year is small, and
- (c) that the natural mortality in the first year is 90 % (an initial mortality of, for instance 80 % implies that the losses afterwards from natural mortality are twice or three times those caused by fishing).

On the suppositions above a model of the population dynamics of Baltic salmon has been constructed (Figure 7, p.55). According to this very slight fluctuations in the initial mortality may cause considerable fluctuations in the surviving salmon stock. From a practical point of view this means that an improvement in the condition of the smolts released from the hatcheries may have a very favourable influence on the yield.

Ref.: Carlin, B.: Results of salmon smolt tagging in the Baltic area. Rapp.p.-v.Réun.Cons.int.Explor.Mer, 147:89-96; and: Vandringsfiskutredningen Meddelande 7/1959.

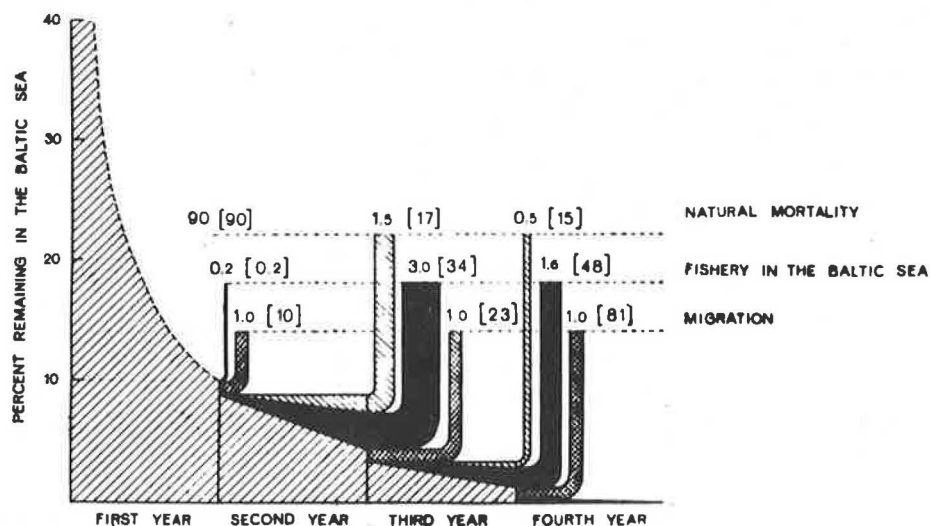


Figure 7. Percentage losses by migration, fishing and natural mortality of a year class of salmon in the Baltic. (Figures in brackets: percentage losses of the stock remaining at the beginning of the year).

5.1.2 Model based on tagging experiments in 1957 (Carlin, 1962), involving 82 723 released smolts resulting in 9 242 recaptures after the post-smolt stage.

The model has been constructed according to the principle of 5.1.1, the recapture data, however, were not used directly as estimates of the losses to the exploited stock in the sea.

The values of recaptures in the Baltic - representing losses to the population caused by fishing - have been increased by 10 %, to allow for lost and unreported tags.

The values of recaptures in rivers and river mouths - representing escapement from the feeding grounds by spawning migration - have been increased by 100 % during second summer and 30 % during the subsequent summers, to allow for the exploitation rate in the rivers and recaptures in the Gulf of Bothnia.

Losses to the population caused by natural mortality may still be considered as the remaining mortality, so that the sum of losses from the stock equals the original number recruited to the Baltic. In the model natural losses of 10 %, 20 % and 30 % are successively applied to the exploited stock in the 2nd, 3rd and 4th year in the sea. On these assumptions the mortalities during the 1st year in the sea are estimated to 85.5 %, 83.4 % and 80.0 % respectively.

Table 19 (p.57) shows the population dynamics of the tagging experiment in 1957, when natural mortality in the sea-age groups 2, 3 and 4 is assumed to be 10 %.

On basis of the model, assessments have been made on the effect of changes in effort and age at first capture. As shown by Table 20 (p. 58) the starting point is 100 salmon at the beginning of the 2nd year in the sea and supposed natural mortalities of 10 %, 20 % and 30 %. With a decrease in fishing effort of 10 % and 20 % during the 2nd year in the sea and 10 % during the subsequent years, size and distribution of total catches in rivers and in the sea are estimated by number, weight and value of salmon.

As demonstrated by Table 20 this kind of regulation is the more effective the lower the natural mortality. Obviously a decrease in the sea fishing effort will increase the escapement to the rivers and consequently the river catches. In terms of value the coastal and river fishery earn an additional income of 40 % - 27 % corresponding with natural mortalities of 10 % - 30 %, whereas the sea fishery on the same conditions is subjected to a change of +3 % to -2 %.

Ref.: Carlin, B.: Synspunkter på frågan om Östersjöns laxbestånd i belysning av de svenska märkningsförsöken. Laxforskningsinstitutet, (5), 1962.

- 5.1.3 Model based on tagging experiments in 1958-1967 (P.-O. Larsson, the Swedish Salmon Research Institute, personal comm.), involving 723 380 released smolts resulting in 89 161 recaptures after the post-smolt stage.

Using the results of tagging experiments carried out during 1958-67, the population model constructed by Carlin (1962) can be revised. The extensive material forms a more reliable basis for the assessments than the 1957 experiment, but does not change the estimates significantly.

The same course of procedure as in 5.1.2 is pursued. The only difference in relation to the original Carlin model is that the number of salmon after 3 years in the sea is not considered to be zero, but according to the experiments in question are estimated to be 0.08 % of the original population.

Table 21 (p.59) shows the resulting parameters, and may be compared with Table 19. Figure 8 (p. 60) demonstrates graphically the recapture figures and the population model constructed on this basis.

	Percentage of Number Tagged					Percentage of the Number of Survivors at the Beginning of each Year		
	at the beginning of the year	migrating back to the river	remaining in the Baltic Sea	caught in the Baltic Sea	natural mortality	migrating back to the river	caught in the Baltic Sea	natural mortality
Year 1	100			0.13				85.5
Year 2	14.37	1.42	12.95	5.93	1.30	9.88	45.75	10
Year 3	5.72	1.55	4.17	2.75	0.42	27.10	65.95	10
Year 4	1.00	0.68	0.32	0.11	0.03	68.00		10
Year 5	0.18	0.09	0.09	0.02				

Table 19. Estimated mortalities of salmon in the Baltic based on a tagging experiment in 1957 and on the assumption of a natural mortality of 10 % in the age groups 2, 3 and 4.

Assumed natural mortality %	Assumed decrease in fishing effort		Caught in the Baltic Sea in % of the number at the beginning of the year		Number			Weight (kg)			Total gross value (Swedish kr)		
	2nd winter	3rd and 4th winter	2nd winter	3rd and 4th winter	Baltic Sea	River and coast	Total	Baltic Sea	River and coast	Total	Baltic Sea	River and coast	Total
10	0	0	46	66	56.16	16.82	72.98	237	77	314	2 438	744	3 181
	10	10	41	59	52.59	19.34	71.93	230	96	326	2 430	943	3 373
	20	10	35	59	50.00	21.10	71.10	231	106	338	2 510	1 052	3 562
20	0	0	40	60	48.94	15.78	64.72	204	72	277	2 084	691	2 775
	10	10	36	54	45.67	16.56	62.23	196	82	277	2 025	809	2 834
	20	10	32	54	43.75	17.67	61.46	195	89	284	2 065	878	2 944
30	0	0	32	50	40.44	12.25	52.69	171	57	228	1 769	548	2 317
	10	10	29	45	37.73	13.65	51.38	163	67	231	1 710	662	2 372
	20	10	26	45	36.17	14.39	50.56	162	72	234	1 732	708	2 440

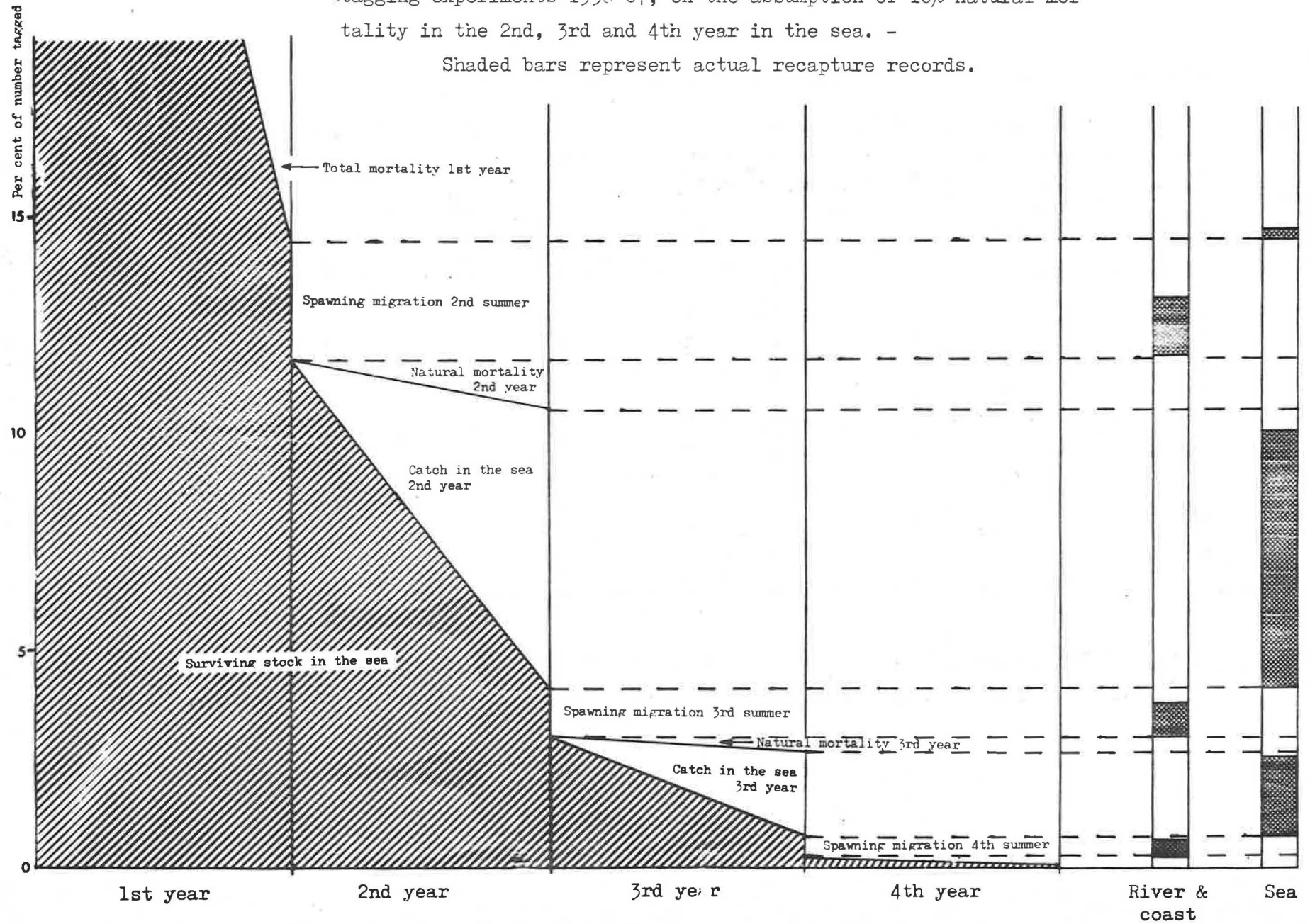
Table 20. The fishing yield of a salmon population in the Baltic comprising 100 salmon at the beginning of the 2nd year in the sea, when different values of natural mortality and fishing effort are assumed.

	Percentage of Number Tagged					Percentage of the Number of Survivors at the Beginning of each Year		
	at the beginning of the year	migrating back to the river	remaining in the Baltic Sea	caught in the Baltic Sea	natural mortality	migrating back to the river	caught in the Baltic Sea	natural mortality
Year 1	100			0.17				85.35
Year 2	14.48	2.75	11.73	6.44	1.17	18.99	54.90	10
Year 3	4.12	1.10	3.02	2.04	0.30	26.17	67.55	10
Year 4	0.68	0.50	0.18	0.10	0.02	73.53	55.56	10
Year 5	0.08	0.05	0.03	0.01				

Table 21. Estimated mortalities of salmon in the Baltic based on tagging experiments in 1958-1967 and on the assumption of a natural mortality of 10 % in the age groups 2, 3 and 4.

Figure 8. Model of survival, migration and catch of the salmon from tagging experiments 1958-67, on the assumption of 10% natural mortality in the 2nd, 3rd and 4th year in the sea. -

Shaded bars represent actual recapture records.



5.2 Mortality Parameters estimated on Basis of Catch and Effort Data
and Recapture Records from Swedish Tagging Experiments
(O. Christensen and F. Thurow, 1964)

This population study deals exclusively with Baltic salmon in their second and third year in the sea, roughly speaking the exploited marine phase. The material used in the assessments is partly catch and effort data from the fishing seasons 1957/58 to 1963/64, compiled by the nations exploiting salmon in the Baltic Sea, and partly from the Swedish tagging experiments 1953 to 1961.

Total mortalities are estimated as ratios of abundances of age groups. As indices of abundance, catch per unit effort data, age composition data and recapture rates are applied alternatively.

As the amount of fishing changed significantly during the period dealt with, total mortality can be divided into fishing mortality and natural mortality + spawning migration by correlating the coefficients of total mortality with corresponding fishing efforts.

From the equations

$$Z_1 = F_1 + (M_1 + T_1)$$

$$Z_2 = F_2 + (M_2 + T_2)$$

- relating the coefficients of total mortality (Z) to the coefficients of fishing mortality (F), natural mortality (M) and spawning migration (T) of the two age groups in question - it appears that the sum of natural mortality and spawning migration can be split into the two components, when Z_1 , Z_2 , F_1 and the ratio of T_1 and T_2 are known and on the assumption that both $F_1 = F_2$ and $M_1 = M_2$.

Z_1 , Z_2 and F_1 are estimated as earlier mentioned.

The ratio of T_1 and T_2 is estimated from the relation between recaptures of A.2 and A.3 spawners.

That $F_1 = F_2$ is based on the assumption that selection by long line hooks - by far the most dominating gear at that time - is insignificant in this respect and that the relative proportion of the two age groups retained by drift nets was found to be rather uniform.

Based on the knowledge of predators in the Baltic, M is considered to remain virtually the same after the first year of sea life.

By the methods above the following estimates were obtained:

<u>A.1+ - A.2+</u>		<u>A.2+ - A.3+</u>	
F	0.73	F	0.73
M	0.10	M	0.10
T_1	0.50	T_2	1.40
Z_1	1.33	Z_2	2.23

Ref.: Christensen, O. and Thurow, F.: Report on Population Dynamics in Baltic salmon. ICES CM 1964/Doc.No.46.

5.3 Mortality Estimates and Stock Assessment based on Catch and Effort Data (F. Thurow, 1966)

Based on data from the German fishery in the years 1957-63 an attempt was made to assess the dynamics of the offshore salmon population in the Baltic.

Instantaneous rates of losses for the two most important sea age groups have been estimated by means of catch and effort data. In the first instance F was assumed to be the same for both ages and $M = 0.1$ (after Christensen, 1964). Application of the values found did not result in the actual proportions of the yields of each age. The conclusion of this treatment was that fishing is selective, F being higher for age .2+ than for .1+. However, two equations were established, the proportion of the numbers caught in the second and in the third year in the sea and the proportion of the spawners after the second and third year, the values of these proportions being known empirically. Wide ranges of instantaneous losses were then successively applied to these equations. This method revealed that the parameters could take values only within certain limits (e.g. the instantaneous rate of losses due to spawning migration: $0.3 < T_2 < 0.6$). Thus, the averages found were

A.1+ : $M = 0.1$	$F = 0.63$	$T = 0.45$
A.2+ : $M = 0.1$	$F = 1.61$	$T = 1.48$

Calculations using these data indicated that there were 1.1 million salmon in the exploited phase and that the annual recruitment to the fishery in the Baltic Sea was 850 000 salmon.

SECTION 6: BIBLIOGRAPHY

6.1 DENMARK

Abbreviations of periodicals:

FF	Ferskvandsfiskeribladet
SF	Sportsfiskeren
DF	Dansk Fiskeritidende
BDBS	Beretning fra Den danske biologiske Station
RDBS	Report of the Danish Biological Station
SDFH	Skrifter fra Danmarks Fiskeri- og Havundersøgelser
MKH	Meddelelser fra Kommissionen for Havundersøgelser
MDFH	Meddelelser fra Kommissionen for Danmarks Fiskeri- og Havundersøgelser.

Bramsnæs, F., M. Jul and C. V. Otterstrøm

- 1944 Afspærring for fisk ved elektricitet eller luftslør. BDBS 47:39-46.
1945 Barriers against fish by means of electricity or veils of air.
RDBS 47:39-46.

Bregnballe, F.

- 1961 Er regnbueørreden en katastrofe for ferskvandet? (Is rainbow trout a catastrophe for freshwater?). SF 36(11):304-305.
1962 Kan vi producere unglaks i Danmark? (Can salmon smolts be produced in Denmark?). FF 60(3):33-36.
1962 Kan Vestjyllands gode laksebestand genskabes? (Can the salmon stock of West Jutland be recreated?). SF 37(3):64-67.

Christensen, O.

- 1961 The Danish salmon fishery in the Eastern Baltic in the season 1960/61.
ICES CM 1961/Doc.No.92.
1961 Preliminary results of an investigation on the food of Baltic salmon.
ICES CM 1961/Doc.No.93.
1961 Havorreder i de danske laksefangster fra Østersøen. (Sea trout in Danish salmon catches in the Baltic). FF 59(2):28-33.
1961 Undersøgelser over danske laksefangster fra Østersøen. (Investigations on Danish salmon catches in the Baltic). SDFH 21:67-72.
1962 The Danish salmon fishery in the Eastern Baltic in the season 1961/62.
ICES CM 1962/Doc.No.100.
1963 Det danske laksefiskeri i Østersøen i sæsonen 1961/62. (The Danish salmon fishery in the Baltic 1961/62). SDFH 23:72-76.
1963 The Danish salmon fishery in the Eastern Baltic in the season 1962/63. ICES CM 1963/Doc.No.40.
1964 The Danish salmon fishery in the Eastern Baltic in the season 1963/64.
ICES CM 1964/Doc. No.146.
1964 Dänische Aussetzungsversuche von Teichforellen ins Mer. (Danish stocking experiments with pond reared trout). Das Fischerblatt, Dezember 1964.
1965 The Danish salmon fishery in the Eastern Baltic in the season 1964/65.
ICES CM 1965/Doc.No.79.
1966 Hvad - hvor - hvornår. (Liberations of salmon and sea trout smolts). SF 41(4):98-101.
1966 The Danish salmon fishery in the Eastern Baltic in the season 1965/66.
ICES CM 1966/L:6.
1967 Resultaterne af udsætningsforsøg med ørreder. (Results of stocking experiments with sea trout). FF 65(9):134-140.
1967 The Danish salmon fishery in the Eastern Baltic in the season 1966/67. ICES CM 1967/M:5.
1968 Report on an experimental fishery with salmon drift nets. ICES CM 1968/B:11.
1968 The Danish salmon fishery in the eastern Baltic in the season 1967/68. ICES CM 1968/M:3.
1969 Progress Report on experimental fishery with salmon drift nets.
ICES CM 1969/B:2.
1970 Laksefiskeriet i Østersøen, 1969-70. (The Danish salmon fishery in the Baltic, 1969/70). DF No.48 (26/11 1970).

Christensen, O. (ctd)

- 1970 Undersøgelser i forbindelse med spørgsmålet om sommerfredning af laksen i Østersøen. (Investigation connected with the question of summer closed time for the salmon in the Baltic). SDFH 30:26-33.
- 1971 Det danske laksefiskeri i Østersøen sæsonen 1970/71. (The Danish salmon fishery in the Baltic in the season 1970/71). DF No.51-52 (30/12 1971).

Christensen, O. and F. Thurow

- 1964 Report on population dynamics in Baltic salmon. ICES CM 1964/Doc. No.46.

Dahl, J.

- 1958 Mærkning og udsætning af bækørredfisk i saltvand. (Tagging and liberation of trout in salt water). Lystfiskeren, 2(12):20-21.
- 1959 A review of the efficiency of the types of tags used in Denmark for salmon and sea trout as shown by recaptures. Rapp.p.-v. Réunion. Cons.int.Explor. Mer, 148:19-22.

Drechsel, C. F.

- 1890 Oversigt over vore saltvandsfiskerier. Lakse- og ørredfiskeriet. (Salmon and sea trout fisheries). Indenrigsministeriet, Copenhagen: 58-61.

Feddersen, M. A.

- 1889 Sur la pêche du saumon dans la Baltique. (On the salmon fishery of the Baltic). Rev. des Sciences naturelles appliquées. Bull.bimensuel de la Société nationale d'acclimatation. 36^e année.

Holm-Petersen, F. and K. Lund

- 1960 Høst fra havet. (Salmon and sea trout fisheries). Skandinavisk Bogforlag, Copenhagen: 166-168.

Jacobsen, J. P. and A. C. Johansen

- 1921 On the causes of the fluctuations in the yield of some of our fisheries. 1. The salmon and the sea trout fisheries. MKH 6(5):1-48.

Knudsen, J.

- 1952 Laks og laksefiskeri i Østersøen. (Salmon and salmon fishery in the Baltic). SF 27(12):215-219.

Larsen K.

- 1943 Om midlerne til lakse- og havørredbestandens ophjælpning. (On the means of promoting the stocks of salmon and sea trout). SF 18(9):148-151.

Larsen, K. (ctd)

- 1944 Udsætning af lakse- og ørredyngel i Danmark. BDBS 47:17-24.
- 1945 The liberation of salmon and trout fry in Denmark, RDBS 47:17-24, 1945.
- 1947 Nye veje for opdrættet af havørredyngel til sættefisk. (New ways of rearing sea trout from fry to smolts). FF 45(3):33-35.
- 1947 Resultatet af nedfalds- og Grønlanderørredundersøgelsen. (Result of investigation of kelts and immature trout returning to fresh-water). SF 22(7):93-95.
- 1948 Første rapport om virkningen af lakseyngeludsætning i Gudenå 1946-47. BDBS 49:26-37.
First Report on the effect of the liberation of salmon fry in the Gudenå 1946-47. RDBS 49:27-38, 1949.
- 1950 Mærkning af havørred i Lindenberg å 1948-49. (Tagging of sea trout in river Lindenberg 1948-49). SF 25(1):5-10.
- 1950 Laks og laksefiskeri særlig i Danmark, Sverige og Norge. (Salmon and salmon fishing especially in Denmark, Sweden and Norway). J.Fr. Clausens Forlag, Copenhagen: 1-123.
- 1951 Mærkning af havørred i Lindenberg å 1949-50. (Tagging of sea trout in river Lindenberg 1949-50). SF 26(3):38-41.
- 1953 8 maveprøver af smålaks fra det nordlige Kattegat. (8 stomach samples of salmon smolts from northern Kattegat), SF 28(9):150.
- 1954 Electrofishing of sea trout for stripping. MDFH, Ny serie, 1(6):3-12.
- 1955 Fish population analyses in some small Danish trout streams by means of DC electrofishing. With special reference to the population of trout (Salmo trutta L.). MDFH, Ny serie, 1(10):1-69, Plates I-VII.
- 1958 Fiskeriministeriets forsøgsudsætning af ørred. (Stocking experiments with trouts). DF No.20:353-354.
- 1959 Om virkningen af udsætning af ørredyngel belyst gennem Gudenå udsætningen 1902-1956. SF 34(1):10-14, (3):76-77, and FF 57(5):67-68.
- 1959 The effect of the liberation of sea-trout fry in the Gudenå area, as shown by the trout catch in the lower river and in the Randers Fjord. Rapp.p.-v.Réun.Cons.int.Explor.Mer, 148:26-28.
- 1960 Nye synspunkter vedrørende nyttevirkninger af udsætning af ørred-sættefisk. (New points of view concerning the efficiency of liberation of trout). SF 35(2):44-47, (3):80-83.
- 1960 Ørredudsætningsforsøgene i salt- og brakvand. (Stocking experiments with trout in salt and brackish water). SDFH No.20:48-50.
- 1961 En ørredbestands udryddelse og genskabelse. (Destruction and re-creation of a stock of trout). SDFH No.22:65-69.
- 1962 Bestandsanalyser og udsætningsforsøg med ørred og ål i Vidåen. (Stocks analyses and stocking experiments with trout and eel in river Vidå). FF 60(10):145-151, (11):161-165.
- 1962 Ørredudsætningerne i søgelyset. (Stockings of trout in the spotlight). SF 37(2):30-31.
- 1964 Paragraf 21. Fiskerilovens bestemmelser vedrørende udsætninger. (Paragraph 21. The articles of the Act of Fishery concerning stockings), SF 39(3):69-71.

Larsen, K. (ctd)

- 1964 Kan krog-størrelsen bestemme, hvilken størrelse ørred vi fanger? (Can the size of hooks determine the size of trout hooked?). FF 62(9):157-161. SF 39(9):254-256.
- 1965 The pike (Esox lucius L.) as a food competitor and predator of trout in Danish streams. ICES CM 1965/Doc.No.29.
- 1966 Det endelige resultat af lakseudsætningsforsøget i Gudenå 1960. (Final result of the stocking experiment with salmon in river Gudenå 1960). SF 41(5):135-138.
- 1966 Bestandsanalyser bl.a. ved hjælp af elektrofiskeri. (Stock analyses a.o. by means of electrofishing). Vattenhygien. (3):83-84.
- 1966 Studies on the biology of Danish stream fishes. II. The food of pike (Esox lucius L.) in trout streams. MDFH, Ny serie, No.9:271-326.
- 1967 En moderne ørredudsætningsplan for de fynske vandløb. (A modern plan for trout stocking of the streams of Funen). SF 42(8):287-279.
- 1968 De moderne ørredudsætningsplaner og deres baggrund. (The modern plans for trout stocking and their background). SDFH 29:15-27.
- 1969 Moderne udsætningsplan for Odense å. (Modern plan for stocking of the river Odense å). SF 44(4):106-107.
- 1970 Om virkningen af ørredudsætning efter de moderne planer. (On the effect of trout stocking according to modern plans). SDFH 30:11-19.
- 1971 Hvor fanges de Bornholmske havørreder? (Where are the sea trout of Bornholm captured?). SDFH 31:10-16.

Otterstrøm, A.

- 1907 Laxfiske med krok vid Bornholm. (Salmon fishery with hooks at Bornholm). Fiskeritidsskr. för Finland, Nos. I-III.

Otterstrøm, C.V.

- 1921 Industrien og ørredbestanden. (The industry and the stock of trout). FF 19(4):21-24, (5):29-30.
- 1930 Laksen og ørreden og deres livshistorie. (Salmon and trout, their life history). SF 5(8):89-93 and 101-106.
- 1931 Die Turbinen und die abwärts wandernden jungen Lachse und Forellen. I Teil. (Turbines and descending salmon and trout smolts Part I). J.Cons.int.Explor.Mer, 6(2):273-286.
- Turbinerne og de nedadvandrende ungfish af laks og ørred. SF 7(1):2-7, (7):74-79, 1932.
- 1932 Laks (Salmo salar) modne i damme. (Salmon mature in ponds). FF 30(10):149-152.
- 1932 Die Turbinen und die abwärts wandernden jungen Lachse und Forellen. II Teil. (Turbines and descending salmon and trout smolts Part II). J.cons.int.Explor.Mer 7(1):63-75.
- 1933 Planmæssig udsætning af ørredyngel i vandløb. (Scheduled liberation of trout fry in streams). FF 31(2):17-28, (3):38-48. SF 8(5):53-58, (7):69-72.

Otterstrøm, C. V. (ctd)

- 1933 Reife Lachse (Salmo salar) in Teichen. (Mature salmon in ponds). J.Cons.int.Explor.Mer, 8(1):83-89.
- 1934 Dør laksen efter første leg? (Do salmon die after the first spawning?). FF 32(3):36-39.
- 1934 Ålekisterne og de nedadvandrende ørreder. (Eel traps and descending trouts). FF 32(12):169-176.
- 1935 Laks og ørred. En vejledning til bestemmelse. (Salmon and trout. A guide to determination). FF 33(4):57-65.
- Saumon et truite. Directives pour leur différenciation. Bull.Franc. Pisc. 89:89-98.
- 1935 Planmæssig udsætning af ørred i vandløb. (Scheduled liberation of trout in streams). Lyngby: 1-28. German resumé.
- 1936 Fisketrapper. (Fish passes). FF 34(2):17-34, (3):45-64.
- 1936 Die Turbinen und die abwärts wandernden jungen Lachse und Forellen (sowie Aale). III Teil. (Turbines and descending salmon and trout smolts (and eels) III Part). J.Cons.int.Explor.Mer, 11(1):72-93.
- Turbinerne og de nedadvandrende ungfisk af laks og ørred (samt ål). III. SF 11(12):131-142.
- 1936 Fiske elevatorer. (Fish elevators). FF 34(11):205-211.
- 1938 Vestjydske mærkninger af laks og ørred. (Tagging of salmon and trout in West Jutland). FF 36(8):143-155.
- 1938 Om planmæssig udsætning af lakse- og ørredyngel i vandløb med særligt henblik på Gudenå området. BDBS 42:4-32.
- On methodical liberations of salmon and trout fry in watercourses with special reference to the Gudenå area. RDBS 42:4-32.
- 1938 125 salmon from West Jutland. MDFH 10(6):3-20.
- 1940 Udsætning af laks og ørred i danske vandløb. (Liberation of salmon and trout in Danish streams). Svensk Fiskeri Tidsskrift, 49(8): 185-189.
- 1942 Grønlændere - en type af unge havørreder. (Grønlændere - a type of young sea trout). FF 40(12):205-207.
- 1944 Turbinerne og de nedadvandrende ungfisk af laks og ørred (samt ål) IV. BDBS 47:25-37.
- Turbines and descending salmon and trout smolts (and eels) IV. RDBS 47:27-37, 1945.
- 1945 Laksebestandens tilbagegang. (Decline of the stock of salmon). Berlingske Aftenavis, 10.4.1945.
- 1946 Modstrømstrappe - en ny fisketrappetype. (A new type of fish pass). FF 44(9):137-144.
- 1948 Baltic salmon and trout. Guide to determination. J.Cons.int. Explor.Mer, 15(2):223-231.
- 1954 Gudenåens laks. (Salmon of river Gudenåen). FF 52(1):2-4.

Petersen, C. G. J. and A. Otterstrøm

- 1904 Die Ostseefischerei in ihrer jetzigen Lage. I. Übersicht über die dänischen Gewässer innerhalb Skagens. (The present level of the Baltic fishery). Publ.Circon. Cons.int.Explor.Mer, No.13 A.

Poulsen, E. M.

- 1928 Remarks on the salmon and sea trout off the Baltic coasts of Denmark. Rapp.p.-v.Réun.Cons.int.Explor.Mer, 48:111-118.
- 1934 Remarks on artificial propagation of salmon and sea trout. Rapp. p.-v.Réun.Cons.Int.Explor.Mer, 91:15-16.
- 1935 Nye undersøgelser over Gudenåens lakse- og havørredbestand. BDBS 40:9-36.
- Recent investigations into the stock of salmon and sea trout in the river Gudenå. RDBS 40:9-38.

6.2 GERMANY

Abbreviations of periodicals:

Allg.Fischztg.	Allgemeine Fischereizeitung
Annls biol.Copenh.	Annales Biologiques, Conseil International pour l'Exploration de la Mer
Arch.FischWiss.	Archiv für Fischereiwissenschaft
Ber.dt.Wiss.Kommn Meeresforsch.	Berichte der Deutschen Wissenschaftlichen Kommission für Meeresforschung
BFA Veröff.KUBiFi	Bundesforschungsanstalt für Fischerei, Veröffentlichungen des Instituts für Küsten- und Binnenfischerei
Biol.Zbl.	Biologisches Zentralblatt
Dt.Fischztg.	Deutsche Fischereizeitung, Radebeul, Berlin
Dt.Fischwirt.	Deutsche Fischwirtschaft
Ergeb.Biol.	Ergebnisse der Biologie
Fischereiwelt-AFZ	Allgemeine Fischwirtschaftszeitung, Fischereiwelt
Fischwirtsch.-AFZ	Allgemeine Fischwirtschaftszeitung, Die Fischwirtschaft
Handb.Binnenfisch. Mitteleur.	Handbuch der Binnenfischerei Mitteleuropas
Handb.Seefisch.Nordeur.	Handbuch der Seefischerei Nordeuropas
Histochem.histol.Arb.	Histochemische und histologische Arbeiten, Leipzig
ICES, CM Doc.No.	International Council for the Exploration of the Sea, Council Meetings (mimeo.)
Inform.Fischw.	Informationen für die Fischwirtschaft
Int.Rev.ges.Hydrobiol. Hydrogr.	Internationale Revue der gesamten Hydrobiologie und Hydrographie
L F I Medd.	Laxforskningsinstitutet Meddelande
Mitt.dt.Seefischver.	Mitteilungen des Deutschen Seefischereivereins
Mitt.westpreuss. Fischver.	Mitteilungen des westpreussischen Fischereivereins

Mh.Fisch.	Monatshefte für Fischerei
Publ.Circ. Cons. Int.Explor.Mer	Publications de Circonstance, Conseil International pour l'Exploration de la Mer
Rapp.p.-v.Réun.Cons. int.Explor Mer	Rapports et Procès-Verbaux des Réunions, Conseil International pour l'Exploration de la Mer
Schr.phys.-ökon.Ges.	Schriften der Physikalisch-Ökonomischen Gesellschaft zu Königsberg
Z.Fisch.	Zeitschrift für Fischerei und deres Hilfswissenschaften

Altnöder, K.

- 1934 Die Aussetzung von Bachforellen (Salmo fario L.) in die Ostsee. (Liberation of brown trout into the Baltic). Ber.dt.Wiss.Kommn Meeresforsch., 7(1).

Bahr, K.

- 1935 Die Neukuhrener Forellenmarkierungen in den Jahren 1930-1934. (Tagging of trout off Neukuhren, 1930-1934). Ibid., 7(4).
- 1935 Was fressen unsere Ostseelachse; Nahrungsuntersuchungen bei Angel- und Treibnetzlachsen. (What do our Baltic salmon feed upon). Dt.Fischwirt.
- 1936 Die Neukuhrener Lachsfischerei während der Fangzeiten 1931/32 bis 1933/34. (The salmon fishery off Neukuhren during the seasons 1931/32 to 1933/34). Ibid.
- 1936 Untersuchungen über den Lachs IV. (Investigations on salmon IV.). Z.Fisch., 34.

Baumann, E.

- 1955 Möglichkeiten der Artunterscheidung von jungen Lachsen und Meerforellen. (Discrimination between the young of salmon and sea trout). Arch.FischWiss., 6(1/2).

Benecke, B.

- 1881 Fische, Fischerei und Fischzucht in Ost- und Westpreussen. (Fish, fishery and fish culture in East- and West Prussia). Königsberg.

Brandtner, P.

- 1938 Untersuchungen über den Lachs (Salmo salar L.) V. (Investigations on the salmon. V.). Z.Fisch. 36.

Demoll, R. and R. Wohlgemut

- 1921 Einiges über Lebensbedingungen der Forellenbrut im Freien. (On life conditions of trout fry). Biol.Zbl.41.

Eichelbaum, E.

- 1915 Reife und Nahrung von eingesandten Lachsen, in Henking: Die Lachsfrage im Ostseegebiet II. (Maturity and food of salmon, in Henking: The salmon problem in the Baltic precincts II). Rapp.p.-v.Réun.Cons.int.Explor.Mer, 23(2).

Fritsch, A.

- 1893 Der Elblachs. (The salmon of the river Elbe). Prag.

Henking, H.

- 1913 Die Lachsfrage im Ostseegebiet I. (The salmon problem in the Baltic precincts I). Rapp.p.-v.Réun.Cons.int.Explor.Mer, 16(6).
1915 Die Lachsfrage im Ostseegebiet II. (The salmon problem in the Baltic precincts II). Ibid, 23(2).
1929 Die Ostseefischerei. (The fishery in the Baltic). Handb.Seefisch. Nordeur., 5(3).
1929 Untersuchung an Salmoniden. 1.Teil. (Investigation on salmonids I). Rapp.p.-v.Réun.Cons.int.Explor.Mer, 61.
1929 Untersuchung an Salmoniden. 2.Teil. (Investigation on salmonids II). Ibid, 73(1).

Henking, H. and E. Fischer

- 1905 Übersicht über die Seefischerei Deutschlands in den Gewässern der Ostsee. (Synopsis on the German high seas fishery in the Baltic waters). Publ.Circ.,Cons.int.Explor.Mer, 13(3).

Holland, T.

- 1878 Die Speitzken an der hinterpommerschen Küste. (The Mielnica on the Pomeranian coast). Dt.Fischztg. 1.

Kiock

- 1925 Wanderung und Fang der Fische im Unterlauf der Memel. (Migration and catch of fish in the lower course of the river Memel). Z.Fisch. 23.

Kändler, R.

- 1954 Vorschläge zur Erhaltung des Lachsbestandes in der Ostsee. (Proposals to the conservation of the Baltic salmon stock). Fischwirtsch. 6(2).
1955 Zur gegenwärtigen Lage der Lachsfischerei in der Ostsee. (The actual condition of the salmon fishery in the Baltic). Fischerblatt, No.10.
1958 Ergebnisse schwedischer Lachsmarkierungen in der Ostsee nach Wiederfängen deutscher Fischer. (Results of Swedish salmon tagging in the Baltic according to recaptures of German fishermen). Fischerblatt, No.5.
1958
1959 Die Lachsfischerei in der Ostsee. (The salmon fishery in the Baltic). Fischerblatt, Nos. 11 and 1
1958 The German salmon fishery in the south-eastern Baltic in the seasons 1956/57 and 1957/58. ICES CM 1958/Doc.No.40.

Kändler, R. (ctd)

- 1959 The German salmon fishery in the south-eastern Baltic in the season 1958/59. ICES CM1959/Doc.No.33.
- 1961 The German salmon fishery in the south-eastern Baltic in the seasons 1959/60 and 1960/61. ICES CM1961/Doc.No.23.
- 1962 The German salmon fishery in the south-eastern Baltic in the season 1961/62. ICES CM 1962/Doc.No.55.
- 1963 The German salmon fishery in the south-eastern Baltic in the season 1962/63. ICES CM 1963/Doc.No.31.
- 1959-63 German salmon fishery in the Baltic. Annls biol. Copenh. 14:210-211, 15:217-219, 16:247-259, 17:238-240, 18:204-205, 20:241-244.

Kändler, R. and M. Lühmann

- 1957 Über den Lachsbestand und die Erträge des deutschen Lachsfanges in der südöstlichen Ostsee. (On the salmon stock and the yields of German salmon fishery in the south-eastern Baltic). Ber.dt. Wiss.Kommn Meeresforsch. 14(3).

Lehmann, C.

- 1940 Über die Meerforelle in Ostpreussen. (On the sea trout in East Prussia). Schr.phys.-ökon.Ges. 71(404).
- 1942 Wanderung, Wachstum und Bestandvermehrung von Salmoniden in der Ostsee. (Migration, growth and stock increase of salmonids in the Baltic). Ber.dt.Wiss.Kommn Meeresforsch. 10(4).

Leonhardt, E.

- 1905 Der Lachs. (The salmon). Neudamm.

Marquard, O.

- 1935 Beitrag zur Lachsfrage im Ostseegebiet. (Contribution to the salmon problem in the Baltic precincts). Fischwirtsch. 2.

Meschkat, A.

- 1950 Die Lachstreibangel. (The salmon drift line). Fischereiwelt 2

Meyer-Waarden, P. F.

- 1938 Aussetzungen von Regenbogenforellen (Salmo irideus Gibb.) in die Ostsee. (Release of rainbow trout (Salmo irideus Gibb.) in the Baltic). Ber.dt.Wiss.Kommn Meeresforsch. 9(2).
- 1939 Versuche mit Aussetzungen von Bach- und Regenbogenforellen in die westliche Ostsee. (Experiments of liberations of brown- and rainbow trout into the western Baltic). Rapp.p.-v.Réun.Cons.int. Explor.Mer, 109(3).
- 1942 Massnahmen zur Hebung des Salmonidenbestandes in der Ostsee. (Provision to increase the salmonid stock in the Baltic). Allg. Fischztg. 11/12.

Miescher, F.

- 1897 Statistische und biologische Beiträge zur Kenntnis vom Leben des Rheinlachs im Süßwasser. (Statistical and biological contributions to the life history of the Rhine salmon in fresh water). Histochem.histol.Arb.2.

Möbius, K. and Fr. Heincke

- 1883 Die Fische der Ostsee. (Fishes of the Baltic). Paul Parey, Berlin.

Neresheimer, E.

- 1941 Die Lachsartigen. (The salmonids). Handb.Binnenfisch.Mitteleur.3.

Peters, M.

- 1971 Sensory mechanisms of homing in salmonids: a comment. Behaviour. 39(1).

Quednau, W.

- 1935 Beitrag zur Kenntnis des Pflugscharbeines (Vomer) bei Lachsen und Meerforellen. (Contribution to the knowledge of the Vomer of salmon and sea trout). Int.Rev.ges.Hydrobiol.32.
- 1952 Untersuchungen über den Lachs II. (Investigations on the salmon II). Z.Fisch. 25.

Rübenberg, L.

- 1941 Markierungsversuche mit geangelten Junglachsen. (Tagging experiments with hooked young salmon). Mh.Fisch. 12.

Seligo, A.

- 1896 Der Weichsellachs. (The salmon of the river Vistula). Mitt.Westpr. Fischver.
- 1925 Neue Untersuchungen über den Weichsellachs. (Recent investigations on Vistula salmon). Mitt.Westpr.Fischver. 33(7).

Schäperclaus, W.

- 1928 Die natürliche Nahrung der jungen Bachforellen in Teichen. (Natural food of young brown trout in ponds). Z.Fisch. 26.

Scheuring, L.

- 1929 Die Wanderungen der Fische. (Migrations of fishes). Ergebn.Biol. 5.

Schröder, Th.

- 1928 Die erste natürliche Nahrung ausgesetzter Bachforellenbrut. (The first natural food of liberated brown trout fry). Z.Fisch. 26.

Thurrow, F.

- 1959 Die Entwicklung der deutschen Lachstreibnetzfisherei und die Erprobung neuer Treibnetze. (Development of the German drift net fishery on salmon and tests with a new kind of drift net). Fischerblatt, No.9.

Thurrow, F. (ctd)

- 1959 On the significance of fat formation of Baltic salmon. ICES CM 1959/Doc.No.35.
- 1960 Markierte Meerforellen in der westlichen Ostsee. (Tagged sea trout in the western Baltic). Fischerblatt 4, Fischwirt. 10.
- 1960 Untersuchungen über die Bestandsfluktuationen beim Ostseelachs. (Investigations on stock fluctuations in Baltic salmon). Ber.dt. Wiss.Kommn Meeresforsch. 16(1).
- 1960 The size of the Baltic salmon stock. ICES CM 1960/Doc.No.56.
- 1960 On the causes of catch fluctuations in Baltic salmon. ICES CM 1960/Doc.No.57.
- 1961 Die Produktionskraft des Lachsbestandes in der Ostsee. (Production capacity of the Baltic salmon stock). Fischerblatt, No.8.
- 1961 Voraussichtliche deutsche Lachserträge 1961/62. (Presumable German salmon yields 1961/62). Inform.Fischw. 8(4).
- 1961 The significance of the sclerite rings of salmon scales for age determination. ICES CM 1961/Doc.No.1.
- 1961 The population model of Baltic salmon and the presumable German salmon yields. ICES CM 1961/Doc.No.5.
- 1962 Über Qualitätsschwankungen und die Bedeutung der Fettspeicherung beim Ostseelachs (Salmo salar L.). (On the significance of fat storage in Baltic salmon (Salmo salar L.). Arch.FischWiss. 13(1/2).
- 1962 Results of German salmon tagging in the sea. ICES CM 1962/Doc.No.57.
- 1964 Die Selektionswirkung von Angelhaken in der Lachstreibleinen-fischerei. (Gear selection in drift line fishing on salmon). Arch. FischWiss. 15(2).
- 1964 Möglichkeiten zur Regulierung der Lachsfischerei in der Ostsee. (Possibilities of regulation of the salmon fishery in the Baltic). Fischerblatt, No.5.
- 1965 Conversion factors in Baltic salmon. ICES CM 1965/Doc.No.16.
- 1966 Beiträge zur Biologie und Bestandkunde des Atlantischen Lachses in der Ostsee. (Contributions to the biology and stock conditions of Baltic salmon). Ber.dt.Wiss.Kommn Meeresforsch. 18 (3/4).
- 1966 Ergebnisse deutscher Lachsuntersuchungen. (Results of German salmon investigations). InformFischw. 13(2).
- 1967 Scale pattern analysis in Atlantic salmon, a review. ICES, CM 1967/M:4.
- 1968-71 German investigations on salmon. Annls biol.Copenh. 23-27.
- 1968 On food, behaviour and population mechanism of Baltic salmon. LFI Medd. 4.
- 1970 Über das Verhalten der Lachse und ihre Verbreitung in der Ostsee. (On behaviour and distribution of salmon in the Baltic). BFA Veröff.KUBiFi. 46.
- 1972 A tentative approach to offshore yield assessment in Baltic salmon. ICES CM 1972/M:5.
- 1972 Growth parameters of Baltic salmon. ICES CM 1972/M:4.

Willer, A.

- 1928 Untersuchungen über das Wachstum bei Fischen. (Investigations on the growth of fishes). Z.Fisch. 26.
- 1929 Der Lachs im deutschen Osten. (The salmon in eastern Germany). Mitt.d.Deutsch.Fischereiver. 45(1).

Willer, A. and W. Quednau

- 1931-34 Untersuchungen über den Lachs (Salmo salar L.) I, II, III. (Investigations on salmon (Salmo salar L.) I, II, III). Z.Fisch. 29.

6.3 FINLAND - until the year 1971

The Finnish bibliography relates to Baltic salmon, sea trout and landlocked salmon inhabiting some Finnish lakes. - Only generally known abbreviations for the names of the serial publications have been used.

Aalberg, A. F.

- 1948 Kymin kalastusoloista ennen ja nyt. - (Fishing in the Kymi before and now). - Suomen Kalastuslehti, 55(2):25-28.

Alm, Gunnar

- 1961 Kan fiske- och vattenkraftinteressena förenas? (Can fishing and hydroelectric interests be combined?).-Fiskeritidsskrift för Finland, 4:7-14.
- 1961 Ovatko kalastuksen ja vesivoimatalouden edut sovittavissa. (Can fishing and hydroelectric interests be combined). Suomen Kalastuslehti, 68:150-158.

Anonymous

- 1892 Wanhankaupungin putouksen kalatie. (The fishway of Wanhakaupunki Falls). - Suomen Kalastuslehti, 1(1):12.
- 1897 Anjalan koskeen ehdotettu kalatie. (Proposal of a fishway for the Anjala rapids). - Suomen Kalastuslehti, 6(10-11):179.
- 1897 Lapuan joen kalamäärä. (The fish population in the Lapua river). Suomen Kalastuslehti, 6(2):37.
- 1898 Iijoen lohikalastus. (Salmon fishing in the Iijoki). - Suomen Kalastuslehti, 7(7-8):130.
- 1899 Kalastustentarkastelijan Keisarilliseen Suomen Senaattiin jättämästä ehdotuksesta kalastuksen parantamiseksi Kokemäenjossa. (Proposal of the Inspector of Fisheries to the Czar's Finnish Senate for the improvement of the fishery of the Kokemäenjoki). Suomen Kalastuslehti, 8(2-3):26-30.
- 1899 Sananen kalastussuhteista Raahen-Kalajoen rannikolta. (A note on the fishing conditions on the coast between Raahen and the Kalojoki). - Suomen Kalastuslehti, 8(5):81-83.

Anonymous (ctd)

- 1919 Kemi- ja Iijokien valtionkalastusten vastainen vuokraaminen. (Future renting of the State Fisheries in the Kemijoki and the Iijoki). - Suomen Kalastuslehti, 26(9-10):129-134.
- 1926 Ohjesääntö kalanistutustoimintaa varten Kokemäenjoella. (Rule for fish stocking in the Kokemäenjoki). - Suomen Kalastuslehti, 33(3):40-42.
- 1942 Oulujärven lohi ja kuha laskeutuvat alas Oulujokeen. (The salmon and pike-perch of Oulujärvi descent into the Oulujoki). - Suomen Kalastuslehti, 49(10):127.
- 1951 Oulujoen Merikosken kalastus. (Fishing at the Merikoski rapids in the Oulujoki). - Suomen Kalastuslehti, 58(9):173-174.
- 1953 Montan kalanviljelylaitos. (The fish hatchery at Monta). - Suomen Kalastuslehti, 60:110-111.
- 1963 Iijoen kalakantojen hoidon suunnitelmat. (Plans for the management of the fish stock of the Iijoki). - Suomen Kalastuslehti, 70:188-191.

Anttila, Risto

- 1970 Kalataloudelliset perusselvitykset vuonna 1969. (Fishery investigations in 1969). - Vesiensuojelulaboratorion tiedonantoja 1970, 2:1-13.

Arasto, Viljo

- 1965 Lohisiiman käyttö merialueella. (Sea fishing with salmon long line). - Suomen Kalastuslehti, 72:154-158.
- 1965 Havsfiske med laxrev. (Sea fishing with salmon long line). Fiskeritidsskrift för Finland, 5:112-115.

Artimo, Atso

- 1954 Lausunto niistä haitoista ja vahingoista, joita Kymijoen Pernoonhaaran säännöstelystä koituu kalastolle ja kalastukselle. (Report on damage and disturbance of fish stocks and fishing caused by the Pernoonhaara reservoir in the Kymijoki). Moniste.

Bergman, Gösta

- 1971 Itämeren kalastuksesta. (Fishing in the Baltic Sea). - Luonnon Tutkija, 75(3-4):126-133.

Blomqvist, Edv.

- 1912 Huomattavimmista kalastuslaitteista Kymijoessa ja sen vesistöissä. (The main fishing facilities in the Kymijoki system). Suomen Kalatalous, 1:130-140.

Brofeldt, P.

- 1914 Lohikalojen ikä- ja kasvumääräyksiä. (Determination of age and growth rate in salmon). - Suomen Kalastuslehti, 21:141-142.
- 1930 Ylä-Vuoksen kalastuksista. (The Ylä-Vuokso fisheries). - Suomen Kalatalous, 11:111-119.

Brofeldt, P. (ctd)

- 1931 Toimenpiteitä kalannousun helpottamiseksi Kymijoessa. (Measures for facilitating the passage of fish up the Kymijoki). - Suomen Kalastuslehti, 38(12):213-218.
- 1937 Miten lohenkutu tapahtuu. (How salmon spawn). - Urheilukalastaja, No.1-3:7-11.
- 1938 Selostus Kokemäenjoen pato- ja nuottakalastuspaikkojen omistus- ja käyttöoikeudesta. (The right to own or use weir- or seine-fishing sites in the Kokemäenjoki). - Suomen Kalatalous, 12:1-92.
- 1948 Kalateistä ja kalojen nousumahdollisuudesta vesivoimalaitospatojen ohi. (Fishways and opportunities for fish migration past hydro-electric dams). - Suomen Kalastuslehti, 55(2-3):28-34 and 48-50.
- 1949 Selostus vesivoimalaitoksien ja uiton kalastukselle tuottamasta vahingosta ja tämän torjumisesta. (Report on damage to fisheries caused by hydro-electric stations and timber floating and suggestions for its prevention). - Suomen Vesivoimayhdistys, p.1-94, Helsinki.
- 1954 Oulujoen keskuskalanviljelyslaitos. (The Oulujoki central fish hatchery). - Suomen Vesivoimayhdistys, 25:70-71, Helsinki.
- 1954 Toimenpiteistä lohikannan säilyttämiseksi. (Measures for the maintenance of salmon stock). - Suomen Kalastuslehti, 61:8-11.

Dahlström, Harri

- 1968 Lohi p.123-130 kirjassa Svärdson, G., Nilsson, N.-A., Dahlström, H. & Tuunainen, P.: Kalat, kalavesien hoito ja kalanviljely. (Salmon). Helsinki 1968.
- 1971 Våra vandringsfiskars öde. (The fate of anadromous fishes in Finland). - Finlands Natur, 7:4-5.

Dahlström, Harri and Tapani Sormunen

- 1964 Tutkimus Kymijoen itäisten suuhaarojen edustan merialueen kalastusoloista ja kalastosta. (Study of fishing conditions and fish stocks in the sea close to the eastern tributaries of the Kymijoki). - Kalataloussäätiön monistettuja julkaisuja, No.9: 1-78.
- 1965 Tutkimus Oulun edustan merialueen kalastusoloista ja kalastosta. (Study of fishing conditions and fish stock in the sea off the town of Oulu). Kalataloussäätiön monistettuja julkaisuja, No.10: 1-108.

Forsell, Fr.

- 1947 Itämeren lohisiima. (The salmon long line in the Baltic). - Suomen Kalastuslehti, 54:51-53.

Chers, Carl Robert

- 1771 Oeconomisk afhandling om orsaker til Cumá Krono Lax och Sik Fiskets förminskning, som ock de helpemedel som deremot kunna vidtagas. (Economic treatise on the reasons for the decline of salmon and white fish fisheries, and possible measures against it). p. 1-15, Åbo.

Grönroos, K.

- 1945 Noormarkunjoki korvaamaan Kokemäenjokea nousukalojen kutujokena. (The capacity of the Noormarkunjoki to substitute for the Kokemäenjoki as a spawning river for anadromous fishes). - Suomen Kalastuslehti, 52(5):68-69.

Haapala, A.

- 1924 Laiton kalastus syksyisin Pohjanmaan joissa. (Illegal autumn fishing in the rivers of Ostrobothnia). - Suomen Kalastuslehti, 31(6):166-168.
- 1925 Lohen kalastuksesta meressä. Uusi talvipyyntitapa Satakunnan rannikolla. (Salmon fishing in the sea. A new winter fishing method on the Satakunta coast). - Suomen Kalastuslehti, 32:172-177.

Hagman, Nils

- 1938 The variations in the catch of salmon and the water level of the rivers; with a mathematical treatment of the question by T. J. Kukkamäki. - Ann.Zool.Soc.Zoo.-Bot.Fenn.Vanamo, 5(6):1-43.

Halme, Erkki

- 1957 Kemijoen vesistöalueen kalatalousolojen kehittämisestä. (Improvement of fishing conditions in the Kemijoki system). Maataloushallituksen Kalataloudellinen Tutkimustoimisto, Monistettuja julkaisuja, 2:1-478.
- 1961 Report on salmon tagged in Finland. ICES CM 1961/Doc.No.17, pp.1-4.
- 1961 Suomalaisten lohimerkintöjen tuloksia. (Results of Finnish salmon taggings). - Kalamies 1961 (3):3-8.
- 1964 Report on salmon tagged in Finland in 1959-1964 (to 1.3.1964). ICES CM 1964/Doc.No.61, pp.1-7.

Halme, Erkki and Seppo Hurme

- 1952 Tutkimuksia Helsingin rannikkoalueen kalavesistä, kaloista ja kalastusoloista. (Investigations of the fish stocks and fishing conditions in the coastal waters off Helsinki). - Helsingin kaup. julk., 3:1-157.

Halme, Erkki and Margita Strandman

- 1969 Lohimerkinnät Suomessa vuosina 1959-1968. (Salmon taggings in Finland 1959-1968). - Kalataloudellisen tutkimustoimiston tiedonantoja 1969 (1):12-19.

Heikkinen, Jouko

- 1960 Vuoden 1959 kalansaaლისarvio. (Estimate of fish catch for 1959). - Eripainos Suomen Kalastuslehden, No.4:1-7.
- 1960 Suomen kalansaaლისtilasto vuodelta 1959. (Finland's catch statistics for 1959). - Maataloushallituksen Kalataloudellinen Tutkimustoimisto, Monistettuja julkaisuja, No.11:1-107.

Henking, H.

- 1913 Die Lachsfrage im Ostseegebiet. Rapp.p.-v.Réun.Cons.int.Explor. Mer, 16:1-65.

Herva, Yrjö

- 1935 Katsaus Kemijoen lohikalastuksen omistussuhteiden kehitykseen. (Survey of ownership rights of the salmon fishery in the Kemijoki). Pohjois-Pohjanmaan maakuntaliiton vuosikirja, 3:25-48.

Heusala, Janne

- 1937 Kalajokinen lohirysä. (Fishing with a salmon fyke in the Kalajoki). - Suomen Kalastuslehti, 44:97-100.
- 1950 Tuleeko Kalajoesta vielä lohennousujoki. (Can the Kalajoki once more become a spawning river?). - Suomen Kalastuslehti, 57(3):62-63.
- 1950 Lohet hakemassa uusia kutujokia. (Salmon seeking new spawning rivers). - Suomen Kalastuslehti, 57:166-167.
- 1951 Lohen noususta Kala- ja Lestijokeen. (Migration of salmon up the Kalajoki and the Lestijoki). - Suomen Kalastuslehti, 42(1):15-17.
- 1953 Lohen siimakalastus Selkämerellä. (Salmon long line fishing in the Bothnian Sea). - Suomen Kalastuslehti, 60:46-49.

Himberg, Mikael

- 1965 Beräkning av förhållandet mellan huvudets storlek och kroppens vikt hos lax. (Relation between head size and body weight in salmon). - Husö Biologiska Station, Meddelande, 9:19-21.
- 1965 Resultaten av provfiske efter lax med laxrev på olika djup. (Results of trial fishing for salmon with a salmon long line at different depths). - Husö Biologiska Station, Meddelande, 9:10-18.

Hinkkanen, K.

- 1934 Istutuslohien lammikkoviljelyksestä. (The cultivation of salmon in fish ponds). - Suomen Kalastuslehti, 41:85-87.
- 1940 Lohen pyynnistä pitkäsiimalla. (Catching salmon with a long line). Suomen Kalastuslehti, 47:66-67.

Holmberg, H. J.

- 1861 Inspektören för fiskerierne i Finland. H. J. Holmberg underdåniga berättelse om sin verksamhet under år 1860. (The Inspector of Fisheries in Finland, H. J. Holmberg, reports on his activities in 1860). - p. 1-55, Helsingfors.
- 1863 Inspektören för fiskerierne i Finland, H. J. Holmberg underdåniga berättelse om sin verksamhet under år 1862, jemte tvenne dertill hörande bilagor. (The Inspector of Fisheries in Finland, H. J. Holmberg, reports on his activities in 1862, with two appendices). p. 1-117, Helsingfors.

Hurme, Seppo

- 1952 Vantaanjoki taimenvetenä. (The Vantaanjoki as a trout river). Metsästys ja Kalastus, 41(5):149-151.
- 1953 Lohi, sen kalastus ja suojelu. (Fishing and conservation of the salmon). - Suomen Luonto, 12:76-86.
- 1959 Kemijoen rakentamisen kalastusmenetysten korvauskysymys. (Compensation of fishery losses caused by the construction of a hydro-electric station on the Kemijoki). - Maataloushallituksen Kalatalousdellinen Tutkimustoimisto, Monistettu julkaisu, No.5:1-129.

Hurme, Seppo (ctd)

- 1960 Kymijoen ja Kokemäenjoen tuhoutuminen lohijokina. (The destruction of the Kymijoki and the Kokemäenjoki as salmon rivers). - Maat.hall.kalat.tutk.tsto., Monist.julk, No.9:1-55.
- 1960 Kaakaman lohipato vv. 1923-1948 (1959). (The Kaakamo salmon weir in 1923-48 (1959)). - Maat.hall.kalat.tutk.tsto., Monist.julk., No.8:1-48.
- 1960 Lohen ja meritaimenen viljelyn tavoitteista. (The aims pursued in the cultivation of salmon and sea trout). - Suomen Kalastuslehti, 67(5):179-181.
- 1961 En odlingsplan för lax och havslaxöring in Finland. (A cultivation plan for salmon and sea trout in Finland). - Svensk Fiskeri Tidskrift, No.1:6-8.
- 1961 Pohjanmaan joet vaelluskalavesinä. (The rivers of Ostrobothnia as spawning streams for anadromous fishes). - Maat.hall. kalat. tutk. tsto., Monist.julk, No.13:1-85.
- 1962 Suomen Itämeren puoleiset vaelluskalajoet. English summary: Finnish rivers draining into the Baltic frequented by anadromous fishes. Maat.hall.kalat.tutk.tsto., Monist.julk., No.24:1-198.
- 1963 Om Finlands i Östersjöbäcken utfallande lax- och laxöringförande älver. (Salmon and sea trout rivers in Finland, draining into the Baltic). - Fiskeritidskrift för Finland, No.4:1-2.
- 1966 Suomen Itämeren puoleiset loki ja taimenjoet. English summary: Salmon and trout rivers on the Baltic side of Finland. - Erämies, 20(11):13-17.
- 1967 Lounais-Suomen lohi - ja taimenjoet. (Salmon and trout rivers in SW Finland). - Suomen Kalatalous, 29:1-16.
- 1969 Oulujärvi lohivetenä. English summary: Oulujärvi as a salmonid lake. - Suomen Kalatalous, 39:1-26.
- 1970 Lohi ja taimen Suomenlahden alueella. (Salmon and trout in the Gulf of Finland). Maat.hall.kalat.tutk.tsto., Monist. julk., No.37:1-45.

Hyytiä, Aatami

- 1927 Hylkeitten kalastukselle tuottamista vahingoista Laatokalla. (Damage to fishing caused by seals in Lake Ladoga). - Suomen Kalastuslehti, 34:186-187.

Häyrynen, Heikki

- 1959 Unkaako tuho Iijoenkin lohikantaa. (Is the salmon stock of the Iijoki doomed to disappear?). - Suomen Kalastuslehti, 66(3):122-23.

Järvi, T. H.

- 1910 Hufuddragen af fiskfaunan och fiskerihushållningen. (Main features of fish fauna and fisheries). - Atlas öfver Finland, I. Kartbladet, No.21 b:23-35.
- 1915 Pielisjoen kalastusoloja valaisevia tietoja. (Information on fishing conditions in the Pielisjoki).
- 1921 Lohesta ja lohenkalastuksesta. (Salmon and salmon fishing). Medd.Soc.Fauna Flora Fenn.,46:66.
- 1923 Lohien "yksilötodistukset". Kolme esimerkkiä niistä. (Identification cards for salmon. Three examples). - Metsästys ja Kalastus, 12: 297-303.

Järvi, T. H. (ctd)

- 1931 Merkityt lohet. Katsaus Itämeren lohialueelta saatuihin tuloksiin. (Tagged salmon. Report on results obtained in the Baltic Sea area). Suomen Kalastuslehti, 39:57-62.
- 1932 Suomen merikalastus ja jokipyynti. (Finland's sea fisheries and river catches). - p.1-188, Porvoo.
- 1932 Syntyvääisyydestä ja kuolleisuudesta Itämeren lohikannassa. (Natality and mortality of Baltic Sea salmon stocks). - Suomal.Tiedeakatemia, Esitelmät ja pöytäkirja (1932) sekä Suomen Kalastuslehti, 39:97-107.
- 1932 Koukun mukaansa riuhtaisseet lohet vaellustensa selvittäjinä. (Fish hooks snatched by salmon as indicators of their migration routes). - Suomen Kalastuslehti, 39:157-161.
- 1932 Syksyllä kutevien kalalajien mätimääristä. 1. Merilohi, 2. Järvilohi. (Roe counts of autumn spawning fish species. 1. Baltic salmon. 2. Landlocked Baltic salmon). - Suomen Kalastuslehti, 39:21-27 and 41-43.
- 1933 Merilohikannan tukemiseksi harjoitettu kalanviljelys. Suomesta saadut tähänastiset kokemukset. (Cultivation of sea salmon to maintain existing stocks. Observations made in Finland). - Suomen Kalastuslehti, 40:177-188.
- 1934 Die Seefischerei von Finnland. (Sea fishery of Finland). Handb. der Seefisch. Nordeuropas, 8(4), Stuttgart.
- 1934 Merkityt lohet: uusia tapauksia. (Tagged salmon: new observations). Suomen Kalastuslehti, 41:25-29.
- 1934 Die Fischzucht zur Unterstützung des Lachsbestandes. Die bisherigen Erfahrungen in Finnland. (Fish Cultivation supporting the salmon stock experience in Finland). Rapp.p.-v.Réun. Cons.int.Explor.Mer, 91:19-27.
- 1934 Angaben über das Alter der in Finnland gefangenen Lachse vor der Auswanderung, nebst einigen Bemerkungen über ihre Wanderungen. (Information on the age of Finnish salmon, caught prior to descent, with some remarks on their migration). Rapp.p.-v.Réun.Cons.int. Explor.Mer, 91:11-15.
- 1934 Tyynen valtameren lohilajien kotiuttamisesta Suomen vesiin. (Return of Pacific Ocean salmon species to Finnish waters). - Suomen Kalastuslehti, 41:163-166.
- 1934 Vieläkin Tyynen valtameren lohilajien kotiuttamisesta Euroopan vesiin. (Further observations on return of Pacific Ocean salmon species to European waters). - Suomen Kalastuslehti, 41:228.
- 1935 Harjus ja siika lohemmädin hävittäjinä. (Grayling and whitefish as destroyers of salmon spawn). - Suomen Kalastuslehti, 42:33-35.
- 1935 Eräitten Laatokan kalalajien ravintoarvo. (Nutritive value of some fish species in Lake Ladoga). - Suomen Kalastuslehti, 42:123-125.
- 1935 Merilohen kulkusuunnista Itämeressä. (Migration routes of salmon in the Baltic Sea). - Suomen Kalastuslehti, 42:157-166.
- 1935 Om laxens färdvägar i Östersjön. (Migration routes of salmon in the Baltic Sea). - Finl. Jakt- och Fiskeritidskrift, 30:53-63.
- 1935 Eräs Itämeren lohikannan tukemista tarkoittava sopimusluonnos. (Draft of an agreement for maintaining the salmon stock of the Baltic Sea). - Suomen Kalastuslehti, 42:90-94.
- 1936 Merilohen vaellusten laajuus ja nopeus Norjan rannikolla. (Range and speed of migration of salmon along the Norwegian coast). Suomen Kalastuslehti, 43:92-94.

Järvi, T. H. (ctd)

- 1936 Kalatalous. (The fishing industry). - Suomen Maantieteen Käsikirja, p. 575-586, Helsinki.
- 1937 Lohien rauhoitusajasta. (The closed season for salmon). - Suomen Kalastuslehti, 44:142-143.
- 1937 Hajanaisia havaintoja: 21. Kasvumääräyksiä Laatokan lohista. (Scattered observations: 21. Determinations of growth rate of salmon in Lake Ladoga). - Suomen Kalastuslehti, 44:144-147.
- 1937 Lohilajien ravintoarvot. (Nutritive values of salmonid species). Suomen Kalastuslehti, 44:1-5.
- 1937 Om laxfiskarnas fredningstid. (The closed season for salmon). Finl. Jakt- och Fiskeritidskrift, 32:208-210.
- 1938 Vaihtelut Itämeren lohikannassa (1921-1935). (Fluctuations in the Baltic stock of salmon (1921-1935)). Maataloushallituksen tiedonantoja, Suomen Kalatalous, No.13:1-170.
- 1938 Fluctuations in the Baltic stock of salmon. Rapp.p.-v.Réun. Cons. int.Explor.Mer, 106:1-114.
- 1938 Esstissä merkittyjen lohien vaellustie. (Migration route of salmon tagged in Esthonia). - Suomen Kalastuslehti, 45:69-72.
- 1938 Kymijokeen istutettu "lohi" saatu Puolassa. (A Kymijoki salmon caught in Poland). - Suomen Kalastuslehti, 45:72-74.
- 1939 Hajanaisia havaintoja: 33. Todisteita lohien suorittamista matkoista. (Scattered observations: 33. Evidence of journeys made by salmon). - Suomen Kalastuslehti, 46:4-9.
- 1939 Vaellukselle lähteneitä lohenpoikasia meressä. (Migrating smolts in the sea). - Suomen Kalastuslehti, 46:74-77.
- 1939 Hajanaisia havaintoja: 38. Rymättylän talviapajilta saatu pikkulohia. (Scattered observations: 38. Smolts caught in winter fishing at Rymättylä). - Suomen Kalastuslehti, 46:77-78.
- 1940 Perämeren lohista ja lohensaaliista suomunäytteiden antamassa valaistuksessa. (Information on the Bothnian Bay salmon and salmon catches provided by scale samples). - Suomen Kalastuslehti, 47:52-56.
- 1940 Sea trout in the Bothnian Bay (*Salmo trutta*). Acta Zool.Fenn., 29:1-27. Myös: Suomen Kalatalous-Finlands Fiskerier, 15:1-28.
- 1940 Lohikantojen ylläpitämiseksi tehdyt poikasistutukset. (Introduction of smolt to maintain salmon stocks). - Suomen Kalastuslehti, 47:101-107.
- 1941 Oulujoen lohenkalastus viimeisissä vaiheissan. (Salmon fishing nearing its end in the Oulujoki). - Suomen Kalastuslehti, 48:85-89.
- 1942 Merilohen poikasistutusten kannattavuus. (Profitability of stocking with salmon). - Suomen Kalastuslehti, 49:38-41.
- 1943 Merkityt lohet. Suomen vesistä saatuja uusia tapauksia. (Tagged salmon. New observations from Finnish waters). - Suomen Kalastuslehti, 50:80-81.
- 1948 On the periodicity of salmon reproduction in the northern Baltic area and its causes. Rapp.p.-v. Réun.Cons.int.Explor.Mer, 119:1-131.
- 1950 Lohista yksilöinä ja lohikannan vaihteluista. (The individual salmon and fluctuations in salmon stock). - Suomen Kalastuslehti, 57:37-38.

Järvi, T. H. (ctd)

- 1956 Lohenpyynnistä Pyhäjoella vajaa vuosista sitten. (Salmon fishing in the Pyhäjoki less than a century ago). - Suomen Kalastuslehti, 63(3):4-9.
- 1958 Suomen lohen tarina. (The story of the Finnish salmon). - Oma Maa, 4:281-293, Helsinki.
- 1958 Über die Lachserträge im Oulujoki in den Jahren 1870-1948. (On the yield of salmon in Oulujoki 1870-1948). - Acta Zool.Fenn., 94:1-40. Myös: Suomen Kalatalous, 23:1-40.
- 1959 Über die Lachserträge im Oulujoki in den Jahren 1870-1948. Zweiter Abschnitt: Die hydrographischen und meteorologischen Faktoren. (On the yield of salmon in Oulujoki 1870-1948. Second part: the hydrographical and meteorological factors). - Suomen Kalatalous, 24:1-31.
- 1960 Kalastuselinkeinomme erikoispiirteitä. (Special features of commercial fishing in Finland). - Oma Maa, 7:365-373, Helsinki.

Järvi, T. H. and W. J. Menzies

- 1936 The interpretation of the zones on scales of salmon, sea trout and brown trout. Rapp.p.-v.Réun. Cons.int.Explor.Mer, 97:1-63.

Jääskeläinen, Viljo

- 1913 Anteckningar om Kemiälfs fiskfauna. (Observations on the fish fauna of the Kemijoki). - Finlands fiskerier, Vol.2:133-204.
- 1913 Huomoita Kemijoen kalastosta. (Observations on the fish fauna of the Kemijoki). - Suomen Kalatalous, 2:133-203.
- 1917 Pohjois-Laatokan kaloista ja kalastuksesta. (Fish communities and fisheries in the north of Lake Ladoga). - Suomen Kalatalous, 4: 217-302.
- 1924 Lohen koukkupyynnistä Itämerellä. (Salmon hook line fishing in the Baltic Sea). - Suomen Kalastuslehti, 31:109-111.
- 1924 Lohen koukkupyynnistä Laatokalla. (Salmon hook line fishing in Lake Ladoga). - Suomen Kalastuslehti, 31:108-109.
- 1924 Järvilohen pyynti verkoilla. (Fishing landlocked Baltic salmon with nets). - Suomen Kalastuslehti, 31:95.
- 1927 Itämerenlohi saatu Laatokasta. (A Baltic salmon caught in Lake Ladoga). - Suomen Kalastuslehti, 34:9.
- 1929 Über die Fische und Fischerei im Ladogasee. (Fish communities and fisheries in Lake Ladoga). - Verh.Internat. Ver.Limnologie, 4: 391-400.
- 1930 Pyyntitavoista valtion kalavedessä Asilan koskessa. (Fishing methods in the state-owned Asila rapids). - Suomen Kalatalous, 11:61-70.
- 1930 Lohen pitkäsiimakalastuksesta Laatokalla. (Long line fishing in Lake Ladoga). - Suomen Kalastuslehti, 37:106-107.

Kaiponen, J.

- 1935 Vieläkin pakinaa lohen häistä. (Further gossip about the salmon's wedding). - Suomen Kalastuslehti, 42:243-245.

Kanerva, R. U.

- 1933 Järvilohen pyynistä ja kalataloudellisesta merkityksestä. (Landlocked Atlantic salmon fishing and its economic significance). - Suomen Kalastuslehti, 40:119-126.

Kemijoen Kalanviljelykomitean Mietintö 1956 (Report of the Kemijoki Fish Propagation Committee). - Monistettu. p.1-181.

Kesti, Y.

- 1935 Kalojen kuninkaan lohen häissä. (At the wedding of the King of fishes, the salmon). - Suomen Kalastuslehti, 42:113-116.

Kesti, Y. M.

- 1931 Suppo ja sen vaikutus lohikantaan. (Sludge and its effect upon salmon stock). - Suomen Kalastuslehti, No.2.

Koli, Lauri

- 1969 Eräistä kalastomme taksonomisista kysymyksistä. (Some taxonomic questions concerning the fish fauna of Finland). - Luonnon Tutkija, 73(3):93-105.

Komonen, Antti

- 1911 Muutamia muistelmia lohen- ja siiiankalastuksesta Vuoksen pohjoisessa suuhaarassa ennen Kiviniemen avausta. (Some memories of salmon and whitefish fishing in the northern tributary of Vuoksi before the opening of Kiviniemi). - Suomen Kalastuslehti, 20:14-16.

Korhonen, Aug.

- 1914 Lohen salakalastus Oulujoessa suunnaton. (Large-scale salmon poaching in the Oulujoki). - Suomen Kalastuslehti, 21(12):186-187.

Korhonen, Martti

- 1962 Ylisiirtokalastus Iijoen Pahkakoskella. (Transport fishing by the the Phkakoski dam on the Iijoki). - Suomen Kalastuslehti, 69:17-19.
- 1963 Havaintoja meeren vaeltavista lohen poikasista Iijoen Pahkakoskella. (Observations of salmon smolt migrating to the sea of Pahkakoski on the Iijoki). - Suomen Kalastuslehti, 70:212-213.
- 1963 Pahkakosken ylisiirtokalastus v. 1963. (Transport fishing at the Pahkakoski dam in 1963). - Suomen Kalastuslehti, 71:4-5.

Könönen, Aulis V. A.

- 1917 Pohjois-Karjalan kruununkalastukset. (The North Karelian State fisheries). - Suomen Kalatalous, 4:1-46.

Lagom, Toivo

- 1960 Entisaikaista lohenkalastusta Kokemäenlaaksossa. (Old-time salmon fishing in the Kokemäki valley). - Metsästys ja Kalastus, 49(4): 130-132.

Laitinen, A.

- 1893 Några ord om fiskeriförhållandena i Enontekis. (Some words about fishing in Enontekis). Fiskeritidskrift för Finland, 2:125.
- 1900 Om fiskevattnen i Rovaniemi. (Fishing waters in Rovaniemi). Fiskeritidskrift för Finland, 9:43.

Lampi, K.

- 1932 Lohen verkkokalastuksesta Laatokalla. (Salmon net fishing in Lake Ladoga). - Suomen Kalastuslehti, 39:48-50.
- 1933 Laatokan lohien käsittelystä. (Salmon management in Lake Ladoga). Suomen Kalastuslehti, 40:27-28.

Levander, K. M.

- 1922 Katsaus Suomen lohilajeihin. (Review of Finland's salmon species). Suomen Kalastuslehti, 29:199-201.
- 1927 Purolohia Vantaanjoessa. (Baltic salmon in the Vantaa). - Suomen Kalastuslehti, 34(11):197.

Liedes, Lauri

- 1952 Kemijoen lohikannan kohtalo. (The fate of the salmon stock of the Kemijoki). - Suomen Kalastuslehti, 59(9-10):124-126.
- 1961 Lohi, Salmo salar. (The salmon, Salmo salar). - Suuri Kalakirja, p. 72-89.

Liedes, Matti

- 1954 Kalansaaalis ja sen arvo v. 1953. (The 1953 fish catch and its value). Suomen Kalastuslehti, 61:175-180.

Malmgren, A. J.

- 1863 Kritisk översigt af Finlands fisk-fauna. (Critical survey of the fish fauna of Finland). - Diss. 75 pp. Helsingfors. - Published under the title of "Kritische Übersicht der Fisch-Fauna Finlands" in: Arch.Naturgesch., 30:259-351.

Mela, A. J.

- 1882 Vertebrata fennica. (The vertebrates of Finland). 440 pp., Helsinki.

Mortensen, Th.

- 1900 Om laxens naturhistoria samt litet om fiskafvel. (On the natural history of salmon, with remarks on fish culture). - Fiskeritidskrift för Finland, 9:85-90; 105-113; 125-131; 147-153.

Mäkinen, Kyösti

- Jokien rakentamisen vaikutus vaeltavien lohilajien poikastuotantoon. (How the harnessing of rivers affects reproduction in the anadromous salmon species). - Moniste, julk. Suomen Kalastusyhdistys, p.1-16.
- 1970 Lohikalojen lisääntymismahdollisuuksista Soumessa. (On the opportunities for reproduction of salmonids in Finland). - Suomen Kalastuslehti, 77:163-165.

Mäkinen, Kyösti (ctd)

- 1970 Laxfiskens fortbestånd i vårt land. (The future of salmonids in Finland). - Fiskeritidskrift för Finland, 2-3:24-26 and 49.

Niemelä, J.

- 1924 Lohen pyynistä pitkäsiimalla Pitkäpaadella. (Long line salmon fishing at Pitkäpaasi). - Suomen Kalastuslehti, 31:112-114.

Niinimäki, Juhani

- 1970 Kalaistutukset ja -merkinnät Helsingin, Espoon ja Sipoon edustan merialueella vuosina 1960-1970. (The stocking and tagging of fish off the coast of Helsinki, Espoo and Sipoo in 1960-1970). - Vesiensuojelulaboratorion tiedonantoja 10/1970, p.1-11 + 8 App.
- 1970 Selvitys Helsingin ammattimaisesta kalastuksesta vuodelta 1969. (Commercial fishing in Helsinki in 1969). - Vesiensuojelulaboratorion tiedonantoja 8/1970, p.1-38 + 7 App.
- 1971 Ammattikalastus vuonna 1970 Helsingissä ja sen lähikunnissa. (Commercial fishing in Helsinki and environs in 1970 (summary)). Ibid., p.1-29 + 32 App.

Niskanen, Pekka

- 1962 Merilohien merkinnöistä Montan kalanviljelylaitoksella. (Salmon tagging at Monta hatchery). - Suomen Kalastuslehti 69:150-153.
- 1962 Merilohen merkinnöistä Montan kalanviljelylaitoksella. (Salmon tagging at Monta hatchery). - Voima-Viesti, 3:19-22.

Nordqvist, Osc.

- 1892 Kalateistä. (Fishways). - Suomen Kalastuslehti, 1(10):143-148.
- 1897 Ijo elfs fiskerier. (Fisheries of the Iijoki). - Fiskeritidskrift för Finland, 6:110.
- 1897 Ijoen kalastukset. (Fisheries of the Iijoki). - Suomen Kalastuslehti, 6(6-8):101-105.
- 1898-99 Torne elfs laxfiske. (Salmon fishing on the Torne). Fiskeritidskrift för Finland, 7:135-142 and 154-162; and 8:113-125.
- 1899 Laxfisket i Torneälf. (Salmon fishing on the Torne). - Ibid., 8:122.
- 1903 Joitakuita tietoja Oulujoen lohikalastuksesta. (Some information about salmon fishing on the Oulujoki). - Suomen Kalastuslehti, 12(9):156-158.
- 1903 Några uppgifter om Uleå laxfiske. (Some information about salmon fishing on the Oulujoki). - Fiskeritidskrift för Finland, 12:154-156.
- 1906 Laxens uppstigande i Finlands och norra Sveriges älvar, statistiskt bidrag til laxens biologi. (Salmon entering the rivers of Finland and Northern Sweden, a statistical contribution to salmon biology). Fennia, 22(2):1-58.
- 1924 Times of entering of the Atlantic salmon in the rivers. Rap.p.-v. Réun.Cons.int.Explor.Mer, 33.

Olander, A. J.

- 1929 Lohikalojen kutupaikoista Kristiinan seudulla. (Salmon spawning sites around Kristiina). - Suomen Kalastuslehti, 36(3):31-32.

Oma Maa 4

Pohjanmaan lohikalastuksista. (The salmon fisheries of Ostrobothnia). - Oma Maa, 4:125-127.

Otterström, Andreas

- 1907 Lohenpyynti koukulla Bornholman luona. (Salmon fishing with hooks around Bornholm). - Suomen Kalastuslehti, 16:14-22.
- 1907 Laxfiske med krok vid Bornholm. (Salmon fishing with hooks around Bornholm). - Fiskeritidskrift för Finland, 16:14-21.

Partanen, Aarne

- 1962 Tornionjoen lohikymmenykset. (Torniojoki salmon tithes). - Suomen Kalastuslehti, 69:109-112 and 153-156.

Pelkonen, Johannes

- 1971 Eteläisen Perämeren meritaimenohjelma. (Sea trout programme for the south of the Bothnian Bay). - Suomen Kalastuslehti, 78:122-125.

Pesonen, Yrjö

- 1936 Perämeren lohikanta. (The salmon stock of the Bothnian Bay). - Suomen Kalastuslehti, 43(10):212-215.

Pohjois-Suomen Lohikomitean Mietintö 1950, p.1-68, Moniste. (Report of the Salmon Committee of North Finland).

Puhakka, Martti

- 1964 Onko valo vaarallista lohikalojen mädille ja poikasille? (Is light dangerous to the spawn and young of salmonids?) - Suomen Kalastuslehti, 71:35-36.

Rauhoitussääntö

- 1875 Lohi-, taimen- ja siikakalaa varten Pyhäjoen kalastuspiirissä. Helsinki.
- 1875 Decree of Protection for salmon, trout and whitefish in the Pyhäjoki fishing district.
- 1875 Lohi-, taimen- ja siikakalaa varten Kalajoen kalastuspiirissä. p.1-8, Helsinki.
- 1875 Decree of Protection for salmon, trout and whitefish in the Kalajoki district.

Reinwaldt, Edw. and T. H. Järvi

- 1938 Eestissä merkittyjen lohien vaellustie. (Migration route of salmon tagged in Esthonia). - Suomen Kalastuslehti, No.4.

Rynänen, Reino

- 1957 Havaintoja Isojoen taimenista. (Observations on trout in the Isojoki). Suomen Kalastuslehti, 1957 (1-3):1-11.
- 1959 Summary on observations concerning the trout in the Isojoki (Finland). Maataloushallituksen Kalataloudellisen tutkimustoimiston monis. julk., 6:1-13.

Rytkölä, Matti

- 1924 Lohen koukkupyynnistä Seiskarissa. (Hook line salmon fishing at Seiskari). - Suomen Kalastuslehti, 31:94.

Saarivirta, Nilo

- 1954 Entinen Oulujoki. Historiikkia ja muistitietoa. (The Oulujoki in former days. History and memoirs). - Oulujoki Osakeyhtiö, p.1-307, Helsinki.

Sandman, J. Alb.

- 1898 Muistiinpanoja lohikalastusoloista Kemijoen ylisellä. (Memoranda on salmon fishing conditions in the upper reaches of the Kemijoki). Suomen Kalastuslehti, 2:21-26.
- 1898 Anteckningar om laxfiskeförhållandena i Kemielfs övre lopp. (Memoranda on salmon fishing conditions in the upper reaches of the Kemijoki). - Fiskeritidskrift för Finland, 7:21-26.
- 1900 Om laxfisket i Siikajoki elf och förslag til dess upphjelpande. (Salmon fishing in the Siikajoki and suggestions for its improvement). Fiskeritidskrift för Finland, 9:141-145.
- 1900 Siikajoen lohikalastus ja ehdotuksia sen parantamiseksi. (Salmon fishing in the Siikajoki and suggestions for its improvement). Suomen Kalastuslehti, 9(10):141-145.
- 1913 See Henking, H., 1913.

Sarasmo, Esko

- 1954 Entinen Oulujoki. (The Oulujoki in former days). p.13-110, Helsinki.

Savolainen, P.

- 1934 Koukkukalastus Laatokalla. (Hook line fishing in Lake Ladoga). Suomen Kalastuslehti, 41:174-175.
- 1937 Merilohen esiintyminen Laatokassa. (Occurrence of sea salmon in Lake Ladoga). Suomen Kalastuslehti, 44:191-192.
- 1937 Merilohen esiintyminen Laatokassa. (Occurrence of sea salmon in Lake Ladoga). Ibid. 44:240.
- 1937 Kalan saalisvaihteluista Laatokalla. (Fluctuations in fish catches in Lake Ladoga). - Suomen Kalastuslehti, 44:200-203.
- 1942 Saalisvaihteluista Laatokassa. (Fluctuations in fish catches in Lake Ladoga). - Suomen Kalastuslehti, 49:42-45.

Segerstråle, C.

- 1937 Studier rörande havsforellen (Salmo trutta L.) i Södra Finland, speciellt på Karelska näset, och i Nyland. (Studies on Salmo trutta L. in Southern Finland, with special regard to Karelska Näset and in Nyland). - Acta Soc. Fauna Flora Fenn., 60:696-750.
- 1945 Fynd av lekmogna exemplar av havslax (Salmo salar) på ovanliga platser. (Records of ripe specimens of salmon (Salmo salar) in unusual localities). - Mem.Soc.Fauna Flora Fenn., 21:76-79.

Seppovaara, Ossi

- 1959 Über das Vorkommen der Reliktform des Seelachses (Salmo salar L.m. relictus Malmgr.) in einigen Binnengewässern Finnlands. Vorläufige Mitteilung. (On the occurrence of relict salmon (Salmo salar L. m. relictus Malmgr.) in Finland. Preliminary Report) - Maat.hall.kalat. tutk. tston. Monist.julk., 6(2):1-7.
- 1961 Taimenet. (Trout). - Suuri kalakirja, p.80-101.
- 1962 Zur Systematik und Ökologie des Lachses und der Forellen in den Binnengewässern Finnlands. (On taxonomy and ecology of salmon and trout in Finnish lakes). - Ann.Zool.Soc.Bot.Fenn. "Vanamo", 24(1): 1-86. Diss.
- 1962 Lohet ja taimenet valokeilassa. (Salmon and trout in the limelight). Suomen Kalastuslehti, 69:140-142.
- 1963 Saimaan lohikalat ja niiden lisääntyminen. (Lake Saimaa salmon and their propagation). - Kalamies, No.1:7-11.
- 1963 Lapin lohensukuisten kalojen alkuperästä ja niiden säilymismahdollisuuksista. (The origin of Laplands salmonids and means of conserving them). - Kalamies, No.2:14 and 18-20.
- 1963 Laxen och laxöringen i Stor-Saimen. (Salmon and trout in Lake Saimaa (Iso-Saimaa)). - Fiskeritidskrift för Finland, 7:180-184.
- 1963 Ison-Saimaan lohi ja taimen. (Salmon and trout in Lake Saimaa (Iso-Saimaa)). - Suomen Kalastuslehti, 70:268-273.
- 1969 Ison-Saimaan kalat ja kalastus. (Fish and fishing in Lake Saimaa (Iso-Saimaa)). - Suomen Kalatalous, 38:1-84.

Seppänen, Pertti

- 1970 Kalojen kasvusta Helsingin merialueella. (Growth of fish in the sea off the coast of Helsinki). - Vesiensuojelulaboratorian tiedonantoja 12/1970:1-89+5 p. + 7 App.

Siltamaa, Erkki

- 1967 Utsikterna för odling av laxfisk i våra kusttrakter. (Prospects for the cultivation of salmonids in the coastal areas of Finland). - Fiskeritidskrift för Finland, 5-6:120-123.

Sirelius, U. T.

- 1906-08 Suomalaisten kalastus I-III. (Finnish fishing I-III). Kansatieteellisiä tutkimuksia, 1:1-459, Helsinki.

SITRA (Suomen itsenäisyyden juhluvuoden rahasto)

- 1967 Ympäristön pilaantuminen ja sen ennakointi. III. Vesi, 5. Vesien nykyinen tila ja käyttökelpoisuus. (Environmental pollution and its prevention. III. Water, 5. Present conditions and usability of waters).

Sjöblom, Veikko

- 1965 Kalastusbiologian taustasta ja tehtävistä rannikoillamme. (Background and programme for the biological study of fishing in the coastal areas of Finland). - Luonnon Tutkija, 69(1):28-31.

Sjöblom, Veikko (ctd)

- 1966 Rekisteröityjen kalastusalueiden toiminta-alue ja kalastuspaikkojen ekologiset perusteet. (The operating area of registered fishing vessels and ecological background of the choice of fishing places). Suomen Kalatalous, 26:1-26.

Snicker, Antti H.

- 1949 Lohenkalastajan elämäkokemuksia. (Memoirs of a salmon fisher). Suomen Kalastuslehti, 56:100-101.

Sormunen, Tapani

- 1965 Muuttuvien vaelluskalajokien kalatalous. Limnologisymposium 1965. (Die Fischereiwirtschaft der sich verändernden Wanderfischflüsse (Zusammenfassung)). - Suomen Limnologinen Yhdistys.
- 1966 Der Iijoki als Wanderfischfluss. Kalataloussäätiön Monistettuja julk., No.17:1-22.
- 1968 Kalastusasiantuntijan lausunto jätevesien johtamista Kymijokeen koskevia katselmustoimittuksia varten. (Report of fisheries experts on the inspection of effluents discharged into the Kymijoki). Ibid., No.24:1-55.
- 1969 Lohikantojen hoitokokeilujen tuloksia merialueilla. (Results of cultivation experiments with salmonid populations in the sea). Moniste, julk. Kalataloussäätiö, Helsinki, p.1-13.
- 1970 Meritaimenen istutuskokeilujen tuloksia. (Results of stocking experiments with sea trout). - Ibid., Helsinki, p.1-8.

Sormunen, Tapani, Harri Dahlström and Martti Korhonen

- 1963 Iijokilausunto I. Iijoen Pähkäkosken, Haapakosken ja Kierikkikosken voimalaitosten vaikutuksesta Iijoen ja sen merellisen vaikutusalueen kalatalouteen sekä ehdotus kompensatiotoimiksi. (Report I on the Iijoki river. Effect of the hydro-electric stations at Pähkäkoski, Haapakoski and Kierikkikoski on the fisheries of the Iijoki and the sea area receiving its discharge, and suggestions for compensatory measures). - Kalataloussäätiön monistettuja julk., No.7:1-37.
- 1966 Katsaus vesivoimalaitosten Iijolla ja sen suun läheisellä merialueella aiheuttamiin kalataloudellisiin haittoihin ja vahinkoihin. (Report III on the Iijoki river. Damage caused by the hydro-electric stations to fisheries in the Iijoki sea area at its mouth). - Ibid., No.15:1-57 + 8 App.

Sormunen, Tapani and Harri Dahlström

- 1967 Alustava lausunto ns. Iijokisuunnitelman toteuttamisen vaikutuksesta Iijoen vesistön kalatalouteen. (Preliminary Report on the effect of the realization of the so-called Iijoki plan on the fisheries of the Iijoki system). - Kalataloussäätiön monistettuja julkaisuja, No.18:1-42 + 8 App.

Sormunen, Tapani and Heikki Jakosaari

- 1963 Kanadannieriän hoitokokeiluja Suomessa. (Cultivation experiments with Canadian charr in Finland). - Suomen Kalastuslehti, 70:6-10.

Sormunen, Tapani and Heikki Kajosaari (ctd)

- 1963 Försök med kanadaröding i Finland. (Cultivation experiments with Canadian charr in Finland). - Fiskeritidskrift för Finland, 7:9.

Strandman, Margita

- 1969 Lohen vaellus Itämeressä. (Migration of salmon in the Baltic).
Kalataloudellisen tutkimustoimiston tiedonantoja 1969, 1:20-26.

Säntti, Auvo A.

- 1952 Kokemäenjoen lohenkalastuksen vaiheista ja sen päättymisen syistä.
(The changing course of salmon fishing in the Kokemäenjoki and the reasons for its termination). - Terra, 64(3):108-114.

Tala, Väinö

- 1949 Piirteitä Kymen vanhasta nuottakalastuksesta. (Features of the old seine fishing method on the Kymi). - Ankkapurha II. Kymenlaakson osakunnan kotiseutujulkaiso, p.89-125.

Toivonen, Jorma

- 1966 Simojoen lohenpoikastuotanto. (Smolt production in the Simojoki).
Suomen Kalastuslehti, 73:128-131.
1967 Smolt produktion i Simojoki. (Smolt production in the Simojoki).
Fiskeritidskrift för Finland, 1:4-7.

Tolvanen, V.

- 1915 Oulunjärven kalastusoloista. (Fishing conditions in the lake Oulunjärvi). - Suomen Kalatalous, 3:1-13.

Tornberg, Ali

- 1960 Perämeren lohivesien historiaa. (History of the salmon waters in the Bothnian Bay). - Suomen Kalastuslehti, 67:213-218.

Trybom, Filip

- 1909 Bericht über die Aufzucht, die Markierung und den Fang von Lachsen und Meerforellen im Ostseegebiete während der Jahre 1904 bis 1908.
(Report on rearing, tagging and recapture of salmon and sea trout in the Baltic area during 1904 to 1908). Rapp.p-v.Réun.Cons.int. Explor.Mer, 12(C 6):1-47.
1910 Bericht über die Aufzucht die Markierung und den Fang von Lachsen und Meerforellen im Ostseegebiete im Jahre 1909. (Report on rearing, tagging and recapture of salmon and sea trout in the Baltic area during 1909). Ibid., 13(C 6):1-31.

Tuunainen, Pekka

- 1967 Lohikalojen sukulaisuussuhteista. (Relationships between salmonid taxa). - Suomen Kalastuslehti, 74:10-13.

Vaali, V.

- 1933 Lohen luonnollista lisääntymistä haittaavista seikoista. (Factors hindering the natural reproduction of salmon). - Suomen Kalastuslehti, 40:103-106.

Valle, K. J.

- 1934 SUOMEN KALAT. (The fish of Finland). - p.1-228, Helsinki.

Vepsäläinen, A.

- 1923 Tietoja lojen ja siian esiintymisestä pohjoisissa joissamme. (Information about the occurrence of salmon and whitefish in the northern rivers of Finland). - Suomen Kalastuslehti, 30(1):22-23.
- 1950 Lohenpoikasten rauhoitus kutujoessa. (Conservation of salmon fingerlings in the spawning rivers). - Suomen Kalastuslehti, 57(8):141-142.

Westman, Kai

- 1970 Hemoglobin polymorphism and its ontogeny in sea-running and land-locked Atlantic salmon (Salmo salar L.). Ann.Acad.Sci.Fenn. A, IV Biologica:170. - Suomen Kalatalous, 45:1-28.

Vilkuna, Kustaa

- 1949 Kemin-Kaakaman nautintarajan sijainti ja kansatieteellinen tausta. (Location of the usage border between Kemi and Kaakama and the ethnographical background). - Kalevalaseuran vuosikirja, 29:343-400, Porvoo.
- 1953 Isien työ. Veden ja maan viljaa - arkityön kauneutta. (Our fathers toil. The harvest from water and land - the beauty of daily labour). p.1-344, Helsinki.

Virrankoski, Pentti

- 1956 Suur-Kalajoen historia I: Uskonpundistuksesta Isoovihaan. (History of the Suur-Kalajoki I. From the Reformation to the time of the Great Hate (Isoviha)). - Keski-pohjanmaan historiasarja I:71-747. Kokkola.

Voionmaa, Väinö

- 1950 Helsingin seudun historiaa ennen kaupungin perustamista. (History of the Helsinki district before the founding of the city). - Helsingin kaupungin historia I:79-107. Helsinki.

Vuorela, E.

- 1938 Halttarin lohijuoni Maksniemessä. (Salmon fishing with fykes at Halttar in Maksniemi). - Suomen Kalastuslehti, 45:15-17.

Wuorentaus, Y.

- 1933 Istutettavien lohenpoikasten kasvattaminen lammikoissa. (The cultivation of salmon fingerlings in fishponds). - Suomen Kalastuslehti, 40:57-61.
- 1937 Lohenviljelys ja lohen omavarainen kutu. (Salmon culture and natural propagation). - Suomen Kalastuslehti, 44:219-221.
- 1940 Norjan kääpiölohesta ja lohien koon vaihteluista. (Norway's dwarf salmon and fluctuations in salmon size). - Suomen Kalastuslehti, 47:29-32.
- 1940 Soistuneiden maiden kuivattaminen syynä lohikannan heikentymiseen. (Peatland drainage - a cause of the decline of salmon stock). Suomen Kalastuslehti, 47(3):35.

Wuorentaus, Y. (ctd)

- 1940 Uistinnimiehet, urheilukalastajat ja rauhoitusajat. (Trollers, amateur fishermen and the closed season). - Suomen Kalastuslehti, 47:129-130.
- 1942 Lohikantojen säilyttäminen Columbia- ja Oulujoessa. (Conservation of the salmon stock in the Columbia and Oulu rivers). - Suomen Kalastuslehti, 49(2):21-24.
- 1946 Kalanviljelyksen merkityksen yliarvointia. (Overestimation of the significance of fish hatcheries). - Suomen Kalastuslehti, 53:55-57.
- 1947 Yleistyvä lohenkalastus meressä. (The spread of salmon fishing in the Sea). - Suomen Kalastuslehti, 54:20-21.

6.4 POLAND

Abbreviations of periodicals:

Acta Hydrobiol.	Acta Hydrobiologica
Arch.Hydrobiol. i Ryb.	Archiwum Hydrobiologii i Rybactwa
Arch.Ryb.Pol.	Archiwum Rybactwa Polskiego
Biul.Inst.Med.Mors.	Biuletyn Państwowego Instytutu Medycyny Morskiej i Tropikalnej
Biul. MIR	Biuletyn Morskiego Instytutu Rybackiego
Biul.Stacji Morskiej w Helu	Biuletyn Stacji Morskiej w Helu
Biul.Zakładu Biologii Stawów PAN	Biuletyn Zakładu Biologii Stawów Polskiej Akademii Nauk
Bull.Acad.Pol.Sc.	Bulletin de l'Académie Polonaise des Sciences
Chrońmy Przyr.Ojcz.	Chrońmy Przyrodę Ojczystą
CIINTiE	Wydawnictwo Centralnego Instytutu Informacji Naukowej, Technicznej i Ekonomicznej
Czas.Przyr.	Czasopismi Przyrodnicze
Deutsche Fisch.Zeit.	Deutsche Fischerei Zeitung
Folia Biol.	Folia Biologica
Gosp.Ryb.	Gospodarka Rybna
ICES, CM Doc.No.	International Council for the Exploration of the Sea, Council Meetings (mimeo).
IRS	Prace Instytutu Rybactwa Śródlądowego
J.Cons.int.Explor.Mer	Journal du Conseil International pour l'Exploration de la Mer
MIR	Prace Morskiego Instytutu Rybackiego
Ochr.Przyr.	Ochrona Przyrody
Pamiętnik PINGW, Puławy	Pamiętnik Państwowego Instytutu Naukowego Gospodarstwa Wiejskiego, Puławy
PAN, Kom.Hydrobiol.,Kraków	Polska Akademia Nauk, Komitet Hydrobiologiczny, Kraków

PAN, Materiały z Sympozjum
Poświęconego Znakowaniu Ryb

Pol.Arch.Hydrobiol.

Pol.Tow.Hydrobiol., 7 Zjazd

Post.Nauk.Rol.

Prace Rol.Leś.

Prz.Ryb.

Prz.Zool.

Przyr.Pol.Zach.

Rapp.p.-v.Réun. Cons.int.
Explor.Mer

Roczn.Nauk.Rol.

Roczn.Nauk.Rol. y Lés.

Roczn. WSR Poznań

Roz.Biol.Wet.Hod.Rol.

Spr.Pol.Akad.Umiej.

Tech. i Gosp.Mors.

Trans. Amer.Fish.Soc.

Verhand.Int.Ver.Limnol.

Wiad.Węd.

Zesz.Nauk.WSR Olsztyn

Zesz.Nauk. WSR Szczecin

Zesz.Nauk.WSR Szczecin,
Acta Ichtiol.

Zool.Pol.

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Sympozjum Poświęconego Znakowaniu Ryb
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Polskie Towarzystwo Hydrobiologiczne,
Materiały z 7-go Zjazdu

Postępy Nauk Rolniczych

Prace Rolniczo-Leśne, Kraków

Przegląd Rybacki

Przegląd Zoologiczny

Przyroda Polski Zachodniej

Rapports et Procès-Verbaux des Réunions
du Conseil International pour l'Explor-
ation de la Mer

Roczniki Nauk Rolniczych

Roczniki Nauk Rolniczych i Leśnych

Roczniki Wyższej Szkoły Rolniczej
w Poznaniu

Rozprawy Biologiczne z Zakresu
Medycyny Weterynaryjnej, Hodowli i
Rolnictwa, Lwów

Sprawozdanie Polskiej Akademii Umie-
jętności

Technika i Gospodarka Morska

Transactions, the American Fisheries
Society

Verhandlungen der Internationalen
Vereinigung für theoretisch und ange-
wandte Limnologie

Wiadomości Wędkarskie

Zeszyty Naukowe Wyższej Szkoły
Rolniczej w Olsztynie

Zeszyty Naukowe Wyższej Szkoły
Rolniczej w Szczecinie

Zeszyty Naukowe Wyższej Szkoły Rolniczej
w Szczecinie, Acta Ichtiologica

Zoologica Poloniae.

Backiel, T.

- 1957 Metoda oceny przydatności potoków do zarybiania trocią. (A method of estimating the usefulness of brooks for sea trout stocking). Gosp.Ryb., 9(8):5-9.
- 1957 Uwagi o ochronie troci i cert w systemie rzeki Wisły. (Notes on protection of sea trout, Salmo trutta, and silver bream, Vimba vimba, in the Vistula river system). Gosp.Ryb., 9(10):7-11.
- 1960 On the practical planning of sea trout liberation. ICES CM 1960/Doc.No.50:1-6.

Backiel, T. (ctd)

- 1960 Sprawy łososiowe na zachodzie Ameryki Południowej. (Salmonid problems in the west of North America). Gosp.Ryb., 12(6):4-9.

Backiel, T. and R Bartel

- 1963 Preliminary results of sea- and lake trout tagging. ICES CM 1963, Doc. No.120:1-6.
- 1967 O efektach zarybiania smoltami troci na tle wyników ich znakowania. (Effects of trout stocking in the light of tagging results). (Summary in English and Russian). Roczn.Nauk.Rol., H-90(3):365-388.

Backiel, T., R. Bartel and S. Sakowicz

- 1962 O wynikach znakowania troci. (On the results of sea trout taggings). Gosp.Ryb., 14(7):22-23.

Backiel, T. and R. Eisler

- 1960 Narcotization of Chinook salmon fingerlings with tricaine methane-sulfonate. MS 222, Trans.Amer.Fish.Soc. 89(2):164-167.

Backiel, T. and R. Sych

- 1958 Resorpcja i znaki tarłowe łusek troci z wód Polski. (Resorption and spawning marks in the scales of sea trout and lake trout from Polish waters). (Summary in English and Russian). Roczn. Nauk Rol. B-73, 2:119-158.
- 1960 On the resorption and spawning marks in sea trout scales. ICES CM 1960/Doc.No.51:1-4.
- 1964 Scales resorption and spawning marks in sea trout, Salmo trutta L., from Polish waters. CIINTiE, OTS 61/11357:1-39.

Bartel, R.

- 1963 Wpływ rodzaju znaczka oraz miejsca i sposobu jego przymocowania na procent zwrotu znakowanych ryb. (The influence of the type of the tag and the place and method of fastening on the percentage of recoveries). PAN, Materiały z Sympozjum Poświęconego Znakowaniu Ryb:11-13.
- 1964 Rzrost i odżywianie się troci jeziorowej Salmo trutta m. lacustris L. w jeziorze Smolnik. (Growth and feeding habits of lake trout, Salmo trutta m. lacustris L. in Lake Smolnik). (Summary in English and Russian). Roczn.Nauk Rol. B-84, 2:255-271.
- 1965 Okres zarybiania trocią. (The period of sea trout stocking). Gosp. Ryb. 17(9):18-19.
- 1969 Wyniki znakowania troci wędrującej na tarło. (Tagging of sea trout on spawning migration). (Summary in English and Russian). Roczn. Nauk Rol. H-90(4):581-591.
- 1969 Wstępna analiza wpuszczania znakowanych pstrągów tęczowych Salmo gairdneri Rich. do Bałtyku. (Preliminary results of tagging of rainbow trout, Salmo gairdneri Rich., released in the Baltic). (Summary in English and Russian). Roczn. Nauk Rol. H-91, 3:317-329.

Bartel, R. (ctd)

- 1971 Wędrówka smoltów łososia Salmo salar L. z rzeki Drawy do morza. (Migration of salmon smolt, Salmo salar L., from the river Drawa to the sea). (Summary in English and Russian). - Roczn. Nauk Rol. H:93, 2:7-11

Bartel, R. and K. Goryczko

- 1968 Ocena efektów otwarcia przegród na rzekach Parsęta i Wieprza. (Estimation of the effects of opening the barriers on Parsęta and Wieprza rivers). Gosp.Ryb. 20(3):8-9.

Bartel, R. and Z. Kossakowski

- 1970 Jak gospodarować trocią zimową z Wisły. (How to manage the winter strain of sea trout from the river Vistula). - Gosp. Ryb. 22(12):3.
- 1971 Drugi rok eksploatacji bazy tarlakowej w Swibnie. (The second year of exploitation of the pool for spawners in Swibno). Gosp.Ryb. 23(5):10-11.

Bieniarz, K.

- 1960 Some aspects of scale-reading of brown trout from Polish waters. ICES CM 1960/Doc.No.131:1-8.

Blazejowski, J.

- 1925 Materiały do znajomości połowów łososia w Polsce. (The materials for knowledge of salmon fishing in Poland). - Arch.Ryb.Pol. 1,(1/2).

Blazejowski, J., B. Kolpy and W. Kulmatycki

- 1931 Materiały do znajomości połowów łososia w rzekach Polski w latach od 1926 do 1929. (The materials for knowledge of salmon fishing in Polish rivers in the years 1926-1929). (Summary in German). Pamiętnik PINGW, Pulawy 12, 2, 187:346-400.

Blazejowski, J. and W. Kulmatycki

- 1924 Materiały do znajomości połowów łososia w Polsce w roku 1923. (The materials for knowledge of salmon fishing in Poland in 1923). Rybak Polski, 5(2):68-81.
- 1925 Uzupełnienie do artykułu pt. 'Materiały do znajomości połowów łososia w Polsce w roku 1923'. (Supplement to the article entitled: 'The materials for knowledge of salmon fishing in Poland in 1923'). Rybak.Polski, 6(3):35-36.
- 1925 Materiały do znajomości połowów łososia w Polsce w roku 1924. (The materials for knowledge of salmon fishing in Poland in 1924). Arch.Hydrobiol. i Ryb. 1(1/2):419-443.
- 1926 Materiały do znajomości połowów łososia w Polsce w roku 1925. (The materials for knowledge of salmon fishing in Poland in 1925). Arch.Hydrobiol. i Ryb. 1(3):267-270.

Bontemps, I.

- 1963 Oliwa - ośrodek badawczy łososiowatych. (Oliwa - Research centre of salmonids). Gosp.Ryb. 15(1):17.

Borek, Z.

- 1972 Gospodarka łososiowa w Wiśle w województwie bydgoskim. (Salmon economy in the Vistula river in the Bydgoskie Voivodship). Gosp. Ryb. 24 (5):14-17.

Brudzinski, W.

- 1964 O umożliwienie naturalnego rozrodu troci w rzekach Pomorza Zachodniego. (Towards the possibility of natural propagation of sea trout in the rivers of West Pomerania). Gosp. Ryb. 16(7):10-12.

Brylinski, E.

- 1962 Urządzenie do przetrzymywania i wyławiania tarlaków troci i innych ryb. (A device for holding and catching spawners of sea trout and other fishes). Gosp. Ryb. 14(1):28-29.

Brylinski, E. and M. Brylinska

- 1964 Pokarm troci jeziorowej Salmo trutta m. lacustris L. w jeziorze Wdzydze. (Feeding habits of lake trout, Salmo trutta m. lacustris L., in Lake Wdzydze). (Summary in English and Russian). Rocz. Nauk Rol. B-84,2:457-474.

Cegielski, H.

- 1935 O składzie gatunkowym pokarmu młodocianych roczników łososia i troci sztucznie przesiedlonych do Brdy. (On the food composition of salmon and sea trout yearlings introduced into Brda river). (Summary in German). Pamiętnik PINGW, Pulawy, 16, 1, 250:277-312.
- 1939 Dalsze materiały do znajomości składu gatunkowego pokarmu młodocianych roczników łososia i troci sztucznie przesiedlonych do Brdy. (Further materials to the knowledge of food composition of salmon and sea trout yearlings introduced into Brda river). Pamiętnik PINGW, Pulawy, 17 (2):303-321.

Chelkowski, Z.

- 1963 Liczebność pogłowia łososia w rzekach Pomorza Zachodniego. (The quantities of salmon in the rivers of West Pomerania). Gosp. Ryb. 15(12):19-20.
- 1964 Łosoś czy troć. (Salmon or sea trout). Wiad. Węd. 179:12-13.
- 1965 Łosoś Salmo salar L. rzek przybałtyckich Pomorza Zachodniego. (The salmon, Salmo salar L., of small rivers in West Pomerania). (Summary in English). Prz. Zool., 9(3):275-280.
- 1965 Charakterystyka rzek trociowo-łososiowych regionu Przymorza. (Characteristics of sea trout and salmon rivers in the coastal region of West Pomerania). Gosp. Ryb. 17(3):8-9.
- 1966 Charakterystyka smoltów troci Salmo trutta m. trutta L. rzeki Regi. (Characteristics of sea trout smolts, Salmo trutta m. trutta L. of the river Rega). (Summary in English). Prz. Zool. 10(4):389-396.
- 1966 The quantities of trout, Salmo trutta m. trutta L., and of salmon, Salmo salar L., in the rivers of West Pomerania. ICES CM 1966/L:1.

Chelkowski, Z. (cta)

- 1966 Introdukcja troci do rzeki Gowienicy (An introduction of sea trout into the river Gowienica). Gosp.Ryb. 18(1):18-19.
- 1967 Troć Salmo trutta m. trutta L. rzeki Gowienicy. (Sea trout, Salmo trutta m. trutta L., of the river Gowienica). (Summary in English). Prz.Zool. 11(3):294-306.
- 1967 Troć Salmo trutta m. trutta L. rzek Pomorza Zachodniego w świetle cech plastycznych. (Sea trout, Salmo trutta m. trutta L. of the sea coast rivers in West Pomerania in view of their plastic characteristics). (Summary in English and Russian). Zesz. Nauk WSR Szczecin 26:107-121.
- 1967 The periods of the descent to the sea of the sea trout smolts of the river Rega. ICES CM 1967/M:7:1-5.
- 1967 Okresy zastępowania smoltów troci Salmo trutta m. trutta L. rzeki Regi. (Descending periods of sea trout smolts, Salmo trutta m. trutta L. of the river Rega). Pol.Tow.Hydrobiol., 7 Zjazd:19-20.
- 1967 W sprawie ochrony łososa w rzekach pomorskich. (On the salmon protection in the Pomeranian rivers). Chrońmy Przyr. Ojcz. 5:25-29.
- 1967 Łosoś w rzece Drawie, I. (Salmon in river Drawa, I). Gosp. Ryb. 19(5):18-19.
- 1969 Poglówie troci Salmo trutta trutta L. rzek przymorskich Pomorza. (The sea trout, Salmo trutta trutta L., of the Pomeranian coastal rivers). (Summary in English). Prz.Zool.13(1):72-91.
- 1970 Description of meristic features of sea trout, Salmo trutta trutta L., from the rivers of the Pomeranian district. Zesz.Nauk WSR Szczecin, Acta Ichtiol. 1:43-57.
- 1970 Perspektywy zachowania populacji łososa rzeki Drawy. (Perspectives of salmon population preservation in the river Drawa). Gosp.Ryb. 22(9):7-8.
- 1971 Połowy troci i łososa w rzekach pomorskich. (Fishing of sea trout and salmon in the Pomeranian rivers). Gosp.Ryb. 23(10):15-19.

Chelkowski, Z. and B. Chelkowska

- 1968 Łosoś w rzece Drawie, II. (Salmon in the river Drawa, II). Gosp. Ryb. 20(9):20-21.
- 1969 Łosoś w Drawie, III. (Salmon in the river Drawa, III). Gosp.Ryb. 21(9):16-18.
- 1970 Łosoś w Drawie, IV. (Salmon in the river Drawa, IV). Gosp.Ryb. 22(6):19-21.
- 1971 Łosoś w Drawie, V. (Salmon in the river Drawa, V). Gosp.Ryb. 23(6):16-17.
- 1972 Łosoś w Drawie, VI. (Salmon in the river Drawa, VI). Gosp.Ryb.24(7):17-19.

Chicewicz, M.

- 1961 Rozwój embrionalny troci jeziorowej Salmo trutta m. lacustris L. z jeziora Wdzydze. (Embryonic development of lake trout, Salmo trutta m. lacustris L., from Wdzydze Lake). (Summary in English and Russian). Roczn.Nauk. Rol. D-93:557-594.

Chrzan, F.

- 1947 Rzeki łososiowe na Ziemiach Odzyskanych. (The salmon rivers in western parts of Poland). Prz.Ryb. 14(6):207-221.

Chrzan, F. (ctd)

- 1947 Zagadnienie łososiowe w Polsce - troć dunajcowa i zaporą wodną w Rośnowie. (The salmon problem in Poland - the sea trout of the Dunajec river and the dam in Rożnów). MIR.
- 1948 Sprawa gospodarki łososiowej na Pomorzu Zachodnim. (The matter of salmon economy in West Pomerania). Prz.Ryb. 15(10):407-411.
- 1952 Niewykorzystane bogactwo Bałtyku. (Unused resources of the Baltic). Problemy 8(8):545-549.
- 1954 Warunki rozwoju rybactwa łososiowego. (The conditions of salmon fishery development). Techn. i Gosp. Mors. 4(2):52-56.
- 1954 Perspektywy naszej gospodarki łososiowej. (Long-term possibilities of our salmon economy). Wszechświat, 6, 1840:134-137.
- 1956 Results of investigations on salmon and trout in Polish fisheries. ICES CM 1956/Doc.No.66:1-6.
- 1958 Estimating the length and weight increase of salmon and trout caught by the Polish fishermen. ICES CM 1958/Doc.No.27:1-6.
- 1958 Salmon and sea trout with spawning marks in Polish catches. ICES CM 1958/Doc.No.28:1-4.
- 1959 Łosoś i troć w polskich połowach na Bałtyku w latach 1945-1955. (Salmon and sea trout in Polish catches in the years 1945-1955). MIR, A-10:273-340.
- 1959 Principles for the protection of salmonid fish in the Baltic. Rapp.p.-v.Réun.Cons. int.Explor.Mer 147:83-86.
- 1959 Notes regarding Polish salmon and sea trout fisheries in the seasons 1955-1959. ICES CM 1959/Doc.No.30:1-4.
- 1960 Results of investigations on the food of the salmon and sea trout off the Polish Baltic coasts. ICES CM 1960/Doc.No.70:1-4.
- 1961 Biological characteristics of the salmon from the Drawa river based on scale-reading. ICES CM 1961/Doc.No.150:1-5.
- 1962 The scales of sea trout of known age. ICES CM 1962/Doc.No.25:1-13.
- 1962 Łosoś rzeki Drawa. (The salmon in Drawa river). Wiad.Węd.151:14-15.
- 1963 Preliminary report on tagging experiment of sea trout in the region of Vistula Firth. ICES CM 1963/Doc.No.95:1-7.
- 1964 The movement and growth rate of tagged Drawa salmon. ICES CM 1964/Doc.No.77:1-10.

Chrzan, F., H. Czaplicki, J. Paladino, J. Romanski and J. Wolek

- 1965 Materiały do generalnych założeń rozwoju gospodarki łososiowej w Polsce. (Materials for general programming design of progress of salmon management in Poland). MIR:1-109.

Chrzanowski, F.

- 1956 Osobliwy mieszkaniec jeziora Wdzydze. (Peculiar inhabitant of Wdzydze Lake). Wiad.Węd. 79:6-7.
- 1956 Warunki zwiększenia поголовья 'czarnej troci' w rzece Redzie. (Conditions for stock increasing of 'black trout' in Reda river). Wiad.Węd. 86/87:16-17.
- 1957 Warunki intensyfikacji gospodarki łososiowej w rzece Lebie. (Conditions for salmon economy development in Leba river). Gosp. Ryb. 9(7):13-18.

Chrzanowski, F. (ctd)

- 1958 Warunki wzrostu połowów łososi i troci w rzece Słupi. (Conditions of the salmon and sea trout catch increasing in Słupia river). Gosp.Ryb. 10(12):12-15.
- 1960 Niedole troci Pomorza zachodniego. (The misfortunes of sea trout in West Pomerania). Wiad.Węd. 131:16-17.
- 1969 Co dalej z gospodarką łososiową w Wiśle. (What next with the salmon economy in the river Vistula). Gosp.Ryb. 21(8):3-4.
- 1971 Gospodarka łososiowa w dolnej Wiśle wymaga nowych założeń. (Salmon economy in the lower Vistula river requires new assumptions). Gosp.Ryb. 23(4):3-5.

Czaplicki, H.

- 1962 Niektóre problemy gospodarki łososiowej w Polsce. (Some problems of salmon economy in Poland). Gosp.Ryb. 14(6):3-5.
- 1962 Obserwacje wędrówek łososi i troci prowadzone przez PZW. (Observations of the migration of salmon and sea trout carried out by the Polish Angling Association). Gosp.Ryb. 14(7):23-24.
- 1962 Niektóre problemy gospodarki łososiowej w Polsce. (Some problems of salmon economy in Poland). Gosp.Ryb. 14(8):6-8.
- 1963 Obserwacje wędrówek łososi i troci prowadzone przez PZW. (Observations of the migration of salmon and sea trout carried out by the Polish Angling Association). Wiad.Węd. 163:8-9.

Czaplicki, H. and J. Paladino

- 1963 Szwedzkie ośrodki zarybieniowe. (Swedish stocking centres). Gosp. Ryb. 15(1):21-23.

Dixon, B.

- 1924 Pierwsza kampania łososiowa na Dunajcu. (The first salmon campaign on Dunajec river). Rybak Polski 5(3):104-117 (Pt. 1).
- 1924 Pierwsza kampania łososiowa na Dunajcu. (The first salmon campaign on Dunajec river). Rybak Polski 5(4):150-166 (Pt. 2).
- 1930 Troć rzeki Redy. (The sea trout of Reda river). (Summary in English). Pamiętnik PINGW, Pulawy, 11,1,167:218-263.
- 1931 Morphometrical features of the sea trout of Polish rivers. J.Cons. int.Explor.Mer, 6(1):94-102.
- 1931 The age and growth of salmon caught in the Polish Baltic. Ibid., 6(1):438-448.
- 1931 The age and growth rate of the sea trout Salmo trutta of the rivers Reda and Dunajec. Ibid., 6(1):449-457.
- 1934 The age and growth of salmon caught in the Polish Baltic in the years 1931-1933. Ibid., 9(1):66-78.
- 1937 Skład morskich połowów łososiowych na polskim Bałtyku za okres 1925, 28, 31-36. (Sea catch composition of salmon in Polish Baltic for the period 1925, 28, 31-36). (Summary in English). Biul.Stacji Morskiej w Helu 1/2:36-53.
- 1950 Polskie rybołówstwo łososiowe w 1948 i 1949 r. (Polish salmon fishery in 1948 and 1949). (Summary in English). Biul.MIR 5:7-12.

Dixon, B. (ctd)

- 1954 Mozliwości zwiększenia polskich połowów ryb łososiowatych.
(Possibilities of enlarging the Polish salmonid catches).
(Summary in English and Russian). MIR 7:5-10.

Domurat, J.

- 1954 Spostrzeżenia nad rozwojem embrionalnym troci Salmo trutta L.
w niesprzyjających warunkach tlenowych. (Observations on the
embryonic development of sea trout at unfavourable oxygen
conditions). (Summary in English and Russian). Pol.Arch.Hydro-
biol. 2(1):157-163.
- 1956 Rozwój embrionalny troci Salmo trutta L., szczupaka Esox lucius
L. i płoci Rutilus rutilus L. w środowisku bezwodnym.
(Embryonic development of trout, Salmo trutta L., pike, Esox
lucius L. and roach, Rutilus rutilus L. in an environment deprived
of water). (Summary in English and Russian). Pol.Arch.Hydrobiol.
16(3):167-173.
- 1965 Rozwój zarodkowy troci Salmo trutta m. lacustris L. w
przepływającym środowisku bezwodnym. (Embryonic development
of lake trout, Salmo trutta m. lacustris L. in a nonaqueous
medium). (Summary in French and Russian). Pol.Arch.Hydrobiol.
13(1):43-48.

Duszynski, J., and J. Gordziejczyk

- 1962 Wyniki gospodarcze z zarybiania rzek pomorskich trocią.
(Economical results of sea trout stocking in Pomeranian rivers).
Gosp.Ryb. 14(5):14-16.

Dybowicz, M.

- 1953 Wrzodzenia łososiowatych. (Furunculosis of salmonid fish).
Gosp.Ryb. 5(8):21-22.

Epler, P. and A. Cedrowski

- 1971 Próba stawowej hodowli troci w wodzie słonawej. (An attempt at
sea trout breeding in ponds with brackish water). Gosp.Ryb.
23(4):16-17.

Felinska, C.

- 1970 Lipids and cholesterol in blood serum of sea trout females,
Salmo trutta L. in two various stages of the sexual cycle.
Pol.Arch.Hydrobiol. 17(1/2):259-263.
- 1972 Seasonal changes of some components in blood serum of sea trout
females Salmo trutta L. - Zesz.Nauk WSR Szczecin, Acta Ichtiol.
3: (in print).

Ferens, B.

- 1953 W sprawie połowów ryb łososiowatych za pomocą prądu elektrycznego.
(About the catch of salmonid fish by means of electrical
current). Chrońmy Przyr.Ojcz. 9(5):19-30.

Filuk, J.

- 1958 O racjonalną gospodarkę na ciekach łososiowych zalewu Wiślanego.
(Regarding rational economy in salmon streams of Vistula Firth).
Gosp.Ryb. 10(7):1-3.

Gieraltowski, M.

- 1936 Próba stawowej produkcji tarlaków trocu Dunajcowej. (An attempt at pond production of spawners of Dunajec river sea trout). Prz.Ryb. 9(12):503-507.

Gordziejczyk, J.

- 1970 500 000 smoltów troci w rzeckach województwa koszalińskiego. (500 000 sea trout smolts in the rivers of the Koszalińskie Voivodship). Gosp.Ryb. 22(9):5-6.

Goryczko, K.

- 1963 Hodowla pstrąga i łososia w Stanach Zjednoczonych. (Brown trout and salmon breeding in the United States). Gosp.Ryb. 15(5):6.
- 1964 Wychów wylęgu troci jeziorowej. (Rearing of lake trout fry). Gosp.Ryb. 16(9):16-17.

Gottwald, S. and A. Kaniewski

- 1967 Zakłócenia w krwiobiegu larw troci jeziorowej Salmo trutta m. lacustris L. pod wpływem niskiej zawartości tlenu w wodzie. (Blood system disorders in lake trout larvae Salmo trutta m. lacustris L. due to low oxygen level in water.) (Summary in English and Russian). Roczn.Nauk Rol. H-90, 3:407-422.

Grabda, E. and J. Grabda

- 1969 Enzootyczna choroba troci Salmo trutta trutta L. w Wiśle. (Enzootic disease of sea trout in the river Vistula). Gosp.Ryb. 21(5):4-5.

Grodzinski, Z.

- 1955 Reakcje izolowanego serca zarodków troci Salmo trutta L. na zmiany temperatury. (Reactions of isolated heart of embryos of sea trout Salmo trutta L. to changes of temperature). Zool.Pol. 6(3):187-208.

Grudniewski, C.

- 1961 Rozwój niektórych morfologicznych cech okresu larwalnego troci jeziorowej Salmo trutta m. lacustris L. w jeziorze Wdzydze. (The development of some morphological features during the larval stage of Wdzydze Lake trout Salmo trutta m. lacustris L.). (Summary in English and Russian). Roczn. Nauk.Rol. D-93:595-626.
- 1961 Próba ustalenia letalnych progów termicznych i tlenowych dla stadiów narybkowych troci jeziorowej Salmo trutta m. lacustris L. z jeziora Wdzydze. (An attempt to determine the critical temperature and oxygen contents for fry of Wdzydze Lake trout Salmo trutta m. lacustris L.). (Summary in English and Russian). Roczn. Nauk Rol. D-93:627-647.
- 1964 Wsiedlenie troci jeziorowej do wód Polski. (The introduction of lake trout into Polish waters). Wiad.Węd. 182:14-15.

Hryniewiecki, A.

- 1924 O połowach łososia na polskim Bałtyku. (On the salmon catches at the Polish Baltic coast). Rybak. Polski 5(6):218-227.

Iwaszkiewicz, M.

- 1966 Losoś i troć wędrowna w dorzeczu dolnej Warty. (Salmon and sea trout in the river Warta). Gosp.Ryb.18(8):8-9.

Iwlew, N.

- 1960 Wychów łososia bałtyckiego. (The rearing of Baltic salmon). Gosp.Ryb. 12(4):13-15.

Jokiel, J.

- 1953 Pierwsza akcja pozyskania zapłodnionych produktów troci ciągu letniego z dolnej Wisły. (The first campaign for obtaining fertilized eggs from the summer sea trout run in lower Vistula river). Gosp.Ryb. 5(8):9-11.
- 1953 Połowy troci wiślanej na terenie województwa gdańskiego w roku 1952. (Catches of Vistula sea trout in the Gdańsk region in 1952). Gosp.Ryb. 5(10):3-5.
- 1955 Występowanie troci w rejonie mierzei Wiślanej. (The occurrence of sea trout in the region of the Vistula river delta). (Summary in English and Russian). Roczn. Nauk Rol. B-69, 4:487-499.
- 1958 Łosoś Salmo salar L. rzeki Wisły. (Salmon, Salmo salar L., from the river Vistula). (Summary in English and Russian). Roczn.Nauk.Rol. B-73,2:160-213.
- 1961 Wyniki znakowania smoltów troci wiślanej. (Results of tagging of Vistula sea trout smolts). Gosp.Ryb.13(6):18-20.
- 1963 Historia polskich badań łososia i troci metodą znakowania. (History of Polish studies of salmon and sea trout by tagging). Gosp.Ryb. 15(2):18-19.
- 1963 Nowa metoda hodowli łososia w warunkach sztucznych. (A new method of salmon breeding in artificial conditions). Gosp.Ryb.15(3):14-15.
- 1963 Statystyka połowów łososia na Bałtyku w latach 1952-1960. (Statistics of salmon catches in the Baltic Sea in the years 1952-1960). Gosp.Ryb 15(4):7-9.
- 1963 Rekordowa troć. (Record sea trout). Gosp.Ryb. 15(9):13.

Jokiel, J. and T. Backiel

- 1960 Połowy troci Salmo trutta L. w Zatoce Gdańskiej i w systemie rzeczonym Wisły. (Catches of sea trout, Salmo trutta L., in the Gulf of Gdańsk and in the Vistula river system). (Summary in English and Russian). Roczn. Nauk Rol.B-75,2:213-222.

Juszczyk, W.

- 1951 Ilość ikry pozostającej w jamie brzusznej samic troci Salmo trutta L., pstrąga tęczowego Salmo irideus Gibb. i krzyżowski pstrąga potokowego Salmo trutta m. fario z trocią Salmo trutta L. po sztucznym ich wytarciu. (Quantity of eggs remaining in the body cavity of females of sea trout, Salmo trutta L., rainbow trout, Salmo irideus Gibb. and of hybrid brown trout, Salmo trutta m. fario and sea trout, Salmo trutta L., after artificial spawning). Prace Rol.Leś. 59:1-18.

Kaj, J.

- 1953 Restytucja łososia Salmo salar L. w rzekach polskich w oparciu o jego naturalne tarliska w rzece Drawie i Gdździe. (Natural spawning places of the Drawa and Gdźda rivers as a basis for the restoration of this species in Polish rivers). (Summary in English and Russian). Roczn.Nauk Rol. B-67, 1:111-121.
- 1954 Występowanie i zasięg wędrówek łososi i troci w rzekach Pomorza Zachodniego. (The occurrence and reach of salmon and sea trout migrations in rivers of Western Pomerania). (Summary in English and Russian). Roczn.Nauk Rol. B-68, 4:537-556.
- 1959 Rzadsze i fizjograficznie interesujące gatunki ryb północno-zachodniej Polski. (Seldom appearing and physiographically interesting species of fish in Northwest Poland). (Summary in English). Przyr.Pol.Zach. 2(3/4):270-278.
- 1961 Zagdnienie stanowiska systematycznego i autochtonizmu troci z jeziora Wdzydze. (Systematic position and autochtonism of trout in Wdzydze Lake). (Summary in English and Russian). Roczn.Nauk Rol.D-93:465-500.

Kaj, J. and U. Lewicka

- 1962 Wpływ wielkości ikry w jajnikach troci Salmo trutta L. na rozwój embrionalny. (Influence of eggs size in ovaries of sea trout, Salmo trutta L., on embryonic and post-embryonic development). (Summary in English and Russian). Roczn. WSR Poznań, 12:55-68.

Kedziora, Z.

- 1963 Hodowla jednolatków łososi w basenach. (The breeding of salmon yearlings in pools). Gosp.Ryb. 15(12):10.

Klekowski, R. and J. Domurat

- 1967 The osmotic pressure of eggs from Lake Wdzydze trout, Salmo trutta m. lacustris L. developing in water or paraffin oil. Pol.Arch.Hydrobiol. 14(2):19-27.

Kolder, W.

- 1933 Rozpuszczanie narybku łososiowatych. (The liberation of salmonid parrs). Prz.Ryb. 6(4):119-122.
- 1946 O kampanii łososiowej na Dunajcu. (The salmon campaign in the Dunajec river). Prz.Ryb. 13(3):85-88.
- 1949 Wyśiłki rybactwa słodkowodnego na odcinku produkcji materiału zarybieniowego łososia-troci w 1948 roku. (The strains of inland fisheries in the range of salmon and trout stocking material in 1948). Prz.Ryb. 16(2):46-57.
- 1953 Połowy łososia na rzece Rudawie przy pomocy elektryczności. (The salmon catches in Rudawa river by means of electricity). Gosp.Ryb. 5(7):5-7.
- 1954 Kampania łososiowa w górnym dorzeczu Wisły w roku 1953. (Salmon campaign in the upper Vistula river system in 1953). Gosp.Ryb. 6(5):6-8.
- 1955 Pozyskiwanie ikry łososia-troci w górnym dorzeczu Wisły w roku 1954. (Obtaining sea trout eggs in the upper Vistula river system in 1954). Gosp.Ryb. 7(5):5-7.

Kolder, W. (ctd)

- 1955 Wychów ryb łososiowatych w stawkach obrotowych. (The rearing of salmonid fish in circular pools). Gosp.Ryb. 7(11):8-10.
- 1956 Kampanie łososiowe w górnym dorzeczu Wisły w roku 1955. (Salmon campaigns in the upper Vistula river system in 1955). Gosp.Ryb. 8(9):6-8.
- 1957 Kampanie łososiowe w górnym dorzeczu Wisły w 1956 roku. (Salmon campaigns in the upper Vistula river system in 1956). Gosp.Ryb. 9(9):6-7.
- 1958 Zarybianie łososiami i trociami w górnej części systemu rzecznej Wisły w latach 1879-1954. (Stocking of the upper Vistula river system with salmon and sea trout over the period 1879-1954). (Summary in English and Russian). Roczn. Nauk Rol. B-73, 2:216-267.
- 1965 Fish productivity of the Dunajec river in its historical and actual aspects. PAN, Kom.Hydrobiol., Kraków:15-24.

Kosmulski, S.

- 1956 Akcja zarybieniowa na rzekach łososiowych Pomorza Zachodniego. (The stocking in salmon rivers of West Pomerania). Gosp.Ryb. 8(7):2-4.

Kossakowski, Z.

- 1959 Kampania trociowa na dolnej Wiśle w 1958 roku. (Sea trout campaign in the lower Vistula river in 1958). Gosp.Ryb. 11(5):5-6.
- 1968 Przetrzykiwanie tarlaków i zapładnianie ikry troci w rejonie dolnej Wisły. (The holding of sea trout spawners and egg fertilization in the region of the lower Vistula river). Gosp.Ryb. 20(3):20-21.
- 1969 Baza tarlakowa w Swibnie. (A pool for spawners in Swibno). Gosp. Ryb. 21(4):3-5.

Kozłowski, A.

- 1964 Żywienie w hodowli ryb łososiowatych. (Feeding during the rearing of salmonid fish). Gosp.Ryb. 16(4):18-19 (Pt. 1).
- 1964 Żywienie w hodowli ryb łososiowatych. (Feeding during the rearing of salmonid fish). Gosp.Ryb. 16(5):20-21 (Pt. 2).
- 1964 Żywienie w hodowli ryb łososiowatych. (Feeding during the rearing of salmonid fish). Gosp.Ryb. 16(6):17 (Pt. 3).

Kukucz, J.

- 1930 O pomoc państwa przy zarybianiu łososiem Wisły. (For State help in salmon stocking of the Vistula river). Prz.Ryb. 3(19):640-646.
- 1960 Alterations in fat, water and protein content of Vistula sea trout in connection with their biology. ICES CM 1960/Doc.No.129: 1-7.
- 1961 On some differences between summer and winter populations of sea trout, Salmo trutta L. ICES CM 1961/Doc.No.77:1-3.

Kulmatycki, W.

- 1924 Sprawozdanie z wylęgu i wychovu łososia Dunajcowego w gospodarstwie rybnym na Wilczaku pod Bydgoszczą w roku 1924. (Report on hatching and rearing of Dunajec salmon in fish farm at Wilczak near Bydgoszcz in 1924). Rybak Polski 5(13):524-547.

Kulmatycki, W. (ctd)

- 1925 Notatki o próbach wylęgu ikry ryb łososiowatych bez przepływu wody. (Notes on hatching experiments of salmonid fish eggs without water flow). Arch.Ryb.Pol., 1(4):165-194.
- 1926 O wychowie łososi w stawach gospodarstwa rybnego na Wilczaku w roku 1925. (On the rearing of salmon in the fish farm pond at Wilczak in 1925). (Summary in German). Arch.Hydrobiol. 1:221-48.
- 1928 O skróceniu szczęki dolnej u łososia Dunajcowego. (On the shortage of the jaw of the Dunajec salmon). Kosmos, 52:634-637.
- 1929 Wylęgarnie ryb łososiowatych i zarybianie wód. (The hatcheries for salmonid fish and the stocking of waters). Prz.Ryb.2(10): 565-575.
- 1930 Nowe polskie experymety z zakresu biologii łososia. (New Polish experiments in the field of salmon biology). Prz.Ryb. 3(9): 309-311.
- 1931 O wynikach polskich badań nad wędrówkami łososio przy pomocy znakowania. (On the results of Polish experiments on salmon migrations by tagging). (Summary in German). Pamiętnik PINGW, Pulawy 12(1):184:269-286.
- 1932 O badaniach nad wędrówkami łososi w Polsce. (On the research on salmon migrations in Poland). Czas.Przyr. 6(1/2):33-40.
- 1933 Obserwacje nad wzrostem palczaków łososia i troci. (Observations on growth of salmon and sea trout fingerlings in ponds). Prz. Ryb. 6(3):76-82.
- 1933 Znaczony łosoś szwedzki przy brzegu Polski. (Tagged Swedish salmon at the Polish coast). Prz.Ryb. 6(7):250.
- 1933 Ciekawostki łososiowe. (Salmon curiosities). Prz.Ryb. 6(8): 266-269.
- 1934 Ergebnisse der polischen Untersuchungen über die Lachsaufzucht in Teichen sowie der Lachsmarkierungen in Polen. (Results of Polish experiments on salmon rearing in ponds and tagging of salmon in Poland). Verhand.Int.Ver.Limnol. 6(2):368-382.
- 1937 Z biologii łososi i troci przesiedlonych sztucznie do dolnej Brdy. (The biology of salmon and sea trout introduced into the lower Brda river). Prz.Ryb.10(9):341-356.

Lubecki, F. and B. Dixon

- 1925 Sprzwozдание z drugiej kampanji łososiowej w roku 1924. (Report on the second salmon campaign in 1924). Arch.Ryb.Pol. 1(6/7): 384-405.

Lysak, A. and K. Bieniarz

- 1964 Blood picture of the sea trout, Salmo trutta, during the spawning period. ICES CM 1964/Doc.No.104:1-8.
- 1965 Blood picture of the sea trout, Salmo trutta L., during the spawning period. Results of the investigations in 1964. ICES CM 1965/Doc.No.91:1-12.
- 1965 Serum protein composition of sea trout, Salmo trutta L., during the spawning period. Electrophoretic Investigations in 1964. ICES CM 1965/Doc.No.92:1-7.

Morawska, B.

- 1967 Płodność troci Salmo trutta L. z rzeki Wisły. (Sea trout, Salmo trutta L., fecundity). (Summary in English and Russian). Roczn.Nauk Rol. H-90, 2:249-265.

Netzer, J.

- 1955 Dlaczego łowimy tak mało łososia? (Why do we catch so few salmon?). Gosp.Ryb. 7(9):3-5.

Nowakowski, A. and J. Święcicki

- 1956 Nowy typ kutra do połowów łososia. (A new type of cutter for salmon fishing). Tech.i Gosp.Mors. 6(6):165-166.

Olewski, B.

- 1963 Gody łososiowe na Drawie. (Spawning of salmon in Drawa river). Gosp.Ryb. 15(2):20.

Olko, A.

- 1955 The respiratory vessels of the yolk-sac of the trout, Salmo trutta L. Zool. Pol. 6(3):216-225.

Paladino, J.

- 1953 Na marginesie kampanii łososiowej 1952 roku. (Sidenote on the salmon campaign in 1952). Gosp.Ryb. 5(3):4-5.
- 1955 Rozwój ikry ryb łososiowatych. (The development of eggs of salmonid fish). Gosp.Ryb.7(9):5-7.
- 1955 Kilka uwag o produkcji materiału zarybieniowego ryb łososiowatych. (Some remarks about production of stocking material of salmonid fish). Gosp.Ryb. 7(10):4-6.
- 1956 Możliwości intensyfikacji produkcji narybku łososiowego. (Possibilities of intense production of salmon parr). Gosp.Ryb. 8(2):20-22.
- 1960 Doświadczenia w żywieniu ryb łososiowatych w ZSRR. (Experiments on feeding of salmonid fish in USSR). Gosp.Ryb. 12(5):25-26.
- 1962 Mieszanki paszowe w żywieniu młodych łososi. (Food mash in young salmon feeding). Gosp.Ryb. 14(4):14-16.

Para, Z.

- 1956 Odłowy łososi na Bałtyku. (The catch of salmon in the Baltic). Ryb.Mors. 7:4.

Paschalski, J.

- 1949 Gospodarka łososiowa na Wiśle ze szczególnym uwzględnieniem górnej części dorzecza. (Salmon economy in Vistula river with particular reference to the upper part of the basin). Prz.Ryb. 16(5):193-200 (Pt.1).
- 1949 Gospodarka łososiowa na Wiśle ze szczególnym uwzględnieniem górnej części dorzecza. (Salmon economy in Vistula river with particular reference to the upper part of the basin). Prz.Ryb. 16(6):223-229 (Pt. 2).

Paschalski, J. (ctd)

- 1949 Organizowanie badań stosowanych dla celów gospodarki łososiowej. (Organization of practical experiments for salmon economy purposes). Prz.Ryb. 16(9):371-374. (Pt. 3).

Peczalska, A.

- 1951 Łosoś. (Salmon). Wydawnictwo Morskie, Gdańsk, 56 pp.

Pieczara, J.

- 1962 Zmierzch czy wielka przyszłość rybołówstwa łososiowego? (Declining or great future of the salmon fishery?). Gosp.Ryb. 14(2):24-26.

Piątek, M.

- 1961 Próba ustalenia wskaźników kondycji ryb rzutujących na wartość użytkową troci z jeziora Wdzydze. (An attempt to determine the commercial value of Wdzydze lake trout). (Summary in English and Russian). Rocz.Nauk Rol. D-93:735-750.

Pierozynski, J.

- 1929 Wyłęg ikry ryb łososiowatych w wilgotnej atmosferze. (The incubation of salmonid fish eggs in humid air). Prz.Ryb.2(1):41-43.

Pradzyński, B.

- 1956 Koncepcja flotyli łososiowej. (The conception of salmon flotilla). Tech.i Gosp. Mors. 6(6):167-169.
- 1956 Perspektywy rozwojowe rybołówstwa łososiowego. (Developmental expectations of salmon fishery). Ryb.Morsk. 19:4.

Rogalski, T.

- 1968 Srodki do polepszenia zdrowotności ryb łososiowatych. (Ways of improving the health of salmonid fish). Gosp.Ryb. 20(4):19.
- 1968 Bergeforsen - ośrodek produkcji ryb łososiowatych. (Bergeforsen - a centre for production of salmonid fish). Gosp.Ryb. 20(10):18-19 (Pt. 1).
- 1968 Bergeforsen - ośrodek produkcji ryb łososiowatych. Część 2. (Bergeforsen - a centre for production of salmonid fish, Pt.2). Gosp.Ryb. 20(11):14-15.

Romański, J.

- 1964 Polskie połowy przybrzeżne łodziowe na Bałtyku w latach 1959-1962. (Polish coastal boat catches in the Baltic Sea in 1959-1962). (Summary in English and Russian). MIR B-4:1-101.
- 1966 Rybołówstwo przybrzeżne Pomorza Zachodniego w latach 1959-1964. (Coastal fishery of West Pomerania in the years 1959-1964). Gosp.Ryb. 18(6):5-6.

Rozańska, Z.

- 1961 Pokarm narybku troci jeziorowej Salmo trutta m. lacustris L. i innych gatunków ryb w potoku Trzebiocha. (The food of lake trout fry, Salmo trutta m. lacustris L. and other fish species in the Trzebiocha stream). (Summary in English and Russian). Rocz.Nauk. Rol. D-93:387-419.

Sakowicz, S.

- 1936 Nowe przepisy o ochronie jesiotra, łososia i troci. (New conservation regulations on sturgeon, salmon and sea trout). Prz.Ryb. 9(10):391-395.
- 1955 Zarybienie młodzieżą troci i łososi. (The stocking with young of sea trout and salmon). Post.Nauk Rol. 2(5):71-82.
- 1960 The trout, Salmo trutta m. lacustris L., from lake Wdzydze. ICES CM1960/Doc.No.49:1-6.
- 1961 Warunki termiczne wody potoku Trzebiocha. (The thermal conditions in the Trzebiocha stream). (Summary in English and Russian). Roczn. Nauk Rol. D-93:307-330.
- 1961 Presja ryb drapieżnych na młode pokolenie troci Salmo trutta m. lacustris L. jeziora Wdzydze w potoku Trzebiocha. (The predatory pressure on young generations of Wdzydze lake trout Salmo trutta m. lacustris L. in the Trzebiocha stream). (Summary in English and Russian). Roczn. Nauk Rol. D-93:423-438.
- 1961 Rozród troci Salmo trutta m. lacustris L. z jeziora Wdzydze. (Propagation of trout Salmo trutta m. lacustris L. in Wdzydze Lake). (Summary in English and Russian). Roczn. Nauk Rol. D-93:501-547.
- 1961 Wędrowki troci Salmo trutta m. lacustris L. w jeziorze Wdzydze. (The migration of trout, Salmo trutta m. lacustris L., in the Wdzydze Lake). (Summary in English and Russian). Roczn. Nauk Rol. D-93:703-730.
- 1961 Troć z jeziora Wdzydze. (The trout from Lake Wdzydze). Wiad.Węd. 3:11-12.
- 1962 The course of spawning of trout, Salmo trutta m. lacustris L., from Wdzydze Lake in 1960. Acta Hydrobiol. 4(1):39-45.
- 1962 Troć z jeziora Wdzydze. (Trout from the Wdzydze Lake). Zesz.Nauk WSR Olsztyn 12(3):349-353.
- 1962 Troć jeziora Wdzydze. (Wdzydze Lake trout). Gosp.Ryb. 14(2):12-13.
- 1962 Die Seeforelle von Wdzydze See. (The trout from the Wdzydze Lake). Deutsch.Fisch.Zeit. 7(7):228-231.
- 1963 The course of spawning of trout, Salmo trutta m. lacustris L., from Wdzydze Lake in 1961. Acta Hydrobiol., 5(2/3):129-136.
- 1964 Wskazania praktyczne przy wsiedlaniu troci jeziorowej Salmo trutta m. lacustris L. do jezior i zbiornoków zaporowych. (Practical hints regarding the introduction of trout, Salmo trutta m. lacustris L., into lakes and dam reservoirs). IRS 9:1-18.

Sakowicz, S. and S. Gottwald

- 1958 Zapobieganie i zwalczanie pleśni u tarlaków troci i łososi przy pomocy kąpieli w roztworze zielni malachitowej. (Combating fungus on sea trout and salmon spawners by means of bathing in a solution of Malachite Green). (Summary in English and Russian). Roczn. Nauk Rol. B-73,2:281-293.
- 1960 Combating fungus on sea trout spawners by means of bathing in a Malachite-Green solution. Acta Hydrobiol. 2(1):41-48.

Sakowicz, S. and A. Stegman

- 1961 Wychów narybku troci Salmo trutta m. lacustris L. z jeziora Wdzydze w warunkach stawowych. (Rearing of Wdzydze lake trout, Salmo trutta m. lacustris L., under pond conditions). (Summary in English and Russian). Roczn.Nauk.Rol. D-93:751-768.

Sakowicz, S. and J. A. Szczerbowski

- 1964 The course of spawning of trout, Salmo trutta m. lacustris L., from Wdzydze Lake in 1962. Acta Hydrobiol. 6(2):129-137.
- 1965 The course of spawning of trout, Salmo trutta m. lacustris L., from Wdzydze Lake in 1963. Acta Hydrobiol. 7(1):99-107.
- 1967 The course of spawning of trout, Salmo trutta m. lacustris L., in Wdzydze Lake in 1964-1965. Acta Hydrobiol., 9(1/2):159-167.
- 1969 The course of spawning of sea trout, Salmo trutta m. lacustris L., from Wdzydze Lake in 1966-1967. Acta Hydrobiol. 11(2):233-243.

Sakowicz, S. and S. Zarnecki

- 1954 Przepławki komorowe. Biologiczno-rybackie zasady projektowania. (Pool passes. Biological foundations for planning). (Summary in English and Russian). Roczn. Nauk Rol. D-69:1-164.
- 1962 Pool passes - Biological aspects in their construction. CIINTiE OTS 60/21496:1-138.

Schechtel, E.

- 1926 Łosoś Salmo salar L. i troć Salmo trutta L. (Salmon, Salmo salar L., and sea trout, Salmo trutta L.). Roczn. Nauk Rol. i Leś, 14: 283-333.
- 1926 Dwa gatunki łososi w Polsce. (Two kinds of salmon in Poland). Rybak Polski 7(7/8):89-93.

Schoenett, R.

- 1956 Przyszłość ryby wędrowniej na terenie województwa bydgoskiego. (The future of migratory fish in the Bydgoszcz district). Gosp. Ryb. 8(10):7-8.

Schoenett, R. and Z. Gesicki

- 1958 Połów, transport i przetrzymywanie tarlaków łososi i troci w dolnej Wiśle na tle spostrzeżeń z dotychczasowych akcji. (Toward the proper methods of catching salmon and sea trout spawners in the lower Vistula, their transportation and holding). (Summary in English and Russian). Roczn. Nauk Rol. B-73, 2:270-279.

Siedlecki, M.

- 1928 Remarks relative to the question of the salmon and sea trout fishery in Poland. Rapp.p.-v.Réun.Cons.int.Explor.Mer, 48: 119-125.
- 1932 Remarks on the programme of work of the Salmon and Trout Committee. Rapp.p.-v.Réun.Cons.Int.Explor.Mer, 81:79-92.
- 1933 Obrady Komisji Rzecznawców dla spraw ryb łososiowatych. (Deliberations of the experts' Commission on Salmonid Fish Problems). (Summary in French). Ochr.Przyr. 13:163-164.
- 1935 Salmon and Trout Committee 1934. Rapp.p.-v.Réun. Cons.Int.Explor. Mer, 105:73-80.
- 1935 Sprawa ochrony łososa w Dunajcu wobec budowy zapory dolinowej w Roznowie. (The protection of the salmon in the river Dunajec and the construction of the dam in Roznów). (Summary in English). Ochr.Przyr. 15:284-289.

Siedlecki, M. (ctd)

- 1936 Fluctuations in the number of individuals belonging to different age groups in the catches of European salmon, Salmo salar L. Rapp.p.-v.Réun.Cons.int.Explor.Mer, 101(3):1-10.

Skrochowska, S.

- 1952 Badania nad wędrówką troci. (Investigations on sea trout migration). Gosp.Ryb. 4(3):11-12.
- 1953 Tymczasowe wyniki badań nad wędrówkami troci Salmo trutta L. i innych ryb łososiowatych wyhodowanych w stawach. (Preliminary results of investigations on migration of sea trout and other salmon fish reared in ponds). (Summary in English and Russian). Pol. Arch.Hydrobiol. 1(14):89-135.
- 1959 Migrations of sea trout, brown trout and their crosses tagged as smolts in the Vistula. ICES CM 1959/Doc.No.115:1-5.
- 1961 Sex ratio in sea trout, Salmo trutta L., and their crosses in their freshwater period of life. ICES CM 1961/Doc.No.63:1-7.
- 1964 Experiment with introduction of smolts of Pomeranian sea trout into the Raba river, upper Vistula, in 1960. ICES CM 1964/Doc. No.80:1-5.
- 1969 Migrations of the sea trout, Salmo trutta L., brown trout, Salmo trutta m. fario L., and their crosses. Part 1. Problem, methods and results of tagging. Pol.Arch.Hydrobiol. 16(2):125-140.
- 1969 Migrations of the sea trout, Salmo trutta L., brown trout, Salmo m. fario L., and their crosses. Part 2. Migrations in the river Raba. Pol.Arch.Hydrobiol. 16(2):141-148.
- 1969 Migrations of sea trout, Salmo trutta L., brown trout, Salmo trutta m. fario L., and their crosses. Part 3. Migrations to, in and from the sea. Pol.Arch.Hydrobiol. 16(2):149-180.
- 1969 Migrations of sea trout, Salmo trutta L; brown trout, Salmo trutta m. fario L., and their crosses. Part 4. General discussion of results. Pol.Arch.Hydrobiol. 16(2):181-192.

Spiczakow, T.

- 1936 Biologiczne podstawy budowy przepławek dla ryb na zaporach dolinowych. (Biological bases for construction of fish passes in dams). Prz.Ryb. 9(4):150-158. (Pt. 1).
- 1936 Biologiczne podstawy budowy przepławek dla ryb na zaporach dolinowych. (Biological bases for construction of fish passes in dams). Prz.Ryb. 9(5):187-198 (Pt. 2).
- 1936 Biologiczne podstawy budowy przepławek dla ryb na zaporach dolinowych. (Biological bases for construction of fish passes in dams). Prz.Ryb. 9(6):227-234 (Pt. 3).
- 1936 Biologiczne podstawy budowy przepławek dla ryb na zaporach dolinowych. (Biological bases for construction of fish passes in dams). Prz.Ryb. 9(7):267-273 (Pt.4).

Stankiewicz, A.

- 1949 Akcja łososiowa na Pomorzu Zachodnim. (Salmon campaign in West Pomerania). Prz.Ryb. 16(11):479-486.

Sych, R.

- 1967 Interpretacja łusek troci Salmo trutta L. z rzeki Wisły. (Interpretation of the scales of Vistula sea trout, Salmo trutta L.). (Summary in English and Russian). Acta Hydrobiol. 9(3/4):231-280.
- 1967 Zmienność wzrostu troci Salmo trutta L. rzeki Wisły, w nawiązaniu do wahań połowów. (Growth variation of sea trout, Salmo trutta L., from the Vistula river with reference to fluctuation in catches). (Summary in English and Russian). Roczn. Nauk Rol. H-90, 2:267-280.
- 1967 Ocena wiarygodności łuskowych oznaczeń wieku ryb na przykładzie troci, Salmo trutta L. (Confidence estimation of a fish age determination from scales as exemplified by sea trout, Salmo trutta L.). (Summary in English and Russian). Roczn. Nauk Rol. H-90, 2:281-303.
- 1967 Oznaczanie wieku troci Salmo trutta L. w okresie formowania się pierścieni rocznych. (Age determination of sea trout, Salmo trutta L., during the formation of annual rings). (Summary in English and Russian). Roczn. Nauk Rol. H-90, 2:305-325.
- 1967 Zależność promienia łuski i ciężaru ciała od długości troci Salmo trutta L. z rzeki Wisły. (Dependence of scale radius and body weight on length of sea trout, Salmo trutta L., from Vistula river). (Summary in English and Russian). Roczn. Nauk Rol. H-90, 2:327-339.
- 1967 Z badań Instytutu Rybactwa Śródlądowego nad wzrostem troci. (Research by the Inland Fisheries Institute on the growth of sea trout). Gosp.Ryb. 19(4):3-4.
- 1970 Some comparisons on the background of an eleven-year study on the growth of sea trout, Salmo trutta L. Acta Hydrobiol. 12(2/3): 225-249.
- 1970 Aktualne zagadnienia troci z Wisły w świetle modelu. (The timely problems of sea trout from the Vistula river in the light of a model). Gosp. Ryb. 22(6):3-6.
- 1972 A numerical model of the commercial exploitation of fish. ICES CM 1972/M:9:1-9.

Szatybelko, M.

- 1956 Pławnice z "macco" są łowniejsze. (Cotton macco-made drift nets are better for fishing). Rybak Morsk. 16:4.
- 1956 Duńska pławnica łososiowa. (The Danish salmon drift net). Rybak Morsk. 17:4.
- 1957 Studia nad czynnikami łowności uchwytujących narzędzi połowu łososia i troci. (Studies on the factors influencing the yield of captivating salmon and trout gear). MIR 9:565-595.

Szatybelko, M. and J. Zaucha

- 1958 Morskie narzędzia połowu łososia. (Sea fishing gear for salmon). Gosp.Ryb. 10(10/11):18-22 (Pt. 1).
- 1958 Morskie narzędzia połowu łososia. (Sea fishing gear for salmon). Gosp.Ryb. 10(12):21-23 (Pt. 2).

Szczerbowski, J. A.

- 1966 Relation between the body length of lake trout females, Salmo trutta m. lacustris L., and the diameter of its eggs. Zool.Pol. 16(3/4):195-201.

Szubińska-Kilarska, B.

- 1958 The adipose fin in salmonidae. Bull.Acad. Pol.Sc. 6(8):347-351.

Vorbrodt, K.

- 1957 Zmiany histologiczne w mięśniach szkieletowych zarodków troci Salmo trutta L. powstałe pod wpływem temperatury +30°C. (Histological changes in the muscles of sea trout embryos, Salmo trutta L., caused by a temperature of +30°C). (Summary in English and Russian). Folia Biol. 5(3):175-193.

Wajdowicz, Z.

- 1968 Próba wsiedlenia troci jezirowej wdzydzkiej Salmo trutta m. lacustris L. do zbiornika zaporowego w Przeczycach, część 1. Charakterystyka zbiornika i jego zlewni. (An attempt to acclimatize lake trout from the Wdzydze lake in the dam reservoir at Przeczyce. Part 1. Characteristics of the reservoir and its drainage area). (Summary in English). Acta Hydrobiol. 10(3):395-412.
- 1972 Uwagi o wsiedleniu troci jezirowej Salmo trutta m. lacustris L. do zbiornika zaporowego w Przeczycach. (Remarks on the stocking of the dam reservoir at Przeczyce with lake trout, Salmo trutta m. lacustris L.) (Summary in English). Acta Hydrobiol. 14(2):205-212.

Walczak, J.

- 1954 Zagadnienie łososiowe na Pomorzu Zachodnim. (The salmon problem in West Pomerania). Gosp.Ryb. 6(11):5-6.
- 1955 O wędrówkach łososi i troci. (Salmon and sea trout migrations). Wiad.Węd.10:7-8.

Waluga, J.

- 1970 Magazyn tarlaków troci w Swibnie. (A pool for sea trout spawners in Swibno). Wiad.Wed. 253/254:8.

Winnicki, A.

- 1967 The plasticity and the hardening of the rainbow trout egg-membranes. Bull. Acad.Pol.Sc. 15(12):779-783.
- 1967 The turgor of salmonid fish eggs during hatching. Bull.Acad.Pol.Sc. 15(12):785-787.
- 1967 Embryonic development and growth of Salmo trutta L. and Salmo gairdneri Rich. under conditions unfavourable to respiration. Zool.Pol. 17(1/2):45-58.
- 1968 Respiration of the embryos of Salmo trutta L. and Salmo gairdneri Rich. in media differing in gaseous diffusion rate. Pol.Arch. Hydrobiol. 15(1):23-38.
- 1970 Elasticity of egg shells of salmonid fishes. Zesz.Nauk WSR Szczecin, Acta Ichtiol. 1:21-27.

Winnicki, A. and R. Bartel

- 1967 The effect of limited water intake on the strength of egg coverings in the salmonid fishes. Zool.Pol. 17(1/2):59-72.
- 1968 Natural and artificial egg deformations in the salmonid fishes. Zool.Pol. 18(3):417-426.

Winnicki, A., R. Bartel and K. Goriczko

- 1968 Some data concerning the mechanisms restricting the volume of the perivitelline space in salmonid fishes. Zool.Pol. 18(1): 27-36.

Wiszniewski, J.

- 1947 Remarques relatives aux recherches récentes sur le saumon d'eaux douces. (Some remarks on the recent investigations on the freshwater salmon). Arch.Hydrobiol. i Ryb. 13:7-36.

Wojan, S.

- 1953 Narzędzia połowu łososia i troci. (The fishing gear for salmon and sea trout). Wydawnictwa Komunikacyjne, Warszawa, 47 pp.

Wojno, T.

- 1961 Wzrost troci jeziorowej, Salmo trutta m. lacustris L. z jeziora Wdzydze. (The growth of Wdzydze lake trout, Salmo trutta m. lacustris L.). (Summary in English and Russian). Roczn.Nauk.Rol. D-93:649-680.
- 1961 Odżywianie się troci Salmo trutta m. lacustris L. z jeziora Wdzydze. (The feeding of trout, Salmo trutta m. lacustris L., from Wdzydze lake). (Summary in English and Russian). Roczn. Nauk Rol. D-93:681-698.

Zachorowski, T.

- 1953 Mikroflora gnilna mięsa łososia Salmo salar. (The reduction in microflora of salmon meat). Biul.Inst.Med.Mors. 5:101-103.

Zaucha, J. and C. Kajewski

- 1958 Zur Technologie des Lachsfanges. (Methods applied for salmon catch). Fischereiforsch. 1(2):1-6.

Zawadzki, J.

- 1929 Kampanja łososiowa na Wilji w 1928 roku. (The salmon campaign in Wilia river in 1928). Prz.Ryb. 2(2):98-103.

Zarnecki, S.

- 1928 Z polityki rybackiej na Dunajcu. Ogólne uwagi o "łososiu". (Fishery politics on the Dunajec river. General remarks on 'salmon'). Prz. Ryb. 1(8):1-8.
- 1929 Kampania łososiowa w Nowym Targu w roku 1928. (The salmon campaign in Nowy Targ in 1928). Prz.Ryb. 2(1):23-30.
- 1929 Z życia łososia. (On the life of salmon). Prz.Ryb. 2(12): 717-736.
- 1933 Sprawa odżywiania się łososi idących na tarło. (Problem of feeding of salmon migrating for spawning). Roz.Biol.Wet.Hod. Rol. 11(1/2):1-26.
- 1933 Zarybianie rzek łososiem i troci z punktu widzenia ochrony tych ryb. (Stocking of rivers with salmon sea trout from the point of view of protection of these fish). Ochr.Przyr.12.

Zarnecki, S. (ctd)

- 1936 On the migration of young sea trout of the river Dunajec from the spawning places to the sea. Bull.Acad.Pol.Sc.B:499-519.
- 1937 Migracja młodych troci dunajcowych z tarlisk do morza. (Migration of young sea trout of the river Dunajec from spawning grounds to the sea). Prz. Ryb. 10(1):7-13 (Pt. 1).
- 1937 Migracja młodych troci dunajcowych z tarlisk do morza. (Migration of young sea trout of the river Dunajec from spawning grounds to the sea).Prz.Ryb.10(2):43-51 (Pt.2).
- 1937 Migracja młodych troci dunajcowych z tarlisk do morza. (Migration of young sea trout of the river Dunajec from spawning grounds to the sea).Prz.Ryb. 10(3):83-91 (Pt. 3).
- 1937 Sztuczne tarło troci dunajcowej w roku 1936. (Artificial spawning of Dunajec sea trout in 1936). Prz.Ryb. 10(9):363-366.
- 1950 Troć Salmo trutta z dorzecza Wisły z pierścieniem tarłowym. (Sea trout, Salmo trutta, from the Vistula Basin with spawning marks). Spr.Pol.Akad.Umiej. 60(9):616-618.
- 1950 Wstępowanie łososa i troci do Wisły. (Entry of salmon and sea trout into the Vistula). Gosp.Ryb. 2(11):1-4.
- 1952 Troć Zalewu Wiślanego. (Sea trout of the Vistula Firth). Gosp. Ryb. 4(1):2-4.
- 1952 Rasy sezonowe u ryb łososiowatych. (Seasonal races in salmonids). Gosp.Ryb. 4(8):2-4.
- 1952 Formy letnie łososi i troci w dorzeczu Wisły. (Summer forms of salmon and sea trout in the Vistula Basin). Gosp.Ryb.4(10):3-5.
- 1956 Summer and winter races of salmon and sea trout from the Vistula river. ICES CM 1956/Salmon and Trout Cttee, unnumbered, 2 pp.
- 1957 The amount of roe obtained by artificial fertilization from the winter form of sea trout, Salmo trutta, spawning in the affluents of the upper Vistula. ICES CM 1957/Doc.No.71:1-4.
- 1957 The devouring of own eggs by sea trout spawners during the spawning period. ICES CM 1957/Doc.No.72.
- 1957 The age and growth of seasonal populations of sea trout entering the Vistula river in the autumn 1951. ICES CM 1957/Doc.No.73:1-5.
- 1958 Ciężar ikry otrzymanej przy sztucznym tarle troci Salmo trutta z Dunajca. (Weight of roe collected in artificial spawning of sea trout, Salmo trutta from the Dunajec river). Biul.Zakładu Biol.Stawów PAN 7:21-25.
- 1958 Specific growth of Atlantic salmon originating in the Vistula. Analyses of the scales collected in 1950 and 1951. ICES CM 1951/Doc.No.142:1-3.
- 1958 The factors influencing the early forming of 'winter bands' on the scales of Atlantic salmon and sea trout. ICES CM 1958 Doc.No.143.
- 1959 Considerations relating to restocking with salmon and sea trout. Rapp.p.-v.Réun. Cons.int.Explor.Mer, 148:58-59.
- 1959 Recent changes in the spawning habits of sea trout in the upper Vistula. J.Cons.int.Explor.Mer 25:326-331.
- 1959 The last displacements of sea trout spawners in affluents of upper Vistula and supposed factors influencing them. ICES CM 1959/Doc.No.57:1-5.

Zarnecki, S. (ctd)

- 1959 The development of gonads during the stay in the river of the adult sea trout. ICES CM 1959/Doc.No.58:1-6.
- 1959 Czy zarybianie oraz jednostronne połowy wprowadzają zmiany genotypowe u ryb? (Does stocking and selected fishing introduce genotype alterations in the fish?). Kosmos A-8, 1:15-24.
- 1960 General conclusions on the scale-reading of salmon, sea trout and brown trout originating in the Vistula. ICES CM 1960/Doc. No.128:1-3.
- 1960 Some evolutionary aspects in salmon, Salmo salar, and sea trout, Salmo trutta. ICES CM 1960/Doc.No.130:1-3.
- 1960 Rozważania o zarybianiu łososiem i trocią. (Considerations on stocking with salmon and sea trout). Gosp.Ryb. 12(4):8-10.
- 1960 O dostęp łososia prawdziwego do jego tarlisk w górnej części dorzecza Wisły. (On the access of salmon, Salmo salar, to the spawning grounds in the upper part of the Vistula Basin). Gosp. Ryb. 12(5):8-11.
- 1960 Zagadnienie ciągu troci oraz zarybianie górnych dopływów Wisły w ostatnim 10-leciu. (The problem of sea trout migration and the stocking of affluents of the upper Vistula during the last decade). Wiad.Węd.6:1-2 (Pt. 1).
- 1960 Zagadnienie ciągu troci oraz zarybianie górnych dopływów Wisły w ostatnim 10-leciu. (The problem of sea trout migration and the stocking of affluents of the upper Vistula during the last decade). Wiad.Węd. 7:10 (Pt. 2).
- 1960 Zagadnienie ciągu troci oraz zarybianie górnych dopływów Wisły w ostatnim 10-leciu. (The problem of sea trout migration and the stocking of affluents of the upper Vistula during the last decade). Wiad.Węd. 9:9-10 (Pt. 3).
- 1960 Znaczenie doboru naturalnego w zarybianiu wód śródlądowych rybami łososiowatymi. (The importance of natural selection in the stocking of continental waters with salmonids). Kosmos A-9, 5:523-532.
- 1961 Short report on rearing of Swedish salmon from Indalsälven in Polish hatcheries. ICES CM 1961/Doc.No.34:1-2.
- 1961 Łosoś Salmo salar i troć Salmo trutta w aspekcie ewolucyjnym. (Salmon, Salmo salar, and sea trout, Salmo trutta, in the evolutionary aspect). Kosmos A, 5:489-494.
- 1962 The first tagged salmon, Salmo salar L., from the river Drawa grown in the sea. ICES CM 1962/Doc.No.72:1-2.
- 1963 Występowanie populacji sezonowych u łososia atlantyckiego Salmo salar L. oraz u troci Salmo trutta L. w rzece Wiśle. (Differentiation of Atlantic salmon, Salmo salar L., and of sea trout, Salmo trutta L., from the river Vistula into seasonal populations). (Summary in English). Acta Hydrobiol. 5(2/3):255-294.
- 1963 Times of entering into the Vistula river of summer and winter populations of sea trout and Atlantic salmon in the 1952 year cycle. ICES CM 1963/Doc.No.29:1-8.
- 1963 Some problems of racial differentiation in salmon and sea trout. ICES CM 1963/Salmon and Trout Cttee, unnumbered, 8 pp.
- 1963 Bergeforsens najbardziej zmechanizowany ośrodek zarybieniowy na świecie. (Bergeforsen, the most mechanized stocking centre in the world). Gosp.Ryb. 15(11):20-22.

Zarnecki, S. (ctd)

- 1963 Łosoś i troć. (Salmon and trout). Życie i Wiedza, 6:266-268.
- 1963 Próby otrzymywania szybko rosnących łososi z tarlaków zatrzymanych w wodzie słodkiej. (Attempt for obtaining rapidly growing salmon out of spawners detained in fresh water). Kosmos A-12,3:270-273.
- 1964 Czasy wstępowania do Wisły letnich i zimowych form łososia i troci w cyklu rocznym 1952. (Times of entering into the river Vistula of summer and winter populations of sea trout and Atlantic salmon in the 1952 year cycle). (Summary in English). Acta Hydrobiol. 6(3):255-267.
- 1964 First experiments with introduction of the Swedish salmon into the Vistula river in 1962 and 1963. ICES CM 1964/Doc.No.78:1-6.
- 1964 Experiment with the introduction of the smolts of the Pomeranian sea trout into the Dunajec river, upper Vistula, in 1961. ICES CM 1964/Doc.No.79:1-7.
- 1964 Migrations of sea trout from Pomeranian rivers. Result of tagging in 1960. J.Cons.int.Explor.Mer, 29:82-92.
- 1965 New experiments with the passage of fish through the turbines of hydroelectric power plants. ICES CM 1965/Doc.No.78:1-5.
- 1965 Zjawisko powrotu ryb łososiowatych do rzek macierzystych. (The return of salmonid fishes to the mother river). Kosmos A-14,3: 285-297.
- 1966 Introduction of Atlantic salmon, Salmo salar, from the river Indals into the Vistula Basin. Second Report. ICES CM 1966/L:8:1-14.
- 1968 The return of tagged sea trout to the Carpathian affluent of the Vistula. ICES CM 1968/M:7:1-4.

Zarnecki, S. and J. Duszynski

- 1961 Migrations of sea trout from Pomeranian rivers. Results of tagging in 1960. ICES CM 1961/Doc.No.53:1-5.

Zarnecki, S., J. Duszynski and J. Gordziejczyk

- 1962 A further communication concerning migration of sea trout from Pomeranian rivers. ICES CM 1962/Doc.No.73:1-11.

Zarnecki, S. and M. Piątek

- 1954 Odmienność metabolizmu u ras zimowych oraz letnich łososia i troci. (Differences in the metabolism of winter and summer races of salmon and sea trout). Folia Biol. 2(3/4):259-269.
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6.5 SWEDEN

Abbreviations of periodicals:

IFR	Sötvattenslaboratoriet, Drottningholm (förut: Undersöknings- och forsöksanstalten för sötvattensfisket). Meddelande.	Institute of Freshwater Research, Drottningholm, Report.
LFI	Laxforskningsinstitutet (förut: Vandringsfiskut- redningen). Meddelande.	Salmon Research Institute (former: Migratory Fish Committee). Report. (mimeo).
SFT	Svensk Fiskeri Tidskrift	Swedish Fisheries Journal
SFS	Svenskt Fiske - Sportsfiskaren	
SLI	Sötvattens Laboratoriets Information (mimeo).	

Ahlbäck, G.

- 1958 Tilväxten av laxungar, härstammande från stor resp. liten rom
(Growth of young salmon from large and small eggs). LFI 1958(1).
- 1960 Återfångster av lax uppfödd vid Hömyran. (Recaptures of salmon
reared at Hömyran, river Skellefte älv). SFT 69(8/9):116-117.

Alm, G.

- 1919 Mörrumsåns lax och laxöring, en faunistisk-biologisk studie
med jämförande undersökningar över faunan i Mörrumsån, Lagan
och Dalälven. (The salmon and sea trout of the river Mörrumsån.
Faunistic-biological studies with comparative investigations of
the fauna in the rivers Mörrumsån, Lagan and Dalälven). Meddel.
Kungl.Lantbruksstyr., 216:1-150. German summary.
- 1923 Virkesflottnings inverkan på fisket. (Influence of logging
operations on the fishery). Meddel.Kungl.Lantbruksstyr.
244:1-136.
- 1924 Laxen och laxfiskets växlingar i Mörrumsån och andre Östersjö-
älvar. (The salmon and the fluctuations of the salmon fishery
in Mörrumsån and other Baltic rivers). Meddel. Kungl. Lant-
bruksstyr. 252:1-136. German summary.
- 1924 Antrag an den Internationalen Ausschuss der IVL betr.inter-
nationale Zusammenarbeit in der Lachsfrage. (Proposal to
the International Committee of the International Association of
Limnology concerning international cooperation for the salmon).
Verhandl.Internat.Verein. Limnologie:444-448.
- 1925 Laxmärkningars betydelse för kännedom om laxens biologi.
(Importance of tagging for the knowledge of salmon biology).
SFT 34:7-15.
- 1926 Märkning av laxungar i Sverige. (Tagging of young salmon in
Sweden). SFT 35(1):19.
- 1927 Fisk och turbiner. (Fish and turbines). SFT 36(10):129-136.

Alm, G. (ctd)

- 1927 Fiskeriintresset och vattenkraften. (Fisheries and hydro-electric power). Sv. Vattenkraftfören. Publ. 195:63-93.
- 1928 Der Lachs (Salmo salar L.) und die Lachszucht in verschiedenen Ländern. (The salmon and the rearing of salmon in different countries). Arch.Hydrobiol. 19:247-294.
- 1928 The salmon in the Baltic area of Sweden. Rapp.p.-v.Réun.Cons.int. Explor.Mer, 48:81-99.
- 1928 Sammanfattning av Lantbruksstyrelsens utredning om laxfiskets upphjälpande. (Report of the Board of Agriculture on improving of the salmon fisheries). SFT 37(2):12-14.
- 1931 Resultaten av laxmärkningarna i Sverige åren 1924-1926. (Results of the Swedish salmon tagging 1924-1926). NSFT 40(1):1-6.
- 1931 Laxens egendomliga vandringar. (The remarkable migrations of the salmon). NSFT 40(7):61-62.
- 1931 Minimimått å lax vid Skånekusten. (Minimum size for salmon on the Scanian coast). SFT 40(23):221-225.
- 1934 Bemerkungen zu der Lachszuchtfrage. (Remarks on the rearing of salmon). Rapp. p.-v.Réun.Cons.int.Explor.Mer 91:17-18.
- 1934 Salmon in the Baltic precincts. Ibid. 92:1-63.
- 1936 Konnsjöns laxyngeldamm. (The Konnsjön salmon rearing pond). SFT 45(8):204-206.
- 1937 Märkta laxar. (Tagged salmon). SFT 46(5):122-123.
- 1937 Laxynglets tillväxt i träg och dammar. (Growth of salmon parr in troughs and ponds). IFR 14:1-39. English summary.
- 1938 Återfångade märkta laxar. (Recaptures of tagged salmon). SFT 47(12):321-323.
- 1939 Undersökningar över tillväxt m.m. hos olika laxöringsformer. (Investigations of growth in different forms of brown trout). IFR 16:1-19. English summary.
- 1941 Återfångade märkta laxar under åren 1939-1940. (Recaptures of tagged salmon 1939-1940). SFT 50(1):4-7.
- 1943 Laxmärkningarna och resultaten därav under de senaste åren. (The salmon taggings and their results in the last years). SFT 52(2):25-28.
- 1943 Befruktningsförsök med laxungar samt laxens biologi före utvandringen. (Fertilization experiments with salmon parr and the biology of salmon before the seaward migration). IFR 22:1-40. English summary.
- 1946 Laxens biologi och laxfiskets avkastning. (Salmon biology and yield of the salmon fishery). LFI 1946(1).
- 1949 Influence of heredity and environment on various forms of trout. IFR 29:29-34.
- 1949 Short report of the salmon fisheries in the Baltic precinct in the last years. LFI 1949(3).
- 1950 The sea trout population in the Åva stream. IFR 31:26-56.
- 1950 Laxfiskarna och 1940-talets goda laxår. (The salmon fishermen and the good salmon years of the 40s). Ostkusten 1:6-7, and LFI 1950(1).

Alm, G. (ctd)

- 1951 Laxfångsterna i Östersjön för närvarande ingen fare för beståndet. (Baltic salmon catches no menace to the stock at present). Ostkusten 1:27-31 and LFI 1951(2).
- 1951 Short report of the salmon fisheries in the Baltic precincts in the season 1946/47 - 1950/51. LFI 1951(1).
- 1953 Salmon - Swedish observations. Annls biol. Copenh. 9:161-162.
- 1954 Laxfisket och laxbeståndet i Östersjöområdet under senare år. (The salmon fishery and salmon stock in the Baltic area in later years). Vattenkraftfören. Publ. 441:41 and LFI 1953(12).
- 1954 Laxfisket och smålaxfångsten i Östersjön. (The salmon fishery and the catch of small salmon in the Baltic). Ostkusten 26:18-21 and LFI 1954(13).
- 1955 Laxfisket i Östersjön under de senaste åren. (The salmon fishery in the Baltic in later years). Ostkusten 10:3-5, and LFI 1955(19).
- 1955 Artificial hybridization between different species of the salmon family. IFR 36:13-56 and LFI 1955(21).
- 1956 Laxfisket i Östersjöområdet under senaste tid. (The salmon fishery in the Baltic area in later times). Ostkusten 9:3-7 and LFI 1956(9).
- 1957 Laxfångstens månadsfördelning inom olika delar av Östersjöområdet. (Monthly salmon catches in different parts of the Baltic area). Ostkusten 4:1-4 and LFI 1957(4).
- 1957 Laxfisket i Östersjöområdet under år 1956. (The salmon fishery in the Baltic area in the year 1956). Ostkusten 10:13-18 and LFI 1957(10).
- 1958 Seasonal fluctuations in the catches of salmon in the Baltic. J.Cons.int.Explor.Mer, 23(3):399-433.
- 1958 Laxfisket i Östersjöområdet under år 1957. (The salmon fishery in the Baltic area in the year 1957). Ostkusten 10:11-16 and LFI 1958(5).
- 1959 Laxfisket i Östersjöområdet under 1958. (The salmon fishery in the Baltic area in the year 1958). Ostkusten 10:5-10 and LFI 1959(8).
- 1960 Laxfisket i Östersjöområdet under år 1959. (The salmon fishery in the Baltic area in the year 1959). Ostkusten 9:17-20 and LFI 1960(7).
- 1961 Laxfisket i Östersjöområdet under 1960 med återblick på 1950-talet. (The salmon fishery in the Baltic area in the year 1960 with a retrospect on the 50ies). Ostkusten 11:15-21 and LFI 1961 (8).
- 1961 Kan fiske- och vattenkraftintressena förenas? (Can fishery and hydroelectric power interest be in accord?). Fiskeritidskrift för Finland (2):7-14 and LFI 1961(7).

Alm, G. et al.

- 1951 Betänkande ang. åtgärder för åstadkommande av önskvärt samarbete mellan fiske- och kraftintressena samt för bevarande av de svenska laxbestånden m.m. (Report on measures to attain desirable cooperation between fishery and power interests and to conserve the Swedish salmon stocks). Vattenkraftfören. Publ. 423:190-308.

Andersson, Arvid

- 1947 Laxfiske vid Gotland. (Salmon fishery off Gotland). SFT 56(6): 113-117.

Andersson, N. G.

- 1950 Iakttagelser vid yngelutsättning i mindre bäckar. (Release of young salmon in small brooks). LFI 1950(2).
- 1952 Iakttagelser vid laxyngelutsättning. (Observations on planting of young salmon). SFT 61(1):7-9.

Andrén

- 1955 Försök över kläckning av laxrom i uppvärmt vatten. (Incubation of salmon eggs in heated water). LFI 1955(4).

Anonymous

- (Since 1914) Sveriges officiella statistik. Fiske. (Official statistics of Sweden. Fisheries).
- 1940 Massdöd bland tumlarna i södra Östersjön. (Mass-kill among porpoises in the southern Baltic). SFT 49:207-208.
- 1954 Var 4:e lax krokskadad i Haparanda. (Every fourth salmon damaged by hooks in Haparanda). SFT 63(8/9):132.

Arwidsson, I.

- 1912 Till kännedom om Torne älvs lax. (On the salmon of the river Torne älv). SFT 21(4):97-101.
- 1914 Anteckningar om ett s.k. hoppfiske för laxöring. (Notes on the so-called 'leap' fishery for sea trout). SFT 23(5):131-136.
- 1914 Om ljustring av lax. (On spear fishing for salmon). SFT 23(4): 97-105.

Berg, S.

- 1954 Förhållandet mellan laxfångsterna i havet och i älvarna. (Relationship between the salmon catches in the sea and in the rivers). SFT 63(3):38-40.
- 1957 Laxperioderna i Norrlandsälvarna. (The salmon periods in the rivers of northern Sweden). SFT 66(1):6-7.
- 1958 Förhållandet mellan kust- och havsfångst av lax. (Relationship between coast and sea catches of salmon). SFT 67:37-38, 145.
- 1959 Om laxfisket i äldre tider. (On the salmon fishery in old days). SFT 68(3):28-29.
- 1970 Laxarnas vikt vid Edefors laxfiske i Lule älv åren 1942-1958. (Weight of salmon fished at Edefors in Lule river, 1942-58). LFI (2).

Bergström, Eva

- 1967 Propoxate as an anaesthetic for salmon (Salmo salar L.). LFI 1967(7).
- 1967 Diet experiments on young salmon. ICES CM 1967/M:15.
- 1969 Effect of different dietary fats on Atlantic salmon (Salmo salar L.). EIFAC/T9.

Bergström, Eva (ctd)

- 1971 Influence of deionized water on blood glucose and plasma sodium ion concentration in young salmon. Arch.Int. de Physiol. et de Biochemie 79:785-792 and LFI (2).

Björnström, V.

- 1954 Giv amnesti åt de dömda laxarna. (A plea for amnesty for doomed salmon). SFT 63(2):30-31.

Boström, Y. and K. J. Lappea

- 1956 Om laxutspisning och laxljustring förr i tiden. (On salmon as food and salmon spearing in older days). SFT 65(5):83-85.

Breivik, H.

- 1960 Mera laxöringsmärkningar i Røjån. (Additional taggings of sea trout in Røjån). SFT 69(6/7):93.

Bränin, B. and C. Paulsson

- 1971 Långtidsförsök med tungmetaller på de första utvecklingsstadierna hos lax. (Effect of heavy metals on salmon fry). LFI (2).

Carlin, B.

- 1945 Laxtransporter vid Ångermanälven. (Trucking salmon at river Ångermanälven). SFT 54(12):272-274.
- 1948 Översikt över laxtransporter vid Ångermanälven 1945-1948. (Survey of the salmon trucking operations in the river Ångermanälven in 1945-48). LFI(2).
- 1949 Samband mellan längd och vikt hos laxungar. (Relationship between length and weight in salmon parr). LFI (5).
- 1949 Försök med märkning av uppvandrande lax (med bilaga av S.E. Berg). (Tagging experiments on ascending salmon). LFI 1949(6).
- 1950 Resultat av uppfödning av lax och laxöring under år 1949. (Results of feeding of salmon and sea trout in 1949). LFI 1950(3).
- 1950 Redogörelse över försök med intensiv uppfödning av ungar av laxartade fiskar under år 1949. (On experiments with intensive feeding of salmonid fishes in 1949). LFI 1950(4).
- 1950 Märkning av utvandringsfärdiga laxungar. (Tagging of smolt-sized salmon parr). LFI (6).
- 1950 Förteckning över laxförande delar av svenska vattendrag. (List of Swedish salmon rivers). Sv. Vattenkraftföreningen Publ. 423:255-269 and LFI 1950 (8).
- 1951 Sammanfattning av från svensk sida vid vandringsfiskutredningens exkursion till Finland den 7-10 Juli uttalade åsikter rörande kompensation av skador i laxälvar. (Summary of Swedish statement on compensation for damage to salmon rivers at the Migratory Fish Committee's excursion to Finland, 7-10 July). LFI 1951(4).
- 1951 Undersökning över laxens rommängd. (Investigations into the fertility of the salmon). LFI (6).
- 1951 Märkning av utvandringsfärdiga laxungar 1951. (Tagging of smolt-sized salmon parr 1951). LFI (7).

Carlin, B. (cta)

- 1951 Redogörelse för försök belysande laxungars förmåga at passera genom turbiner. (Report on experiments on the ability of salmon parr to pass turbines). LFI (9).
- 1951 Kläckningsförsök i Norrfors. (Hatching experiments at Norrfors). LFI 1951 (11).
- 1952 Redogörelse för försök med uppfödning av tvåsomrig lax vid Forsmo under år 1951. (Report on experimental rearing of two-summer salmon at Forsmo during 1951). LFI 1952(4).
- 1952 Overvintring av tvåsomriga laxungar vid Indal 1951-52. (Overwintering of two-summer salmon at Indal 1951-52). LFI 1952(11).
- 1952 Försök med övervintring av ensomriga laxungar vid Hjäлта. (Experimental overwintering of one-summer salmon parr at Hjäлта). LFI 1952 (12).
- 1953 Redogörelse över försök med märkning av laxungar. (Report on experimental tagging of salmon parr). LFI (1).
- 1953 Märkning av lax på Norrbottenskusten. (Salmon tagging on the coast of Norrbotten). LFI (2).
- 1953 Redogörelse över försök med uppfödning av laxungar till 2-somriga vid Hölle år 1952. (Report on experimental rearing of salmon to two-summer fishes at Hölle 1952). LFI 1953(3).
- 1953 Märkning av utvandringsfärdiga laxungar. (Tagging of smoltsized salmon parr). SFT 62(3):57-59 and LFI 1953(9).
- 1953 Laxen och utbyggandet av våra älvar. (The salmon and our hydroelectric projects). LFI (11).
- 1953 Redogörelse över övervintring av laxungar i Hölle vintern 1952-53. (Report on overwintering of salmon parr at Hölle during the winter 1952-53). LFI 1953(14).
- 1954 Märkning av utvandringsfärdiga laxungar. (Tagging of smoltsized salmon parr). LFI (9).
- 1955 Försök med märkta laxungars passage genom turbiner. (Experiments on the passage through turbines of tagged salmon parr). LFI (1).
- 1955 Försök med jämförelse mellan yttre och inre märken. (Comparative experiments on external and internal tags). LFI (2).
- 1955 Märkning av odlad lax, större än normal utvandringsstorlek. (Tagging of reared salmon, larger than ordinary smolt size). LFI (9).
- 1955 Försök med märkning av odlade laxungar. (Experimental tagging of reared salmon parr). LFI (15).
- 1956 Försök med kläckning och uppfödning av laxungar i varmvatten. (Experimental hatching and rearing of salmon fry in heated waters). LFI 1956(3).
- 1957 Iakttagelser över tillväxten hos märkta laxungar vid tråguppfödning. (Observations on growth in tagged, trough-reared salmon parr). LFI (8).
- 1958 Preliminär redogörelse för vandringsfiskutredningens märkningar av odlade laxungar. (Preliminary report on the tagging of reared salmon parr by the Migratory Fish Committee). LFI (2).
- 1959 Results of salmon smolt tagging in the Baltic area. Rapp.p.-v. Réunion. Cons.int.Explor.Mer, 147:89-96 and LFI 1959(7).
- 1959 Salmon conservation in the Baltic. Rapp.p.-v. Réunion. Cons.int.Explor. Mer 148:60-62 and LFI 1959 (10).

Carlin, B. (ctd)

- 1960 Översikt över återfangst av lax, märkt som utvandringsfärdiga ungar. (Survey of recaptures of salmon, tagged as smoltsized parr). LFI (2).
- 1960 Laxodlingens lönsamhet ur svensk synpunkt ifrågasättes. (The economy of salmon rearing is questioned from a Swedish point of view). SFT 69(10):137-138.
- 1960 A Swedish view of the value of stocking rivers with salmon. The Salmon and Trout Ass. London. Conf.:1-6 (see also Salmon and Trout Magazine, 16(1):20-21 (1961)).
- 1961 Redogörelse för försök med märkning och utsättning av laxungar i Östersjöområdet. (Report on experimental tagging and planting of salmon parr in the Baltic area). SFT 70(5):69-71.
- 1962 Synpunkter på frågan om Östersjöns laxbestånd i belysning av de svenska märkningsförsöken. (On the Baltic salmon population in the light of the Swedish tagging experiments). LFI (5).
- 1963 Laxforskning med hålkort. (Salmon research using punched cards). LFI 1963(3).
- 1963 Laxforskningsinstitutet och dess hittillsvarande verksamhet. Laxforskningsinstitutets laboratorium vid Alvkarleö. (The salmon Research Institute and salmon conservation in Sweden. The Salmon Research Laboratory at Alvkarleö). Sv. Vattenkraftfören. Publ. 502:221-259, English summary, and LFI Medd. 7-8 1963.
- 1964 Diagram visande resultatet av märkningsförsöken. (Diagram showing the results of tagging experiments). LFI 1964(1) bilaga 5 (Annex 5).
- 1964 Massnahmen zur Erhaltung des Lachsbestandes in der Ostsee. (Measures for preserving the salmon stock in the Baltic). LFI 1964 (9).
- 1965 Avelsurval vid laxodling. (Selective breeding in salmon culture). LFI 1965 (1) bilaga 5 (Annex 5).
- 1965 Redogörelse för laxmärkningar. (Report on salmon tagging). LFI 1965 (1) bilaga 6 (Annex 6).
- 1965 Märkning av odlade öringungar i utvandringsfärdig storlek. (Tagging of artificially reared trout smolts). LFI 1965(1) bilaga 7 (Annex 7).
- 1965 Studier av laxfjäll I. Laxfjäll av känd ålder från en smolt-utsättning 1954. (Studies on salmon scales I. Salmon scales of known age from a planting of smolts in 1954). LFI 1965(2).
- 1965 Östersjöfax fångad vid Grönland. (Baltic salmon caught at Greenland). SFT 74(7/8):113-114.
- 1966 Redogörelse för laxmärkningar. (Report on salmon taggings). LFI (1) bilaga 5 (Annex 5).
- 1966 Märkning av odlade öringungar. (Tagging of artificially reared trout). LFI 1966 (1) bilaga 6 (Annex 6).
- 1966 Databehandling av märkningsförsök. (Data processing from tagging experiments). LFI 1966(1) bilaga 7 (Annex 7).
- 1966 Salmon rearing in Sweden. LFI 1966(5).
- 1967 Östersjöns laxbestånd och fisket. (The Baltic salmon stock and fisheries). Ostkusten 1967(3):34-39. (Föredrag vid Sv. Ostkustfiskarnas Centralförbunds kongress 1967) (Paper read at the congress in 1967 of the 'Ostkustfiskarnas Centralförbund').

Carlin, B. (ctd)

- 1967 Laxens vandringar i Östersjön. (Salmon migrations in the Baltic). SFS 1967 (11:spec.sektion 3):3-5.
- 1969 Salmon tagging experiments. LFI (3).
- 1969 Salmon conservation in Sweden. LFI (2).
- 1969 The migration of salmon. LFI (4).
- 1971 Data processing in Swedish salmon tagging experiments. LFI (3).

Carlin, B. and N. Johansson

- 1971 Undersökningar över rommängden hos lax i Ljusnan 1950 och 1970 - en jämförelse. (Investigations into the fertility of salmon). LFI (8).

Carlin, B. and K.-B. Johansson

- 1957 Blanklaxmärkning på Norrbottenkusten. (Tagging of salmon on the coast of Norrbotten). SFT 66(6/7):113-115, and LFI 1957(5).

Carlin, B. and H.-E. Lundin

- 1967 The size and position of the salmon caught in drift nets in the Baltic. LFI 1967 (14).

Carlin, B. and Y. Ottosson

- 1967 Laxungarnas tillväxt under andra sommaren. (The growth of salmon during the second summer of feeding). LFI (16).

Carlsson, G.

- 1957 Iakttagelser vid laxlek i försöksakvariet i Hölle 1956. (Observations on the spawning of salmon in the stream tank at Hölle 1956). SFT 66(6/7):115-117 and LFI 1957 (3).

Cederström, C.

- 1897 Funderingar om laxförhållanden. (Thoughts on salmon problems). SFT 6(4):15-17.
- 1898 Huru bör laxens fria gång til lekplatserna betryggas?(inl.av diskussion). (How should the free access of salmon to its spawning places be ensured?). SFT 7(1):40-42 (disk.42-48).

Ennbom, N.

- 1953 Ett försök att återuppbygga öringbeståndet i Nybroån. (An attempt to rebuild the trout stock in the Nybroå). SFT 62(4):71-73.
- 1966 Lax och laxöring i Nybroån.(Salmon and sea trout in the Nybroån). SFT 75(11/12):180-181.

Eklund, G.

- 1963 Sammanställning över foderkostnader vid Bergeforsens laxodling åren 1959-1962. (Summary of feeding costs at the Bergeforsen salmon rearing plant 1959-62). LFI 1963(2).
- 1965 Stor smolt - litet antal grilse. (Big smolt - few grilse). SFT 74(3/4):40-43.
- 1966 Sammanställning över foderkostnader vid Bergeforsens laxodling. (Summary of feeding costs at the Bergeforsen rearing plant). SFT 75(1/2):16-17 and LFI Medd. 14/1965.

Eklund, G. (ctd)

- 1966 Har vi råd att ej utnyttja våra laxodlingars kapacitet? (Can we afford not to use the capacity of our salmon rearing plants?). SFT 75(3/4):56-57 (from: Ostkusten 1966 (2):18-19).

Enequist, P.

- 1944 Om olika öringformer samt om laxens och öringens vandringar. (On different forms of trout and on the migrations of salmon and sea trout). SFT 53(12):205-209.
- 1945 Laxöringformerna än en gång. (Once more about the forms of sea trout). SFT 54(2):28-30.
- 1946 Kungs- eller chinooklaxen förekommer vid övre Norrlandskusten? (King- or Chinook salmon off upper Norrland?). SFT 55(3):65

Enros, B.

- 1939 Forsöksfiske efter lax vid Åland. (Experimental fishery for salmon off Åland). SFT 48(11):306-309.

Fabricius, E.

- 1958 Visual stimuli releasing nest-digging movements in spawning female salmonids. XVth int. Congr. Zool. Sect., 9(2):3.

Furuskog, V.

- 1946 Fiskvägsfrågan. (The question of fish ways). LFT 1946(2).
- 1946 Edefors laxfisken. (Salmon fishing at Edefors). SFT 55(4):82-88.

Fürst, M.

- 1963 Återfångst och lönsamhet vid en kompensationsutsättning av öring. (Recaptures and economy by compensation planting of trout). SFT 72(4):60-61.

Gisler, N.

- 1751 and 1752 Rön om laxens natur och fiskande i de norrländska älfvarna. (Experience of the nature of and fishing for salmon in the rivers of northern Sweden). Kungl. Sv. Vet. Akad. Handl. 12; 13.

Granlund, R.

- 1959 Kring det urgamla laxfisket i Edefors. (On the ancient salmon fishery in Edefors). SFT 68(6/7):82-86.

Grundström, J. A.

- 1937 Utlekt lax stannar och frodas i sötvatten. (Spent salmon remains and thrives in fresh water). SFT 46(10):253-255.
- 1946 En originell laxtrappa i Byske älv. (A peculiar fish way in Byske river). SFT 55(11):233-234.

Hammarlund, C. G.

- 1961 Havsöringen i Nybroån på Skånes sudkust. (The sea trout in the Nybro å on the south coast of Scania). SFT 70(2):28-29.

Hammarlund, C. G. (ctd)

- 1964 Sydkustens öringar i riskzonen? (Are the sea trout of the south coast threatened?). SFS 1964(3):12-13.

Hammarström, R.

- 1935 Myt om att laxen i våra ostkustälvar ej tager fluga. (The myth that our east coast river salmon do not take the fly). SFT 44(10): 273-278.

Hedström, S.

- 1959 Något om laxfisket i Gäddvik. (On the salmon fishery in Gäddvik, river Lule älv). SFT 68(12):168-175.

Hessle, C.

- 1923 Några iakttagelser rörande blanklaxen vid Gotland. (Some observations on the salmon off the coast of Gotland). SFT 32(2).
- 1929 Kan laxfiskets utfall i Östersjön förutsägas? (Is a forecast of the salmon fishery in the Baltic possible?). SFT 38(12):111-112.
- 1935 Gotlands havslaxöring. (The sea trout of Gotland). IFR 7:1-12. (English summary).

Hoek, P. and F. Trybom

- 1907 Entwurf einer Beantwortung der von den Regierungen Dänemarks, Finnlands, Russlands und Schwedens gestellten, sich auf die Lachsfischerei in der Ostsee beziehenden Fragen. (Draft of an answer to the questions of the Governments of Denmark, Finland, Russia and Sweden, referring to the salmon fishery in the Baltic). Rapp.p.-v. Réun.Cons.int.Explor.Mer, 7:152-183.

Hult, J.

- 1942 En egendomlig lax. (A peculiar salmon). SFT 51(2):36-37.
- 1943 Bottengarnfisket och laxstammen. (Bottom net fishery and the salmon stock). SFT 52(9):157-161.
- 1946 Naturlig og artificiell fortplantning hos fiskarna, speciellt laxen. (Natural and artificial propagation of fishes, particularly salmon). LFI 1946(3).
- 1947 Kraftverksbyggnaderna och laxfisket vid kusten. (Hydro-electric power plant construction and the coast salmon fishery). LFI 1947(12).
- 1947 Några resultat av märkning av Luleälvs lax sommaren 1946. (Some results of tagging of salmon in the river Lule in the summer 1946). SFT 56(1):5-8, and LFI 1947(11).
- 1947 Något om laxens yngelfiender. (On salmon fry predators). SFT 56(2):29-37 and LFI 1947(10).
- 1947 När kan laxungarnas kön bestämmas? (When can salmon parr be sexed?). SFT 56(9):165 and LFI 1974 (4).
- 1947 Försök med laxlek i Bråån. (Experiments on salmon spawning in the brook of Bråån). LFI (7).
- 1948 Kraftindustrin och vandringsfiskens framtid i Sverige. (Hydro-electric power industry and the future of migratory fish in Sweden). Sveriges Natur 39:14-21.

Hult, J. (ctd)

- 1952 Laxfisket och kraftindustrins inverkan på detta. (The salmon fishery and the effects of the hydro-electric power industry). SFT 61(8-9):123-129.
- 1956 Vattenkraftexploateringen och fisket. (Hydro-electric power exploitation and the fishery). Sveriges Natur, Årsbok 46:9-22.
- 1972 Laxfisket i Östersjön. (The Baltic salmon fishery). LFI (5).

Hult, J. and A. Johnels

- 1949 Predators on salmon fry in the river Mörrumså in 1948. IFR 29: 45-48 and LFI 1948(5).
- 1950 Undersökning ang. laxens yngelfiender i Mörrumsån våren 1949. (Investigations on predators of salmon parr in the river Mörrumså in the spring of 1949). LFI 1950 (11).

Jensen, S., N. Johansson and M. Olsson

- 1970 PCBs - Indications of effects on salmon. LFI (7).

Johansson, B.

- 1956 Fiskeförsök i Indalsälvens mynning 1954 och 1955. (Fishing experiments in the mouth of the river Indalsälven in 1954 and 1955). LFI (7).

Johansson, G.

- 1949 Laxfisket i Mörrumsån år 1948. (Salmon fishery in Mörrumsån in 1948). SFT 58(6/7):98.

Johansson, K. B.

- 1961 Laxfiske och fiskearrenden inom svenska Nedertorneå skärgård. (Salmon fishery and leasehold fishery on the Swedish coast of Nedertorneå). SFT 70(1)2-4.

Johansson, N.

- 1965 Histologiska studier av lever från en-somrig till två-årig lax utfodrad med olika foder. (Histological studies of liver from one-summer to two-years old salmon, on different diets). LFI 1965(9).
- 1966 Kringsjuka orsakad av Myxosoma cerebralis. (Whirling disease caused by Myxosoma cerebralis in Sweden). LFI (9).
- 1968 Observations on a type of gill disease in Atlantic salmon (Salmo salar L.). Bull.Off.int.Epiz. 69: 1385-1389.
- 1970 Bakteriologisk undersökning av laxungar med stjärtfenröta. (Some bacteriological observations on tail rot in young salmon). LFI (3).
- 1972 Furunculosis in Swedish fish farms 1951-1971. FAO-EIFAC/OIE Symp.1972.

Johansson, N. and J. Järvi

- 1970 Pasteurellosis in young salmon. LFI (8).

Johnels, A.

- 1947 Befruktningsprocent och dödlighet i en lekgrop av havslaxöring.
(Fertilization and mortality in a sea trout redd). SFT 56(11):211-214.
- 1956 Elfiskeundersökningar i Mörrumsån 16-23 augusti 1956. (Electro-fishing in the river Mörrumsån 16-23 August 1956). SFT 65(10):140-142.

Kalén, S.

- 1948 Redogörelse för vid Porjus kraftverk år 1948 företaget försök med uppvärmning av vatten för kläckning av laxrom och uppfödning av laxyngel.
(Report on experiments at Porjus power station 1948 with heating of water for hatching of salmon eggs and rearing of salmon fry). LFI 1948(6).

Kalleberg, H.

- 1954 Redogörelse för undersökningar rörande smolttransformationen hos lax utförda vid Zoofysiologiska Institutionen i Uppsala under år 1954.
(Report on investigations on salmon smoltification, made at the Zoophysiological Institute in Uppsala during 1954). LFI 1954(14).
- 1958 Observations in a stream tank of territoriality and competition in juvenile salmon and trout. Inst.Freshw.Res. 39:55-98 and LFI 1958(4).

Karlström, Ö.

- 1966 Redogörelse över elfisken efter laxungar i Rickleån 1963 och 1964.
(Report on electro-fishing for salmon parr in the Rickleå, 1963 and 1964). LFI 1966(6).

Koch, H. J. and Eva Bergström

- 1969 Influence of the type of food on the haemoglobin pattern of young salmon. LFI (9).

Koch, H. J., Eva Bergström and J. C. Evans

- 1964 The multiple haemoglobins of Salmo salar L. LFI 1964(6).
- 1965 The microelectrophoretic separation on starch gel of the haemoglobins of Salmo salar L. FLI 1965(6).
- 1966 A shift in the proportion of the haemoglobin components of the Atlantic salmon. LFI 1966(8).
- 1966 and 1967 A size-correlated shift in the proportion of the haemoglobin components of the Atlantic salmon (Salmo salar L.) and of the sea trout (Salmo trutta L.) LFI 1967(5) and Vlaamse Acad.Kl.Wet. 28(11):1-20.
- 1968 Further studies on the multiple components of the haemoglobins (Salmo salar L.). LFI (2).
- 1969 The separation of the haemoglobins of Salmo salar L. by means of isoelectric focusing. LFI (5).

Laevastu, T.

- 1953 Om storlekssorteringens inverkan på könskvoten hos laxungar.
(Influence of grading on sex ratio in salmon parr). SFT 62(11):167-168 and LFI 1953(26).
- 1953 Gasblåsesjuka i fiskodlingarna. (Gas-bubble-disease in hatcheries). SFT 62(8/9):127-129 and LFI 1953(13).

Laevastu, T. (ctd)

- 1953 Omräkningskurvor för laxrom. (Calculation curves for salmon roe). LFI 1953 (24).
- 1954 Under vilken tid på dygnet utvandrar smolt? (Which time of the day do smolt migrate?). SFT 63(1):16 and LFI 1953(23).

Lappea, Uno

- 1966 Något om laxöringens och laxens vanor etc. (On the habits etc. of sea trout and salmon). SFT 75 (5/6):82-84.

Levin, H.

- 1958 Havsfångsten av lax. (Sea catches of salmon). SFT 67(8/9):125.

Lindén

- 1955 Laxuppfödning i Bonäshamns avelsfiskodling. (Rearing of salmon in the Bonäshamn rearing plant). LFI 1955(7).

Lindroth, A.

- 1942 Undersökningar över befruktnings- och utvecklingsförhållanden hos lax. (Studies on fertilization and development in salmon). IFR 19:1-31. (Germany summary).
- 1942 Sauerstoffverbrauch der Fische II. Verschiedene Entwicklungs- und Altersstadien vom Lachs und Hecht. (Oxygen consumption in fish II. Different stages of salmon and pike). Z.vergl.Physiol. 28(4): 583-594.
- 1946 Zur Biologie der Befruchtung und Entwicklung beim Hecht. (On the biology of fertilisation and development in pike). IFR 24:1-173.
- 1948 Lax eller elektricitet. (Salmon or electricity). Ledare (Editorial) i SFT 57(11):169-170.
- 1949 Vitality of salmon parr at low oxygen pressure. IFR 29:49-50.
- 1950 Laxbeståndets fluktuationer i de norrländska älvarna. (Fluctuations of the salmon stock in the rivers of northern Sweden). Sv. Vattenkraftföre. Publ. 415:99-224. (English summary).
- 1951 Salmon tagging experiments in Sundsvall Bay of the Baltic in 1950. IFR 33:57-69.
- 1952 Märkning av lax i Sundsvallstrakten i sommaren 1950. (Tagging of salmon in the Sundsvall area in the summer of 1950). LFI 1952(2).
- 1952 Rommängden hos Indalsälvens lax. (Fertility of the salmon of the river Indalsälven). LFI (6):1-3.
- 1953 Internal tagging of salmon smolts. IFR 34:49-57, and LFI 1954(4).
- 1953 Fiskeförsök i Indalsälvens mynning i 1952. (Fish trapping in the lower Indalsälven in 1952). LFI (6):1-5.
- 1953 Sundsvallsbuktens hydrografi 1. (Hydrography of the Sundsvall Bay 1.). LFI (10):1-5.
- 1953 Sundsvallsbuktens hydrografi 2. (Hydrography of the Sundsvall Bay 2). LFI (27):1-8.
- 1953 Redogörelse den 1 september 1953 för försök med elspärr. (Report per 1 September 1953 on experiments with electric blocking). LFI 1953(16).

Lindroth, A. (ctd)

- 1954 Fiskeförsök i Indalsälvens mynning 1953. (Fish trapping in the lower Indalsälven 1953). LFI (8):1-6.
- 1955 Internal tagging of salmon smolts 2. Method of recapture. Returns 1954. IFR 36:120-125 and LFI 1955 (24).
- 1955 Distribution, territorial behaviour and movements of sea trout fry in the river Indalsälven. IFR 36:104-119 and LFI 1955(23).
- 1955 Mergansers as salmon and trout predators in the river Indalsälven. IFR 36:126-132 and LFI 1955(25).
- 1956 Salmon stripper, egg counter and incubator. Progressive Fish Culturist 18(4):165-170.
- 1956 Märkning av laxungar med inre märken. (Tagging of salmon smolts by internal tags). SFT 65(4):58-60.
- 1956 Laxodlingsprogrammet för det närmaste decenniet. (Salmon rearing program for the next 10 years). Sv.Vattenkraftfören.Publ. (9):199-216 and LFI 1957 (1).
- 1957 Baltic salmon fluctuations, a reply. IFR 38:109-130.
- 1959 Short report on internal tagging of salmon parr. Rapp.p.-v.Réun. Cons.int.Explor.Mer, 148:7.
- 1959 Cooperation in research and management of Baltic salmon. Rapp. p.-v.Réun.Cons.int.Explor.Mer, 148:63-65.
- 1959 Indalsälvens smoltproduktion 1953. (Smolt production of the river Indalsälven 1953). SFT 68(6/7):75-77 and LFI 1959(4).
- 1959 Försök över vissa orsaker till dödlighet hos laxrom. (Causes of mortality in salmon eggs). LFI (5):1-3.
- 1959 Orsaker till variation i överlevnad och tillväxt i 200 träbesättningar av ensamrig lax och öring. (Variation in mortality and growth in 200 lots of first summer parr of salmon and sea trout). LFI (6):1-14.
- 1959 Odlade laxbestånd. (Artificial salmon stocks). Sveriges Natur (6):194-200.
- 1960 Anadromous fish conservation in a Swedish salmon river. Int.Union. Conserv.Nature 7th techn.Meet. 4:1-9.
- 1960 Försök över överlevnad och tillväxt i Bergforsens laxodling 1959. (Experiments on survival and growth in Bergforsen rearing plant 1959). LFI 1960(8).
- 1960 Beräkning av tillväxten hos lax genom fjällläsning. (Calculation of salmon growth by reading of scales). SFT 69(11):145-147 and LFI 1960(9).
- 1961 Laxungars näring i havet. (Food of salmon smolts in the sea). SFT 70:149-150 and LFI 1961 (9).
- 1961 Försök över överlevnad och tillväxt i Bergforsens laxodling 1960. (Experiments on survival and growth in Bergforsen rearing plant 1960). LFI 1961(2).
- 1962 Baltic salmon fluctuations. 2. Porpoise and salmon. IFR 44:105-112.
- 1963 Laxen och tumlaren. (Salmon and porpoise). SFT 71:45-47 and LFI 1962 (1).
- 1963 Body/scale relationship in Atlantic salmon. J.Cons.int.Explor.Mer 28:137-152.
- 1963 Salmon conservation in Sweden. Trans.Amer.Fish.Soc. 92(3):286-291.

Lindroth, A. (ctd)

- 1963 Laxungarnas dödlighet under första övervintringen. (Mortality of salmon parr in their first winter). LFI 1963(11).
- 1964 Internal tagging of salmon smolts 3. Final report on taggings 1952-1955 and comments on smolt production of a salmon river. IFR 45:105-112.
- 1964 Redogörelse för fiskeförsöken i Mörrumsån 1963. (Report on the fishing experiments in Mörrumså, 1963). LFI 1964 (2).
- 1964 Östersjölaxens storlek. (Size of Baltic salmon). SFT 73(3/4):29-34 and LFI 1964 (3).
- 1964 Internal tagging of salmon smolts III. LFI 1964(10).
- 1965 Märkning av blanklax på Norrbottenkusten 1960. (Tagging of salmon on the coast of Norrbotten 1960). SFT 74(7/8):102-104 and LFI 1965 (3).
- 1965 Redogörelse för fiskeförsök i Mörrumsån 1964. (Report on fishing experiments in Mörrumså, 1964). LFI 1965(11).
- 1966 Om lax. (On salmon). SFS 1966(5):144-148.
- 1968 Laxbeståndets rekrytering och exploatering i Östersjöområdet. (The salmon recruitment and the salmon fishery in the Baltic). LFI (5).
- 1969 Svensk laxforskning, några exempel. (Swedish salmon research, some examples). Naturvetenskapliga forskningsrådets årsbok. 142-146.

Lindroth, A. and E. Bergström

- 1959 Notes on the feeding technique of the goosander in streams. IFR 40:165-175 and LFI 1959 (9).

Lindroth, A., U. Grimsås and H. Peterson

- 1954 Bergeforsdammarna 1952 och 1953. (The Bergeforsen rearing ponds in 1952 and 1953). LFI (7):1-45.

Lindroth, A. and H. Peterson

- 1952 Bergeforsdammarna 1951. (The Bergeforsen rearing ponds 1951). LFI (5):1-21.

Lindroth, A. and W. Persson

- 1966 Redogörelse för fiskeförsök i Mörrumsån 1965. (Report on fishing experiments in the Mörrumså, 1965). LFI 1966(2).

Ling, J. A.

- 1901 Om lax- och sikfiskets aftagande i älfvarne inom Västernorrlands län. (On the decline of the salmon and whitefish fisheries in the county of Västernorrland). SFT 10(2):49-64.
- 1914 Återfångade, märkta laxar. (Recaptured, tagged salmon). SFT 23(3): 89-90.

Ljungberg, O., G. Eklund and H. Peterson

- 1964 Erfarenheter av behandling med sulfamerazin och furazolidon vid Furunculosis hos lax- og öringungar. (Experience with sulfamerazin and furazolidon treatment of Furunculosis in salmon and sea trout). LFI 1964 (5).

Ljungberg, O.

- 1965 Furunkulos och dess bekämpning. (Furunculosis and its treatment). LFI 1965(8).

Ljungdahl, K.-G.

- 1936 Om laxodlingen vid Norrfors. (On salmon rearing at Norrfors). SFT 45(11):285-289.

Lundberg, R.

- 1883 Om Skånes kustfiskerier. (On the fisheries of the Scanian coast). Medd. Sveriges Fiskerier 1(2):7-104.
- 1883 Några ord om fiskeristatistiken... (A few words about catch statistics...). Medd. Sveriges Fiskerier 1(3):105-143.
- 1888 Om flottvirkesaffallets inverkan på fisket i elfvarna. (Influence of logging wastes on the river fishery). Medd. Sveriges Fiskerier 1(1/1):1-49.
- 1888 Laxfisket i rikets elfvar och vid kusten. (The salmon fishery in the Swedish rivers and at the coast). Medd. Sveriges Fiskerier 2(2):252-266.
- 1888 Statistiska uppgifter rörande fiskerierna. (Statistical records on fisheries). Havsfisket (Sea fisheries). Medd. Sveriges Fiskerier 2(2):125-251.

Lundgren, B.

- 1950 Laxfisket i Indalsälven. En bildsvit. (Salmon fishery in the Indalsälven. A series of pictures). SFT 59(6/7):108-109.

Lönnberg, E.

- 1897 Till frågan om laxens förlust i vikt under vandringen i elfvarna. (On the problem of the loss of weight in the running salmon). SFT 6(1):27-29.
- 1898 Bidrag till laxens biologi. (Notes on the biology of salmon). SFT 7(4):160-168.

Mattson, E.

- 1952 Norrbottens laxodlingskommitté 1945-1951. (The Committee for Salmon Rearing in Norrbotten 1945-1951). SFT 61(5):89-91.
- 1957 Laxtrappa i Limafallet. (Fish ways for salmon at the Lima waterfall). SFT 66(12):190-195.

Modin, E.

- 1935 Fiskar og fiske i Ångermanälven och dess bivatten. (Fisheries and fishery in the river Ångermanälven and its affluents). SFT 44(6, 7, 8):145-149, 193-197 and 217-220.
- 1946 Laxfiske vid Luleälv. (Salmon fishing in the Luleälv). SFT 55(1):13-15.

Montén, E.

- 1955 Om utvandrande laxungars möjligheter att oskadda passera genom kraftverksturbiner. (On the chance for undamaged smolt passage through turbines). LFI (13).

Montén, E. (ctd)

- 1959 The amplitude of the smolt production of the State Power Board. Rapp.p.-v.Réun.Cons.int.Explor.Mer 148:40-41.
- 1969 Vattenfalls fiskodlingsverksamhet. (The smolt production of the State Power Board 1950-1968). LFI(11).

Montén, E. and B. Sten

- 1958 Relationer mellan älv- och havsfångst av lax. (Relationship between river and sea catches of salmon). SFT 67(6/7):94-96.

Müller, K.

- 1953 Die Schuppenmissbildungen bei der Forelle, Salmo trutta L. und eine Deutung dieser Erscheinung. (Abnormal scales in trout, Salmo trutta L., and their causes). IFR 34:78-89.
- 1957 Zur Biologie des Junglachs (Salmo salar L.) in Stora und Lilla Lule Älv. (Biology of salmon parr in the Lule river). Ber.Limnol. Flusstation Freudenthal 8:33-59.

Nilsson, O. W.

- 1967 Studier över Emåöringen. (Studies on the trout of Emå). SFS 1967 (11:spec.sektion 3):6-8.

Nordin, S.

- 1957 Öringlek i saltvatten vid Gotland. (Sea trout spawning in sea water at the coast of Gotland). SFT 66(3):42-43.

Nordqvist, O.

- 1908 Die Längenmasse von in der südlichen Ostsee gefangenen Lachsen. (Length of salmon caught in the southern Baltic). Rapp.p.-v. Réun. Cons.int.Explor.Mer, 9:23-28.
- 1917 Vattendragens öfverbyggande och fiskeriintressets tillvaratagande. (Power dams in rivers and the protection of fisheries). Sv.Vattenkraftfören.Publ. 90:1-16.
- 1917 Om uppfödande av laxyngel till smoltstadiet och inrättande af en försöksanstalt härför. (On rearing of salmon fry to the smolt stage and the establishment of an experimental plant for this purpose). Sv.Vattenkraftfören.Publ. 90:17-33.

Nordqvist, O. and G. Alm

- 1927 Uppfödning av laxyngel. (The rearing of salmon). Meddel.Lantbruksstyrelsen 268:1-50.

Norin, E.

- 1953 Höstens smålaxfiske i Blekinge. (The fishery of smolt salmon off Blekinge this autumn). SFT 62(11):170.
- 1954 Smålaxfisket vid Blekingekusten. (Fishery on small salmon on the coast of Blekinge). SFT 62(12):178-179.

Nyman, L.

- 1965 Proteinvariationer hos lax. (Protein variations in salmon). LFI 1965 (10).

Nyman, L. (ctd)

- 1966 Geographic variations in Atlantic salmon. LFI 1966(3).
1967 Protein variations in Salmonidae. IFR 47:5-38.
1967 Protein variations in various populations of Atlantic salmon.
LFI 1967(8).

Oleen, B. O.

- 1871 Om Mörrums laxfiske. (On the salmon fishery of the river Mörrumsån).
Diss.Lund.Univ.

Olofsson, O.

- 1926 Smälaxens mått och vikt. (Size and weight in small salmon).
SFT 35(1):15-19.
1926 Några anteckningar om laxfisket i Norrbottens och Västerbottens län
år 1925. (Notes on the salmon fishery in Norrbotten and Västerbotten
in 1925). SFT 35(3):68-80.
1932 1931 - et nytt smälaxår i övre Norrland. (1931 - a new grilse year
in northern Sweden). SFT (11):125-130.
1933 Om rommens mängd, antal och storlek hos laxen. (On volume, number
and size of eggs in salmon). SFT 42(2):13-16.
1933 Varför äro laxar med lekmärke å fjällen sällsynta? (Why are salmon
with spawning mark rare?). SFT 42(3):33-36.
1933 Återfångad märkt lax, som vandrat från Skåne til Torne älv.
(Recapture of tagged salmon, migrating from Scania to Torne älv).
SFT 42(23):276.
1934 Tärendö-bifurkationens uppkomst och laxförekomsten i Torne älv.
(On the development of the Tärendö bifurcation and the distribution
of salmon in the river Torne älv). Ymer (1-2):96-102.
1935 Laxens lekdräkt. (Nuptial dress of salmon). SFT 44(1):6-8.
1935 Laxfisket i övre Norrland år 1934. (The salmon fishery in Norrland
in 1934). SFT 44(2):31-35.
1935 Blank senhöstlax i älvarna. (Clear autumn salmon in the rivers).
SFT 44(4):89-91.
1936 Edefors laxfiske. (The salmon fishery of Edefors). SFT 45(3):57-61
and 45(4):87-91.
1937 En laxyngelutsättning i havet. (A planting of salmon fry in the sea).
SFT 46(2):31-33.
1937 Inplantering av Stillahavslax i Finland. (Introduction of Pacific
salmon to Finland). SFT 46(6):147-150.
1942 Laxfisket i Lule älv år 1941. (The salmon catch in the river Lule
älv in 1941). SFT 51(4):83-84.
1942 Rommängd och romsvällning hos havslaxöringen. (Amount of roe and
roe swelling by sea trout). SFT 51(12):229.
1943 Rommängd och romsvällning hos laxen. (Amount of roe and roe swelling
by salmon). SFT 52(3):53.
1945 Medför leken i regel laxens död? (Does the spent salmon die?).
SFT 54(3):50-52.
1946 Märkningarna av Luleälvslox sommaren 1946. (Tagging of the Luleälv
salmon in the summer of 1946). SFT 56(3):50-51.
1948 Ett försök med kläckning av laxrom under grus. (Experimental
hatching of salmon eggs under gravel). SFT 57(11):171-172.

Olafsson, O. (ctd)

- 1952 En ny svensk laxälv. (A new Swedish salmon river). SFT 61(8/9):129-131.
- 1954 Laxfisket med nylontafs. (The salmon fishery with nylon gut). SFT 63(10):142-144.
- 1962 Laxen och tumlaren. (Salmon and porpoise). SFT 71(10):148.
- 1962 Lax som vandrar upp året före leken? (Salmon running one year before the spawning?). SFT 71(12):188-189.
- 1963 Hur många laxar leker, hur många överlever leken? (How many salmon spawn, how many survive spawning?). SFT 72(4):61-63.
- 1963 Fisket i våra mindre havsöringsåar. (The fishery in our smaller sea trout rivers). SFT 72(8/9):115-118.
- 1963 Varför minskar storleken på Östersjö-laxen? (Why does the size of the Baltic salmon decrease?). SFT 72(19):133-134.
- 1965 Om havsöringens lektid i några skånska åar m.m. (On spawning time for sea trout in some Scanian rivers etc.). SFT 74(11/12):169-173.
- 1966 Funderingar kring laxuppgången i Mörrumsån. (Thoughts on salmon runs in the Mörrumsån). SFT 75(11/12):171-176.

Persson, W.

- 1967 Redogörelse för fiskeförsök i Mörrumsån 1966. (Report on fishing experiments in the Mörrumsån, 1966). LFI 1967(2).

Peterson, H.

- 1950 Lax på långvandring. (Far migrating salmon). SFT 59(2):38.
- 1956 Skracken än en gång. (The Mergansers once again). SFT 65(6/7):99-101.
- 1962 Utsättning av bäcköring i havet. (Removal of brown trout to the sea). Sv.Fiske (1):159-160.
- 1962 Rekord för smoltmärkt lax. (Record for smolt-tagged salmon). SFT 71:68-69.
- 1962 Laxodling i stordrift. (Large-scale salmon rearing). SFS 1962(7):240-243.
- 1967 Könsfördelningen hos grilse i Indalsälven. (Sex ratio by grilse in the Indalsälv). LFI 1967(15).

Peterson, H. and A. Lindroth - See Lindroth, A. and H. Peterson.

Puke, C.

- 1953 Redogörelse angående försök med s.k. provytor i Storbergsdammen 1952. (Report on experiments regarding survival per unit area in the Storberg pond). LFI 1953(20).
- 1953 Redogörelse angående försök med laxungar i Järvsjöbäcken 1951 och 1952. (Report on experiments with salmon parr in the Järvsjöbrook in 1951 and 1952). LFI 1953(21).
- 1953 Undersökning över spiggens konkurrens med laxungar. (Investigation on competition between stickle-back and salmon parr). LFI 1953(22).
- 1955 Naturdammsundersökningar i nedre Norrland 1954. (Investigations on natural ponds in southern Norrland, 1954). LFI 1955(17).
- 1956 Naturdammsundersökningar i nedre Norrland år 1955. (Investigations on natural ponds in southern Norrland, 1955). LFI 1956(5).
- 1957 Naturdammsundersökningar nr. 10. Naturdammsundersökningar i nedre Norrland 1956. (Investigations on natural ponds No.10. Investigations on natural ponds in southern Norrland, 1956). LFI 1957(6).

Puke, C. (ctd)

- 1957 Försöksuppfödningen av utvandringsfärdiga laxungar vid statens fiskodlingsanstalt i Älvkarleby 1954-1956. (Experimental rearing of salmon smolt ready for migration, at the governmental rearing plant at Älvkarleby, 1954-1956). LFI 1957(7).
- 1957 Naturdammsundersökningar Nr. 11. Laxodlingen i naturdammar i nedre Norrland år 1957. (Investigations on natural ponds, No.11. Salmon rearing in natural ponds in southern Norrland, 1957). LFI 1957(11).
- 1960 Laxöringsfisket och utbyggnaderna, några synpunkter på kompensationsmöjligheterna. (Sea trout fisheries and hydro-electric power constructions; views on the possibilities for compensation). SFT 69(1):4-5.
- 1960 Produktion av laxungar och havslaxöringer inom mellersta fiskerintendentdistriktet sommarsäsongen 1960. (The production of salmon and sea trout fry in the middle inspection district during the summer 1960). SFT 69(12):167-168.
- 1964 Laxodlingen i Dalälven, Ljusnan och Ljungan 1957-1962. (Salmon rearing in the rivers Dalälv, Ljusnan and Ljungan, 1957-1962). SFT 73(1/2):8-10.

Puke, C. and N. G. Steffner

- 1964 Försöksutsättning av havsöring i Dalälvens mynning. (Experimental planting of sea trout in the mouth of the river Dalälv). SFT 73(5/6):65-68.

Rosén, N.

- 1916 Om rationellt laxfiske. (On rational salmon fishery). SFT 25:81-84.
- 1918 Undersökningar över laxen och laxfisket i Norrbottens län. (Investigations on the salmon and salmon fishery in the county of Norrbotten). Meddel.K.Lantbruksstyr. 208:1-72. (English summary).
- 1918 Om havslaxöringen i övre Norrland. (On the sea trout of the upper Norrland). Meddel. K. Lantbruksstyr. 212:1-23.
- 1918 Om laxen och laxfisket i Västerbottens län. (On the salmon and salmon fishery in the county of Västerbotten). Meddel. K.Lantbruksstyr. 214:1-35. (English summary).
- 1929 Lax som vandrat från Östersjön till Kattegat. (Salmon migrating from the Baltic to Kattegat). SFT 38(12):112-113.
- 1946 Har vår lax kommit från två håll? (Has our salmon dual origin?). SFT 55(7):155.
- 1948 On the salmon of the west coast of Sweden. Sv.Hydrogr.Biol.Komm. Skrifter, Ny ser.:Biol. 2(10):1.
- 1949 Laxfisket i Östersjön. (Salmon fishing in the Baltic). SFT 58(10):140-141.

Ryman, N.

- 1970 A genetic analysis of recapture frequencies of released young salmon. LFI (4).
- 1971 An analysis of growth capability in full sib families of salmon (Salmo salar L.). LFI (5).

Sahlin, J.

- 1960 Märkning av laxungar. (Tagging of salmon smolt) SFS 1960(1/2):24-25 and LFI 1960(1).
- 1962 MS 222 som bedövningsmedel för fisk (lax). (MS 222 as an anesthetic for fish (salmon)). SFT 71(1):14-16.

Sellerberg, G.

- 1967 Lax- och havöringsfisket i Torne och Kalix älvars vattenområden åren 1962-1966. (Salmon and sea trout fisheries in drainage basins of the rivers Torne and Kalix 1962-1966). LFI 1967(9).

Sjögren, S.-J.

- 1962 Det svenska laxfisket i Östersjöområdet år 1961. (The Swedish salmon fishery in the Baltic in 1961). Ostkusten (11):5-8 and LFI 1962(9).
- 1963 Det svenska laxfisket i Östersjöområdet år 1962. (The Swedish salmon fishery in the Baltic in 1962). Ostkusten (6) and LFI 1963(6).
- 1964 Det svenska laxfisket i Östersjöområdet år 1963. (The Swedish salmon fishery in the Baltic in 1963). LFI 1964(12) and Ostkusten 1964(11): 9-11.
- 1965 Det svenska laxfisket i Östersjöområdet år 1964. (The Swedish salmon fishery in the Baltic in 1964). LFI 1965(12) and Ostkusten 1965(9): 15-17.
- 1966 Det svenska laxfisket i Östersjöområdet år 1965. (The Swedish salmon fishery in the Baltic in 1965). LFI 1966(7) and Ostkusten 1966(9): 14-16.
- 1967 Det svenska laxfisket i Östersjöområdet år 1966. (The Swedish salmon fishery in the Baltic in 1966). LFI 1967(12) and Ostkusten 1967(8): 11-13.
- 1968 Det svenska laxfisket i Östersjöområdet år 1967. (The Swedish salmon fishery in the Baltic in 1967). LFI (6).
- 1969 Det svenska laxfisket i Östersjöområdet år 1968. (The Swedish salmon fishery in the Baltic in 1968). LFI(6).
- 1970 Det svenska laxfisket i Östersjöområdet år 1969. (The Swedish salmon fishery in the Baltic in 1969). LFI (6).
- 1971 Det svenska laxfisket i Östersjöområdet år 1970. (The Swedish salmon fishery in the Baltic in 1970). LFI (9).

Stark, R.

- 1945 Om lekvandrande lax vid Höljebro. (On running salmon at Höljebro). SFT 54(12):270-271.

Steffner, N. G.

- 1963 Laxen ökar i Dalälven. (The salmon stock increase in the river Dalälven). SFT 72(1):15.
- 1967 Vad har hänt med fisken i Dalälven? (What has happened to the fish in the river Dalälven?). SFS 1967(5):146-147+158.

Steffner, N. G. and C. Puke

- 1961 Uppfödning av smolt vid Älvkarleby laxodling årsklasserna 1954-1958. (Smolt rearing at Älvkarleby 1954-1958). SFT 70(3):41-46. (English summary).

Steffner, N. G. and C. Puke (ctd)

- 1961 Uppfödning av smolt vid Älvkarleby laxodling årsklasserna 1954-1958. (Smolt rearing at Älvkarleby 1954-1958). LFI 1961(5).

Sten, B. See Montén, E. and B. Sten.

Strandberg, E.

- 1957 Laxmärkning vid Holmön. (Tagging of salmon at Holmön, Bothnian Bay). SFT 66(4):80.

Svenonius, B.

- 1953 Behandling av rom med malakitgrönt. (Treatment of the roe with malachite-green). SFT 62(12):192-193.

Svensson, K. M.

- 1967 Laxungarnas tillväxt på våren. (Growth of salmon parr in the spring). LFI 1967 (13).

Svärdson, G.

- 1945 Chromosome studies on Salmonidae. IFR 23:1-151.
- 1946 Kromosom undersökningar på laxfiskar. (Chromosome studies on Salmonidae). SFT 55(3):59-63.
- 1955 Salmon stock fluctuations in the Baltic Sea. IFR 36:226-262.
- 1955 Tumlarens inverkan på laxfångsterna. (The effects of porpoises on salmon catches). SFT 64(11):151-154.
- 1956 Samspelet mellan lek- og utvandringsmognad. (Relationship between sexual and migratory maturity). SFT 65(1)4-10.
- 1957 Laxen och klimatet. (The salmon and the climate). IFR 38:357-384. (English summary).
- 1967 Lax och öring i Em. (Salmon and trout in Em). SLI 1967(7):1-5+tab. and Figs. 16-47.

Svärdson, G. and H. Anheden

- 1963 Långvandrande skånsk havsöring. (Far migrating Scanian sea trout). SFT 72(8/9):109-113.
- 1963 Könskvot och utvandring hos Verkeåns öring. (Sex ratio and downstream migration in the sea trout of the river Verkeån). SFT 72(12):165-169.

Södergren, G.

- 1963 Om laxungarnas näringsbetingelser. (On food conditions of salmon parr). SFT 72(12):170-171.
- 1963 Undersökningar av driftfaunan i Rickleån. (Investigations of the drifting fauna in the Rickleå). LFI 1963(5).

Södergren, G. and L. Österdahl

- 1966 Laxungarnas föda under utvandringen. (The food of salmon smolt during migration). SF 75(3/4):33-37.

Thurrow, F.

- 1968 On food, behaviour and population mechanism of Baltic salmon. LFI (4).

Trybom, F.

- 1893 Laxtrappan vid Domnarvet i Dalelven. (Fishway for salmon at the Domnarvet in the Dal river). SFT 2(1):1-6.
- 1893 Sveriges anstalter för odling av höstlekande fisk 1892. (Swedish establishments for rearing of autumn spawning fish, 1892). SFT 2(3/4):139-152.
- 1899 Ett märkligt beslut i fråga om laxfiskets upphjelpande. (A peculiar decision on the improvement of the salmon fisheries). SFT 8(3):128-129.
- 1903 Märkning av lax och ål. (Tagging of salmon and eel). SFT 12(4):195-199.
- 1908 Markierungen von Lachsen und Meerforellen im Ostseegebiete. (Tagging of salmon and sea trout in the Baltic area). Rapp.p.-v. Réunion. Cons.int.Explor.Mer, 9:29-50.
- 1908 Ichthyologische Beobachtungen auf den Laichplätzen der Lachse und Meerforellen im Unterlauf des Flusses Dalälven in Schweden. (Ichthyological observations on the spawning sites of salmon and sea trout in the lower river Dalälven in Sweden). Sv. Hydr. Biol. Komm.Skr. 3:1-13.
- 1910 Bericht über die Aufzucht, die Markierung und den Fang von Lachsen und Meerforellen im Ostseegebiete während der Jahre 1904 bis 1908. (Report on rearing, tagging and catches of salmon and sea trout in the Baltic area in 1904-1908). Rapp.p.-v. Réunion. Cons.int.Explor.Mer 12(6):1-47.
- 1911 Bericht über die Aufzucht, die Markierung und den Fang von Lachsen und Meerforellen im Ostseegebiete im Jahre 1909. (Report on rearing, tagging and catches of salmon and sea trout in the Baltic area in 1909). Rapp.p.-v. Réunion. Cons.int.Explor.Mer, 13(5):1-31.

Trybom, F. and A. Wollebæk

- 1904 "Übersicht über die Seefischerei Schwedens. (Summary of the sea fishery of Sweden). Publ.Circ. Cons.int.Explor.Mer, 13 A:27-59.

Trybom, F. et al.

- 1905 Bericht über die Anstalten zur Vermehrung des Lachses und der Meerforelle in den Flüssen der Ostsee. (Report on the arrangements for the reproduction of salmon and sea trout in the Baltic rivers). Publ.Circ. Cons.int.Explor.Mer 28:1-34.

Tägström, B.

- 1944 Om rasens betydelse vid utsättning av laxöringsyngel. (The importance of race for the planting of sea trout fry. SFT 53(10):166-167.

Wendt, C.

- 1964 Diet and glycogen reserves in hatchery reared Atlantic salmon during different seasons. LFI 1964 (7).
- 1965 Liver and muscle glycogen and blood lactate in hatchery-reared Salmo salar L. following exercise in winter and summer. IFR 46: 167-184 and LFI 1965 (7).
- 1965 Inverkan av transport på blodlaktat, lever- och muskelglykogen hos 2-årig lax. (Effects of transport on blood lactate, liver and muscle glycogen by 2-year old salmon). LFI 1965(15).

Wendt, C. (ctd)

- 1967 Mortality in hatchery-reared Salmo salar L. after exercise. IFR 47: 98-119 and LFI 1967 (11).

Videgren, H.j.

- 1861 Om fiskfaunan och fiskerierna i Norrbottens län. (On the fish fauna and the fisheries in the county of Norrbotten). Handl.utg.Lantbruksakad. 18.
- 1866 Berättelse om undersökningar rörande fiskfaunan och fisket inom vissa delar av Norrbottens och Västerbottens län. (Report on investigations into the fish fauna and the fishery in certain parts of the counties of Norrbotten and Västerbotten). Handl.utg.Lantbruksakad. 24.
- 1867 Berättelse öfver åtgärder för fiskeriernas ordnande och förbättring år 1865. (Report on activities for regulations and improvements of fisheries 1865). Handl.utg.Lantbruksakad. 6:1-143.
- 1870 Berättelse öfver åtgärder för fiskeriernas ordnande och förbättring år 1868. (Report on activities for regulations and improvements of fisheries 1868). Handl.utg.Lantbruksakad. 9:1-68.

Wirén, Bibie

- 1971 Vårtsjuka hos lax (Salmo salar L.). Histologiska studier över epidermala papillom hos odlad lax. (Histological studies on epidermal papilloma in salmon). LFI (7).

Wollebäk, A.

- 1904 Om Mörrums- och Ätraårnas laxfiske. (On the salmon fishery in the rivers Mörrumsån and Ätran). Meddel.K.Lantbruksstyr. 94:1-26.

Öquist, G.

- 1948 Om temperatur, och dödlighet vid intensiv uppfödning av lax. (On temperature, feeding and mortality in intensive rearing of salmon). SFT 57(8):124-126.
- 1952 Anteckningar över iakttagelser och undersökningar i samband med intensiv uppfödning av lax vid Gideåbruksanläggningen. (Notes on records and investigations concerning intensive rearing of salmon at the Gideåbruks plant). LFI 1952 (10).
- 1954 Kontroll av tillförlitligheten av laxräkningen med fotocell vid laxtrappan i Gideåbacka. (On the reliability of counting salmon by use of photocells at the fishway at Gideåbacka). SFT 63(8/9):121-122.
- 1955 Om anordningar för vandringsfisker i Gide älv 1954. (On establishments for migrating fish in the river Gide 1954). LFI 1955(12).
- 1955 Avbrytes laxuppgången, om laxen tvingas till ett längre uppehåll under densamma? (Does the salmon stop running, after a prolonged interruption?). SFT 64(6/7):91-95.
- 1956 En mekanisk laxräknare. (A mechanical salmon counter). SFT 65(10): 142-143.
- 1963 Laxfiske och laxutsättning i Öre älv 1958-1962. (Salmon fisheries and salmon planting in the river Öre, 1958-1962). SFT 72(2):26.

Österdahl. L.

- 1962 Laxförsöken i Rickleå 1961. (The salmon experiments in Rickleå river 1961). LFI (4).
- 1964 Smolt investigations in the river Rickleån. LFI 1964 (8).
- 1964 Treårs smolt utvandring i Rickleån. (Three-year old smolts migrating from the river Rickleån). SFT 73(9/10):116-118.
- 1965 Ett svältförsök med laxsmolt i bräckt vatten. (A starvation experiment with salmon smolt in brackish water). LFI 1965(4) and SFT 74(3/4):39-40.
- 1969 The smolt run of a small Swedish river. LFI (8).
-

6.6 U.S.S.R.

Abbreviations of periodicals:

AN SSSR	Akademya Nauk SSSR (Academy of Sciences of the USSR)
BaltNIIRH	Baltiysky nauchno-issledovatel'skiy institut rybnogo khoziaistva (Baltic Fisheries Research Institute)
D	Doklady (Report)
Ek	Zhurnal "Ekologiya" (Ecology)
GZ	Gidrobiologicheskoy zhurnal (Hydrobiological Journal)
I	Izvestiya (Bulletin)
LGU	Leningradskiy Gosudarstvennyy Universitet (University of Leningrad)
RH	Rybnoye khoziaistvo (Journal of fisheries)
Sb.	Sbornik Sb. Balt. NIIRH - Sb. "Rybnokhoziaistvennye issledovaniya v basseynakh Baltiyskogo morya".
Trudy	Proceedings
UZ	Uchenye zapiski (Research Report)
V	Vestnik (Bulletin)
VI	Voprosy ikhtiologii (Problems of ichthyology)
VNIIPRH	Vsesoyuznyy nauchno-issledovatel'skiy institut prудovogo rybnogo khoziaistva (All-Union Research Institute of Pond Fisheries)
VNIORH (GosNIORH)	Vsesoyuznyy nauchno-issledovatel'skiy institut ozernogo i rechnogo rybnogo khoziaistva (All-Union Research Institute of Lake and River Fisheries)

Abbreviations (ctd)

VNIRO

Vsesoyuzny nauchno-issledovatel'skiy institut rybnogo khoziaistva i okeanografii (All-Union Research Institute of Marine Fisheries and Oceanography)

ZZ

Zoologicheskii zhurnal (Journal of Zoology).

Abakumov, V. A.

- 1960 Local breaking down of the reproductive isolation between salmon and sea trout. Trudy VNIRO, Vol.42.
1961 Seasonal races of anadromous fishes. VI, 17.

Akhmerov, A. Kh.

- 1950 Diseases of the yolk-sac of salmon larvae and their treatment. RH, No.4.

Alekseev, D. F.

- 1951 Fishing of the Luga salmon is to be rationalized. RH, No.5.

Alekseev, N. K. and E. V. Potekhina

- 1954 Increase of the productivity of a small food pond for breeding of young salmon. RH, No.5.

Amosov, V. A.

- 1956 On variations in abundance of Ladoga salmon. N.-tekhn.byull. VNIORH, No.3-4.

Aronovitch, T. M.

- 1969 Microalgae utilization, experience from breeding of Baltic salmon juveniles.
1970 The influence of adding vegetable components on the salmon juveniles growth.
1970 Methods of trout and salmon artificial breeding.

Assman, A. V.

- 1957 Microorganisms as bearers of vitamins for feeding young salmon. VI, 9.

Barannikova, I. A.

- 1962 The analysis of the influence of the Narva hydro-electric power station on the ichthyofauna of the Narva river. UZ LGU, No.311.
1967 Histophysiological foundations of intrapopulation differentiation of fish. Sb. "Obmen veshestv i biohimiya ryb." Moscow.

Barannikova, I. A. (ctd)

1968 Functional foundations of fish migration. Vestnik LGU, No.9.

Bauer, O. N.

1962 Diseases and parasites of salmonid fishes at artificial breeding. I GosNIORH, Vol.54.

Bauer, O. N. and I. G. Schupakov

1956 Instructions for the treatment of ichthyophthyrus in pond farms and fish breeding plants. VNIORH, Leningrad.

Bauer, O. N. and Y. A. Strelkov

1959 Diseases of young salmon at artificial breeding. Trudy soveschaniy po bolezniam ryb., AN SSSR.

Belanovitch, L. I.

1970 Observations of salmon and brown trout smolt descent in Venta river. RH, No.2

Berg, L. S.

1933 Breeding and culture of salmon in ponds. Priroda, No.12.

1935 Biological parallels between lamprey and salmon fishes. D AN SSSR, Vols, 3 and 8, No.2.

1937 New data on the biology of salmon (Salmo salar L.). Uspekhi sovremennoy biol., Vol.6(1).

1940 Fishes of the Gulf of Finland. I VNIORH, Vol.23.

1948 On the origin of trout and other freshwater salmon fish. Sbornik pamyati akademika S. A. Zernova.

1953 Spring and winter races of anadromous fishes. Ocherki po obchtim voprosam ikhtiologii AN SSSR.

Birman, I. B.

1969 Periodical variations of salmon abundance and sun activity. Trudy VNIRO, Vol.67.

Bogdanova, E. A.

1965 The application of sea water against trichodiniasis and costiasis diseases of young salmon. RH, No.6.

1967 Parasitic infusorian fauna (species of Urceolaviidae) of juvenile salmonids. "Problemy parazitologii" Sb.

1968 Some data on the utilization of the combined method of treatment of some dangerous diseases of juvenile salmonids. Sb. "Biolog.resursy Belogo morya i vnutrennih vodoemov Karelii", Petrozavodsk.

1968 Directions of the salmonid diseases control of fish breeding plants. Instruktsiya Vetupravl. MSH SSSR.

1969 Invasion diseases of juvenile salmonids and means for their prevention at fish breeding plants of Estonia. Sb. "Problemy parazitologii" 2.

1971 Epizootic state of of the salmon plants of the northwest and means of prevention of invasion diseases. Sb. "Simposium po vosproizvodstvu atlanticheskogo lososya".

Bozhko, A. M.

- 1962 Age changes of relative sizes in lake salmon visceral organs. Sb. "Biologiya vnutrennykh vodoyomov Pri-baltiki", AN SSSR.

Buenko, V. M.

- 1967 The effect of antibiotics on the haemoglobin content and leucocyte formula of fish blood. Sb. Balt.NIIRH, No.2

Bumeister, Yu. K. and A. R. Mitans

- 1972 A trap for counting of Atlantic salmon smolt descent. RH, No.6.

Evropeitseva, N. V.

- 1954 Connections between the character of growth and smoltification of lake young salmon (Salmo salar m. sebagu Gir.). D AN SSSR, Vol.95(6).
- 1955 Peculiarities of the smoltification of Ladoga salmon in pond culture. RH, No.2.
- 1957 Peculiarities of smoltification of young salmon in the pond breeding. Trudy soveschaniy ikhtiologicheskoi Komissii AN SSSR.
- 1957 Smoltification and seaward migration of young salmon. UZ LGU, No.228.
- 1958 The experimental analysis of the salmon's young (Salmo salar L.) in the stage of transition to the life in the sea. ICES, CM 1958/Doc.No.8.
- 1959 Experience in pond breeding with offspring of northern Baltic salmon and lake salmon until smolt stage. Sb. "Materialy Soveschaniya po voprosam rybovodstva", Moscow.
- 1960 Correlation between the processes of early development of gonads and smoltification in Baltic salmon (Salmo salar L.) males under pond conditions. ZZ, Vol.39(5).
- 1960 Peculiarities of the desmoltification process as observed in young specimens of various ecological forms of Atlantic salmon. ICES, CM 1960/Doc.No.118.
- 1962 Comparative analysis of the desmoltification process in young specimens of various ecological forms of Atlantic salmon. UZ LGU, No.311.

Evropeitseva, N. V. and G. V. Belyaeva

- 1963 Experimental and ecological analysis of the Baltic salmon hybrids (Salmo salar L.) reared in ponds. Sb. "Rybnoe khoziaistvo vnutrennykh vodoyomov Latvyskoi SSR, No.7, Riga.

Evropeitseva, N. V. and M. M. Keo-Isakova

- 1949 Breeding of young whitefish, trout and salmon in the ponds of the Keksgolm fish breeding plant. Trudy laboratorii osnov rybovodstva, Vol.2.

Evropeitseva, N. V. and L. M. Nusenbaum

- 1954 Experimental analysis of smoltification and descent of lake young salmon. D AN SSSR, Vol.98(6).

Evropeitseva, N. V. and A. M. Zatsepilova

- 1957 Culture of Baltic salmon and sea trout smolts in ponds.
RH, No.3.

Evtyukhova, B. K.

- 1962 Fishing of Latvian salmon. Byull.ryb., No.2, Tsentralnoe byuro tekhn.informat., Riga.
- 1962 The state of the stocks and prospects for Latvian salmon fishery. Trudy konferensii molodykh spetsialistov nauchn.-issled. instituta rybnogo khoziaistva Sovnarkhoza Latviyskoi SSR.
- 1964 The influence of river growth rate on sea growth rate and fecundity of salmon. ICES, CM 1964/Doc.No.15.
- 1965 On the influence of different environmental factors upon the rate of growth in sea, fecundity and size of eggs of Baltic salmon (Salmo salar L.). VI, Vol.5(2).
- 1966 The life and migrations of salmon. Nauka i tehnika, No.10, Riga.
- 1968 The state of stocks, abundance dynamics and fishery perspectives of Baltic salmon in the rivers of Latvian SSR. Sb.BaltNIIRH, No.4.
- 1970 Some regularities of growth rate dynamics and fecundity of Baltic salmon. Trudy BaltNIIRH, Vol.4.
- 1970 Seasonal changes of biological indices of Latvian rivers' salmon. Sb. "Biolog. protsessy v morskikh i kontinentnykh vodoemakh".
- 1971 Baltic salmon. (Fishery and biological characteristics). Riga.
- 1971 The state of stocks and fishery of Baltic salmon. Sb. "Simposium po vosproizvodstvu atlanticheskogo lososya", Murmansk.

Evtyukhova, B. K. and N. I. Ryapolova

- 1966 Influence of hydrological factors on the spawning dynamics of salmon and lamprey. ICES CM 1966/L:7.
- 1967 The influence of hydro-meteorological factors on the spawning migrations of salmon and lamprey. Sb. BaltNIIRH, No.2, Riga.

Evtyukhova, B. K. and A. R. Mitans

- 1967 Methods of investigation of the state of stocks and perspectives of fishery of Baltic salmon. Sb."Soveschanie po metodike otsenki sirjevoi bazy i prognozirovaniyu ulovov", Kerch.

Faktorovitch, K. A.

- 1967 On the peculiarities of fat exchange in the liver of some species of Salmo in connection with differences in their biology. Sb. "Obmen veschestv. i biokhimiya ryb.", Moscow.

Galkin, G. G.

- 1961 Survival and growth of the artificially reared young of Baltic salmon during the period of river life. I GosNIORH, Vol.51.

Glagoleva, T. P.

- 1970 Blood indices of juvenile Baltic salmon at different physiological periods at breeding in Latvian fish breeding plants. Sb. Balt.NIIRH, No.5.

Glagoleva, T. P. (ctd)

- 1970 Blood picture of Baltic salmon juveniles at different smoltification stages. Trudy molodyh uchenyh VNIRO, No.4.

Glagoleva, T. P. and E. M. Malikova

- 1968 Effect of malachite green on blood composition of juvenile Baltic salmon. RH, No.5.

Isakova-Keo, M. M.

- 1962 The results of experiments on establishment of food supply for the salmon fry in ponds at low temperatures. Trudy Petergofskogo biologicheskogo instituta LGU No.12.

Ivlev, V. S.

- 1958 On breeding of Baltic young salmon until the migratory stage during one year. Nauchn.-tekhn.byull. VNIORH, No.6.
- 1960 Active metabolic intensity in salmon fry (Salmo salar L.) at various rates of activity. ICES, CM 1960/Doc.No.213.
- 1962 Active energy metabolism in Baltic salmon fingerlings (Salmo salar L.). VI, Vol.2, issue I(22).

Ivlev, V. S. and G. G. Galkin

- 1958 Surviving and growth of Baltic salmon at different ages in natural conditions. ICES, CM 1958/Doc.No.6.

Ivlev, V. S. and I. V. Ivleva

- 1952 Experience in estimation of the physiological value of live food (pot worm) in breeding young salmon. ZZ, Vol.31(6).
- 1953 Combined breeding of the Baltic young salmon. Trudy Latviyskogo otdeleniya VNIRO, No.1.

Kazakov, R. V.

- 1970 The influence of temperature during egg incubation on the number of vertebrae of juvenile Neva salmon. Sb. "III Soveschanie molodykh sotrudn", GosNIORH.
- 1970 The influence of temperature during egg incubation on some meristic characters of Neva (Atlantic) salmon. Sb. "Rybkhoz. osvoenie vnutrennikh vodoyomov", No.4, GosNIORH.
- 1971 Experimental examination of the effect of temperature rate of incubation on the state of the embryos and the larvae of Neva salmon. VI, 2, 1 (66).
- 1971 The study of the effect of variable temperature rate during incubation on the state of embryos and larvae of Atlantic salmon. Izvestiya GosNIORH, Vol.75.

Kazakov, R. V., H. A. Leizerovitch, G. M. Mishelovitch and N. I. Sandovskaya

- 1971 The application of artificial water heating during the incubation and breeding of juvenile Atlantic salmon (Salmo salar L.). Sb. "Rybkhoz. osvoeniye vnutrennikh vodoyomov", No.7 GosNIORH.

Khalturin, D. K.

- 1964 On the presence of local schools of Ladoga lake salmon. ZZ, Vol. 43(8).
- 1965 Significance of some taxonomical criterions of salmonids. D AN SSSR, Vol.165(3).
- 1965 On the Ladoga lake salmon. RH, No.6.
- 1967 The rate of angular transference in the characteristics of anadromous migration of the genus Salmo. D AN SSSR, Vol.177(6).
- 1969 To the study of the linear and weight growth of salmon. Izvestiya GosNIORH, Vol.65.
- 1971 The analysis of the effect of length of the parr period on the growth of Pacific (Oncorhynchus) and Atlantic (Salmo) salmon. D AN SSSR, Vol.200(2).
- 1972 Regularities of the growth of Pacific and Atlantic salmon in connection with their early ontogenesis. "Ekologiya", No.2.

Khalturin, D. K., H. A. Leizerovitch, and H. I. Yandovskaya

- 1966 On the improvement of the management of salmon in the lake Ladoga basin. RH, No.9.

Khalturin, D. K. and M. I. Khalturina

- 1969 The structure of recent spawning populations of the Neva salmon (Salmo salar L.). VI, 9, 4 (57).

Khalturin, D. K. and L. N. Popov

- 1968 Reproduction of Ladoga salmon in connection with hydrological peculiarities of some rivers. Sb. "Biologicheskie resursi Ladozhskogo ozera (zoologiya)", Leningrad.

Khalturina, M. I.

- 1966 The salmon (Salmo trutta L.) in the eastern part of the Gulf of Finland and its reproduction. VI, Vol.6(4).

Khalturina, M. I. and L. N. Shimanovskaya

- 1969 Biological characteristics of recent salmon school. RH No.8.

Klyavson, M. A.

- 1967 The influence of antibiotics on the microorganisms in the digestive tract of fish. Sb. Balt.NIIRH, No.2.
- 1967 The dynamics of changes of protein in salmon blood on different stages of growth. Sb. "Obmen veschestv i biokhimiya ryb." Moscow.
- 1970 Physiological changes in Baltic salmon at the period of smoltification. RH, No.3.

Kotov, N. D.

- 1951 Experiments on holding salmon spawners in cages. RH, No.7.
- 1955 Results of Baltic young salmon tagging. RH, No.7.

Kotov, N. D. (ctd)

- 1971 The state of artificial breeding of Baltic salmon in the Latvian SSR and its significance to the fishery. Sb. "Simpozium po vosproizvodstvu atlanticheskogo lososya", Murmansk.

Kotova, N. I.

- 1957 Breeding of young salmon on artificial food. Trudy Latviyskogo otdeleniya VNIRO, Vol.2.

Krussell, I.

- 1962 On the spawning biology of the sea trout in the Pidula river. Sb. "Biologiya vnutrennikh vodoyomov Pribaltiki", AN SSSR.

Kuchina, E. S.

- 1939 Data on fishing and biology of the salmon in the Luga river. Izvestiya VNIORH, Vol.21.

Kudersky, L. A.

- 1971 The state and the ways of increasing lake salmon stocks in reservoirs of the northwestern part of the USSR. Sb. "Simpozium po vosproizvodstvu atlanticheskogo lososya", Murmansk.

Kushnir, T. I.

- 1970 The dynamics of fat in the muscular tissue of juvenile Baltic salmon at artificial breeding. Sb. Balt.NIIRH, No.5.

Lebedeva, L. I. and L. S. Berg

- 1941 Some data on the behaviour and feeding of the Neva young salmon under natural conditions. RH. No.6.

Leizerovitch, H. A.

- 1971 Biological peculiarities of juvenile Atlantic salmon at plant breeding. Sb. "Simpozium po vosproizvodstvu atlanticheskogo lososya", Murmansk.

Leonova, M. and P. Persov

- 1940 Experiments on breeding Neva salmon until the fingerling stage. RH, No.10.

Lishev, M. N.

- 1953 On the relative number of the Baltic salmon schools. Trudy Latviyskogo otdeleniya VNIRO, Vol.1.
- 1958 On some problems of the abundance dynamics and fishery of Baltic salmon. Tezisy doklada na 6 nauchnoi konferensii po izucheniyu vodoyomov Pribaltiki.
- 1958 Some peculiarities of the population dynamics of the salmon stock of the eastern Baltic. ICES, CM 1958/Doc.No.10
- 1958 Differences in the structure of scales of Baltic salmon from various river populations. ICES, CM 1958/Doc.No.64.

Lishev, M. N.

- 1959 Some peculiarities of the population dynamics of the salmon stock of the eastern Baltic. Rapp.p.-v.Réun. Cons.int.Explor. Mer, 148:72-75.
- 1960 The effect of the fishery on the abundance of spawning Baltic salmon. ICES, CM 1960/Doc.No.117.
- 1961 Change of the size of Baltic salmon stocks in relation to the life conditions of the young and the effect of fisheries. ICES, CM 1961/Doc.No.117.

Lishev, M. N. and B. K. Evtukhova

- 1963 Characteristics of fishery and salmon stock in Latvia. ICES, CM 1964/Doc.No.4.

Lishev, M. N. and A. R. Mitans

- 1973 Correlational and ecological analysis of the effect of different factors on the growth of Baltic salmon parr in rivers. Sb. Balt.NIIRH, No.10.

Lishev, M. N. and E. Ya. Rimsh

- 1961 Some regularities of the abundance dynamics of Baltic salmon. Trudy nauchno-issledovatel'skogo instituta rybnogo khoziaistva Sovnarkhoza Latvyskoi SSR, Vol. 3, Riga.

Malikova, E. M.

- 1953 Chemical composition of some food invertebrates. Trudy Latviyskogo otdeleniya VNIRO, Vol.1.
- 1957 Biochemical estimation of young salmon in the transition stage before migration to the sea and of smolts in a period of detention in fresh water. ICES, CM 1957/Doc.No.65.
- 1957 Biochemical composition of young salmon in artificial breeding on full-value and avitaminous foods. Trudy Latviyskogo otdeleniya VNIRO, Vol.2.
- 1957 Biochemical analysis of young salmon at the time of their transformation to a condition close to the smolt stage and during retention of silver smolts in fresh water. Trudy Latviyskogo otdeleniya VNIRO, Vol.2.
- 1962 Breeding of young salmon on artificial food KRT-III. "Gidrobiologicheskie issledovaniya", Vol.3, AN SSSR, Institut zool. i botan., Tartu.
- 1962 Biochemical changes in the bodies of young salmon during their smoltification. Sb. "Biologiya vnutrennikh vodoyomov Pribaltiki", AN SSSR.
- 1966 On the preservation of stock and fishery of valuable fish species in view of hydroelectric development in river Daugava. Sb. Balt.NIIRH, No.1.
- 1966 The river Daugava from the point of view of pisciculturists. Nauka i tekhnika, No.4.
- 1967 Elaboration of the method of an accelerated breeding of juvenile salmon until smolt stage at fish breeding plants. Sb. Balt.NIIRH, No.3.

Malikova, E. M. (ctd)

- 1967 Some questions on the reproduction and consolidation of fish stocks in Latvia. VI, 7(6).

Malikova, E. M., S. O. Apine and R. E. Shaldaeva

- 1961 The prophylactical and medical use of vitamins against diseases of young salmon at the breeding plants. Trudy nauchno-issledovatel'skogo instituta rubnogo khoziaistva Sovnarkhoza Latvyskoi SSR, Vol.3, Riga.

Malikova, E. M. and V. M. Buiyenko

- 1966 The experience of treatment of young salmon poisoned by fluorine at the breeding plant Tome. RH, No.7.

Malikova, E. M. and Evtyukhova, B. K.

- 1972 Efficiency of artificial reproduction of Baltic salmon at fish breeding plants. RH, No.6.

Malikova, E. M. and T. P. Glagoleva

- 1968 The change of the morphological blood picture of Baltic salmon under the influence of malachite green. RH, No.5

Malikova, E. M. and N. I. Kotova

- 1961 The importance of antibiotics by artificial breeding of young salmon. Trudy nauchno-issledovatel'skogo instituta rybnogo khoziaistva Sovnarkhoza Latvyskoi SSR, Vol.3, Riga.
- 1963 Mass breeding of young salmon until the smolt stage in reduced time. RH, No.2 and: ICES, CM 1963/Doc.No.6.

Malikova, E. M., N. I. Kotova and N. S. Reznikova

- 1968 Biological technique of artificial breeding of juvenile salmon on the fodder mixture KRT. Sb. Balt.NIIRH.
- 1969 Breeding of juvenile Baltic salmon at fish breeding plants. Biotechnique and preparation of artificial food. KKT, Riga.

Mekhanik, F. Ya.

- 1956 Growth and metabolism in Ladoga salmon and rainbow trout fingerlings at various temperatures. ZZ, Vol.35(2).

Melnikova, M. N.

- 1971 Tagging of fish by active dichlorotriazine (M-propionic) dyes. Sb. "Rybkhoz. osvoenie vnutrennikh vodoyomov".

Melnikova, M. N. and P. M. Persov

- 1968 On tagging of juvenile salmon in the Varzuga river and in the Neva river. Trudy Karel'skogo otd. GosNIORH, Vol.5(2).

Mindel, N. V.

- 1963 Epizootology of salmon diplostomatose in the Narva fish breeding plant. Izvestiya GosNIORH, No.54.

Mitans, A. R.

- 1962 Some data on the biology of the salmon parr in the Latvian rivers. Trudy konferensii molodykh spetsialistov nauchno-issledovatel'skogo instituta rybnogo khoziaistva Sovnarkhoza Latviyskoi SSR, Riga.
- 1962 Distribution, growth and feeding of the young salmon in Latvian rivers. Sb. "Gidrobiologiya i ikhtiologiya vnutrennikh vodoyomov Pribaltiki", AN LSSR, Riga.
- 1963 Studies on the feeding habits of salmon parr in the Latvian rivers. ICES, CM 1963/Doc.No.3.
- 1963 Investigations of the food of the young salmon in Latvian rivers. Tezysi dokladov molodykh uchyonykh VNIRO.
- 1964 The food of salmon parr in Latvian rivers. Trudy molodykh uchyonykh, VNIRO, M.
- 1966 Interrelation between the feeding and growth of the young of Latvian salmon and the strength of salmon year classes. ICES, CM 1966/Doc.No.82.
- 1967 The conditions of smoltification, descent dynamics and number of salmon smolt in the river Salatsa. Sb. Balt.NIIRH, No.2.
- 1967 Ecological characteristics of the smoltification of salmon in Latvian rivers. ICES, CM 1967/M:13.
- 1968 The effect of feeding in the river on the growth of parr and on the quantity of salmon smolts. Sb. "Biol.resursy Belogo morya i vnutrennikh vodoyomov Karelii", Petrozavodsk.
- 1968 Some characteristics of wild and reared salmon smolts of Latvian salmon. Sb. Balt.NIIRH, No.4.
- 1969 Investigations on smolts in the river Salatsa 1967. Annls biol. Copenh. 25:236-237.
- 1969 Correlational search for links between feeding and growth of Baltic salmon fingerlings. Sb. "Gidrobiologiya i rybnoe khoziaistvo vnutr. vodoyomov Pribaltiki", Tallin.
- 1970 Feeding of Baltic salmon smolts in the river and in the sea. VI, 10, I (60).
- 1970 a) The application of tagging in the investigation of salmon smolts after their descent into the Gulf of Riga.
b) Behaviour, feeding and growth of reared juvenile salmon after the release into the river.
Sb. Balt.NIIRH, No.7.
- 1970 Investigations on parr growth and number of salmon smolts in the river Salatsa. Annls biol. Copenh. 26:257.
- 1971 Comparative characteristics of environmental conditions, feeding and growth of juvenile salmon in the rivers of Latvia. Sb. Balt.NIIRH, No.8.
- 1971 The efficiency of natural reproduction of Baltic salmon in Latvia. Sb. "Simpozium po vosproizvodstvu atlanticheskogo lososya", Murmansk.

Mitans, A. R. (ctd)

- 1972 The importance of the river period of life in the dynamics of Baltic salmon abundance. Trudy VNIRO, Vol.83.
- 1972 Investigations on salmon smolts in the river Salatsa 1971. Annls biol.Copenh. 28:199-200.
- 1972 The precocious males in the populations of salmon parr and smolts in the Latvian rivers. ICES, CM 1972/M:8.

Nikolskaya, I. S.

- 1965 The oxygen consumption by embryo of river Neva salmon (Salmo salar L.) during its development. VI, Vol.5(4).

Orav, V. I.

- 1956 Causes for the decrease of salmon catches in the Daugava river. RH, No.10.
- 1966 A cage for holding salmon brood fish in river. RH, No.8.
- 1966 The ways of decreasing the loss of salmon at artificial breeding. RH, No.9.

Persov, P.M.

- 1937 Fishing and culture of the Neva salmon.
Za rybnyu industriyu Severa, No.1.

Peslaks, Y. K.

- 1967 The influence of the quality of parents on the quality of juvenile salmon bred at fish breeding plants. Sb. "Obmen veschestv i biokhimiya ryb.", Moscow.
- 1967 The influence of the age and the growth rate of Baltic salmon females on the descendants at artificial reproduction. Sb. "Ikhtiologiya i ozjorn. rybn.khoz.", I(I), Riga.

Petrenko, L. A., R. V. Kazakov and G. M. Mishelovitch

- 1971 On the question of the regulation of water temperature during egg incubation of Atlantic salmon. Sb. XVI konf. po izuch. vnutr. vodoyomov Pribaltiki". Petrozavodsk.

Petrushevsky, G. K.

- 1957 Dropsy and relacing of the yolk-sac in Neva salmon larvae. Izvestiya VNIORH, Vol.42.

Pinsky, F. Ya.

- 1962 On a daily rhythm of feeding salmon yearlings. Byull.Moskovskogo obschestva estestvoispytatelei prirody, Vol.67(1).
- 1965 The feeding and degree of utilization of natural food supply by salmon parr during the rearing in pond. Trudy VNIIPRH, Vol.13.
- 1967 The feeding of stickleback (Pungitius pungitius) and its food interrelations with juvenile salmon (Salmo salar L.) in ponds of the fish breeding plant 'Tome' of the Latvian SSR. Izvestiya GosNIORH, Vol.63.

Pischula, G. V.

- 1951 Studies of the biology of Baltic young salmon during the river period. RH, No.9.

Popov, L. N.

- 1968 Preliminary results of juvenile salmon breeding in lakes chemically prepared. Sb. "Biol. resursy Belogo Morya i vnutrennikh vodoyomov Karelii", Petrozavodsk.
- 1971 Juvenile salmon breeding in lakes. Sb. "Simpozium po vosproizvodstvu atlanticheskogo lososya", Murmansk.

Pravdin, I. F.

- 1927 Salmon fishes of the Leningrad province. Trudy Leningradskogo obshchestva izucheniya mestnogo kraya, No.1.

Privol'nev, T. I.

- 1940 The development of the procedure of breeding young salmon until 1-2 year old in litaun basins and floating forms at a packed distribution with application of feeding (scientific and experimental work on the Neva fish breeding plant). Informationnyi sb. Konsultatsionnogo byuro, VNIORH, No.4, Leningrad.
- 1947 Critical oxygen pressure in water for various ages of young salmon (Salmo salar L.). D AN SSSR, Vol.58(6).
- 1952 The swelling of salmon eggs at the beginning of their development. D AN SSSR, Vol.84(3).
- 1953 Physiological characteristics of young salmon in the Salatsa river and in the ponds of the fishbreeding plant 'Pelchi'. Izvestiya VNIORH, Vol.33.
- 1953 Weight changes of salmon eggs during embryonic development. Izvestiya VNIORH, Vol.33.
- 1962 The character of spawning grounds for salmon in the Narva river. Nauchn.-tekhn. byull. GosNIORH, No.15.

Radzinskaya, L. I.

- 1966 Changes in the indices of blood of parr and spawners of the Neva river salmon (Salmo salar L.). VI, Vol.6(3).

Rudakov, N. P.

- 1958 The use of radioactive calcium (Ca^{45}) for marking of young salmon fish. ICES, CM 1958/Doc.No.7.

Siginevich, G. P.

- 1962 Assessment of the readiness of salmon fingerlings for wintering determined by the conditions of fattening. ICES, CM 1962/Doc.No.121.
- 1967 Nature of the relations between the increase in Baltic salmon fry and the temperature of the water. Gidrobiologichesky zhurnal, Vol.3(2).

Svetovidova, A. A.

- 1941 Data on the biology of the Neva salmon. ZZ, Vol.20(3).

Tikhii, M. I.

- 1950 Trends and biological technique of rearing Baltic salmon. Vestnik LGU, No.8.

Tolkunova, L. M.

- 1972 Some physiological data of juvenile Neva salmon (Salmo salar L.) bred in different temperature rate conditions. Sb. Chetvyortoe soveschanie molodykh nauchn. rabotnikov GosNIORH.

Vernidub, M. F.

- 1950 The ways of increasing incubation efficiency of salmon and white fish in the light of embryonal data. Vestnik LGU, No.8.
- 1951 Main causes for loss and reduction of eggs and larvae in salmon and white fish on fish breeding plants and the ways of their elimination. Uchenye zapiski LGU, No.142.
- 1962 Experimental analysis of the processes caused by poisoning of Baltic salmon with non-volatile (resin) phenols during the larval period of life. Uchenye zapiski, LGU, No. 311.
- 1963 Experimental proofs for procedure of speeding the embryonal development of salmon and its importance in the biotechnique of salmon culture. Vestnik LGU, Vol.1(3).
- 1964 Experimental proofs for procedure of speeding the embryonal development of salmon. Sb. nauchn.-tekhn. informat. VNIRO, Vol.12.
- 1967 Age change of Baltic salmon fingerlings and the effect of the breeding conditions on the state of the juveniles. RH, No.12.

Yandovskaya, N. I.

- 1967 The experience of lengthening of the vegetative period in breeding of Atlantic salmon fingerlings. Izvest. GosNIORH, Vol.63.
- 1971 Experiment with acceleration of Neva (Atlantic) salmon development and growth at plant reproduction, by means of temperature regulation of the water. Sb. "XVI konf. po izucheniyu vnutr. vodoymov Pribaltiki", Petrozavodsk.

Yandovskaya, N. I. and R. V. Kazakov

- 1971 On the results of experimental incubation of Atlantic salmon eggs (Salmo salar L.) in connection with regulation of temperature. Sb. "Simposium po vosproizvodstvu Atlanticheskogo lososya", Murmansk.

Zbarsky, I. B. and L. P. Ermolaeva

- 1961 On the composition of sperm nuclei in Baltic salmon. D AN SSSR, Vol.140(1).

Zhukovsky, N. D.

- 1939 Artificial breeding of the Neva salmon. Izvest. VNIORH, Vol.21.

Zhukovsky, N. D. and A. N. Svetovidova

- 1941 Culture of a salmon fingerling. Izvest. VNIORH, Vol.24.
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Agreement between Denmark, the Federal Republic of Germany and Sweden on the protection of salmon in the Baltic

Overenskomst angående beskyttelse
af laksebestanden i Østersøen

Kongeriget Danmark, Forbundsrepublikken Tyskland og Kongeriget Sverige er ud fra ønsket om at afslutte en overenskomst om beskyttelse af laksebestanden (*Salmo salar*) i Østersøen enedes om følgende:

Artikel 1.

Det område, på hvilket denne overenskomst finder anvendelse, omfatter Østersøen, herunder Den botniske Bugt og Finske Bugt. Dette område begrænses mod Øresund samt Store Bælt og Lille Bælt af følgende linier:

- a) Falsterbo fyr—Stevns fyr.
- b) Jungshoved—Bøgenæssand.
- c) Hestehoved fyr—Maddes klint.
- d) Skelby kirke—Flinthorne Odde.
- e) Kappel kirke—Gulstav.
- f) Ristingehale—Ærøhale.
- g) Skjoldnæs—Pøls Huk.
- h) Chr. d. X's bro ved Sønderborg.

Artikel 2.

Ingen bestemmelse i denne overenskomst må fortolkes således, at den gør indskrænkning i den eneret, der tilkommer en kontraherende parts skibe til at drive fiskeri i farvande, hvor fiskeriet udelukkende er undergivet den kontraherende parts højhedsret.

Artikel 3.

Ingen bestemmelse i denne overenskomst må fortolkes således, at

Übereinkommen über den Schutz
des Lachsbestandes in der Ostsee

Das Königreich Dänemark, die Bundesrepublik Deutschland und das Königreich Schweden sind, in dem Wunsch ein Übereinkommen über den Schutz des Lachsbestandes (*Salmo salar*) in der Ostsee abzuschliessen, wie folgt übereingekommen:

Artikel 1.

Der Anwendungsbereich dieses Übereinkommens umfasst die Ostsee einschliesslich des Bottnischen Meerbusens und des Finnischen Meerbusens. Dieses Gebiet wird gegen den Øresund und den Grossen und den Kleinen Belt durch folgende Linien begrenzt:

- a) Falsterbo Feuer—Stevns Feuer.
- b) Jungshoved—Bøgenæssand.
- c) Hestehoved Feuer—Maddes Klint.
- d) Skelby Kirche—Flinthorne Odde.
- e) Kappel Kirche—Gulstav.
- f) Ristingehale—Ærøhale.
- g) Skjoldnæs—Pøls Huk.
- h) Christian X-Brücke bei Sønderborg.

Artikel 2.

Keine Bestimmung dieses Übereinkommens darf so ausgelegt werden, dass sie das ausschliessliche Recht von Schiffen einer Vertragspartei beeinträchtigt, Fischfang in Gewässern zu betreiben, in denen die Vertragspartei ausschliessliche Hoheitsgewalt über die Fischerei hat.

Artikel 3.

Keine Bestimmung dieses Übereinkommens darf so ausgelegt werden,

Överenskommelse rörande skydd för
beståndet av lax i Östersjön

Konungariket Danmark, Förbundsrepubliken Tyskland och Konungariket Sverige, vilka önska träffa överenskommelse om åtgärder till skydd för beståndet av lax (*Salmo salar*) i Östersjön, ha överenskommit om följande:

Artikel 1.

Det område, på vilket denna överenskommelse äger tillämpning, omfattar Östersjön, vari inbegripes Bottniska Viken och Finska Viken. Detta område begränsas mot Öresund samt Stora och Lilla Bält av följande linjer:

- a) Falsterbo fyr—Stevns fyr.
- b) Jungshoved—Bøgenæssand.
- c) Hestehoved fyr—Maddes Klint.
- d) Skelby kyrka—Flinthorne Odde.
- e) Kappel kyrka—Gulstav.
- f) Ristingehale—Ærøhale.
- g) Skjoldnæs—Pøls Huk.
- h) Christian X:s bro i Sønderborg.

Artikel 2.

Ingen bestämmelse i denna överenskommelse skall anses inkräkta på den uteslutande rätt, som tillkommer fördragsslutande parts fartyg att bedriva fiske på vatten, varöver denna fördragsslutande part har uteslutande jurisdiktion med avseende å fisket.

Artikel 3.

Ingen bestämmelse i denna överenskommelse skall anses inkräkta

den gør indskrænkning i en kontraherende parts krav med hensyn til søterritoriets grænser.

Artikel 4.

Bestemmelserne i denne overenskomst finder anvendelse på alle de kontraherende parter tilhørende skibe, som befinder sig indenfor eller udenfor de farvande, i hvilke fiskeriet udelukkende er undergivet en kontraherende parts højhedsret.

Artikel 5.

De kontraherende parter tillader ikke, at der til laksefiskeri med garn eller kroge benyttes redskaber, der har andre mål end de nedenfor nævnte:

Drivgarn til laksefangst skal være af en sådan beskaffenhed, at et fladt måleinstrument af en tykkelse på 2 millimeter let kan trækkes igennem det våde garns i længderetningen diagonalt udtrukne masker. Dette måleinstrumentets bredde skal for så vidt angår drivgarn af naturlige fibre og drivgarn af syntetiske fibre udgøre henholdsvis 165 millimeter og 157 millimeter.

Drivgarn, der allerede er i brug, og hvis maskestørrelse er mindre end 170 millimeter (garn af naturlige fibre) henholdsvis mindre end 160 millimeter (garn af syntetiske fibre) kan, indtil de er slidt op, fortsat anvendes, dog ikke udover 5 år, regnet fra dagen for denne overenskomsts ikrafttræden.

dass sie die Ansprüche einer Vertragspartei bezüglich der Grenzen ihrer Hoheitsgewässer beeinträchtigt.

Artikel 4.

Die Bestimmungen dieses Übereinkommens sind auf alle Schiffe der Vertragsparteien anzuwenden, die sich innerhalb oder ausserhalb der Gewässer befinden, in denen eine Vertragspartei die ausschliessliche Hoheitsgewalt über die Fischerei hat.

Artikel 5.

Die Vertragsparteien werden nicht zulassen, dass bei der mit Netzen oder Angeln betriebenen Lachsfischerei Geräte benutzt werden, die andere als die nachstehend vorgeschriebenen Masse haben:

Treibnetze zum Fang von Lachsen müssen so beschaffen sein, dass ein flaches Messinstrument mit einer Stärke von 2 Millimetern leicht durch die diagonal in die Länge gezogenen Maschen des nassen Netzes gezogen werden kann. Die Breite dieses Messinstruments hat für Treibnetze aus Naturfasern 165 Millimeter, für Treibnetze aus synthetischen Fasern 157 Millimeter zu betragen.

Treibnetze, die schon in Gebrauch sind und deren Maschengrösse kleiner als 170 Millimeter (Netze aus Naturfasern) bzw. kleiner als 160 Millimeter (Netze aus synthetischen Fasern) ist, dürfen weiter benutzt werden, bis sie aufgebraucht sind, jedoch nicht länger als 5 Jahre nach dem Tage des Inkrafttretens dieses Übereinkommens.

på någon fördragsslutande parts anspråk ifråga om gränserna för territorialvattnet.

Artikel 4.

Bestämmelserna i denna överenskommelse äga tillämpning på de fördragsslutande parternas samtliga fartyg, vilka befinna sig på eller utanför vatten, där den fördragsslutande parten har uteslutande jurisdiktion med avseende å fisket.

Artikel 5.

De fördragsslutande parterna skola icke tillåta att vid fiske efter lax med nät eller krok användas redskap med andra mått än som nedan angivas:

Laxdrivnäten skola vara så beskaffade, att en flat mätsticka av 2 millimeters tjocklek lätt kan föras genom maskorna, när dessa äro sträckta diagonalt i nätets längdriktning och detta är vått. Bredden på detta mätinstrument skall för drivnät av naturfiber uppgå till 165 millimeter och drivnät av syntetiska fiber 157 millimeter.

Drivnät, som redan äro i bruk och vars maskstorlek är mindre än 170 millimeter om näten äro av naturfiber respektive 160 millimeter om näten äro av syntetiska fiber, få användas fortsättningsvis till dess de äro utnötta, dock icke längre än 5 år efter dagen för denna överenskommelses ikraftträdande.

Spændvidden for fiskekroge (korteste afstand mellem krogspids og skaft) i drivlinor og faste liner, der anvendes til laksefangst, skal udgøre mindst 19 millimeter. Fiskekroge, der allerede er i brug, og hvis spændvidde udgør mindre end 19 millimeter, kan fortsat anvendes, dog ikke udover 3 år, regnet fra dagen for denne overenskomst ikrafttræden.

Artikel 6.

Intet skib må beholde laks ombord, som er fanget i de i artikel 1 angivne farvande, og som ikke har et mindstemål af 60 centimeter (målt fra snudespids til halefinnens yderste endepunkt). Sådanne laks skal straks igen udsættes i havet.

Artikel 7.

Enhver af de kontraherende parter forpligter sig til at fastsætte regler, der forbyder at ilandbringe, tilbyde, i salgsøjemed opbevare, falbyde, sælge, på anden måde omsætte eller med videresalg for øje købe laks, der ikke har det i Artikel 6 angivne mindstemål. Et sådant forbud angår kun laks, der er fanget i de i artikel 1 i denne overenskomst angivne farvande.

Artikel 8.

Bestemmelserne i denne overenskomst finder ikke anvendelse på fiskefangst, der foregår til røgt og pleje af fiskebestanden eller til videnskabelige formål, og på de herved fangne laks. Sådanne laks kan ilandbringes til videnskabelige formål; ivotrigt finder artikel 7 anvendelse.

Die Spannweite der Angelhaken (kürzester Abstand zwischen Haken spitze und Schenkel) an Treibleinen und festen Leinen, die zum Fang von Lachsen verwendet werden, muss mindestens 19 Millimeter betragen. Angelhaken, die schon in Gebrauch sind und deren Spannweite weniger als 19 Millimeter beträgt, dürfen weiter verwendet werden, jedoch nicht länger als 3 Jahre nach dem Tage des Inkrafttretens dieses Übereinkommens.

Artikel 6.

Kein Schiff darf Lachse, die in den in Artikel 1 bezeichneten Gewässern gefangen worden sind, und nicht ein Mindestmass von 60 Zentimeter (gemessen von der Maulspitze bis zum äussersten Ende der Schwanzflosse) haben, an Bord behalten. Solche Lachse müssen sofort in die See zurückgeworfen werden.

Artikel 7.

Jede Vertragspartei wird Vorschriften erlassen, die verbieten, Lachse, die nicht das in Artikel 6 bezeichnete Mindestmass haben, anzulanden, anzubieten, zum Verkauf vorrätig zu halten, feilzuhalten, zu verkaufen, sonst in den Verkehr zu bringen oder zum Zweck des Weiterverkaufs zu kaufen. Ein solches Verbot bezieht sich nur auf Lachse, die in den in Artikel 1 dieses Übereinkommens bezeichneten Gewässern gefangen worden sind.

Artikel 8.

Die Bestimmungen dieses Übereinkommens beziehen sich nicht auf den Fischfang, der zur Pflege des Fischbestandes oder zu wissenschaftlichen Zwecken betrieben wird, und auf die dabei gefangenen Lachse. Solche Lachse dürfen für wissenschaftliche Zwecke angelandet werden; im übrigen findet Artikel 7 Anwendung.

Gapet på krok (kortaste avståndet mellan krokens spets och skaft) på drivlinor och fasta linor, som användas vid fiske efter lax, skall uppgå till minst 19 millimeter. Krokar, som redan äro i bruk och vars gap är mindre än 19 millimeter, få användas fortsättningsvis, dock icke längre än 3 år efter dagen för denna överenskommelses ikraftträdande.

Artikel 6.

Inget fartyg må behålla ombord inom det i artikel 1 angivna vattenområdet fångad lax, vilken är mindre än 60 centimeter (mätt från nosspetsen till stjärtfenans yttersta spets). Sådant lax skall omedelbart ut sättas i havet.

Artikel 7.

Varje fördragsslutande part skall utfärda föreskrifter med förbud att ilandföra, utbjuda, för försäljningsändamål hålla i lager, saluhålla, sälja, på annat sätt föra i handeln eller i återförsäljningssyfte köpa lax, som understiger det i artikel 6 föreskrivna minimimåttet. Detta förbud gäller endast lax, som fångats i det i artikel 1 av denna överenskommelse angivna vattenområdet.

Artikel 8.

Bestämmelserna i denna överenskommelse skola icke äga tillämpning på fiske, som bedrives för fiskevårdande eller vetenskapliga ändamål, eller på lax, som fångas vid sådant fiske. Sålunda fångad lax må för vetenskapliga ändamål ilandföras; i övrigt äger artikel 7 tillämpning.

Artikel 9.

Enhver af de kontraherende parter forpligter sig til at fastsætte de til gennemførelsen af denne overenskomst nødvendige regler. Disse regler skal også være gældende for laksefangst i de farvande, i hvilke fiskeriet udelukkende er undergivet den kontraherende parts højhedsret.

De kontraherende parter forpligter sig til at tilstille hinanden teksterne til de regler, der fastsættes til gennemførelsen af denne overenskomst.

Artikel 10.

Der oprettes en stående kommission, i hvilken enhver af de kontraherende parter er repræsenteret ved et stemmeberettiget medlem. Enhver af de kontraherende parter kan desuden udpege sagkyndige og rådgivere. Kommissionen træffer sine beslutninger eenstemmigt.

Kommissionen har til opgave at etablere og samordne tekniske kontakter med mellemfolkelige organisationer, videnskabsmænd og de kontraherende parters forskningsinstitutter med det formål at fremme laksebestanden i Østersøen, genopbygningsmetoderne og den rationelle udnyttelse af laksebestanden. Kommissionen bør yderligere på grundlag af foreliggende materiale ytre sig om formålstjenligheden af ændringer i og tilføjelser til denne overenskomst og om fornødent forelægge de kontraherende parter passende forslag.

Kommissionen fastsætter selv sin forretningsorden.

Artikel 9.

Jede Vertragspartei wird die zur Durchführung dieses Übereinkommens erforderlichen Vorschriften erlassen. Diese Vorschriften haben sich auch auf den Lachsfang in den Gewässern, in denen die Vertragspartei die ausschliessliche Hoheitsgewalt über die Fischerei hat, zu erstrecken.

Die Vertragsparteien werden sich die Texte der Vorschriften übermitteln, die zur Durchführung dieses Übereinkommens erlassen werden.

Artikel 10.

Es wird ein Ständiger Ausschuss errichtet, in den jede Vertragspartei einen stimmberechtigten Vertreter entsendet. Jede Vertragspartei kann ausserdem Sachverständige und Berater benennen. Der Ausschuss fasst seine Beschlüsse einstimmig.

Der Ausschuss hat die Aufgabe, zur Förderung des Lachsbestandes in der Ostsee, der Reproduktionsverfahren und der rationellen Ausbeutung des Lachsbestandes technische Kontakte mit zwischenstaatlichen Organisationen, Forschungsinstituten der Vertragsparteien und Wissenschaftlern herzustellen und zu koordinieren. Der Ausschuss soll ferner unter Berücksichtigung des zur Verfügung stehenden Materials über die Zweckmässigkeit von Änderungen oder Ergänzungen dieses Übereinkommens beraten und erforderlichenfalls den Vertragsparteien entsprechende Vorschläge unterbreiten.

Der Ausschuss wird sich eine Verfahrensordnung geben.

Artikel 9.

Varje fördragsslutande part skall utfärda för denna överenskommelses efterlevnad erforderliga föreskrifter. Dessa föreskrifter skola även inbegripa fiske efter lax å vatten, var-över den fördragsslutande parten har uteslutande jurisdiktion med avseende å fisket.

De fördragsslutande parterna skola tillställa varandra texterna till de föreskrifter, som utfärdas för denna överenskommelses efterlevnad.

Artikel 10.

Ett ständigt utskott skall upprättas, i vilket varje fördragsslutande part skall representeras av ett röstberättigat ombud. Varje fördragsslutande part kan härutöver utse sakkunniga och rådgivare. Utskottet fattar sina beslut enhälligt.

Utskottet har till uppgift att för främjandet av beståndet av lax i Östersjön, reproduktionsmetoderna och det rationella utnyttjandet av laxbeståndet utveckla och samordna tekniska kontakter med internationella organisationer, forskningsinstitut tillhörande de fördragsslutande parterna och vetenskapsmän. Vidare skall utskottet på grundval av till förfogande stående material överväga, om det finnes skäl att företaga ändringar eller tillägg till bestämmelserna i denna överenskommelse och om så erfordras avgiva förslag härom till de fördragsslutande parterna.

Utskottet skall utarbeta sin egen arbetsordning.

Kommissionen træder sammen efter anmodning af en af de kontraherende parter, dog mindst een gang hvert 3. år.

Kongeriget Sveriges regering indkalder snarest muligt efter denne overenskomsts ikrafttræden kommissionen til dens første møde.

Enhver af de kontraherende parter afholder omkostningerne for vedkommende parts repræsentant, sagkyndige og rådgivere.

Artikel 11.

Overenskomsten skal ratificeres. Ratifikationsdokumenterne deponeres hos Kongeriget Sveriges regering.

Overenskomsten træder i kraft 2 måneder efter, at samtlige ratifikationsdokumenter er deponeret. Kongeriget Sveriges regering underretter de øvrige kontraherende parter om ratifikationsdokumenternes deponering og overenskomstens ikrafttræden.

Artikel 12.

De kontraherende parter kan i fællesskab beslutte at indbyde andre stater til at tiltræde denne overenskomst. En på denne måde indbudt stats tiltrædelse sker ved deponering af et tiltrædelsesdokument hos Kongeriget Sveriges regering.

Kongeriget Sveriges regering underretter de stater, som har undertegnet eller tiltrådt denne overenskomst om tidspunktet for deponeringen af tiltrædelsesdokumenterne.

Der Ausschuss tritt auf Antrag einer der Vertragsparteien zusammen, jedoch mindestens einmal innerhalb von 3 Jahren.

Die Regierung des Königreichs Schweden wird sobald wie möglich nach Inkrafttreten dieses Übereinkommens den Ausschuss zu seiner ersten Sitzung einberufen.

Jede Vertragspartei trägt die Kosten für ihren Vertreter, ihre Sachverständigen und ihre Berater.

Artikel 11.

Das Übereinkommen bedarf der Ratifikation. Die Ratifikationsurkunden werden bei der Regierung des Königreichs Schweden hinterlegt.

Das Übereinkommen tritt 2 Monate nach Hinterlegung sämtlicher Ratifikationsurkunden in Kraft. Die Regierung des Königreichs Schweden wird die übrigen Vertragsparteien von der Hinterlegung der Ratifikationsurkunden und vom Inkrafttreten des Übereinkommens unterrichten.

Artikel 12.

Die Vertragsparteien können gemeinsam beschliessen, andere Staaten zum Beitritt zu diesem Übereinkommen einzuladen. Der Beitritt eines auf diese Weise eingeladenen Staates erfolgt durch Hinterlegung der Beitrittsurkunde bei der Regierung des Königreichs Schweden.

Die Regierung des Königreichs Schweden wird diejenigen Staaten, die dieses Übereinkommen unterzeichnet haben oder ihm beigetreten sind, über den Zeitpunkt der Hinterlegung der Beitrittsurkunden unterrichten.

Utskottet skall sammanträda på framställning av någon av de fördragsslutande parterna, dock minst en gång inom loppet av 3 år.

Konungariket Sveriges regering skall så snart som möjligt efter denna överenskommelses ikraftträdande kalla utskottet till dess första sammanträde.

Varje fördragsslutande part skall svara för kostnaderna för sitt ombud samt sina sakkunniga och rådgivare.

Artikel 11.

Denna överenskommelse skall ratificeras. Ratifikationsinstrumenten skola deponeras hos Konungariket Sveriges regering.

Överenskommelsen träder i kraft 2 månader efter det att samtliga ratifikationsinstrument deponerats. Konungariket Sveriges regering skall underrätta de övriga fördragsslutande parterna om deponering av ratifikationsinstrumenten och om överenskommelsens ikraftträdande.

Artikel 12.

De fördragsslutande parterna kunna gemensamt besluta att inbjuda andra stater att ansluta sig till denna överenskommelse. Anslutningen av en på detta sätt inbjuden stat sker genom deponering av anslutningsdokument hos Konungariket Sveriges regering.

Konungariket Sveriges regering skall underrätta de stater, som undertecknat eller anslutit sig till denna överenskommelse, om tidpunkten för deponeringen av anslutningsdokumenten.

Artikel 13.

Denne overenskomst kan, når der er forløbet 3 år fra dens ikrafttræden, opsiges ved skriftlig meddelelse til Kongeriget Sveriges regering. Opsigelsen har retsvirkning 12 måneder efter, at meddelelsen er kommet frem til Kongeriget Sveriges regering. Denne underretter de øvrige kontraherende parter om opsigelsen.

Til bekræftelse af dette har undertegnede befuldmægtigede underskrevet denne overenskomst og forsynet den med deres segl. Udfærdiget i Stockholm den 20. december 1962 i dansk, tysk og svensk affattelse, hvis ordlyd har samme gyldighed, i eet originaleksemplar, der deponeres hos Kongeriget Sveriges regering. Denne tilstiller regeringerne i Kongeriget Danmark og Den tyske Forbundsrepublik bekræftede afskrifter af originaldokumentet.

Artikel 13.

Dieses Übereinkommen kann nach Ablauf von 3 Jahren nach seinem Inkrafttreten durch schriftliche Mitteilung an die Regierung des Königreichs Schweden gekündigt werden. Die Kündigung wird 12 Monate nach Eingang der Mitteilung bei der Regierung des Königreichs Schweden wirksam. Diese wird die übrigen Vertragsparteien von der Kündigung unterrichten.

Zu Urkund dessen haben die unterzeichneten Bevollmächtigten dieses Übereinkommen unterschrieben und mit ihren Siegeln versehen. Geschehen in Stockholm am 20. Dezember 1962 in dänischer, deutscher und schwedischer Fassung, deren Wortlaut gleichermassen verbindlich ist, in einer Urschrift, die bei der Regierung des Königreichs Schweden hinterlegt wird. Diese wird den Regierungen des Königreichs Dänemark und der Bundesrepublik Deutschland beglaubigte Abschriften der Urschrift übermitteln.

E. Blytgen-Petersen
(L. S.)

Dr. Karl Werkmeister
(L. S.)

Torsten Nilsson
(L. S.)

Stockholm, 20 December 1962

Artikel 13.

Denna överenskommelse kan, sedan 3 år förflutit efter det den trätt i kraft, uppsägas genom skriftligt meddelande till Konungariket Sveriges regering. Uppsägningen blir giltig 12 månader efter det den mottagits av Konungariket Sveriges regering. Denna skall underrätta de övriga fördragsslutande parterna om uppsägningen.

Till bekräftelse härav hava undertecknade befullmäktigade ombud undertecknat denna överenskommelse och därpå anbragt sina sigill. Som skedde i Stockholm den 20 december 1962 på danska, tyska och svenska språken, vilka texter äga lika vitsord, i ett exemplar som skall deponeras hos Konungariket Sveriges regering. Denna skall sända bestyrkta avskrifter därav till Konungariket Danmarks och Förbundsrepubliken Tysklands regeringar.

