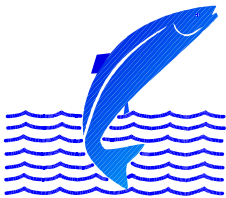


**Icelandic Salmon, Trout and Charr
Catch Statistics 1999**

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CONTENTS

INTRODUCTION..... 1

METHODS..... 2

RESULTS..... 3

 Sport fishery..... 3

 Net fishery..... 3

 Ocean ranching..... 3

 The salmon catch and harvest..... 3

DISCUSSION..... 4

REFERENCES..... 5

FIGURES AND TABLES..... 6-18

INTRODUCTION

There are five fish species in freshwater in Iceland. These are the salmonid species, Atlantic salmon (*Salmo salar*), brown trout (*Salmo trutta*) and Arctic charr (*Salvelinus alpinus*). The other two are, European eel (*Anquilla anquilla*) and three-spined sticklebacks (*Gasterosteus aculeatus*). Of these species salmon is of the greatest economic importance.

The fishing season in Icelandic rivers is 3 1/2 months during the period from 20th of May to 30th of September. The daily fishing period is 12 hours, between sunset to dawn, and fishing is always closed between 3 am to 7 am. In most Icelandic rivers rod and line is the only allowed fishing gear. There is a fixed number of rods used in each river as decided by the Directorate of Freshwater Fisheries. As a rule of thumb 1fish/day/rod, on the average, is used for deciding the number of rods allowed.

Net fishery only takes place in the largest glacial rivers. There has been a general ban on ocean salmon fishing in Icelandic waters since 1932. An exception were 5 localities in the western part of Iceland (Vesturland) (Fig 1). At these localities gillnets, set out from land, have been used. In the year 1998 these fishing rights were permanently bought out by fishery associations in nearby rivers with the governmental support. This is possible since salmon caught by anglers are more valuable than salmon in net fishery. All salmon harvested in Iceland is in fresh water and mostly based on single stock fishery.

The fishing rights go with the ownership of the land adjacent to the rivers. The landowners are usually farmers. All the owners of the fishing rights in a river system form a fishery association, which manages the exploitation of the fish stocks, within the frame set by the law. Usually the association rents or leases the fishing rights to angling clubs or directly to anglers.

The catch is recorded in special logbooks in the fishing lodges. At the end of each fishing season the logbooks are gathered by the Institute of Freshwater Fisheries. Statistical information are then processed. The information are sent back to the fisheries associations with new logbooks before the next fishing season.

Statistics from Icelandic rivers for the 1999 fishing season have now been processed and the main results are in this report. This work is based on Gudbergsson (2000), Lax- og silungsveiðin 1999, Report from the Institute of Freshwater Fisheries (in Icelandic). Statistics have been compiled this way since 1974.

METHODS

Iceland is divided into several statistical regions regarding salmon catches (Figure 1.) Information on the catch in each region is summarized. The results from all regions are then combined for the whole country. The catch statistic for each river is summarized by method. The harvesting methods used are rod and line and gillnets. Ocean ranching harvest is also summarised. By tradition the weight of freshwater fish in Iceland was usually measured in pounds where 1 pound = 500 g. Before the 1999 fishing season this was changed to kg with accuracy of 0,1 kg. Length is measured in cm. For each fish, date of catch, locality in the river and name of the fisherman is recorded. Fishing localities are often numbered for ease of processing.

The salmon catch is divided by weight into grilse (1SW, one winter at sea) and salmon (2SW, two winter at sea). Males up to 4 kg and females up to 3,5 kg are grilse and larger individuals are salmon. This deviation usually shows the same results as aging by scales. Salmon older than 2 winters at sea are rare.

Brown trout and arctic charr are caught in many rivers as by-catch with the salmon. In other rivers these two species are the most dominant species. In this report there is no difference made between stationary trout and sea-trout, and searun arctic charr and stationary arctic charr.

Catch-and-release has been increasing in popularity. The catch is processed separately for the total catch and the catch landed.

RESULTS

Sport fishery

A total of 31.438 salmon and 96,8 tonnes were caught by rod in Icelandic rivers in 1999 (Table 1). This is a 22 % decrease, by number, from the 1998 season (Table 2. Figure 3), and 11,3 % lower than the 1974-1998 average. The highest number of salmon was caught in River Rangá 2.536 and a list of the top 10 salmon rivers is shown in Table 3.

Of the 31.438 salmon in the rod catch, 3.055 were caught and released (Table 2), this is 9,7 % of the catch.

A total of 33.729 brown trout was recorded, there of 6.313 fish in River Laxá í Þing. with the highest catch (Table 4). The total catch of arctic charr was 34.879 fish with the highest catch in River Viðidalssá og Fitjá with a number of 3.824 fish (Table 5).

Of the statistical regions in Iceland the highest number of salmon was caught in the rod fishery in Vesturland 14.088 salmon and lowest in Vestfirðir 607 salmon (Tables 6-12).

Net fishery

In the net fishery 6.657 salmon and 23,6 tonnes were caught in rivers. The salmon catch, in numbers, in gillnets was 11% higher than the 1998 fishing season but 45% lower than the 1974 - 1998 average. (Table 2; Figure 3).

Ocean ranching

A total of 9.648 salmon and 26,1 tonnes, returned to ocean ranching facilities in 1999. The total number of salmon returning from ocean ranching has been declining for the last few years (Figure 4).

The salmon catch and harvest

The total number of salmon caught in the sports fishery and gillnets as well as returning to ocean ranching sites was 44.688 salmon with a total weight of 146,6 tonnes. In the rod fishery 22.380 fish (71,2%) were grilse (1SW) and 9.058 (28,8 %) were salmon (MSW) (Table 13). In the rod fishery the grilse/salmon ratio was 2,5, in gillnets 2,5 and 12,8 in ocean ranching (Table 14).

For long term comparison, the catch in Icelandic salmon rivers is given for the period 1974-1999 with a calculation of average, maximum and minimum catch (Table 15). In similar way the catch of brown trout is given in Table 16 and arctic charr in Table 17 for the period from 1987-1999.

Gillnet catch of salmon brown trout and arctic charr and salmon is shown in table 18.

Salmon fishery based on put and take fishery with salmon transported from ocean ranching station was in one river (Table 19).

DISCUSSION

Since 1932 there has been a general ban on ocean fishery in Icelandic waters with the exception of few locations with coastal fishery. The number of nets has been lowering due to lease of nets and buy-out of fishing rights, by anglers and river owners. Now the fishing rights in coastal areas have been bought-out permanently with the support from the government. Since the 1998 fishing season all salmon were harvested in freshwater. Since the number of rods used has been almost the same for the past 26 years the catch can be used as an indicator of the size of the salmon run. As seen from the catch statistics the salmon catch in rivers in the same area show similar fluctuations.

The proportion of MSW fish is usually higher in rivers in the North and Northeast Iceland. There is a correlation between the number of grilse (1SW) and salmon (MSW) the year after i.e. from the same smolt run (Scarnecchia 1984).

The number of salmon in ocean ranching has been declining due to lower number of released smolts and low return rates. Since some strayers from ocean ranching have been caught in the rod catch this can affect the total number of catch in rivers. On the other hand some wild salmon have been caught in ocean ranching facilities.

There are considerable fluctuations in the salmon catch in Iceland. Usually salmon catch in rivers in the same region fluctuate together. The size of the salmon run is decided by the number of smolts and the survival at sea. There are common factors affecting the production of smolts in the rivers and the return rates from the ocean. Climatic factors are of greatest importance and significant correlation has been found between the catch of grilse and ocean temperature at the time the smolts are migrating (Scarnecchia 1984; Antonsson et. al. 1996). There are also significant correlations between the catch of grilse and salmon the year after in many rivers (Scarnecchia 1984, Scarnecchia et.al. 1989). The grilse/salmon ratio has been lower in the past years than in the sixties and seventies. Reasons for this are not clear but this seems to be connected to environmental factors (Gudjonsson et.al. 1995.) These changes affect the catch in rivers with high proportion of MSW.

The exploitation rate in rod fisheries in Icelandic rivers are believed to be between 30-80% (Gudjonsson 1986). Recent information on exploitation in the rod fishery indicates that it can, in many rivers, be high (Gudjonsson et. al. 1996).

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13 14 15 16 17 18 19 20 21

Reykjanes

**Norðurland
vestra**

Vesturland

Norðurland eystra

Vestfirðir

Austurland

Suðurland

Figure 1. Statistical regions used to divide the salmon catch in Iceland.