WORKING GROUP ON NORTH ATLANTIC SALMON (WGNAS)

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i Executive summary

WGNAS met to consider the status of, and threats to, Atlantic salmon in the North Atlantic Salmon Conservation Organization (NASCO) commission areas: West Greenland (WGC), North American (NAC), and Northeast Atlantic (NEAC). Information on the catch and exploitation, including salmon caught and released, and nominal harvest, as well as tagged and marked fish releases are provided by country and jurisdiction for the entire North Atlantic area.

Numerous countries / jurisdictions reported to ICES on record or near record low returns of 1SW salmon in 2023 and again for 2024, with record low returns of MSW salmon in 2024 reported in five jurisdictions. These record low adult abundances, the estimated declines in post-smolt survival across stock units, and the general absence of any improvements in abundance highlight the concern that large-scale marine stressors at the North Atlantic scale are impacting salmon. While direct management interventions to mitigate the impacts of oceanic factors are limited, management actions to improve survival in, and production from, the in-river, estuarine, and coastal waters are key to species and stock resilience.

Emerging threats were considered, in particular increased levels of lamprey damage on smolts in Lough Neagh (UK Northern Ireland) and a substantial mass mortality of adult salmon Mass mortality of returning salmon to Ballisodare River (Ireland) caused by gill damage by marine phytoplankton, mechanical damage navigating barriers under low water conditions, and secondary Saprolegnia (skin fungus) infections.

New scientific advancements reported on include Quebec using the relationship between 1SW returns in one year and 2SW return the following year, to protect 2SW salmon returns in 2024 on the basis of record low returns of 1SW salmon in 2023.

In 2024, the Northern NEAC 1SW and MSW returns stock components were considered to be at full reproductive capacity, but among the lowest in the time-series. The 2024 estimate of 1SW spawners was considered to be at full reproductive capacity but MSW spawners were considered to be at risk of suffering reduced reproductive capacity with the estimate being the fifth lowest in the time-series.

In 2024, the southern NEAC 1SW and MSW returns stock components were considered to be at risk of suffering reduced reproductive capacity, with the estimates being the fifth and second lowest in the time-series. The 1SW and MSW spawners stock components were considered to be suffering reduced reproductive capacity and both being the fifth lowest in their time-series.

In 2024, the estimated small (mainly 1SW) salmon returns to North America were the lowest since 1973 and have declined relative to the previous five-year mean for all NAC regions, except for the US which remained at low levels. The abundances of large salmon (MSW salmon including maiden and repeat spawners), as well as the 2SW maiden component, returns to North America in 2024 were the lowest of the 55-year time-series and declined relative to the previous five-year mean in all NAC regions.

ii Expert group information

Expert group name	Working Group on North Atlantic Salmon (WGNAS)
Expert group cycle	Annual
Year cycle started	2025
Reporting year in cycle	1/1
Chair(s)	Alan Walker, UK
Meeting venue(s) and dates	17-27 March 2025, Rennes, France (33 participants)

1 Introduction

1.1 Main tasks

On 09 December 2024, ICES resolved in 2024/AT/FRSG19 that the Working Group on North Atlantic Salmon (WGNAS) would meet from 17-27 March 2025 in Rennes, France chaired by Alan Walker (UK).

WGNAS met according to this schedule, to address the ToR based on questions posed to ICES by the North Atlantic Salmon Conservation Organization (NASCO).

The terms of reference were met.

The sections of the report which provide the answers to the questions posed by NASCO are identified below:

Question posed by NASCO		Report section
No.		
1	**With respect to Atlantic salmon in the North Atlantic area:**	Section 2
1.1	provide an overview of salmon catches and landings by country, including unreported catches and catch and release, and production of farmed and ranched Atlantic salmon in 2024;[1]	2.1, 2.2 and Annex 5
1.2	report on significant new or emerging threats to, or opportunities for, salmon conservation and management;[2]	2.4
1.3	provide a compilation of tag releases by country in 2024; and	2.8
1.4	identify relevant data deficiencies, monitoring needs and research requirements.	2.5
2	**With respect to Atlantic salmon in the Northeast Atlantic Commission area:**	Section 3
2.1	describe the key events of the 2024 fisheries;[3]	3.1
2.2	review and report on the development of age-specific stock conservation limits, including updating the time-series of the number of river stocks with established CLs by jurisdiction; and	3.2
2.3	describe the status of the stocks, including updating the time-series of trends in the number of river stocks meeting CLs by jurisdiction.	3.3

[1] With regard to ToR 1.1, for the estimates of unreported catch the information provided should, where possible, indicate the location of the unreported catch in the following categories: in-river; estuarine; and coastal. Numbers and estimated weight of salmon caught and released in recreational fisheries should be provided.

[2] With regard to ToR 1.2, ICES is requested to include reports on any significant advances in understanding of the biology of Atlantic salmon that is pertinent to NASCO.

[3] In the responses to ToRs 2.1, 3.1 and 4.1, ICES is asked to provide details of catch, gear, effort, composition and origin of the catch and rates of exploitation. For homewater fisheries, the information provided should indicate the location of the catch in the following categories: in-river; estuarine; and coastal. Information on any other sources of fishing mortality for salmon is also requested. For ToR 4.1, if any new surveys are conducted and reported to ICES, ICES should review the results and advise on the appropriateness of incorporating resulting estimates into the assessment process.

Question posed by NASCO		Report section
3	**With respect to Atlantic salmon in the North American Commission area:**	Section 4
3.1	describe the key events of the 2024 fisheries (including the fishery at Saint Pierre and Miquelon)[3];	4.1
3.2	update age-specific stock conservation limits based on new information as available, including updating the time-series of the number of river stocks with established CLs by jurisdiction; and	4.2
3.3	describe the status of the stocks, including updating the time-series of trends in the number of river stocks meeting CLs by jurisdiction.	4.3
4	**With respect to Atlantic salmon in the West Greenland Commission area:**	Section 5
4.1	describe the key events of the 2024 fisheries[3]; and	5.1
4.2	describe the status of the stocks[4].	5.3
5	**Address relevant points in the Generic ToRs for Regional and Species Working Groups for each salmon stock complex.**	Section 6

1.2 Participants

Member	Country
Ida Ahlbeck Bergendahl	Sweden
Julien April	Canada
Jan Arge Jacobsen	Faroe Islands
Hlynur Bárðarson	Iceland
Geir Bolstad	Norway
Cindy Breau	Canada
Colin Bull	UK
Gérald Chaput	Canada
Anne Cooper	Denmark (ICES)
Jaakko Erkinaro	Finland
Peder Fiske	Norway
Marko Freese	Germany
Jonathan Gillson	UK (England & Wales)

[4] In response to ToR 4.2, ICES is requested to provide a brief summary of the status of North American and North-East Atlantic salmon stocks. The detailed information on the status of these stocks should be provided in response to ToRs 2.3 and 3.3.

Member	Country
Stephen Gregory	UK (England & Wales)
Nora Hanson	UK (Scotland)
David Hardie	Canada
Alison Harvey	Norway
Derek Hogan	Canada
Niels Jepsen	Denmark
Nicholas Kelly	Canada
Seán Kelly	Ireland
Richard Kennedy	UK (Northern Ireland)
Clément Lebot	France
Hugo Maxwell	Ireland
Michael Millane	Ireland
Rasmus Nygaard	Greenland
James Ounsley	UK (Scotland)
Etienne Rivot	France
Martha Robertson	Canada
Kjell Rong Utne	Norway
Timothy Sheehan	US
Tom Staveley	Sweden
Alan Walker (Chair)	UK (England & Wales)

1.3 Management framework for salmon in the North Atlantic

The advice generated by ICES in response to the Questions posed by NASCO is pursuant to NASCO's role in international management of salmon. NASCO was set up in 1984 by international convention (the Convention for the Conservation of Salmon in the North Atlantic Ocean), with a responsibility for the conservation, restoration, enhancement, and rational management of wild salmon in the North Atlantic. While sovereign states retain their role in the regulation of salmon fisheries for salmon originating in their own rivers, distant water salmon fisheries, such as those at Greenland and Faroes, which take salmon originating in rivers of another Party are regulated by NASCO under the terms of the Convention. NASCO now has eight Parties that are signatories to the Convention, including the European Union which represents its Member States.

NASCO discharges these responsibilities via three Commission areas shown below:

1.4 Management objectives

NASCO has identified the primary management objective of that organization as:

"To contribute through consultation and cooperation to the conservation, restoration, enhancement and rational management of salmon stocks taking into account the best scientific advice available".

NASCO further stated that "the Agreement on the Adoption of a Precautionary Approach states that an objective for the management of salmon fisheries is to provide the diversity and abundance of salmon stocks" and NASCO's Standing Committee on the Precautionary Approach interpreted this as being "to maintain both the productive capacity and diversity of salmon stocks" (NASCO, 1998).

NASCO's Action Plan for Application of the Precautionary Approach (NASCO, 1999) provides interpretation of how this is to be achieved, as follows:

- "Management measures should be aimed at maintaining all stocks above their conservation limits by the use of management targets"
- "Socio-economic factors could be taken into account in applying the Precautionary Approach to fisheries management issues"
- "The precautionary approach is an integrated approach that requires, inter alia, that stock rebuilding programmes (including, as appropriate, habitat improvements, stock enhancement, and fishery management actions) be developed for stocks that are below conservation limits".

1.5 Reference points and application of precaution

Conservation limits (CLs) for North Atlantic salmon stock complexes have been defined as the level of stock (number of spawners) that will achieve long-term average maximum sustainable yield (MSY). In many regions of North America, the CLs are calculated as the number of spawners required to fully seed the wetted area of the river. The definition of conservation in Canada varies by region and in some areas, historically, the values used were equivalent to maximizing/ optimizing freshwater production. These are used in Canada as limit reference points and they do not correspond to MSY values. In Iceland and the Russian Federation, pseudo stock–recruitment observations are used to calculate a hockey-stick relationship, with the inflection point defining the CLs. In the remaining regions, the CLs are calculated as the number of spawners that will achieve long-term average MSY, as derived from the adult-to-adult stock and recruitment relationships (Ricker, 1975; ICES, 1993). NASCO has adopted the region-specific CLs (NASCO, 1998). These CLs are limit reference points (S_{lim}); having populations fall below these limits should be avoided with high probability.

Atlantic salmon has characteristics of short-lived fish stocks; mature abundance is sensitive to annual recruitment because there are only a few age groups in the adult spawning stock. Incoming recruitment is often the main component of the fishable stock. For such fish stocks, the ICES MSY approach is aimed at achieving a target escapement (MSY $B_{escapement}$, the amount of biomass left to spawn). No catch should be allowed unless this escapement can be achieved. The escapement level should be set so there is a low risk of future recruitment being impaired, similar to the basis for estimating B_{pa}, the biomass according to the precautionary approach. In short-lived stocks, where most of the annual surplus production is from recruitment (not growth), MSY $B_{escapement}$ and B_{pa} might be expected to be similar.

It should be noted that this is equivalent to the ICES precautionary target reference points (S_{pa}). Therefore, stocks are regarded by ICES as being at full reproductive capacity only if they are

above the precautionary target reference point. This approach parallels the use of precautionary reference points used for the provision of catch advice for other fish stocks in the ICES area.

Management objectives (MO) have not yet been defined for all North Atlantic salmon stocks.

For the assessment of the status of stocks and advice on management of national components and geographical groupings of the stock complexes in the NEAC area, where there are no specific management objectives:

- ICES requires that the lower bound of the confidence interval of the current estimate of spawners is above the CL for the stock to be considered at full reproductive capacity
- When the lower bound of the confidence limit is below the CL, but the midpoint is above, then ICES considers the stock to be at risk of suffering reduced reproductive capacity
- Finally, when the midpoint is below the CL, ICES considers the stock to be suffering reduced reproductive capacity.

For catch advice on fish exploited at West Greenland (primarily non-maturing one-sea-winter (1SW) fish from North America and non-maturing 1SW fish from Southern NEAC), ICES has adopted a risk level of 75% of simultaneous attainment of MOs (ICES, 2003) as part of a management plan agreed by NASCO. ICES applies the same level of risk aversion for catch advice for homewater fisheries on the NAC stock complex.

NASCO has not formally agreed a management plan for the fishery at Faroes. However, WGNAS has developed a risk-based framework for providing catch advice for fish exploited in this fishery (mainly multi-sea-winter (MSW) fish from NEAC countries). Catch advice is currently provided by ICES at both the stock complex and country/jurisdiction levels (for NEAC stocks only) and catch options tables provide the probabilities of attainment of CLs for each stock complex and country/jurisdiction, separately and simultaneously at different TAC options. ICES has recommended (ICES, 2013) that management decisions should be based principally on a 95% probability of attainment of CLs in each stock complex/country individually. The simultaneous attainment probability may also be used as a guide, but managers should be aware that this will generally be quite low when large numbers of management units are used.

1.6 Introduction to the Life Cycle Model approach

In assessing and forecasting stock status, ICES follows a series of processes. Regional data compilations, dating back to the early 1970's for 25 stock units (SUs), within three stock complexes (NAC, N-NEAC, S-NEAC) are standardized and submitted to ICES. These data are then processed through two "Run-Reconstruction Models" (RRMs); one for NAC and one for N-NEAC and S-NEAC combined. These models process catch data and either exploitation rates or nationally derived estimates of returns together with biological characteristics of stocks (e.g. the proportion of smolt ages, the fecundity of fish) at the SU scale to provide standardized estimates of returns and spawners for two sea-age classes (1SW and MSW).

WKBSalmon (ICES, 2023d) reviewed the implementation of a Life-cycle model (LCM) for wild Atlantic salmon covering their natal North Atlantic range. It was used for the first time by ICES in 2024 to forecast Atlantic salmon stock status throughout the North Atlantic area.

The LCM is a time iterative, Bayesian hierarchical model providing a single, unified assessment framework for all 25 SUs. The LCM models the salmon life cycle through two explicit sea-age classes (1SW and MSW) and six smolt ages, estimating abundance at key life stages. The LCM uses estimates of returns and total catches for all SUs as derived by the NAC and NEAC RRMs as input, linking the survival and maturation processes at sea for each SU hierarchically.

The LCM includes mixing of stocks at West Greenland and the Faroes, the two mixed-stock fishing areas considered by NASCO. Mixed-stock catches at West Greenland and Faroes, as well as those in North America, are designated to SUs based on observed historic tag data, genetic identification and assumed harvest distributions.

The LCM provides hindcast estimates of total pre-fisheries abundance (PFA; recruitment as numbers of post-smolts in the sea on 01 January), PFA of 1SW maturing, PFA 1SW non-maturing stocks, post-smolt survival, proportion maturing as 1SW, and numbers of returns, spawners and egg deposition of 1SW and MSW stocks. These are aggregated to the population, complex, country and SU level as required. It also provides forecasts of PFA and numbers of returns by projecting forward the post-smolt survival and proportion 1SW maturing parameters. Forecast returns to SUs and subsequent egg deposition may be compared to CL reference points at the population, complex, country and stock unit levels to quantify the risk to the salmon stocks under different mixed-fisheries catch levels.

By capturing the dynamics of all SUs in NAC, S-NEAC and N-NEAC within a single model where all SUs follow the same life history process, the LCM provides a representation of the interactions of salmon stocks and fisheries that share a common marine environment. It provides a tool for exploring the commonality in temporal trends among all SUs of the North Atlantic basin and for evaluating the consequences of mixed-stock fishery catch scenarios and environmental factors on multiple stock complexes simultaneously.

2 Atlantic salmon in the North Atlantic area

2.1 Catches of North Atlantic salmon

2.1.1 Nominal catches of salmon

The nominal catch of a fishery is defined as the round, fresh weight of fish that are caught and retained, and reported. Total nominal catches of salmon reported by country in all fisheries for 1960–2024 are given in Table 2.1.1.1. Catch statistics in the North Atlantic also include fish-farm escapees and, in some Northeast Atlantic countries, ranched fish (see Section 2.2.2). Catch and release has become increasingly commonplace in some countries, but these fish do not appear in the nominal catches (see Section 2.1.2).

Icelandic catches have traditionally been split into two categories, wild and ranched, reflecting the fact that Iceland has been the main North Atlantic country where large-scale ranching has been undertaken with the specific intention of harvesting all returns at the release site and with no prospect of wild spawning success. The release of smolts for commercial ranching purposes ceased in Iceland in 1998 but ranching for rod fisheries in two Icelandic rivers continued into 2024 (Table 2.1.1.1). Catches in Sweden are split between wild and ranched categories over the entire time-series. The latter fish represent adult salmon which have originated from hatchery-reared smolts, and which have been released under programmes to mitigate for hydropower development schemes. These fish are also exploited very heavily in homewaters and have no possibility of spawning naturally in the wild. While ranching does occur in some other countries (Ireland, UK (Northern Ireland)), this is on a much smaller scale. Some of these operations are experimental and at others harvesting does not occur solely at the release site. The ranched component in these countries has therefore been included in the nominal catch.

Figure 2.1.1.1 shows the total reported nominal catch of salmon grouped by the following areas: 'Northern NEAC (N-NEAC)' (Norway, Russian Federation, Finland, all Iceland, Sweden and Denmark); 'Southern NEAC (S-NEAC)' (Ireland, UK (Scotland), UK (England and Wales), UK (Northern Ireland), France and Spain); 'North America (NAC)' (Canada, US and St Pierre and Miquelon (France)); and 'Greenland and Faroes '.

The total nominal catch for 2024 (provisional, and without any Russian Federation catch data) was 364 t. The 2024 nominal catch was 202 t below the updated 2023 catch (566 t) and below the previous five- and ten-year means by 371 t and 586 t, respectively. Aside from Saint Pierre and Miquelon, which showed a marginal increase in 2024 nominal catch over the previous five-year mean, catches in all countries/jurisdictions in 2024 were below the previous five- and ten-year means (Table 2.1.1.1).

Nominal catches in homewater fisheries were split, where available, by sea age or size category (Table 2.1.1.2). The data for 2024 are provisional and, as in Table 2.1.1.1, include wild and ranched salmon and fish-farm escapees in some countries. A more detailed breakdown, providing both numbers and weight for different sea-age groups for most countries, is provided in Annex 5. Countries use different methods to partition their catches by sea-age class (outlined in the footnotes to Annex 5). The composition of catches in different areas is discussed in more detail in sections 3, 4, and 5.

ICES recognizes that mixed-stock fisheries present particular threats to stock status (ICES, 2019a). These fisheries predominantly operate in coastal areas and NASCO specifically requests that the nominal catches in homewater fisheries be partitioned according to whether the catch is

taken in coastal, estuarine, or riverine areas. Figure 2.1.1.2 presents these data on a country-by-country basis. It should be noted, however, that the way in which the nominal catch is partitioned by categories varies among countries, particularly for estuarine and coastal fisheries. For example, in some countries these catches are split according to particular gear types whereas in other countries the split is based on whether fisheries operate inside or outside headlands. While it is generally easier to allocate the freshwater (riverine) component of the catch, it should also be noted that catch and release (C&R) is now in widespread use in many countries (Section 2.1.2) and these fish are excluded from the nominal catch. Noting these caveats, these data are considered to provide the best available indication of catch in these different fishery areas. Figure 2.1.1.2 shows that there is considerable variability of the distribution of the catch among individual countries. There have been no coastal fisheries in Iceland, Spain, or Denmark throughout the time-series. No fishing has occurred in coastal waters of Ireland since 2006, in UK (Northern Ireland) since 2012, in UK (Scotland) since 2016, or in the UK (England and Wales) since 2019 (England) and 2020 (Wales). In most countries in recent years, the majority of the catch has been taken in rivers and estuaries.

Coastal, estuarine, and in-river catch data for the whole time-series are presented in Table 2.1.1.3 and data for the period 2009 to 2024 aggregated by region are presented in Figure 2.1.1.3.

In the Northern NEAC area, catches in coastal fisheries have declined from 306 t in 2009 to 75 t in 2024, and in-river catches have declined from 595 t in 2009 to 151 t in 2024. At the beginning of the time-series, about half the catch was taken in coastal waters and half in rivers, whereas since 2008 the coastal catch represents around 33–44% of the total.

In the Southern NEAC area, catches in coastal and estuarine fisheries have declined over the period. While coastal and estuarine fisheries have historically made up the largest component of the catch, coastal fisheries dropped sharply in 2007 (from 306 t in 2006 to 70 t in 2007) and remained at lower levels to 2018; there have been no coastal catches since 2019. Estuarine fisheries have also declined, from 72 t in 2007 to 16 t in 2024. The reduction in more recent years in coastal and estuarine fisheries reflects widespread measures to reduce exploitation in a number of countries. At the beginning of the time-series about half the catch was taken in coastal waters and one third in rivers. In 2024, about one third of the catch was from estuarine fisheries and two thirds from in-river fisheries.

In North America, the total catch has fluctuated between 69 and 178 t over the period 2009 to 2024. Around 56% of the total catch in this area has been taken by in-river fisheries during 2009-2024, although since 2018 in-river fisheries have taken less than half of the total catch. The estuarine catch during 2009-2024 has fluctuated between about 28% and 56% of the total catch. The catch in coastal fisheries has been typically less than 10% of the catch each year with the biggest catch taken in 2020 (10 t).

In Greenland, the total coastal catch in 2024 was 21 t (West and East Greenland). It increased steadily from 25 t in 2007 to 56 t in 2015, and has since fluctuated between 21 t in 2024 and 42 t in 2021 (see Section 5). Prior to 2024, a small number of salmon have been caught in the estuary near the Kapisillit River (typically less than 19 reported salmon), although this is likely to be an underreported estimate of actual catches. Genetic studies have shown this river stock is very isolated from other stocks in the North Atlantic but is an outgroup of the NEAC phylogenetic group, and salmon caught in the estuary were exclusively from the Kapisillit River (Arnekleiv *et al*., 2019).

2.1.2 Catch and release

The practice of catch and release (C&R) in rod fisheries has become increasingly common. This has occurred in part as a consequence of salmon management measures aimed at conserving stocks while maintaining opportunities for recreational fisheries, but also reflects increasing voluntary release of fish by anglers. In some areas of Canada and US, the mandatory release of large (MSW) salmon has been in place since 1984. Since the beginning of the 1990s, it has also been widely used in many European countries.

The nominal catches presented in Section 2.1.1 do not include salmon that have been caught and released. Table 2.1.2.1 presents catch and release information from 1991 to 2024 for countries that have records. For 2024, estimated weights of caught and released fish were also provided by country/jurisdiction (Table 2.1.2.1), with the total combined catch estimate of 483 t exceeding the reported total nominal catch in 2024 (both figures provisional). UK (Scotland) catches (165 t) accounted for approximately one-third of the total reported weight of caught and released fish in 2024.

Catch and release may also be practiced in other countries while not being formally recorded or where figures are only recently available. There are large differences in the percentage of the total rod catch that is released: in 2024 this ranged from 8% in France to 98% in UK (Scotland), reflecting varying management practices and angler attitudes among these countries. There are no restrictions on the total numbers of fish that may be caught and released in most countries, although in Ireland some rivers are closed completely to recreational angling owing to low conservation status, whereas there are some daily limits for individual fishers in some Canadian fisheries. For all countries, the percentage of fish released has increased over time. There is also evidence from some countries that larger MSW fish are released in greater proportions than smaller fish. Overall, approximately 145 000 salmon were reported to have been released from rod fisheries around the North Atlantic in 2024, lower than the previous five-year mean (approximately 177 000).

Summary information on how catch and release levels, and estimates of post-release mortality rates, are incorporated into national assessments was provided by ICES (ICES, 2010).

2.1.3 Unreported catches

Unreported catches by year (1987-2024) and Commission Area are presented in Table 2.1.3.1 and are presented relative to the total nominal catch in Figure 2.1.3.1. A description of the methods used to derive the unreported catches was provided by ICES (2000) and updated for the NEAC region in ICES (2002). Detailed reports from different countries were also submitted to NASCO in 2007 in support of a special session on this issue. There have been no estimates of unreported catch for the Russian Federation since 2008, for Canada in 2007 and 2008, and for France since 2016. The unreported catches for Canada for 2009, 2010, and since 2019 are incomplete as estimates are not available for all regions. There are also no estimates of unreported catch for Spain, where total catches are typically small.

In general, despite the methods used by each country to derive estimates of unreported catch remaining relatively unchanged, incompleteness and inconsistencies in annual reporting mean that comparisons over time may not be appropriate (see ICES 2024c). Over recent years, efforts have been made to reduce the level of unreported catch in a number of countries (e.g. through improved reporting procedures and the introduction of carcass tagging and logbook schemes).

The total unreported catch in Commission Areas in 2024 was estimated to be 101 t. The unreported catch in the NEAC area in 2024 was estimated at 78 t, that for West Greenland was 10 t

and the NAC area was 13 t. The 2024 unreported catches by country are provided in Table 2.1.3.2. It is not possible to fully partition the unreported catches into coastal, estuarine, and in-river areas due to incomplete information.

Summary information on how unreported catches are incorporated into national and international assessments was provided to ICES in 2010 (ICES, 2010).

2.2 Farming and sea ranching of Atlantic salmon

2.2.1 Production of farmed Atlantic salmon

The estimate of farmed Atlantic salmon production in the North Atlantic area for 2023 was 1 899 kt, and the provisional estimate for 2024 was 1 956 kt. These are increases compared to the previous five-year (2019-2023) mean (1 878 kt). The production of farmed Atlantic salmon in this area has been over one million tonnes since 2009 (Table 2.2.1.1 and Figure 2.2.1.1). Norway continues to produce the majority of the farmed salmon in the North Atlantic (79%), followed by UK (Scotland; 9.5%). Farmed salmon production in 2024 was above the previous five-year mean in all countries reporting, apart from Canada and Ireland. Data for UK (Northern Ireland) since 2001, data for east coast US since 2012 and Russian Federation since 2021 are not reported to ICES, as the data are not publicly available. This is also the case for some regions within countries in some years.

Worldwide production of farmed Atlantic salmon has been over one million tonnes since 2001 and has been over two million tonnes since 2012. It is difficult to source reliable production figures for all countries outside the North Atlantic area and as data for 2023 and 2024 are not available, the working group has used 2022 data for some countries and assumed the same levels of production for 2023 and 2024 (Food and Agricultural Organization's Fisheries and Aquaculture Department database), to estimate worldwide production. The total worldwide production in 2024 was provisionally estimated at around 2 880 kt (Table 2.2.1.1 and Figure 2.2.1.1), which was higher than in 2023 (2 824 kt) and higher than the previous five-year mean (2 787 kt). Production of farmed Atlantic salmon outside the North Atlantic is estimated to have accounted for approximately one third of the worldwide total in 2024 and is still dominated by Chile. Atlantic salmon are produced in land-based and closed containment facilities around the world and the figures provided in Table 2.2.1.1 may not include all countries where such production is occurring.

The worldwide production of farmed Atlantic salmon in 2024 was almost 8 000 times the reported nominal catch of wild Atlantic salmon in the North Atlantic.

2.2.2 Harvest of ranched Atlantic salmon

Ranching has been defined as the production of salmon through smolt releases with the intent of harvesting the total population that returns to freshwater (harvesting can include fish collected for broodstock) (ICES, 1994). The release of smolts for commercial ranching purposes ceased in Iceland in 1998, but ranching with the specific intention of harvesting by rod fisheries has been practiced in two Icelandic rivers since 1990 and these data are now included in the ranched catch (Table 2.1.1.1). A similar approach has been adopted, over the available time-series, for one river in Sweden (River Lagan). These smolts are released under programmes to mitigate for hydropower development schemes with no possibility of spawning naturally in the wild. These have therefore also been designated as ranched fish and are included in Figure 2.2.2.1. In Ireland, ranching is currently only carried out in nine salmon rivers on a small scale.

The total harvest of ranched Atlantic salmon in countries bordering the North Atlantic in 2024 was 19 t (Iceland (15 t) and Sweden (4 t); Table 2.2.2.1; Figure 2.2.2.1). The total harvest was 24%

below the previous five-year mean (25 t). No estimates of ranched salmon harvest are provided for Ireland or UK (Northern Ireland) where the proportions of ranched fish in the catches are more difficult to assess. However, in both instances ranched catches are considered to be an insignificant proportion of the overall harvest.

2.3 The Life Cycle Model (LCM)

The LCM moves the hindcasting (based on historical observations) and forecasting elements of the assessments to a unified model. The LCM is a stage-based population model formulated in a Bayesian hierarchical state-space framework that incorporates stochasticity in population dynamics as well as observation errors (Olmos *et al.,* 2019). It provides an assessment framework that links the productivity and maturation processes at sea hierarchically among all stock units (SUs). The dynamics of all 25 SUs in NAC, S-NEAC, and N-NEAC are considered, with all SUs following a similar life history process (Table 2.3.1; Figure 2.3.1). The LCM considers two sea-age class groups, 1SW and MSW, and the mixing of stocks at West Greenland and the Faroes, the two mixed stock fishing areas considered by NASCO. This provides a more realistic representation of the life cycle and interactions among salmon stocks and fisheries that share a common marine environment.

The LCM provides estimates of returning salmon by sea age and SU based on the post-smolt survival and proportion of maturing parameters, forecasted forward as a random walk, from the most recent observations. Forecast returns to SU and subsequent egg depositions may be compared to conservation limit (CL) reference points at national and international levels to quantify the risk to the salmon stocks under different mixed-fisheries catch levels.

2.3.1 Stage structure and variability of life histories

The LCM tracks the abundance of fish for each SU by year and life stage, sequentially from eggs to 1SW or MSW spawners for the period considered (starting in 1971, the year of return to rivers) (Figure 2.3.1).

For each SU, the model incorporates variation in the age of smolts and the sea age of returning adults. Smolts migrate to sea after one to six years in freshwater (with variations among SUs). Only two sea-age classes are considered: maiden salmon that return to homewaters to spawn after one year at sea, referred to as one-sea-winter (1SW) salmon or grilse, and maiden salmon that return after two or more winters at sea (multi-sea-winter; MSW). The MSW age class is strictly calculated in the model as fish spending two years at sea (2SW), however it may be considered a "plus-group", simultaneously combining salmon of two, three and older first-time spawning age groups, and repeat spawners.

The population dynamics are not independent among SUs as the model includes the possibility of covariation in the temporally varying key transition rates (e.g. marine survival and the proportion of fish that mature as 1SW) to represent the effect of common drivers (e.g. environmental factors) that might influence multiple populations simultaneously (Olmos *et al.* 2020).

As highlighted in Massiot-Granier *et al.* (2014) and Olmos *et al.* (2019), estimates of post-smolt survival and the probability to mature as 1SW fish depend on the specific assumptions of the LCM (ICES 2024c) and must therefore be interpreted with caution. In particular, in the absence of complete data between eggs and return to homewaters, the eggs-to-smolt survival and the natural mortality at sea after the PFA stage are homogenous among all SUs and all years. The values of the post-smolt survival and of the probability of maturing as 1SW should only be interpreted in this context, and their variation over time and between SUs are likely to be overestimated.

2.3.2 Data flow

Two different pathways are used to integrate data in the modelling approach: i) data that are directly integrated as fixed values; and ii) data that are integrated through likelihood functions that incorporate observation errors.

2.3.2.1 Fixed values

- The mean value of the eggs-to-smolt survival rate is fixed at 0.007 with a coefficient of variation (CV) of 40%;
- The proportions at smolt-age (between one and six) are specific to each SU and may vary among years;
- The natural mortality rate at sea (after the PFA stage) is fixed to 0.03 $month^{-1}$ (ICES 2004);
- The duration (in months) of the different periods separating the sequential fisheries at sea are used to calculate the natural mortality loss during the different periods at sea. The duration is fixed over time (no variation among years) but may vary among SUs;
- Additional mortality rates between returns and spawners are specific to each SU and may vary in time (so far, 0 for all SUs except UK (Scotland));
- Delayed spawners are fish that return in year t but delay spawning to the year after (t+1). The proportions of these are specific to each SU and may vary among years. Currently they are assumed to only occur in the Russian Federation;
- The biological characteristics of fish at the spawner stage include the proportion of females and the average egg deposition per female. These are defined for 1SW and MSW fish separately, specific for each SU and may vary among years.

2.3.2.2 Observation equations (likelihood)

The model is fitted to time-series of data with observation errors. These are:

- Abundance at the return stage (1SW and MSW);
- Homewater (coastal, estuarine, in-river) catches (1SW and MSW);
- Catches in marine fisheries (West Greenland, Faroes, Labrador, Newfoundland, SPM) of 1SW maturing, 1SW non-maturing, and MSW maturing;
- Proportion of the SU origins in the catches in marine fisheries.

To integrate observation errors, a plug-in approach is used that consists of: i) run-reconstruction models (RRM) to generate uncertainty distributions for the time-series of catches and returns for the 25 SUs; and ii) using these distributions as pseudo-likelihood approximations in the population dynamics state-space model.

The catches in the distant water fisheries at Faroes and West Greenland are allocated using updated genetic data (ICES, 2023d; ICES 2024c).

2.3.3 MCMC simulation using Nimble

Bayesian posterior distributions were approximated using Monte Carlo Markov Chain (MCMC) algorithms in *Nimble* (https://r-nimble.org/) through the *rnimble* (www.Rproject.org) package (Figure 2.3.2).

2.3.4 Use of the LCM for forecasting and to provide provision of catch advice

Once fitted to the data, the LCM is used to forecast the population dynamics starting from the last year of the assessment. Forecasts are probabilistic and allow the computation, for any scenario, of the probability distributions of quantities in the model that integrates process and parameter uncertainties.

The forecasts are provided annually under the assumption of zero catch. Catch advice can be provided every year when requested and evaluates the probability of the forecasts meeting or exceeding conservation limits/management objectives (CL/MO) under various catch scenarios in the West Greenland or the Faroes fisheries. The next catch advice is scheduled to be provided in 2026.

CL/MO are defined in terms of number of eggs and are directly deduced from the values provided to ICES by the different countries/jurisdictions. For any scenario, the forecasted egg deposition by spawners (e.g. after all potential fisheries) is then compared to the CL/MOs.

The compliance to the CL/MOs can be provided for both sea-age classes combined or separately. This is important as the West Greenland fishery primarily harvests the 1SW non-mature component, whereas the Faroes fishery harvests primarily MSW fish on their return migration to homewaters.

NAC provide CL/MOs specific for the maiden 2SW component of the population. For NAC SUs, the probability to achieve the 2SW CL/MO is calculated by adjusting for the proportion of MSW returns that are maiden 2SW salmon. These proportions are provided for each SU as fixed or annually varying values from the run-reconstruction inputs.

The LCM is structured at the scale of the 25 SUs, but results can be aggregated at higher levels. This allows for evaluating the aggregated and simultaneous achievement of CL/MO at the SU, country/jurisdiction or Continental Stock Complex (CSC) scale.

For the Faroes fishery, the risk framework is applied to the two stock complexes (S-NEAC and N-NEAC) in each age group (1SW and MSW) and for the same age groups for each NEAC country/jurisdiction. The risk framework estimates the probability that the egg depositions of 1SW and MSW salmon in each of these management units will meet or exceed their respective CL/MO at different catch levels (TAC options). ICES have advised that the MO should have a greater than 95% probability of meeting or exceeding the CL in each management unit (see Section 1.4). As NASCO has not yet adopted a MO for the Faroes fishery, the catch advice tables provide the probabilities of attainment of all CLs for each stock complex and country/jurisdiction separately and simultaneously at different TAC options.

For the West Greenland fishery, the risk framework is applied to the stock complexes that are of relevance to the management of the West Greenland fishery: non-maturing 1SW fish from NAC and southern NEAC. No analysis of the impact of West Greenland fishery on northern NEAC management units is provided as no MO has been defined given the low proportion of fish from N-NEAC in the West Greenland fishery. The risk framework estimates the probability that the returns of 2SW salmon after the West Greenland fishery simultaneously meet or exceed the 2SW CL/MOs in the seven management units (6 regions in NAC and the S-NEAC complex). The catch advice tables provide the probabilities for each of the seven management units to attain their CL/MO separately and simultaneously at different TAC options (only published in years when catch advice is requested).

2.3.5 Assessment of Atlantic salmon in the North Atlantic according to the LCM

When examining trends at the scale of stock complexes (NAC, N-NEAC, S-NEAC) and the entire North Atlantic, time-series of total PFA (number of post-smolts as of 01 January) in each stock complex show very similar continuous declines (by a factor of 3) between the 1970s and the 2020s (Figure 2.3.3). The decline in PFA is similarly marked by a strong decrease in abundances from the 1990s onwards, mostly attributed to a decline in the post-smolt survival (over the 1975-2023 period) (Figure 2.3.4). However, with the exception of S-NEAC, the modelled numbers of spawners (Figure 2.3.5), subsequent total eggs deposited and smolt output (Figure 2.3.6) have remained relatively stable over the same period due to decreasing harvest rate.

Overall, the three stock complexes exhibit broadly similar patterns in the probability to mature as 1SW salmon, showing increases from the 1970s to the 1990s, followed by a decline or levelling off from the 2000s (Figure 2.3.4.). This is consistent with the temporal change in the proportion of 2SW in the returns. Overall, the average probability to mature as 1SW is lower in N-NEAC, which is consistent with the high proportion of fish spending more than one winter at sea in N-NEAC stock units. The NAC stock complex currently has the highest average probability to mature as 1SW.

Further details on the output of the LCM for the stock complexes, and stock units, can be found in subsequent sections.

2.4 NASCO has asked ICES to report on significant, new or emerging threats to, or opportunities for, salmon conservation and management

2.4.1 Threats

2.4.1.1 North Atlantic-wide record low abundance of salmon

Stock status of Atlantic salmon in the North Atlantic is compiled and aggregated to the scale of stock units, countries, and complexes in the Run-Reconstruction Model (RRM) and the Life Cycle Model (LCM). Temporal trends in recruitment at the PFA stage and in returns show declines over the 1971-2023 period (ICES 2024a). Declines and/or sustained low abundances of salmon have been reported in many countries and these low abundances are particularly evident in the NEAC complex for 1SW salmon in the recent decade and in the recent three decades for MSW salmon from S-NEAC and NAC (Figure 2.4.1).

Numerous countries/jurisdictions reported to ICES on record or near record low returns of 1SW salmon in 2023 (ICES 2024a). Low, and in many cases new record low, returns of 1SW salmon were again reported for 2024 with record low returns of MSW salmon in 2024 reported in five jurisdictions (Figure 2.4.2). Collectively, the lowest or second lowest returns of 1SW salmon were reported in 2023 or 2024 in 10 of 17 countries/jurisdictions while these were reported in nine of 17 countries/jurisdictions for MSW salmon (Figure 2.4.2). The low returns were noted in the southern areas of NEAC and expanded to Finland in N-NEAC for 1SW salmon and to Finland and Norway for MSW salmon. In the NAC area, the lowest returns of 1SW and MSW salmon in 2023 and 2024 were reported in the mid-latitude stock units of Quebec and Gulf, two areas that produce a large proportion of MSW salmon in NAC. The returns derived from run-reconstruction for NAC do not account for the marine fisheries in Labrador, Newfoundland, and Saint Pierre & Miquelon. Therefore, temporal trends in the returns prior to these marine fisheries (i.e. returns to coastal waters) from the LCM are also presented (Figure 2.4.3). These paint a more

pessimistic picture of status in 2023 and 2024; however, the estimated returns for 2024 are a forecast and may not correspond to the derived returns from run-reconstruction.

The record low returns of 1SW salmon in 2023 and low returns of MSW salmon in 2024 in Quebec resulted in restricted recreational fisheries management measures in 2023, 2024, and 2025. Similar prohibitions or important reductions in retention fisheries have also been introduced in other areas of NAC. Fisheries have also been restricted in many areas of S-NEAC and N-NEAC countries. In Norway, in-season management measures reduced or closed fisheries in 2024 in response to low returns (Section 3.1.2). In Tana/Teno (Norway/Finland), the retention fisheries have been closed since 2021 (ICES 2024a). In S-NEAC, only 30% of rivers in Ireland were open to retention fisheries in 2024 whereas in UK (England & Wales) just 12% of rivers exceeded their CLs in 2024 and most rivers (92%) are in the lowest two compliance assessment categories.

Fisheries management interventions can reduce the fisheries related mortalities on returning adult salmon and conserve spawning stock. The North Atlantic-wide low abundances of 1SW and MSW salmon recorded in 2023 and 2024, the estimated declines in post-smolt survival across stock units (Figure 2.3.4), and the general absence of any improvements in abundance highlight the concern that large-scale marine stressors at the North Atlantic scale are impacting salmon. In 2023 and 2024, record-shattering sea surface temperature anomalies were observed in the North Atlantic and surpassed the previous record by 0.42 °C (Terhaar et al. 2025). The warming trend was greatest in the sub-arctic regions of the Atlantic and the Barents Sea (Timmermans and Labe 2024). While direct management interventions to mitigate the impacts of ocean warming are limited, management actions to improve survival in, and production from, the freshwater phase of the life cycle are key to species and stock resilience (Thorstad *et al.* 2021).

2.4.1.2 Threats to salmon in Lough Neagh, Northern Ireland

Lough Neagh is the largest freshwater lake in the UK and Ireland and the catchment supports a significant stock of Atlantic salmon (Kennedy *et al*., 2016). In recent years, the lake has been subject to zebra mussel (*Dreissena polymorpha*) invasion, intense eutrophication and algal blooms (Reid *et al.,* 2024). Water clarity has increased dramatically within the lake, providing better conditions for sight feeding predators such as landlocked river lampreys (Kennedy *et al*., 2020). A new monitoring programme was initiated in 2020 to sample smolts in the lake outflow and assess lamprey damage. In 2024, 25.3% of smolts sampled in the lake outflow were classed as heavily damaged by lamprey, an increase on the previous year when 18.7% of smolts were heavily damaged.

2.4.1.3 Adult salmon fish kill Ballisodare River, Ireland

During late-June to mid-July 2024, a substantial mass mortality of returning adult Atlantic salmon occurred in the lower reaches of the Ballisodare River located in north-west Ireland. A total of 1 079 adult fish mortalities were documented, which comprised approximately 11.3% of the total returns of adult salmon for the 2024 season. No other afflicted fish species other than Atlantic salmon were documented.

An investigation into the mortality event (Millane *et al*. 2024) concluded that a cumulation of several contributing factors led to the fish kill. Significant gill pathology was observed in a number of sampled fish and was considered consistent with exposure to a waterborne irritant. Standard phytoplankton monitoring carried out prior to the event recorded very high levels of a diatom (*Chaetocerous* spp.) in the coastal waters near the Ballisodare estuary. This diatom has long spines which can affect fish gills and is documented to result in finfish mortalities including of salmonids. Additionally, the mortality event occurred during very low water level conditions (although water temperatures were not excessively high). Many salmon showed abrasive damage on their underside which likely resulted from mechanical damage sustained during upstream movement through the fish pass operated to allow fish to bypass a natural waterfall at

the base of the river, or directly from contact with the river bed under very low water conditions. The congregation of large numbers of stressed fish with external abrasions and with limited capacity to move further upstream due to the low water levels likely facilitated an increased susceptibility to infection by *Saprolegnia* and opportunistic bacterial infections, which ultimately caused the large number of mortalities observed. Water quality or a pollution event in the immediate river location was not considered to be a significant contributing factor based on water chemistry analysis.

Based on the investigation, management advice was formulated related to continued monitoring of phytoplankton in the coastal area during the adult return season and revised operation of the fish pass particular with regard to low water conditions in future.

2.4.2 Opportunities

2.4.2.1 Predicting 2SW returns based on the previous year's 1SW returns to improve the adaptive management strategy in Quebec

Quebec's Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) is working on an approach to forecast salmon returns that has been used to implement major management changes in 2024. The approach is based on the positive relationship between 1SW returns for a given year and the returns of 2SW the following year (Cauchon & April 2025). Such correlation is described in some scientific articles and reports (Caron *et al*. 1998; Caron & Raymond 1999; Friedland *et al*. 2000; Anon 2022). Furthermore, unpublished analyses suggest it may apply to other salmon populations on both sides of the Atlantic. Such relationships were used to predict 2SW returns in upcoming years based on the previous year's 1SW returns (Caron *et al*. 1998; Caron & Raymond 1999).

Following the 2023 record low returns of 1SW salmon throughout Quebec (except the geographically disjointed Ungava Bay populations), the MELCCFP used this relationship to successfully predict the low abundance of 2SW returns for the upcoming 2024 season. Returns of 2SW, which are a large proportion of large salmon in Quebec, have an overwhelming contribution when considering egg deposition. Even though 2SW salmon showed typical abundance in 2023, allowing egg deposition to reach the conservation limit (CL) set for the overall Quebec jurisdiction, and as well for most individual rivers (ICES 2024a), the MELCCFP modified the angling regulation prior to the 2024 fishing season to prohibit the retention of large salmon in all rivers where it was previously allowed (except for the Ungava Bay; MELCCFP 2024). Documents for the public consultation and press release clearly stated that management rules changed based on the 2SW abundance forecast (MELCCFP 2024).

As anticipated, using the relationship between 1SW returns for a given year and the returns of 2SW returns the following year, the 2024 2SW returns hit record low values (MELCCFP 2025). Since no large salmon were harvested during the entire recreational fishery in 2024, this allowed counterbalancing in part the low returns for this year. Moreover, studying such relationships used herein to forecast returns can improve our understanding of marine mortality and its underlying mechanisms. For instance, the relationships observed for different stocks suggest that a large proportion of marine mortality occurs during the first period of the marine migration.

2.5 Relevant data deficiencies, monitoring needs, and research requirements

Historically stock status for individual rivers and larger regions has been based on fishery dependent data, primarily catches and estimates of exploitation rate. Sampling of fisheries catches has also provided diverse biological characteristics data including length, weight, age, and sex

ratios. Progressively, commercial and recreational harvest fisheries have been restricted and/or closed and where fisheries do occur, they have shifted to catch and release fishing. Monitoring has therefore become more reliant on indirect sampling (e.g. length estimation from passive monitoring) or fewer samples (e.g. from fish that are subsequently released). There are two main implications of these changes for the estimation of returns:

- Where estimates of returns are based on nominal catch data and estimates of exploitation rates, very low exploitation rates and restrictions to fishing activities limiting catch levels can lead to biased and highly uncertain abundance estimates; and
- Where monitoring of biological characteristics relies on catch data (e.g. age composition), there may be few retained fish to sample for biological characteristics. In the absence of such monitoring data, average biological characteristics would be used which may not be representative of the temporal variation in these characteristics thus contributing to uncertainty and possibly bias.

The increase of management actions restricting all fishing activity, including catch and release, will require a shift for some jurisdictions away from catch-data based assessments and a greater reliance on fishery-independent datasets and methods in the assessment of stock status. Methods for estimating stock abundance are changing in some cases to account for this evolution and use an array of best available information in statistical models suited to transportation of inference from data-rich to data-poor areas. Rather than providing separate inputs, including catches and exploitation rates, to derive PFA, several jurisdictions now consider those inputs as less reliable due, for example, to low numbers of retained salmon, and instead chose to provide ICES with estimated returns directly. However, all models require some information and annual monitoring remains increasingly relevant in the context of responses of salmon populations to rapid changes in the ecosystem.

The following Commission area-specific data deficiencies, monitoring needs, and research requirements were identified:

North Atlantic

A data call submission was not received from the Faroe Islands. Equivalent data from the Faroe Islands were received via a national report to the working group. A report was received during the WGNAS meeting from Portugal. Unfortunately, the submission was too late to be included in the 2025 report.

The working group recommends complete and timely reporting in response to the data call for all salmon producing countries/jurisdictions as this is the most effective and efficient way for the working group to automate the data collation, quality assurance, analyses and reporting.

Northeast Atlantic Commission

Data on catch numbers, exploitation rates, and unreported catch rates were not available to ICES for the stock years 2021-2024 for any of the four Russian Federation stock units. Total catch from the years 2021-2023 were retrieved from reports published on the NASCO website (Third Reporting Cycle - NASCO). Data on the total catch in the Russian Federation in 2024 was not available to the WGNAS in 2025 so the mean of the total annual catch 2019-2023 was used as input. In the absence of updated information, exploitation rates and unreported catch rates, together with their associated errors, were assumed unchanged from previous years of available data. A method for partitioning catch and estimating abundance in the four Russian Federation stock units was developed in 2023 (ICES, 2023; Annex 9). If the true data cannot be provided in future years, the levels of uncertainty in the derived data will increase and at some point, in the near future, the propagating uncertainty will render the estimates unreliable. WGNAS recommends that data on catch numbers, exploitation rates and unreported catch rates from the four Russian Federation stock units is provided to WGNAS in 2026. The alternative is that the WGNAS would

discount the historical Russian Federation data from the models and catch advice and not report on the status of stocks for Russian Federation.

No river-specific CLs have been established for the Russian Federation, Denmark, Germany, Portugal, or Spain. CLs for those countries included in WGNAS stock assessments (Russian Federation, Iceland) are derived from a pseudo stock-recruitment relationship (ICES, 2024c), which is sensitive to annual data updates and consequently the CLs may change from year-to-year (see Section 3.3.3 for details). Iceland has developed provisional CLs and continues to work towards finalizing an assessment process for determining CL attainment. WGNAS recommends that river-specific CLs should be provided by all countries and applied by the working group.

North American Commission

Sampling of all aspects of the Labrador and SPM fishery across the fishing season will improve the information on biological characteristics and stock origin of salmon caught in these mixed-stock fisheries. A sampling rate of at least 10% of catches across the fishery season would be required to achieve a relatively unbiased estimate.

Additional monitoring in Labrador should be considered to estimate stock status for that region. Additionally, efforts should be undertaken to evaluate the utility of other available data sources (e.g. Indigenous and recreational catches and effort) to describe stock status in Labrador.

West Greenland Commission

No recommendations specific to this section were made.

2.6 Data call for the overview of catches and landings, farmed and ranched fish

The terms of reference set by ICES to answer the scientific request from NASCO defines the work of WGNAS. Other than for the catch data, and a time-series of the number of river stocks meeting CLs, the terms of reference are not specific as to what type of information would be used by ICES to describe the status of stocks.

2.6.1 Process for collating catch data

The request from NASCO for catch data is specific as to the type of information to be compiled:

- provide an overview of Atlantic salmon catches and landings by country, including unreported catches and catch and release, and production of farmed and ranched Atlantic salmon in 2024 (ToR 1.1)

In each Commission Area, the request includes:

- describe the key events of the 2024 fisheries (ToR 2.1, 3.1, 4.1)

2.6.2 Review of the 2024 data call

On 31 January 2025, ICES communicated the data call for Atlantic salmon from the North Atlantic to ICES Member Countries. The salmon call was contained within the wider "ICES 2025 Joint Fisheries Data Call: Landings, discards, biological sample, catch and effort data from 2024 in support of the ICES fisheries advice in 2025" (see Data calls (ices.dk)). Subsequently on 03 February 2025, the chair of WGNAS copied the ICES data call to members of WGNAS. The data call included instructions in a covering letter and a template spreadsheet in Excel as attachments

(DC_Annex_WGNAS1 template.xlsx). The request was for ICES members to return the catch data for 2024 and updated catch figures for the preceding years to ICES by 07 March 2025.

The data call should provide data that can be used by WGNAS to address the NASCO request, i.e. for the primary wild and ranched fish catch and farmed production tables in WGNAS report (tables 2.1.1.1, 2.1.1.2, 2.1.1.3, 2.1.2.1, 2.1.3.1, 2.1.3.2, 2.2.1.1, 2.2.2.1, 3.1.4.1, Annex 4; figures 2.1.1.1a,b, 2.1.1.2, 2.1.1.3, 2.1.3.1, 2.2.1.1, 2.2.2.1, 3.1.4.1).

The following country/jurisdiction reports were received:

- NAC: Canada, US, France (reporting for Saint Pierre and Miquelon);
- NEAC: Iceland, Spain, France, Ireland, UK (England and Wales), UK (Scotland), UK (Northern Ireland), Denmark, Sweden, Norway, Finland, Germany;
- WGC: Greenland.

Some reports were received after the deadline because of time pressures brought about by issues with the communication of the official request. A report was received during the WGNAS meeting from Portugal. Unfortunately, the submission was too late to be included in the 2025 report. The communication issues have been noted by ICES, and solutions will be found to make the process more successful in future years.

A data call submission was not received from the Faroe Islands. Equivalent data from the Faroe Islands were received via a national report to the Working Group.

2.7 Reports from ICES expert group and other investigations relevant to North Atlantic salmon

2.7.1 WKSALMON2

Spatial and temporal overlap between Atlantic salmon migration routes and pelagic fishing activity in the northeast Atlantic as an indicator of bycatch risk.

In response to research needs identified within WKSALMON2 (ICES 2023e), a study was initiated to examine the potential bycatch risk for migrating salmon post-smolts during their first few months at sea. This study considered spatial and temporal overlap with pelagic fishing activity in the northeast Atlantic over a 22-year period (2000-2022). Monthly post-smolt migration regions for groups of populations (southwest, west, east and common (shared)) were proposed based on information on smolt sea entry dates, survey trawl and fishery recaptures. These regions were used to focus data on commercial pelagic fisheries landings gathered following a data call from WKSALMON2 (ICES 2023e, https://doi.org/10.17895/ices.pub.23098502.v1). Data from 11 countries were provided (see Table 2.7.1) as monthly landings of each of seven commercially important pelagic fish species (mackerel, herring, blue whiting, horse mackerel, capelin, sardine, chub mackerel) organized by ICES rectangle. The data call was initiated by WKSALMON2, but the recipient of the data call data was WKBSALMON. Unfortunately, the landings dataset did not include landings from the Russian Federation and the Faroe Islands, meaning bycatch risk could not be confidently evaluated in the Norwegian Sea. Blue whiting was removed from the analysis due to the normal capture depth being deeper than that of post-smolt salmon. Significant commercial pelagic fishing activity was found in the post-smolt migration regions and in all of the months studied, suggesting a bycatch risk for all populations. The analyses also suggested that estimated salmon bycatch risk was highest in the horse mackerel fishery in April, in the herring fishery in May-July, and medium in the sardine fishery in April and mackerel fishery in April and June-August. Using marine return rates of 1SW salmon from a sub-set of monitored river populations as a proxy for marine survival, the commercial fishing activity in key regions

and months was compared to the pattern of salmon survival over the 22-year period. Both negative and positive correlations were found between salmon marine survival and pelagic fishing activity in some regions, whilst no correlations were found in others. These results suggest no clear connection between the patterns of pelagic fishing activity shown by this dataset and the regional salmon marine survival rates, but did highlight the possibility of direct and indirect interactions. This result provides a useful focus for future salmon bycatch research.

2.7.2 DIASPARA

The EU-funded DIASPARA project (DIAdromous Species: moving towards new PARadigms to achieve holistic scientific Advice; call EMFAF-2023-PIA-FisheriesScientificAdvice, grant 101155914; https://diaspara.bordeaux-aquitaine.inrae.fr/) started in May 2024 for two years.

The project aims to provide tools to enhance the scientific basis of the assessment process from data collection to stock assessment of Atlantic salmon, European eel and sea trout. The final objectives are to support more holistic advice to inform cross-boundary management of these species, while adapting it to the upcoming challenges such as climate change, and related changes in ecosystems. The project has connections with WGNAS, WGBAST (Atlantic salmon in the Baltic), and WGEEL (European eel). It will address several challenges raised in the road maps of those expert groups for future development of their assessment framework. Such a multispecies approach seeks to foster interactions and transfer of knowledge between scientific communities. The project is structured in three main work packages (WP).

WP1 Spatio-temporal variations of life history traits

This work package aims to improve the consideration of spatial and temporal variations in key life history traits (e.g. growth) that influence stock productivity. DIASPARA will undertake an inventory of available data and make recommendations for potential improvement in the data collection, in order to facilitate the use of biological data in stock assessment models (SAM). A first version of the data inventory of spatio-temporal variations of life history traits has been built and is being analysed. An analysis of EU Data Collection Framework (DCF) annual reports to get a more comprehensive picture of data availability will also be carried out. For Atlantic salmon, the analysis specifically concerns the spatio-temporal variations of growth and body length at the smolt and adult stages and their influence on key demographic transitions or other life history traits (e.g. age at smoltification, fecundity). The inventory will be consolidated with available data gathered from other partners in and out of the project. WGNAS and WGBAST members have been invited to participate to the initiative through a proposal for collaboration and data sharing.

WP2 Enhancing database

This work package aims to advance the development of international databases to support an holistic assessment of migratory fishes. A key challenge is that the current databases hosted and maintained by ICES for marine fish stock assessment are not adapted for diadromous species and can hardly support the specificity of the data used for diadromous fish stock assessment. One of the main objectives of DIASPARA is to foster the development of a prototype for a single database that would bring together all the data required for the assessment of diadromous fishes. Such a database would ensure the long-term sustainability of the databases that have been developed among the different working groups outside the ICES database infrastructure. Exchanges with the different ICES working groups and with the ICES Data Centre have led to the

proposal of a first draft structure for a diadromous fishes database, including a standardization of the vocabulary.

WP3 Enhancing stock assessment models

This work package aims to improve stock assessment models (SAMs) used by WGNAS, WGBAST, and WGEEL to provide a better understanding of changes in stock productivity and to improve our capacity to forecast population dynamics and productivity in the context of climate change. The project addresses two objectives: i) improving the biological realism of the models through a better consideration of the spatio-temporal variation of life history traits and the consequences for key demographic transition rates and population dynamics – the project will review and compare different approaches to model spatio-temporal variability of key demographic transitions rates, and assess the possibility to integrate those approaches in SAMs; and ii) developing algorithms and tools to improve the computational efficiency of salmon and eel statistical integrated SAMs. This requires benchmarking of the models against different algorithms/software. This is of paramount importance to further enhance accessibility and dissemination of large dimensional stage-based integrated population models, and in the perspective of increasing the complexity of the models to improve their biological realism. A framework to optimize the performance of the LCM has been developed and is being tested. The first results are encouraging and have already reduced the computational time significantly.

2.8 NASCO has asked ICES to provide a compilation of tag releases by country in 2024

Data on releases of tagged, fin-clipped and other marked salmon in 2024 were provided to the Working Group and are compiled as a separate report (ICES WGNAS Addendum, 2025b). In summary (Table 2.8.1), 1.163 million salmon were marked in 2024. This was an increase from the 1.07 million fish marked in 2023. In 2024, the adipose fin clip was the most used primary mark (797 327). Coded wire microtags (CWT) were the second most used primary mark with 261 358 tagged. In 2024 most marks were applied to hatchery-origin juveniles (1 073 722), while 81 898 wild juveniles, 4 563 wild adults and 3 165 hatchery adults were also marked.

A database (designed by the Missing Salmon Alliance UK and IMR in Norway, and hosted and maintained by the Missing Salmon Alliance (https://shiny.missingsalmonalliance.org/tag-database/)) lists individual salmonid PIT tag numbers or codes identifying the origin, source or programme of the tags. The data can be compared against PIT tag detections from a network of detector stations operated at fish processing plants in several countries, to identify salmonid captures.

To date, the system has enabled identification of fisheries recaptures from five salmon tagged as smolts: two from French rivers recaptured in the Norwegian Sea a few months after marine entry in 2022 and 2023, and three smolts from Norwegian rivers tagged in 2017 and 2019 and recaptured as returning adults. These data are helping to contribute towards building a more comprehensive picture of salmonid marine migration routes.

In 2003, WGNAS reported information on marks being applied to farmed salmon to facilitate tracing the origin of farmed salmon captured in the wild in the case of escape events. In the US, genetic "marking" procedures have been adopted where brood stock are genetically screened, and the resulting database is used to match genotyped escaped farmed salmon to a specific parental mating pair and subsequent hatchery of origin, stocking group, and marine site the individual escaped from. This has also been developed in Iceland and Norway, where in recent years farmed escapees could be traced to the pens/farms they escaped from by matching their genotypes to known parental genotypes stored in genetic database.

2.9 Tables & Figures

Table 2.1.1.1. Total reported nominal catch of salmon by country (in tonnes round fresh weight), 1960-2024 (2024 figures include provisional data).

Year	NAC			NEAC (N. Area)								NEAC (S. Area)						Faroes and Greenland					Unreported catches	
						Iceland		Sweden																
	Canada (1)	US	St P&M	Norway (2)	Russia (3,16)	Wild	Ranch (4)	Wild	Ranch (15)	Denmark (17)	Finland	Ireland (5,6)	UK (E&W)	UK (NI) (6,7)	UK (Scot)	France (8)	Spain (9)	Faroes (10)	East Gnld.	West Gnld. (11)	Other (12)	Total	NASCO (13)	International (14)
1960	1636	1		1659	1100	100		40	0			743	283	139	1443		33			60		7237		
1961	1583	1		1533	790	127		27	0			707	232	132	1185		20			127		6464		
1962	1719	1		1935	710	125		45	0			1459	318	356	1738		23			244		8673		
1963	1861	1		1786	480	145		23	0			1458	325	306	1725		28			466		8604		
1964	2069	1		2147	590	135		36	0			1617	307	377	1907		34			1539		10759		
1965	2116	1		2000	590	133		40	0			1457	320	281	1593		42			861		9434		
1966	2369	1		1791	570	104	2	36	0			1238	387	287	1595		42			1370		9792		
1967	2863	1		1980	883	144	2	25	0			1463	420	449	2117		43			1601		11991		
1968	2111	1		1514	827	161	1	20	0			1413	282	312	1578		38	5		1127	403	9793		
1969	2202	1		1383	360	131	2	22	0			1730	377	267	1955		54	7		2210	893	11594		
1970	2323	1		1171	448	182	13	20	0			1787	527	297	1392		45	12		2146	922	11286		
1971	1992	1		1207	417	196	8	17	1			1639	426	234	1421		16			2689	471	10735		
1972	1759	1		1578	462	245	5	17	1		32	1804	442	210	1727	34	40	9		2113	486	10965		

Year	NAC			NEAC (N. Area)								NEAC (S. Area)						Faroes and Greenland					Unreported catches	
						Iceland		Sweden																
	Canada (1)	US	St P&M	Norway (2)	Russia (3,16)	Wild	Ranch (4)	Wild	Ranch (15)	Denmark (17)	Finland	Ireland (5,6)	UK (E&W)	UK (NI) (6,7)	UK (Scot)	France (8)	Spain (9)	Faroes (10)	East Gnld.	West Gnld. (11)	Other (12)	Total	NASCO (13)	International (14)
1973	2434	3		1726	772	148	8	22	1		50	1930	450	182	2006	12	24	28		2341	533	12670		
1974	2539	1		1633	709	215	10	31	1		76	2128	383	184	1628	13	16	20		1917	373	11877		
1975	2485	2		1537	811	145	21	26	0		76	2216	447	164	1621	25	27	28		2030	475	12136		
1976	2506	1	2	1530	542	216	9	20	0		66	1561	208	113	1019	9	21	40	<1	1175	289	9328		
1977	2545	2		1488	497	123	7	9	1		59	1372	345	110	1160	19	19	40	6	1420	192	9414		
1978	1545	4		1050	476	285	6	10	0		37	1229	349	148	1323	20	32	37	8	984	138	7681		
1979	1287	2		1831	455	219	6	11	1		26	1027	261	99	1076	10	29	119	<0.5	1395	193	8048		
1980	2680	6		1830	664	241	8	16	1		34	947	360	122	1134	30	47	536	<0.5	1194	277	10127		
1981	2437	6		1656	463	147	16	25	1		44	685	493	101	1233	20	25	1025	<0.5	1264	313	9954		
1982	1798	6		1348	364	130	17	24	1		54	993	286	132	1092	20	10	606	<0.5	1077	437	8396		
1983	1424	1	3	1550	507	166	32	27	1		58	1656	429	187	1221	16	23	678	<0.5	310	466	8756		
1984	1112	2	3	1623	593	139	20	39	1		46	829	345	78	1013	25	18	628	<0.5	297	101	6913		
1985	1133	2	3	1561	659	162	55	44	1		49	1595	361	98	913	22	13	566	7	864		8108		
1986	1559	2	2	1598	608	232	59	52	2		37	1730	430	109	1271	28	27	530	19	960		9255	315	

Year	NAC			NEAC (N. Area)								NEAC (S. Area)						Faroes and Greenland					Unreported catches	
						Iceland		Sweden																
	Canada (1)	US	St P&M	Norway (2)	Russia (3,16)	Wild	Ranch (4)	Wild	Ranch (15)	Denmark (17)	Finland	Ireland (5,6)	UK (E&W)	UK (NI) (6,7)	UK (Scot)	France (8)	Spain (9)	Faroes (10)	East Gnld.	West Gnld. (11)	Other (12)	Total	NASCO (13)	International (14)
1987	1784	1	2	1385	564	181	40	43	4		49	1239	302	56	922	27	18	576	<0.5	966		8160	2788	
1988	1310	1	2	1076	420	217	180	36	4		36	1874	395	114	882	32	18	243	4	893		7737	3248	
1989	1139	2	2	905	364	141	136	25	4		52	1079	296	142	895	14	7	364		337		5904	2277	
1990	911	2	2	930	313	146	280	27	6	13	60	567	338	94	624	15	7	315		274		4924	1890	180-350
1991	711	1	1	876	215	129	346	34	4	3	70	404	200	55	462	13	11	95	4	472		4106	1682	25-100
1992	522	1	2	867	167	174	462	46	3	10	77	630	171	91	599	20	11	23	5	237		4118	1962	25-100
1993	373	1	3	923	139	157	499	44	12	9	70	541	248	83	547	16	8	23				3696	1644	25-100
1994	355	0	3	996	141	136	313	37	7	6	49	804	324	91	648	18	10	6				3944	1276	25-100
1995	260	0	1	839	128	146	303	28	9	3	48	790	295	83	588	10	9	5	2	83		3629	1060	
1996	292	0	2	787	131	118	243	26	7	2	44	685	183	77	427	13	7		<0.5	92		3136	1123	
1997	229	0	2	630	111	96	59	15	4	1	45	570	142	93	296	8	3		1	58		2364	827	
1998	157	0	2	740	131	118	46	10	5	1	48	624	123	78	283	8	4	6	0	11		2396	1210	
1999	152	0	2	811	103	111	35	11	5	0	63	515	150	53	199	11	6	0	<0.5	19		2247	1032	
2000	153	0	2	1176	124	73	11	24	9	5	96	621	219	78	275	11	7	8	0	21		2914	1270	

Year	NAC			NEAC (N. Area)								NEAC (S. Area)						Faroes and Greenland					Unreported catches	
						Iceland		Sweden																
	Canada (1)	US	St P&M	Norway (2)	Russia (3,16)	Wild	Ranch (4)	Wild	Ranch (15)	Denmark (17)	Finland	Ireland (5,6)	UK (E&W)	UK (NI) (6,7)	UK (Scot)	France (8)	Spain (9)	Faroes (10)	East Gnld.	West Gnld. (11)	Other (12)	Total	NASCO (13)	International (14)
2001	148	0	2	1267	114	74	14	25	7	6	126	730	184	53	251	11	13	0	0	43		3068	1180	
2002	148	0	2	1019	118	90	7	20	8	5	94	682	161	81	191	11	9	0	0	9		2655	1039	
2003	141	0	3	1071	107	99	11	15	10	4	78	551	89	56	193	13	7	0	0	9		2457	847	
2004	161	0	3	784	82	112	18	13	7	4	39	489	111	48	247	19	7	0	0	15		2158	686	
2005	139	0	3	888	82	129	20	9	6	8	47	422	96	52	217	11	13	0	0	15		2157	700	
2006	137	0	3	932	91	93	17	8	6	2	67	326	80	28	193	13	11	0	0	22		2030	670	
2007	112	0	2	767	62	93	36	6	10	3	59	85	67	30	171	11	9	0	0	25		1548	475	
2008	157	0	4	807	73	132	69	8	10	9	71	89	64	21	161	12	9	0	0	26		1720	443	
2009	126		3	595	71	126	44	7	10	8	38	68	54	16	121	5	2	0	1	26		1322	343	
2010	153		3	642	88	147	42	9	13	13	49	99	109	12	180	10	2	0	2	38		1610	382	
2011	179		4	696	89	98	30	20	19	13	44	87	136	10	159	11	7	0	<0.5	27		1630	441	
2012	126		3	696	82	50	20	21	9	12	64	88	58	9	124	10	8	0	0	33		1412	403	
2013	138		5	475	78	116	31	10	4	11	46	87	84	4	119	11	4	0	0	47		1269	306	
2014	118		4	490	81	50	18	24	6	9	58	56	54	5	84	12	6	0	<0.5	58		1133	287	

Year	NAC			NEAC (N. Area)								NEAC (S. Area)						Faroes and Greenland					Unreported catches	
						Iceland		Sweden																
	Canada (1)	US	St P&M	Norway (2)	Russia (3,16)	Wild	Ranch (4)	Wild	Ranch (15)	Denmark (17)	Finland	Ireland (5,6)	UK (E&W)	UK (NI) (6,7)	UK (Scot)	France (8)	Spain (9)	Faroes (10)	East Gnld.	West Gnld. (11)	Other (12)	Total	NASCO (13)	International (14)
2015	140		4	583	80	94	31	11	7	9	45	63	68	3	68	16	5	0	1	56		1284	326	
2016	135		5	612	56	71	34	6	3	9	51	58	86	5	27	6	5	0	2	26		1196	335	
2017	110		3	667	47	66	24	9	10	12	32	59	49	5	27	10	2	0	<0.5	28		1159	353	
2018	79		1	594	80	60	22	12	4	11	24	46	42	4	19	10	3	0	1	39		1052	312	
2019	100		1	513	57	37	14	13	8	13	21	45	5	2	13	15	5	0	1	28		889	259	
2020	103		2	527	49	42	28	7	7	9	16	46	3	2	14	8	5	0	1	31		899	275	
2021	98		2	295	49	41	16	6	5	2	1	51	1	2	7	7	4	0	1	42		627	164	
2022	90		1	389	55	37	20	7	2		1	40	1	1	6	7	3	0	1	30		691	201	
2023	82		1	297	52	30	13	6	4		1	32	1	1	5	5	1		1	33		566	159	
2024	67		2	168		31	15	4	4	4	1	37	1	1	5	3	2		1	20		364	101	
Mean																								
2019 - 2023	95		1	404	52	37	18	8	5	8	8	43	2	2	9	8	3	0	1	33		735	212	
2014 - 2023	105		2	497	61	53	22	10	5	9	25	50	31	3	27	9	4	0	1	37		950	267	

Year	NAC			NEAC (N. Area)								NEAC (S. Area)						Faroes and Greenland					Unreported catches	
						Iceland		Sweden																
	Canada (1)	US	St P&M	Norway (2)	Russia (3,16)	Wild	Ranch (4)	Wild	Ranch (15)	Denmark (17)	Finland	Ireland (5,6)	UK (E&W)	UK (NI) (6,7)	UK (Scot)	France (8)	Spain (9)	Faroes (10)	East Gnld.	West Gnld. (11)	Other (12)	Total	NASCO (13)	International (14)

1. Includes estimates of some local sales, and, prior to 1984, bycatch.

2. Before 1966, sea trout and sea charr included (5% of total).

3. Figures from 1991 to 2000 do not include catches taken in the recreational (rod) fishery.

4. From 1990, catch includes fish ranched for both commercial and angling purposes.

5. Improved reporting of rod catches in 1994 and data derived from carcase tagging and logbooks from 2002.

6. Catch on River Foyle allocated 50% Ireland and 50% UK (NI).

7. Angling catch (derived from carcase tagging and logbooks) first included in 2002.

8. Data for France include some unreported catches.

9. Spanish data until 2018 (inclusive), weights estimated from mean weight of fish caught in Asturias (80% - 90% of Spanish catch). Weight for 2019 for all Spain, supplied via data call.

10. Between 1991 & 1999, there was only a research fishery at Faroes. In 1997 & 1999, no fishery took place; the commercial fishery resumed in 2000, but has not operated since 2001.

11. Includes catches made in the West Greenland area by Norway, Faroes, Sweden and Denmark in 1965-1975.

12. Includes catches in Norwegian Sea by vessels from Denmark, Sweden, Germany, Norway and Finland.

13. No unreported catch estimate available for Canada in 2007 and 2008. Data for Canada in 2009, 2010 and 2019 are incomplete. No unreported catch estimate available for Russia since 2008.

14. Estimates refer to season ending in given year.

Year	NAC			NEAC (N. Area)								NEAC (S. Area)						Faroes and Greenland					Unreported catches	
						Iceland		Sweden																
	Canada (1)	US	St P&M	Norway (2)	Russia (3,16)	Wild	Ranch (4)	Wild	Ranch (15)	Denmark (17)	Finland	Ireland (5,6)	UK (E&W)	UK (NI) (6,7)	UK (Scot)	France (8)	Spain (9)	Faroes (10)	East Gnld.	West Gnld. (11)	Other (12)	Total	NASCO (13)	International (14)

15. Catches from hatchery-reared smolts released under programmes to mitigate for hydropower development schemes; returning fish unable to spawn in the wild and exploited heavily.

16. Data since 2021 extracted from NASCO website at https://nasco.int/conservation/third-reporting-cycle-2/. No data available to the Working Group in 2024; totals therefore do not include Russian catch in most recent year.

17. No catch weight data available for Denmark in 2022 and 2023.

Table 2.1.1.2. Total reported nominal catch of salmon in home waters by country (in tonnes round fresh weight), 1960-2024 (2024 figures include provisional data). Lg = Large; Sm = small; S = salmon (MSW fish); G = grilse; T = total = S + G or Lg + Sm. Note that sea ages are as reported, based on size distributions specific to each jurisdiction (see Stock Annex for details).

Year	NAC Area				NEAC (N. Area)												NEAC (S. Area)										Total
	Canada (1)			US	Norway (2)			Russia (3,7)	Iceland Wild	Iceland Ranch	Sweden Wild	Sweden Ranch	Denmark (8)	Finland			Ireland (4,5)			UK (E&W)	UK (NI)(4,6)	UK (Scot)			France	Spain	
	Lg	Sm	T	T	S	G	T	T	T	T	T	T	T	S	G	T	S	G	T	T	T	S	G	T	T	T	T
1960			1636	1			1659	1100	100		40	0							743	283	139	971	472	1443		33	7177
1961			1583	1			1533	790	127		27	0							707	232	132	811	374	1185		20	6337
1962			1719	1			1935	710	125		45	0							1459	318	356	1014	724	1738		23	8429
1963			1861	1			1786	480	145		23	0							1458	325	306	1308	417	1725		28	8138
1964			2069	1			2147	590	135		36	0							1617	307	377	1210	697	1907		34	9220
1965			2116	1			2000	590	133		40	0							1457	320	281	1043	550	1593		42	8573
1966			2369	1			1791	570	104	2	36	0							1238	387	287	1049	546	1595		42	8422
1967			2863	1			1980	883	144	2	25	0							1463	420	449	1233	884	2117		43	10390
1968			2111	1			1514	827	161	1	20	0							1413	282	312	1021	557	1578		38	8258
1969			2202	1	801	582	1383	360	131	2	22	0							1730	377	267	997	958	1955		54	8484
1970	1562	761	2323	1	815	356	1171	448	182	13	20	0							1787	527	297	775	617	1392		45	8206
1971	1482	510	1992	1	771	436	1207	417	196	8	17	1							1639	426	234	719	702	1421		16	7574

Year	NAC Area				NEAC (N. Area)												NEAC (S. Area)										Total
	Canada (1)			US	Norway (2)			Russia (3,7)	Iceland Wild	Iceland Ranch	Sweden Wild	Sweden Ranch	Denmark (8)	Finland			Ireland (4,5)			UK (E&W)	UK (NI)(4,6)	UK (Scot)			France	Spain	
	Lg	Sm	T	T	S	G	T	T	T	T	T	T	T	S	G	T	S	G	T	T	T	S	G	T	T	T	T
1972	1201	558	1759	1	1064	514	1578	462	245	5	17	1				32	200	1604	1804	442	210	1013	714	1727	34	40	8356
1973	1651	783	2434	3	1220	506	1726	772	148	8	22	1				50	244	1686	1930	450	182	1158	848	2006	12	24	9767
1974	1589	950	2539	1	1149	484	1633	709	215	10	31	1				76	170	1958	2128	383	184	912	716	1628	13	16	9566
1975	1573	912	2485	2	1038	499	1537	811	145	21	26	0				76	274	1942	2216	447	164	1007	614	1621	25	27	9603
1976	1721	785	2506	1	1063	467	1530	542	216	9	20	0				66	109	1452	1561	208	113	522	497	1019	9	21	7821
1977	1883	662	2545	2	1018	470	1488	497	123	7	9	1				59	145	1227	1372	345	110	639	521	1160	19	19	7755
1978	1225	320	1545	4	668	382	1050	476	285	6	10	0				37	147	1082	1229	349	148	781	542	1323	20	32	6514
1979	705	582	1287	2	1150	681	1831	455	219	6	11	1				26	105	922	1027	261	99	598	478	1076	10	29	6340
1980	1763	917	2680	6	1352	478	1830	664	241	8	16	1				34	202	745	947	360	122	851	283	1134	30	47	8119
1981	1619	818	2437	6	1189	467	1656	463	147	16	25	1				44	164	521	685	493	101	844	389	1233	20	25	7351
1982	1082	716	1798	6	985	363	1348	364	130	17	24	1		49	5	54	63	930	993	286	132	596	496	1092	20	10	6275
1983	911	513	1424	1	957	593	1550	507	166	32	27	1		51	7	58	150	1506	1656	429	187	672	549	1221	16	23	7298
1984	645	467	1112	2	995	628	1623	593	139	20	39	1		37	9	46	101	728	829	345	78	504	509	1013	25	18	5882
1985	540	593	1133	2	923	638	1561	659	162	55	44	1		38	11	49	100	1495	1595	361	98	514	399	913	22	13	6667

Year	NAC Area				NEAC (N. Area)												NEAC (S. Area)										Total
	Canada (1)			US	Norway (2)			Russia (3,7)	Iceland Wild	Iceland Ranch	Sweden Wild	Sweden Ranch	Denmark (8)	Finland			Ireland (4,5)			UK (E&W)	UK (NI)(4,6)	UK (Scot)			France	Spain	
	Lg	Sm	T	T	S	G	T	T	T	T	T	T	T	S	G	T	S	G	T	T	T	S	G	T	T	T	T
1986	779	780	1559	2	1042	556	1598	608	232	59	52	2		25	12	37	136	1594	1730	430	109	745	526	1271	28	27	7742
1987	951	833	1784	1	894	491	1385	564	181	40	43	4		34	15	49	127	1112	1239	302	56	503	419	922	27	18	6611
1988	633	677	1310	1	656	420	1076	420	217	180	36	4		27	9	36	141	1733	1874	395	114	501	381	882	32	18	6591
1989	590	549	1139	2	469	436	905	364	141	136	25	4		33	19	52	132	947	1079	296	142	464	431	895	14	7	5197
1990	486	425	911	2	545	385	930	313	146	280	27	6	13	41	19	60			567	338	94	423	201	624	15	7	4327
1991	370	341	711	1	535	342	876	215	129	346	34	4	3	53	17	70			404	200	55	285	177	462	13	11	3530
1992	323	199	522	1	566	301	867	167	174	462	46	3	10	49	28	77			630	171	91	361	238	599	20	11	3847
1993	214	159	373	1	611	312	923	139	157	499	44	12	9	53	17	70			541	248	83	320	227	547	16	8	3659
1994	216	139	355	0	581	415	996	141	136	313	37	7	6	38	11	49			804	324	91	400	248	648	18	10	3927
1995	153	107	260	0	590	249	839	128	146	303	28	9	3	37	11	48			790	295	83	364	224	588	10	9	3530
1996	154	138	292	0	571	215	787	131	118	243	26	7	2	24	20	44			685	183	77	267	160	427	13	7	3035
1997	126	103	229	0	389	241	630	111	96	59	15	4	1	30	15	45			570	142	93	182	114	296	8	3	2300
1998	70	87	157	0	445	296	740	131	118	46	10	5	1	29	19	48			624	123	78	162	121	283	8	4	2371
1999	64	88	152	0	493	318	811	103	111	35	11	5	0	29	33	63			515	150	53	142	57	199	11	6	2220

Year	NAC Area				NEAC (N. Area)												NEAC (S. Area)										Total
	Canada (1)			US	Norway (2)			Russia (3,7)	Iceland Wild	Iceland Ranch	Sweden Wild	Sweden Ranch	Denmark (8)	Finland			Ireland (4,5)			UK (E&W)	UK (NI)(4,6)	UK (Scot)			France	Spain	
	Lg	Sm	T	T	S	G	T	T	T	T	T	T	T	S	G	T	S	G	T	T	T	S	G	T	T	T	T
2000	58	95	153	0	673	504	1176	124	73	11	24	9	5	56	39	96			621	219	78	161	114	275	11	7	2873
2001	61	86	148	0	850	417	1267	114	74	14	25	7	6	105	21	126			730	184	53	150	101	251	11	13	3016
2002	49	99	148	0	770	249	1019	118	90	7	20	8	5	81	12	94			682	161	81	118	73	191	11	9	2636
2003	60	81	141	0	708	363	1071	107	99	11	15	10	4	63	15	78			551	89	56	122	71	193	13	7	2435
2004	68	94	161	0	577	207	784	82	112	18	13	7	4	32	7	39			489	111	48	159	88	247	19	7	2133
2005	56	83	139	0	581	307	888	82	129	20	9	6	8	31	16	47			422	96	52	126	91	217	11	13	2133
2006	55	82	137	0	671	261	932	91	93	17	8	6	2	38	29	67			326	80	28	118	75	193	13	11	1999
2007	49	63	112	0	627	140	767	62	93	36	6	10	3	52	6	59			85	67	30	100	71	171	11	9	1511
2008	57	100	157	0	637	170	807	73	132	69	8	10	9	65	6	71			89	64	21	110	51	161	12	9	1680
2009	52	74	126		460	135	595	71	126	44	7	10	8	25	13	38			68	54	16	83	37	121	5	2	1282
2010	53	100	153		458	184	642	88	147	42	9	13	13	37	13	49			99	109	12	111	69	180	10	2	1554
2011	69	110	179		556	140	696	89	98	30	20	19	13	29	15	44			87	136	10	126	33	159	11	7	1579
2012	52	74	126		534	162	696	82	50	20	21	9	12	31	33	64			88	58	9	84	40	124	10	8	1368
2013	66	72	138		358	117	475	78	116	31	10	4	11	32	14	46			87	84	4	74	45	119	11	4	1217

Year	NAC Area				NEAC (N. Area)												NEAC (S. Area)										Total
	Canada (1)			US	Norway (2)			Russia (3,7)	Iceland Wild	Iceland Ranch	Sweden Wild	Sweden Ranch	Denmark (8)	Finland			Ireland (4,5)			UK (E&W)	UK (NI)(4,6)	UK (Scot)			France	Spain	
	Lg	Sm	T	T	S	G	T	T	T	T	T	T	T	S	G	T	S	G	T	T	T	S	G	T	T	T	T
2014	41	77	118		319	171	490	81	50	18	24	6	9	31	26	58			56	54	5	58	26	84	12	6	1071
2015	54	86	140		430	153	583	80	94	31	11	7	9	32	13	45			63	68	3	39	29	68	16	5	1224
2016	56	79	135		495	117	612	56	71	34	6	3	9	37	14	51			58	86	5	18	8	27	6	5	1164
2017	55	55	110		503	164	667	47	66	24	9	10	12	27	5	32			59	49	5	19	7	27	10	2	1128
2018	39	39	79		427	167	594	80	60	22	12	4	11	13	11	24			46	42	4	12	8	19	10	3	1012
2019	47	53	100		391	122	513	57	37	14	13	8	13	17	4	21			45	5	2	8	5	13	15	5	858
2020	51	52	103		384	143	527	49	42	28	7	7	9	13	3	16	3	43	46	3	2	9	5	14	8	5	866
2021	40	58	98		214	81	295	49	41	16	6	5	2	1	0	1	5	46	51	1	2	4	3	7	7	4	582
2022	45	45	90		272	118	389	55	37	20	7	2		1	0	1	6	33	40	1	1	4	2	6	7	3	660
2023	47	34	82		214	83	297	52	30	13	6	4		1	0	1	5	27	32	1	1	3	2	5	5	1	530
2024	35	31	67		107	60	168		31	15	4	4	4	0	0	1	5	31	37	1	1	3	2	5	3	2	342

Year	NAC Area				NEAC (N. Area)												NEAC (S. Area)										Total
	Canada (1)			US	Norway (2)			Russia (3,7)	Iceland Wild	Iceland Ranch	Sweden Wild	Sweden Ranch	Denmark (8)	Finland			Ireland (4,5)			UK (E&W)	UK (NI)(4,6)	UK (Scot)			France	Spain	
	Lg	Sm	T	T	S	G	T	T	T	T	T	T	T	S	G	T	S	G	T	T	T	S	G	T	T	T	T
Mean																											
2019 - 2023	46	48	95		295	109	404	52	37	18	8	5	8	6	2	8	5	37	43	2	2	5	3	9	8	3	699
2014 - 2023	48	58	105		365	132	497	61	53	22	10	5	9	17	8	25	5	37	50	31	3	17	9	27	9	4	909

1. Includes estimates of some local sales, and, prior to 1984, bycatch.

2. Before 1966, sea trout and sea charr included (5% of total).

3. Figures from 1991 to 2000 do not include catches taken in the recreational (rod) fishery.

4. Catch on River Foyle allocated 50% Ireland and 50% UK (NI).

5. Improved reporting of rod catches in 1994 and data derived from carcase tagging and logbooks from 2002.

6. Angling catch (derived from carcase tagging and logbooks) first included in 2002.

7. Data extracted from NASCO website at https://nasco.int/conservation/third-reporting-cycle-2/*. No data available to the Working Group in 2024; totals therefore do not include Russian catch in most recent year.*

8. No catch weight data available for Denmark in 2022 and 2023.

Table 2.1.1.3. Available time-series of nominal catch (tonnes round fresh weight) and percentages of total catches taken in coastal, estuarine, and in-river fisheries by country, 1996 to 2024. The way in which the nominal catch is partitioned among categories varies between countries, particularly for estuarine and coastal fisheries, see text for details.

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
Canada								
	2000	2	2	29	19	117	79	148
	2001	3	2	28	20	112	78	143
	2002	4	2	30	20	114	77	148
	2003	5	3	36	27	96	70	137
	2004	7	4	46	29	109	67	161
	2005	7	5	44	32	88	63	139
	2006	8	6	46	34	83	60	137
	2007	6	5	36	32	70	63	112
	2008	9	6	47	32	92	62	147
	2009	7	6	40	33	73	61	119
	2010	6	4	40	27	100	69	146
	2011	7	4	56	31	115	65	178
	2012	8	6	46	36	73	57	127
	2013	8	6	49	36	80	58	137

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
	2014	7	6	28	24	83	71	118
	2015	8	6	35	25	97	69	140
	2016	8	6	34	25	93	69	135
	2017	7	6	35	32	68	62	110
	2018	7	9	35	45	36	46	79
	2019	6	6	40	40	54	54	100
	2020	8	7	45	44	50	49	103
	2021	7	8	40	41	50	51	98
	2022	7	8	42	46	41	46	90
	2023	8	9	43	52	32	39	82
	2024	6	10	38	56	23	34	67
Denmark (8)								
	2008	0	1	0	0	9	99	9
	2009	0	0	0	0	8	100	8
	2010	0	1	0	0	13	99	13
	2011	0	0	0	0	13	100	13

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
	2012	0	0	0	0	12	100	12
	2013	0	0	0	0	11	100	11
	2014	0	0	0	0	9	100	9
	2015	0	0	0	0	9	100	9
	2016	0	0	0	0	10	100	10
	2017	0	1	0	0	12	99	12
	2018	0	1	0	0	11	99	11
	2019	0	1	0	0	13	99	13
	2020	0	0	0	0	9	100	9
	2021	0	0	0	0	2	100	2
	2022							0
	2023							0
	2024	0	0	0	0	4	100	4
Finland								
	1996	0	0	0	0	44	100	44
	1997	0	0	0	0	45	100	45

		Coastal		Estuarine		In-river		Total
Country	Year	Weight (t)	% of total	Weight (t)	% of total	Weight (t)	% of total	Weight (t)
	1998	0	0	0	0	48	100	48
	1999	0	0	0	0	63	100	63
	2000	0	0	0	0	96	100	96
	2001	0	0	0	0	126	100	126
	2002	0	0	0	0	94	100	94
	2003	0	0	0	0	75	100	75
	2004	0	0	0	0	39	100	39
	2005	0	0	0	0	47	100	47
	2006	0	0	0	0	67	100	67
	2007	0	0	0	0	59	100	59
	2008	0	0	0	0	71	100	71
	2009	0	0	0	0	38	100	38
	2010	0	0	0	0	49	100	49
	2011	0	0	0	0	44	100	44
	2012	0	0	0	0	64	100	64
	2013	0	0	0	0	46	100	46

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
	2014	0	0	0	0	58	100	58
	2015	0	0	0	0	45	100	45
	2016	0	0	0	0	51	100	51
	2017	0	0	0	0	32	100	32
	2018	0	0	0	0	24	100	24
	2019	0	0	0	0	21	100	21
	2020	0	0	0	0	16	100	16
	2021	0	0	0	0	1	100	1
	2022	0	0	0	0	1	100	1
	2023	0	0	0	0	1	100	1
	2024	0	0	0	0	1	100	1
France (1,4)								
	1996			4	31	9	69	13
	1997			3	38	5	62	8
	1998	1	12	2	25	5	62	8
	1999	0	0	4	35	7	65	11

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
	2000	0	4	4	35	7	61	11
	2001	0	4	5	44	6	53	11
	2002	2	14	4	30	6	56	12
	2003	0	0	6	44	7	56	13
	2004	0	0	10	51	9	49	19
	2005	0	0	4	38	7	62	11
	2006	0	0	5	41	8	59	13
	2007	0	0	4	42	6	58	11
	2008	1	5	5	39	7	57	12
	2009	0	4	2	34	3	62	5
	2010	2	22	2	26	5	52	10
	2011	0	3	6	54	5	43	11
	2012	0	1	4	44	5	55	10
	2013	0	3	4	40	6	57	11
	2014	0	2	5	43	7	55	12
	2015	4	23	5	32	7	45	16

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
	2016	0	2	3	45	3	52	6
	2017	0	5	3	36	6	59	10
	2018	0	0	5	47	6	53	11
	2019	0	2	8	54	6	44	15
	2020	0	2	4	48	4	50	8
	2021	0	1	3	38	4	61	7
	2022	0	0	3	47	4	53	7
	2023	0	1	3	63	2	37	5
	2024	0	0	2	67	1	33	3
Germany								
	2023	0	0	0	0	<1	100	0
	2024	<1	55	0	0	<1	45	0
Greenland								
	2020	32	100					32
	2021	43	100					43
	2022	30	97	1	3			31

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
	2023	34	100					34
	2024	21	100					21
Iceland (6)								
	1996	10	9	0	0	111	91	122
	1997	0	0	0	0	156	100	156
	1998	0	0	0	0	164	100	164
	1999	0	0	0	0	146	100	146
	2000	0	0	0	0	85	100	85
	2001	0	0	0	0	88	100	88
	2002	0	0	0	0	97	100	97
	2003	0	0	0	0	110	100	110
	2004	0	0	0	0	130	100	130
	2005	0	0	0	0	149	100	149
	2006	0	0	0	0	111	100	111
	2007	0	0	0	0	129	100	129
	2008	0	0	0	0	200	100	200

		Coastal		Estuarine		In-river		Total
Country	Year	Weight (t)	% of total	Weight (t)	% of total	Weight (t)	% of total	Weight (t)
	2009	0	0	0	0	171	100	171
	2010	0	0	0	0	190	100	190
	2011	0	0	0	0	128	100	128
	2012	0	0	0	0	70	100	70
	2013	0	0	0	0	146	100	146
	2014	0	0	0	0	68	100	68
	2015	0	0	0	0	125	100	125
	2016	0	0	0	0	105	100	105
	2017	0	0	0	0	90	100	90
	2018	0	0	0	0	82	100	82
	2019	0	0	0	0	51	100	51
	2020	0	0	0	0	70	100	70
	2021	0	0	0	0	44	100	44
	2022	0	0	0	0	57	100	57
	2023	0	0	0	0	43	100	43
	2024	0	0	0	0	46	100	46

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
Ireland								
	1996	440	64	134	20	110	16	684
	1997	380	67	100	18	91	16	571
	1998	433	69	92	15	99	16	624
	1999	335	65	83	16	97	19	515
	2000	440	71	79	13	102	16	621
	2001	551	75	109	15	70	10	730
	2002	514	75	89	13	79	12	682
	2003	403	73	92	17	56	10	551
	2004	342	70	76	16	71	15	489
	2005	291	69	70	17	60	14	421
	2006	206	63	60	18	61	19	327
	2007	0	0	31	37	52	63	83
	2008	0	0	29	33	60	67	89
	2009	0	0	21	31	47	69	68
	2010	0	0	38	39	60	61	98

		Coastal		Estuarine		In-river		Total
Country	Year	Weight (t)	% of total	Weight (t)	% of total	Weight (t)	% of total	Weight (t)
	2011	0	0	32	37	55	63	87
	2012	0	0	28	32	60	68	88
	2013	0	0	38	44	49	56	87
	2014	0	0	26	46	31	54	57
	2015	0	0	21	33	42	67	63
	2016	0	0	19	33	39	67	58
	2017	0	0	18	31	41	69	59
	2018	0	0	15	33	31	67	46
	2019	0	0	15	35	29	65	45
	2020	0	0	17	36	29	64	46
	2021	0	0	17	35	33	65	51
	2022	0	0	11	28	29	72	40
	2023	0	0	11	34	21	66	32
	2024	0	0	12	32	25	68	37

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
Norway								
	1996	520	66	0	0	267	34	787
	1997	394	63	0	0	235	37	629
	1998	410	55	0	0	331	45	741
	1999	483	60	0	0	327	40	810
	2000	619	53	0	0	557	47	1176
	2001	696	55	0	0	570	45	1266
	2002	596	58	0	0	423	42	1019
	2003	597	56	0	0	474	44	1071
	2004	469	60	0	0	316	40	785
	2005	463	52	0	0	424	48	888
	2006	512	55	0	0	420	45	932
	2007	427	56	0	0	340	44	767
	2008	382	47	0	0	425	53	807
	2009	284	48	0	0	312	52	595
	2010	260	41	0	0	382	59	642

		Coastal		Estuarine		In-river		Total
Country	Year	Weight (t)	% of total	Weight (t)	% of total	Weight (t)	% of total	Weight (t)
	2011	302	43	0	0	394	57	696
	2012	255	37	0	0	440	63	696
	2013	192	40	0	0	283	60	475
	2014	213	43	0	0	277	57	490
	2015	233	40	0	0	350	60	583
	2016	269	44	0	0	343	56	612
	2017	290	44	0	0	376	56	666
	2018	323	54	0	0	271	46	594
	2019	219	43	0	0	293	57	513
	2020	215	41	0	0	312	59	527
	2021	98	33	0	0	197	67	295
	2022	134	34	0	0	256	66	389
	2023	113	38	0	0	185	62	297
	2024	75	45	0	0	92	55	168

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
Russia (7)								
	1996	64	49	21	16	46	35	130
	1997	63	57	17	15	32	28	111
	1998	55	42	2	2	74	56	131
	1999	48	47	2	2	52	51	102
	2000	64	52	15	12	45	36	124
	2001	70	61	0	0	44	39	114
	2002	60	51	0	0	58	49	118
	2003	57	53	0	0	50	47	107
	2004	46	56	0	0	36	44	82
	2005	58	70	0	0	24	30	82
	2006	52	57	0	0	39	43	91
	2007	31	50	0	0	31	50	62
	2008	33	45	0	0	40	55	73
	2009	22	31	0	0	49	69	71
	2010	36	41	0	0	52	59	88

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
	2011	37	42	0	0	52	58	89
	2012	38	46	0	0	44	54	82
	2013	36	46	0	0	42	54	78
	2014	33	41	0	0	48	59	81
	2015	34	42	0	0	46	58	80
	2016	24	42	0	0	32	58	56
	2017	13	28	0	0	34	72	47
	2018	36	45	0	0	44	55	80
	2019	22	38	0	0	35	62	57
	2020	16	34	0	0	32	66	49
	2021	17	35			32	65	49
	2022	19	35			36	65	55
	2023	17	32			35	68	52

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
Spain (5)								
	1996	0	0	0	0	7	100	7
	1997	0	0	0	0	4	100	4
	1998	0	0	0	0	4	100	4
	1999	0	0	0	0	6	100	6
	2000	0	0	0	0	7	100	7
	2001	0	0	0	0	13	100	13
	2002	0	0	0	0	9	100	9
	2003	0	0	0	0	7	100	7
	2004	0	0	0	0	7	100	7
	2005	0	0	0	0	13	100	13
	2006	0	0	0	0	10	100	10
	2007	0	0	0	0	9	100	9
	2008	0	0	0	0	9	100	9
	2009	0	0	0	0	2	100	2
	2010	0	0	0	0	2	100	2

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
	2011	0	0	0	0	7	100	7
	2012	0	0	0	0	7	100	7
	2013	0	0	0	0	5	100	5
	2014	0	0	0	0	6	100	6
	2015	0	0	0	0	5	100	5
	2016	0	0	0	0	5	100	5
	2017	0	0	0	0	2	100	2
	2018	0	0	0	0	3	100	3
	2019	0	0	0	0	5	100	5
	2020	0	0	0	3	5	97	5
	2021	0	0	0	1	4	99	4
	2022	0	0	0	0	3	100	3
	2023	0	0	0	0	1	100	1
	2024	0	0	0	0	2	100	2

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
SPM								
	2019	1	100	0	0	0	0	1
	2020	2	100	0	0	0	0	2
	2021	2	100	0	0	0	0	2
	2022	1	100	0	0	0	0	1
	2023	1	100	0	0	0	0	1
	2024	2	100	0	0	0	0	2
Sweden (3)								
	1996	19	58	0	0	14	42	33
	1997	10	56	0	0	8	44	18
	1998	5	33	0	0	10	67	15
	1999	5	31	0	0	11	69	16
	2000	10	30	0	0	23	70	33
	2001	9	27	0	0	24	73	33
	2002	7	25	0	0	21	75	28
	2003	7	28	0	0	18	72	25

		Coastal		Estuarine		In-river		Total
Country	Year	Weight (t)	% of total	Weight (t)	% of total	Weight (t)	% of total	Weight (t)
	2004	3	16	0	0	16	84	19
	2005	1	7	0	0	14	93	15
	2006	1	7	0	0	13	93	14
	2007	0	1	0	0	16	99	16
	2008	0	1	0	0	18	99	18
	2009	0	3	0	0	17	97	17
	2010	0	0	0	0	22	100	22
	2011	10	26	0	0	29	74	39
	2012	7	24	0	0	23	76	30
	2013	0	0	0	0	15	100	15
	2014	0	0	0	0	30	100	30
	2015	0	0	0	0	17	100	17
	2016	0	0	0	0	9	100	9
	2017	0	0	0	0	18	100	18
	2018	0	0	0	0	17	100	17
	2019	0	0	0	0	20	100	20

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
	2020	0	0	0	0	14	100	14
	2021	0	0	0	0	11	100	11
	2022	0	0	0	0	8	100	8
	2023	0	0	0	0	10	100	10
	2024	0	0	0	0	8	100	8
UK (E&W)								
	1996	83	45	42	23	58	31	183
	1997	81	57	27	19	35	24	142
	1998	65	53	19	16	38	31	123
	1999	101	67	23	15	26	17	150
	2000	157	72	25	12	37	17	219
	2001	129	70	24	13	31	17	184
	2002	108	67	24	15	29	18	161
	2003	42	47	27	30	20	23	89
	2004	39	35	19	17	53	47	111
	2005	32	33	28	29	36	37	97

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
	2006	30	37	21	26	30	37	80
	2007	24	36	13	20	30	44	67
	2008	22	34	8	13	34	53	64
	2009	20	37	9	16	25	47	54
	2010	64	59	9	8	36	33	109
	2011	93	69	6	5	36	27	136
	2012	26	45	5	8	27	47	58
	2013	61	73	6	7	17	20	84
	2014	41	75	4	8	9	17	54
	2015	55	82	4	6	8	12	68
	2016	71	82	6	6	10	11	86
	2017	36	73	3	7	10	19	49
	2018	36	84	3	8	4	8	42
	2019	0	0	1	12	4	88	5
	2020	0	0	0	0	3	100	3
	2021	0	0	0	0	1	100	1

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
	2022	0	0	0	0	1	100	1
	2023	0	0	0	0	1	100	1
	2024	0	0	0	1	1	99	1
UK (NI)								
	1999	44	83	9	17			53
	2000	63	82	14	18			77
	2001	41	77	12	23			53
	2002 (2)	40	49	24	29	18	22	81
	2003	25	45	20	35	11	20	56
	2004	23	48	11	22	14	29	48
	2005	25	49	13	25	14	26	52
	2006	13	45	6	22	9	32	28
	2007	6	21	6	20	17	59	30
	2008	4	19	4	22	12	59	21
	2009	4	24	2	15	10	62	16
	2010	5	39	0	0	7	61	12

		Coastal		Estuarine		In-river		Total
Country	Year	Weight (t)	% of total	Weight (t)	% of total	Weight (t)	% of total	Weight (t)
	2011	2	24	0	0	8	76	10
	2012	0	0	0	0	9	100	9
	2013	0	1	0	0	4	99	4
	2014	0	0	0	0	5	100	5
	2015	0	0	0	0	3	100	3
	2016	0	0	0	0	4	100	4
	2017	0	0	0	0	5	100	5
	2018	0	0	0	0	4	100	4
	2019	0	0	0	0	2	100	2
	2020	0	0	0	0	2	100	2
	2021	0	0	0	0	2	100	2
	2022	0	0	0	0	1	100	1
	2023	0	0	0	0	1	100	1
	2024	0	0	0	0	1	100	1

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
UK (Scot)								
	1996	129	30	80	19	218	51	427
	1997	79	27	33	11	184	62	296
	1998	60	21	28	10	195	69	283
	1999	35	18	23	11	141	71	199
	2000	76	28	41	15	157	57	274
	2001	77	30	22	9	153	61	251
	2002	55	29	20	10	116	61	191
	2003	86	45	23	12	83	43	193
	2004	67	27	20	8	160	65	247
	2005	62	29	27	12	128	59	217
	2006	57	30	17	9	119	62	193
	2007	40	24	17	10	113	66	171
	2008	38	24	11	7	112	70	161
	2009	27	22	14	12	79	66	121
	2010	44	25	38	21	98	54	180

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**
	2011	48	30	23	15	87	55	159
	2012	40	32	11	9	73	59	124
	2013	50	42	26	22	43	36	119
	2014	41	49	17	20	26	31	84
	2015	31	45	9	14	28	41	68
	2016	0	0	10	37	17	63	27
	2017	0	0	7	27	19	73	26
	2018	0	0	12	63	7	37	19
	2019	0	0	2	13	11	87	13
	2020	0	0	3	19	11	81	14
	2021	0	0	2	30	5	70	7
	2022	0	0	2	30	4	70	6
	2023	0	0	1	24	4	76	5
	2024	0	0	2	34	3	66	5

		Coastal		Estuarine		In-river		Total
Country	**Year**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**	**% of total**	**Weight (t)**

1. An illegal net fishery operated from 1995 to 1998, catch unknown in the first 3 years but thought to be increasing. Fishery ceased in 1999. 2001/2 catches from the illegal coastal net fishery in Lower Normandy are unknown.

2. Rod catch data for river (rod) fisheries in UK (NI) from 2002.

3. Estuarine catch included in coastal catch.

4. Coastal catch included in estuarine catch.

5. Spain catch to 2018 was Asturias catch raised, 2019 data for All Spain.

6. Iceland total catch includes ranched fish.

7. Data extracted from NASCO website at https://nasco.int/conservation/third-reporting-cycle-2/. No data available to the Working Group in 2024

8. No catch weight data available for Denmark in 2022 and 2023.

Table 2.1.2.1. Numbers of fish caught and released in rod fisheries along with the % of the total rod catch (released + retained) for countries in the North Atlantic where records are available, 1991-2024. Weight (tonnes fresh round weight) and percentage by weight of released fish given in parentheses. Figures for 2024 are provisional.

	Canada(4)		US		Iceland		Russia(1,5)		UK (E&W)		UK (Scot)		Ireland		UK (NI)(2)		France		Denmark		Sweden		Norway(3)	
Year	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total
1991	28	22167	50	239			51	3211																
1992	29	37803	67	407			73	10120																
1993	36	44803	77	507			82	11246	10	1448														
1994	43	52887	95	249			83	12056	13	3227	8	6595												
1995	46	46029	100	370			84	11904	20	3189	14	12151												
1996	41	52166	100	542	2	669	73	10745	20	3428	15	10413												
1997	50	50009	100	333	5	1558	87	14823	24	3132	18	10944												
1998	53	56289	100	273	7	2826	81	12776	30	4378	18	13464												
1999	50	48720	100	211	10	3055	77	11450	42	4382	28	14849												
2000	56	64482		0	11	2918	74	12914	42	7470	32	21072												
2001	55	59387		0	12	3611	76	16945	43	6143	38	27724												
2002	52	50924		0	18	5985	80	25248	50	7658	41	24058												
2003	55	53645		0	16	5361	81	33862	56	6425	55	29170												

Year	Canada(4)		US		Iceland		Russia(1,5)		UK (E&W)		UK (Scot)		Ireland		UK (NI)(2)		France		Denmark		Sweden		Norway(3)	
	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total
2004	57	62316		0	16	7362	76	24679	48	13211	50	46279							19	255				
2005	62	63005		0	17	9224	87	23592	56	11983	55	46165	12	2553					27	606				
2006	62	60486	100	1	19	8735	82	33380	56	10959	55	47669	22	5409	18	302			65	794				
2007	58	41192	100	3	18	9691	90	44341	55	10917	61	55670	44	15113	16	470			57	959				
2008	53	54887	100	61	20	17178	86	41881	55	13035	62	53366	38	13563	20	648			71	2033			5	5512
2009	59	52151			24	17514			58	9096	67	48436	39	11422	21	847			53	1709			6	6696
2010	53	55895			29	21476	56	14585	60	15012	70	78459	40	15142	25	823			60	2512			12	15041
2011	57	71358			32	18593			62	14406	73	65330	38	12688	36	1197			55	2153	5	424	12	14303
2012	57	43287			28	9752	43	4743	65	11952	74	63628	35	11891	59	5014			55	2153	6	404	14	18611
2013	59	50630			34	23133	39	3732	70	10458	80	54003	37	10682	64	1507			57	1932	9	274	15	15953
2014	54	41613			40	13616	52	8479	78	7992	82	37355	37	6537	50	1065			61	1918	15	982	19	20281
2015	64	65440			31	21914	50	7028	79	8113	84	46837	37	9383	100	111			70	2989	16	690	19	25433
2016	65	68925			43	22751	76	10793	80	9700	90	50186	43	10934	100	280			72	3801	17	362	21	25198
2017	66	57357			42	19667	77	10110	83	11255	90	45652	45	12562	100	126			69	4435	15	680	20	25924
2018	82	56011			43	19409	73	10799	88	6857	93	35066	43	9249	49	3247			79	4613	18	806	22	22024

Year	Canada(4)		US		Iceland		Russia(1,5)		UK (E&W)		UK (Scot)		Ireland		UK (NI)(2)		France		Denmark		Sweden		Norway(3)	
	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total
2019	72	60636			52	15185			89	8171	91	43825	48	9790	85	5000			70	3913	15	747	20	21178
2020	72	56618			51	21277	65	9508	93	11893	92	42854	53	12177	89	7333	8	72	67	4375	16	587	23	28753
2021	75	67056			54	18734	71	10727	95	5534	95	34858	54	14272	89	5132	4	43	70	4016	21	680	27	21357
2022	76	52127			53	23029	64	10324	96	6110	96	41573	56	13623	86	3578	1	10	73	4344	28	730	28	27189
2023	78	42794			63	20569	70	10988	95	4929	96	31891	58	10682	86	1771	4	18	69	3015	29	941	27	18879
2024	79 (86)	30776 (88)			70 (74)	30268 (98)			96 (96)	5678 (24)	98 (98)	45882 (165)	53 (53)	10375 (28)	92 (91)	3540 (8)	8 (10)	20 (0)	78 (76)	2932 (13)	34 (33)	1001 (4)	33 (37)	14769 (55)
5-year mean																								
2019 - 2023	75	55846			55	19759	68	10387	94	7327	94	39000	54	12109	87	4563	4	36	70	3933	22	737	25	23471

Year	Canada(4)		US		Iceland		Russia(1,5)		UK (E&W)		UK (Scot)		Ireland		UK (NI)(2)		France		Denmark		Sweden		Norway(3)	
	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total

1. Since 2009 data are either unavailable or incomplete, however catch and release is understood to have remained at similar high levels as before.

2. Data for 2006 - 2009, 2014 are for the Department of Culture, Arts and Leisure area only; the figures from 2010 are a total for UK (NI). Data for 2015, 2016 and 2017 are for R. Bush only.

3. The statistics were collected on a voluntary basis, the numbers reported must be viewed as a minimum.

4. Released fish in the kelt fishery of New Brunswick are not included in the totals for Canada.

5. Data since 2021 extracted from NASCO website at https://nasco.int/conservation/third-reporting-cycle-2/. No data available to the Working Group in 2024; totals therefore do not include Russian catch in most recent year.

Table 2.1.3.1. Estimates of unreported catches by various methods in tonnes within national EEZs in the Northeast Atlantic, North American, and West Greenland Commissions of NASCO, 1987-2024.

Year	Northeast Atlantic	North America	West Greenland	Total
1987	2554	234		2788
1988	3087	161		3248
1989	2103	174		2277
1990	1779	111		1890
1991	1555	127		1682
1992	1825	137		1962
1993	1471	161	<12	1644
1994	1157	107	<12	1276
1995	942	98	20	1060
1996	947	156	20	1123
1997	732	90	5	827
1998	1108	91	11	1210
1999	887	133	12	1032
2000	1136	124	10	1270
2001	1089	81	10	1180
2002	946	83	10	1039
2003	719	118	10	847
2004	575	101	10	686
2005	605	85	10	700
2006	604	56	10	670
2007	465	0	10	475
2008	433	0	10	443
2009	317	16	10	343
2010	357	15	10	382
2011	382	49	10	441
2012	363	30	10	403
2013	272	24	10	306
2014	256	21	10	287

Year	Northeast Atlantic	North America	West Greenland	Total
2015	299	17	10	326
2016	298	27	10	335
2017	318	25	10	353
2018	278	24	10	312
2019	238	12	10	259
2020	238	27	10	275
2021	135	19	10	164
2022	174	18	10	201
2023	133	16	10	159
2024	78	13	10	101
Mean				
2019 - 2023	184	18	10	212

1. No estimates available for Canada in 2007 - 2008 and estimates for 2009, 2010 and 2019 are incomplete.

2. No estimates have been available for Russia since 2008.

3. Unreported catch estimates are not provided for Spain or St Pierre & Miquelon.

4. No estimates were available for France for 2018.

Table 2.1.3.2. Estimates of unreported catches by various methods in tonnes by country within national EEZs in the Northeast Atlantic (NEAC), North American (NAC), and West Greenland (WGC) Commissions of NASCO for 2024.

Commission Area	Country	Unreported Catch (t)	Unreported as % of Total North Atlantic Catch (Unreported + Reported)	Unreported as % of National Catch (Unreported + Reported)
NAC	Canada	13	2.8	16
NEAC	Finland	0	0.0	12
NEAC	Germany	0	0.0	0
NEAC	Iceland	1	0.2	2
NEAC	Ireland	4	0.9	9
NEAC	Norway	72	15.4	30
NEAC	Sweden	1	0.2	9
NEAC	UK (E&W)	0	0.0	9
NEAC	UK (NI)	0	0.0	19
NEAC	UK (Scot)	0	0.1	9
WGC	West GRL	10	2.1	33
Total unreported catch		101	21.7	
Total Reported Catch of North Atlantic Salmon		364		

Table 2.2.1.1 Production of farmed salmon in the North Atlantic area and in areas other than the North Atlantic (in tonnes round fresh weight), 1980-2024.

Year	North Atlantic Area											Outside the North Atlantic Area (6)						Worldwide Total
	Norway	UK (Scot)	Faroes	Canada	Ireland	US	Iceland	UK (NI) (7)	Russia	Spain (8)	Total	Chile	West Coast US (3)	West Coast Canada (4)	Australia (5)	Turkey	Total	
1980	4153	598	0	11	21	0	0	0	0	0	4783	0	0	0	0	0	0	4783
1981	8422	1133	0	21	35	0	0	0	0	0	9611	0	0	0	0	0	0	9611
1982	10266	2152	70	38	100	0	0	0	0	0	12626	0	0	0	0	0	0	12626
1983	17000	2536	110	69	257	0	0	0	0	0	19972	0	0	0	0	0	0	19972
1984	22300	3912	120	227	385	0	0	0	0	0	26944	0	0	0	0	0	0	26944
1985	28655	6921	470	359	700	0	91	0	0	0	37196	0	0	0	0	0	0	37196
1986	45675	10337	1370	672	1215	0	123	0	0	0	59392	0	11	0	10	0	21	59413
1987	47417	12721	3530	1334	2232	365	490	0	0	0	68089	41	196	0	62	0	299	68388
1988	80371	17951	3300	3542	4700	455	1053	0	0	0	111372	165	925	0	240	0	1330	112702
1989	124000	28553	8000	5865	5063	905	1480	0	0	0	173866	1860	1122	1000	1750	0	5732	179598
1990	165000	32351	13000	7810	5983	2086	2800	<100	5	0	229135	9478	696	1700	1750	300	13924	243059
1991	155000	40593	15000	9395	9483	4560	2680	100	0	0	236811	14957	1879	3500	2653	1500	24489	261300
1992	140000	36101	17000	10380	9231	5850	2100	200	0	0	220862	23715	4238	6600	3300	680	38533	259395
1993	170000	48691	16000	11115	12366	6755	2348	<100	0	0	267375	29180	4254	12000	3500	791	49725	317100

Year	North Atlantic Area											Outside the North Atlantic Area (6)						
	Norway	UK (Scot)	Faroes	Canada	Ireland	US	Iceland	UK (NI) (7)	Russia	Spain (8)	Total	Chile	West Coast US (3)	West Coast Canada (4)	Australia (5)	Turkey	Total	Worldwide Total
1994	204686	64066	14789	12441	11616	6130	2588	<100	0	0	316416	34175	4834	16100	4000	434	59543	375959
1995	261522	70060	9000	12550	11811	10020	2880	259	0	0	378102	54250	4868	16000	6192	654	81964	460066
1996	297557	83121	18600	17715	14025	10010	2772	338	0	0	444138	77327	5488	17000	7647	193	107655	551793
1997	332581	99197	22205	19354	14025	13222	2554	225	0	0	503363	96675	5784	28751	7648	50	138908	642271
1998	361879	110784	20362	16418	14860	13222	2686	114	0	0	540325	107066	2595	33100	7069	40	149870	690195
1999	425154	126686	37000	23370	18000	12246	2900	234	0	0	645590	103242	5512	38800	9195	0	156749	802339
2000	440861	128959	32000	33195	17648	16461	2600	250	0	0	671974	166897	6049	49000	10907	0	232853	904827
2001	436103	138519	46014	36514	23312	13202	2645		0	0	696309	253850	7574	68000	12724	0	342148	1038457
2002	462495	145609	45150	40851	22294	6798	1471		0	0	724668	265726	5935	84200	14356	0	370217	1094885
2003	509544	176596	52526	38680	16347	6007	3710		300	0	803710	280301	10307	65411	15208	0	371227	1174937
2004	563914	158099	40492	37280	14067	8515	6620		203	0	829190	348983	6645	55646	16476	0	427750	1256940
2005	586512	129588	18962	45891	13764	5263	6300		204	0	806484	385779	6110	63369	16780	0	472038	1278522
2006	629888	131847	11905	47880	11174	4674	5745		229	0	843342	376476	5811	70181	20710	0	473178	1316520
2007	744222	129930	22305	36368	9923	2715	1158		111	0	946732	331042	7117	70998	25336	0	434493	1381225
2008	737694	128606	36000	39687	9217	9014	330		51	0	960599	388847	7699	73265	25737	0	495548	1456147

Year	North Atlantic Area											Outside the North Atlantic Area (6)						
	Norway	UK (Scot)	Faroes	Canada	Ireland	US	Iceland	UK (NI) (7)	Russia	Spain (8)	Total	Chile	West Coast US (3)	West Coast Canada (4)	Australia (5)	Turkey	Total	Worldwide Total
2009	862908	144247	51500	43101	12210	6028	742		2126	0	1122862	233308	7923	68662	29893	0	339786	1462648
2010	939575	154164	45391	43612	15691	11127	1068		4500	0	1215128	123233	8408	70831	31807	0	234279	1449407
2011	1065974	158018	60967	41448	12196	6031	1083		8500		1354217	264349	7467	83144	36662	0	391622	1745839
2012	1232095	162223	76596	52951	12440		2923		8754		1547982	399678	8696	79981	43982	0	532337	2080319
2013	1168324	163234	77184	47649	9125		3018		16097		1484631	492329	6834	74673	42776	0	616612	2101243
2014	1258356	179022	86490	29988	9368		3965		18675		1585864	644459	6368	54971	41591	0	747389	2333253
2015	1303346	171722	80629	48684	13116		3260		3232	8	1623997	608546	10431	92926	48331	0	760234	2384231
2016	1233619	162817	83291	33011	16300		8420		12857	5	1550320	532225	8017	90511	56115	0	686868	2237188
2017	1237762	189707	86830	34945	19305		11265		13016	25	1592855	613611	6520	85608	52580	0	758319	2351174
2018	1278596	156025	78973	36174	12200		13448		20566		1595982	660645	8326	87010	61227	0	817208	2413190
2019	1361747	203881	94993	43925	11333		26957		32343	12	1775191	701331	6311	88874	56989	0	853505	2628696
2020	1388434	192129	88961	36421	13400		34341		10855		1764541	786905	5552	91808	66919	0	951184	2715725
2021	1562415	205393	115683	51919	12844		44503		14959		2007716	724835		84171	84045		893051	2900767
2022	1564948	169194	108679	22807	11916		44934		22084		1944562	758556		85191	81045		924792	2869354
2023	1542480	150949	98164	32662	9289		43866		22084		1899494	758556		85191	81045		924792	2824286

Year	North Atlantic Area											Outside the North Atlantic Area (6)						
	Norway	UK (Scot)	Faroes	Canada	Ireland	US	Iceland	UK (NI) (7)	Russia	Spain (8)	Total	Chile	West Coast US (3)	West Coast Canada (4)	Australia (5)	Turkey	Total	Worldwide Total
2024	1545853	185207	109208	32662	11745		49253		22084		1956012	758556		85191	81045		924792	2880804
Mean																		
2019 - 2023	1484005	184309	101296	37547	11756		38920		20465	12	1878301	746037	5932	87047	74009	0	909465	2787766
% change; recent year relative to mean																		
	4	0	8	-13	-0		27		8		4	2		-2	10		2	3

Year	North Atlantic Area											Outside the North Atlantic Area (6)						Worldwide Total
	Norway	UK (Scot)	Faroes	Canada	Ireland	US	Iceland	UK (NI) (7)	Russia	Spain (8)	Total	Chile	West Coast US (3)	West Coast Canada (4)	Australia (5)	Turkey	Total	

1. Data for 2022 are provisional for many countries.

2. Where production figures were not available for 2022, values for the most recent year were used.

3. West Coast US = Washington State.

4. West Coast Canada = British Columbia.

5. Australia = Tasmania.

6. Source of production figures for non-Atlantic areas:
Copyright FAO 2023. Global Production. Fisheries and Aquaculture Division [online]. Rome. [Cited Saturday, April 1st 2023].
https://www.fao.org/fishery/en/collection/global_production, 2022 most recent data.

7. Data for UK (NI) since 2001 and data for East coast US since 2012 are not publicly available.

8. Data for Spain first provided in 2019, no data reported for 2020-2022.

Table 2.2.2.1. Harvest of ranched salmon in the North Atlantic (tonnes round fresh weight), 1980-2024.

Year	Iceland (1)	Ireland (2,4)	UK (NI) River Bush (2,3,4)	Sweden (2)	Norway various facilities (2)	Total harvest
1980	8.0			0.8		9
1981	16.0			0.9		17
1982	17.0			0.6		18
1983	32.0			0.7		33
1984	20.0			1.0		21
1985	55.0	16.0	17.0	0.9		89
1986	59.0	14.3	22.0	2.4		98
1987	40.0	4.6	7.0	4.4		56
1988	180.0	7.1	12.0	3.5	4.0	207
1989	136.0	12.4	17.0	4.1	3.0	172
1990	285.1	7.8	5.0	6.4	6.2	310
1991	346.1	2.3	4.0	4.2	5.5	362
1992	462.1	13.1	11.0	3.2	10.3	500
1993	499.3	9.9	8.0	11.5	7.0	536
1994	312.8	13.2	0.4	7.4	10.0	344
1995	302.7	19.0	1.2	8.9	2.0	334
1996	243.0	9.2	3.0	7.4	8.0	271
1997	59.4	6.1	2.8	3.6	2.0	74
1998	45.5	11.0	1.0	5.0	1.0	64
1999	35.3	4.3	1.4	5.4	1.0	47
2000	11.3	9.3	3.5	9.0	1.0	34
2001	13.9	10.7	2.8	7.3	1.0	36
2002	6.7	6.9	2.4	7.8	1.0	25
2003	11.1	5.4	0.6	9.6	1.0	28
2004	18.1	10.4	0.4	7.3	1.0	37
2005	20.5	5.3	1.7	6.0	1.0	34
2006	17.2	5.8	1.3	5.7	1.0	31

Year	Iceland (1)	Ireland (2,4)	UK (NI) River Bush (2,3,4)	Sweden (2)	Norway various facilities (2)	Total harvest
2007	35.5	3.1	0.3	9.7	0.5	49
2008	68.6	4.4		10.4	0.5	84
2009	44.3	1.1		9.9		55
2010	42.3	2.5		13.0		58
2011	30.2	2.5		19.1		52
2012	20.0	5.3		8.9		34
2013	30.7	2.8		4.2		38
2014	17.9	2.8		6.2		27
2015	31.4	4.7		6.6		43
2016	33.6	3.0		3.1		40
2017	24.4	2.8		9.6		37
2018	21.7	3.0		4.1		29
2019	13.7	3.6		7.7		25
2020	28.2	3.3		7.0		38
2021	15.9			4.6		20
2022	20.8		0.0	1.7		23
2023	12.9		0.0	3.8		17
2024	15.2		0.0	4.1		19
5-yr mean						
2019 - 2023	18	3	0	5		25
% change; recent year relative to mean						
	-16			-18		-24

1. From 1990 to 2000, catch includes fish ranched for both commercial and angling purposes. No commercial ranching since 2000.

2. Total yield in homewater fisheries and rivers.

3. The proportion of ranched fish was not assessed between 2008 and 2018 due to a lack of microtag returns.

4. No estimates of ranched catch available since 2020, but catches are considered to have been very few.

Table 2.3.1. Details of stock complexes and stock units (Sus) used within the Life Cycle Model.

Stock complex	Country	Stock unit	Abbreviation
North America (NAC)	Canada	Labrador	LB
North America (NAC)	Canada	Newfoundland	NF
North America (NAC)	Canada	Quebec	QC
North America (NAC)	Canada	Gulf of St Lawrence	GF
North America (NAC)	Canada	Scotia-Fundy	SF
North America (NAC)	US	US	US
Northern Northeast Atlantic (N-NEAC)	Finland & Norway	River Tana/Teno	
Northern Northeast Atlantic (N-NEAC)	Iceland	Northeast	Iceland.NE
Northern Northeast Atlantic (N-NEAC)	Norway	Southeast	Norway_SE
Northern Northeast Atlantic (N-NEAC)	Norway	Southwest	Norway_SW
Northern Northeast Atlantic (N-NEAC)	Norway	Mid	Norway_MI
Northern Northeast Atlantic (N-NEAC)	Norway	North	Norway_NO
Northern Northeast Atlantic (N-NEAC)	Russia	Archangelsk	Russia_AK
Northern Northeast Atlantic (N-NEAC)	Russia	Kola / White Sea	Russia_KW
Northern Northeast Atlantic (N-NEAC)	Russia	Kola / Barents Sea	Russia_KB
Northern Northeast Atlantic (N-NEAC)	Russia	Pechora River	Russia_RP
Northern Northeast Atlantic (N-NEAC)	Sweden	Sweden	
Southern Northeast Atlantic (S-NEAC)	France	France	
Southern Northeast Atlantic (S-NEAC)	Ireland	Ireland	
Southern Northeast Atlantic (S-NEAC)	Iceland	Southwest	Iceland.SW
Southern Northeast Atlantic (S-NEAC)	U.K. (England & Wales)	U.K. (England & Wales)	
Southern Northeast Atlantic (S-NEAC)	U.K. (Northern Ireland)	River Foyle (Loughs Agency)	Ireland.N_FO
Southern Northeast Atlantic (S-NEAC)	U.K. (Northern Ireland)	DAERA areas	Ireland.N_FB
Southern Northeast Atlantic (S-NEAC)	U.K. (Scotland)	East	Scotland_EA
Southern Northeast Atlantic (S-NEAC)	U.K. (Scotland)	West	Scotland_WE

Table 2.7.1 Annual summed landings (thousand tonnes) of mackerel *Scomber scombrus*, herring *Clupea harengus*, horse mackerel *Trachurus trachurus*, sardine *Sardina pilchardus*, capelin *Mallotus villosus*, and chub mackerel *Scomber colias* by Denmark (DNK), Spain (ESP), France (FRA), Great Britain (GBR), Ireland (IRL), Iceland (ISL), Lithuania (LTU), Netherlands (NLD), Norway (NOR), Poland (POL), and Sweden (SWE). Landings data were incomplete for some countries and years: where data were not available for the full year, brackets show the months over which landings were summed.

	DNK	ESP	FRA	GBR	IRL	ISL	LTU	NLD	NOR	POL	SWE
2000	69.3	-	83.9	37.1	-	1166.9	-	240.9	1336.3	-	72.0
2001	79.4	-	105.1	51.6	-	1088.4	-	238.9	1243.2	-	57.1
2002	78.6	-	107.8	271.0	-	1285.0	-	234.7	1303.9	-	60.9
2003	83.4	-	100.9	261.1	119.4	913.3	-	300.0	985.3	-	54.3
2004	95.6	-	94.8	256.8	106.0	728.6	-	337.0	819.7	0.2 (3-6)	50.5
2005	115.3	-	102.4	268.3	99.4	833.2	-	322.4	948.0	1.6 (2-12)	60.5
2006	112.1	-	106.4	197.2	98.9	470.6	-	274.1	850.6	2.4 (1-9)	54.4
2007	97.3	-	86.5	212.0	106.2	630.6	-	281.6	1050.0	4.0 (1-11)	50.5
2008	50.6	-	91.2	188.6	107.7	617.7	-	185.9	1192.0	-	39.2
2009	56.1	-	46.3	241.5	127.0	448.0	-	200.2	1490.8	-	30.5
2010	82.0	-	78.1	231.6	127.4	475.7	0.4 (9)	212.4	1431.1	-	28.8
2011	104.9	-	50.4	241.9	120.6	615.0	0.1 (9)	194.2	1208.6	-	23.0
2012	145.7	-	65.1	237.2	133.3	926.5	-	299.3	1045.9	-	36.8
2013	163.0	86.6	73.7	220.5	115.7	757.8	-	280.8	797.3	-	38.3
2014	176.5	110.3	77.6	391.5	158.6	422.5	20.2 (3-12)	321.6	751.0	-	36.1
2015	165.9	100.5	76.3	344.2	129.7	602.8	0.6	287.4	670.4	-	33.7
2016	187.6	90.2	80.4	317.5	119.2	389.0	2.7 (10-12)	346.0	617.1	-	40.0
2017	166.0	115.3	81.9	317.5	124.3	477.6	-	314.0	815.0	-	42.9
2018	180.0	95.8	84.3	302.3	102.1	441.3	-	356.3	892.7	5.1 (10-12)	41.4
2019	149.0	75.0	69.5	235.8	89.0	259.7	1.4 (9-10)	277.6	730.2	5.2	28.4

	DNK	ESP	FRA	GBR	IRL	ISL	LTU	NLD	NOR	POL	SWE
2020	154.6	82.8	70.1	289.4	97.5	287.7	8.1 (8-12)	258.0	745.5	7.6 (2-11)	31.7
2021	115.0	68.8	63.6	71.0	84.6	452.6	7.1 (1-12)	250.6	902.6	4.0	31.9
2022	117.6	-	70.9	74.0	74.1	760.9	-	248.1	1037.6	0.1 (1-5)	26.5
2023	-	-	7.6 (1-2)	-	-	663.6	-	-	-	-	-
2024	-	-	-	-	-	1.5 (1-2)	-	-	-	-	-

Table 2.8.1. Summary of Atlantic salmon tagged and marked in 2024 – 'Hatchery' and 'Wild' juvenile refer to smolts and parr.

		Primary Tag or Mark				
Country	Origin	Microtag	External mark[2]	Adipose clip	Other[1]	Total
Canada	Hatchery Adult	0	1026	10	24	1060
	Hatchery Juvenile	0	0	705	0	705
	Wild Adult	0	515	8	1537	2060
	Wild Juvenile	0	18 230	22 821	1910	42 961
	Total	**0**	**19 771**	**23 544**	**3471**	**46 786**
Denmark	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	0	0	168 000	665	168 665
	Wild Adult	0	0	0	0	0
	Wild Juvenile	0	0	0	0	0
	Total	**0**	**0**	**168 000**	**665**	**168 665**
France	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	0	0	0	0	0
	Wild Adult	0	0	157	157	157
	Wild Juvenile	0	0	1 645	1 645	1 645
	Total	**0**	**0**	**1 802**	**1 802**	**1 802**
Iceland	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	0	0	0	0	0
	Wild Adult	0	941	0	0	941
	Wild Juvenile	2 480	0	0	1 411	3 891
	Total	**2 480**	**941**	**0**	**1 411**	**4 832**
Ireland	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	103 425	0	0	0	103 425
	Wild Adult	0	0	0	0	0
	Wild Juvenile	1 512	0	0	2 150	3 662
	Total	**104 937**	**0**	**0**	**2 150**	**107 087**
Norway	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	0	0	0	20 297	20 297

		Primary Tag or Mark				
Country	Origin	Microtag	External mark[2]	Adipose clip	Other[1]	Total
	Wild Adult	0	193	0	9	202
	Wild Juvenile	0	0	0	11 811	11 811
	Total	**0**	**193**	0	**32 117**	**32 310**
Russia	Hatchery Adult					
	Hatchery Juvenile					
	Wild Adult					
	Wild Juvenile					
	Total					
Spain	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	141 012	0	162 921	1 512	305 445
	Wild Adult	0	0	0	138	138
	Wild Juvenile	0	0	0	0	0
	Total	**141 012**	**0**	**162 921**	**1 650**	**305 583**
Sweden	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	0	0	186 573	0	186 573
	Wild Adult	0	0	0	0	0
	Wild Juvenile	0	0	0	100	100
	Total	**0**	**0**	**186 573**	**100**	**186 673**
UK (England &	Hatchery Adult	0	0	0	0	0
Wales)	Hatchery Juvenile	0	0	0	0	0
	Wild Adult	0	364	0	22	386
	Wild Juvenile	2 689	0	0	4 779	7 468
	Total	**2 689**	**364**	**0**	**4 801**	**7 854**
UK (N. Ireland)	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	10 240	0	60 336	0	70 576
	Wild Adult	0	0	0	0	0
	Wild Juvenile	0	0	0	0	0
	Total	**10 240**	**0**	**60 336**	**0**	**70 576**

		Primary Tag or Mark				
Country	Origin	Microtag	External mark[2]	Adipose clip	Other[1]	Total
UK (Scotland)	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	0	0	34 116	0	34 116
	Wild Adult	0	6	0	0	6
	Wild Juvenile	0	0	0	10 360	10 360
	Total	**0**	**6**	**34 116**	**10 360**	**44 482**
Germany	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	0	22 285	50 000	89	72 374
	Wild Adult	0	0	0	0	0
	Wild Juvenile	0	0	0	0	0
	Total	**0**	**22 285**	**50 000**	**89**	**72 374**
Greenland[3]	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	0	0	0	0	0
	Wild Adult	0	0	0	3	3
	Wild Juvenile	0	0	0	0	0
	Total	**0**	**0**	**0**	**3**	**3**
US	Hatchery Adult	0	70	0	2 035	2 105
	Hatchery Juvenile	0	0	111 832	379	112 211
	Wild Adult	0	0	5	0	5
	Wild Juvenile	0	0	0	0	0
	Total	**0**	**70**	**111 837**	**2 414**	**114 321**
All Countries	Hatchery Adult	0	1 096	10	2 059	3 165
	Hatchery Juvenile	254 677	22 285	774 483	22 277	1 073 722
	Wild Adult	0	2 019	13	2 393	4 563
	Wild Juvenile	6 681	18 230	22 821	34 166	81 898
	Total	**261 358**	**43 630**	**797 327**	**60 895**	**1 163 348**

[1] **Includes other (PIT, ultrasonic, radio, DST, Satellite tags etc.)**

[2] **Includes Carlin, spaghetti, streamers, VIE etc.**

[3] **Individuals tagged in Greenland by Atlantic Salmon Federation, details within Canada's Tag report**

Figure 2.1.1.1. (a) Total reported nominal catches of salmon (tonnes round fresh weight) in four North Atlantic regions, 1960-2024. (b) Total reported nominal catches of salmon (tonnes round fresh weight) in four North Atlantic regions, 1997-2024.

Figure 2.1.1.2. Nominal catches (tonnes round fresh weight) taken in coastal, estuarine, and in-river fisheries by country/jurisdiction, 2009-2024. The way in which the nominal catch is partitioned among categories varies between countries/jurisdictions, particularly for estuarine and coastal fisheries, see text for details. Note also that the y-axis scales vary.

Figure 2.1.1.3. Top panels – Nominal catches (tonnes round fresh weight) taken in coastal, estuarine, and in-river fisheries for the NAC area (2009-2024) and for NEAC Northern (N-NEAC) and Southern (S-NEAC) areas (2009-2024). Bottom panels – Percentages of nominal catch taken in coastal, estuarine, and in-river fisheries in each commission area, 2009-2024. Note that y-axis in the top panels vary.

Figure 2.1.3.1. Nominal North Atlantic salmon catch (tonnes round fresh weight) and unreported catch (tonnes round fresh weight) in NASCO areas, 1987-2024.

Figure 2.2.1.1. World-wide farmed Atlantic salmon production (tonnes round fresh weight) 1980-2024. Note no data available for US West Coast production at time of writing.

Figure 2.2.2.1. Harvest of ranched salmon (tonnes round fresh weight) in the North Atlantic, 1980-2024.

Figure 2.3.1. Scheme of the stage-based structured Life Cycle Model for the 25 SUs. Blue boxes in the front panel: different life stages. For each SU, the model tracks the abundance of fish, males and females confounded by year and life stage, sequentially from eggs to 1SW or MSW spawners (fish that survived all sources of natural and fishing mortality and that contribute to reproduction). The model incorporates variations in the age of out-migrating smolts (after 1 to 6 years in freshwater) and the sea-age of returning adults. Only two sea-age classes are considered: maiden salmon that return to homewaters to spawn after one year at sea (1SW) and maiden salmon that return after two winters at sea (2SW, although this is a proxy for all MSW). All fish within a SU are assumed to have the same demographic parameters and to undertake a similar migration route to sea. There is no exchange of fish among the different SUs (i.e. no straying between SUs). Red dots indicate the key demographic transition rates that are the main target of the statistical estimation: survival between smolt and PFA stage; the proportion of fish maturing at the PFA stage (fish that will return as maiden 1SW fish); and the survival during the second year at sea. Mortality during the second year at sea results from the combination of natural mortality (fixed) and fishing mortality (estimated).

Figure 2.3.2. Workflow for stock assessment and catch advice using the Life Cycle Model.

Figure 2.3.3. Trends in the total abundance at the PFA stage for 1SW maturing and 1SW non-maturing salmon, for the North Atlantic as a whole, and the NAC, S-NEAC, and N-NEAC stock complexes. Total PFA is the sum of the 1SW maturing PFA and 1SW non-maturing PFA. Years are PFA year as of 01 January. Values are the medians of the marginal posterior distributions derived from the LCM.

Figure 2.3.4. Trends in smolt-PFA survival and probability to mature as 1SW derived from the LCM, for the North Atlantic as a whole, and the NAC, S-NEAC, and N-NEAC stock complexes. Post-smolt-survival: Year is smolt migration year (smolt migration year is PFA year -1). Probability to mature as 1SW: Year is PFA years. Values are the medians of the marginal posterior distributions.

Figure 2.3.5. Trends in the abundance of spawners (1SW and MSW), derived from the LCM, for the North Atlantic as a whole, and the NAC, S-NEAC, and N-NEAC stock complexes.

Figure 2.3.6. Trends in the abundance of eggs (1SW + MSW) and smolts, derived from the LCM, for the North Atlantic as a whole, and the NAC, S-NEAC, and N-NEAC stock complexes. (Year shown for smolt abundance is smolt migration year (i.e. PFA year -1)).

Figure 2.4.1. Boxplot summaries of the annual stock unit anomalies of run-reconstruction modelled returns (medians) of Atlantic salmon by sea age group (1SW, MSW) for the NAC, S-NEAC, and N-NEAC stock complexes. The points are stock unit variables. Boxes delimit the 25-75% interquartile range (IQR), the horizontal bar through a box represents the median, whiskers delimit the 1.5 x IQR range, and open circles represent extreme values (greater than or equal to 1.5 x IQR). The anomalies are in units of standard deviations, calculated as annual abundance minus the stock unit specific mean divided by the stock unit specific standard deviation for the base period 1971 to 2014, i.e. excluding the most recent 10 years. For NAC, the stock unit returns exclude the marine fisheries of Greenland, Labrador, Newfoundland, and Saint Pierre & Miquelon. For NEAC, marine fisheries other than Faroes and Greenland are attributed to stock unit-specific returns.

Figure 2.4.2. Anomalies (standard deviations from baseline period 1975 to 2014, i.e. excluding the most recent 10 years) of run-reconstruction modelled returns (medians) of Atlantic salmon to stock units of NAC and NEAC, 1970-2024. The stock units along the y axis (top to bottom) are arranged from north to south as N-NEAC (Russia to Iceland NE), S-NEAC (Iceland SW to France) and south to north for NAC (US to Labrador). The anomalies are in units of standard deviations, calculated as annual abundance minus the stock unit-specific mean divided by the stock unit-specific standard deviation for the base period 1975 to 2014. The labels are the years when the lowest (@) and second lowest (#) abundances over the entire time period occurred for the stock unit.

Figure 2.4.3. Anomalies (standard deviations from baseline period 1975 to 2014, i.e. excluding the most recent ten years) of Life-cycle Model estimated returns to coastal waters (medians) of Atlantic salmon to stock units of NAC and NEAC, 1975-2024. The stock units along the y-axis (top to bottom) are arranged from north to south for N-NEAC (Russia to Iceland NE) and S-NEAC (Iceland SW to France) and from south to north for NAC (US to Labrador). The anomalies are in standard deviation units and calculated as annual abundance minus the mean divided by the standard deviation, for stock unit-specific means and standard deviations estimated for the base period 1975 to 2014. The labels are the years when the lowest (@) and second lowest (#) abundances over the entire time period occurred for the stock unit. The anomalies for 2024 are based on the forecast returns from the model.

3 Northeast Atlantic Commission area

3.1 NASCO has requested ICES to describe the key events of the 2024 fisheries

3.1.1 Fishing at Faroe Islands

No fishery for salmon has been prosecuted since 2000.

3.1.2 Key events in NEAC homewater fisheries

Norway: At the start of the season in the beginning of June 2024, reported catches of MSW salmon in rivers and in surveillance fisheries at sea in southern parts of Norway were low compared to previous years. On 21 June, the Norwegian government therefore closed fishing in 32 rivers. These rivers were chosen as they traditionally had spawning stocks dominated by MSW salmon and a relatively low harvestable surplus in the previous years. The bag-net fishery in Namsfjorden (the only bag-net fishery opened in the same area as the closed rivers) was also closed. Following a further evaluation in the beginning of July, 16 of the 32 rivers closed in June, and the bag-net fishery in Namsfjorden were reopened. Bag-net fishing in fjords south of Namsfjorden was also not opened in 2024 (with the exception of fjords close to rivers infected with *Gyrodactylus salaris*) due to the initial low returns of MSW salmon. Furthermore, 11 rivers in the east of Finnmark also had their season shortened by two weeks towards the end of the season, and the bag-net fisheries in the east of Finnmark had reduced fishing time.

3.1.3 Gear and effort

No notable changes in gear type used were reported in 2024; however, changes in effort were recorded. The number of gear units licensed or authorized in several of the NEAC area countries provides a partial measure of effort (Table 3.1.3.1), but does not take into account other restrictions, for example, closed seasons. These statistics may also include fishing effort for species other than salmon. In addition, there is no indication from these data of the actual number of licenses actively utilized or the time each licencee fished.

The numbers of gear units used to take salmon with nets and traps have declined markedly over the available time-series in all NEAC countries. This reflects the closure of many fisheries and increasingly restrictive measures to reduce levels of exploitation in many countries. There are fewer measures of effort with respect to in-river rod fisheries, and these indicate differing patterns over the available time-series. However, anglers in all countries are increasingly practicing catch and release (C&R).

Trends in effort are shown in Table 3.1.3.1 for the NEAC area and in figures 3.1.3.1 and 3.1.3.2 for the Northern and Southern NEAC countries respectively.

In the Northern NEAC area, the numbers of bag-nets and bend-nets in Norway have decreased over the past 15-20 years. Since 2021, the numbers were substantially reduced from previous years, and the use of bend-nets was phased out in 2022. In 2024, the number of bag-nets showed a slight decrease from 2023. No effort information is available from the Russian Federation since 2020.

The numbers of anglers and fishing days in the River Teno/Tana both showed a dramatic decrease in 2017 following a new fishery agreement between Finland and Norway, and since 2021, all salmon fishing has been closed in this river. The number of anglers has stayed relatively stable in the River Näätämöjoki in Finland but showed a decline in 2024, compared to recent years.

In the Southern NEAC area, the numbers of gear units licensed for net fisheries in UK (England & Wales; Scotland; Northern Ireland) and Ireland have shown clear long-term declines. The numbers of gear units in 2024 were among the lowest reported in the time-series. In UK (England and Wales), licences were only issued for sea trout fishing and no net fishing for salmon has taken place following the introduction of the National Salmon and Sea Trout Protection byelaws since 2020. In UK (Northern Ireland), no commercial fishing has occurred in coastal Northern Irish waters since 2012. In France, the number of nets in estuaries and in freshwater have decreased during the latest years. The number of estuarine drift net licences and freshwater nets has remained relatively stable over the most recent years.

Rod licence numbers have decreased in UK (England & Wales), and in 2024 there was a slight decrease from the previous year. In Ireland, there has been a decrease in the numbers of licences issued since 2002, but they have varied at a lower level over the recent years. In France, the rod-and-line effort in freshwater has been relatively stable over the latest years, but the figure for 2024 was below the previous ten-year average.

3.1.4 Catches

NEAC area catches are presented in Table 3.1.4.1. The nominal catch in the NEAC area in 2024 (provisionally 275 t) was lower than the catch for 2023 (448 t) and represents a 54% and 66% decrease compared to the five-year (2019-2023) and ten-year (2014-2023) means, respectively. It should be noted that changes in nominal catch may reflect changes in exploitation rates and the extent of catch and release in rivers, in addition to stock size, and thus cannot be regarded as a direct indicator of abundance.

The total nominal catch in Northern NEAC in 2024 (provisionally 226 t) was lower than the catch for 2023 (403 t) and the previous five-year and ten-year means (538 t, 680 t, respectively).

In the Southern NEAC area, the total nominal catch in 2024 (provisionally 49 t) was slightly higher than the catch for 2023 (45 t) but below the previous five-year (67 t) and ten-year (124 t) means, respectively.

Figure 3.1.4.1 shows the trends in nominal catches of salmon in the Southern and Northern NEAC areas from 1960 to 2024. The catch in the Southern NEAC area has declined over the period. Catches peaked in the period between the mid-1960s and mid-1970s, occasionally exceeding 4 000 t per annum. The catch fell sharply in 1976, and between 1989 and 1991, and has steadily decreased by an order of magnitude over the last 20 years, from over 1 000 t in the early 2000s to currently below 100 t.

The catch in the Northern NEAC area declined over the time-series, although this decrease was less distinct than the reductions in the Southern NEAC area. The catch in the Northern NEAC area varied between 2 000 t and 2 800 t from 1970 to 1988, fell to a low of 961 t in 1997, and then increased to over 1 600 t in 2001. Catch in the Northern NEAC area has since 2012 exhibited a downward trend and has been consistently below 1 000 t since then.

3.1.5 Catch per unit of effort (CPUE)

CPUE can be influenced by various factors, such as fishing conditions, perceived likelihood of success, and measures taken to reduce fishing effort, for example, changes in regulations affecting gear. If changes in one or more factors occur, then a pattern in CPUE may not be immediately evident, particularly over larger areas. CPUE may be affected by increasing rates of catch and release in rod fisheries. It is, however, expected that during periods of relatively stable fishing regulations, CPUE can reflect changes in the status of stocks and stock size.

The CPUE data are presented in tables 3.1.5.1 to 3.1.5.6. The CPUE for rod fisheries have been derived by relating the catch to rod days or angler season. CPUE for net fisheries were calculated as catch per licence-day, gear-day, licence-tide, trap-month or crew-month.

In the most recent years, several CPUE data time-series have been discontinued because of fishery regulations or information being otherwise not available (tables 3.1.5.1. to 3.1.5.6). Therefore, Figure 3.1.5.1 shows long-term trends for only four CPUE data sets, in contrast to the numerous trends that were previously presented from various fisheries in the NEAC area.

In the Northern NEAC area, the only updated time-series data are the CPUE per angler season that has been estimated for the river Näätämöjoki which has been relatively stable over time (Figure 3.1.5.1). The recent salmon fishery moratorium in the River Teno/Tana was still effective in 2024 season and no CPUE data were available for Norwegian coastal bag nets in 2024 (tables 3.1.5.1 & 3.1.5.6).

In the Southern NEAC area, UK (England & Wales) measures introduced under the Salmon and Sea Trout Byelaws since 2019 required the closure of several net fisheries, and therefore CPUE figures have not been calculated for 2019-2024 (Table 3.1.5.3). The CPUE for the net and coble fisheries in UK (Scotland) show a general decline over the time-series (Figure 3.1.5.1). Another time-series in UK (Scotland) for CPUE has been available from the fixed engine fisheries, but in recent years data exclude both reported catch and effort from the Solway region and therefore CPUE estimates are not available since 2016. (Table 3.1.5.5). The CPUE values for rod fisheries in UK (England & Wales) show a general positive trend (Figure 3.1.5.1), but in most areas, a decrease in 2024 from the long term and five-year means (Table 3.1.5.4). In France, the CPUE for rod fisheries shows an overall decline over the time-series (Figure 3.1.5.1) and the 2024 figure was lower than in the previous year and the long-term mean (Table 3.1.5.1).

3.1.6 Age composition of catches

The percentage of 1SW salmon in nominal catches is presented by NEAC country alongside the weighted average by region (Table 3.1.6.1, Figure 3.1.6.1). Except for Iceland, the proportion of 1SW salmon has declined for all countries over the period 1987–2024, especially so for Spain.

In Northern NEAC, the overall (weighted average) percentage of 1SW fish in catches remained reasonably consistent in the period 1987-2000 with a mean of 66% (range 59% to 71%), but has fallen in recent years (2001-2024) to a mean of 60% (range 51% to 68%), where greater variation among countries and years has also been evident. Comparing the two periods, the proportion of 1SW fish has decreased in the Russian Federation, Norway, Finland and Sweden, whereas an increase was apparent for Iceland. On average, 1SW fish comprise a higher percentage of the catch in Iceland than in the other Northern NEAC countries in the period 2001-2024 (Table 3.1.6.1), this may be related to increased C&R of MSW fish in Iceland.

In the Southern NEAC area, the weighted proportion of 1SW salmon is higher than in the Northern NEAC area, largely driven by relatively high catches and high proportions of 1SW salmon in Ireland and UK (Northern Ireland). 1SW fish comprise a higher percentage of the catch in

Ireland and UK (Northern Ireland) than in the other Southern NEAC countries during the entire period. The percentage of 1SW fish in catches averaged 82% (range 76% to 85%) in 1987-2000 and 76% (range 61% to 87%) in 2001-2024 in the Southern NEAC area. Comparing the two periods, the percentage of 1SW salmon has decreased in all Southern NEAC countries presented (Table 3.1.6.1), but least so for Scotland and most for Spain.

3.1.7 Farmed and ranched salmon in catches

The contribution of farmed and ranched salmon to national catches in the NEAC area in 2024 was generally low in most countries. Farmed and ranched fish are included in assessments of the status of national stocks for Norway (Section 3.3).

The numbers of farmed salmon that escape from Norwegian farms, as reported by the fish farmers, had overall been decreasing from late 1990s until 2023, although with a large interannual variation. The estimated proportion of farmed salmon in Norwegian rivers also decreased during the same time-period. The actual number of farmed salmon escaping from fish farms is most likely substantially higher than the reported number (Heino *et al*. 2015). The number of farmed salmon that escaped from Norwegian farms in 2024 was reported to be approximately 96 000 fish (provisional number). The average annual number for the previous ten years was 122 000 fish.

The estimated proportion of farmed salmon in Norwegian angling catches in 2024 was 4%, an increase from 1% last year and the highest proportion since 2015. The increase was mainly caused by an escapee event of large salmon in May, where multiple individuals were caught in rivers shortly afterwards (see next paragraph). The proportion in samples taken from Norwegian rivers in autumn in 2024 (3%), was among the lowest values in the time-series. No data are available for the proportion of farmed salmon in the marine bag-net fishery in Norway.

There were two major farmed salmon escape events along central parts of the Norwegian coast (both in county Trøndelag), in May and September 2024. The first was estimated to be 8 800 farmed salmon with an average weight of 7.3 kg, while the second event was estimated to be 13 500 farmed salmon with an average weight of 5-6 kg. The Directorate of Fisheries required mandated monitoring with a focus on the removal of farmed fish in 38 salmon rivers located in relatively close vicinity to the escapee events. In addition, local organizations monitored on a voluntary basis the presence of escaped salmon in 21 additional rivers. Escaped farmed salmon were observed in 28 out of 38 rivers with mandated monitoring and in nine of the 21 rivers with voluntary monitoring. Of the escaped farmed salmon removed from rivers within this geographic region, 70% were genetically assigned as originating from the escape event occurring in May and none from the second event occurring in September. Hence, 30% of the farmed salmon came from other escape events, potentially occurring in a previous year, in other parts of the country, or from unreported escape events. Organized monitoring and removal activities revealed that the salmon that escaped in the first event spread both northward and southward (270 km from southernmost to northernmost observation). A total of 2 861 escaped salmon were caught in a directed gillnet fishery soon after the escape events, 446 in a licensed bag-net fishery targeting wild salmon, 141 in the recreational river fishery, and 51 in other river monitoring.

The number of reported escapees in Iceland in 2024 was approximately 6 000 individuals. The majority of these were 40-120 g and escaped in May. A preliminary number of 29 farm escapees were caught in Iceland in 2024. Twenty-three of these were removed by harpooning, while six were caught by recreational anglers. All but three of the escapees have been traced back to Icelandic net-pens with reported escape events.

A small proportion of the catch in UK (Scotland) (1.7% of retained, 0.04% of all catch including catch and released salmon) in 2024 were reported to be of farmed origin.

The total number of reported escapees in Ireland in 2024 was approximately 8 000 individuals.

The release of smolts for supporting commercial fisheries ceased in Iceland in 1998, but ranching for rod fisheries is still occurring. Icelandic catches have traditionally been split into two separate categories, wild and ranched (Table 2.1.1.1). In 2024, 15 t of catch were reported as ranched salmon in contrast to 30 t harvested as wild. Similarly, catches in Sweden have been split into two separate categories, wild and ranched (Table 2.1.1.1). In 2024, four tonnes of catch were reported as ranched salmon in contrast to four tonnes harvested as wild. Ranching occurs on a much smaller scale in Ireland and UK (Northern Ireland).

3.1.8 National origin of catches

The Norwegian coastal fishery, operating with bag-nets and bend-nets, can catch salmon originating from other nations. The coastal fishery in Northern Norway catches a proportion of Russian Federation salmon, and the proportion increases when moving further eastward towards the Russian Federation. As the Norwegian coastal fishery for salmon has been reduced in recent years following more strict regulations, such as a gradually shorter fishing season and the prohibition of bend-nets in 2021, the total catches of Russian Federation salmon have also decreased.

No other countries/jurisdictions within NEAC have a coastal fishery expected to catch salmon originating from other countries.

3.1.9 Exploitation indices of NEAC stocks

Exploitation rates for 1SW and MSW salmon from the Northern NEAC and Southern NEAC areas (1971-2024) are displayed in Figure 3.1.9.1. National exploitation rates are an output of the NEAC Run-Reconstruction Model (RRM). These were combined as appropriate by weighing each individual country's exploitation rate to the reconstructed returns.

The exploitation of 1SW salmon in both Northern NEAC and Southern NEAC areas has shown a general decline over the time-series (Figure 3.1.9.1). A notable sharp decline in 2007 in Southern NEAC was a result of the closure of the Irish driftnet fisheries. The decline in 2021 in the Northern NEAC was due to large reductions in the Norwegian sea fisheries, and closure of salmon fisheries in the River Tana/Teno, as well as in adjacent sea areas. The weighted exploitation rate on 1SW salmon in the Northern NEAC area was 22% in 2024, which was lower than the previous five-year (33%) and ten-year (36%) means. Exploitation on 1SW fish in the Southern NEAC complex was 6% in 2024, which was slightly lower than the previous five-year (7%) and ten-year (9%) means.

The exploitation rate of MSW fish also exhibited an overall decline over the time-series in both Northern NEAC and Southern NEAC areas (Figure 3.1.9.1), with notable sharp declines in 2008 and 2021 in Northern NEAC. These declines were caused by reductions in Norwegian and Finnish fisheries. Exploitation on MSW salmon in the Northern NEAC area was 28% in 2024, which was lower than the previous five-year (39%) and ten-year (42%) means. Exploitation on MSW fish in Southern NEAC was 4% in 2023, which was at the same level as the previous five-year (4%) and lower than ten-year (6%) means.

The rate of change in exploitation of 1SW and MSW salmon in NEAC countries over the time periods 1971-2024 for Northern NEAC and Southern NEAC is shown in Figure 3.1.9.2. This was derived from the slope of the linear regression between time and the natural logarithm transformed exploitation rate. The relative rate of change in exploitation over the entire time-series indicates an overall reduction of exploitation in most Northern NEAC countries for 1SW and MSW salmon (Figure 3.1.9.2). The greatest rate of decrease in Northern countries was shown for MSW fish in Iceland (north and east). The Southern NEAC countries have also shown a general

decrease in exploitation rates (Figure 3.1.9.2) on both 1SW and MSW components, except for 1SW salmon in France where exploitation for 1SW salmon has increased over the time-series. The greatest rate of decrease was shown in UK (Scotland, England & Wales, and Northern Ireland), while Iceland showed relative stability in exploitation rates during the time-series.

3.2 Management objectives and reference points

3.2.1 NEAC conservation limits

River-specific conservation limits (CLs) have been derived for salmon stocks in most countries in the NEAC area (France, Ireland, UK (England & Wales), UK (Northern Ireland), UK (Scotland), Finland, Norway, and Sweden) and these are used in national assessments. In these cases, CL estimates for individual rivers are summed to provide estimates at the national level for these countries.

River-specific CLs have also been derived for a number of rivers in the Russian Federation and Iceland, but these are not yet used in national assessments. An interim approach has been developed for countries that do not use river-specific CLs in their national assessment. This approach is based on the establishment of pseudo-stock–recruitment relationships for national salmon stocks; further details are provided in the Stock Annex (ICES 2024c). For Iceland, the CL derived from the pseudo-stock–recruitment relationship in the 2023 assessment was used in 2024, see Section 3.3.3 for details.

CL estimates for all individual countries are summed to provide estimates for the Northern and Southern NEAC stock complexes (Table 3.2.1.1). These data are also used to estimate the Spawner Escapement Reserves (SERs); the CL increased to take account of natural mortality between the recruitment date of 01 January in the first sea winter and return to home waters. SERs are estimated for maturing and non-maturing 1SW salmon from individual countries as well as the Northern NEAC and Southern NEAC stock complexes (Table 3.2.1.1). WGNAS considers that the current national CL and SER levels may be less appropriate for evaluating the historical status of stocks (e.g. pre-1985), which in many cases have been estimated with less precision.

3.2.2 Progress with setting river-specific conservation limits

There were no changes to river-specific CLs in the NEAC area in 2024.

3.3 Status of stocks

3.3.1 Compliance with river-specific conservation limits

In the NEAC area, nine jurisdictions have established river-specific CLs. Reported compliance with these and associated trends are summarized below and presented in tables 3.3.1.1, 3.3.1.2, and Figure 3.3.1.1. Attainment of CLs is assessed based on a variety of abundance metrics, after fisheries, most commonly eggs. Assessment of CL compliance also varies among jurisdictions.

- For the River Teno/Tana (Finland/Norway), the number of major tributary stocks with established CLs rose from nine between 2007 and 2012 (with five annually assessed against CL), to 24 (25 including the main stem) since 2013 (with seven to 15 assessed against CL). No stocks met CLs prior to 2013. A declining trend is evident in assessed stocks attaining CL from 40% in 2018 to 7% (a single stock) in 2023 with no stocks attaining CL in 2024.

- CLs were established for 439 Norwegian salmon rivers in 2009, with CL attainment retrospectively assessed for 165–170 river stocks back to 2005. The mean percentage of stocks meeting CLs between 2014 and 2021 was 78% (range 72% to 86%). Since then, a decline is evident from 84% in 2022, to 69% in 2023 and 56% (provisional) in 2024.
- Since 1999, CLs have been established for 85 river stocks in the Russian Federation (Murmansk region). In the period 1999 to 2019, eight of these had been annually assessed for CL attainment, of which 88% had consistently met their CL. No data is available since 2021.
- Sweden established CLs in 2016 for 23 stocks which rose to 24 stocks since 2017. Eight of the 21 stocks assessed (38%) met their CLs in 2016. Since 2021, between 13% and 17% of assessed stocks annually, met their CLs, which is lower than the preceding mean of 29%.
- In France, river-specific CLs were established for 38 stocks in 2001, increasing to 47 in 2023. However, compliance with CLs has not been assessed to date. In previous reports (up to 2023), the number of rivers assessed corresponded to the number of rivers with TACs, and France assessed the number of rivers that reached or exceeded the TACs.
- Ireland established CLs for all 141 stocks in 2007, rising to 144 since 2020 to include sub-catchments associated with hydrodams. The mean percentage of stocks meeting CLs is 35% over the time-series, with the highest attainment of 41% achieved in 2011 and 2012. Between 2016 and 2024, annual CL attainment has ranged from 30% to 34%.
- UK (England & Wales) established CLs in 1993 for 61 rivers, increasing to 64 from 1997 with an overall mean of 40% assessed stocks meeting their CLs over the time-series. Since 2021, a maximum of 18% of assessed stocks have attained their CLs, with 12% meeting their CLs in 2024.
- Data on UK (Northern Ireland) river-specific CLs are presented from 2002, when CLs were assigned to ten river stocks. Since 2012, 19 stocks have established CLs with 15 to 18 of these assessed annually for CL attainment. A mean of 41% have met their CLs over the time-series. In 2024, 59% of stocks attained their CLs which is a notable increase on both 2022 (17%) and 2023 (22%).
- UK (Scotland) have established CLs for 173 assessment groups (rivers and small groups of rivers) with retrospective assessment conducted to 2011. Mean percentage of stocks meeting CLs over the time-series was 46%. In 2023, the most recent reporting year available, 27% of assessment groups met their CL, which is the lowest in the time-series.
- No river-specific CLs have been established for Denmark, Germany and Spain. Iceland has set provisional CLs for all salmon producing rivers and continues to work towards finalizing an assessment process for determining CL attainment.

3.3.2 Return rates in index rivers

These estimates include return rates to homewaters and freshwater, which have naturally converged as coastal net fisheries have closed, but likely include potential confounding of marine with estuarine and freshwater survival rates due to the varied circumstances under which the data are collected and used for estimation. For a more complete discussion about return rates see Section 2.4 of ICES (2023a).

There were additions, changes, and omissions to the dataset up to smolt migration year 2023. Return rate estimates are provide for three new rivers. A passive-integrated transponder (PIT) tagging programme started in 2017 is reported for Norway on the River Kongsfjordelva. Historical wild and hatchery smolt return rate estimates are reported for the rivers Midfjardara (Iceland; covering 1983-1997) and Moy (Ireland; 1990-1993). Estimates for the Norwegian rivers Sylte/Moaelva and Vigda have been updated to include a 0.02% daily adjustment to account for tag mortality (Foldvik & Kvingedal, 2018), together with updates to the observation model; these

are also accounted for in the River Kongsfjordelva estimates. River Corrib (Ireland) estimates since 2006 were removed from the dataset due to closure of a coastal net fishery that resulted in few returns and rendered the estimates unreliable.

Return rates for wild- and hatchery-reared smolts returning to homewaters (i.e. before homewater exploitation) are presented in tables 3.3.2.1, 3.3.2.2, and Figure 3.3.2.1. The figure shows the proportional change in five-year mean return rates for smolt to 1SW (smolt years 2019-2023, inclusive) and smolt to 2SW (smolt years 2018-2022, inclusive) returns to rivers of Northern and Southern NEAC areas compared to their mean returns for the previous five-year period (tables 3.3.2.1 and 3.3.2.2). It should be noted that all Norwegian rivers, except River Kongsfjordelva, now include sufficient years of data to be included in Northern NEAC.

In Northern NEAC, the recent five-year mean return rate of wild smolts to 1SW has remained somewhat stable, except for the River Sylte/Moaelva that has decreased compared to the previous five years. Wild smolt to 2SW return rate in Northern NEAC was represented only by the River Imsa and decreased over the same period. The patterns in River Imsa wild smolts were similar to the hatchery smolts, albeit with higher return rates to both 1SW and 2SW.

In Southern NEAC, the pattern in five-year mean return rate of wild smolts to 1SW compared to the previous five years was mixed, with three rivers increasing and four rivers decreasing. The largest decreases were on the rivers Bresle and Scorff (France) and Bush (UK (N. Ireland)) return rates to 1SW and 2SW. The largest increases were in the return rate to 1SW for the River Ellidaar (Iceland) and the return rate to 2SW for the River Dee (UK (England & Wales)). The pattern in hatchery smolts return rate to 1SW compared to the previous five years was also mixed, with five rivers decreasing and four rivers increasing, of which the River Erne (Ireland) saw the largest increase and the return rates of River Bush age 1 and 2 smolts were the lowest.

The mean annual return rates were estimated for Northern and Southern NEAC 1SW and 2SW returning adult wild and hatchery salmon groups from 1980 (Figure 3.3.6.2). To account for variation due to the number of contributing experimental groups, mean annual return rates were estimated using a GLM (Generalised Linear Model) with return rates related to smolt year and river, each as factors, with a quasi-Poisson distribution (log-link function). All reported annual return rates were used to estimate the mean annual return rates, i.e. there was no restriction on the numbers of years reported, to ensure the maximum number of rivers could contribute. Note that estimated year effects are presented on a log-scaled y-axis.

Return rates of wild and hatchery smolts to Northern NEAC are variable. They have generally decreased since 1980, although rates of 1SW returns from wild smolts have stabilized since 2010, and from hatchery smolts have increased since 2015 (Figure 3.3.2.2). Rates of 2SW returns from smolts to Northern NEAC are highly variable, but have continued to decline since 2010 and 2005 for wild and hatchery smolts, respectively. Mean return rates of wild and hatchery smolts to Southern NEAC are less variable, primarily because they are estimated from more rivers. They too have generally decreased since 1980, although rates of 2SW returns from wild smolts started to stabilize since 2005, and rates of 1SW returns from hatchery smolts have stabilized since 2015.

The low return rates in recent years highlighted in these analyses are broadly consistent with the trends in estimated returns and spawners as derived from the RRM and LCM models (Section 3.3.4) and indicates that adult abundance is strongly influenced by factors in the marine environment.

3.3.3 Changes to the national input data and the NEAC Run-Reconstruction Model

Model inputs are described in detail in Section 2.2 of the Stock Annex. In addition to adding new data for 2024, the following changes were made to the national/regional input data for the Run-Reconstruction Model (RRM):

UK (England & Wales): Returns to fresh water since 1994 are now provided directly to the RRM in the form of the sum and standard errors on the natural log scale, both derived from data compiled at the level of individual rivers. Returns to homewaters for UK (England & Wales) over this time period are derived by adding the net catch to the freshwater returns. Prior to 1994, returns to homewaters were estimated using the same approach applied in ICES (2024a). The change to the run-reconstruction input data for UK (England & Wales) ensured alignment with national returning stock estimates.

Norway: Returns to homewaters since 2010 are now provided directly to the RRM. Uncertainty in these estimates are provided as standard errors on the natural log scale. Prior to 2010, returns to homewaters are estimated using the same approach as previous years (ICES 2024c). The change to the run-reconstruction input data for Norway ensured alignment with the estimates provided in the annual national assessment (see https://vitenskapsradet.no/).

Iceland: In the absence of river-specific CLs, the national CL for Iceland is estimated using a pseudo stock-recruitment relationship. Adding new data for 2024 to this relationship doubled the estimated CL for Iceland (south and west). This increase in the CL does not reflect any biological changes. Instead, it is indicative of how sensitive the pseudo stock-recruitment relationship can be to changes in input data. Therefore, this approach was abandoned for Iceland and the CL was based on the values used in ICES (2024a).

Russian Federation: Run-reconstruction input data have not been provided since 2021. A method for estimating the required data inputs from total reported catch was derived in 2023 (ICES 2024c). Data on the total catch for the Russian Federation in 2024 were not available in 2025 and so the mean of the total catch from 2019-2023 was used as an input.

3.3.4 Description of national stocks and NEAC stock complexes

The stock abundance models used by WGNAS provide an overview of the status of salmon stocks in the Northeast Atlantic at the stock complex and national levels. They do not capture variation in the status of stocks in individual rivers or small groups of rivers. This has been addressed, in part, by the regional splits within some countries and the river-level reporting set out in Section 3.3.1.

Modelled estimates of 1SW and MSW returns and spawners (as derived from the RRM) for each stock complex and country/jurisdiction are provided in tables 3.3.4.1 – 3.3.4.8, with CLs provided in Table 3.2.1.1. These values are used to categorize stocks as 'suffering', 'at risk', or 'not at risk' (see Section 1.5). The hindcasted estimates of these values as derived from the LCM are provided in figures 3.3.4.1, 3.3.4.2, and 3.3.4.4a–3.3.4.4k. Together, these outputs provide an index of the current status and historical trends in stocks based on fisheries data, fisheries-independent data, and model assumptions. Note that the results for the full time-series can change when the assessment is re-run from year to year and as the input data are refined (see Section 3.3.3 for changes to input data).

3.3.4.1 NEAC stock complexes

The status of stocks was assessed relative to the probability of returns and spawners exceeding CLs according to the management targets set out in Section 1.5. Discrepancies in CL attainment between returns and spawners are due to exploitation in homewater fisheries.

Northern NEAC

Hindcast estimates of 1SW returns to Northern NEAC showed a decline over the time-series (Figure 3.3.4.1). In 2024, 1SW returns were considered to be at full reproductive capacity (i.e. the fifth percentile of the estimate was above the CL). The estimate was the third lowest in the time-series (totaling 54 years) and 9% below the previous five-year mean (Table 3.3.4.1). Hindcast estimates of MSW returns to Northern NEAC showed a decline over the time-series (Figure 3.3.4.1). In 2024, MSW returns were considered to be at full reproductive capacity. However, the estimate was the lowest in the time-series and 37% below the previous five-year mean (Table 3.3.4.2).

Hindcast estimates of 1SW spawners in Northern NEAC showed a decline since around 2000 (Figure 3.3.4.1). In 2024, 1SW spawners were considered to be at full reproductive capacity. The estimate was the fourteenth lowest in the time-series and 5% above the previous five-year mean (Table 3.3.4.1). Hindcast estimates of MSW spawners in Northern NEAC showed no clear trend over the time-series (Figure 3.3.4.1). In 2024, MSW spawners were considered to be at risk of suffering reduced reproductive capacity (i.e. the median estimate was above the CL but the 5% interval was below). The estimate was the fifth lowest in the time-series and 26% below the previous five-year mean (Table 3.3.4.2).

Southern NEAC

Hindcast estimates of 1SW returns to Southern NEAC showed a decline over the time-series (Figure 3.3.4.2). In 2024, 1SW returns were considered to be at risk of suffering reduced reproductive capacity (i.e. the median estimate was just above the CL, while the fifth percentile of the estimate was far below the CL). The estimate was the fifth lowest in the time-series, and the same as the previous five-year mean (Table 3.3.4.5). Hindcast estimates of MSW returns to Southern NEAC showed a decline until around 2000 (Figure 3.3.4.2). In 2024, MSW returns were considered at risk of suffering reduced reproductive capacity. The estimate was the second lowest in the time-series and 9% below the previous five-year mean (Table 3.3.4.6).

Hindcast estimates of 1SW spawners in Southern NEAC showed a decline over the time-series (Figure 3.3.4.2). In 2024, 1SW spawners were considered to be suffering reduced reproductive capacity. The estimate was the fifth lowest in the time-series and the same as the previous five-year mean (Table 3.3.4.7). Hindcast estimates of MSW spawners in Southern NEAC showed no clear trend since the early 1980s (Figure 3.3.4.2). In 2024, MSW spawners were considered to be at risk of suffering reduced reproductive capacity. The estimate was the fifth lowest in the time-series and 9% below the previous five-year mean (Table 3.3.4.8).

3.3.4.2 National stocks

The assessment of 1SW and MSW returns and spawners against CLs for all countries in Northern and Southern NEAC can be found in Figure 3.3.4.3. There is a clear pattern whereby more stocks in Southern NEAC countries were suffering, or at risk of suffering, reduced reproductive capacity compared to Northern NEAC countries in 2024. This was true for both 1SW and MSW stock components.

Within Northern NEAC countries, returning 1SW stocks in Norway, Sweden and Iceland were at full reproductive capacity in 2024. However, 1SW returns in the remaining countries were either suffering, or at risk of suffering, reduced reproductive capacity (Figure 3.3.4.3a). Returning MSW stocks in Norway and the Russian Federation were at full reproductive capacity in 2024.

However, MSW returns in the remaining countries were either suffering, or at risk of suffering, reduced reproductive capacity (Figure 3.3.4.3b). There were changes to stock status between returns and spawners in Iceland (1SW and MSW), Sweden (MSW) and the Russian Federation (1SW and MSW) indicating the effect of homewater exploitation on CL attainment in those countries (Figure 3.3.4.3). In most Northern NEAC countries, 1SW and MSW return estimates in 2024 were among the lowest in the time-series (tables 3.3.4.1–3.3.4.2). Ranks were more variable for spawning estimates, ranging from the lowest value on record (River Tana/Teno (Norway/Finland), 1SW) to 37th lowest (northeast Iceland, 1SW) (tables 3.3.4.3–3.3.4.4). Note that from 2021, estimates from the Russian Federation are derived from total reported catches provided in tonnes (see Section 2.5) and should be interpreted with caution.

The trends in return and spawner hindcast estimates as derived from the LCM for Northern NEAC countries are presented in figures 3.3.4.4a – 3.3.4.4e.

With respect to Southern NEAC countries, all 1SW and MSW returns and spawners were suffering reduced reproductive capacity in 2024 except UK (Scotland) (Figure 3.3.4.3). In all Southern NEAC countries, 1SW and MSW return estimates were among the lowest in the time-series. Ranks were more variable for spawning estimates, ranging from the lowest value on record (France, 1SW; UK (Northern Ireland), MSW) to 24th lowest (UK (Northern Ireland), 1SW) (tables 3.3.4.7–3.3.4.8).

Hindcast estimates of 1SW and MSW returns and spawners as derived from the LCM for Southern NEAC countries are presented in figures 3.3.4.4f–3.3.4.4k.

3.3.4.3 List of notable results

1SW returns in 2024

- Record low 1SW returns were recorded in Finland, France and Ireland;
- Estimates of total 1SW returns to Northern NEAC (283 400) and Southern NEAC (465 951) ranked as the third lowest and fifth lowest, respectively, of the 54-year time-series;
- 1SW returns to Northern NEAC decreased from the previous five-year mean in all regions (-9% to -71%), except for Iceland (north and east) (28% increase);
- 1SW returns to Southern NEAC increased for Iceland (south and west), UK (Northern Ireland) and UK (Scotland) from the previous five-year mean;
- On average (2019-2023), the largest percentage contribution to the total 1SW returns to Northern NEAC is from Norway (71%); and
- On average (2019-2023), the largest percentage contribution to total 1SW returns to Southern NEAC is from UK (Scotland) (49%) and Ireland (31%).

MSW returns in 2024

- Record low MSW returns were recorded in Finland, Norway, UK (England & Wales) and UK (Northern Ireland);
- Estimates of total MSW returns to Northern NEAC (181 688) and Southern NEAC (208 668) both ranked as the lowest and second lowest, respectively, of the 54-year time-series;
- MSW returns to Northern NEAC decreased from the previous five-year mean in all regions (-20% to -55%), except for Russian Federation;
- MSW returns to Southern NEAC decreased from the previous five-year mean in all regions (-5% to -49%), except for Ireland;
- On average (2019-2023), the vast majority of MSW returns to Northern NEAC was to Norway (73%). Relatively few of the total MSW returns were to Finland (4%), Sweden (2%), and Iceland (north and east) (1%); and
- On average (2019-2023), in Southern NEAC, most of the MSW returns were to UK (Scotland) (76%) and UK (England & Wales) (11%). Relatively few of the total MSW returns were to Ireland (8%), France (3%), Iceland (south and west) (1%), and UK (Northern Ireland) (1%).

1SW spawners in 2024

- Record low 1SW spawners were recorded in Finland and France;
- Estimates of total 1SW spawners for Northern NEAC (223 362) and Southern NEAC (421 697) ranked as the fourteenth and fifth lowest, respectively, of the 54-year time-series;
- 1SW spawners in Northern NEAC increased from the previous five-year mean in all regions (3% to 51%), except for Finland (-66%) and Sweden (-10%);
- 1SW spawner abundance in Southern NEAC decreased compared to the previous five-year mean in the UK (England & Wales) (-29%), France (-83%), and Ireland (-20%), while increases were observed in Iceland (south and west) (22%), the UK (Northern Ireland) (31%), and the UK (Scotland) (16%);
- On average (2019-2023), the majority of 1SW spawners in Northern NEAC was in Norway (65%); and
- On average (2019-2023), most 1SW spawners in Southern NEAC were in UK (Scotland) (48%) and Ireland (32%).

MSW spawners in 2024

- Record low MSW spawners were recorded in UK (Northern Ireland);
- Estimates of total MSW spawners for Northern NEAC (129 477) and Southern NEAC (186,204) ranked as the fifth and ninth lowest of their respective time-series;
- MSW spawners in Northern NEAC decreased from previous five-year mean in all regions (-11% to -55%), except for Russian Federation;
- MSW spawners in Southern NEAC decreased from the previous five-year mean in all regions (-2% to -49%);
- On average (2019-2023), the majority of the MSW spawners in Northern NEAC was in Norway (74%); and
- On average (2019-2023), the majority of the MSW spawners in Southern NEAC was in UK (Scotland) (72%).

3.3.5 Forecasts of NEAC stock complexes and national stocks as derived from the LCM

The LCM provides a forecast of NEAC pre-fishery abundance (PFA) for the years 2024 to 2028 at both the stock unit and complex level, under the assumption of an absence of fishing. The forecasts are relevant for catch advice and will only be covered briefly in non-catch advice years (e.g. 2025).

In Northen NEAC (tables 3.3.5.1, 3.3.5.2, and Figure 3.3.4.1), the median estimates of 1SW maturing and non-maturing PFA are forecast to increase slightly in 2024 and remain stable for the years 2024 to 2028. With the exception of the maturing PFA in 2024, the fifth percentile of PFA is forecast to fall below the SER for all forecast years.

In Southern NEAC (Figure 3.3.4.2, tables 3.3.5.3 and 3.3.5.4), the median estimates of maturing and non-maturing PFA are forecast to remain below the SER for the years 2024 to 2028.

Figures 3.3.4.4 (a to k) and tables 3.3.5.1 to 3.3.5.4 provide estimates of the maturing and non-maturing PFA hindcasts and forecasts (2024 to 2028) aggregated to the national level.

3.3.6 Population dynamics

The LCM provides hindcast estimates and forecast projections of the post-smolt survival and probability of maturing as 1SW parameters (figures 3.3.6.1 to 3.3.6.4), aggregated to the level of stock complex and to the national level (where the national stock consists of multiple stock units). Details of these parameters at the population level are provided in Section 2.3.2.

Estimates of post-smolt survival and the probability to mature as 1SW depend on the specific assumptions of the LCM (ICES 2024c) and must therefore be interpreted with caution.

Where forecasts of parameters are aggregated, trends can sometimes be observed in the median estimates. However, it should be noted that at the stock unit level, the LCM projects parameters using a random walk process and so the median estimate at the stock unit level will be largely constant.

3.3.6.1 Post-smolt survival

Hindcast estimates of the post-smolt survival parameter aggregated to the level of the Northern NEAC stock complex (Figure 3.3.6.1) show a general decline over the time-series from around 0.25 in 1975 to a low of around 0.08 in 2020.

Hindcast estimates of the post-smolt survival parameter aggregated to the level of the Southern NEAC stock complex (Figure 3.3.6.3) show a general decline from a high of around 0.18 in 1985 to a low of around 0.07 in 2013, after which it is relatively stable. At the national level, a continuation of the decline in post-smolt survival after 2013 is particularly evident for UK (Northern Ireland). Of note is a period of increased post-smolt survival in the early to mid-2000s observable in UK (Scotland), Iceland (south and west), and France.

3.3.6.2 Probability of maturing as 1SW

Estimates of the probability of maturing as 1SW parameter aggregated to the level of the Northern NEAC stock complex (Figure 3.3.6.2) are relatively consistent, between around 0.4 and 0.6 over the time-series, but have been generally at or below 0.5 since 2007.

Iceland (north and east) and Sweden diverge from the complex level trend. In Iceland (north and east), a continual increase is observed from a low of around 0.25 in 1980 to a high of around 0.75 in 2005, and in Sweden a continual decline is observed, from around 0.9 in 1975 to a low of around 0.25 in 2017.

3.4 Tables & Figures

Table 3.1.3.1. Number of gear units licensed or authorized by country and gear type.

Year	UK (England & Wales)					UK (Scotland)		UK (N. Ireland)			Ireland				France		
	Gillnet licences	Sweepnet	Hand-held net	Fixed engine	Rod & Line	Fixed engine (1)	Net and coble (2)	Driftnet	Draftnet	Bag-nets and boxes	Driftnets No.	Draftnets	Other nets Commercial	Rod	Rod and line licences in freshwater	Commercial nets in freshwater (5)	Driftnet licences in estuary (6,7)
1971	437	230	294	79	-	3080	800	142	305	18	916	697	213	10 566	-	-	-
1972	308	224	315	76	-	3455	813	130	307	18	1156	678	197	9612	-	-	-
1973	291	230	335	70	-	3256	872	130	303	20	1112	713	224	11 660	-	-	-
1974	280	240	329	69	-	3191	779	129	307	18	1048	681	211	12 845	-	-	-
1975	269	243	341	69	-	2985	762	127	314	20	1046	672	212	13 142	-	-	-
1976	275	247	355	70	-	2846	754	126	287	18	1047	677	225	14 139	-	-	-
1977	273	251	365	71	-	2737	681	126	293	19	997	650	211	11 721	-	-	-
1978	249	244	376	70	-	2574	691	126	284	18	1007	608	209	13 327	-	-	-
1979	241	225	322	68	-	2704	750	126	274	20	924	657	240	12 726	-	-	-
1980	233	238	339	69	-	2894	674	125	258	20	959	601	195	15 864	-	-	-
1981	232	219	336	72	-	2687	657	123	239	19	878	601	195	15 519	-	-	-
1982	232	221	319	72	-	2402	659	123	221	18	830	560	192	15 697	4145	55	82
1983	232	209	333	74	-	2514	668	120	207	17	801	526	190	16 737	3856	49	82

Year	UK (England & Wales)					UK (Scotland)		UK (N. Ireland)			Ireland				France		
	Gillnet licences	Sweepnet	Hand-held net	Fixed engine	Rod & Line	Fixed engine (1)	Net and coble (2)	Driftnet	Draftnet	Bag-nets and boxes	Driftnets No.	Draftnets	Other nets Commercial	Rod	Rod and line licences in freshwater	Commercial nets in freshwater (5)	Driftnet licences in estuary (6,7)
1984	226	223	354	74	-	2473	638	121	192	19	819	515	194	14 878	3911	42	82
1985	223	230	375	69	-	2177	532	122	168	19	827	526	190	15 929	4443	40	82
1986	220	221	368	64	-	1949	607	121	148	18	768	507	183	17 977	5919	58 (8)	86
1987	213	206	352	68	-	1674	563	120	119	18	768	507	183	17 977	5724 (9)	87 (9)	80
1988	210	212	284	70	-	1527	385	115	113	18	836	507	183	11 539	4346	101	76
1989	201	199	282	75	-	1234	350	117	108	19	801	507	183	16 484	3789	83	78
1990	200	204	292	69	-	1276	340	114	106	17	756	525	189	15 395	2944	71	76
1991	199	187	264	66	-	1134	295	118	102	18	707	504	182	15 178	2737	78	71
1992	203	158	267	65	-	851	292	121	91	19	691	535	183	20 263	2136	57	71
1993	187	151	259	55	-	903	264	120	73	18	673	457	161	23 875	2104	53	55
1994	177	158	257	53	37 278	749	246	119	68	18	732	494	176	24 988	1672	14	59
1995	163	156	249	47	34 941	729	223	122	68	16	768	512	164	27 056	1878	17	59
1996	151	132	232	42	35 281	643	202	117	66	12	778	523	170	29 759	1798	21	69

Year	UK (England & Wales)					UK (Scotland)		UK (N. Ireland)			Ireland				France		
	Gillnet licences	Sweepnet	Hand-held net	Fixed engine	Rod & Line	Fixed engine (1)	Net and coble (2)	Driftnet	Draftnet	Bag-nets and boxes	Driftnets No.	Draftnets	Other nets Commercial	Rod	Rod and line licences in freshwater	Commercial nets in freshwater (5)	Driftnet licences in estuary (6,7)
1997	139	131	231	35	32 781	688	186	116	63	12	852	531	172	31 873	2953	10	59
1998	130	129	196	35	32 525	542	151	117	70	12	874	513	174	31 565	2352	16	63
1999	120	109	178	30	29 132	406	132	113	52	11	874	499	162	32 493	2225	15	61
2000	110	103	158	32	30 139	383	123	109	57	10	871	490	158	33 527	2037	16	51
2001	113	99	143	33	24 350	389	95	107	50	6	881	540	155	32 814	2080	18	63
2002	113	94	147	32	29 407	426	102	106	47	4	833	544	159	35 024	2082	18	65
2003	58	96	160	57	29 936	363	110	105	52	2	877	549	159	31 809	2048	18	60
2004	57	75	157	65	32 766	450	118	90	54	2	831	473	136	30 807	2158	15	62
2005	59	73	148	65	34 040	381	103	93	57	2	877	518	158	28 738	2356	16	59
2006	52	57	147	65	31 606	364	86	107	49	2	875	533	162	27 341	2269	12	57
2007	53	45	157	66	32 181	238	69	20	12	2	0	335	100	19 986	2431	13	59
2008	55	42	130	66	33 900	181	77	20	12	2	0	160	0	20 061	2401	12	56
2009	50	42	118	66	36 461	162	64	20	12	2	0	146	38	18 314	2421	12	37
2010	51	40	118	66	36 159	178	66	2	1	2	0	166	40	17 983	2200	12	33

Year	UK (England & Wales)					UK (Scotland)		UK (N. Ireland)			Ireland				France		
	Gillnet licences	Sweepnet	Hand-held net	Fixed engine	Rod & Line	Fixed engine (1)	Net and coble (2)	Driftnet	Draftnet	Bag-nets and boxes	Driftnets No.	Draftnets	Other nets Commercial	Rod	Rod and line licences in freshwater	Commercial nets in freshwater (5)	Driftnet licences in estuary (6,7)
2011	53	41	117	66	36 991	199	76	2	1	2	0	154	91	19 899	2540	12	29
2012	51	34	115	73	35 135	237	79	1	1	2	0	149	86	19 588	2799	12	25
2013	49	29	111	62	33 301	238	59	0	0	0	0	181	94	19 109	3010	12	25
2014	48	34	109	65	31 605	204	56	0	0	0	0	122	37	18 085	2878	12	20
2015	52	33	102	63	30 847	127	65	0	0	0	0	100	6	18 460	2850	12	20
2016	49	34	105	62	30 214	13	43	0	0	0	0	98	4	18 303	3015	19	20
2017	46	32	112	57	35 162	10	41	0	0	0	0	105	5	18 212	4214	20	20
2018	38	30	87	57	31 655	0	26	0	0	0	0	97	8	16 755	3937	19	20
2019 (10)	14	13	60	49	29 126	2	22	0	0	0	0	67	10	17 238	3786	19	20
2020	17	13	64	43	28 387	3	17	0	0	0	0	68	10	14 138	3379	19	17
2021	15	16	71	41	23 530	11	38	0	0	0	0	87	10	15 547	3526	21	17
2022	16	14	61	39	21 574	14	27	0	0	0	0	76	18	17 318	3237	21	17
2023	14	13	59	40	22 029	8	24	0	0	0	0	80	11	16 743	2987	19	18
2024	14	12	48	38	21 870	2	23	0	0	0	0	74	11	16 225	2366	20	17

Year	UK (England & Wales)					UK (Scotland)		UK (N. Ireland)			Ireland				France		
	Gillnet licences	Sweepnet	Hand-held net	Fixed engine	Rod & Line	Fixed engine (1)	Net and coble (2)	Driftnet	Draftnet	Bag-nets and boxes	Driftnets No.	Draftnets	Other nets Com-mercial	Rod	Rod and line li-cences in fresh-water	Commercial nets in freshwater (5)	Driftnet licences in estuary (6,7)
Mean																	
2019-2023	15	14	63	42	24 929	8	26	0	0	0	0	76	12	16 205	3383	20	18
% change (3)	-6.7	-14.3	-23.8	-9.5	-12.3	-75.0	-11.5					-2.6	-8.3	0.1	-30.1	0	-5.6
Mean																	
2019-2023	31	23	83	2	28 413	39	36	0	0	0	0	90	12	17 084	3381	18	19
% change (3)	-54.8	-47.8	-42.2	-26.9	-23.0	-94.9	-36.1					-17.8	-8.3	-5.0	-30.0	11.1	-10.5

Notes:

1 **Number of gear units expressed as trap months (rounded up).**
2 **Number of gear units expressed as crew months (rounded up).**
3 **(2024/mean - 1) * 100.**
4 **Dash means "no data."**
5 **Lower Adour only since 1994 (Southwestern France), due to fishery closure in the Loire Basin.**
6 **Adour estuary only (Southwestern France).**
7 **Number of fishermen or boats using driftnets: overestimates the actual number of fishermen targeting salmon by a factor 2 or 3.**
8 **Common licence for salmon and sea trout introduced in 1986, leading to a short-term increase in the number of licences issued.**
9 **Compulsory declaration of salmon catches in freshwater from 1987 onwards.**
10 **Allowable effort in 2019 was zero throughout England and 1025 days were utilized in Wales**

Table 3.1.3.1. Cont'd. Number of gear units licensed or authorized by country and gear type.

Year	Norway				Finland				Russian Federation		
					The Teno River			R. Näätämö	Kola Peninsula	Archangel region	
					Recreational Fishery Tourist anglers		Local rod and net fishery (fishermen)	Recreational fishery (fishermen)		Commercial number of gears	
	Bag-net	Bend-net	Liftnet	Driftnet (No. nets)	Fishing days	Fishermen			Catch and release (fishing days)	Coastal	In-river
1971	4608	2421	26	8976	-	-	-	-	-	-	-
1972	4215	2367	24	13 448	-	-	-	-	-	-	-
1973	4047	2996	32	18 616	-	-	-	-	-	-	-
1974	3382	3342	29	14 078	-	-	-	-	-	-	-
1975	3150	3549	25	15 968	-	-	-	-	-	-	-
1976	2569	3890	22	17 794	-	-	-	-	-	-	-
1977	2680	4047	26	30 201	-	-	-	-	-	-	-
1978	1980	3976	12	23 301	-	-	-	-	-	-	-
1979	1835	5001	17	23 989	-	-	-	-	-	-	-
1980	2118	4922	20	25 652	-	-	-	-	-	-	-
1981	2060	5546	19	24 081	16 859	5742	677	467	-	-	-
1982	1843	5217	27	22 520	19 690	7002	693	484	-	-	-

Year	Norway				Finland				Russian Federation		
					The Teno River			R. Näätämö	Kola Peninsula	Archangel region	
					Recreational Fishery Tourist anglers		Local rod and net fishery (fishermen)	Recreational fishery (fishermen)		Commercial number of gears	
	Bag-net	Bend-net	Liftnet	Driftnet (No. nets)	Fishing days	Fishermen			Catch and release (fishing days)	Coastal	In-river
1983	1735	5428	21	21 813	20 363	7053	740	587	-	-	-
1984	1697	5386	35	21 210	21 149	7665	737	677	-	-	-
1985	1726	5848	34	20 329	21 742	7575	740	866	-	-	-
1986	1630	5979	14	17 945	21 482	7404	702	691	-	-	-
1987	1422	6060	13	17 234	22 487	7759	754	689	-	-	-
1988	1322	5702	11	15 532	21 708	7755	741	538	-	-	-
1989	1888	4100	16	0	24 118	8681	742	696	-	-	-
1990	2375	3890	7	0	19 596	7677	728	614	-	-	-
1991	2343	3628	8	0	22 922	8286	734	718	1711	-	-
1992	2268	3342	5	0	26 748	9058	749	875	4088	-	-
1993	2869	2783	-	0	29 461	10 198	755	705	6026	59	199
1994	2630	2825	-	0	26 517	8985	751	671	8619	60	230
1995	2542	2715	-	0	24 951	8141	687	716	5822	55	239

Year	Norway				Finland				Russian Federation		
					The Teno River			R. Näätämö	Kola Peninsula	Archangel region	
					Recreational Fishery Tourist anglers		Local rod and net fishery (fishermen)	Recreational fishery (fishermen)		Commercial number of gears	
	Bag-net	Bend-net	Liftnet	Driftnet (No. nets)	Fishing days	Fishermen			Catch and release (fishing days)	Coastal	In-river
1996	2280	2860	-	0	17 625	5743	672	814	6326	85	330
1997	2002	1075	-	0	16 255	5036	616	588	6355	68	282
1998	1865	1027	-	0	18 700	5759	621	673	6034	66	270
1999	1649	989	-	0	22 935	6857	616	850	7023	66	194
2000	1557	982	-	0	28 385	8275	633	624	7336	60	173
2001	1976	1081	-	0	33 501	9367	863	590	8468	53	121
2002	1666	917	-	0	37 491	10 560	853	660	9624	63	72
2003	1664	766	-	0	34 979	10 032	832	644	11 994	55	84
2004	1546	659	-	0	29 494	8771	801	657	13 300	62	56
2005	1453	661	-	0	27 627	7776	785	705	20 309	93	69
2006	1283	685	-	0	29 516	7749	836	552	13 604	62	72
2007	1302	669	-	0	33 664	8763	780	716		82	53
2008	957	653	-	0	31 143	8111	756	694		66	62

Year	Norway				Finland				Russian Federation		
					The Teno River			R. Näätämö	Kola Peninsula	Archangel region	
					Recreational Fishery Tourist anglers		Local rod and net fishery (fishermen)	Recreational fishery (fishermen)		Commercial number of gears	
	Bag-net	Bend-net	Liftnet	Driftnet (No. nets)	Fishing days	Fishermen			Catch and release (fishing days)	Coastal	In-river
2009	978	631	-	0	29 641	7676	761	656		79	72
2010	760	493	-	0	30 646	7814	756	615		55	66
2011	767	506	-	0	31 269	7915	776	727		78	52
2012	749	448	-	0	32 614	7930	785	681		72	53
2013	786	459	-	0	33 148	8074	785	558		110	71
2014	700	436	-	0	32 852	7791	746	396		57	74
2015	724	406	-	0	33 435	7809	765	232		81	62
2016	798	438	-	0	31 923	7273	712	512		42	59
2017	854	419	-	0	10 074	2468	506	405		29	54
2018	900	411	-	0	10 556	2586	507	512		56	58
2019	936	418	-	0	10 476	2931	481	524		53	25
2020	975	419	-	0	10 360	2462	490	541		41	22
2021	522	212	-	0	0	0	0	557		-	-

Year	Norway				Finland				Russian Federation		
					The Teno River			R. Näätämö	Kola Peninsula	Archangel region	
					Recreational Fishery Tourist anglers		Local rod and net fishery (fishermen)	Recreational fishery (fishermen)		Commercial number of gears	
	Bag-net	Bend-net	Liftnet	Driftnet (No. nets)	Fishing days	Fishermen			Catch and release (fishing days)	Coastal	In-river
2022	461	0	-	0	0	0	0	509		-	-
2023	520	0		0	0	0	0	404		-	-
2024	355	0	-	0	0	0	0	382		-	-
Mean											
2019-2023	683	210		0	4167	1079	194	507		47	24
% change (3)	-48.0							-24.7		-	-
Mean											
2014-2023	739	316		0	13 968	3332	421	459		51	51
% change (3)	-52.0							-16.8		-	-

Notes:

3 **(2024/mean - 1) * 100.**

4 **Dash means "no data".**

Table 3.1.4.1. Nominal catch of salmon in the NEAC Area (in tonnes round fresh weight), 1960-2024 (2024 figures include provisional data).

						Unreported catches	
Year	Southern countries	Northern countries (1,2)	Faroes (3)	Other catches in international waters	Total reported catch	NEAC Area (4)	International waters (5)
1960	2641	2899			5540		
1961	2276	2477			4753		
1962	3894	2815			6709		
1963	3842	2434			6276		
1964	4242	2908			7150		
1965	3693	2763			6456		
1966	3549	2503			6052		
1967	4492	3034			7526		
1968	3623	2523	5	403	6554		
1969	4383	1898	7	893	7181		
1970	4048	1834	12	922	6816		
1971	3736	1846		471	6053		
1972	4257	2340	9	486	7092		
1973	4604	2727	28	533	7892		
1974	4352	2675	20	373	7420		
1975	4500	2616	28	475	7619		
1976	2931	2383	40	289	5643		
1977	3025	2184	40	192	5441		
1978	3101	1864	37	138	5140		
1979	2502	2549	119	193	5363		
1980	2640	2794	536	277	6247		
1981	2557	2352	1025	313	6247		
1982	2533	1938	606	437	5514		
1983	3532	2341	678	466	7017		
1984	2308	2461	628	101	5498		

						Unreported catches	
Year	**Southern countries**	**Northern countries (1,2)**	**Faroes (3)**	**Other catches in international waters**	**Total reported catch**	**NEAC Area (4)**	**International waters (5)**
1985	3002	2531	566		6099		
1986	3595	2588	530		6713		
1987	2564	2266	576		5406	2554	
1988	3315	1969	243		5527	3087	
1989	2433	1627	364		4424	2103	
1990	1645	1775	315		3735	1779	180-350
1991	1145	1677	95		2917	1555	25-100
1992	1522	1806	23		3351	1825	25-100
1993	1443	1853	23		3319	1471	25-100
1994	1895	1684	6		3585	1157	25-100
1995	1775	1503	5		3283	942	
1996	1392	1358			2750	947	
1997	1112	962			2074	732	
1998	1120	1099	6		2225	1108	
1999	934	1140	0		2074	887	
2000	1211	1518	8		2737	1136	
2001	1242	1633	0		2875	1089	
2002	1135	1361	0		2496	946	
2003	909	1394	0		2304	719	
2004	921	1058	0		1980	575	
2005	811	1189	0		2000	605	
2006	651	1217	0		1868	604	
2007	372	1036	0		1409	465	
2008	355	1178	0		1533	433	
2009	266	900	0		1166	317	
2010	411	1003	0		1414	357	
2011	410	1010	0		1420	382	

						Unreported catches	
Year	**Southern countries**	**Northern countries (1,2)**	**Faroes (3)**	**Other catches in international waters**	**Total reported catch**	**NEAC Area (4)**	**International waters (5)**
2012	296	955	0		1250	363	
2013	309	770	0		1079	272	
2014	217	736	0		953	256	
2015	223	861	0		1083	299	
2016	187	842	0		1029	298	
2017	151	866	0		1018	318	
2018	125	808	0		933	278	
2019	83	675	0		758	238	
2020	78	685	0		763	238	
2021	70	414	0		484	135	
2022	58	512	0		569	174	
2023	45	403			448	133	
2024	49	226	0		275	78	
Mean							
2019 - 2023	67	538	0		605	184	
2014 - 2023	124	680	0		804	237	

1. All Iceland has been included in Northern countries.

2. Russian Federation data since 2021 extracted from NASCO website at https://nasco.int/conservation/third-reporting-cycle-2/. No data available to the Working Group in 2024; totals therefore do not include Russian Federation catch in most recent year.

3. Since 1991, fishing carried out at the Faroes has only been for research purposes.

4. No unreported catch estimate available for Russian Federation since 2008.

5. Estimates refer to season ending in given year.

Table 3.1.5.1. Catch per unit of effort (CPUE) for salmon rod fisheries in Finland (Rivers Teno, Näätämöjoki, Finnish parts), France, and UK (N. Ireland) (Bush).

Year	Finland (R. Teno)		Finland (R. Näätämö)		France	UK (N. Ireland) (Bush)
	Catch per angler season (kg)	Catch per angler day (kg)	Catch per angler season (kg)	Catch per angler day (kg)	Catch per angler season (number)	Catch per rod day (number)
1974		2.8				
1975		2.7				
1976		-				
1977		1.4				
1978		1.1				
1979		0.9				
1980		1.1				
1981	3.2	1.2				
1982	3.4	1.1				
1983	3.4	1.2				0.248
1984	2.2	0.8	0.5	0.2		0.083
1985	2.7	0.9	n/a	n/a		0.283
1986	2.1	0.7	n/a	n/a		0.274
1987	2.3	0.8	n/a	n/a	0.39	0.194
1988	1.9	0.7	0.5	0.2	0.73	0.165
1989	2.2	0.8	1.0	0.4	0.55	0.135
1990	2.8	1.1	0.7	0.3	0.71	0.247
1991	3.4	1.2	1.3	0.5	0.60	0.396
1992	4.5	1.5	1.4	0.3	0.94	0.258
1993	3.9	1.3	0.4	0.2	0.88	0.341
1994	2.4	0.8	0.6	0.2	2.32	0.205
1995	2.7	0.9	0.5	0.1	1.15	0.206
1996	3.0	1.0	0.7	0.2	1.57	0.267
1997	3.4	1.0	1.1	0.2	0.44 (1)	0.338
1998	3.0	0.9	1.3	0.3	0.67	0.569

Year	Finland (R. Teno)		Finland (R. Näätämö)		France	UK (N. Ireland) (Bush)
	Catch per angler season (kg)	Catch per angler day (kg)	Catch per angler season (kg)	Catch per angler day (kg)	Catch per angler season (number)	Catch per rod day (number)
1999	3.7	1.1	0.8	0.2	0.76	0.27
2000	5.0	1.5	0.9	0.2	1.06	0.26
2001	5.9	1.7	1.2	0.3	0.97	0.44
2002	3.1	0.9	0.7	0.2	0.84	0.18
2003	2.6	0.7	0.8	0.2	0.76	0.24
2004	1.4	0.4	0.9	0.2	1.25	0.25
2005	2.7	0.8	1.3	0.2	0.74	0.32
2006	3.4	1.0	1.9	0.4	0.89	0.46
2007	2.9	0.8	1.0	0.2	0.74	0.60
2008	4.2	1.1	0.9	0.2	0.77	0.46
2009	2.3	0.6	0.7	0.1	0.50	0.14
2010	3.0	0.8	1.3	0.2	0.87	0.23
2011	2.4	0.6	1.0	0.2	0.65	0.12
2012	3.6	0.9	1.7	0.4	0.61	0.15
2013	2.5	0.6	0.7	0.2	0.57	0.27
2014	3.3	0.8	1.4	0.3	0.73	0.15
2015	2.6	0.6	1.7	0.3	0.77	0.07
2016	2.9	0.7	1.1	0.2	0.60	0.05
2017	5.7	1.4	0.8	0.2	0.35	n/a (4)
2018	2.6	0.6	0.9	0.2	0.25	n/a (4)
2019	2.7	0.8	1.3	0.3	0.31	n/a (4)
2020	3.2	0.8	0.7	0.2	0.28	n/a (4)
2021	n/a (3)	n/a (3)	0.5	0.1	0.27	n/a (4)
2022	n/a (3)	n/a (3)	0.8	0.2	0.22	n/a (4)
2023	n/a (3)	n/a (3)	0.6	0.2	0.15	n/a (4)
2024	n/a (3)	n/a (3)	0.6	0.2	0,10	n/a (4)

Year	Finland (R. Teno)		Finland (R. Näätämö)		France	UK (N. Ireland) (Bush)
	Catch per angler season (kg)	Catch per angler day (kg)	Catch per angler season (kg)	Catch per angler day (kg)	Catch per angler season (number)	Catch per rod day (number)
Mean (2)	**3.1**	**1.0**	**1.0**	**0.2**	**0.7**	**0.3**
2019–2023	**2.8**	**0.8**	**0.8**	**0.2**	**0.2**	**-**

Notes:

1. Large numbers of new, inexperienced anglers in 1997 because cheaper licence types were introduced.

2. Mean of the time-series.

3. For the 2021 - 2024 seasons, all salmon fishing has been closed at the River Teno catchment.

4. No recreational fishing effort data available

Table 3.1.5.2. Catch per unit of effort (CPUE) for salmon in coastal and in-river fisheries in the Archangelsk region (tonnes/gear) and catch and release rod fishery (fish/rod-day) in rivers of the Russian Federation Kola peninsula.

Year	Archangelsk region commercial fishery		Barents Sea basin			White Sea basin
	Coastal	In-river	Rynda	Kharlovka	Eastern Litsa	Ponoi
1992			2.37	1.45	2.95	4.50
1993	0.34	0.04	1.18	1.46	1.59	3.57
1994	0.35	0.05	0.71	0.85	0.79	3.30
1995	0.22	0.08	0.49	0.78	0.94	3.77
1996	0.19	0.02	0.70	0.85	1.31	3.78
1997	0.23	0.02	1.20	0.71	1.09	6.09
1998	0.24	0.03	1.01	0.55	0.75	4.52
1999	0.22	0.04	0.95	0.77	0.93	3.30
2000	0.28	0.03	1.35	0.77	0.89	3.55
2001	0.21	0.04	1.48	0.92	1.00	4.35
2002	0.21	0.11	2.39	0.99	0.89	7.28
2003	0.16	0.05	1.16	1.14	1.04	8.39
2004	0.25	0.08	1.07	0.98	1.31	5.80
2005	0.17	0.08	1.18	0.82	1.63	4.42
2006	0.19	0.05	0.92	1.46	1.46	6.28
2007	0.14	0.09	0.92	0.78	1.46	5.96
2008	0.12	0.08	1.27	1.14	1.52	5.73
2009	0.09	0.05	1.18	1.29	1.35	5.72
2010	0.21	0.08	1.10	0.99	0.98	4.78
2011	0.15	0.07	0.60	0.90	0.99	4.01
2012	0.17	0.09	1.10	0.87	0.97	5.56
2013	0.12	0.09	0.98	0.85	1.09	4.37
2014	0.22	0.10	1.25	1.42	1.55	5.20
2015	0.16	0.09	1.04	1.33	1.70	3.94
2016	0.31	0.08	1.05	1.28	1.42	3.35
2017	0.36	0.07	1.07	1.88	2.03	3.83

Year	Archangelsk region commercial fishery		Barents Sea basin			White Sea basin
	Coastal	In-river	Rynda	Kharlovka	Eastern Litsa	Ponoi
2018	0.29	0.09	1.07	1.54	1.92	3.62
2019	0.18	na	2.11	1.95	2.38	3.17
2020	0.28	0.02	2.54	1.82	2.69	9.58
2021	n/a	n/a	n/a	n/a	n/a	n/a
2022	n/a	n/a	n/a	n/a	n/a	n/a
2023	n/a	n/a	n/a	n/a	n/a	n/a
2024	n/a	n/a	n/a	n/a	n/a	n/a
Mean (1)	**0.22**	**0.06**	**1.22**	**1.12**	**1.40**	**4.89**
2016–2020	**0.28**	**0.06**	**1.57**	**1.70**	**2.09**	**4.71**

Notes:

1 **Mean of the time-series.**

Table 3.1.5.3. Catch per unit of effort (CPUE) data for net and fixed engine salmon fisheries by region in UK (England & Wales). Data expressed as catch per licence-tide, except the Northeast, for which the data are recorded as catch per licence-day.

Year	Northeast driftnets	Region (aggregated data, various methods)				
		Northeast	Southwest	Midlands	Wales	Northwest
1988		5.49				-
1989		4.39				0.82
1990		5.53				0.63
1991		3.20				0.51
1992		3.83				0.40
1993	8.23	6.43				0.63
1994	9.02	7.53				0.71
1995	11.18	7.84				0.79
1996	4.93	3.74				0.59
1997	6.48	4.40	0.70	0.48	0.07	0.63
1998	5.92	3.81	1.25	0.42	0.08	0.46
1999	8.06	4.88	0.79	0.72	0.02	0.52
2000	13.06	8.11	1.01	0.66	0.18	1.05
2001	10.34	6.83	0.71	0.79	0.16	0.71
2002	8.55	5.59	1.03	1.39	0.23	0.90
2003	7.13	4.82	1.24	1.13	0.11	0.62
2004	8.17	5.88	1.17	0.46	0.11	0.69
2005	7.23	4.13	0.60	0.97	0.09	1.28
2006	5.60	3.20	0.66	0.97	0.09	0.82
2007	7.24	4.17	0.33	1.26	0.05	0.75
2008	5.41	3.59	0.63	1.33	0.06	0.34
2009	4.76	3.08	0.53	1.67	0.04	0.51
2010	17.03	8.56	0.99	0.26	0.09	0.47
2011	19.25	9.93	0.63	0.14	0.10	0.34
2012	6.80	5.35	0.69		0.21	0.31
2013	11.06	8.22	0.54		0.08	0.39

Year	Northeast driftnets	Region (aggregated data, various methods)				
		Northeast	Southwest	Midlands	Wales	Northwest
2014	10.30	6.12	0.43		0.07	0.31
2015	12.93	7.22	0.64		0.08	0.39
2016	10.95	9.98	0.78		0.10	0.38
2017	7.58	5.64	0.58		0.15	0.26
2018	6.27	6.05	1.07		0.15	0.92
2019					0.15	
2020 (2)						
Mean (1)	**8.98**	**5.73**	**0.77**	**0.84**	**0.11**	**0.60**

Notes:

1 **Mean of the time-series.**

2. **Since 2020, no CPUE for net fisheries was available because there was no fishing effort for salmon.**

Table 3.1.5.4. Catch per unit of effort (CPUE) for salmon rod fisheries in each region in UK (England & Wales). CPUE is expressed as number of salmon (including released fish) caught per 100 days fished.

Year	Region						NRW Wales	England & Wales
	NE	Thames	Southern	SW	Midlands	Wales		
1997	5.0	0.6	3.1	5.2	1.7	2.6	2.6	4.0
1998	6.5	0.0	5.9	7.5	1.3	3.9	3.9	6.0
1999	7.4	0.3	3.1	6.3	2.1	3.5	3.5	5.5
2000	9.2	0.0	5.2	8.8	4.9	4.4	4.4	7.9
2001	11.3	0.0	11.0	6.6	5.4	5.5	5.5	8.7
2002	9.4	0.0	18.3	6.0	3.5	3.6	3.6	6.8
2003	9.7	0.0	8.8	4.7	5.2	2.9	2.9	5.7
2004	14.7	0.0	18.8	9.6	5.5	6.6	6.6	11.4
2005	12.4	0.0	12.7	6.2	6.6	4.5	4.5	9.0
2006	14.2	0.0	15.6	8.7	6.6	5.9	5.9	10.1
2007	11.7	0.0	18.0	8.7	5.7	6.0	6.0	9.6
2008	12.7	0.0	21.8	10.9	5.8	7.3	7.3	10.5
2009	9.5	0.0	13.7	5.7	3.6	3.6	3.6	6.6
2010	16.7	2.8	17.1	9.9	4.3	6.5	6.5	10.2
2011	17.5	0.0	14.5	9.4	6.5	6.0	6.0	10.9
2012	15.4	0.0	17.3	9.2	6.3	6.5	6.5	10.6
2013	16.7	0.0	10.0	5.9	7.9	5.7	5.7	8.9
2014	12.1	0.0	11.9	4.8	5.0	6.9	4.4	7.1
2015	8.7	0.0	16.6	8.8	9.0	7.0	4.8	7.1
2016	13.5	0.0	16.8	7.8	9.5	8.5	6.4	9.1
2017	13.5	0.0	13.6	8.7	8.0	9.3	6.6	9.4
2018	10.5	0.0	5.0	4.9	6.7	9.0	4.0	7.2
2019	12.0	1.6	6.6	4.2	5.4	7.7	3.4	7.0
2020	13.2	0.0	13.7	6.6	10.4	7.0	12.5	10.4
2021	9.1	0.0	7.6	5.6	5.7	6.4	3.9	6.3
2022	14.0	0.0	7.3	4.7	4.2	4.3	8.3	8.4
2023	9.4	0.0	6.0	4.0	4.2	3.6	5.9	6.1

Year	Region						NRW Wales	England & Wales
	NE	Thames	Southern	SW	Midlands	Wales		
2024	12.2	0.0	4.5	2.7	2.2	3.5	8.0	7.2
Mean (1)	**11.7**	**0.2**	**11.7**	**6.9**	**5.5**	**5.6**	**5.5**	**8.1**
2019–2023	**11.5**	**0.3**	**8.4**	**5.0**	**5.9**	**5.8**	**6.8**	**7.6**

Notes:

1 Mean of the time-series.

Table 3.1.5.5. Catch per unit of effort (CPUE) data for UK (Scotland) net fisheries. Catch in numbers of fish per unit of effort.

Year	Fixed engine CPUE Catch/trap month [(1)]	Net and coble CPUE Catch/crew month
1952	33.9	156.4
1953	33.1	121.7
1954	29.3	162.0
1955	37.1	201.8
1956	25.7	117.5
1957	32.6	178.7
1958	48.4	170.4
1959	33.3	159.3
1960	30.7	177.8
1961	31.0	155.2
1962	43.9	242.0
1963	44.2	182.9
1964	57.9	247.1
1965	43.7	188.6
1966	44.9	210.6
1967	72.6	329.8
1968	47.0	198.5
1969	65.5	327.6
1970	50.3	241.9
1971	57.2	231.6
1972	57.5	248.0
1973	73.7	240.6
1974	63.4	257.1
1975	53.6	235.7
1976	42.9	150.8
1977	45.6	188.7
1978	53.9	196.1

Year	Fixed engine CPUE Catch/trap month [1]	Net and coble CPUE Catch/crew month
1979	42.2	157.2
1980	37.6	158.6
1981	49.6	183.9
1982	61.3	180.2
1983	55.8	203.6
1984	58.9	155.3
1985	49.6	148.9
1986	75.2	193.4
1987	61.8	145.6
1988	50.6	198.4
1989	71.0	262.4
1990	33.2	146.0
1991	35.9	106.4
1992	59.6	153.7
1993	52.8	125.2
1994	92.1	123.7
1995	75.6	142.3
1996	57.5	110.9
1997	33.0	57.8
1998	36.0	68.7
1999	21.9	58.8
2000	54.4	105.5
2001	61.0	77.4
2002	35.9	67.0
2003	68.3	66.8
2004	42.9	54.5
2005	45.8	80.9
2006	45.8	73.3
2007	47.6	91.5

Year	Fixed engine CPUE Catch/trap month [1]	Net and coble CPUE Catch/crew month
2008	56.1	52.5
2009	42.2	73.3
2010	77.0	179.3
2011	62.6	80.7
2012	50.2	46.7
2013	64.6	129.4
2014	60.6	79.2
2015	74.8	50.2
2016	0[2]	65.4
2017	0[2]	52.4
2018	0[2]	147.1
2019	0[2]	23.2
2020	0[2]	47.3
2021	0[2]	15.3
2022	0[2]	17,6
2023	0[2]	10.5
2024	0[2]	17.5
Mean (3)	**50.8**	**141.1**
2019–2023	**-**	**22.8**

Notes:

1 **Excludes catch and effort for Solway Region.**

2 **No information on effort for fixed engine presented due to fishery regulation.**

3 **Mean of the time-series.**

Table 3.1.5.6. Catch per unit of effort (CPUE), number of salmon in three size groups caught per gear day, in marine fisheries in Norway.

Year	Bag-net			Bend-net		
	< 3kg	3-7 kg	>7 kg	< 3kg	3-7 kg	>7 kg
1998	0.88	0.66	0.12	0.80	0.56	0.13
1999	1.16	0.72	0.16	0.75	0.67	0.17
2000	2.01	0.90	0.17	1.24	0.87	0.17
2001	1.52	1.03	0.22	1.03	1.39	0.36
2002	0.91	1.03	0.26	0.74	0.87	0.32
2003	1.57	0.90	0.26	0.84	0.69	0.28
2004	0.89	0.97	0.25	0.59	0.60	0.17
2005	1.17	0.81	0.27	0.72	0.73	0.33
2006	1.02	1.33	0.27	0.72	0.86	0.29
2007	0.43	0.90	0.32	0.57	0.95	0.33
2008	1.07	1.13	0.43	0.57	0.97	0.57
2009	0.73	0.92	0.31	0.44	0.78	0.32
2010	1.46	1.13	0.39	0.82	1.00	0.38
2011	1.30	1.98	0.35	0.71	1.02	0.36
2012	1.12	1.26	0.43	0.89	1.03	0.41
2013	0.69	1.09	0.25	0.38	1.30	0.29
2014	1.83	1.08	0.24	1.27	1.08	0.29
2015	1.32	1.61	0.30	0.41	1.16	0.22
2016	0.84	1.40	0.35	0.55	1.83	0.42
2017	1.65	1.35	0.30	1.02	1.49	0.45
2018	2.05	1.56	0.30	1.08	1.51	0.41
2019	0.97	1.59	0.26	0.72	1.02	0.28
2020	1.18	1.12	0.21	0.37	0.96	0.34
2021	1.02	0.76	0.19	0.54	0.71	0.32
2022	2.06	1.16	0.27	n/a (2)	n/a (2)	n/a (2)
2023	1.36	0.90	0.25	n/a	n/a	n/a
2024	n/a	n/a	n/a	n/a	n/a	n/a

Year	Bag-net			Bend-net		
	< 3kg	3-7 kg	>7 kg	< 3kg	3-7 kg	>7 kg
Mean (1)	**1.24**	**1.13**	**0.27**	**0.74**	**1.00**	**0.32**
2019–2023	**1.32**	**1.11**	**0.24**	**0.54**	**0.90**	**0.31**

Notes:

1 **Mean of the time-series.**

2 **In 2022, bend-net fisheries were banned for whole of Norway.**

Table 3.1.6.1. Percentage of 1SW salmon in catches from countries in the Northeast Atlantic, 1987-2024.

Year	Iceland	Finland	Norway	Russia	Sweden	Northern Countries (weighted)	UK (Scot)	UK (E&W)	UK (NI)	France	Ireland	Spain (Asturia)	Southern Countries (weighted)
1987	64	60	60	65	91	62	61	68	93	77	93		81
1988	78	55	62	55	89	66	57	69	93	29	95		83
1989	69	73	72	70	41	71	63	65	93	33	92		81
1990	66	71	66	69	75	67	48	52	93	45	92	71	76
1991	72	64	67	62	74	67	53	71	93	39	92	37	78
1992	73	72	61	71	69	66	55	77	93	48	92	45	80
1993	77	63	62	66	67	65	57	81	93	74	92	33	81
1994	66	50	69	69	67	67	54	77	93	55	92	61	81
1995	77	60	58	69	85	63	53	72	93	60	92	22	81
1996	75	72	51	81	68	59	53	65	93	51	92	22	82
1997	75	66	64	84	57	65	54	73	93	51	92	21	84
1998	83	71	65	84	66	69	58	82	93	71	92	49	85
1999	70	77	62	79	81	66	45	68	93	27	91	13	84
2000	85	66	66	77	69	67	54	79	93	58	92	63	85
2001	78	51	59	77	54	59	55	75	93	51	92	36	85
2002	83	40	51	72	62	55	54	76	93	69	92	33	86

Year	Iceland	Finland	Norway	Russia	Sweden	Northern Countries (weighted)	UK (Scot)	UK (E&W)	UK (NI)	France	Ireland	Spain (Asturia)	Southern Countries (weighted)
2003	78	48	62	73	79	63	52	66	93	51	92	14	85
2004	84	46	52	66	50	59	51	81	93	40	92	59	84
2005	87	70	63	67	59	68	58	76	93	41	92	15	84
2006	87	72	53	76	61	61	57	78	93	50	91	16	82
2007	90	34	42	68	34	55	57	78	94	45	85	25	73
2008	89	36	47	55	36	58	48	76	94	42	89	11	74
2009	91	70	47	57	40	65	49	72	90	31	84	30	70
2010	83	53	56	54	49	63	55	78	90	65	88	33	73
2011	85	63	41	58	32	55	36	57	75	31	85	2	64
2012	86	71	46	75	30	57	49	50	75	38	88	18	69
2013	89	59	52	67	38	67	55	58	91	46	83	13	67
2014	77	65	59	66	46	62	49	54	89	38	77	4	61
2015	90	55	51	70	30	62	60	47	89	33	83	4	67
2016	79	47	42	72	36	51	50	41	90	51	85	29	69
2017	86	41	49	43	35	55	46	40	91	54	86	28	74
2018	83	74	51	57	48	59	60	45	87	39	81	20	69
2019	79	40	49	65	26	53	57	44	86	29	83	10	76

Year	Iceland	Finland	Norway	Russia	Sweden	Northern Countries (weighted)	UK (Scot)	UK (E&W)	UK (NI)	France	Ireland	Spain (Asturia)	Southern Countries (weighted)
2020	83	49	54	75	40	58	51	43	90	41	94	25	87
2021	89		53	63	47	59	56	39	93	30	86	2	83
2022	87		55	63	40	60	54	41	90	14	81	7	79
2023	85		54	63	34	59	52	34	88	21	84	7	81
2024	86		62	63	53	68	53	41	92	12	80	9	78
Means													
1987-2000	73	66	63	72	71	66	55	71	93	51	92	40	82
2001-2024	85	54	52	65	44	60	53	58	90	40	86	19	76

Notes:

1. **Since 1989, only three rivers are included for Russian Federation rather than four rivers previous to this. For 2024, values for Russian Federation are the mean from the period 2019-2023.**

Table 3.2.1.1. Conservation limits (CL) for NEAC stock units in numbers of eggs and fish, and the Spawner Escapement Reserve (SER) in numbers of maturing (Mat.) and non-maturing (Non-mat.) 1SW fish.

Stock Unit	Conservation limits					Spawner Escapement Reserve (SER)	
	Total eggs	1SW eggs	MSW eggs	1SW fish	MSW fish	Mat.	Non-mat.
Finland	104 274 286	6 532 900	97 741 386	10 888	9 764	13 223	16 722
Iceland NE**	23 516 862	9 411 717	14 105 145	4 768	1 919	5 877	3 287
Norway	444 021 343	66 137 838	377 883 505	76 163	70 666	95 755	125 346
Russian Federation*	412 792 469	162 758 205	250 034 264	74 166	29 267	94 824	52 370
Sweden	14 085 976	1 715 622	12 370 354	1 778	2 660	2 278	4 763
Northern NEAC Stock Complex	**998 690 936**	**246 556 283**	**752 134 654**	**167 763**	**114 276**	**211 957**	**202 488**
France	77 676 434	31 401 806	46 274 628	20 023	10 387	25 815	19 168
Iceland SW**	51 587 556	37 951 220	13 636 336	15 176	2 218	18 708	3 798
Ireland***	710 711 690	431 400 840	279 310 850	211 471	46 943	268 591	78 025
UK (England & Wales)	262 754 562	104 570 366	158 184 196	42 767	37 085	54 318	63 510
UK (Northern Ireland)	93 800 000	75 924 533	17 875 467	38 509	4 394	46 966	7 338
UK (Scotland)	561 073 322	195 714 431	365 358 891	122 514	84 654	155 607	142 249
Southern NEAC Stock Complex	**1 757 603 564**	**876 963 197**	**880 640 367**	**450 460**	**185 679**	**570 005**	**314 087**

*** Conservation limits derived from a pseudo stock-recruitment relationship based on a hockey stick model.**
**** Conservation limits defined by pseudo stock-recruitment relationship as applied in ICES (2024a).**
***** Conservation limits provided in numbers of fish.**

Table 3.3.1.1. Time-series of jurisdictions in the Northern NEAC area with established CLs and trends in the number of stocks meeting CLs.

Year	Teno River (Finland/Norway)				Norway				Russia				Sweden			
	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met
1999									85	8	7	88				
2000									85	8	7	88				
2001									85	8	7	88				
2002									85	8	7	88				
2003									85	8	7	88				
2004									85	8	7	88				
2005					0	167*	70	42	85	8	7	88				
2006					0	165*	73	44	85	8	7	88				
2007	9	5	0	0	80	167*	76	46	85	8	7	88				
2008	9	5	0	0	80	170*	87	51	85	8	7	88				
2009	9	5	0	0	439	176	68	39	85	8	7	88				
2010	9	5	0	0	439	179	114	64	85	8	7	88				
2011	9	5	0	0	439	177	128	72	85	8	7	88				
2012	9	5	0	0	439	187	139	74	85	8	7	88				
2013	25	7	2	29	439	185	111	60	85	8	7	88				

Year	Teno River (Finland/Norway)				Norway				Russia				Sweden			
	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met
2014	25	10	4	40	439	181	131	72	85	8	7	88				
2015	25	10	2	20	439	192	150	78	85	8	7	88				
2016	25	11	4	36	439	200	170	85	85	8	7	88	23	21	8	38
2017	25	15	4	27	439	206	178	86	85	8	7	88	24	22	6	27
2018	25	15	6	40	439	211	170	81	85	8	7	88	24	23	7	30
2019	25	15	5	33	439	216	160	74	85	8	7	88	24	24	6	25
2020	25	15	3	20	439	220	178	81	85	2	1	50	24	24	6	25
2021	25	8	2	25	439	215	154	72	NA	NA	NA	NA	24	23	3	13
2022	25	8	1	12	439	217	182	84	NA	NA	NA	NA	24	24	4	17
2023	25	14	1	7	439	232	161	69	NA	NA	NA	NA	24	24	4	17
2024	25	14	0	0	439	190	106	56	NA	NA	NA	NA	24	24	3	12

*** CL attainment retrospectively assessed; NA = data pending.**

Table 3.3.1.2. Time-series of jurisdictions in the Southern NEAC area with established CLs and trends in the number of stocks meeting CLs.

Year	France				Ireland				UK (England & Wales)				UK (Northern Ireland)				UK (Scotland)			
	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met
1993									61	61	33	54								
1994									63	63	42	67								
1995									63	63	26	41								
1996									63	63	33	52								
1997									64	64	21	33								
1998									64	64	31	48								
1999									64	64	21	33								
2000									64	64	26	41								
2001	38	0							64	58	20	34								
2002	38	0							64	64	27	42	10	10	4	40				
2003	38	0							64	64	19	30	10	10	4	40				
2004	38	0							64	64	40	62	10	10	3	30				
2005	38	0							64	64	31	48	10	10	4	40				
2006	38	0							64	64	36	56	10	10	3	30				
2007	38	0			141	141	45	32	64	64	33	52	10	6	2	33				

Year	France				Ireland				UK (England & Wales)				UK (Northern Ireland)				UK (Scotland)			
	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met
2008	38	0			141	141	54	38	64	64	41	64	10	5	3	60				
2009	38	0			141	141	56	40	64	64	23	36	10	6	2	33				
2010	38	0			141	141	56	40	64	64	38	59	10	7	2	29				
2011	38	0			141	141	58	41	64	64	39	61	11	9	3	33	173	173	112	65
2012	38	0			141	141	58	41	64	64	34	53	19	15	7	47	173	173	110	64
2013	38	0			143	143	57	40	64	64	21	33	19	16	8	50	173	173	96	55
2014	38	0			143	143	57	40	64	64	14	22	19	17	4	24	173	173	83	48
2015	38	0			143	143	55	38	64	64	23	36	19	17	7	41	173	173	92	53
2016	38	0			143	143	48	34	64	64	21	33	19	17	13	76	173	173	90	52
2017	38	0			143	143	44	31	64	64	31	48	19	15	7	47	173	173	81	47
2018	38	0			143	143	43	30	64	64	13	20	19	16	7	44	173	173	52	30
2019	38	0			143	143	43	30	64	62	10	16	19	17	6	35	173	173	76	44
2020	38	0			144	144	46	32	64	64	23	36	19	15	10	67	173	173	78	45
2021	38	0			144	144	49	34	64	62	11	18	19	17	9	53	173	173	56	32
2022	38	0			144	144	48	33	64	59	8	14	19	18	3	17	173	173	66	38

Year	France				Ireland				UK (England & Wales)				UK (Northern Ireland)				UK (Scotland)			
	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met
2023	47	0			144	144	48	33	64	62	6	10	19	18	4	22	173	173	47	27
2024	47	0			144	144	43	30	64	58	7	12	19	17	10	59	173	173	NA	NA

NA = data pending.

Table 3.3.2.1. Estimated return rates of wild smolts (%) to homewaters (prior to coastal fisheries) for various monitored rivers in the NE Atlantic area.

Smolt migration year	Iceland[1]			Norway										Ireland			
	Ellidaar	Vesturdalsa[4]		Imsa[5]		Etneelva[6]		Sylte/Moaelva[6]		Vigda[6]		Kongsfjordelva[6]		Corrib		Burrishoole	Moy
	1SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	1SW
1975	20.80																
1976																	
1977																	
1978																	
1979																	
1980														17.90	1.06	5.30	
1981				17.30	4.00									9.24	3.76	12.30	
1982				5.30	1.20									20.89	3.33	12.20	
1983				13.50	1.30									9.97	1.84	8.60	
1984				12.10	1.80									26.19	1.98	19.80	
1985	9.40			10.20	2.10									18.94	1.75	19.30	
1986				3.80	4.20											20.00	
1987				17.30	5.60									16.60	0.71	26.90	
1988	12.70			13.30	1.10									14.59	0.69	22.90	

Smolt migration year	Iceland[1]			Norway										Ireland			
	Ellidaar	Vesturdalsa[4]		Imsa[5]		Etneelva[6]		Sylte/Moaelva[6]		Vigda[6]		Kongsfjordelva[6]		Corrib		Burrishoole	Moy
	1SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	1SW
1989	8.10	1.10	2.00	8.70	2.20									6.67	0.71	7.10	
1990	5.40	1.00	1.00	3.00	1.30									5.01	0.62	16.00	8.90
1991	8.80	4.20	0.60	8.70	1.20									7.25	1.26	21.70	4.30
1992	9.60	2.40	0.80	6.70	0.90									7.27		15.90	6.80
1993	9.80			15.60										10.82	0.07	23.90	5.20
1994	9.00													9.79	1.35	26.90	
1995	9.40	1.60	1.20	1.80	1.50									8.44	0.07	14.60	
1996	4.60	1.40	0.30	3.50	0.90									6.46	1.17	18.30	
1997	5.30	0.70	0.50	1.70	0.30									12.75	0.75	15.60	
1998	5.30	1.04	1.04	7.20	1.00									5.48	1.06	12.40	
1999	7.70	1.30	0.92	4.20	2.20									6.45	0.91	14.90	
2000	6.30	0.76	0.53	12.50	1.70									9.43		22.50	
2001	5.10	2.83	1.07	3.60	2.20									7.23	1.08	16.60	
2002	4.40	0.83	0.83	5.50	0.90									5.97	0.54	12.30	
2003	9.10	1.18	0.17	3.50	0.70									8.27	2.05	19.40	

Smolt migration year	Iceland[1]			Norway										Ireland			
	Ellidaar	Vesturdalsa[4]		Imsa[5]		Etneelva[6]		Sylte/Moaelva[6]		Vigda[6]		Kongsfjordelva[6]		Corrib		Burrishoole	Moy
	1SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	1SW
2004	7.70	1.66	0.60	5.90	1.40									6.27	0.84	12.80	
2005	6.40	2.47	0.91	3.70	1.80											9.80	
2006	7.12	1.75	0.95	0.80	5.80									3.63	0.73	12.90	
2007	19.30	0.89	0.30	0.80	0.60											8.40	
2008	14.90	2.59	1.07	1.10	2.30											8.20	
2009	14.20	1.33	1.57	2.40	3.10											8.90	
2010	8.60	1.97	1.11	1.70	1.10											7.50	
2011	6.10	1.31	0.57	3.90	2.90											10.50	
2012	10.90	2.06		3.50	1.70											9.43	
2013	4.30		0.33	1.70	2.10											4.55	
2014	7.20	1.62		3.00	0.80											7.98	
2015	10.90			1.40	1.40											7.79	
2016	7.90		2.00	4.10	1.30	1.20	2.00	8.10	5.50	13.50	0.90					7.38	
2017	10.80	2.30		3.50	1.60	1.50	1.10	4.90	1.80	3.30	0.80	1.60	0.90			6.45	
2018	7.80		0.35	3.10	0.80	0.60	1.10	6.30	4.20	5.00	0.80	6.80	0.00			7.11	

Smolt migration year	Iceland[1]			Norway										Ireland			
	Ellidaar	Vesturdalsa[4]		Imsa[5]		Etneelva[6]		Sylte/Moaelva[6]		Vigda[6]		Kongsfjordelva[6]		Corrib		Burrishoole	Moy
	1SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	2SW	1SW	1SW
2019	14.10	0.90	0.30	2.10	0.50	2.60	1.20	2.70	1.30	11.90	0.80	3.50	0.60			10.66	
2020	11.80	0.60		0.30	0.30	0.50	1.00	2.70	2.10	6.30	1.20	1.90	0.00			7.16	
2021	11.00	0.60	0.60	8.70	0.50	0.80	0.30	0.90	0.90	11.80	0.80	5.60	1.20			5.96	
2022	10.80	0.40	0.40	2.30	0.20	0.80	0.30	2.90	0.20	5.20	1.30	5.40	0.90			6.00	
2023	12.50	1.00		3.20		0.70		2.20		4.60		2.30				7.40	
TS mean	9.35	1.51	0.82	5.62	1.71	1.09	1.00	3.84	2.29	7.70	0.94	3.87	0.60	10.46	1.23	13.01	6.30
5yr mean	12.04	0.70	0.43	3.32	0.38	1.08	0.70	2.28	1.12	7.96	1.02	3.74	0.68			7.44	
10yr mean	10.48	1.06	0.73	3.17	0.82	1.09	1.00	3.84	2.29	7.70	0.94	3.87	0.60			7.39	

[1] **Iceland uses microtags**

[2] **Dee (1SW & 2SW), Tamar (1SW & 2SW) and Frome (1SW & 2SW) estimates based on returns to freshwater**

[3] **Scorff (1SW & 2SW) and Bresle (1SW & 2SW) estimates based on returns to freshwater**

[4] **Vesturdalsa estimates are survival to rod fishery**

[5] **Imsa uses Carlin tags, not corrected for tagging mortality**

[6] **Etneelva, Sylte/Moaelva, Vigda and Kongsfjordelva use Passive Integrated Transponder tagging corrected for daily tag mortality and observation efficiency**

[7] **North Esk time-series stops in 2009**

[8] **Bush 1SW estimates based on returns to homewaters and 2SW based on returns to freshwater**

Table 3.3.2.1. Cont'd. Estimated return rates of wild smolts (%) to homewaters (prior to coastal fisheries) for various monitored rivers in the NE Atlantic area.

Smolt migration year	UK (Scotland)		UK (N. Ireland)		UK (England & Wales)[2]						France[3]			
	North Esk[7]		Bush[8]		Dee		Tamar		Frome		Scorff		Bresle	
	1SW	MSW	1SW	2SW	1SW	MSW	1SW	MSW	1SW	MSW	1SW	2SW	1SW	2SW
1975														
1976														
1977														
1978														
1979														
1980	13.70	10.20		0.59										
1981	8.30	3.90		0.92										
1982	11.20	4.80												0.89
1983				1.69									1.51	0.62
1984	6.00	3.90		1.45									3.27	0.91
1985	13.70	5.50		1.92									3.61	0.73
1986			31.40	1.94									6.32	1.01
1987	10.50	3.40	35.10	0.44									2.89	1.04
1988			36.20	0.85										

Smolt migration year	UK (Scotland)		UK (N. Ireland)		UK (England & Wales)[2]						France[3]			
	North Esk[7]		Bush[8]		Dee		Tamar		Frome		Scorff		Bresle	
	1SW	MSW	1SW	2SW	1SW	MSW	1SW	MSW	1SW	MSW	1SW	2SW	1SW	2SW
1989	6.70	4.10	25.00	1.44										
1990	6.00	3.70	34.70	1.76										
1991	7.60	2.80	27.80	2.22										
1992	11.00	6.30	29.00	1.99									1.98	0.59
1993	14.50	5.90		1.99	6.30	2.50							2.15	0.23
1994	10.90	3.60	27.10	0.75	1.30	1.20							3.69	0.89
1995	8.40	3.90		2.50	2.70	0.40					12.34	1.19	5.39	2.15
1996	6.10	2.90	31.20	2.14	4.80	2.10					24.52	1.26	1.81	0.84
1997	7.20	3.80	19.80	0.72	6.20	3.40					5.73	0.90	3.46	0.64
1998	2.60	1.40	13.36	0.52	2.30	3.70					5.38	0.91	1.22	0.55
1999	6.80	3.80	16.47	0.75	5.00	12.40					11.49	1.36	2.96	0.94
2000	6.10	2.70	10.10	0.15	2.00	0.90					10.48	0.64	4.41	1.49
2001	4.70	3.00	12.40	0.27	4.30						5.09	0.47		
2002	2.30	2.10	11.33	0.23	2.90	0.70	3.64	1.41	5.60	1.74	17.89	4.80	4.22	2.03
2003			6.77	0.35	2.60	0.40	6.13	1.78	4.83	0.94	11.00	1.17	2.71	1.51

Smolt migration year	UK (Scotland)		UK (N. Ireland)		UK (England & Wales)[2]						France[3]			
	North Esk[7]		Bush[8]		Dee		Tamar		Frome		Scorff		Bresle	
	1SW	MSW	1SW	2SW	1SW	MSW	1SW	MSW	1SW	MSW	1SW	2SW	1SW	2SW
2004			6.80	0.44	4.50	1.00	6.04	1.54	5.29	2.90	5.71	1.23	3.40	1.44
2005	6.70	2.80	5.90	0.61	5.10	0.50	6.42	1.18			8.23	0.79	1.93	0.32
2006	3.30	3.50	14.00	0.82	4.30	1.50	3.76	5.31	5.11	2.22	6.63	1.08	2.40	0.26
2007	5.00	3.80	8.10	0.83	1.30	0.90	7.57	3.31	5.69	1.30	3.77	1.42	2.16	0.73
2008	6.50	5.30	3.94	0.69	2.50	1.30	1.61	0.93	3.13	1.63	2.58	0.59	1.24	0.57
2009	9.00	8.60	5.69	0.95	4.80	1.10	8.23	1.93	7.68	2.58	5.60	1.54	11.36	2.45
2010			2.72	1.34	1.90	0.65	3.39	5.03	8.64	2.76	3.65	1.26	4.52	0.99
2011			2.67	0.53		0.26	1.14	1.93	1.23	1.75	4.34	1.09	1.90	1.00
2012			11.70	1.79	4.80		2.46		3.09	2.04	7.72	1.64	1.92	0.66
2013			4.60	0.91	1.90	1.36		4.68	1.50	2.12	8.75	2.06	3.72	2.07
2014			2.89	0.52		0.54			2.01	2.66	5.93	0.77	5.10	0.75
2015			6.66	0.33	0.50	1.82	4.17	2.31	5.93	3.01	9.64	2.11	2.83	0.75
2016			3.76	0.66	0.40	3.85	3.47	1.59	4.38	2.00	9.80	1.35	3.99	0.77
2017			3.18	0.68			4.95	5.19	2.60	1.94	4.85	0.66	8.58	1.69
2018			2.80	0.09	1.00	6.18	3.70	3.20	1.56	1.95	4.63	0.71	2.63	0.65

Smolt migration year	UK (Scotland)		UK (N. Ireland)		UK (England & Wales)[2]						France[3]			
	North Esk[7]		Bush[8]		Dee		Tamar		Frome		Scorff		Bresle	
	1SW	MSW	1SW	2SW	1SW	MSW	1SW	MSW	1SW	MSW	1SW	2SW	1SW	2SW
2019			7.10	0.38	1.90		6.33	1.49	4.65	1.80	8.60	0.69	3.30	0.33
2020			4.58	0.46					2.24	2.47	4.67	1.01		
2021			2.86	0.35		3.59	2.37	1.83	1.70	2.73	2.46	0.48	1.72	0.83
2022			2.09	0.23		0.40	1.06	4.01	0.69		1.91	0.07	0.72	0.10
2023			5.10								1.62		0.73	
TS mean	7.79	4.23	13.19	0.96	3.14	2.11	4.25	2.70	3.88	2.13	7.41	1.19	3.31	0.95
5yr mean			4.35	0.35	1.90	2.00	3.25	2.44	2.32	2.33	3.85	0.56	1.62	0.42
10yr mean			4.10	0.41	0.95	2.73	3.72	2.80	2.86	2.32	5.41	0.87	3.29	0.73

[1] **Iceland uses microtags**

[2] **Dee (1SW & 2SW), Tamar (1SW & 2SW) and Frome (1SW & 2SW) estimates based on returns to freshwater**

[3] **Scorff (1SW & 2SW) and Bresle (1SW & 2SW) estimates based on returns to freshwater**

[4] **Vesturdalsa estimates are survival to rod fishery**

[5] **Imsa uses Carlin tags, not corrected for tagging mortality**

[6] **Etneelva, Sylte/Moaelva, Vigda and Kongsfjordelva use Passive Integrated Transponder tagging corrected for daily tag mortality and observation efficiency**

[7] **North Esk time-series stops in 2009**

[8] **Bush 1SW estimates based on returns to homewaters and 2SW based on returns to freshwater**

Table 3.3.2.2. Estimated return rates of hatchery smolts (%) to homewaters (prior to coastal fisheries) for various monitored rivers in the NE Atlantic area.

Smolt migration year	Iceland[1]	Norway[2]				Sweden	
	Ranga	Imsa[3]		Drammenselva[4]		Lagan[5]	
	1SW	1SW	2SW	1SW	2SW	1SW	2SW
1980							
1981		10.10	1.30				
1982		4.20	0.60				
1983		1.60	0.10				
1984		3.80	0.40	3.50	3.00	11.80	1.10
1985		5.80	1.30	3.40	1.90	11.80	0.90
1986		4.70	0.80	6.10	2.20	7.90	2.50
1987		9.80	1.00	1.70	0.70	8.40	2.40
1988		9.50	0.70	0.50	0.30	4.30	0.60
1989	1.58	3.00	0.90	1.90	1.30	5.00	1.30
1990	0.84	2.80	1.50	0.30	0.40	5.20	3.10
1991	0.02	3.20	0.70	0.10	0.10	3.60	1.10
1992	0.37	3.80	0.70	0.40	0.60	1.50	0.40
1993	0.66	6.50	0.50	3.00	1.00	2.60	0.90

Smolt migration year	Iceland[1]	Norway[2]				Sweden	
	Ranga	Imsa[3]		Drammenselva[4]		Lagan[5]	
	1SW	1SW	2SW	1SW	2SW	1SW	2SW
1994	1.22	6.20	0.60	1.20	0.90	4.00	1.20
1995	1.09	0.40	0.00	0.70	0.30	3.90	0.60
1996	0.17	2.10	0.20	0.30	0.20	3.50	0.50
1997	0.32	1.00	0.00	0.50	0.20	0.60	0.50
1998	0.46	2.40	0.10	1.90	0.70	1.60	0.90
1999	0.36	12.00	1.10	1.90	1.60	2.10	
2000	0.91	8.40	0.10	1.10	0.60		
2001	0.37	3.30	0.30	2.50	1.10		
2002	0.35	4.50	0.80	1.20	0.80		
2003	0.20	2.60	0.70	0.30	0.60		
2004	0.60	3.60	0.70	0.40	0.40		
2005	1.04	2.80	1.20	0.30	0.70		
2006	1.00	1.00	1.80	0.10	0.60		
2007	1.78	0.60	0.70	0.20	0.10		
2008	2.38	1.80	2.20	0.10	0.30		

Smolt migration year	Iceland[1]	Norway[2]				Sweden	
	Ranga	Imsa[3]		Drammenselva[4]		Lagan[5]	
	1SW	1SW	2SW	1SW	2SW	1SW	2SW
2009		1.30	3.30				
2010	0.49	2.60	1.90				
2011	0.93	1.70	0.80				
2012	0.90	1.90	0.20				
2013	0.29	3.00	0.70				
2014	1.10	1.60	0.30				
2015	0.29	1.60	0.80				
2016	0.30	2.00	0.30				
2017	0.70	4.40	0.20				
2018	0.30	1.20	0.40				
2019	0.60	3.00	0.20				
2020	0.60	0.40	0.60				
2021	1.00	6.80	0.10				
2022	0.70	3.40					
2023	0.90	3.50					

Smolt migration year	Iceland[1]	Norway[2]				Sweden	
	Ranga	Imsa[3]		Drammenselva[4]		Lagan[5]	
	1SW	1SW	2SW	1SW	2SW	1SW	2SW
TS mean	0.73	3.72	0.75	1.34	0.82	4.86	1.20
5yr mean	0.76	3.42	0.30				
10yr mean	0.65	2.79	0.36				

1 Iceland uses microtags

2 Norway uses Carlin tags, not corrected for tagging mortality

3 Imsa estimates from one-year old smolts only since 1999

4 Drammenselva time-series stops in 2008

5 Lagan estimates uses Carlin-tagged, not corrected for tagging mortality and time-series stops in 1999

Table 3.3.2.2. Cont'd. Estimated return rates of hatchery smolts (%) to homewaters (prior to coastal fisheries) for various monitored rivers in the NE Atlantic area.

	Ireland										**UK (N. Ireland)[1]**	
Smolt migration year	Burrishoole[2]	Shannon	Screebe	Delphi/Burrishoole	Delphi	Bunowen	Lee	Corrib/Cong[3]	Corrib/Galway[3]	Erne	Bush s1	Bush s2
	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW
1980	5.60	8.60					8.30	0.90				
1981	8.10	2.80					2.00	1.50				
1982	11.00	4.00					16.30	2.70	16.10			
1983	4.60	3.90						2.80	4.10			8.10
1984	27.10	5.00	10.40				2.30	5.20	13.20	9.40	13.30	
1985	31.10	17.80	12.30				15.70	1.40	14.50	8.20	15.40	17.50
1986	9.40	2.10	0.40				16.40		7.70	10.80		9.70
1987	14.10	4.70	8.40				8.80		2.20	7.00	6.50	19.40
1988	17.20	4.90	9.20				5.50	4.50		2.90	4.91	6.03
1989	10.50	5.00	1.80				1.70	6.00	4.80	1.20	8.20	23.20
1990	11.40	1.30			0.20		2.50	0.20	2.30	2.60	5.60	5.60
1991	13.60	4.20	0.30	10.80	6.19		0.80	4.90	4.00	1.30	5.40	8.80
1992	7.40	4.40	1.30	10.00	1.67	4.20		0.90	0.60		6.04	7.82
1993	12.00	2.90	3.40	14.30	6.48	5.40		1.00			1.10	5.80

	Ireland										UK (N. Ireland)[1]	
Smolt migration year	Burrishoole[2]	Shannon	Screebe	Delphi/Burrishoole	Delphi	Bunowen	Lee	Corrib/Cong[3]	Corrib/Galway[3]	Erne	Bush s1	Bush s2
	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW
1994	14.30	5.20	1.90	3.90	2.71	10.80			5.30		1.59	
1995	6.60	3.60	4.10	3.40	1.73	3.50		2.40			3.10	2.41
1996	5.30	2.90	1.80	10.60	6.74	3.40					2.01	2.32
1997	13.30	6.00	0.40	17.30	5.64	5.30	7.00			7.70		4.10
1998	4.90	3.10	1.30	7.20	3.13	2.90	4.90	3.30	2.90	2.60	2.28	4.49
1999	8.20	1.00	2.80	19.90	8.25	2.00			3.60	3.30	2.70	5.80
2000	11.80	1.20	3.80	19.50	13.24	5.40	3.60	6.70		4.00	2.85	4.36
2001	9.70	2.00	2.50	17.20	7.40	3.20	2.00	3.40		6.00	1.10	2.20
2002	9.20	1.00	4.10	12.60	4.90	2.00	1.90		2.00	1.90	0.59	2.65
2003	6.00	1.20		3.70	1.48	1.60	4.30		1.20	1.00	2.45	1.87
2004	9.40	0.40	1.80	7.60	2.31	1.80	2.20		4.40	3.10	0.71	1.89
2005	4.40	0.60	3.40	11.00		1.00	1.00		4.80	0.90	1.79	1.67
2006	5.20	0.30	1.30	3.70	1.48		0.20		0.20	0.90	2.00	3.75
2007	7.10	0.50	0.80		3.64				3.50	0.70		
2008	1.30		0.20		1.38		0.10		1.60			

	Ireland										**UK (N. Ireland)[1]**	
Smolt migration year	Burrishoole[2]	Shannon	Screebe	Delphi/Burrishoole	Delphi	Bunowen	Lee	Corrib/Cong[3]	Corrib/Galway[3]	Erne	Bush s1	Bush s2
	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW
2009	2.30	0.30	0.20		1.48		0.10		1.30	1.10		
2010	3.00	0.20	0.10		1.90		0.10	1.40	1.40	0.90		
2011	5.20	0.40			1.30		0.10	2.00	0.40	0.50	0.80	1.86
2012	3.20	0.50			1.80		0.20	6.60		1.90	2.19	3.46
2013	3.18	0.20	0.30		1.70		0.10	1.40	0.90	0.73	1.34	1.21
2014	4.30	0.10	0.70		2.30		0.10	1.60	1.20	0.12	0.75	0.67
2015	3.52	0.40			0.30		0.10	2.20	1.10	0.11	2.89	1.44
2016	3.60	0.60			2.40		0.03	2.20		0.08	0.52	2.61
2017	5.60	0.40			0.80		0.02	1.30	0.70	0.80	0.51	0.89
2018	3.30	0.10			0.30		0.00	2.10		3.30	0.31	0.42
2019	6.50	0.20			0.50		0.02	2.60		3.80	0.93	1.04
2020	3.20	0.20			1.10		0.04	2.90		4.40		0.20
2021	1.50	0.40			1.70		0.02	2.50		2.00	0.28	0.42
2022	3.20	0.40			1.80		0.04	2.50		0.50	0.31	0.28
2023	3.80				1.60					0.30	0.89	0.94

	Ireland										**UK (N. Ireland)[1]**	
Smolt migration year	Burrishoole[2]	Shannon	Screebe	Delphi/Burrishoole	Delphi	Bunowen	Lee	Corrib/Cong[3]	Corrib/Galway[3]	Erne	Bush s1	Bush s2
	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW	1SW
TS mean	8.07	2.50	2.93	10.79	3.02	3.75	3.10	2.73	3.93	2.82	3.07	4.71
5yr mean	3.64	0.30			1.34		0.03	2.62		2.20	0.60	0.58
10yr mean	3.85	0.31	0.70		1.28		0.04	2.21	1.00	1.54	0.82	0.89

1 Bush hatchery age 1 and age 2 smolts are microtagged

2 Burrishoole estimates to rod fishery with constant effort

3 Corrib/Cong and Corrib/Galway are different release sites

Table 3.3.4.1. Estimated number (in thousands) of returning 1SW salmon by year for N-NEAC countries and aggregated for the N-NEAC complex (median, 5% and 95% quantiles of the marginal posterior distributions) as derived from the run-reconstruction. The last four years are forecasted from the Life Cycle Model.

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
1971	24.3	9.4	565.3	154.1	17.2	774.2	17.6	8.0	479.8	132.7	12.8	683.9	34.8	11.5	666.7	185.3	23.9	877.7
1972	94.7	8.6	659.7	117.2	13.7	897.4	68.8	7.3	561.2	102.6	10.1	792.2	135.8	10.5	779.8	138.3	18.9	1024.1
1973	44.3	10.3	645.5	173.4	17.0	893.9	32.2	8.8	550.1	150.9	12.5	791.5	63.5	12.6	762.5	203.8	23.4	1016.2
1974	60.7	10.3	616.3	172.2	24.6	888.9	44.1	8.7	524.4	151.6	18.0	790.2	87.3	12.6	729.4	201.5	33.9	1005.6
1975	73.2	12.6	620.0	263.7	26.5	1002.6	53.0	10.6	527.4	229.0	19.7	895.6	104.9	15.3	733.7	313.4	36.7	1128.6
1976	66.8	12.6	582.2	183.7	15.0	864.7	48.3	10.7	494.8	159.9	11.1	770.3	95.7	15.4	686.7	218.7	20.9	975.8
1977	37.6	17.6	602.5	116.9	6.8	784.3	27.2	14.9	510.5	102.1	5.0	690.0	53.9	21.4	709.8	138.9	9.4	894.7
1978	35.6	17.8	489.7	118.7	8.0	672.7	26.0	15.1	416.1	102.8	5.9	595.2	50.8	21.8	581.1	140.7	11.0	765.9
1979	32.1	17.0	882.9	163.9	8.3	1108.8	23.3	14.5	749.9	142.1	6.1	970.7	46.0	20.9	1043.3	195.6	11.4	1271.5
1980	25.6	2.6	617.2	117.1	10.6	775.2	19.7	2.2	523.8	102.4	7.9	680.1	33.5	3.2	726.9	137.7	14.6	886.2
1981	22.8	13.3	610.7	96.6	19.4	764.8	17.7	11.3	518.4	83.9	14.4	671.0	30.1	16.2	720.3	114.7	26.7	876.0
1982	13.6	6.1	472.3	85.0	17.2	595.6	10.5	5.2	402.0	74.2	12.6	523.7	17.9	7.5	557.9	99.8	23.5	682.8
1983	33.2	9.1	698.3	142.0	22.7	907.7	25.7	7.7	608.9	124.0	16.7	815.3	43.7	11.1	807.7	166.5	31.4	1020.1
1984	36.5	3.3	728.2	152.8	32.1	956.3	28.1	2.8	630.4	134.0	23.7	853.9	48.0	4.0	844.9	178.8	44.4	1074.7

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
1985	48.1	22.7	743.6	208.2	38.2	1065.5	37.2	19.2	649.1	181.5	28.3	962.7	63.6	27.7	852.3	248.3	52.9	1183.3
1986	38.1	28.3	645.7	178.5	39.8	934.3	29.4	23.9	565.5	155.5	29.6	847.0	50.0	34.4	740.6	211.6	55.0	1034.4
1987	45.9	16.6	542.6	190.9	31.7	831.8	35.5	14.1	477.7	165.2	23.5	757.1	60.6	20.2	618.0	227.0	43.6	915.5
1988	27.0	24.1	498.5	132.0	26.5	709.6	20.8	20.4	439.3	121.5	19.6	647.3	35.4	29.3	567.6	144.2	36.4	780.8
1989	58.7	12.9	548.8	196.9	7.8	826.9	46.4	11.0	476.8	183.1	5.7	750.9	75.3	15.8	639.1	212.5	10.7	919.3
1990	58.7	9.7	492.0	163.3	18.0	743.5	46.5	8.2	428.3	150.3	13.4	676.8	75.6	11.8	569.5	178.0	26.0	824.3
1991	57.9	14.1	430.3	138.6	22.6	666.2	45.8	11.9	373.7	125.0	16.8	605.4	74.3	17.2	497.0	155.4	32.9	736.3
1992	81.6	26.4	361.7	171.5	25.0	670.3	64.3	22.5	315.4	150.0	18.6	613.4	105.1	32.3	415.8	199.6	36.4	734.1
1993	55.1	21.8	363.0	147.3	24.9	615.8	43.5	18.5	322.4	127.2	18.5	564.6	70.6	26.6	411.8	173.5	36.0	671.5
1994	30.6	7.0	490.6	173.5	19.3	724.9	24.1	5.9	429.2	148.6	14.3	654.8	39.3	8.5	567.9	208.0	28.0	808.8
1995	30.5	18.3	321.0	155.8	28.1	557.2	24.1	15.5	283.4	135.3	20.8	509.4	39.4	22.3	366.0	184.9	40.7	609.5
1996	47.1	9.7	244.6	212.3	16.8	533.6	36.7	8.3	216.8	182.5	12.5	488.1	60.8	11.9	275.3	252.1	24.4	583.7
1997	42.7	13.3	282.8	208.4	7.6	557.8	33.3	11.3	251.9	177.0	5.6	509.5	55.6	16.2	318.0	250.6	11.1	611.3
1998	53.7	22.7	368.3	228.3	6.2	682.8	41.9	19.3	325.3	193.2	4.6	622.5	69.9	27.7	418.0	274.9	8.9	750.5
1999	78.6	11.5	342.2	176.6	9.6	621.5	62.3	9.7	301.8	149.7	7.2	568.3	101.6	14.2	388.0	211.3	14.0	681.7
2000	85.4	12.1	563.0	193.3	17.8	876.0	67.4	10.2	495.0	163.0	13.2	796.6	109.7	14.9	642.0	232.9	25.8	965.8

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
2001	62.0	11.1	486.8	259.2	11.0	837.6	49.2	9.3	430.4	203.6	8.2	748.5	79.8	13.7	554.2	353.6	16.0	947.3
2002	38.4	19.1	297.6	236.8	10.6	605.9	30.0	16.0	263.5	184.2	7.9	537.5	49.9	23.7	334.9	322.5	15.3	698.3
2003	37.8	10.1	412.3	210.5	5.8	682.0	29.5	8.5	364.7	163.1	4.3	606.9	49.3	12.6	470.7	283.6	8.4	770.9
2004	16.1	27.3	250.2	147.7	4.8	449.7	12.6	22.8	223.5	115.9	3.6	403.5	20.9	34.2	280.3	198.5	7.0	506.4
2005	35.4	24.4	370.6	168.6	4.7	607.8	27.6	20.2	331.0	131.8	3.5	547.6	45.9	30.7	417.6	228.4	6.9	681.5
2006	57.6	25.6	300.3	204.3	5.3	596.6	47.3	21.4	267.2	158.7	3.9	534.8	71.7	32.0	336.3	273.4	7.7	673.6
2007	16.9	19.1	167.7	109.9	1.7	317.2	13.8	15.8	149.7	85.7	1.2	284.2	21.0	24.0	188.5	146.6	2.4	358.8
2008	18.2	17.4	210.4	114.3	2.6	365.8	15.0	14.3	186.3	89.9	1.8	328.0	22.6	22.2	237.8	152.3	4.4	411.0
2009	32.4	28.0	168.6	109.2	2.7	342.8	26.5	24.0	149.0	84.1	1.9	308.2	40.2	33.8	190.5	141.9	4.6	381.7
2010	26.0	22.5	242.3	123.7	4.6	420.8	21.3	19.2	228.4	98.4	3.2	390.2	32.3	27.1	256.9	158.6	7.8	457.7
2011	29.5	18.5	173.7	131.9	5.1	359.9	24.1	15.7	164.5	105.2	3.6	329.5	36.5	22.6	183.2	168.2	8.3	397.8
2012	51.0	9.6	204.7	152.8	5.6	425.6	41.8	8.2	193.5	123.0	3.9	390.4	63.3	11.6	216.4	200.0	9.4	475.3
2013	29.6	23.1	217.3	118.6	3.2	393.5	24.2	19.5	204.9	95.1	2.2	364.3	36.6	27.9	230.4	158.5	5.8	435.6
2014	42.0	10.9	248.1	111.8	8.9	423.8	34.2	9.2	234.9	89.1	6.4	393.7	52.0	13.2	262.1	150.0	14.3	464.9
2015	26.0	30.3	269.7	116.7	2.6	447.4	21.3	25.5	254.3	93.2	1.8	415.8	32.4	37.7	285.6	156.5	4.1	490.6
2016	20.4	13.0	202.1	83.3	2.3	322.5	16.6	10.8	191.1	67.0	1.7	300.7	25.3	16.2	214.0	109.7	3.6	351.1

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
2017	13.0	12.6	240.1	29.8	3.0	299.9	10.2	10.5	227.3	24.9	2.1	284.8	17.1	15.9	253.6	38.3	4.6	315.7
2018	33.0	13.5	238.5	99.3	7.9	395.3	25.9	11.2	227.0	79.6	5.4	368.2	43.5	16.9	250.4	135.6	14.4	433.1
2019	10.8	8.1	233.3	72.0	3.8	330.0	8.5	6.5	220.8	58.2	2.6	309.3	14.3	10.7	246.8	95.2	7.0	356.5
2020	9.3	9.9	282.5	51.9	4.2	358.9	7.4	8.1	267.2	43.2	3.0	340.4	12.3	12.7	298.3	63.3	6.9	378.8
2021	11.8	8.1	180.3	62.2	5.0	268.8	9.7	6.5	169.8	31.5	3.5	234.8	14.3	10.7	191.6	138.2	8.1	345.0
2022	9.5	9.6	225.4	72.6	4.1	322.8	8.8	7.4	212.4	35.9	2.9	282.5	10.3	13.6	239.1	159.1	6.7	409.7
2023	8.8	6.7	191.8	70.9	3.3	282.8	7.2	5.2	181.6	33.5	2.3	242.8	11.0	9.5	202.4	155.1	5.3	366.9
2024	2.9	10.8	188.2	75.4	3.7	283.4	2.7	7.2	175.8	33.8	2.6	238.0	3.1	22.6	201.4	170.4	5.9	378.3
Previous five-year mean:																		
	10.1	8.5	222.7	65.9	4.1	312.7												
Change (recent year relative to previous five-year mean):																		
	-71 %	28 %	-16 %	14 %	-10 %	-9 %												
Rank of recent year (highest = 1 to lowest):																		
	54/54	36/54	50/54	48/54	46/54	52/54												

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
Forecast:																		
2024	9.9	6.8	218.5	50.6	4.1	289.9	3.2	1.9	112.9	21.5	0.7	140.2	32.2	25.8	452.2	131.6	17.8	659.6
2025	9.2	5.9	210.3	46.3	3.7	275.4	2.5	1.3	97.4	17.4	0.5	119.1	36.6	26.8	462.1	127.6	19.5	672.6
2026	8.3	5.7	211.0	40.4	3.7	269.1	1.8	0.9	89.9	13.1	0.4	106.1	37.1	28.0	511.9	133.9	26.5	737.4
2027	10.2	5.3	207.5	41.7	4.4	269.1	2.0	0.7	79.9	10.8	0.3	93.7	57.4	33.9	567.1	165.0	38.5	861.9

Notes:

*** Data underlying from 1971-1982 are more uncertain than the rest of the time-series**

Table 3.3.4.2. Estimated number (in thousands) of returning MSW salmon by year for N-NEAC countries and aggregated for the N-NEAC complex (median, 5% and 95% quantiles of the marginal posterior distributions) as derived from the run-reconstruction. The last four years are forecasted from the Life Cycle Model.

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
1971	22.8	9.7	346.3	132.7	0.6	513.3	15.7	8.5	296.4	117.5	0.5	460.0	33.9	11.1	406.3	150.1	0.9	576.4
1972	23.8	15.1	477.9	134.7	0.5	652.9	16.4	13.3	408.9	119.2	0.4	581.2	35.5	17.3	560.6	152.3	0.7	737.6
1973	38.3	14.0	548.1	222.3	2.3	828.4	26.4	12.5	467.7	195.6	1.7	740.6	57.6	16.2	641.9	255.2	3.1	926.1
1974	65.4	13.4	512.7	210.1	1.4	805.4	44.8	11.9	437.5	186.4	1.1	723.6	97.0	15.3	603.2	237.8	1.9	903.4
1975	83.5	14.8	439.1	225.4	0.4	767.7	57.9	13.1	375.9	201.6	0.3	691.1	125.8	17.0	515.5	253.8	0.5	853.9
1976	65.3	12.2	456.4	194.9	1.2	732.7	45.0	10.8	390.0	174.0	0.9	658.0	97.0	14.0	537.7	219.2	1.6	820.3
1977	45.6	17.0	455.4	134.3	0.5	654.5	31.3	15.0	389.6	120.1	0.4	584.3	68.0	19.5	535.3	150.3	0.7	739.0
1978	23.2	21.8	298.6	116.0	0.6	462.2	15.9	19.4	255.5	102.2	0.5	414.4	34.3	25.1	350.5	133.1	0.9	516.9
1979	23.1	14.5	528.7	101.5	1.7	671.1	15.4	12.8	453.5	89.5	1.2	593.4	36.4	16.6	622.1	115.7	2.3	764.8
1980	22.4	20.1	620.5	169.1	3.2	836.8	16.0	17.8	531.9	146.9	2.4	745.0	33.5	23.1	727.3	195.5	4.4	947.3
1981	26.6	7.0	545.4	96.5	0.7	677.8	19.0	6.2	467.8	85.1	0.5	598.7	39.8	8.1	639.8	110.3	1.0	773.7
1982	35.4	8.1	444.2	85.3	3.5	578.4	25.3	7.2	380.4	76.0	2.6	512.2	52.9	9.3	521.7	96.2	4.7	657.5
1983	39.4	6.2	427.9	123.9	2.3	601.6	28.0	5.5	375.2	111.1	1.7	545.4	58.6	7.1	492.4	138.4	3.1	669.0
1984	33.1	7.9	438.2	123.7	3.2	608.4	23.5	7.0	384.5	111.4	2.4	550.9	49.3	9.1	499.8	137.6	4.4	671.7

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
1985	31.7	5.1	404.9	135.3	1.2	580.1	22.6	4.5	356.8	119.6	0.9	527.3	47.8	5.9	460.0	155.3	1.6	640.0
1986	26.2	13.9	485.7	134.0	0.6	662.6	18.7	12.4	426.9	117.2	0.5	600.0	39.3	16.0	553.2	154.8	0.8	733.4
1987	34.4	14.4	367.9	99.4	2.7	520.8	24.5	12.8	323.7	87.6	2.1	472.2	51.2	16.6	418.9	113.7	3.7	574.8
1988	24.4	9.3	306.4	99.7	2.9	444.1	17.3	8.2	271.0	90.1	2.2	405.7	36.3	10.7	347.2	110.9	4.0	487.3
1989	23.7	7.9	219.7	97.1	10.2	359.8	17.6	7.0	193.1	90.3	7.6	331.3	33.2	9.1	251.5	105.9	13.9	393.9
1990	26.4	8.3	259.9	124.6	5.3	426.2	19.4	7.4	227.0	117.6	4.0	390.8	36.8	9.5	300.0	132.9	7.5	467.3
1991	35.4	5.8	220.2	122.3	7.2	392.4	25.9	5.1	192.5	114.0	5.4	360.7	49.5	6.6	252.4	131.9	10.0	428.4
1992	34.0	8.6	239.3	116.4	9.9	409.9	25.2	7.6	210.2	109.2	7.5	376.9	47.7	9.9	274.4	124.0	13.8	447.3
1993	35.7	9.7	229.5	137.8	11.2	425.8	26.3	8.6	203.9	129.3	8.5	395.9	50.3	11.2	258.5	147.0	15.7	458.3
1994	33.7	8.2	224.4	121.9	8.6	399.0	24.8	7.3	198.9	110.7	6.5	368.4	47.2	9.5	253.8	138.2	12.1	434.0
1995	22.2	5.2	240.5	138.7	4.2	412.0	16.3	4.6	213.2	128.0	3.2	381.1	31.1	6.0	273.0	152.7	5.9	447.4
1996	20.5	6.8	241.6	104.6	7.0	382.3	14.9	6.1	215.3	95.0	5.3	352.0	29.5	7.9	272.0	117.8	9.7	415.9
1997	24.7	3.9	159.4	85.3	5.0	279.7	17.9	3.4	141.6	77.0	3.8	257.6	35.6	4.4	178.9	95.8	7.0	303.9
1998	23.5	5.6	191.4	105.5	2.8	330.1	17.1	5.0	170.1	97.0	2.1	305.4	33.8	6.5	215.6	116.0	3.9	357.5
1999	28.1	6.4	204.3	92.9	2.0	335.1	21.6	5.7	179.2	83.2	1.5	306.2	37.0	7.5	233.8	106.3	2.7	367.6
2000	53.2	3.8	282.4	162.3	7.1	511.3	41.2	3.3	250.0	148.2	5.4	472.4	70.0	4.4	319.9	183.0	9.8	555.3

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
2001	64.8	4.3	333.4	114.8	8.4	528.0	50.5	3.8	295.4	100.6	6.4	483.0	84.1	5.1	376.8	133.9	11.7	577.3
2002	56.6	4.1	289.1	125.1	5.8	482.4	44.1	3.6	255.7	111.1	4.4	442.7	73.3	4.8	328.7	144.2	8.0	527.9
2003	40.8	4.3	255.5	87.1	1.4	390.9	31.8	3.7	227.5	77.4	1.0	358.5	52.9	5.2	288.2	101.9	1.9	427.3
2004	18.5	4.2	231.4	67.3	4.3	326.7	14.4	3.6	204.9	59.1	3.2	298.1	24.1	5.1	262.9	77.5	5.9	360.0
2005	15.3	5.2	213.0	80.4	2.8	318.0	12.0	4.5	189.8	70.9	2.2	291.6	19.9	6.3	240.0	93.5	4.0	347.3
2006	22.7	5.1	270.6	77.3	3.0	379.3	18.6	4.2	241.4	69.1	2.3	348.4	28.2	6.3	303.4	87.8	4.1	413.7
2007	32.8	4.8	229.8	80.5	2.8	351.5	26.8	4.1	204.9	74.0	2.1	324.6	40.7	6.0	258.0	88.4	3.9	382.0
2008	33.0	6.2	265.4	125.9	3.9	437.2	27.1	5.2	232.5	112.1	2.9	398.5	41.0	7.8	306.4	147.6	6.0	482.4
2009	14.2	5.0	207.4	107.0	3.4	338.5	11.6	4.2	180.8	96.6	2.5	308.5	17.6	6.2	240.6	121.7	5.3	373.9
2010	22.8	7.1	216.1	132.8	4.0	384.1	18.7	6.1	204.0	118.8	2.9	363.8	28.2	8.7	229.1	152.2	6.1	407.2
2011	17.5	8.0	300.9	131.9	9.4	469.7	14.3	6.6	284.2	118.6	6.9	446.8	21.7	9.9	318.7	152.1	14.3	495.6
2012	21.2	4.5	275.4	65.0	10.7	377.9	17.3	3.7	261.7	58.7	7.9	361.7	26.3	5.6	289.6	72.7	16.4	395.1
2013	20.4	5.1	186.6	74.4	4.5	292.0	16.6	4.2	177.5	67.0	3.2	278.8	25.3	6.6	196.1	83.4	7.3	305.6
2014	22.1	6.2	199.3	73.6	9.1	311.4	18.1	5.1	189.3	66.3	6.8	297.3	27.4	8.0	209.8	82.8	13.5	326.4
2015	21.4	5.9	235.9	69.2	6.0	339.1	17.5	4.8	223.4	63.2	4.3	324.3	26.5	7.4	249.0	76.7	9.5	355.0
2016	22.7	8.2	251.1	59.0	4.0	345.9	18.6	6.7	239.1	54.4	2.9	331.9	28.3	10.8	263.9	64.4	6.3	360.8

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
2017	16.5	4.7	266.7	54.6	5.4	348.9	13.2	3.6	253.5	50.6	3.9	334.2	21.2	6.7	280.7	59.8	8.4	364.7
2018	10.1	5.1	253.5	71.8	6.7	348.6	8.1	3.9	241.0	64.5	4.9	332.9	13.0	7.5	266.8	82.3	10.5	365.5
2019	14.2	3.9	224.3	56.3	10.8	311.1	11.4	3.0	213.2	51.9	7.3	297.2	18.2	5.6	236.3	61.6	19.6	326.7
2020	8.5	3.5	236.2	48.5	6.5	304.0	6.8	2.8	223.4	45.4	4.6	290.2	10.9	4.7	249.9	52.0	10.6	318.7
2021	9.1	2.5	178.7	52.6	5.7	249.4	8.4	2.0	168.5	35.5	4.0	229.2	9.9	3.6	189.5	73.2	9.3	272.3
2022	11.4	2.9	227.8	60.2	6.3	309.6	10.5	2.1	215.2	40.9	4.5	286.0	12.4	4.4	241.4	86.4	10.1	338.9
2023	11.1	3.6	181.2	57.0	6.3	260.6	10.2	2.4	171.0	38.8	4.5	238.3	12.1	7.1	192.4	87.3	10.3	292.1
2024	5.9	2.6	109.8	58.4	3.2	181.7	5.5	1.5	102.2	38.3	2.3	159.4	6.4	10.5	117.9	98.3	5.2	222.6
Previous five-year mean:																		
	10.9	3.3	209.6	54.9	7.1	286.9												
Change (recent year relative to previous five-year mean):																		
	-45 %	-20 %	-48 %	6 %	-55 %	-37 %												
Rank of recent year (highest = 1 to lowest):																		
	54/54	53/54	54/54	49/54	33/54	54/54												

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
Forecast:																		
2024	5.6	2.1	115.1	52.0	3.3	184.2	2.6	0.6	72.5	26.5	1.0	130.0	11.6	5.8	174.1	94.5	10.3	256.8
2025	5.6	1.9	130.4	47.2	3.4	195.1	1.9	0.4	65.5	19.1	0.7	116.6	17.1	7.6	238.5	103.0	12.1	314.7
2026	5.0	1.6	122.0	44.3	3.6	187.3	1.5	0.2	52.7	14.0	0.6	104.1	15.9	8.1	248.5	104.3	15.0	329.9
2027	6.7	1.5	127.5	44.6	3.5	197.6	1.7	0.2	54.3	12.5	0.5	101.0	26.1	8.9	304.9	134.1	17.6	400.1

Notes:

*** Data underlying from 1971-1982 are more uncertain than the rest of the time-series**

Table 3.3.4.3 Estimated number (in thousands) of 1SW spawning salmon by year for N-NEAC countries and aggregated for the N-NEAC complex (median, 5% and 95% quantiles of the marginal posterior distributions) as derived from the run-reconstruction.

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
1971	12.1	4.7	132.0		8.1		7.6	3.3	82.9		4.9		19.7	6.8	190.8		13.6	
1972	47.2	4.3	152.6	72.0	6.4	285.7	29.6	3.0	95.4	56.7	3.8	221.0	76.8	6.2	224.0	90.3	10.7	362.1
1973	22.1	5.1	150.0	78.1	7.9	265.4	13.8	3.6	93.9	62.4	4.8	206.1	36.0	7.4	217.4	96.4	13.3	334.8
1974	30.3	5.2	143.7	93.6	11.6	287.3	18.9	3.6	91.1	75.5	6.9	227.9	49.3	7.4	208.3	114.5	19.3	356.1
1975	36.6	6.3	144.3	111.4	12.5	315.2	22.7	4.4	90.7	88.1	7.5	251.9	59.3	9.0	209.5	139.6	20.8	386.8
1976	33.3	6.3	135.5	109.0	7.1	294.3	20.7	4.4	85.0	84.3	4.2	234.3	54.5	9.1	196.8	138.3	11.9	363.6
1977	18.9	8.8	140.5	74.1	3.2	247.7	11.7	6.1	87.5	57.5	1.9	190.6	30.6	12.6	203.3	93.7	5.3	312.6
1978	17.9	8.9	113.4	58.7	3.8	204.3	11.2	6.2	71.8	45.5	2.2	159.1	28.7	12.9	165.6	73.8	6.2	258.5
1979	16.1	8.5	204.8	74.7	3.9	309.7	10.0	5.9	128.7	58.8	2.3	231.5	26.0	12.3	297.9	93.4	6.5	404.6
1980	12.6	1.3	143.7	73.3	5.0	236.7	8.4	0.9	89.8	57.6	3.0	180.3	19.2	1.9	207.7	91.6	8.3	303.9
1981	11.3	6.7	141.9	53.7	9.1	224.0	7.5	4.6	89.2	42.0	5.5	169.4	17.3	9.6	205.2	67.1	15.2	288.3
1982	6.7	3.1	109.9	49.8	8.1	178.7	4.4	2.1	69.1	39.7	4.8	135.9	10.2	4.4	158.9	61.4	13.4	228.5
1983	16.5	4.5	160.1	64.9	10.7	258.1	10.9	3.1	109.4	52.6	6.3	204.7	25.0	6.5	223.9	79.0	17.8	323.9
1984	18.2	1.6	164.4	80.5	15.2	281.5	12.0	1.1	108.0	65.0	9.0	221.4	27.5	2.4	229.9	98.4	25.2	349.0

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
1985	23.9	11.3	171.9	92.6	18.0	320.7	15.8	7.9	117.7	73.6	10.7	260.4	36.6	16.4	234.7	115.4	30.0	388.8
1986	19.0	14.2	151.9	102.3	18.7	308.2	12.5	9.8	106.4	80.5	11.2	255.5	28.7	20.3	208.0	126.9	31.2	369.9
1987	22.7	8.3	127.4	95.5	14.9	271.2	15.1	5.8	89.3	74.9	8.9	225.2	34.8	11.9	171.4	119.0	24.8	322.2
1988	13.4	12.1	116.3	86.6	12.4	243.5	8.8	8.4	82.6	71.8	7.4	203.9	20.3	17.3	157.6	105.5	20.7	289.3
1989	23.4	6.5	184.2	96.4	3.7	315.8	15.0	4.5	137.9	86.1	2.2	266.8	35.4	9.3	245.5	107.3	6.1	378.1
1990	23.4	4.9	165.3	97.3	9.9	302.2	15.1	3.4	124.2	86.5	5.7	258.3	35.6	7.0	217.5	108.6	17.7	357.7
1991	23.1	7.1	144.7	83.2	12.5	272.3	14.8	4.9	107.0	73.3	7.2	231.8	35.0	10.1	189.6	93.8	22.3	320.2
1992	32.3	13.1	121.6	116.1	13.6	299.9	20.8	9.2	91.6	101.1	7.9	261.4	49.6	19.1	158.1	133.2	24.6	343.5
1993	21.9	10.9	120.8	114.1	13.8	283.8	14.1	7.6	91.9	97.6	7.8	246.6	33.6	15.7	155.1	132.8	24.3	324.5
1994	12.2	3.5	166.0	115.9	10.6	310.4	7.8	2.4	123.1	98.3	6.1	261.5	18.6	5.0	222.1	136.4	19.0	370.4
1995	12.2	9.1	107.9	121.3	17.5	270.6	7.9	6.3	81.5	103.0	10.9	235.1	18.6	13.1	139.0	142.1	29.8	308.8
1996	21.0	4.9	80.7	138.5	10.5	257.5	13.7	3.4	61.1	117.6	6.5	226.1	31.6	7.0	102.8	161.8	17.9	290.5
1997	19.1	6.6	105.5	158.6	4.8	296.3	12.5	4.6	81.6	133.5	2.9	259.7	29.2	9.6	133.1	187.0	8.1	335.8
1998	24.1	11.3	138.4	163.7	3.9	343.1	15.7	7.9	105.5	137.9	2.4	298.6	36.6	16.3	177.3	192.2	6.5	391.4
1999	31.1	6.0	127.4	162.6	6.0	335.8	20.2	4.2	97.4	136.9	3.7	292.1	47.9	8.7	163.3	192.3	10.2	384.5
2000	33.8	6.3	213.1	141.5	11.0	408.6	21.8	4.4	161.7	119.3	6.9	348.4	51.8	9.1	274.8	167.1	18.8	477.4

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
2001	24.6	5.9	186.1	198.3	6.9	426.2	15.9	4.1	143.7	159.2	4.3	363.1	37.7	8.5	238.3	249.8	11.7	497.0
2002	17.2	10.3	111.7	210.1	6.6	359.0	11.3	7.2	85.9	162.0	4.1	301.3	26.2	15.0	141.0	269.8	11.2	423.9
2003	17.0	5.5	156.7	199.0	3.6	383.9	11.0	3.8	120.8	153.5	2.3	322.5	25.9	8.0	203.3	254.4	6.1	457.0
2004	7.2	15.0	94.1	145.3	3.0	266.6	4.7	10.5	73.0	113.0	1.9	225.4	10.9	21.9	117.9	186.5	5.1	313.9
2005	15.8	13.7	140.3	133.1	2.9	308.0	10.3	9.5	109.0	102.7	1.8	261.7	24.0	20.0	177.6	170.6	5.0	359.8
2006	25.7	14.1	111.3	162.2	3.3	318.9	17.5	9.8	85.5	124.0	2.1	270.0	37.9	20.5	139.3	209.9	5.6	374.1
2007	7.6	10.7	61.8	123.5	1.0	206.1	5.1	7.4	47.7	95.1	0.6	172.6	11.1	15.6	78.0	160.2	1.7	245.6
2008	8.1	10.1	87.8	93.2	1.9	203.1	5.5	7.0	68.5	72.6	1.1	172.6	11.9	14.9	110.5	119.0	3.7	236.0
2009	14.5	16.8	71.7	101.2	2.0	207.7	9.8	12.8	55.9	77.2	1.2	177.0	21.3	22.6	89.8	131.6	3.8	242.9
2010	11.7	13.5	108.8	92.5	3.4	231.0	7.9	10.2	91.4	72.5	2.0	203.6	17.1	18.1	126.2	117.7	6.6	261.6
2011	13.2	11.5	78.3	102.5	3.3	210.1	8.9	8.7	66.6	80.8	1.9	184.2	19.4	15.5	90.1	128.7	6.5	239.9
2012	22.8	5.8	99.1	109.6	4.1	243.0	15.4	4.4	85.5	87.2	2.4	214.8	33.4	7.7	113.1	138.0	7.9	275.6
2013	13.3	14.3	123.9	100.2	2.3	255.1	9.0	10.8	109.6	78.2	1.3	227.4	19.4	19.2	139.0	128.4	4.8	287.3
2014	18.9	6.7	134.6	90.9	6.2	258.7	12.6	5.1	118.3	70.5	3.8	230.9	27.6	9.1	151.2	116.0	11.6	289.6
2015	11.7	19.7	157.2	89.9	1.8	281.7	7.9	14.8	139.5	69.6	1.1	253.0	17.1	27.0	175.4	115.2	3.3	313.0
2016	9.1	8.6	113.1	76.9	1.7	210.4	6.1	6.4	99.9	59.7	1.1	187.4	13.5	11.8	126.4	99.4	3.0	236.3

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
2017	7.8	8.4	123.2	39.7	2.2	182.8	5.3	6.3	107.4	31.0	1.4	163.0	11.7	11.7	139.4	53.3	3.9	204.0
2018	19.8	9.1	127.4	51.3	6.3	216.8	13.5	6.7	112.9	40.3	3.9	195.3	29.7	12.5	142.0	69.6	12.8	241.4
2019	6.4	5.9	139.8	69.5	3.1	226.0	4.4	4.3	125.3	54.9	1.9	204.4	9.7	8.4	154.6	89.7	6.2	251.0
2020	5.6	6.9	170.3	45.8	3.5	233.2	3.8	5.1	152.7	36.0	2.3	212.2	8.4	9.8	188.1	58.4	6.1	255.4
2021	11.4	5.8	118.6	41.3	4.1	182.4	9.4	4.3	106.9	20.9	2.7	157.8	13.9	8.4	130.6	80.8	7.3	223.1
2022	9.2	7.4	139.3	59.0	3.4	219.5	8.5	5.2	124.6	24.7	2.2	181.8	10.0	11.4	155.1	115.5	6.0	277.4
2023	8.6	5.2	128.5	61.1	2.7	206.7	6.9	3.7	117.1	25.3	1.8	168.5	10.6	8.0	140.3	124.5	4.7	271.0
2024	2.8	9.4	142.9	62.9	3.0	223.4	2.6	5.7	130.0	25.1	2.0	181.9	3.0	21.2	156.7	136.0	5.3	297.6
Previous five-year mean:																		
	8.3	6.2	139.3	55.3	3.3	213.6												
Change (recent year relative to previous five-year mean):																		
	-66 %	51 %	3 %	14 %	-10 %	5 %												
Rank of recent year (highest = 1 to lowest):																		
	54/54	18/54	20/54	44/54	44/54	41/54												

Notes:

*** Data underlying from 1971-1982 are more uncertain than the rest of the time-series**

Table 3.3.4.4 Estimated number (in thousands) of MSW spawning salmon by year for N-NEAC countries and aggregated for the N-NEAC complex (median, 5% and 95% quantiles of the marginal posterior distributions) as derived from the run-reconstruction.

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
1971	10.2	2.9	82.5	NA	0.3	NA	5.3	1.8	54.2	NA	0.2	NA	19.0	4.3	117.7	NA	0.5	NA
1972	10.6	4.5	114.2	58.7	0.2	189.7	5.6	2.8	75.0	45.8	0.1	147.2	19.9	6.7	162.4	73.9	0.4	240.3
1973	17.0	4.2	131.1	66.0	1.0	221.4	8.9	2.6	85.0	52.3	0.6	171.8	32.2	6.3	185.2	81.2	1.6	278.5
1974	29.2	4.0	122.8	98.2	0.6	258.2	15.0	2.5	80.2	75.8	0.3	204.3	54.0	6.0	174.1	125.7	1.0	318.8
1975	37.0	4.4	104.7	86.9	0.2	237.0	19.4	2.8	68.7	67.3	0.1	188.6	70.7	6.6	149.3	110.1	0.3	294.1
1976	29.2	3.7	109.0	86.5	0.5	231.8	15.2	2.3	71.2	66.9	0.3	184.9	54.1	5.5	156.0	109.5	0.8	287.5
1977	20.4	5.1	108.9	71.6	0.2	208.5	10.5	3.2	71.0	54.3	0.1	162.7	37.9	7.6	155.7	91.7	0.4	260.7
1978	10.3	6.5	71.1	50.5	0.3	139.9	5.4	4.1	46.0	38.6	0.2	111.4	19.0	9.8	101.4	63.7	0.4	173.2
1979	12.5	4.4	126.5	44.3	0.7	190.2	6.7	2.7	83.2	33.1	0.4	144.0	24.1	6.5	179.5	58.7	1.2	244.9
1980	12.2	6.1	148.0	47.9	1.4	217.1	6.9	3.7	97.4	37.2	0.8	165.0	22.5	9.0	210.7	60.2	2.3	281.0
1981	14.5	2.1	129.9	66.1	0.3	214.9	8.2	1.3	85.2	47.6	0.2	164.5	26.7	3.1	184.7	87.9	0.5	275.9
1982	19.4	2.4	106.2	40.7	1.5	172.1	10.9	1.5	69.4	31.3	0.9	131.3	35.5	3.6	150.4	52.1	2.5	219.6
1983	21.5	1.8	101.2	49.2	1.0	176.4	12.0	1.1	70.5	40.3	0.6	142.3	39.2	2.8	138.4	59.1	1.6	217.7
1984	18.2	2.4	103.4	62.0	1.4	189.4	10.1	1.5	73.1	50.8	0.8	154.2	33.2	3.6	139.8	74.7	2.3	228.9

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
1985	17.3	1.5	95.4	51.2	0.5	167.7	9.7	1.0	67.6	41.6	0.3	135.6	32.2	2.3	127.6	62.3	0.8	203.6
1986	14.4	4.2	114.4	52.2	0.3	187.3	8.1	2.6	80.7	39.6	0.1	149.5	26.3	6.3	154.2	68.1	0.4	230.9
1987	18.9	4.3	89.5	53.5	1.2	169.8	10.6	2.7	64.2	39.7	0.7	137.0	34.5	6.5	119.7	70.6	1.9	206.8
1988	13.4	2.8	72.9	44.9	1.2	136.9	7.5	1.7	52.1	35.0	0.7	111.6	24.4	4.2	96.9	56.8	2.1	164.6
1989	10.6	2.4	77.4	50.8	4.3	147.0	5.8	1.5	60.0	42.6	2.5	125.9	18.9	3.6	99.2	60.5	7.2	171.5
1990	11.8	2.5	91.2	48.1	2.6	157.5	6.4	1.5	69.7	40.8	1.5	132.9	20.9	3.7	117.9	56.6	4.7	186.4
1991	16.0	1.7	76.6	60.5	3.6	159.8	8.6	1.1	58.5	50.7	2.0	136.7	28.3	2.6	98.6	70.3	6.3	186.0
1992	15.1	2.6	84.3	58.4	4.9	167.1	8.3	1.6	65.0	49.1	2.8	142.8	27.1	3.9	108.0	68.4	8.7	194.8
1993	15.9	2.9	78.3	55.8	5.6	160.3	8.7	1.8	59.8	47.2	3.2	137.4	28.6	4.3	99.0	64.6	9.9	185.0
1994	15.1	2.5	76.9	65.4	4.3	165.5	8.2	1.5	58.8	54.2	2.4	142.2	26.9	3.7	98.0	76.6	7.5	191.6
1995	9.9	1.6	83.6	64.4	2.4	163.1	5.4	1.0	63.9	52.9	1.5	139.1	17.7	2.3	106.6	78.3	4.0	190.7
1996	10.2	2.0	83.2	63.3	4.0	164.1	5.6	1.3	64.1	50.2	2.5	139.6	18.4	3.1	105.2	77.5	6.6	191.1
1997	12.3	1.2	57.7	52.8	2.9	128.1	6.8	0.7	44.5	42.3	1.8	109.3	22.2	1.7	72.6	65.1	4.8	149.1
1998	11.7	1.7	69.9	41.8	1.6	127.9	6.5	1.0	53.6	33.6	1.0	107.6	20.8	2.5	87.9	51.8	2.6	149.3
1999	13.9	2.2	72.1	54.5	1.1	144.8	9.1	1.5	53.3	43.6	0.7	122.1	21.2	3.3	93.7	66.4	1.9	169.8
2000	26.4	1.4	102.5	58.8	4.1	194.9	17.6	0.9	78.4	48.5	2.5	165.4	40.2	2.0	130.9	71.1	6.7	227.7

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
2001	29.0	1.6	122.8	89.4	4.9	249.6	18.9	1.1	94.2	71.9	3.0	212.6	44.2	2.4	155.8	109.6	7.9	290.3
2002	25.3	1.6	106.9	74.5	3.3	213.8	16.5	1.1	81.6	61.2	2.1	181.9	38.6	2.4	138.0	91.0	5.4	249.2
2003	18.1	2.0	95.9	63.2	0.8	181.3	11.9	1.4	73.8	51.8	0.5	154.6	27.7	2.9	121.8	78.5	1.3	212.0
2004	8.3	1.9	87.5	48.1	2.4	149.5	5.4	1.3	66.8	39.1	1.5	125.6	12.6	2.7	112.6	60.4	4.0	177.5
2005	6.8	2.4	79.2	36.5	1.6	127.2	4.5	1.7	61.1	29.1	1.0	107.3	10.4	3.5	100.3	45.3	2.7	150.3
2006	10.2	2.8	101.2	46.5	1.7	163.1	6.9	1.9	78.3	37.1	1.1	137.7	14.9	4.0	126.9	57.8	2.8	191.4
2007	14.6	3.1	83.6	39.9	1.6	143.7	9.9	2.3	64.3	32.1	1.0	121.9	21.5	4.2	105.8	49.1	2.6	168.6
2008	14.7	3.4	126.1	47.4	2.6	195.2	10.0	2.4	97.8	38.7	1.6	164.8	21.7	5.0	161.1	56.8	4.8	232.0
2009	6.4	3.2	99.7	70.2	2.3	183.4	4.3	2.4	77.5	56.4	1.4	155.6	9.3	4.4	129.4	88.0	4.2	216.7
2010	10.3	4.4	107.2	60.9	2.7	186.5	6.9	3.3	92.2	49.8	1.7	166.9	15.0	6.0	122.6	74.0	4.8	207.0
2011	7.9	5.3	146.5	72.9	5.6	239.4	5.3	3.9	126.0	58.9	3.3	213.9	11.5	7.2	167.3	89.8	10.5	266.5
2012	9.5	3.0	152.4	64.1	7.2	237.7	6.4	2.2	135.7	50.6	4.5	214.7	13.9	4.2	169.0	81.2	12.9	262.0
2013	9.2	3.5	110.9	33.6	3.0	160.9	6.2	2.6	100.3	27.4	1.7	147.8	13.4	5.0	121.9	40.7	5.8	174.5
2014	10.0	4.3	134.9	36.8	5.9	192.8	6.7	3.2	123.7	29.3	3.7	178.4	14.5	6.1	146.3	45.1	10.3	207.7
2015	9.6	4.0	118.2	33.8	4.2	170.7	6.5	3.0	102.5	26.5	2.5	152.7	14.0	5.6	133.9	41.9	7.7	189.1
2016	10.2	5.8	140.8	31.8	3.0	192.5	6.9	4.3	126.1	24.9	1.9	175.3	15.0	8.4	155.8	39.4	5.3	209.9

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
2017	9.1	3.6	148.1	25.1	4.0	190.9	6.2	2.5	132.0	19.6	2.6	173.2	13.4	5.7	164.5	30.9	7.0	208.9
2018	5.5	4.0	146.4	25.1	5.0	187.0	3.8	2.8	131.3	19.5	3.2	170.3	8.2	6.4	161.9	31.1	8.8	204.0
2019	7.8	3.0	128.9	31.6	8.7	181.7	5.4	2.1	115.7	24.1	5.2	164.9	11.5	4.8	143.0	41.3	17.4	200.1
2020	4.7	2.9	133.6	24.0	5.3	171.2	3.2	2.2	118.9	18.8	3.5	155.1	6.9	4.1	149.2	29.6	9.4	188.1
2021	8.8	2.2	119.1	20.3	4.7	155.7	8.1	1.6	107.8	15.0	3.1	142.8	9.6	3.3	130.6	25.8	8.3	168.8
2022	11.1	2.5	149.7	26.0	5.2	195.4	10.2	1.8	135.7	11.6	3.4	174.3	12.0	4.0	164.8	44.1	9.0	218.6
2023	10.8	3.2	126.5	28.9	5.2	175.7	9.9	2.1	115.5	12.3	3.4	155.0	11.7	6.8	138.3	50.9	9.2	201.4
2024	5.8	2.5	88.6	28.2	2.6	129.5	5.3	1.3	80.8	12.5	1.7	110.9	6.3	10.3	96.8	53.4	4.7	156.2
Previous five-year mean:																		
	8.6	2.8	131.5	26.2	5.8	175.9												
Change (recent year relative to previous five-year mean):																		
	-33 %	-11 %	-33 %	8 %	-55 %	-26 %												
Rank of recent year (highest = 1 to lowest):																		
	52/54	35/54	38/54	48/54	26/54	50/54												

Notes:

*** Data underlying from 1971-1982 are more uncertain than the rest of the time-series**

Table 3.3.4.5 Estimated number (in thousands) of returning 1SW salmon by year for S-NEAC countries and aggregated for the S-NEAC complex (median, 5% and 95% quantiles of the marginal posterior distributions) as derived from the run-reconstruction. The last four years are forecasted from the Life Cycle Model.

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
1971	89.7	49.8	62.7	1052.8	181.7	878.2	2326.9	64.6	35.9	52.9	850.3	162.5	790.7	2098.6	125.2	80.7	76.2	1334.6	204.3	981.7	2628.5
1972	86.0	100.1	50.7	1120.8	158.6	886.2	2423.3	62.7	71.7	42.9	908.1	142.4	780.1	2165.3	119.1	161.4	61.9	1417.3	178.4	1015.8	2741.5
1973	103.6	60.7	54.3	1223.7	138.6	1058.7	2656.1	73.6	43.8	46.0	992.1	124.2	936.4	2380.1	145.5	99.5	66.3	1548.5	155.9	1219.0	3013.5
1974	127.3	28.2	38.7	1391.9	151.6	1023.7	2776.3	91.5	20.4	32.8	1129.9	135.2	908.5	2473.8	178.9	46.2	47.2	1756.1	171.8	1164.8	3158.5
1975	130.1	56.7	60.2	1538.6	124.7	832.3	2758.7	94.5	40.8	50.9	1244.4	111.7	731.6	2432.9	179.9	92.2	73.1	1936.3	139.7	960.5	3168.2
1976	82.3	51.6	47.5	1048.7	86.5	673.7	2003.6	63.0	37.4	40.3	845.0	77.5	593.2	1771.9	108.4	84.6	57.8	1328.7	97.1	776.0	2290.4
1977	101.7	40.0	48.6	904.8	85.2	774.3	1970.0	71.7	28.9	41.2	730.3	76.2	669.7	1750.1	144.7	65.1	59.3	1143.7	95.7	906.3	2235.5
1978	115.2	41.4	63.9	789.9	111.2	811.2	1947.1	81.5	29.6	54.1	639.5	99.6	701.0	1743.2	162.8	67.1	77.7	1000.9	124.5	949.5	2198.2
1979	109.7	46.8	58.7	727.1	78.0	791.7	1829.2	77.3	33.9	49.8	589.1	69.6	676.5	1631.0	157.3	76.4	71.6	922.8	87.6	940.1	2064.6
1980	101.4	98.2	26.7	554.2	98.7	515.8	1411.0	72.9	70.8	22.6	448.5	88.0	443.5	1262.3	142.3	159.2	32.6	698.5	111.4	608.0	1587.7
1981	106.9	77.7	34.4	291.6	77.3	661.6	1261.6	75.9	56.0	29.2	242.9	69.0	563.3	1136.9	152.1	126.0	42.0	352.9	86.9	784.4	1405.5
1982	92.9	48.0	35.4	603.7	111.6	795.7	1698.1	64.4	34.7	29.9	502.3	99.5	696.7	1545.1	133.0	78.0	43.1	728.3	126.9	919.9	1873.7
1983	133.1	51.5	44.8	1063.2	157.4	863.7	2329.4	93.5	37.2	37.9	889.8	139.7	750.8	2111.1	193.2	83.8	54.6	1286.6	178.3	1002.8	2586.4
1984	115.3	84.6	27.5	558.6	61.7	835.7	1696.1	81.0	60.9	23.3	467.0	55.2	728.4	1539.6	164.1	137.5	33.5	676.5	69.4	963.9	1876.5

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
1985	117.9	31.4	44.4	926.2	79.9	717.5	1929.5	83.7	22.7	37.7	775.8	71.3	608.8	1729.0	168.3	50.9	54.3	1120.7	90.4	854.7	2164.6
1986	133.3	48.6	73.1	1042.5	89.9	862.6	2270.8	95.9	29.5	62.1	865.3	80.2	739.8	2036.9	187.6	135.1	89.4	1255.1	101.7	1020.9	2542.0
1987	135.2	86.3	45.4	669.4	49.2	722.6	1736.2	100.0	52.4	38.6	548.1	43.3	609.8	1542.2	185.3	242.1	55.5	821.0	55.7	870.6	1968.7
1988	187.8	29.3	81.6	908.2	115.7	808.0	2151.1	137.4	17.9	69.2	746.9	101.5	663.6	1915.6	262.7	81.9	99.5	1114.5	133.1	999.3	2434.2
1989	123.9	16.1	45.7	652.4	111.4	916.8	1881.3	91.1	9.8	38.7	534.7	95.6	742.4	1656.0	170.4	45.1	55.8	804.1	131.5	1150.9	2156.4
1990	90.4	27.0	42.1	408.4	92.2	555.0	1228.8	65.9	16.4	35.6	335.5	85.2	437.4	1079.2	126.1	74.5	51.2	500.0	100.2	716.8	1413.3
1991	89.9	19.4	46.4	291.6	51.5	482.4	990.6	66.3	11.9	39.3	239.5	47.6	380.7	867.2	123.0	54.1	56.4	356.8	55.9	625.8	1151.1
1992	95.7	35.9	53.2	422.1	104.5	626.5	1355.1	70.1	21.7	44.9	347.3	94.1	497.4	1193.1	132.2	99.9	64.8	518.7	116.1	809.8	1563.3
1993	138.8	50.6	52.0	344.5	122.1	661.3	1391.4	99.4	31.1	44.2	285.3	112.7	511.0	1208.4	195.5	142.6	63.5	419.4	132.9	871.3	1625.4
1994	131.7	40.1	42.8	438.7	83.8	678.4	1435.5	94.4	24.4	36.3	362.9	74.8	532.2	1254.7	185.4	114.2	52.2	536.5	94.3	880.4	1666.6
1995	85.5	13.3	52.8	492.1	77.9	653.0	1385.2	61.5	8.6	44.8	406.9	71.8	509.0	1207.3	119.3	28.9	64.5	598.0	84.6	856.6	1611.5
1996	87.1	16.3	45.6	457.1	80.3	502.0	1200.6	62.5	10.7	38.7	377.1	70.7	377.7	1041.1	121.1	35.4	55.6	557.9	92.6	687.4	1411.4
1997	70.0	8.5	33.5	458.0	95.4	418.9	1093.0	50.3	5.5	28.3	377.7	84.1	313.8	951.8	97.5	18.4	40.7	558.3	110.1	569.5	1269.0
1998	99.8	16.5	45.7	479.0	207.4	460.6	1322.6	71.9	10.8	38.7	395.4	178.9	343.0	1159.7	137.3	35.9	55.7	585.1	245.7	634.3	1527.5
1999	64.6	5.5	37.0	446.0	54.2	301.8	916.7	46.5	3.6	31.3	367.6	50.5	224.1	797.8	89.5	12.1	45.5	544.7	58.2	413.1	1061.3
2000	105.1	14.1	33.0	620.8	79.5	471.6	1337.0	75.4	9.3	27.9	514.5	74.1	354.4	1166.7	145.4	31.2	40.4	758.6	85.6	646.4	1550.9

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
2001	83.5	12.2	29.5	493.0	63.2	494.9	1185.9	60.3	8.0	24.8	433.7	58.7	367.1	1036.0	115.8	26.8	36.3	570.5	68.5	685.2	1389.4
2002	85.3	28.1	36.7	430.6	112.4	367.5	1072.7	61.6	17.4	31.0	378.3	102.7	276.9	954.9	118.6	60.1	45.3	498.7	126.0	500.5	1226.3
2003	58.7	18.3	43.9	422.3	70.4	370.4	993.5	42.1	11.5	37.1	371.3	65.6	268.5	871.2	81.4	39.4	54.1	487.8	77.1	519.6	1156.4
2004	148.3	22.1	44.0	310.8	67.3	496.1	1101.1	107.3	14.0	37.1	272.8	62.6	366.0	948.5	206.6	48.6	54.2	360.1	74.1	687.5	1304.2
2005	103.9	14.5	65.1	310.1	84.6	502.5	1089.2	74.9	9.1	54.8	273.0	77.5	368.0	939.8	144.2	31.2	80.2	356.5	95.1	695.3	1289.3
2006	100.7	20.4	45.8	236.9	57.4	450.8	919.8	72.2	12.7	38.6	209.8	52.4	325.9	786.0	138.6	44.3	56.5	271.7	64.6	625.9	1103.6
2007	110.0	16.0	52.6	238.7	85.2	459.6	990.9	78.6	9.9	44.8	172.1	75.2	338.6	817.9	152.8	34.6	63.5	432.2	98.8	637.3	1227.6
2008	122.4	15.6	63.9	254.2	53.2	369.0	905.6	88.1	9.8	53.5	180.8	47.2	268.2	746.3	170.5	34.0	79.0	464.8	61.0	510.4	1137.4
2009	70.0	4.5	72.1	207.1	33.1	284.6	689.1	50.2	2.8	60.7	150.2	29.5	207.2	567.8	96.8	9.7	88.5	369.9	38.5	394.8	870.1
2010	135.3	15.2	73.8	273.0	33.1	513.7	1077.0	97.4	9.5	62.0	198.1	29.4	376.9	881.6	188.2	32.8	91.3	494.9	38.2	708.9	1345.4
2011	94.2	10.4	52.1	237.0	23.9	286.7	723.2	67.9	6.4	43.6	171.4	20.2	214.5	599.1	130.5	22.4	64.2	421.4	30.5	389.5	921.0
2012	68.2	11.2	29.6	244.6	55.2	364.2	799.3	49.1	7.0	24.8	174.6	40.1	266.6	647.1	94.8	24.4	36.5	446.6	94.2	503.4	1025.7
2013	57.8	15.8	87.7	204.0	61.2	296.5	748.1	41.8	9.8	73.7	150.1	45.3	218.1	626.7	80.0	34.2	108.6	361.7	102.2	407.7	927.5
2014	39.0	14.0	21.6	125.8	27.4	172.7	414.5	27.9	8.8	18.1	94.1	21.2	131.3	348.0	54.0	30.4	26.9	218.0	44.2	231.2	514.0
2015	49.3	13.0	60.5	178.1	29.5	264.7	616.0	35.2	8.1	50.3	131.1	23.2	193.2	507.6	68.7	28.2	75.5	317.2	46.1	370.8	772.8
2016	48.5	11.8	35.3	180.2	55.7	251.1	603.9	34.8	7.4	29.5	131.0	45.3	177.9	492.9	67.5	25.6	44.2	324.9	82.3	362.1	765.7

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
2017	50.4	14.8	36.9	195.0	46.6	222.4	588.0	36.3	9.2	30.7	141.0	35.9	157.9	479.3	69.1	32.1	46.1	352.7	75.7	316.5	753.8
2018	35.2	12.3	31.9	155.5	40.8	216.1	510.5	25.3	7.7	26.5	113.4	31.9	152.9	411.9	48.6	26.8	39.8	278.4	64.6	311.0	650.9
2019	30.6	12.8	21.1	132.9	22.9	215.7	452.9	22.0	8.0	17.5	94.7	18.2	151.8	360.1	42.4	27.8	26.5	240.5	34.5	312.0	583.1
2020	44.5	10.3	26.3	162.3	36.0	289.3	589.1	32.3	6.4	21.9	115.0	32.5	201.8	466.1	61.8	22.4	33.4	297.5	41.8	421.9	759.5
2021	24.0	6.2	21.2	167.0	27.5	211.0	472.7	17.2	3.9	17.3	119.2	25.0	144.7	372.3	33.4	13.3	27.9	308.6	31.6	313.5	632.8
2022	21.5	2.9	26.7	145.3	11.4	232.4	455.9	15.6	1.8	21.8	103.7	9.8	160.6	355.3	29.9	6.3	34.5	268.3	14.9	338.4	597.5
2023	14.4	3.2	20.6	117.0	10.0	185.8	363.3	10.4	2.0	16.8	84.2	8.4	127.4	282.3	20.0	7.0	26.6	212.3	13.9	275.5	481.7
2024	19.2	1.2	25.7	116.5	27.8	261.9	466.0	13.9	0.8	20.5	83.5	25.8	176.2	360.5	26.7	2.7	34.7	210.5	29.9	392.4	612.3
Previous five-year mean:																					
	27.0	7.1	23.2	144.9	21.5	226.8	466.8														
Change (recent year relative to previous five-year mean):																					
	-29 %	-83 %	11 %	-20 %	29 %	15 %	0 %														
Rank of recent year (highest = 1 to lowest):																					
	53/54	54/54	50/54	54/54	48/54	46/54	50/54														

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
Forecast:																					
2025	12.5	2.6	17.6	130.1	8.1	176.6	372.6	3.9	0.7	5.7	44.9	3.1	79.6	207.4	33.4	9.2	48.7	342.7	21.8	403.7	696.1
2026	10.7	1.9	16.1	110.5	4.2	153.3	330.0	2.8	0.4	4.4	33.2	1.2	59.0	162.1	36.2	7.4	48.0	319.0	12.8	405.6	670.6
2027	8.7	1.7	15.2	106.5	3.6	140.8	311.2	1.9	0.3	3.3	30.4	0.9	48.3	138.4	33.7	8.0	50.1	403.2	15.6	417.3	730.9
2028	8.4	2.1	14.0	116.5	3.9	134.7	332.3	1.3	0.2	2.5	20.4	0.6	42.3	129.7	36.5	14.4	52.0	607.8	27.5	449.2	943.4

Table 3.3.4.6 Estimated number (in thousands) of returning MSW salmon by year for S-NEAC countries and aggregated for the S-NEAC complex (median, 5% and 95% quantiles of the marginal posterior distributions) as derived from the run-reconstruction. The last four years are forecasted from the Life Cycle Model.

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
1971	99.5	10.8	24.5	157.4	22.0	475.6	797.9	69.1	8.3	21.6	122.4	19.3	411.2	711.0	145.7	15.5	28.0	211.8	25.0	560.6	903.3
1972	162.3	21.5	37.6	169.3	19.2	635.2	1055.8	113.8	16.7	33.3	130.8	16.9	549.1	939.2	238.8	30.9	43.1	227.5	21.7	749.2	1193.7
1973	125.8	13.2	33.9	183.0	16.8	649.4	1031.5	85.6	10.2	29.9	141.8	14.8	566.4	920.7	186.4	19.0	38.8	245.7	19.0	755.9	1165.3
1974	93.9	6.2	29.2	206.5	18.3	479.1	840.0	64.7	4.8	25.9	160.3	16.1	421.2	754.1	138.0	8.8	33.5	277.2	21.1	550.6	945.0
1975	122.7	12.3	31.0	230.6	15.0	596.7	1019.5	85.9	9.5	27.5	178.9	13.3	501.3	894.2	180.4	17.6	35.5	310.0	17.0	721.4	1168.3
1976	62.8	9.0	26.8	160.3	10.4	324.3	600.5	46.1	6.9	23.7	124.5	9.2	267.3	524.2	88.1	12.9	30.7	214.8	11.9	401.5	693.9
1977	84.9	6.9	26.1	139.2	10.3	426.3	701.2	57.4	5.3	23.1	108.0	9.1	347.4	605.3	126.0	9.9	30.0	187.2	11.7	538.7	825.4
1978	70.1	7.1	33.8	121.2	13.4	564.5	815.8	48.0	5.5	30.0	93.7	11.9	440.4	682.8	104.9	10.1	38.8	162.9	15.2	739.6	996.8
1979	35.2	8.1	21.6	108.9	9.4	434.9	623.2	23.7	6.3	19.2	84.5	8.3	333.4	514.7	53.3	11.7	24.8	146.5	10.7	580.3	771.0
1980	113.4	17.0	30.3	119.7	11.9	599.0	899.3	78.2	13.1	26.9	92.8	10.4	481.0	767.9	168.6	24.2	34.8	160.4	13.6	768.3	1076.9
1981	158.8	11.6	20.3	88.0	9.3	562.2	859.8	107.9	8.4	18.0	68.4	8.2	477.1	750.6	239.5	19.1	23.3	118.5	10.6	676.2	994.6
1982	62.5	7.2	14.4	51.4	13.5	374.1	527.1	41.6	5.2	12.7	40.9	11.8	311.4	457.5	95.6	11.7	16.5	66.7	15.6	460.6	617.4
1983	71.1	7.7	23.9	105.8	19.0	410.8	643.0	47.1	5.6	21.2	86.5	16.5	348.1	569.9	108.1	12.6	27.5	132.1	21.9	494.0	735.1
1984	55.2	12.7	20.3	76.6	7.5	340.1	515.9	37.3	9.2	18.0	63.8	6.5	276.9	445.2	83.0	20.5	23.3	92.5	8.5	426.1	605.7

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
1985	83.0	9.5	14.8	83.7	9.7	340.4	545.4	56.3	6.9	13.1	72.7	8.5	271.8	466.8	125.5	15.4	16.9	97.1	11.1	434.3	647.1
1986	111.7	9.7	12.3	94.7	10.9	444.8	690.8	76.9	7.0	10.9	76.7	9.5	367.8	598.2	167.5	15.8	14.1	119.6	12.5	552.2	807.4
1987	87.0	5.2	10.9	117.5	5.6	300.5	531.3	61.5	3.7	9.7	96.5	4.9	237.2	455.7	128.4	8.4	12.5	143.6	6.3	390.1	629.9
1988	115.1	14.1	12.4	85.1	15.6	290.4	538.6	80.2	10.2	11.0	69.7	13.6	227.7	459.5	170.0	23.2	14.3	104.6	18.0	382.9	641.3
1989	90.5	6.5	11.1	77.5	12.4	292.8	495.7	64.2	4.7	9.8	62.5	10.7	227.7	421.2	133.7	10.6	12.7	97.9	14.7	383.4	591.7
1990	114.9	6.7	11.0	37.2	11.3	291.8	478.1	79.5	4.8	9.7	31.6	10.4	224.4	396.6	170.5	10.8	12.6	44.3	12.4	392.6	586.9
1991	50.0	6.1	11.0	56.0	5.8	218.0	349.5	35.0	4.4	9.7	46.5	5.4	160.1	287.4	73.6	9.9	12.6	67.8	6.3	304.5	440.2
1992	38.8	7.6	12.3	43.0	13.3	218.3	336.3	27.2	5.5	10.9	37.1	12.1	164.6	278.9	58.2	12.4	14.2	50.3	14.7	295.3	415.8
1993	44.7	3.6	6.1	42.0	31.4	214.7	348.2	30.4	2.6	5.4	29.1	29.3	158.7	284.9	69.1	5.9	7.0	69.3	33.8	298.5	435.1
1994	37.4	7.7	9.8	67.6	11.0	267.9	402.7	27.1	5.9	8.7	59.1	9.9	201.2	335.0	52.1	10.9	11.3	77.9	12.4	367.8	504.0
1995	29.7	3.7	10.1	65.1	9.4	298.2	417.7	21.4	2.8	8.9	58.0	8.7	216.2	334.7	41.3	5.2	11.6	74.2	10.1	419.1	538.7
1996	41.0	6.5	6.5	43.6	10.2	243.0	353.1	29.6	5.0	5.8	38.3	8.3	171.5	278.3	56.9	9.2	7.4	50.3	13.0	350.4	462.6
1997	22.7	3.3	7.3	56.6	12.8	173.5	280.7	16.4	2.6	6.5	41.3	10.3	121.2	221.5	31.6	4.8	8.4	87.0	16.4	252.5	363.9
1998	20.5	2.8	4.5	32.8	17.4	140.8	220.2	14.6	2.2	4.0	31.0	13.9	97.0	175.6	28.5	4.0	5.2	34.8	23.5	207.0	287.1
1999	26.5	6.1	8.8	51.0	8.0	158.6	266.8	19.1	4.7	7.8	34.5	6.8	109.6	207.4	36.8	8.7	10.2	97.4	9.5	236.2	351.4
2000	24.3	4.3	2.4	63.9	9.7	165.8	271.6	17.4	3.3	2.1	55.6	8.3	117.0	220.8	33.7	6.1	2.8	74.5	11.8	241.3	348.0

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
2001	24.6	5.0	4.2	57.0	6.6	215.8	315.7	17.7	3.8	3.7	47.1	5.8	147.3	244.3	34.4	7.1	4.9	71.7	7.7	322.3	422.9
2002	23.3	4.6	4.6	65.9	8.3	152.2	261.4	16.8	3.5	4.0	52.8	7.6	105.6	210.5	32.5	6.6	5.3	87.0	9.4	226.2	337.3
2003	27.4	6.6	7.3	68.9	5.1	186.6	305.2	19.8	5.0	6.4	56.1	4.7	129.8	243.9	37.9	9.6	8.4	89.9	5.6	270.6	390.3
2004	36.1	12.4	5.9	38.0	5.3	244.7	344.5	26.2	9.3	5.2	31.5	5.0	164.8	262.5	50.1	17.8	6.8	47.9	5.9	367.1	467.5
2005	34.0	7.7	5.2	49.3	6.7	238.3	342.5	24.5	5.7	4.6	43.3	6.2	161.0	263.8	47.1	11.0	6.0	57.0	7.5	354.0	459.0
2006	35.2	7.7	4.3	35.8	5.3	288.1	380.4	25.5	5.8	3.8	25.3	4.9	193.7	282.0	49.1	11.1	5.0	60.5	5.8	439.9	532.7
2007	32.2	7.3	2.6	25.0	5.5	233.9	308.4	23.1	5.4	2.3	18.9	4.9	160.1	233.2	44.6	10.4	3.1	37.4	6.4	353.4	428.6
2008	40.4	8.1	3.0	18.6	4.3	312.9	389.8	29.2	6.1	2.6	14.1	3.8	209.9	284.8	56.4	11.5	3.6	27.9	4.9	472.8	550.3
2009	32.5	3.7	4.7	23.5	4.3	259.1	330.1	23.5	2.8	4.1	18.1	3.9	177.2	247.0	45.3	5.4	5.5	34.5	4.9	389.4	463.1
2010	33.2	3.1	9.7	22.0	6.4	342.0	418.8	23.8	2.3	8.5	16.8	5.8	237.6	312.5	46.1	4.4	11.3	32.7	7.0	501.7	579.1
2011	53.7	8.6	4.9	23.9	8.1	434.6	537.9	38.7	6.5	4.3	18.1	6.9	300.4	400.9	74.3	12.4	5.8	35.5	10.3	639.0	741.8
2012	52.6	6.8	2.8	21.0	19.0	338.0	443.8	37.8	5.1	2.4	16.1	14.0	229.4	332.9	72.2	9.8	3.4	30.9	32.3	510.1	617.8
2013	38.9	7.1	7.8	23.8	6.1	311.8	398.6	27.8	5.3	6.7	18.3	4.5	211.5	296.8	54.3	10.1	9.3	35.2	10.2	465.7	552.9
2014	31.8	8.8	4.8	19.9	3.3	214.5	285.8	23.0	6.6	4.0	15.3	2.6	149.8	218.6	44.4	12.6	5.8	29.5	5.1	312.5	385.2
2015	45.9	9.9	4.3	20.6	4.2	252.4	340.5	33.2	7.4	3.7	15.8	3.4	172.6	258.7	64.2	14.2	5.2	30.9	6.3	376.8	465.8
2016	50.6	4.2	6.2	20.7	7.8	272.1	364.1	36.5	3.2	5.2	16.1	6.6	177.9	268.4	70.2	6.1	7.6	29.9	10.7	417.3	510.2

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
2017	53.5	4.8	5.2	19.1	6.3	236.5	328.2	38.6	3.6	4.4	14.6	5.2	158.0	247.1	74.5	6.9	6.5	28.0	9.2	361.9	453.3
2018	33.5	7.2	5.6	19.4	6.0	136.4	211.0	24.1	5.4	4.8	14.8	4.9	92.7	164.7	46.8	10.4	6.8	28.7	8.6	201.6	277.5
2019	25.7	11.4	4.6	17.6	3.7	171.9	237.6	18.4	8.6	3.9	13.8	3.2	113.4	177.2	35.8	16.5	5.6	25.3	5.2	262.6	329.0
2020	38.8	5.6	6.4	18.7	2.1	223.4	297.7	27.9	4.3	5.4	14.4	1.8	146.3	218.3	54.0	8.1	7.9	27.8	2.7	342.7	416.4
2021	24.5	5.4	2.7	21.8	2.2	151.9	210.4	17.6	4.0	2.3	16.9	2.0	100.2	157.5	34.0	7.8	3.4	31.9	2.6	232.7	292.1
2022	29.9	6.8	3.7	21.7	1.3	165.0	230.6	21.5	5.1	3.2	16.7	1.2	110.4	173.9	41.5	9.7	4.4	31.5	1.7	251.0	316.7
2023	24.1	4.7	3.8	14.7	1.3	114.3	164.5	17.3	3.5	3.2	11.7	1.1	75.4	123.9	33.5	6.6	4.6	21.1	1.7	177.2	227.8
2024	22.2	3.5	3.8	18.9	1.2	157.4	208.7	16.0	2.6	3.2	14.9	1.2	103.2	153.6	30.9	5.0	4.5	27.2	1.4	244.3	296.0
Previous five-year mean:																					
	28.6	6.8	4.2	18.9	2.1	165.3	228.2														
Change (recent year relative to previous five-year mean):																					
	-22 %	-49 %	-11 %	0 %	-42 %	-5 %	-9 %														
Rank of recent year (highest = 1 to lowest):																					
	53/54	51/54	48/54	50/54	54/54	49/54	53/54														

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
Forecast:																					
2024	67.4	4.2	4.1	12.4	1.5	97.7	187.3	29.2	1.7	1.4	4.8	0.4	47.6	85.1	150.2	12.3	10.2	35.2	4.7	193.4	406
2025	76.0	4.2	3.4	14.0	2.0	104.3	203.9	27.4	1.2	0.8	4.0	0.4	41.2	75.0	218.9	16.6	12.0	48.5	8.9	262.7	567.6
2026	69.5	3.8	3.4	14.7	1.3	104.2	196.9	21.6	0.9	0.6	3.5	0.2	34.2	61.0	214.3	14.7	15.4	58.6	8.1	306.9	618
2027	70.8	3.1	3.1	12.8	0.7	92.2	182.7	17.6	0.6	0.4	2.4	0.1	27.9	49.0	241.0	16.8	15.5	58.7	6.2	289.1	627.3

Table 3.3.4.7 Estimated number (in thousands) of 1SW spawning salmon by year for S-NEAC countries and aggregated for the S-NEAC complex (median, 5% and 95% quantiles of the marginal posterior distributions) as derived from the run-reconstruction.

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
1971	38.1	48.0	31.4	393.1	36.4	491.4	1050.4	23.3	34.2	21.7	230.5	28.2	411.9	855.7	61.9	79.0	44.9	635.2	46.1	583.9	1308.2
1972	41.6	96.6	25.4	416.6	31.7	523.7	1157.7	26.0	68.3	17.6	247.0	24.7	428.9	934.2	66.2	158.0	36.6	672.8	40.2	641.5	1433.1
1973	50.9	58.6	27.2	457.5	27.8	625.2	1263.0	31.3	41.7	18.9	269.3	21.5	513.2	1022.2	81.6	97.4	39.2	737.6	35.3	768.5	1578.1
1974	63.0	27.2	19.4	518.0	30.4	594.5	1267.1	39.2	19.4	13.4	306.5	23.2	491.6	1011.7	100.9	45.2	27.8	835.8	39.1	723.1	1604.4
1975	64.9	54.7	30.1	573.7	25.1	492.4	1255.9	40.9	38.9	20.8	336.1	19.4	401.3	985.5	102.9	90.2	43.1	921.2	31.4	608.7	1621.2
1976	41.2	49.8	23.8	394.3	17.3	409.7	947.5	26.8	35.6	16.6	229.1	13.4	337.1	754.5	61.9	82.8	34.1	633.4	22.0	502.0	1198.6
1977	50.2	38.6	24.3	339.7	17.1	466.8	949.0	30.8	27.5	16.9	196.7	13.2	371.9	761.0	81.3	63.7	35.0	544.6	21.7	586.4	1183.1
1978	58.3	40.0	32.1	294.4	22.3	487.4	949.7	36.0	28.2	22.2	173.5	17.3	387.5	771.0	94.1	65.6	45.9	477.9	28.1	613.8	1168.3
1979	57.0	45.2	29.4	271.8	15.6	487.8	924.1	35.3	32.3	20.4	160.2	12.0	383.5	750.4	93.7	74.7	42.2	441.4	19.8	622.9	1133.1
1980	52.7	94.8	13.3	207.0	19.8	316.1	720.7	32.9	67.3	9.3	122.0	15.1	250.4	588.8	84.4	155.8	19.2	333.2	25.3	399.7	875.6
1981	55.7	75.0	17.2	70.2	15.5	410.1	655.5	34.7	53.3	11.9	35.5	12.0	321.2	546.8	90.4	123.3	24.8	117.7	19.5	521.7	784.9
1982	48.9	46.3	17.7	169.0	22.4	474.1	789.8	29.6	33.0	12.3	96.0	16.9	384.6	658.4	79.4	76.4	25.4	266.7	28.9	586.2	940.4
1983	70.2	49.7	22.5	359.7	31.4	509.0	1056.7	43.4	35.4	15.6	231.3	23.8	406.5	875.9	115.2	82.0	32.3	538.2	40.7	634.8	1273.6
1984	60.1	81.7	13.8	196.2	12.4	494.3	872.1	37.0	57.9	9.5	129.1	9.5	396.4	736.9	97.6	134.5	19.8	290.0	15.8	610.1	1028.2

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
1985	61.4	30.3	22.2	233.7	16.0	449.8	826.9	38.3	21.6	15.5	125.1	12.2	351.9	660.2	100.0	49.8	32.0	382.8	20.6	575.4	1020.8
1986	70.5	45.2	36.5	326.2	18.0	535.3	1057.3	44.3	26.1	25.4	197.9	13.7	424.2	862.2	112.5	131.7	52.9	494.5	23.1	678.2	1284.9
1987	72.3	80.3	22.6	200.8	15.3	463.8	884.6	46.6	46.4	15.8	119.9	11.8	361.3	718.8	112.7	236.1	32.8	314.7	19.4	598.3	1090.8
1988	102.1	27.2	40.7	342.2	41.2	546.7	1124.4	64.9	15.8	28.3	230.0	32.2	415.6	926.0	162.2	79.9	58.7	502.2	52.4	720.8	1361.0
1989	67.2	14.9	22.9	223.5	12.4	629.5	986.9	43.1	8.7	15.8	141.2	4.6	470.6	791.9	105.5	43.9	33.0	337.3	22.0	842.1	1225.8
1990	49.1	25.1	21.1	159.8	35.0	395.4	700.8	31.4	14.5	14.6	108.4	28.7	288.4	568.7	78.1	72.6	30.2	230.8	42.5	542.6	863.3
1991	50.0	18.1	23.2	117.6	18.3	346.8	584.5	32.3	10.5	16.1	80.5	14.7	254.4	476.1	77.8	52.8	33.2	169.0	22.5	477.0	728.6
1992	53.7	33.4	26.6	160.2	46.0	452.7	789.4	34.5	19.2	18.4	106.9	37.7	335.2	646.5	84.2	97.4	38.2	232.8	55.8	619.3	972.2
1993	81.4	47.0	26.0	142.1	72.0	474.3	866.2	51.7	27.5	18.2	98.9	63.3	338.0	701.2	130.2	139.0	37.5	200.7	82.2	666.0	1078.4
1994	77.2	37.3	21.4	124.2	25.1	486.2	791.4	39.4	21.5	14.9	72.4	19.1	352.5	628.6	130.8	111.4	30.8	198.2	32.5	669.7	1000.5
1995	46.8	11.6	26.4	179.1	25.7	470.4	771.3	21.9	7.0	18.3	118.5	20.2	338.6	613.8	80.5	27.2	38.1	262.5	32.1	656.3	971.1
1996	59.6	14.3	22.7	182.4	34.5	379.7	705.9	34.7	8.6	15.9	125.0	25.4	266.9	566.8	93.7	33.3	32.8	262.1	46.4	549.2	893.1
1997	46.9	7.4	16.8	228.5	38.3	321.0	667.7	27.1	4.4	11.6	167.0	27.7	225.4	544.1	74.3	17.3	24.0	309.8	52.2	458.2	825.1
1998	75.9	14.4	22.9	220.9	155.6	352.4	856.3	48.0	8.7	15.9	158.7	127.8	245.0	712.0	113.6	33.8	32.9	306.8	193.4	510.4	1038.8
1999	46.7	4.8	18.9	232.1	20.1	234.2	565.4	28.7	2.9	13.2	172.4	17.1	163.7	462.2	71.8	11.4	27.3	313.2	23.4	335.4	691.8
2000	77.4	12.3	16.8	351.2	33.9	357.8	863.6	47.5	7.5	11.7	267.6	29.5	250.9	712.1	117.6	29.4	24.2	467.3	39.1	516.5	1052.7

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
2001	60.9	10.6	15.3	256.4	32.2	386.1	771.0	37.6	6.5	10.7	197.7	28.2	269.8	631.3	93.1	25.2	22.1	333.5	36.9	558.8	958.7
2002	64.1	24.6	19.0	215.4	61.7	283.7	681.3	40.2	14.2	13.3	164.2	52.1	201.9	569.8	97.5	56.4	27.7	283.1	75.2	404.8	823.5
2003	46.2	16.0	22.8	247.9	33.1	301.6	677.2	29.5	9.4	16.0	197.7	28.3	209.0	562.2	68.8	37.1	32.9	313.2	39.8	436.9	827.2
2004	125.0	19.3	22.8	157.1	39.5	405.6	782.2	84.0	11.4	15.9	119.5	34.9	287.0	640.3	183.8	45.9	33.0	206.0	46.4	580.3	969.3
2005	85.1	12.7	33.9	172.5	50.7	410.9	774.8	56.1	7.4	23.6	135.9	43.6	289.0	636.1	125.3	29.4	48.9	218.6	61.2	586.4	957.8
2006	84.3	17.8	23.7	126.8	38.9	367.1	666.6	55.9	10.3	16.6	100.3	33.8	254.1	542.7	122.2	41.8	34.4	161.2	46.0	526.5	835.3
2007	95.7	14.0	27.9	219.8	68.0	378.9	832.5	64.0	8.1	20.2	153.4	58.0	269.0	668.5	138.4	32.6	38.8	413.4	81.7	540.4	1060.7
2008	108.6	13.6	33.9	231.9	42.7	307.2	764.1	74.3	8.0	23.6	158.4	36.7	215.5	612.7	156.8	32.0	49.0	442.4	50.5	435.7	990.6
2009	61.3	3.9	37.5	190.6	26.4	236.7	573.4	41.5	2.3	26.2	133.7	22.7	166.1	458.1	88.1	9.1	54.0	353.5	31.7	337.1	750.7
2010	117.6	13.3	39.1	250.7	27.8	420.6	900.9	79.7	7.7	27.3	175.7	24.2	295.8	716.1	170.6	30.9	56.7	472.2	33.0	598.2	1159.2
2011	80.4	9.1	27.7	217.6	20.7	236.1	609.7	54.2	5.2	19.2	152.1	17.1	170.3	490.5	116.7	21.1	39.7	402.0	27.3	329.8	804.5
2012	61.7	9.8	15.7	222.7	50.4	307.9	693.4	42.7	5.7	10.9	152.6	35.2	219.0	548.8	88.3	23.0	22.6	424.9	89.3	434.6	914.4
2013	48.5	13.8	46.4	186.7	56.1	242.5	618.2	32.5	8.0	32.4	132.9	40.2	171.1	502.5	70.7	32.3	67.3	344.5	97.1	343.9	792.6
2014	34.0	12.3	11.7	116.0	25.4	140.2	352.8	22.9	7.1	8.1	84.3	19.1	102.5	289.7	48.9	28.6	16.9	208.2	42.1	193.4	451.0
2015	43.2	11.3	33.3	163.3	27.5	221.5	520.2	29.2	6.6	23.1	116.3	21.2	156.3	417.9	62.6	26.6	48.4	302.4	44.0	317.9	672.6
2016	42.4	10.3	19.4	166.3	52.5	218.6	529.8	28.7	6.0	13.6	117.0	42.1	152.0	424.5	61.3	24.1	28.3	310.8	79.1	319.5	687.0

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
2017	46.8	13.0	20.3	180.2	43.0	195.6	520.0	32.7	7.5	14.1	126.1	32.4	137.0	415.8	65.5	30.3	29.5	337.8	72.2	281.2	682.4
2018	31.7	10.8	17.5	145.1	37.9	189.3	450.1	21.7	6.3	12.2	103.0	29.0	131.8	357.0	45.1	25.2	25.5	268.1	61.6	275.7	585.9
2019	30.1	11.2	11.8	122.8	21.4	192.0	405.6	21.4	6.5	8.2	84.7	16.8	133.8	318.4	41.9	26.2	17.2	230.4	33.1	279.5	530.3
2020	44.1	9.0	15.0	150.8	35.3	259.5	532.9	31.9	5.2	10.5	103.5	31.8	179.8	417.7	61.4	21.1	22.1	285.7	41.1	380.0	696.0
2021	23.9	5.4	13.1	154.8	27.0	189.4	428.5	17.1	3.2	9.1	107.0	24.5	129.0	333.3	33.3	12.6	19.8	296.3	31.1	282.6	584.5
2022	21.3	2.5	16.0	135.3	10.9	208.5	409.8	15.4	1.5	11.1	93.7	9.4	143.2	315.5	29.7	6.0	23.8	258.3	14.5	305.0	545.9
2023	14.3	2.8	12.3	109.4	9.5	167.0	327.0	10.3	1.6	8.6	76.8	7.9	113.8	251.1	19.9	6.6	18.4	204.9	13.4	248.5	439.8
2024	19.1	1.1	16.7	108.1	27.2	235.8	421.7	13.8	0.6	11.5	75.2	25.2	157.8	322.5	26.5	2.5	25.6	202.0	29.4	354.5	558.1
Previous five-year mean:																					
	26.7	6.2	13.7	134.6	20.8	203.3	420.8														
Change (recent year relative to previous five-year mean):																					
	-29 %	-83 %	22 %	-20 %	31 %	16 %	0 %														
Rank of recent year (highest = 1 to lowest):																					
	53/54	54/54	44/54	53/54	30/54	44/54	50/54														

Table 3.3.4.8 Estimated number (in thousands) of MSW spawning salmon by year for S-NEAC countries and aggregated for the S-NEAC complex (median, 5% and 95% quantiles of the marginal posterior distributions) as derived from the run-reconstruction.

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
1971	56.6	6.8	7.4	82.4	11.0	234.6	406.8	35.0	4.3	4.5	51.7	9.2	176.1	328.6	93.9	11.4	10.9	133.1	13.2	311.7	501.6
1972	99.9	13.4	11.3	88.8	9.6	319.1	554.4	62.8	8.5	7.0	55.0	8.0	240.9	448.9	165.9	22.8	16.8	143.0	11.4	423.4	676.7
1973	78.2	8.3	10.2	95.9	8.4	312.7	524.4	47.8	5.2	6.3	60.1	7.0	237.4	423.8	130.1	14.0	15.2	154.3	10.0	411.4	644.4
1974	58.7	3.8	8.7	108.5	9.2	221.8	418.7	36.2	2.4	5.4	67.7	7.6	169.6	339.9	96.8	6.5	13.1	173.7	11.1	286.8	514.9
1975	77.1	7.7	9.3	120.4	7.5	305.0	538.7	48.4	4.9	5.8	75.6	6.3	218.3	424.8	127.6	13.0	13.8	194.9	9.0	417.9	674.6
1976	39.4	5.7	8.1	83.7	5.2	172.1	321.3	25.5	3.6	5.0	52.7	4.4	120.3	251.1	62.3	9.5	12.0	135.1	6.2	243.0	407.5
1977	52.8	4.3	7.9	72.8	5.2	222.2	373.0	32.2	2.7	4.8	45.7	4.3	150.5	285.6	88.5	7.3	11.7	117.8	6.2	324.8	486.7
1978	44.2	4.5	10.2	63.8	6.7	328.8	464.2	27.2	2.8	6.3	39.5	5.6	215.9	344.5	74.5	7.5	15.1	102.4	8.0	488.4	627.3
1979	22.5	5.1	6.5	57.2	4.7	251.7	352.9	13.7	3.2	4.0	35.8	3.9	159.3	253.7	38.4	8.6	9.7	91.7	5.7	382.6	486.7
1980	73.1	10.6	9.1	62.7	6.0	345.5	514.8	45.1	6.7	5.6	39.4	4.9	237.9	397.5	122.2	17.9	13.6	100.8	7.2	500.2	676.5
1981	102.5	7.5	6.1	46.0	4.7	291.8	469.0	62.6	4.3	3.8	28.8	3.9	214.8	371.5	173.5	15.0	9.1	74.5	5.6	395.2	590.0
1982	40.4	4.7	4.4	32.5	6.8	191.2	283.9	24.3	2.7	2.7	23.1	5.6	134.5	221.2	69.2	9.2	6.4	46.6	8.2	269.6	365.5
1983	46.0	5.0	7.2	63.2	9.5	201.1	336.7	27.7	2.9	4.4	46.8	7.8	143.6	271.3	78.2	9.9	10.7	86.7	11.6	275.7	419.4
1984	35.8	8.3	6.1	43.1	3.7	183.1	284.0	21.6	4.7	3.8	32.9	3.1	125.2	220.7	60.3	16.1	9.1	56.8	4.5	262.5	365.5

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
1985	53.7	6.2	4.5	53.5	4.8	171.3	298.6	32.8	3.5	2.8	44.7	4.0	109.0	228.3	90.6	12.1	6.6	64.3	5.9	256.7	391.6
1986	72.7	6.3	3.7	51.1	5.4	227.8	374.2	45.2	3.6	2.3	35.9	4.5	157.7	290.8	122.3	12.4	5.5	73.2	6.6	324.8	479.8
1987	57.2	3.4	3.3	79.4	3.0	155.5	306.7	36.2	1.9	2.0	62.1	2.5	97.5	237.9	95.0	6.6	4.9	102.3	3.6	237.1	395.7
1988	76.0	9.1	3.7	53.3	10.0	133.9	292.3	47.3	5.3	2.3	40.8	8.4	76.7	221.6	125.8	18.2	5.6	69.7	11.9	218.1	385.3
1989	59.8	4.2	3.3	40.8	5.0	146.0	264.8	38.0	2.4	2.1	28.7	3.9	87.2	197.4	99.6	8.3	5.0	58.4	6.4	229.1	352.0
1990	76.2	4.4	3.3	14.9	7.0	150.9	262.4	47.3	2.5	2.0	11.2	6.2	89.8	189.0	127.2	8.5	4.9	19.6	8.0	243.5	360.8
1991	33.5	3.9	3.3	41.1	3.3	125.3	213.7	21.0	2.3	2.0	33.1	2.9	72.5	156.4	55.4	7.8	4.9	51.4	3.8	204.1	295.3
1992	26.3	5.0	3.7	20.9	8.9	110.5	178.1	16.4	2.8	2.3	17.1	7.9	61.4	125.6	44.2	9.7	5.5	25.5	10.1	181.1	250.2
1993	31.2	2.3	1.8	24.3	27.6	115.3	208.9	19.2	1.3	1.1	12.5	25.5	64.5	150.3	53.8	4.6	2.7	51.1	30.0	192.3	288.2
1994	21.0	5.4	2.9	40.2	6.6	147.6	225.2	10.6	3.6	1.8	34.3	5.7	87.3	163.5	35.8	8.6	4.4	47.5	7.7	238.1	316.8
1995	14.6	2.6	3.0	37.9	5.4	178.5	243.4	6.0	1.7	1.9	33.4	4.8	104.0	167.8	26.3	4.1	4.5	43.5	6.1	288.9	353.3
1996	26.1	4.5	1.9	19.6	6.8	156.5	217.6	14.6	3.0	1.2	16.4	4.9	91.4	149.9	42.3	7.3	2.9	23.5	9.5	254.7	316.9
1997	14.2	2.3	2.2	39.2	8.5	111.4	182.4	7.8	1.6	1.4	24.1	6.1	63.9	127.8	23.0	3.8	3.3	69.5	12.1	183.2	259.5
1998	15.3	2.0	1.3	12.5	13.5	85.7	131.6	9.4	1.3	0.8	11.6	10.0	45.9	91.1	23.3	3.2	2.0	13.6	19.6	146.1	192.9
1999	18.2	4.3	2.8	33.6	5.4	105.5	177.4	10.7	2.9	1.8	17.1	4.2	60.8	121.7	28.4	6.9	4.2	80.1	6.9	176.2	256.1
2000	16.9	3.0	0.8	44.0	6.3	105.4	177.7	10.0	2.0	0.5	36.3	4.9	61.0	131.1	26.2	4.8	1.2	54.2	8.4	174.4	247.2

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
2001	17.0	3.5	1.4	37.0	4.3	152.4	218.3	10.1	2.3	0.9	27.2	3.5	90.1	152.7	26.9	5.6	2.0	51.7	5.3	249.5	316.1
2002	16.7	3.2	1.6	47.8	4.5	104.6	181.1	10.1	2.1	1.0	34.7	3.8	62.1	133.7	25.8	5.2	2.3	69.0	5.5	171.8	250.7
2003	21.0	4.6	2.3	54.1	2.3	137.8	225.1	13.3	3.1	1.5	41.3	1.9	86.0	168.9	31.4	7.5	3.4	75.0	2.8	214.4	303.2
2004	30.6	8.6	2.0	24.7	3.3	180.8	252.3	20.7	5.7	1.2	18.2	2.9	108.1	177.0	44.6	14.0	2.9	34.6	3.8	292.8	363.8
2005	28.0	5.3	1.8	37.8	4.2	183.3	262.0	18.6	3.5	1.2	31.8	3.6	113.0	189.8	41.2	8.6	2.6	45.4	5.0	288.8	367.7
2006	30.6	5.4	1.5	25.3	3.9	230.4	301.1	20.9	3.6	1.0	14.8	3.5	144.6	210.8	44.5	8.7	2.2	49.9	4.5	368.4	439.7
2007	28.1	5.1	0.9	21.5	4.4	184.3	246.6	19.0	3.4	0.6	15.5	3.8	117.0	177.6	40.6	8.2	1.3	34.0	5.3	292.9	355.8
2008	36.1	5.6	1.3	15.8	3.6	254.2	318.8	24.8	3.7	0.9	11.4	3.1	160.4	223.3	52.0	9.1	1.9	25.1	4.2	400.0	465.5
2009	29.1	2.6	1.7	20.1	3.6	212.4	271.7	20.1	1.7	1.2	14.7	3.2	137.4	195.9	41.9	4.2	2.5	31.0	4.2	330.5	392.8
2010	28.2	2.1	3.4	19.0	5.8	276.5	337.7	18.8	1.4	2.2	13.8	5.2	181.3	240.7	41.2	3.5	5.0	29.7	6.4	421.7	484.3
2011	43.4	6.0	1.9	20.3	7.0	356.0	438.6	28.2	4.0	1.2	14.5	5.8	234.1	313.0	63.9	9.8	2.7	31.9	9.2	541.9	624.5
2012	46.2	4.8	1.3	17.9	17.4	281.6	373.1	31.5	3.2	0.9	13.1	12.4	183.1	271.8	65.8	7.7	1.9	27.8	30.7	438.3	531.9
2013	32.2	5.0	3.5	20.4	5.6	259.1	329.2	21.1	3.3	2.4	15.0	4.0	167.7	235.9	47.6	7.9	5.0	31.9	9.7	399.2	469.5
2014	27.5	6.1	2.4	16.9	3.1	176.3	235.3	18.7	4.0	1.7	12.3	2.4	117.4	173.7	40.1	9.9	3.4	26.6	4.9	265.6	325.8
2015	39.1	6.9	2.0	17.6	4.0	213.2	285.9	26.3	4.6	1.4	12.8	3.2	140.5	211.0	57.3	11.2	2.9	27.8	6.0	326.5	400.6
2016	41.7	3.0	3.3	18.0	7.4	234.4	310.3	27.7	1.9	2.3	13.3	6.2	148.7	222.9	61.4	4.8	4.7	27.2	10.4	366.7	443.0

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
2017	48.1	3.3	2.8	16.5	6.0	205.1	284.5	33.1	2.2	2.0	12.1	4.8	133.6	210.2	69.0	5.4	4.1	25.5	8.8	319.2	398.5
2018	29.2	5.1	2.8	16.6	5.6	116.8	178.9	19.8	3.3	1.9	12.1	4.6	76.9	136.3	42.5	8.2	4.0	25.9	8.3	176.0	239.9
2019	25.0	8.0	2.4	15.4	3.6	151.9	208.8	17.7	5.3	1.7	11.6	3.0	98.7	153.6	35.1	13.0	3.4	23.1	5.0	234.3	291.8
2020	38.3	4.0	4.1	17.9	2.0	199.0	267.9	27.4	2.6	3.1	13.6	1.7	128.9	195.3	53.5	6.4	5.6	27.1	2.7	307.4	376.3
2021	24.3	3.8	1.8	20.1	2.2	135.0	189.0	17.4	2.5	1.3	15.2	2.0	88.0	140.7	33.8	6.1	2.4	30.2	2.5	208.7	263.5
2022	29.7	4.8	2.1	19.4	1.3	146.9	206.4	21.3	3.1	1.6	14.5	1.1	97.2	154.8	41.3	7.6	2.8	29.3	1.7	225.1	284.7
2023	23.9	3.3	2.3	13.2	1.3	101.4	146.9	17.1	2.2	1.8	10.2	1.1	66.0	109.7	33.3	5.2	3.2	19.6	1.7	158.7	204.8
2024	22.1	2.4	2.2	16.8	1.2	139.6	186.2	15.8	1.6	1.7	12.9	1.1	90.2	135.7	30.7	4.0	3.0	25.2	1.3	218.8	265.7
Previous five-year mean:																					
	28.2	4.8	2.5	17.2	2.1	146.9	203.8														
Change (recent year relative to previous five-year mean):																					
	-22 %	-49 %	-12 %	-2 %	-41 %	-5 %	-9 %														
Rank of recent year (highest = 1 to lowest):																					
	45/54	50/54	36/54	47/54	54/54	41/54	46/54														

Table 3.3.5.1 Estimated abundance (in thousands) at the PFA stage of maturing 1SW salmon (potential 1SW returns) for N-NEAC countries and aggregated for the N-NEAC complex (median. 5% and 95% quantiles of the marginal posterior distributions) as derived from the Life Cycle Model. Years are PFA years. The period 2024-2028 are forecasted.

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
1971	32.3	12.3	766.3	186.8	20.5	1019.9	23.5	10.2	677.3	157.7	15.9	924.5	44.3	14.8	883.7	220.7	26.9	1139.9
1972	122.7	11.2	882.5	147.1	16.6	1184.3	89.3	9.3	781.4	126.6	13.0	1072.1	167.8	13.6	1014.3	171.3	21.4	1324.1
1973	59.6	13.6	877.1	220.7	19.0	1191.9	43.3	11.3	774.2	189.9	14.7	1082.0	82.0	16.5	1004.1	256.8	24.7	1327.9
1974	80.3	13.2	842.1	216.6	27.3	1182.9	59.2	10.9	741.8	187.5	21.4	1075.5	111.4	16.0	964.8	251.0	35.0	1311.3
1975	97.5	15.8	834.0	315.3	30.7	1296.4	73.9	13.3	744.1	271.6	24.9	1187.5	129.4	18.8	948.5	365.5	38.8	1430.2
1976	79.5	16.7	779.9	229.2	15.9	1124.0	61.4	14.1	695.2	198.9	12.7	1029.5	103.7	19.7	884.7	265.1	20.2	1237.0
1977	49.8	22.3	792.7	150.8	11.0	1028.4	38.0	18.8	706.7	130.4	8.7	935.7	65.3	26.5	900.5	174.9	14.0	1139.9
1978	41.1	21.6	723.1	149.9	11.3	948.8	31.8	18.3	639.2	129.8	8.9	858.7	53.8	25.6	825.1	173.6	14.4	1055.0
1979	39.4	20.6	1134.2	195.4	14.3	1405.8	30.6	17.4	1018.3	169.3	11.0	1282.8	51.2	24.4	1281.2	225.3	18.3	1556.9
1980	33.0	4.2	853.2	149.6	13.9	1055.0	26.5	3.5	754.9	129.9	10.9	954.7	41.2	5.0	972.8	171.6	17.8	1177.5
1981	29.5	14.5	798.7	121.8	25.1	990.1	23.8	12.3	718.2	105.6	20.1	906.8	36.8	17.0	897.3	140.2	31.5	1092.1
1982	21.7	8.4	669.6	114.5	22.5	837.8	17.3	7.1	593.1	99.8	17.6	757.8	27.1	10.0	761.9	131.7	28.5	932.0
1983	39.0	10.9	895.9	171.0	31.0	1149.6	31.5	9.3	811.2	149.9	24.5	1059.2	48.6	12.9	997.5	195.4	39.3	1255.9
1984	45.9	5.0	932.1	193.2	37.6	1214.7	37.1	4.2	843.6	168.8	30.0	1119.9	56.9	5.9	1038.0	220.6	47.6	1325.4

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
1985	59.9	25.8	995.2	251.4	34.7	1370.0	47.8	21.8	895.9	219.1	28.8	1261.0	74.8	30.6	1115.9	289.6	43.1	1499.7
1986	50.9	35.3	868.1	211.7	49.1	1216.5	40.7	29.7	780.2	183.3	39.6	1119.9	63.5	41.9	966.5	243.9	61.6	1323.1
1987	53.3	22.0	708.4	230.2	42.1	1058.6	42.8	18.5	642.8	199.6	33.3	981.3	67.0	26.1	789.8	265.5	53.6	1147.3
1988	38.7	27.5	657.2	170.1	34.5	929.5	31.2	23.4	595.8	156.6	27.2	863.6	48.0	32.5	733.0	184.7	44.0	1007.3
1989	68.8	17.7	706.3	249.4	12.3	1055.6	56.9	14.9	626.5	231.7	9.3	970.8	83.9	21.1	797.4	268.5	16.1	1150.2
1990	76.9	13.3	640.3	204.1	24.1	960.2	63.1	11.2	571.3	188.4	18.1	886.7	94.3	15.8	719.2	221.4	31.9	1042.8
1991	74.8	17.4	534.8	175.2	31.4	834.9	61.4	14.6	478.5	157.7	23.5	772.2	91.6	20.6	602.4	194.0	41.7	909.3
1992	95.7	33.8	475.0	209.0	30.6	846.2	79.1	28.6	424.4	184.3	23.1	783.4	116.5	39.8	533.2	237.9	40.5	916.0
1993	68.0	25.6	476.1	190.6	29.7	791.9	56.1	21.7	429.7	165.9	22.4	734.4	83.0	30.2	529.3	219.4	39.3	855.6
1994	42.9	10.4	586.0	208.8	23.0	872.6	35.0	8.7	529.3	179.5	17.5	805.6	52.3	12.3	654.3	241.4	30.5	948.8
1995	40.9	21.1	426.2	205.4	32.4	727.7	33.5	18.0	384.4	179.5	24.6	675.1	50.0	24.9	473.6	236.0	43.1	786.5
1996	57.8	12.8	317.2	246.7	21.7	657.4	47.3	10.8	286.5	215.0	16.2	610.0	70.8	15.1	351.9	284.6	29.0	712.2
1997	59.1	17.4	370.8	241.6	11.1	701.9	48.3	14.7	334.4	206.9	8.4	647.3	72.9	20.6	411.4	283.5	14.9	761.8
1998	64.8	27.6	469.2	269.8	8.3	842.1	52.8	23.4	421.4	231.2	6.2	774.9	80.2	32.6	522.3	315.4	11.1	913.3
1999	99.4	15.1	441.8	226.5	12.9	798.2	81.9	12.7	398.4	194.7	9.7	737.8	121.1	17.9	491.8	264.6	17.3	864.4
2000	106.5	16.3	692.8	246.0	20.1	1083.5	87.7	13.7	624.3	210.0	15.2	1000.9	129.9	19.3	769.9	286.2	26.6	1174.5

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
2001	80.0	15.2	592.0	292.7	14.8	998.6	66.2	12.7	534.3	237.1	11.1	909.8	97.3	18.1	659.2	361.8	19.8	1097.0
2002	52.3	20.5	398.0	274.2	10.6	757.3	42.3	17.2	358.2	221.8	8.0	687.9	64.5	24.7	442.4	339.1	14.0	838.9
2003	44.4	15.2	492.5	209.2	8.3	772.0	36.2	12.7	442.5	170.5	6.2	703.5	54.7	18.1	548.5	258.6	11.1	847.0
2004	23.1	31.9	335.1	183.2	6.5	581.5	18.8	26.7	303.4	149.9	4.9	532.9	28.5	38.1	370.7	225.2	8.7	637.4
2005	44.6	30.9	459.8	189.2	6.2	732.4	36.5	25.6	416.9	154.5	4.7	673.3	54.5	37.1	508.9	231.9	8.4	799.4
2006	66.5	30.7	377.1	197.8	6.1	679.8	56.2	25.6	341.9	162.4	4.5	625.0	79.3	36.4	417.0	241.8	8.1	743.1
2007	25.6	26.2	226.1	157.0	2.4	438.3	21.1	21.6	203.6	126.6	1.8	398.1	30.9	31.5	251.5	193.9	3.3	484.0
2008	22.7	24.9	256.1	146.1	3.2	454.0	19.0	20.5	230.8	119.1	2.2	414.7	27.1	30.1	285.0	178.9	4.7	498.4
2009	39.9	31.3	233.2	133.1	3.5	441.9	33.3	26.6	208.8	109.4	2.4	404.9	47.7	36.7	260.7	163.5	5.2	484.7
2010	32.4	30.4	301.9	153.3	6.0	524.9	27.1	25.8	285.7	126.9	4.1	492.1	38.9	35.7	319.9	185.3	8.7	562.2
2011	37.2	22.9	224.3	137.3	6.0	428.4	31.1	19.3	212.9	114.3	4.2	400.4	44.6	27.2	236.4	164.8	8.5	460.2
2012	62.6	13.0	258.1	161.9	6.7	503.3	52.1	11.0	244.5	133.5	4.5	468.9	75.3	15.4	272.8	197.5	9.9	544.7
2013	39.9	27.6	275.1	150.8	5.0	499.4	33.3	23.4	259.8	124.4	3.3	466.3	47.7	32.6	291.4	183.6	7.4	536.8
2014	50.1	14.6	315.3	133.9	9.2	524.0	42.0	12.2	298.7	110.2	6.5	491.9	59.5	17.3	333.1	163.9	13.1	560.2
2015	36.9	34.1	338.0	120.2	3.3	533.5	30.8	28.6	319.5	99.7	2.4	503.1	44.1	40.8	357.2	146.9	4.8	567.8
2016	25.2	17.4	260.8	79.8	3.6	387.3	21.1	14.5	246.4	67.2	2.5	367.3	30.0	21.2	275.3	95.3	5.0	410.0

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
2017	16.7	16.5	301.0	54.1	3.4	392.3	13.4	13.6	285.8	44.8	2.4	373.1	20.8	20.0	317.1	66.1	4.8	413.3
2018	32.9	16.0	303.4	102.2	8.5	464.1	26.7	13.2	289.2	84.5	5.7	438.8	40.6	19.3	318.2	125.1	12.9	493.1
2019	14.8	10.3	299.2	73.4	6.3	405.0	11.9	8.3	283.5	61.3	4.1	383.4	18.3	12.9	315.9	88.9	9.3	427.6
2020	13.6	12.3	348.9	66.4	5.0	447.1	10.9	10.0	330.5	56.8	3.5	425.5	16.9	15.2	368.5	78.5	7.3	470.1
2021	13.6	10.7	234.2	59.8	6.0	324.9	11.4	8.6	221.1	44.8	4.1	303.9	16.2	13.4	247.9	80.4	8.6	350.1
2022	12.3	12.1	283.6	52.4	4.9	366.3	11.3	9.3	267.7	39.6	3.4	344.4	13.3	15.7	300.3	72.2	7.0	392.0
2023	10.8	8.4	243.0	56.0	4.2	323.5	8.9	6.3	230.3	39.7	2.9	301.5	13.0	11.2	256.2	81.9	6.2	352.1
Forecast:																		
2024*	9.9	7.1	252.8	64.3	3.9	344.6	4.5	2.7	165.6	32.5	1.1	245.7	21.2	17.2	384.3	122.1	12.6	487.4
2025	10.1	6.2	275.7	58.6	4	376.1	3.3	1.7	155	24.1	0.8	227.5	29.9	21.8	517.4	138.5	14.2	631.3
2026	9	5.7	263.4	50.5	4	355.9	2.5	1.1	129.9	17.5	0.5	195.1	30.5	24.1	529.4	140.2	19.4	633.4
2027	12.5	5.3	282.6	52.4	4	383	2.7	1	120.7	14.4	0.5	192.2	47.2	25	610.5	182.7	23.2	737.7
2028	14.2	5.1	267.3	55.5	2.7	379.5	2.7	0.7	106.9	12.8	0.3	184.4	57.9	34.2	611.6	224	19.9	751

***PFA values are derived from incomplete input data (returns of 1SW maturing are not included) and therefore, 2024 PFA values should not be compared to 2024 returns and spawners of 1SW fish (tables 3.3.4.1 and 3.3.4.3). These values are included for completeness.**

Table 3.3.5.2 Estimated abundance (in thousands) at the PFA stage of non-maturing 1SW salmon (potential MSW returns) for N-NEAC countries and aggregated for the N-NEAC complex (median. 5% and 95% quantiles of the marginal posterior distributions) as derived from the Life Cycle Model. Years are PFA years. The period 2024-2028 are forecasted.

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
1971	43.8	29.9	903.4	226.9	1.1	1207.5	32.0	26.2	827.4	205.9	0.8	1125.1	60.5	34.1	1000.1	251.5	1.4	1306.0
1972	68.4	29.0	1078.1	382.1	4.4	1566.0	50.8	25.5	984.3	347.5	3.4	1462.7	93.8	33.0	1197.5	424.5	5.7	1691.5
1973	107.0	24.4	1011.7	337.5	2.8	1486.3	81.4	21.5	915.6	307.9	2.1	1383.5	144.8	27.8	1123.9	373.3	3.7	1607.4
1974	135.6	29.4	892.7	373.7	0.9	1437.2	104.6	25.9	813.1	341.1	0.7	1343.1	182.3	33.7	989.9	412.5	1.2	1545.6
1975	97.8	23.7	880.1	330.9	2.4	1338.2	76.7	20.8	801.4	302.3	1.9	1249.9	128.4	26.9	973.2	363.8	3.1	1438.6
1976	78.6	31.0	839.4	229.1	1.1	1181.1	61.8	27.6	766.6	208.3	0.9	1102.1	101.3	35.1	925.4	252.2	1.5	1273.4
1977	41.5	38.3	634.5	206.3	1.3	923.0	31.8	33.9	572.7	186.7	1.0	856.5	54.1	43.5	706.9	228.4	1.7	1000.1
1978	47.6	28.2	945.7	184.6	3.2	1211.2	36.2	24.9	870.6	166.7	2.5	1133.0	62.6	32.0	1037.5	204.9	4.1	1305.0
1979	44.1	42.2	1261.6	265.7	5.5	1620.6	34.3	37.5	1160.2	243.1	4.5	1516.5	57.4	47.6	1381.9	293.2	6.9	1744.9
1980	51.4	16.2	1244.1	184.6	1.9	1500.0	39.9	14.2	1149.2	166.8	1.5	1401.3	66.6	18.6	1357.4	205.4	2.5	1615.3
1981	57.2	20.7	1012.0	167.3	8.0	1266.0	45.0	18.2	934.9	151.6	6.3	1186.0	73.4	23.7	1101.7	185.2	10.2	1359.3
1982	58.6	14.8	941.6	227.4	5.3	1249.5	46.9	13.0	871.8	208.1	4.1	1175.0	74.5	16.9	1020.3	248.4	6.8	1331.8
1983	66.2	16.5	886.5	216.6	6.4	1193.0	52.0	14.5	819.5	198.4	5.0	1120.7	84.6	18.7	963.0	235.8	8.3	1274.0
1984	53.9	10.8	837.6	234.3	2.8	1141.0	41.8	9.5	772.0	213.1	2.1	1069.6	69.5	12.4	912.9	258.5	3.6	1220.7

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
1985	53.6	31.4	973.9	234.3	1.7	1296.8	41.7	27.6	905.2	212.6	1.3	1222.9	69.3	35.7	1053.8	261.0	2.2	1381.6
1986	58.6	32.4	764.2	181.1	6.2	1044.0	45.9	28.5	705.6	164.2	4.8	981.0	76.0	36.9	832.5	200.7	8.0	1115.7
1987	41.4	18.4	599.3	182.0	6.1	848.6	32.0	16.2	552.8	167.9	4.8	798.7	54.0	20.8	654.2	198.2	8.0	906.1
1988	39.3	17.8	482.1	173.4	21.4	735.2	31.7	15.6	439.6	162.7	17.3	690.6	49.3	20.2	531.2	185.9	26.9	786.2
1989	52.2	16.2	497.8	222.5	9.4	799.1	41.9	14.3	453.2	210.0	7.3	751.3	65.1	18.3	548.6	236.2	12.2	853.3
1990	58.8	11.2	398.8	210.1	14.4	694.6	47.1	9.8	362.3	196.9	11.1	652.3	74.4	12.7	440.7	224.2	18.7	740.4
1991	57.3	15.9	428.7	198.8	17.0	719.1	45.7	14.0	388.9	186.2	13.2	674.1	72.6	18.0	475.6	212.2	21.8	770.5
1992	69.2	17.6	405.3	237.8	18.5	749.8	55.3	15.5	370.8	223.0	14.4	707.3	87.5	19.9	444.2	254.2	23.9	795.1
1993	66.8	15.1	398.3	195.2	14.3	691.0	53.8	13.4	364.0	180.0	11.1	648.9	83.0	17.2	436.8	213.2	18.5	737.4
1994	39.0	9.4	465.2	229.5	8.1	752.7	31.3	8.3	425.1	213.3	6.2	707.1	48.7	10.7	512.0	247.8	10.6	802.9
1995	35.8	12.5	418.7	173.4	13.2	654.9	28.5	11.1	384.1	159.5	10.2	615.5	45.2	14.2	457.8	190.2	17.1	699.1
1996	41.8	6.8	277.3	145.8	8.7	481.3	33.3	6.0	252.8	133.5	6.7	450.9	52.9	7.7	305.3	160.2	11.3	515.2
1997	34.4	9.3	320.2	179.4	4.5	548.8	27.2	8.3	292.1	165.5	3.5	516.0	43.9	10.6	352.6	195.2	5.9	585.7
1998	46.3	11.5	339.0	150.0	3.6	551.3	37.7	10.0	307.3	136.3	2.8	513.8	56.7	13.1	375.4	166.1	4.8	592.7
1999	95.5	6.5	474.6	256.9	10.6	845.7	78.5	5.7	432.3	236.2	8.2	793.3	116.7	7.5	524.3	281.3	13.7	906.4
2000	102.2	7.3	556.0	182.7	13.2	862.4	84.9	6.4	505.3	164.0	10.2	803.8	124.1	8.4	613.0	204.8	17.0	930.1

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
2001	83.1	6.7	476.9	193.6	8.9	771.0	68.6	5.8	433.4	175.0	7.0	718.3	101.3	7.7	526.9	215.8	11.5	829.3
2002	63.2	8.1	418.4	145.7	2.9	639.5	53.1	6.9	381.4	131.0	2.2	596.7	76.3	9.6	461.2	163.3	3.8	688.4
2003	34.8	6.9	387.3	116.0	6.2	552.3	28.6	5.9	351.8	104.3	4.9	512.2	42.5	8.0	429.5	130.1	8.1	597.7
2004	25.9	9.3	365.7	124.4	5.1	530.8	21.4	7.9	333.8	113.2	3.9	496.1	31.5	10.8	401.4	137.8	6.5	570.6
2005	40.8	8.8	444.4	128.5	5.6	628.6	34.6	7.3	406.4	117.1	4.3	587.7	48.1	10.6	488.0	142.0	7.2	676.6
2006	56.4	8.2	393.2	142.2	5.6	606.7	47.5	6.9	359.5	130.5	4.3	568.1	66.9	9.9	432.2	155.5	7.2	649.8
2007	49.7	9.8	418.6	193.8	5.4	678.7	42.3	8.1	378.3	175.3	4.1	630.7	58.5	11.8	464.8	216.8	7.3	731.8
2008	27.6	8.4	358.4	172.9	6.5	574.9	23.2	7.0	320.7	157.6	4.9	533.1	32.9	10.1	400.9	191.0	8.9	620.9
2009	39.0	13.0	362.8	205.5	7.2	628.3	33.2	10.9	343.7	187.5	5.3	600.0	46.2	15.4	383.7	226.4	9.7	658.6
2010	30.1	12.7	513.0	198.0	13.0	767.4	25.3	10.5	486.3	181.2	9.9	734.1	35.8	15.2	541.5	216.8	17.4	802.2
2011	36.7	7.6	459.3	114.4	15.1	634.0	31.1	6.3	437.4	103.7	11.2	607.3	43.5	9.3	482.4	126.6	20.4	661.2
2012	34.5	8.7	315.7	122.1	8.7	490.3	29.0	7.0	301.1	111.5	6.2	470.4	41.6	10.7	331.2	134.3	12.2	511.4
2013	36.3	10.1	336.2	121.3	14.0	518.5	30.7	8.3	319.9	111.2	10.6	497.0	43.0	12.3	353.6	133.1	18.4	540.9
2014	37.0	10.0	397.7	113.5	10.0	568.6	31.3	8.2	378.3	104.7	7.3	545.8	43.6	12.2	418.7	123.1	13.7	593.2
2015	36.1	13.7	425.9	101.7	7.8	585.7	30.7	11.1	405.9	93.7	5.8	562.2	42.8	16.9	446.4	110.3	10.7	609.5
2016	26.8	8.5	443.1	96.1	8.7	584.0	22.2	6.5	421.9	88.5	6.4	559.8	32.5	11.0	466.1	104.7	11.9	609.1

Year	Finland median	Iceland(NE) median	NO median	Russia median	Sweden median	NNEAC median	Finland 5%	Iceland(NE) 5%	Norway 5%	Russia 5%	Sweden 5%	NNEAC 5%	Finland 95%	Iceland(NE) 95%	Norway 95%	Russia 95%	Sweden 95%	NNEAC 95%
2017	18.6	7.9	425.3	111.3	11.7	575.7	15.2	6.0	404.3	102.0	8.5	551.3	22.8	10.4	447.3	122.3	16.1	601.1
2018	25.4	6.9	376.9	92.3	14.1	516.6	20.9	5.3	358.5	85.1	9.7	494.5	31.3	9.0	396.1	100.1	20.5	538.9
2019	14.4	6.2	393.8	85.2	9.5	509.4	11.8	4.9	373.0	78.9	6.6	487.2	17.8	7.9	415.6	92.2	13.5	533.4
2020	15.3	4.1	307.1	85.8	9.3	422.3	14.1	3.1	290.2	69.2	6.4	397.8	16.6	5.4	325.2	108.1	13.2	450.2
2021	19.5	4.8	375.2	91.4	10.0	502.2	17.9	3.6	354.7	75.4	6.9	474.2	21.1	6.5	396.7	114.2	14.2	532.9
2022	18.3	5.1	303.7	88.6	10.4	427.4	16.9	3.4	286.9	72.5	7.4	402.7	19.8	7.5	321.4	110.0	14.9	454.6
2023	10.1	4.1	187.1	86.5	6.0	294.7	9.3	2.4	174.4	69.9	4.1	273.0	11.0	7.0	200.7	109.7	8.8	321.1
Forecast:																		
2024	9.5	3.5	194.6	88	5.5	311.4	4.3	1.1	122.6	44.7	1.8	219.8	19.6	9.7	294.3	159.7	17.4	434.2
2025	9.5	3.2	220.4	79.8	5.7	329.8	3.2	0.6	110.7	32.3	1.2	197	28.8	12.9	403.2	174.1	20.5	531.9
2026	8.4	2.7	206.3	74.9	6	316.5	2.5	0.4	89.1	23.7	1	176	26.8	13.7	420.1	176.3	25.4	557.7
2027	11.4	2.5	215.5	75.4	5.9	334	2.9	0.4	91.7	21.2	0.8	170.8	44.1	15	515.5	226.7	29.7	676.3
2028	13.3	2.5	203.5	80.8	4.2	340.3	2.9	0.3	76.2	18	0.4	157.3	55	20.9	478	247.4	28.7	657.3

Table 3.3.5.3 Estimated abundance (in thousands) at the PFA stage of maturing 1SW salmon (potential 1SW returns) for S-NEAC countries and aggregated for the S-NEAC complex (median. 5% and 95% quantiles of the marginal posterior distributions) as derived from the Life Cycle Model. Years are PFA years. The period 2024-2028 are forecasted.

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
1971	117	56.7	79.2	1307.5	229.3	1107.4	2903.7	87.2	38.1	65.7	1068.6	208.5	993.7	2634.6	159	83.6	95.2	1610.8	254.7	1231.8	3226.5
1972	110.2	105.6	65.4	1413	198.6	1120.9	3024.3	83.1	71.4	54.3	1158.1	181.3	988.5	2722.8	147.5	156.7	78.5	1737.3	218.6	1277.1	3384.6
1973	134.2	66.3	71.1	1555.2	176	1346.3	3361.3	98.5	45.3	59.2	1280.1	160.3	1183.2	3029.9	183.6	97.5	85.5	1894.4	194.9	1525.9	3743.9
1974	163.4	38.7	50.8	1762	196.7	1304	3526.3	121.1	25.9	42.1	1453.6	178.1	1155.6	3174.5	222.1	57.6	61.4	2149.3	218.2	1472.6	3949.3
1975	162.5	73.8	75.6	1918.2	158.8	1032	3427.4	125.1	53.3	63.6	1601.7	145	909.4	3083.2	211.1	101.9	89.8	2298.8	175.6	1173.5	3839.4
1976	122.6	65.9	59.9	1302.9	115.1	878	2550.8	97.9	48.4	50.8	1091.9	104.9	777.9	2307.8	154.3	89.8	70.8	1563.7	126.9	991.1	2832.3
1977	124.7	47.5	64.7	1085.3	114.4	989.9	2435.1	95.9	34.2	54.6	909.7	104	865.4	2208.1	162.7	65.3	76.7	1302.9	126.2	1136.4	2693
1978	123.1	52.7	79.2	1053.4	140.6	1003.2	2461.4	95.4	38.8	66.9	880.7	128.6	881	2237	158.9	71.6	93.8	1265.4	154.6	1148.1	2718.1
1979	156.9	74.9	73.4	994.6	110.7	1005.3	2423.5	120.1	54.8	62	832.1	100.4	875.2	2203.6	204.9	101.3	86.7	1193.4	122.6	1161.2	2682.5
1980	139.4	95.7	34.8	704	122.5	706.2	1809.5	107.6	69.4	29.1	586.6	112.1	612.4	1645.9	183	131.1	41.5	843.8	134.6	814.2	1993.3
1981	134.8	79.1	45.6	435.1	105.3	867	1674.3	103.1	58.3	38.6	373.2	95.3	756.5	1534.4	175.3	107.7	53.7	507.1	116.9	996.1	1824.5
1982	122.1	62.7	47.9	838.1	148.7	975.2	2201.9	92.8	45.8	40.2	729.4	134.9	864.5	2037	161.2	85.9	56.9	970.2	164.8	1100.8	2390.4
1983	152.5	74.1	58.4	1193.3	185.7	1099.1	2772.7	117.6	54.3	49.5	1040.6	171.3	971.5	2561.6	198.7	101.3	69.1	1374.1	204.3	1246.4	3010.4
1984	148.6	85.8	36.6	795.1	84.6	1008	2164.7	113.6	62.3	30.9	682	76.5	893.2	1993.6	193.9	118	43.4	928	93.7	1140.8	2357

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
1985	156.5	45	54.8	1152	109.6	968.5	2495.3	120	32.4	46.4	1005.5	99.4	837.3	2284.1	204.7	61.8	64.7	1331.7	121.4	1119.1	2730.1
1986	178.8	50.6	85.4	1257.4	118.7	1066.1	2768.5	137.2	32.9	72.6	1090.9	107.9	925.8	2532.3	233.5	77.3	100.9	1462.7	131.4	1225.4	3025
1987	168.4	86.5	62.8	837.6	66.6	892.8	2125.5	132.7	56.2	53	717.6	59.4	764.7	1932.5	214.6	131.4	74.4	985.9	75.1	1040.9	2343.4
1988	217.8	36.8	99.6	1141.4	141	1092.7	2737.3	170.9	23.4	84.8	974.1	125.8	926.9	2487.7	277.1	56.2	117.3	1342.7	158.5	1277.1	3017.8
1989	177.4	26.7	63.9	753.3	157.9	1020.1	2208.4	138.2	16.8	54.4	646.9	141.2	856.8	2004.1	228.7	41.3	75.3	881.3	177.8	1206.7	2435.3
1990	127.6	38.5	54.4	568.6	116.2	759.9	1671.9	98	24	46.1	486.7	107.5	631.5	1504.2	165.3	61.1	64.5	665	125.8	919.4	1859.5
1991	106.8	28.3	60.6	406.8	68.2	598.3	1275.8	83	18.1	51.4	344	63.1	492.9	1141.5	137.3	43.9	71.7	483.9	74	724.3	1425
1992	132.1	24.9	63.9	544.5	130.2	746.9	1651.3	103.2	16	54.2	463.4	118.3	620.9	1488.6	169	38.2	75.1	640.1	143.5	901.9	1829.6
1993	185.8	43.6	70	471.5	152.2	820.4	1751.9	145.1	28.7	59.4	402.6	140.5	677.7	1581.6	236.7	65.8	82	553.6	165.2	999.7	1952.5
1994	215.7	22	54.6	584.5	114.2	821.4	1819.8	178.9	14.7	46.2	503.5	103.3	681.3	1643	261.3	32.9	64.1	682.1	126.7	998.8	2026
1995	187.6	19.9	62.1	613.3	99.8	746.7	1734	158.1	13.5	52.7	527.2	92.1	616.6	1569.2	222	29.1	73	715.1	108	907.5	1929.4
1996	140.9	16.9	61.2	604.7	104.6	589.1	1522.1	114.6	11.7	51.8	513.9	92.4	473.2	1369.4	172.9	24.6	72.2	707.5	118.5	732.2	1698.6
1997	120	11.1	42.5	536.3	128.2	493.3	1335.9	98.3	7.5	36.1	456.7	113.1	396.7	1201.3	146	16.4	50	629.1	146.1	616	1493.6
1998	162	19.7	64.3	614.3	208	530.5	1606.3	131.7	13.5	54.7	523.2	179.5	423.7	1452.9	200.9	28.4	75.9	721.8	241.5	666.1	1788.1
1999	127	13	41.6	616.4	70.4	444.9	1318.7	104.7	8.9	35.6	523.6	65.8	353.2	1179.6	153.9	18.8	49.4	726.1	75.4	555.5	1474.9
2000	179.3	17.7	43.9	696.2	100.3	591.9	1635.4	148.9	12.1	37.5	595	93.3	479.3	1469.5	216.3	25.9	51.5	820	107.7	731.9	1827.2

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
2001	150.4	15.7	38.5	626	84.5	542.4	1461	124.5	10.5	32.6	547.7	78.1	432.9	1321.5	182	23	45.8	714.8	91.5	676.7	1626.7
2002	144.6	24.2	49.2	549.6	136.2	471	1379.3	119.2	16.7	41.7	480.8	123.5	375.9	1253.8	177.2	34.8	58.1	628.6	151	588.9	1524.4
2003	106.6	25.7	54.8	509.4	89.2	466.2	1256.4	85.6	17.5	46.6	446.4	82.3	370.3	1136	133.4	37.1	64.6	581.8	96.7	586.1	1399.9
2004	174.3	20.7	63.8	424.1	88.5	556.5	1331.9	138.8	14.1	53.9	370.6	81.4	446.5	1197.5	218.2	29.9	75.6	483.8	96.6	693.9	1491.8
2005	146.7	17.1	74.7	395.3	101.9	579.5	1319.8	117.1	11.8	63.6	346.8	92.5	462.9	1183.6	183.7	25	87.8	450.3	112.5	726.5	1481.4
2006	142.5	20.5	59	304.1	77.2	536.4	1143.3	112.6	14.2	50.1	267.7	69.4	429.9	1020.7	179.2	29.6	69.7	345.5	86	672.1	1293
2007	146.9	18.9	64.8	281.1	95.3	486.1	1101.3	115.2	12.4	55.2	206.8	84.3	385.7	960.9	188	28.4	75.8	381.3	108.4	611.1	1261.2
2008	152.4	14.5	84.3	276.9	68.6	471.1	1076.8	119.4	9.9	71.5	205.3	60.6	375.5	937.8	195.6	21.1	99.6	373.8	77.8	595.6	1236
2009	98.9	8.3	92.2	263.9	41.8	388.6	900.0	77.3	5.5	77.5	193.9	36.7	305.4	779.4	126.8	12.5	109.7	359.9	47.7	495	1047.3
2010	171.2	19.8	90.2	277.8	42.6	517.7	1127.7	135.9	13.3	76.4	204.6	37.6	414.8	985.9	214.6	29.1	106.8	378.0	48.6	653	1298.6
2011	136.1	18.0	65.9	256.8	34.2	405.9	924.9	107.4	11.6	55.6	188.8	28.3	322.4	800.3	172.8	27.7	78.5	346.5	42.1	515.3	1069.6
2012	93.2	10.5	43.4	305.3	55.5	381.8	897.1	71.3	6.8	36.3	219.2	41.8	297.8	766.5	120.4	16.3	51.9	427.2	75	494.2	1062.1
2013	84.1	16.4	89.9	251.8	58.1	344.5	852.3	67.4	11.2	76.2	188.6	44.7	277.6	749.3	105.2	23.7	106.2	337.2	76.3	431.7	975.7
2014	60.9	19.6	31.2	190.0	35.9	232.1	573.5	48.3	13.2	26.1	141.1	27.7	185.8	499.6	76.7	28.6	37.2	254.5	47.4	289.1	661
2015	75.2	11.1	71.2	220.2	39.7	315.1	739.1	60.0	7.5	59.7	163.0	31.2	251.3	643.3	94.9	16.6	85.3	299.7	51.8	397	855.3
2016	73.6	11.9	46.1	218.9	66.9	290.4	713.8	58.4	8.1	38.6	162.0	55.2	229.5	621.0	92.7	17.5	55.5	295.2	83	370.1	828.2

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
2017	63.1	18.2	47.8	209.1	48.2	260.8	652.9	49.0	12.1	39.8	152.3	38.0	203.3	563.7	80.5	26.8	57.5	286.3	62.6	334.5	760
2018	45.4	17.0	38.6	183.9	42.0	249.5	582.1	35.9	11.7	32.2	135.7	33.8	197.1	502.1	57.7	24.7	46.4	248.9	53.5	319	675.2
2019	40.4	10.8	30.3	174.1	26.7	258.7	545.7	30.8	7.4	25.0	127.2	21.7	201.6	464.3	52.4	16.0	36.6	237.1	33.7	335.2	642.7
2020	47.5	10.1	31.9	205.7	46.4	304.7	651.5	36.3	6.7	26.2	147.8	41.9	235.7	552.6	61.7	15.2	38.9	287.4	52.1	394.7	771.7
2021	34.8	9.0	29.2	195.1	36.0	267.5	577.3	26.6	5.8	23.5	139.5	32.5	205.2	485.2	45.9	13.8	36.4	270.3	40.2	350.5	689.2
2022	26.1	5.4	33.3	153.4	15.4	237.0	474.5	20.0	3.6	27.0	109.7	13.2	183.0	399.6	34.0	8.3	40.8	213.3	18.4	309.8	566.7
2023	18.7	3.8	25.2	163.1	11.3	218.3	445.2	14.0	2.4	20.3	114.6	9.6	162.8	363.3	24.9	6.1	31.4	233.8	13.7	294.7	548.5
Forecast:																					
2024*	19.5	3.6	22.5	168.9	13.3	237.4	493.4	8.1	1.2	10.0	78.3	7.0	133.0	313.5	43.3	10.6	49.2	400.2	25.7	427.1	808.4
2025	15.9	3.3	22.4	165.5	10.4	224.5	473.7	4.9	0.9	7.3	57.1	3.9	101.1	263.6	42.5	11.8	61.9	435.6	27.7	513.2	884.9
2026	13.6	2.4	20.5	140.4	5.4	194.9	419.5	3.5	0.5	5.6	42.3	1.6	75.0	206.1	46.0	9.4	61.0	405.6	16.3	515.7	852.5
2027	11.1	2.1	19.3	135.4	4.6	179.0	395.7	2.5	0.4	4.3	38.7	1.1	61.4	175.9	42.8	10.2	63.6	512.6	19.9	530.5	929.1
2028	10.7	2.6	17.8	148.1	5.0	171.3	422.5	1.7	0.3	3.1	25.9	0.8	53.8	164.9	46.4	18.4	66.1	772.7	35	571.1	1199.3

***PFA values are derived from incomplete input data (returns of 1SW maturing are not included) and therefore, 2024 PFA values should not be compared to 2024 returns and spawners of 1SW fish (tables 3.3.4.1 and 3.3.4.3). These values are included for completeness.**

Table 3.3.5.4 Estimated abundance (in thousands) at the PFA stage of non-maturing 1SW salmon (potential MSW returns) for S-NEAC countries and aggregated for the S-NEAC complex (median. 5% and 95% quantiles of the marginal posterior distributions) as derived from the Life Cycle Model. Years are PFA years. The period 2024-2028 are forecasted.

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
1971	327.7	52.2	93.7	424.9	47.6	1523.6	2481.2	242.3	38.2	82	329.1	41.6	1340.8	2277.8	445.2	71.3	107.8	546.1	54.4	1734	2712.7
1972	257.6	30.4	78.3	422.2	38.2	1439.5	2277.7	187.8	22.5	68.6	326.8	33.6	1272.8	2083.1	353.8	41.5	89.7	541.8	43.4	1626.8	2488.4
1973	190.9	14.7	65.9	461.9	40.8	1046.7	1829.7	137.6	10.8	57.7	358.5	35.6	928.9	1675.2	262.9	20	75.6	591.3	47	1179.1	2002.6
1974	247.4	27.2	66.4	497.3	32.6	1254.8	2139.9	182.5	20	58	389.1	28.6	1075.9	1931.7	337.9	37.1	75.8	636.9	37.1	1477.5	2382.5
1975	176.1	23.2	67.8	407.8	26.9	857.6	1565.3	135.8	17.4	59	326.5	23.5	731.6	1422.8	229	30.9	77.9	501.1	30.9	1002	1726.2
1976	156.1	17.3	58.4	295.5	22.7	869.9	1424.1	119.7	13.1	51.3	239.8	19.9	748.2	1290.5	203.6	22.7	66.5	363.1	25.9	1016.6	1580.9
1977	154.4	15.7	70.3	254.6	27	1096.3	1623.7	116.3	11.9	62	202.8	23.8	918.7	1442.4	202.6	20.8	79.9	320.7	30.6	1308.5	1837.9
1978	96.9	17.6	44.7	213.8	20	847.4	1245	72	13.3	39.3	171.1	17.5	703.6	1096.3	128.4	23.1	51	266.2	22.8	1024.1	1426.2
1979	206.9	29.4	64.1	243.9	24.7	1210.5	1785.5	157.2	22.6	56.6	196.9	21.6	1031.2	1598.8	271.4	38.1	72.8	301.7	28.2	1420.1	1996.3
1980	257.4	26.6	45.3	202.1	21	1145	1704.9	198.1	18.9	39.8	160.1	18.4	1002.8	1550	337.7	37.9	51.7	252.6	23.9	1308.1	1879.2
1981	153.4	19.7	34.4	118.7	31.1	853.7	1213.9	115.8	14.3	30.1	97.4	27	745.2	1101.7	200.3	27.2	39.3	144.7	35.9	978.6	1341.4
1982	144.2	15.8	49.4	217.1	37.5	868.4	1337.9	108.9	11.3	43.4	180.9	32.8	757.3	1217.4	191.1	22.2	56	259.7	43.1	996.4	1469
1983	129.4	23	40.5	167.4	15.3	674.8	1054.2	97.6	16.6	35.8	142.7	13.5	574.8	949.6	170.6	32	45.8	196.7	17.4	795.6	1179.8
1984	166.1	21.6	28.8	157.8	18.5	696.6	1092.5	125.7	15.7	25.5	138	16.2	587.5	976.7	218.4	30	32.8	180	21.2	825.7	1226.6

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
1985	208.6	17.7	27.2	197.4	23.1	851.2	1329.8	158.9	12.7	23.8	163.3	20.2	733.9	1202.2	274	24.6	31	238.5	26.5	990.1	1477.2
1986	161.6	12.2	25.8	251.5	12.9	625	1093.5	122.9	8.5	22.5	211.9	11.3	522.2	984	212.4	17.5	29.5	298.6	14.8	745.9	1220.9
1987	205.4	25.6	25.5	177.6	31.3	642.3	1112.7	156.7	18.4	22.4	148.4	27.3	533.3	991.3	268.9	36.1	29.2	211.2	35.9	777.5	1256.6
1988	193.3	15.5	25.6	159.2	28.1	598.6	1025.2	148.3	10.8	22.4	131.6	24.2	502.6	922.3	253.1	21.8	29.2	192.3	32.9	716.5	1146.3
1989	179.2	13	20.7	78	21.9	567.3	884.1	137.5	9.1	18.2	66.8	19.9	466.7	774.1	234.6	18.5	23.5	91	24	692.3	1014.9
1990	100	12.2	20.7	98.9	10.8	394.8	639.6	75.6	8.7	18.2	83.5	10	316	556	132.4	17.2	23.4	117	11.7	495.1	746.9
1991	89.9	13.9	24.2	83.5	26	408.6	648.4	68.1	9.9	21.2	72.2	23.6	333.9	571.9	118.9	19.6	27.7	96.3	28.7	502.9	744.7
1992	83.5	7.9	11.7	101.3	57.4	396.9	661.3	62	5.6	10.3	75.7	53.3	317.5	574.5	111.9	11.2	13.3	134.7	61.8	493.5	764.7
1993	92.2	11.3	16.9	113.4	19.8	402.8	658	76.3	8.5	14.9	99.8	17.7	324.5	576.7	111.3	14.9	19.2	129.2	22.3	501.9	758.9
1994	99.2	7.4	17.5	111	16.2	431.1	683.2	84.2	5.6	15.4	98.4	15	342.6	592.1	116.6	9.9	19.7	125.1	17.5	539.9	794.1
1995	89.7	10.5	12.1	79.5	17.5	406.5	617.8	73.4	8	10.6	69.9	14.2	320.1	527.7	109.7	13.8	13.7	90.3	21.5	516.5	727.8
1996	58.8	6.5	12.4	85.2	22.6	280.3	468.3	48.3	4.9	10.9	65.5	18.1	219.3	401.1	71.7	8.7	14	111.1	28.2	358.4	551.1
1997	49.1	5.3	8.1	57.6	25.3	243.6	390.2	39.3	4	7.1	53.1	19.8	188.8	333.2	61.1	7.1	9.2	62.4	32.8	319.3	467
1998	63.7	9.7	14.2	80.4	14.6	243.7	428.7	52.5	7.4	12.6	59.3	12.3	187.4	364.3	77	12.8	16.2	109.1	17.3	316.1	507.1
1999	57.9	6.8	4.5	101.3	16.3	252.5	440.5	47.6	5.1	3.9	88.1	13.8	195.1	379	70.3	9	5.2	116.7	19.4	326.3	515.5
2000	65.3	8.5	7.3	106.2	11.2	291.3	490.8	54.2	6.4	6.4	87.9	9.8	225.5	419.3	78.9	11.2	8.3	128.2	12.9	375.4	580.3

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
2001	56.1	8	7.8	107.6	13.8	260.3	455.6	46	6	6.8	87.5	12.4	201	391.1	68.3	10.6	9	133.9	15.4	340.4	539.8
2002	60.3	11.6	12.1	104.7	8.8	283.8	483.4	48.5	8.7	10.6	84.8	8.1	219.1	412.7	75.2	15.5	13.8	129	9.6	365.7	570.6
2003	59.3	18.2	10.4	71	9.2	319.3	489.2	46.9	13.8	9.1	58.9	8.5	244.6	410.2	75.3	24	11.9	85.7	10	415.7	587.6
2004	68.1	12.8	8.5	78.6	11.3	355.4	536.4	54	9.6	7.5	68.8	10.3	273.4	451.2	86.1	16.8	9.8	89.8	12.5	458.7	641.7
2005	64.5	11.9	7.7	56.4	9.2	392.7	544.1	50.9	9.1	6.7	42.9	8.4	304.6	452.5	81.9	15.6	8.8	74.8	10.1	508.6	663.4
2006	58.2	12.3	4.6	42.8	9	362.7	491.1	45.2	9.2	4	32.8	7.9	276.1	402.2	74.8	16.4	5.3	56	10.3	471.6	602.2
2007	69	13.7	5.4	33.6	7.2	422.3	553.2	53.1	10.3	4.6	25.1	6.4	323.5	451.6	89	18.2	6.4	45.5	8.1	547.7	682.1
2008	60.5	7.2	8	40.7	7.3	367.6	493.6	47.2	5.4	7	31	6.5	282.5	404.6	77.9	9.6	9.3	53.7	8.2	479.9	608.7
2009	64.4	5.6	15.7	37.1	10.9	446.0	581.1	50.7	4.1	13.7	27.8	9.9	344.3	476.9	81.7	7.5	18.0	49.3	12	574.9	713.5
2010	110.5	14.4	8.8	39.5	13.6	602.5	791.5	88.2	10.9	7.6	29.8	11.4	469.0	655.7	137.7	19.0	10.2	52.5	16.5	775.8	968.4
2011	92.7	10.5	4.8	39.4	24.9	446.7	621.9	72.3	8.0	4.0	29.5	18.3	340.2	511.2	118.9	14.0	5.7	52.7	34.3	586.7	766.5
2012	79.1	11.7	12.5	37.2	8.3	401.3	551.9	61.8	8.8	10.6	27.6	5.9	304.9	452.6	99.8	15.7	14.7	50.0	11.9	527.9	680.2
2013	63.8	14.2	9.0	33.3	6.7	328.3	456.6	50.8	10.7	7.5	25.2	5.0	255.8	381.4	80.1	18.8	10.7	44.1	9.3	423.5	554.4
2014	88.4	16.7	7.6	32.9	7.0	343.2	497.6	71.1	12.7	6.4	25.0	5.6	267.2	417.8	109.8	21.9	9.0	44.0	9.1	438.3	597.2
2015	102.1	8.2	10.5	34.5	13.6	377.7	549.2	82.4	6.2	8.7	26.3	11.3	289.9	456.5	126.5	10.9	12.6	45.3	17	488.5	663.7
2016	89.2	8.9	9.0	33.5	9.9	312.5	465.6	71.1	6.7	7.5	25.2	8.2	241.0	389.3	112.2	11.8	10.9	44.2	12.5	405.2	561.9

Year	UK (Eng&Wal) median	France median	Iceland (SW) median	Ireland median	UK (N Irel) median	UK (Scotl) median	SNEAC median	UK (Eng&Wal) 5%	France 5%	Iceland (SW) 5%	Ireland 5%	UK (N Irel) 5%	UK (Scotl) 5%	SNEAC 5%	UK (Eng&Wal) 95%	France 95%	Iceland (SW) 95%	Ireland 95%	UK (N Irel) 95%	UK (Scotl) 95%	SNEAC 95%
2017	68.3	12.2	9.3	34.6	10.1	235.8	372.3	53.7	9.2	7.8	25.9	8.1	179.4	311.8	86.2	16.2	11.1	45.9	12.9	309.4	448.4
2018	48.5	16.5	8.5	29.3	6.2	242.8	352.8	37.5	12.6	7.1	22.5	5.1	185.9	293.4	62.0	21.6	10.2	38.3	7.7	319	430.6
2019	60.7	9.9	9.8	31.6	3.7	295.6	413.1	46.9	7.5	8.2	23.9	3.1	223.3	337.5	78.6	13.1	11.7	42.4	4.4	390.3	509.6
2020	46.0	9.5	5.0	35.2	3.9	220.8	321.6	35.3	7.1	4.2	26.3	3.6	166.0	263.8	60.1	12.8	6.1	46.7	4.4	293.7	397.4
2021	43.7	10.8	6.2	35.8	2.2	222.9	322.9	33.3	8.0	5.3	27.2	1.9	167.4	265.1	57.4	14.4	7.3	47.5	2.5	296.2	398.3
2022	37.8	7.4	6.4	27.1	2.1	187.6	269.6	29.2	5.6	5.4	20.8	1.8	140.5	220.2	49.2	9.9	7.7	35.2	2.5	248.4	332.9
2023	34.1	6.1	6.7	29.1	2.2	195.5	274.7	25.6	4.6	5.6	22.0	2.0	143.0	219.7	44.9	8.3	7.9	38.4	2.3	267.7	347.1
Forecast:																					
2024	34.7	5.9	5.9	31.0	3.0	213.0	307.2	15.5	2.4	2.2	12.5	1.0	112.9	188.0	77.0	15.3	15.6	80.4	8.5	414.1	515.6
2025	28.8	5.6	6.1	29.3	2.5	204.7	295.1	9.5	1.7	1.4	9.5	0.5	82.3	147.2	73.7	17.3	19.8	91.7	10.4	494.7	611.7
2026	25.0	3.7	5.5	26.2	1.2	171.8	252.6	7.2	1.0	0.9	6.2	0.2	59.2	106.9	71.5	13.3	23.1	93.8	6.1	490.8	598.9
2027	19.4	3.4	5.1	24.7	1.1	151.0	231.7	5.5	0.8	0.7	4.9	0.1	47.7	97.1	65.0	13.6	26.7	103.9	7	492.3	594.7
2028	18.5	4.2	4.7	27.0	1.2	145.3	241.1	3.5	0.5	0.6	3.7	0.1	39.0	86.9	72.5	27.8	27.2	156.4	12.4	533.2	659.9

Figure 3.1.3.1. Overview of effort as reported for various fisheries and countries in the Northern NEAC area, 1971-2024. Notice that some of the y-axes are given in thousands.

Figure 3.1.3.2. Overview of effort as reported for various fisheries and countries in the Southern NEAC area, 1971-2024. Notice all the y-axes on the right panel are given in thousands.

Figure 3.1.4.1. Nominal catches of salmon in the Southern and Northern NEAC areas,1960–2024. All Icelandic catches included in Northern NEAC. No catch data available from Russia since 2023.

Figure 3.1.5.1. Proportional change (%) over years in CPUE estimates in various rod and net fisheries in Northern and Southern NEAC area.

Figure 3.1.6.1. Percentage of 1SW salmon in the reported catch for the Northern NEAC (blue dots) and Southern NEAC (orange dots) countries 1987–2024. Curves represent northern (blue line) and southern (orange line) countries with a Loess smoother (span = 85%) applied to the data. For 2024, values for the Russian Federation contributing to this figure are the mean from the period 2019-2023. The time-series differed from those presented in 2023 and before, because of new data provided for Ireland and Northern Ireland data now included.

Figure 3.1.9.1. Mean annual exploitation rate of wild 1SW and MSW salmon by fisheries in Northern and Southern NEAC countries.

Figure 3.1.9.2. The rate of change (%) of exploitation of 1SW and MSW salmon in Northern NEAC (left) and Southern NEAC (right) countries.

Figure 3.3.1.1 Time-series showing the number of rivers with established conservation limits (CLs; dotted blue lines), the number of rivers assessed annually (solid grey lines), and the number of rivers meeting CLs annually (dotted red lines) for countries/jurisdictions in the NEAC area. The River Tana/Teno (Finland/Norway) has multiple tributaries with separate CLs.

Figure 3.3.2.1. Comparison of the proportional change in the most recent five-year mean return rates compared to the previous five-year mean return rates for 1SW and 2SW wild (left hand panels) and hatchery (right hand panels) smolts to rivers of Northern (upper panels) and Southern NEAC (lower panels) areas. Populations with at least three data-points in each of the two time periods are included in the analysis. The scale of change in some rivers is influenced by low return numbers creating high uncertainty, which may have a large consequence on the proportional change.

Figure 3.3.2.2. Least squared (marginal mean) average annual return rates (%) of wild (left hand panels) and hatchery origin smolts (right hand panels) of 1SW and 2SW salmon to Northern (top panels) and Southern NEAC areas (bottom panels). For most rivers in Southern NEAC, the values are returns to the coast prior to the homewater coastal fisheries. Mean annual return rates for each origin and area were estimated from a general linear model assuming quasi-Poisson errors (log-link function). Error bars represent standard errors. Trend lines are from locally weighted polynomial regression (LOESS) and are meant to be a visual interpretation aid. Following details in tables 3.3.2.1 and 3.3.2.2 the analyses included estimated return rates (%) for 1SW and 2SW returns by smolt year. Note that the y-axis is on the log 10 scale.

Figure 3.3.4.1 Northern NEAC (aggregate). 1SW maturing and 1SW non-maturing PFA, returns of 1SW and MSW fish, 1SW and MSW spawners, and egg deposition from 1SW and MSW spawners derived from the LCM. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Orange shaded area: hindcasting on the historical time-series. Blue shaded area (for PFA and returns): forecasting obtained under a scenario with zero catches in all fisheries. The horizontal dotted black lines are the age-specific SER values (in number of fish; PFA panels), the age-specific conservation limits (in number of fish; spawner and return panels) and the age-specific conservation limits (in eggs; eggs panels). Year refers to year of return with the exception of PFA non-maturing which is year of return minus one.

Figure 3.3.4.2 Southern NEAC (aggregate). 1SW maturing and 1SW non-maturing PFA, returns of 1SW and MSW fish, 1SW and MSW spawners, and egg deposition from 1SW and MSW spawners derived from the LCM. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Orange shaded area: hindcasting on the historical time-series. Blue shaded area (for PFA and returns): forecasting obtained under a scenario with zero catches in all fisheries. The horizontal dotted black lines are the age-specific SER values (in number of fish; PFA panels), the age-specific conservation limits (in number of fish; spawner and return panels) and the age-specific conservation limits (in eggs; eggs panels). Year refers to year of return with the exception of PFA non-maturing which is year of return minus one.

(a)

(b)

Figure 3.3.4.3 (a) 1SW and (b) MSW returns and spawners in percent of Conservation Limit (% of CL) for 2024. The percent of CL is based on the median of the Monte Carlo distribution as derived from the Run-Reconstruction Model. The colour shading represents the three ICES stock status designations: Full (at full reproductive capacity: the 5th percentile of the spawner estimate is above the CL); At Risk (at risk of suffering reduced reproductive capacity: median spawner estimate is above the CL, but the 5th percentile is below); and Suffering (suffering reduced reproductive capacity: median spawner estimate is below the CL).

Figure 3.3.4.4a River Tana/Teno (Norway & Finland). 1SW maturing and 1SW non-maturing PFA, returns of 1SW and MSW fish, 1SW and MSW spawners, and egg deposition from 1SW and MSW spawners, derived from the LCM. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Orange shaded area: hindcasting of the historical time-series. Blue shaded area: forecasting obtained under a scenario with zero catches in all fisheries (for PFA and returns). The horizontal dotted black lines are the age-specific SER values (in number of fish; PFA panels), the age-specific conservation limits (in number of fish; spawner and return panels) and the age-specific conservation limits (in eggs; eggs panels). Year refers to year of return with the exception of PFA non-maturing which is year of return minus one.

Figure 3.3.4.4b Iceland (Northeast). 1SW maturing and 1SW non-maturing PFA, returns of 1SW and MSW fish, 1SW and MSW spawners, and egg deposition from 1SW and MSW spawners, derived from the LCM. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Orange shaded area: hindcasting of the historical time-series. Blue shaded area: forecasting obtained under a scenario with zero catches in all fisheries (for PFA and returns). The horizontal dotted black lines are the age-specific SER values (in number of fish; PFA panels), the age-specific conservation limits (in number of fish; spawner and return panels) and the age-specific conservation limits (in eggs; eggs panels). Year refers to year of return with the exception of PFA non-maturing which is year of return minus one.

Figure 3.3.4.4c Norway. 1SW maturing and 1SW non-maturing PFA, returns of 1SW and MSW fish, 1SW and MSW spawners, and egg deposition from 1SW and MSW spawners, derived from the LCM. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Orange shaded area: hindcasting of the historical time-series. Blue shaded area: forecasting obtained under a scenario with zero catches in all fisheries (for PFA and returns). The horizontal dotted black lines are the age-specific SER values (in number of fish; PFA panels), the age-specific conservation limits (in number of fish; spawner and return panels) and the age-specific conservation limits (in eggs; eggs panels). Year refers to year of return with the exception of PFA non-maturing which is year of return minus one.

Figure 3.3.4.4d Sweden. 1SW maturing and 1SW non-maturing PFA, returns of 1SW and MSW fish, 1SW and MSW spawners, and egg deposition from 1SW and MSW spawners, derived from the LCM. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Orange shaded area: hindcasting of the historical time-series. Blue shaded area: forecasting obtained under a scenario with zero catches in all fisheries (for PFA and returns). The horizontal dotted black lines are the age-specific SER values (in number of fish; PFA panels), the age-specific conservation limits (in number of fish; spawner and return panels) and the age-specific conservation limits (in eggs; eggs panels). Year refers to year of return with the exception of PFA non-maturing which is year of return minus one.

Figure 3.3.4.4e The Russian Federation. 1SW maturing and 1SW non-maturing PFA, returns of 1SW and MSW fish, 1SW and MSW spawners, and egg deposition from 1SW and MSW spawners, derived from the LCM. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Orange shaded area: hindcasting of the historical time-series. Blue shaded area: forecasting obtained under a scenario with zero catches in all fisheries (for PFA and returns). The horizontal dotted black lines are the age-specific SER values (in number of fish; PFA panels), the age-specific conservation limits (in number of fish; spawner and return panels) and the age-specific conservation limits (in eggs; eggs panels). Year refers to year of return with the exception of PFA non-maturing which is year of return minus one.

Figure 3.3.4.4f France. 1SW maturing and 1SW non-maturing PFA, returns of 1SW and MSW fish, 1SW and MSW spawners, and egg deposition from 1SW and MSW spawners, derived from the LCM. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Orange shaded area: hindcasting of the historical time-series. Blue shaded area: forecasting obtained under a scenario with zero catches in all fisheries (for PFA and returns). The horizontal dotted black lines are the age-specific SER values (in number of fish; PFA panels), the age-specific conservation limits (in number of fish; spawner and return panels) and the age-specific conservation limits (in eggs; eggs panels). Year refers to year of return with the exception of PFA non-maturing which is year of return minus one.

Figure 3.3.4.4g UK (England & Wales). 1SW maturing and 1SW non-maturing PFA, returns of 1SW and MSW fish, 1SW and MSW spawners, and egg deposition from 1SW and MSW spawners, derived from the LCM. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Orange shaded area: hindcasting of the historical time-series. Blue shaded area: forecasting obtained under a scenario with zero catches in all fisheries (for PFA and returns). The horizontal dotted black lines are the age-specific SER values (in number of fish; PFA panels), the age-specific conservation limits (in number of fish; spawner and return panels) and the age-specific conservation limits (in eggs; eggs panels). Year refers to year of return with the exception of PFA non-maturing which is year of return minus one.

Figure 3.3.4.4h Iceland (southwest). 1SW maturing and 1SW non-maturing PFA, returns of 1SW and MSW fish, 1SW and MSW spawners, and egg deposition from 1SW and MSW spawners, derived from the LCM. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Orange shaded area: hindcasting of the historical time-series. Blue shaded area: forecasting obtained under a scenario with zero catches in all fisheries (for PFA and returns). The horizontal dotted black lines are the age-specific SER values (in number of fish; PFA panels), the age-specific conservation limits (in number of fish; spawner and return panels) and the age-specific conservation limits (in eggs; eggs panels). Year refers to year of return with the exception of PFA non-maturing which is year of return minus one.

Figure 3.3.4.4i Ireland. 1SW maturing and 1SW non-maturing PFA, returns of 1SW and MSW fish, 1SW and MSW spawners, and egg deposition from 1SW and MSW spawners, derived from the LCM. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Orange shaded area: hindcasting of the historical time-series. Blue shaded area: forecasting obtained under a scenario with zero catches in all fisheries (for PFA and returns). The horizontal dotted black lines are the age-specific SER values (in number of fish; PFA panels), the age-specific conservation limits (in number of fish; spawner and return panels) and the age-specific conservation limits (in eggs; eggs panels). Year refers to year of return with the exception of PFA non-maturing which is year of return minus one.

Figure 3.3.4.4j UK (Northern Ireland). 1SW maturing and 1SW non-maturing PFA, returns of 1SW and MSW fish, 1SW and MSW spawners, and egg deposition from 1SW and MSW spawners, derived from the LCM. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Orange shaded area: hindcasting of the historical time-series. Blue shaded area: forecasting obtained under a scenario with zero catches in all fisheries (for PFA and returns). The horizontal dotted black lines are the age-specific SER values (in number of fish; PFA panels), the age-specific conservation limits (in number of fish; spawner and return panels) and the age-specific conservation limits (in eggs; eggs panels). Year refers to year of return with the exception of PFA non-maturing which is year of return minus one.

Figure 3.3.4.4k UK (Scotland). 1SW maturing and 1SW non-maturing PFA, returns of 1SW and MSW fish, 1SW and MSW spawners, and egg deposition from 1SW and MSW spawners, derived from the LCM. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Orange shaded area: hindcasting of the historical time-series. Blue shaded area: forecasting obtained under a scenario with zero catches in all fisheries (for PFA and returns). The horizontal dotted black lines are the age-specific SER values (in number of fish; PFA panels), the age-specific conservation limits (in number of fish; spawner and return panels) and the age-specific conservation limits (in eggs; eggs panels). Year refers to year of return with the exception of PFA non-maturing which is year of return minus one.

Figure 3.3.6.1. Post-smolt survival for all countries in Northern NEAC and for the Northern NEAC complex, derived from the LCM. Years are smolt migration years. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval.

Figure 3.3.6.2. Probability to mature as 1SW for all countries in Northern NEAC and for the Northern NEAC complex, derived from the LCM. Years are smolt migration years. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval.

Figure 3.3.6.3. Post-smolt survival for all countries in Southern NEAC and for the Southern NEAC complex, derived from the LCM. Years are smolt migration years. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval.

Figure 3.3.6.4. Probability to mature as 1SW for all countries in Southern NEAC and for the Southern NEAC complex, derived from the LCM. Years are smolt migration years. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval.

4 North American Commission

4.1 NASCO has requested ICES to describe the key events of the 2024 fisheries

4.1.1 Key events of the 2024 fisheries

Significant additional restrictions were applied to the recreational fishery in Quebec in 2024 (see sections 2.4.2 and 4.1.2).

4.1.2 Gear and effort

Canada

The 23 areas for which Fisheries and Oceans Canada (DFO) manages the salmon fisheries are called Salmon Fishing Areas (SFAs). Inner Bay of Fundy Atlantic salmon, SFA 22 and part of SFA 23, have been federally listed as endangered under the Canadian Species at Risk Act and information for these stocks is not included in the information and advice provided to NASCO, because these stocks, with the exception of one, have a localized migration strategy while at sea and a high incidence of maturity after one winter at sea. In Quebec, the management of Atlantic salmon is delegated to the province (Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs) and the fishing areas are designated by Q1 through Q11 (Figure 4.1.2.1). Catches (retained fish) as well as caught and released fish are categorized in two size groups: small and large. Small salmon, generally 1SW, in the recreational, Indigenous and subsistence fisheries refer to salmon less than 63 cm fork length. In historic commercial fisheries, small salmon refer to fish less than 2.7 kg whole weight. Large salmon, generally maiden MSW and repeat spawners, in recreational, Indigenous and subsistence fisheries are greater than or equal to 63 cm fork length. In historic commercial fisheries large salmon refer to fish greater than or equal to 2.7 kg whole weight.

Three groups exploited salmon in Canada in 2024: Indigenous peoples, Labrador residents, and recreational fishers. There are no commercial salmon fisheries in Canada and retaining bycatch of salmon in commercial fisheries targeting other species is not permitted. Salmon discards from these fisheries are not estimated, however, previous analyses by ICES indicated the extent was low (ICES, 2004). The sale of Atlantic salmon caught in any Canadian fishery is prohibited.

Most catches (90% in 2024, Figure 2.1.1.2) in Canada take place in rivers or estuaries. Fisheries are principally managed on a river-by-river basis and in areas where retention of large salmon in recreational fisheries is allowed, the fisheries are closely controlled. In other areas, fisheries are managed on larger management units that encompass a collection of geographically neighbouring stocks. The commercial fisheries have remained closed since 2000 and the Labrador coastal Indigenous and subsistence fisheries are mainly located in bays generally inside headlands. Sampling of the Labrador Indigenous and subsistence fisheries continued in 2024.

The following management measures were in effect in 2024:

Indigenous food, social, and ceremonial (FSC) fisheries

In Quebec, FSC fisheries took place subject to agreements, conventions or through permits issued to the communities. There are approximately 10 communities with subsistence fisheries in addition to the fishing activities of the Inuit in Ungava (Q11), who fished in estuaries or within rivers. The permits generally stipulate gear, season, and catch limits. Catches with permits have to be

reported collectively by each Indigenous group. However, catches under a convention, such as for Inuit in Ungava, do not have to be reported. In the Maritimes (SFAs 15 to 23), FSC agreements were signed with several Indigenous groups in 2024. The signed agreements often included allocations of small and large salmon and the area of fishing was usually in-river or estuaries. Catches that occurred both within and outside agreements were obtained from the Indigenous groups. In Labrador (SFAs 1 and 2), FSC agreements with the Nunatsiavut Government, Innu Nation, and NunatuKavut Community Council resulted in fisheries in estuaries and coastal areas. The management of these fisheries include a number of conditions related to gear, seasons, weekly fishery closures, limits on total catch using carcass tags and logbook catch reporting. By agreement with First Nations, there were no FSC fisheries for salmon in Newfoundland (SFAs 3-14B) in 2024. When fisher reports are not available, catches are estimated based on the most reliable information available (i.e. observer reports or historical data). Catches by Indigenous recreational fishers were reported under recreational fisheries.

Labrador resident subsistence fisheries

DFO is responsible for regulating the Labrador resident subsistence fishery. A licensed gillnet subsistence trout and charr fishery for Labrador residents takes place in estuaries and coastal areas of Labrador. A total of 219 licences were issued in 2024. Conditions restrict a seasonal catch of three salmon of any size while fishing for trout and charr; three salmon tags accompanied each licence. Resident fishers were required to remove their nets from the water once their catch of salmon was caught. Catches exceeding three salmon must be discarded. All licensed resident fishers were requested to complete and return logbooks to DFO.

Recreational fisheries

Licences are required to fish recreationally for Atlantic salmon in Canada. Gear is restricted to fly fishing and there are daily and seasonal bag limits. Recreational fisheries management in 2024 varied by area and large portions of the southern areas remained closed to all directed salmon fisheries (Figure 4.1.2.2). Retention of large salmon was only permitted in Quebec.

There are 114 salmon rivers in the province of Quebec. Large salmon could be retained on only four rivers in 2024 (2022: 17 rivers; 2023: 12 rivers), all located in the most northern Ungava Bay region. In 2024, small salmon could be retained during the entire season on 17 rivers (2022: 51 rivers; 2023: 44 rivers) but was limited to part of the season on 43 rivers (2022: one river; 2023: 12 rivers). Catch and release only fishing was permitted during the entire season on 16 rivers in 2024 (2022: 11 rivers; 2023: 12 rivers). Fishing for salmon has been prohibited on 34 rivers since 2020. The daily limit of catch and release was also reduced in 2024 from three salmon to two salmon, except for the four rivers in Ungava Bay. Since 2018, a seasonal permit allows a total retention of four salmon for the season, of which only one could be a large salmon. The only exception was for the four rivers in Ungava Bay where anglers could retain four salmon of any size under the seasonal permit. A three-day permit allows for the retention of one salmon of any size. Under these permits, retention of large salmon is allowed only from rivers which are open to retention of large salmon. A catch and release permit allows fishing for catch and release

Mandatory catch and release measures including a daily limit of two salmon were in effect in the Maritime provinces of Canada in 2024. Newfoundland and Labrador had retention fisheries for small salmon and a daily catch and release limit of three salmon in 2024. The 2024 seasonal retention limit in Newfoundland and Labrador was three small salmon that included river specific limits of one or two salmon depending on river classification.

US

There were no recreational or commercial fisheries for anadromous Atlantic salmon in the US in 2024.

France (Island of Saint Pierre and Miquelon)

Five professional and 80 recreational gillnet licences were issued in 2024 (Table 4.1.2.1). Professional licences had a maximum authorization of three nets of 360 metres maximum length each whereas recreational licences were restricted to one net of 180 metres. The selling of Atlantic salmon was only allowed by professional licence holders and was restricted to within Saint Pierre and Miquelon.

4.1.3 Catches

Canada

The provisional nominal catch of salmon in 2024 by all users was 66.6 t, approximately 30% lower than the previous five-year mean of 94.5 t (2019-2023) and 46% lower than the previous 20-year mean of 124.1 t (2004-2023) (tables 2.1.1.1 and 2.1.1.2; Figure 4.1.3.1). The nominal catch prior to the closure of all commercial fisheries in 2000 averaged 1 557 t from 1960–1999 (range: 152 t to 2 863 t).

Indigenous FSC fisheries

The provisional nominal catch by Indigenous groups in 2024 was 51.0 t, 11% less than the previous five-year of 57.4 t and 13% less than the previous 20-year mean of 58.7 t (Table 4.1.3.1).

DFO estimates the nominal catch from Indigenous fisheries in Labrador by raising the reported carcass tag use from logbooks to the total number of carcass tags allocated (69% of the carcass tags had a known reporting fate in 2024). For Quebec, Gulf and Maritimes regions, catches from Indigenous fisheries were to be reported by each community or group. Reports in most years were incomplete or missing, therefore the most recent or best data available was used.

Labrador resident subsistence fisheries

The provisional nominal catch by Labrador resident fishers was 1.3 t in 2024 (93% of the carcass tags had a known reporting fate in 2024), 19% less than the previous five-year mean of 1.6 t and 34% less than the previous 20-year mean of 1.9 t (Table 4.1.3.2).

Recreational fisheries

The recreational fisheries nominal catch in 2024 was 14.4 t (8262 fish and 97% small salmon by number). This catch, by number, decreased 57% from the previous five-year mean (19 145 fish), and is the lowest in the time-series since 1974 (Table 4.1.3.3; Figure 4.1.3.2).

The estimated numbers of salmon caught and released in the recreational fisheries of Canada were 30 776 salmon (18 673 small and 12 103 large) in 2024, representing 79% of the total catch released and retained (Table 4.1.3.4, Figure 4.1.3.3).

Recreational catch statistics for Atlantic salmon are not collected regularly in all areas of Canada and there is no enforceable mechanism in place that requires anglers to report their catch, except in Quebec where reporting of retained salmon is an enforced legal requirement.

Commercial fisheries

All commercial fisheries for Atlantic salmon have remained closed since 2000 and the catch in 2024 therefore was zero.

Unreported catches

The unreported catch for Canada was 13.0 t in 2024 and represents an estimated catch from illegal fisheries directed at salmon (tables 2.1.3.1 and 2.1.3.2). Unreported catch for Canada was not received from all regions in 2024 and therefore considered incomplete.

US

There are no commercial or recreational fisheries for anadromous Atlantic salmon in the US and the catch therefore was zero. Unreported catch in the US was estimated to be zero tonnes.

France (Islands of Saint Pierre and Miquelon)

The nominal catch in Saint Pierre and Miquelon was 1.7 t (602 fish) in 2024, similar to the previous five-year mean (1.5 t; 2019-2023) but 38% less than the previous 20-year mean (2.8 t; 2004-2023) (tables 2.1.1.1 and 4.1.2.1). There are no unreported catch estimates for the time-series.

4.1.4 Catch of North American salmon, expressed as 2SW salmon equivalents

Catch histories (1972-2024) of salmon, expressed as 2SW salmon equivalents in the 2SW return year are provided in Table 4.1.4.1. The Newfoundland and Labrador commercial fishery was historically a mixed-stock fishery and caught both maturing and non-maturing 1SW salmon as well as 2SW maturing salmon. The catch of repeat spawners and older sea ages was not considered in this reconstruction.

Catches of 1SW non-maturing salmon in Newfoundland and Labrador commercial fisheries have been adjusted by natural mortalities of 3% per month for 13 months, and 2SW catches in these same fisheries have been adjusted by one month to express all catches as 2SW equivalents in the year and time they would reach rivers of origin. The Labrador commercial fishery has been closed since 1998. Catches from Indigenous (since 1998) and resident subsistence (since 2000) fisheries in Labrador are included. Mortalities in mixed-stock fisheries and losses in terminal locations (including catches, losses from catch and release mortality and other removals including broodstock) in Canada were summed with those of the US to estimate total 2SW equivalent losses in North America. The terminal fisheries included coastal, estuarine and river catches of all areas, except Newfoundland and Labrador where only river catches were included, and excluding SPM. Data inputs were updated to 2024.

Total 2SW catch equivalents of North American origin salmon in all North Atlantic fisheries peaked at 557 200 fish in 1976 and were above 150 000 fish in most years until 1993 (Table 4.1.4.1; Figure 4.1.4.1). The 2SW catch equivalents within North America peaked at about 362 500 in 1976 and have remained below 12 000 2SW salmon equivalents for most years between 2000 and 2024 (Table 4.1.4.1; Figure 4.1.4.1). The percentage of the 2SW catch equivalents taken in North America has varied from 47% to 65% of the total removals in all fisheries during 2008 to 2024 (Figure 4.1.4.1).

In 2024, the losses of 2SW salmon in terminal areas (rivers and estuaries) of North America were estimated at 7 800 fish (median), 43% of the total North American catch of 2SW salmon. The percentage of catches occurring in terminal fisheries ranged from 17% to 44% during 1972 to 1992 and 36% to 86% during 1993 to 2024 (Table 4.1.4.1). Terminal fisheries percentages increased significantly since 1992 with the reduction and closures of the Newfoundland and Labrador commercial mixed-stock fisheries. The percentage of the 2SW catches by fishery and fishing area are summarized in Figure 4.1.4.1.

The percent of the 2SW catch equivalents taken at Greenland was as high as 56% in 1992 and 2002 but as low as 5% in 1994 when the internal use fishery at Greenland was suspended (Figure 4.1.4.1). For 2020-2024, the Greenland share of the 2SW catch equivalents has been 36% to 49%. For the same years, the catches in the Labrador FSC and subsistence fisheries have been 30% to 40% of the total catches and 17% to 26% in terminal fisheries of Quebec (Figure 4.1.4.1).

4.1.5 Origin and composition of catches

In the past, salmon from both Canada and the US were taken in the commercial fisheries of eastern Canada. Sampling programmes of current marine fisheries (Labrador; Saint Pierre and Miquelon) are used to determine region of origin of caught salmon.

Labrador FSC and subsistence fisheries sampling programme

Salmon caught in the Labrador FSC and subsistence fisheries (SFAs 1 and 2, Figure 4.1.2.1) were sampled opportunistically for length, weight, sex, scales (for age analysis), and tissue (genetic analysis). Fish were also examined for the presence of external tags or marks.

In 2024, a total of 772 samples were collected from the Labrador FSC and subsistence fisheries: 105 from northern Labrador (SFA 1A), 113 from Lake Melville (SFA 1B), and 554 from southern Labrador (SFA 2). The samples represent 6.0% of the catch by number (7.8% of small salmon, 2.9% of large salmon) (12 samples did not have size information).

Size group	Statistics	2024
Small salmon (<63 cm)	Samples (#)	615
	Catch (#)	7893
	Percent of catch	7.8%
Large salmon (≥63 cm)	Samples (#)	145
	Catch (#)	5006
	Percent of catch	2.9%
Total	Samples (#)	772
	Catch (#)	12 899
	Percent of catch	6.0%

Not all scales can be interpreted for age. In 2024, the percent sea age composition was 84% 1SW, 12% 2SW and 4% previously spawned salmon. All salmon samples interpreted for river age were two to seven years (modal age four). There were no river age one salmon and few river age two salmon sampled suggesting that very few salmon from southern stocks of North America (US, Scotia-Fundy) are exploited in these fisheries.

Labrador: Sample summary 2024								
Area	Number of scale samples	River Age (%)						
		1	2	3	4	5	6	7
Northern Labrador (SFA 1A)	103	0.0	0.0	8.7	41.7	41.7	7.8	0.0
Lake Melville (SFA 1B)	104	0.0	0.0	14.4	55.8	26.9	2.9	0.0
Southern Labrador (SFA 2)	513	0.0	0.6	16.8	49.5	27.7	5.3	0.2
Total	720	0.0	0.4	15.3	49.3	29.6	5.3	0.1

Most of the tissue samples collected in 2024 (96%, 738 samples) were successfully analysed using the SNP panel with 31 range-wide reporting groups (Jeffery *et al.*, 2018) (Table 4.1.5.1; figures 4.1.5.1 to 4.1.5.3). The estimated percent contributions (and associated 95% credible interval) to each reporting group are shown in Table 4.1.5.2 and summarized in Figure 4.1.5.4. As in previous years, the estimated origin of the samples was dominated (≥95%) by the Labrador reporting groups. The dominance of the Labrador reporting groups is consistent with previous analyses conducted since 2006 which estimated >95% of the catch was attributable to Labrador stocks (ICES, 2019, 2021, 2024a). Furthermore, assignment of catch within the Labrador genetic reporting groups suggest largely local catch within salmon fishing areas.

Saint Pierre and Miquelon fisheries sampling programme

The number of samples collected in the Saint Pierre and Miquelon fishery was 45 in 2024 (7.5% of the catch). Based on the interpretation of the scale samples, all of the small salmon samples were 1SW and large salmon samples were predominantly 2SW (95.5%). River ages ranged from two to four years (modal age three) (two samples did not have scale age data).

Saint Pierre and Miquelon: Sample summary 2024

Size group	Number of Samples (#)	Percent of Samples (%)	Virgin Sea Age (%)		River Age (%)				
			1SW	2SW	1	2	3	4	5
Small salmon (<63 cm)	24	57.8	100.0	0.0	0.0	1.7	66.7	16.7	0.0
Large salmon (≥63 cm)	19	42.2	5.3	94.7	0.0	52.6	42.1	5.3	0.0
Total	43	100.0	57.8	42.2	0.0	32.6	55.8	11.6	0.0

All of the tissue samples collected in the 2024 Saint Pierre and Miquelon fishery were analysed for genetic origin using the SNP panel with 31 range-wide reporting groups (Table 4.1.5.1; figures 4.1.5.1 and 4.1.5.2). The estimated percent contributions (and associated 95% credible interval) to each reporting group are shown in Table 4.1.5.3 and summarized in Figure 4.1.5.5. The estimated origin of the samples was dominated (96.8%) by the reporting groups in Quebec (16.1%), Gulf (25.8%), and Newfoundland (54.8%). Large salmon were mainly from the Gulf (57.1%) and Gaspe (21.4%) reporting groups whereas small salmon were from Newfoundland reporting groups (94.1%).

4.1.6 Exploitation rates

Canada

Exploitation rates of small salmon (mostly 1SW) and large salmon (mostly maiden MSW and repeat spawners) in 2024 were calculated by dividing estimated losses (retained catches and estimated mortality from catch and release) by estimates of median returns from run reconstruction for each of the five geographic regions in Canada [Quebec (QC), Labrador (LB), Newfoundland (NF), Gulf (GF), Scotia-Fundy (SF)]. For Labrador, homewater FSC and resident subsistence fisheries were added to returns when calculating exploitation rates. Regional exploitation rates from all fisheries ranged from 0.3% to 16.6%.

Canada regional exploitation rate summary 2024

	Exploitation rate (%)				
	QC	LB	NF	GF	SF
Recreational					
Small salmon (<63 cm)	5.7	0.6	5.3	2.7	0.1
Large salmon (≥63 cm)	3.0	0.4	0.9	1.2	0.6
Indigenous and subsistence					
Small salmon (<63 cm)	10.1	3.7		5.3	
Large salmon (≥63 cm)	14.0	12.8		2.6	
Total	16.6	8.5	4.8	4.4	0.3

US

There was no exploitation of anadromous salmon in homewaters.

Exploitation trends for North American salmon fisheries

Annual exploitation rates of small salmon (mostly 1SW) and large salmon (mostly maiden MSW and repeat spawners) in North America from 1971-2024 were calculated by dividing annual estimated losses (catches, estimated mortality from catch and release (ICES, 2010) and broodstock removals) in all areas of North America by annual estimates of the returns to North America prior to any homewater fisheries. These fisheries included coastal, estuarine and river fisheries in all areas, as well as the commercial fisheries of Newfoundland and Labrador, which caught salmon from all regions in North America.

Exploitation rates of both small and large salmon fluctuated annually but remained relatively steady until 1984 when exploitation of large salmon declined sharply with the introduction of the non-retention of large salmon in angling fisheries and reductions in commercial fisheries (Figure 4.1.6.1). Exploitation of small salmon declined steeply in North America with the closure of the Newfoundland commercial fishery in 1992. Declines continued in the 1990s with continuing management controls in all fisheries to reduce exploitation. In the last 10 years, exploitation rates on small salmon and large salmon have remained at the lowest in the time-series, averaging 10% for small and large salmon. However, exploitation rates across regions within North America are highly variable.

4.2 Management objectives and reference points

Management objectives (MOs) are described in Section 1.4. Limit reference points (LRPs) and the application of precaution are described in Section 1.5.

Fisheries and Oceans Canada (DFO) undertook a revision of reference points for Atlantic salmon in Canada that conform to the precautionary approach (ICES, 2016). LRPs in all cases are defined in terms of total eggs from all sizes and sea ages of salmon. DFO Newfoundland Region retained the current conservation requirement based on 240 eggs per 100 m² of fluvial rearing habitat, and in addition for insular Newfoundland 368 eggs per ha of lacustrine habitat (or 150 eggs per hectare (ha) for stocks on the northern peninsula of Newfoundland), as equivalent to their LRP and have defined the upper stock reference (USR) as 150% of the LRP (DFO, 2017). DFO Maritimes Region (Scotia-Fundy) has retained the current conservation requirement based on 240 eggs per 100 m² as the LRP (DFO, 2012; Gibson and Claytor, 2013). DFO Gulf Region revised and defined the LRP using the proportion of eggs from large salmon (maiden MSW and repeat spawners) as a covariate in the Bayesian Hierarchical Model (DFO, 2018) and defined the USR as 3.78 times the LRP (DFO, 2022). The Province of Quebec revised the LRP and USR using a Bayesian hierarchical analysis of stock–recruitment data (Dionne *et al.*, 2015; MFFP, 2016; ICES, 2017). For Quebec, the management plan for the recreational fishery provides river-specific LRPs, expressed in number of eggs, to regulate salmon retention (MFFP, 2016). These LRPs are also used to establish the 2SW CLs for advice on the management of the 1SW non-maturing fisheries at Greenland.

The CLs, in eggs, are collated for the six stock units (SUs) based on defined stock unit CLs in eggs or converted from fish to eggs (Newfoundland) using biological characteristics by sea age / size group (Table 4.2.1.1). The biological characteristics by stock unit are used by the Life Cycle Model (LCM) to convert spawners in numbers to eggs.

Country and Commission Area	Region	2SW spawner requirement (number of fish)	2SW management objective (number of fish)	Total egg requirement (millions of eggs)
Canada	Labrador (LB)	34 746		239.14
	Newfoundland (NF)	4022		417.78
	Quebec (QC)	17 245		124.60
	Southern Gulf of St Lawrence (GF)	18 737		171.82
	Scotia-Fundy (SF)	24 705	10 976	253.53
Canada Total		99 574		1206.87
US Total		29 199	4549	105.08
North America Total		128 773	15 525	1311.95

4.3 Status of stocks

4.3.1 Attainment of river-specific conservation limits (CLs)

Based on information provided in the update (2018) of the NASCO Database of Salmon Rivers, a total of 857 rivers have been identified in eastern Canada. CLs have been defined for 498 (58%) of these rivers in eastern Canada and all 33 rivers in US (Figure 4.3.1.1).

Assessments of adult spawners and egg depositions relative to CLs were reported for 76 rivers in North America in 2024. Estimated spawning escapements in 2024 exceeded or equaled the river-specific CLs in 25 of the 76 assessed rivers (33%) but were less than 50% of CLs in 39 rivers (51%). Large deficiencies (<10% CLs) were noted in 18 assessed rivers (24%) in 2024.

- CLs on assessed rivers were met or exceeded in two of four (50%) for Labrador, six of 14 (43%) for Newfoundland, 17 of 34 (50%) for Quebec, zero of four for Gulf and zero of seven for Scotia-Fundy (Figure 4.3.1.2).
- Large deficiencies were noted for US; all 13 assessed rivers were below 25% of their CLs. One additional US river (Kennebec River) was monitored, but CL attainment was not reported as a recovery programme transfers adult salmon into inaccessible habitat not considered within the established CL.

The time-series of attained CLs for assessed rivers is presented in Table 4.3.1.1 and Figure 4.3.1.1.

- In Canada, CLs were first established in 1991 for 74 rivers. Since then, the number of rivers with defined CLs increased to 266 in 1997 and to 498 since 2018. The number of rivers assessed annually has ranged from 57 to 91 and the annual percentages of these rivers achieving CL has ranged from 26% to 70% with no temporal trend.

4.3.2 Smolt abundance

Canada

Wild smolt production was estimated in 10 rivers in 2024 (Table 4.3.2.1). In 2024, the relative smolt production, standardized to the size of the river using the CL egg requirements, was highest in St Jean River (Quebec) and lowest in Rocky River (Newfoundland) (Figure 4.3.2.1). Trends in smolt production over the time-series declined ($p < 0.05$) in the Nashwaak River (Scotia-Fundy, 1998–2024), St Jean River (Quebec 1989–2024), de la Trinité River (Quebec, 1984–2024), and Conne River (Newfoundland, 1987–2024) whereas production significantly increased ($p < 0.05$) in Western Arm Brook (Newfoundland, 1971–2024). No other rivers showed statistically significant long-term trends (Figure 4.3.2.1).

US

Wild smolt production was estimated on the Narraguagus River in 2024 (Table 4.3.2.1; Figure 4.3.2.1). Smolt production has declined over time ($p < 0.05$) on this river (1997–2024).

4.3.3 Estimates of total adult abundance

4.3.3.1 North American run–reconstruction model

The run-reconstruction model (RRM) developed by Rago *et al.* (1993) and described in previous WGNAS reports (ICES, 2008; 2009) and the primary literature (Chaput *et al.*, 2005) was used to estimate returns and spawners of small (1SW), large (mostly maiden MSW and repeat spawners), and 2SW salmon (a subset of large) to the six geographic regions of NAC for the time-series to 2024. The input data were similar in structure to the data used previously by WGNAS (ICES, 2012; ICES 2024c).

4.3.3.2 The Life-cycle Model

The LCM for wild Atlantic salmon was used for the first time by ICES in 2024 to forecast stock status (see Section 2 of this report and ICES 2024a,c). Outputs of the LCM are in line with the run-reconstruction estimates of returns and spawners, and provides for S-NEAC, N-NEAC, and NAC, by country and SU, time-series and forecasts of total PFA, PFA 1SW maturing, PFA 1SW non-maturing, productivity (post-smolt survival), proportion maturing as 1SW, returns of 1SW, returns of MSW and eggs in returns/spawners of 1SW and MSW age groups.

4.3.3.3 Estimates of returns

Returns of small (1SW) and large (mostly maiden MSW and repeat spawners) salmon to individual river systems and management areas were derived using a variety of methods. These methods included counts of salmon at monitoring facilities, population estimates from mark–recapture studies, and applying angling and commercial catch statistics, angling exploitation rates, and measurements of freshwater habitat. The 2SW component of the large salmon returns was determined using the sea age composition of one or more indicator stocks.

Returns are the number of salmon that returned to the geographic region, including fish caught by homewater commercial fisheries, except in the case of the Newfoundland and Labrador regions where returns do not include landings in mixed stock commercial and subsistence fisheries. This avoided double counting fish because commercial catches in Newfoundland and Labrador and subsistence fisheries in Labrador were added to the sum of regional returns to create the pre-fishery abundance estimates (PFA) of North American salmon.

Total returns of salmon to US rivers are the sum of trap catches and redd-based estimates.

In 2020, some regions were affected by the COVID-19 global pandemic and had to either modify the way returns estimates were produced (e.g. SFA15 using snorkel counts of spawners instead of angling data) or could not provide returns estimates (e.g. SFA 16, 17, 18, 19–21, and 23). When no data were available, the previous five-year mean was used for all SFAs, except for Newfoundland where the previous six-year mean was used. In 2024, fecundity estimates of the previous five-year mean were used for the US.

Small, large and 2SW salmon returns to the six stock units and overall for NAC (1971-2024) from the RRM and forecasts (2025-2028) from the LCM are reported in tables 4.3.3.1 to 4.3.3.3. Outputs from the LCM are shown in figures 4.3.3.1 to 4.3.3.7.

Small salmon returns in 2024

- Small salmon returns for North America (288 300) were the lowest since 1973.
- Small salmon returns were the lowest of the time-series for Gulf and Quebec and amongst the lowest for Scotia-Fundy.
- Small salmon returns decreased from the previous five-year mean in all regions (-25% to -86%) except for the US (37%), which remained at low levels.
- Small salmon returns for Labrador and Newfoundland combined represented 94% of the total small salmon returns for North America.

Large salmon returns in 2024

- Large salmon returns for North America (92 000) were the second lowest of the 55-year time-series.
- Large salmon returns were the lowest of the time-series for Gulf and Quebec.
- Large salmon returns decreased from the previous five-year mean in all regions (-0.1% to -52%).
- Large salmon returns for Labrador and Newfoundland combined represented 61% of the total large salmon returns for North America.

2SW salmon returns in 2024

- 2SW salmon returns for North America (54 400) were the second lowest of the 55-year time-series.
- 2SW salmon returns were the lowest of the time-series for Gulf and Quebec.
- 2SW salmon returns decreased from the previous five-year mean in all regions (-5% to -52%).
- On average (2020-2024), the majority of 2SW salmon returns (93%) for NAC were from Labrador (43%), Quebec (28%), and Gulf (22%). There are few 2SW salmon returns to Newfoundland (5%), as the majority of the large salmon returns to that region are comprised of previously spawned 1SW salmon. Scotia-Fundy and US each represent approximately 1% of NAC 2SW returns.

4.3.4 Estimates of spawner escapement and eggs contribution

Small, large, and 2SW salmon spawners to the six stock units and overall for NAC (1970-2024) from the run-reconstruction model are reported in tables 4.3.4.1 to 4.3.4.3. Outputs from the LCM, including eggs, are shown in figures 4.3.4.1 to 4.3.4.7.

Small salmon spawners in 2024

- Small salmon spawners for North America (277 200) ranked amongst the lowest of the 55-year time-series.
- Small salmon spawners were the lowest in the time-series for Gulf and Quebec, and amongst the lowest for Scotia-Fundy.
- Small salmon spawners decreased from the previous five-year mean in all regions (-25% to -87%) except for the US (37%), which remained at low levels.
- On average (2020-2024), small salmon spawners for Labrador and Newfoundland combined represented 92% of the total small salmon spawners for North America.

Large salmon spawners in 2024

- Large salmon spawners for North America (88 400) ranked amongst the lowest of the 55-year time-series.
- Large salmon spawners were the lowest of the time-series for Quebec and amongst the lowest for Gulf and Scotia-Fundy.
- Large salmon spawners decreased from previous five-year mean in all regions (-3% to -53%), except for the US (0.3%), which remained at low levels.

2SW salmon spawners in 2024

- 2SW salmon spawners for North America (51 600) ranked amongst the lowest of the 55-year time-series and were below the combined 2SW CL for NAC.
- 2SW salmon spawners were the lowest of the time-series for Quebec and amongst the lowest for Gulf and Scotia-Fundy
- 2SW salmon spawners decreased from the previous five-year mean for all regions (-4% to -52%).
- 2SW salmon spawners were below the region-specific 2SW CLs for Labrador (64% of CL), Quebec (77% of CL), Newfoundland (78% of CL), Gulf (55% of CL), and below the management objectives for Scotia-Fundy (9% of MO) and US (35% of MO) (Figure 4.3.4.8). The 2SW CLs have never been exceeded for Scotia-Fundy and US over the time-series.
- The 2SW management objectives for Scotia-Fundy and US have not been met since 1991 and 2013, respectively. For US, 2SW returns are assessed relative to the management objective as adult stocking programmes for restoration efforts contribute to the number of spawners.

Eggs from spawners in 2024

- The mean total eggs from spawners for North America for the most recent five years (2020-2024) was 1 392 million, above the total egg requirement of 1 311 million eggs but the 2024 value was well below at 841 million eggs.
- Total eggs in the returns and spawners were below CLs for Quebec (77% of CL), Newfoundland (78% of CL), Gulf (55% of CL), and below the management objectives for Scotia-Fundy (9% of MO) and US (35% of MO), except for Labrador (123%) (Figure 4.3.4.9).
- Eggs in spawners from Labrador and Newfoundland combined represented 75%, on average over the most recent five years (2020-2024), of the total eggs for North America.
- Eggs in 2SW spawners (451 million) represented 32%, on average over the most recent five years (2020-2024), of the total eggs for North America.

4.3.5 Return rates in monitored rivers

Return rates are the ratio of adult returns relative to outmigrating smolts of previous years. In 2024, return rate estimates were available from nine wild and two hatchery populations from rivers distributed among Newfoundland, Quebec and US (tables 4.3.5.1 to 4.3.5.4).

In 2024, the return rates of wild smolts as 2SW salmon to the Saint Jean and de la Trinité River (Quebec) were 1.4% and 0.1%, respectively (Table 4.3.5.2; Figure 4.3.5.1). The return rates of wild smolts as 1SW salmon in four monitored rivers in 2024 ranged from 0.1% to 6.0% (Table 4.3.5.1; Figure 4.3.5.1).

In 2024, the return rate of hatchery-origin smolts as 2SW salmon to the Penobscot River (US) was 0.20% (Table 4.3.5.4; Figure 4.3.5.2). The return rate of hatchery-origin smolts as small (1SW) salmon to this river was 0.07% in 2024 (Table 4.3.5.3; Figure 4.3.5.2).

Return rates were highly variable among rivers and years (figures 4.3.5.1 and 4.3.5.2) and factors contributing to the variation were discussed in ICES (2023a).

4.3.6 Pre-fisheries abundance (PFA)

The LCM provides estimates of the PFA for maturing 1SW, non-maturing 1SW and maturity groups combined as of 01 January of the first winter at sea for the time-series 1971 to 2023 and forecasts abundance for the 2024 to 2028 PFA years.

4.3.6.1 Non-maturing 1SW salmon

PFA estimates for the six stock units and NAC overall are shown in figures 4.3.3.1. to 4.3.3.7. The NAC median estimate of non-maturing 1SW salmon in 2023 was 178 700 salmon (95% C.I. range 163 200 to 196 500) (Table 4.3.6.1). This value is 35% lower than the previous five-year mean (276 100). The estimated non-maturing 1SW salmon in 2023 was the lowest of the 53-year time-series, and remains well below the high values of the 1970s (Figure 4.3.3.1).

4.3.6.2 Maturing 1SW salmon

Maturing 1SW salmon are in some areas (particularly Newfoundland) a major component of salmon stocks, and their abundance when combined with the non-maturing 1SW salmon group provides an index of the smolt cohort.

The PFA of the 1SW maturing cohort of North American origin is shown in Table 4.3.6.1. PFA estimates for each of six stock units are shown in figures 4.3.3.1.-4.3.3.7. The estimated PFA of the maturing component in 2023 was 389 600 fish, the lowest of the 53-year time-series and less than half of the maximum abundance of 1 053 000 fish in 1981 (Table 4.3.6.1, Figure 4.3.3.1).

4.3.6.3 Total 1SW recruits (maturing and non-maturing)

The total PFA for 2023 was 569 100 fish, the lowest of the 53-year time-series. The total PFA abundance has declined from a peak of 2 212 000 fish in 1975 (Table 4.3.6.1, Figure 4.3.3.1). For both maturing and non-maturing salmon, the PFA is forecasted to remain stable but be below the NAC CL from 2025 to 2028.

4.3.6.4 PFA by stock units

On average over the most recent five years (2019-2023), the maturing PFA for Labrador and Newfoundland represented 43% and 46% of the maturing PFA in eastern North America, respectively. The non-maturing PFA was comprised 42% for Labrador, 21% for Quebec, 18% for Newfoundland, and 17% for Gulf. The maturing and non-maturing PFAs were lowest for Scotia-Fundy and US. The majority (80%) of the total PFA abundance is now represented by production from Labrador and Newfoundland. This is a change from the 1970s, when the stock units with the largest proportion of total PFA were Quebec (25%), Labrador (22%), Newfoundland (21%), and Gulf (21%).

Stock unit	Percent of NAC maturing PFA 2019-2023	Percent of NAC non-maturing PFA 2019-2023	Percent of NAC total PFA 2019-2023
Labrador (LB)	43	42	43
Newfoundland (NF)	46	18	37
Quebec (QC)	5	21	10
Southern Gulf of St Lawrence (GF)	4	17	9
Scotia-Fundy (SF)	0.6	1	0.7
US (US)	0.06	1	0.3

4.3.7 Population dynamics

Hindcast estimates and forecasts of post-smolt survival and probability of maturing as a 1SW salmon were derived from the LCM by stock unit and for NAC overall (figures 4.3.7.1 and 4.3.7.2).

4.3.7.1 Post-smolt survival

Post-smolt survival is a measure of marine productivity in the first year at sea. Prior to the 1980s, the probability of post-smolt survival was as high as 0.4 while in recent years, values have declined to around 0.1 for all regions and for NAC overall (Figure 4.3.7.1).

4.3.7.2 Probability of maturing as a 1SW salmon

There are region-specific differences in the probability of maturing as a 1SW salmon (Figure 4.3.7.2). This is highest for Newfoundland, followed by Labrador and Scotia-Fundy, and is lower for Quebec, Gulf and the US. In NAC overall, the probability of maturing as a 1SW salmon has increased from less than 0.5 prior to the 1980s to a peak of 0.75 in the early 2000s.

4.3.8 Summary on status of stocks

In 2024, the estimated small (mainly 1SW) salmon returns to North America were the lowest since 1973 and have declined relative to the previous five-year mean for all NAC regions, except for the US which remained at low levels (Table 4.3.3.1). In 2024, the estimated returns of 1SW salmon to Gulf and Quebec were the lowest of the time-series. Overall, 94% of 1SW (small) salmon returns to NAC in 2024 were from two stock units (Labrador and Newfoundland).

There has been a slight increasing trend in the number of small salmon returns to North America (Figure 4.3.3.1). This increasing trend was mainly driven by the closure of commercial fisheries in 1992 and 1998, and the substantial increasing trend over the time-series in returns to the Labrador region that include record highs in 2022 and 2023.

Important variations in annual abundance of small salmon continue to be observed, such as the low returns of 2009, 2013 and 2024; and high returns of 2011 and 2021 (Figure 4.3.3.1). Increased returns in recent years were estimated for Labrador and Newfoundland, which have contributed to the increasing trend for NAC. The estimated small salmon returns in Labrador have increased substantially over the time-series and were the highest of the 55-year time-series in 2023.

The abundances of large salmon (MSW salmon including maiden and repeat spawners), as well as the 2SW maiden component, returns to North America in 2024 were the lowest of the 55-year time-series and declined relative to the previous five-year mean in all NAC regions (tables 4.3.3.2 and 4.3.3.3). Over the previous five years, 93% of 2SW salmon returns to NAC were from three stock units (Gulf, Labrador and Quebec).

In 2024, the median estimates of 2SW salmon returns to rivers and spawners were below the respective 2SW CLs (i.e. at full reproductive capacity) in all stock units of NAC; and therefore, were suffering reduced reproductive capacity (Figure 4.3.4.8). The percent (based on medians) of CLs attained from 2SW spawners in 2024 ranged from 9% in Scotia-Fundy to 78% in Newfoundland. For the US, 2SW spawners exceeded 2SW returns as salmon stocked as part of restoration efforts are included in the number of 2SW spawners. In the two southern most regions of NAC, the percent management objective attained for 2SW returns was 9% for Scotia-Fundy and 35% for US.

Total eggs in the returns and spawners were below CLs for all stock units, except for Labrador (Figure 4.3.4.9). River-specific spawner escapements in 2024 exceeded or equalled the river-

specific CLs in 25 of the 76 assessed rivers (33%) but were less than 50% of CLs in 39 rivers (51%) (Figure 4.3.1.1). Large deficiencies (<10% CLs) were noted in 18 assessed rivers (25%) in 2024 (Table 4.3.1.1).

Wild smolt-to-adult return rates to monitored rivers in eastern North America remain low, with 2024 smolt return rates ranging from 0.1% to 1.4% for 2SW stocks and 0.1% to 6% for 1SW stocks (tables 4.3.5.1 and 4.3.5.2).

Based on the previous five years, regional return estimates are reflective of the overall return estimates for NAC, as Labrador and Newfoundland collectively comprised 92% of the small salmon returns, whereas Labrador, Quebec, and Gulf collectively comprised 77% of the large salmon returns and 94% of the 2SW salmon returns.

Despite major changes in fisheries, returns to the southern regions of NAC (Scotia-Fundy and US) remain near historical lows and many populations are currently at risk of extirpation. All salmon stocks within the US and the Scotia-Fundy regions have been or are being considered for listing under country specific species at risk legislation. Recovery Potential Assessments for three designable units of salmon in Scotia-Fundy, one in Quebec and one in Newfoundland occurred in 2012 and 2013 to inform the requirements under the Species at Risk Act listing process in Canada (ICES, 2014).

Estimates of PFA indicate continued low abundance of North American Atlantic salmon. The total PFA has shown an overall declining trend since the 1970s with a period of persistent low abundance since the early 1990s. During 1992 to 2023, the total PFA was 808 200 fish, half the mean abundance (1 634 400 fish) during 1971 to 1991.

The continued low and declining abundance of salmon stocks across North America, despite significant fishery reductions, strengthens the conclusions that factors acting on survival in the first and second years at sea, at both local and broad ocean scales, are constraining abundance of Atlantic salmon. Declines in smolt production in some rivers of North America are now being observed and are also contributing to lower adult abundance. While direct management interventions to mitigate the impacts of ocean warming are limited, management actions to improve survival in, and production from, the freshwater phase of the life cycle are key to species and stock resilience (Thorstad *et al*. 2021).

4.4 Tables & Figures

Table 4.1.2.1. The number of professional and recreational gillnet licences issued and reported landings in Saint Pierre and Miquelon, 1990-2024. The data for 2024 are provisional.

Year	Number of licences		Reported landings (t)		
	Professional	Recreational	Professional	Recreational	Total
1990			1.15	0.734	1.88
1991			0.63	0.530	1.16
1992			1.30	1.024	2.32
1993			1.90	1.041	2.94
1994			2.63	0.790	3.42
1995	12	42	0.39	0.445	0.84
1996	12	42	0.95	0.617	1.57
1997	6	36	0.76	0.729	1.49
1998	9	42	1.04	1.268	2.31
1999	7	40	1.18	1.140	2.32
2000	8	35	1.13	1.133	2.27
2001	10	42	1.54	0.611	2.16
2002	12	42	1.22	0.729	1.95
2003	12	42	1.62	1.272	2.89
2004	13	42	1.50	1.285	2.78
2005	14	52	2.24	1.044	3.29
2006	13	52	1.73	1.825	3.56
2007	13	53	0.97	1.062	2.03
2008	9	55	1.60	1.85	3.45
2009	8	50	1.87	1.60	3.46
2010	9	57	1.00	1.78	2.78
2011	9	58	1.76	1.99	3.76
2012	9	60	0.28	1.17	1.45
2013	9	64	2.29	3.01	5.30
2014	12	70	2.25	1.56	3.81
2015	8	70	1.21	2.30	3.51
2016	8	70	0.98	3.75	4.73
2017	8	80	0.59	2.22	2.82
2018	9	80	0.16	1.13	1.29
2019	7	80	0.07	1.21	1.29
2020	5	81	0.09	1.65	1.74
2021	4	80	0.22	1.38	1.60
2022	4	80	0.10	1.14	1.24
2023	6	80	0.03	1.42	1.45
2024	5	80	0.19	1.52	1.71

Table 4.1.3.1. Catches (by weight, t), and the percent large by weight and by number in the Indigenous food, social, and ceremonial (FSC) fisheries in Canada, 1990-2024. The data for 2024 are provisional.

	Indigenous FSC fisheries		
Year	Catch (t)	% Large by Weight	% Large by Number
1990	31.9	78	
1991	29.1	87	
1992	34.2	83	
1993	42.6	83	
1994	41.7	83	58
1995	32.8	82	56
1996	47.9	87	65
1997	39.4	91	74
1998	47.9	83	63
1999	45.9	73	49
2000	45.7	68	41
2001	42.1	72	47
2002	46.3	68	43
2003	44.3	72	49
2004	60.8	66	44
2005	56.7	57	34
2006	61.4	61	39
2007	48.0	62	40
2008	62.5	66	43
2009	51.2	65	45
2010	59.1	59	38
2011	70.4	63	41
2012	59.6	62	40
2013	64.0	71	51
2014	52.9	61	41
2015	62.9	67	46
2016	64.0	72	50
2017	61.3	72	51
2018	52.5	64	44
2019	54.7	72	50
2020	60.7	73	52

Indigenous FSC fisheries			
Year	Catch (t)	% Large	
		by Weight	by Number
2021	56.6	62	42
2022	57.8	68	48
2023	63.9	73	55
2024	51.0	66	47

Table 4.1.3.2. Catches (by weight, t), and the percent large by weight and number in the Labrador resident subsistence fishery, Canada, 2000-2024. The data for 2024 are provisional.

Year	Labrador resident subsistence fishery		
	Catch (t)	% Large	
		by Weight	by Number
2000	3.5	30	18
2001	4.6	33	23
2002	6.2	27	15
2003	6.7	32	21
2004	2.2	40	26
2005	2.7	32	20
2006	2.6	39	27
2007	1.7	23	13
2008	2.3	46	25
2009	2.9	42	28
2010	2.3	37	25
2011	2.1	51	37
2012	1.7	49	32
2013	2.1	65	51
2014	1.6	46	41
2015	2.0	54	38
2016	1.6	57	39
2017	1.4	58	40
2018	1.5	43	26
2019	1.6	67	47
2020	1.7	56	38
2021	1.8	46	32
2022	1.4	51	35
2023	1.2	60	42
2024	1.3	58	42

Table 4.1.3.3. Catches of small and large salmon by number, and the percent large by number, in the recreational fisheries of Canada, 1974-2024. The data for 2024 is provisional.

Year	Small	Large	Both size groups	% Large
1974	53887	31720	85607	37
1975	50463	22714	73177	31
1976	66478	27686	94164	29
1977	61727	45495	107222	42
1978	45240	28138	73378	38
1979	60105	13826	73931	19
1980	67314	36943	104257	35
1981	84177	24204	108381	22
1982	72893	24640	97533	25
1983	53385	15950	69335	23
1984	66676	9982	76658	13
1985	72389	10084	82473	12
1986	94046	11797	105843	11
1987	66475	10069	76544	13
1988	91897	13295	105192	13
1989	65466	11196	76662	15
1990	74541	12788	87329	15
1991	46410	11219	57629	19
1992	77577	12826	90403	14
1993	68282	9919	78201	13
1994	60118	11198	71316	16
1995	46273	8295	54568	15
1996	66104	9513	75617	13
1997	42891	6756	49647	14
1998	45810	4717	50527	9
1999	43667	4811	48478	10
2000	45811	4627	50438	9
2001	43353	5571	48924	11
2002	43904	2627	46531	6
2003	38367	4694	43061	11
2004	43124	4578	47702	10
2005	33922	4132	38054	11
2006	33668	3014	36682	8
2007	26279	3499	29778	12
2008	46458	2839	49297	6

Year	Small	Large	Both size groups	% Large
2009	32944	3373	36317	9
2010	45407	3209	48616	7
2011	49931	4141	54072	8
2012	30453	2680	33133	8
2013	31404	3472	34876	10
2014	33339	1343	34682	4
2015	37642	1971	39613	5
2016	35303	1823	37126	5
2017	22015	1886	23901	8
2018	11757	979	12736	8
2019	22171	1226	23397	5
2020	20760	916	21676	4
2021	21222	736	21958	3
2022	21370	1016	22344	4
2023	11246	899	12145	7
2024	8048	214	8262	3
Previous five-year mean	18187	957	19145	5

Table 4.1.3.4. Numbers of salmon caught and released in Eastern Canadian salmon angling fisheries, 1984-2024. Blank cells indicate no data. Released fish in the kelt fishery of New Brunswick are not included in the totals for New Brunswick, nor Canada. Totals for all years prior to 1997 are incomplete and are considered minimal estimates. Values for 2024 are provisional.

	Newfoundland and Labrador			Nova Scotia			New Brunswick			Prince Edward Island			Quebec			Canada		
Year	Small	Large	Total	Small	Large	Total	Small	Large	Total	Small	Large	Total	Small	Large	Total	Small	Large	Total
1984				939	1655	2594	851	14479	15330							1790	16134	17924
1985		315	315	1323	6346	7669	3963	17815	21778			67				5286	24476	29762
1986		798	798	1463	10750	12213	9333	25316	34649							10796	36864	47660
1987		410	410	1311	6339	7650	10597	20295	30892							11908	27044	38952
1988		600	600	1146	6795	7941	10503	19442	29945	767	256	1023				12416	27093	39509
1989		183	183	1562	6960	8522	8518	22127	30645							10080	29270	39350
1990		503	503	1782	5504	7286	7346	16231	23577			1066				9128	22238	31366
1991		336	336	908	5482	6390	3501	10650	14151	1103	187	1290				5512	16655	22167
1992	5893	1423	7316	737	5093	5830	8349	16308	24657			1250				14979	22824	37803
1993	18196	1731	19927	1076	3998	5074	7276	12526	19802							26548	18255	44803
1994	24442	5032	29474	796	2894	3690	7443	11556	18999	577	147	724				33258	19629	52887
1995	26273	5166	31439	979	2861	3840	4260	5220	9480	209	139	348		922	922	31721	14308	46029
1996	34342	6209	40551	3526	5661	9187				472	238	710		1718	1 718	38340	13826	52166
1997	25316	4720	30036	713	3363	4076	4870	8874	13744	210	118	328	182	1643	1 825	31291	18718	50009
1998	31368	4375	35743	688	2476	3164	5760	8298	14058	233	114	347	297	2680	2 977	38346	17943	56289

	Newfoundland and Labrador			Nova Scotia			New Brunswick			Prince Edward Island			Quebec			Canada		
Year	Small	Large	Total	Small	Large	Total	Small	Large	Total	Small	Large	Total	Small	Large	Total	Small	Large	Total
1999	24567	4153	28720	562	2186	2748	5631	8281	13912	192	157	349	298	2693	2 991	31250	17470	48720
2000	29705	6479	36184	407	1303	1710	6689	8690	15379	101	46	147	44e	4008	4 453	37347	20526	64482
2001	22348	5184	27532	527	1199	1726	6166	11252	17418	202	103	305	809	4674	5 483	30052	22412	59387
2002	23071	3992	27063	829	1100	1929	7351	5349	12700	207	31	238	852	4918	5 770	32310	15390	50924
2003	21379	4965	26344	626	2106	2732	5375	7981	13356	240	123	363	1238	7015	8 253	28858	22190	53645
2004	23430	5168	28598	828	2339	3167	7517	8100	15617	135	68	203	1291	7455	8746	33201	23130	62316
2005	33129	6598	39727	933	2617	3550	2695	5584	8279	83	83	166	1116	6445	7561	37956	21327	63005
2006	30491	5694	36185	1014	2408	3422	4186	5538	9724	128	42	170	1091	6185	7276	36910	19867	60486
2007	17719	4607	22326	896	1520	2416	2963	7040	10003	63	41	104	951	5392	6343	22592	18600	41192
2008	25226	5007	30233	1016	2061	3077	6361	6130	12491	3	9	12	1361	7713	9074	33967	20920	54887
2009	26681	4272	30953	670	2665	3335	2387	8174	10561	6	25	31	1091	6180	7271	30835	21316	52151
2010	27256	5458	32714	717	1966	2683	5730	5660	11390	42	27	69	1356	7683	9039	35101	20794	55895
2011	26240	8119	34359	1157	4320	5477	6537	12466	19003	46	46	92	3100	9327	12427	37080	34278	71358
2012	20940	4089	25029	339	1693	2032	2504	5330	7834	46	46	92	2126	6174	8300	25955	17332	43287
2013	19962	6770	26732	480	2657	3137	2646	8049	10695	12	23	35	2238	7793	10031	25338	25292	50630
2014	20553	4410	24963	185	1127	1312	2806	5884	8690	68	68	136	1580	4932	6512	25192	16421	41613
2015	24861	6943	31804	548	1260	1808	11552	7489	19041	68	68	136	3078	9573	12651	40107	25333	65440

	Newfoundland and Labrador			Nova Scotia			New Brunswick			Prince Edward Island			Quebec			Canada		
Year	Small	Large	Total	Small	Large	Total	Small	Large	Total	Small	Large	Total	Small	Large	Total	Small	Large	Total
2016	26145	10206	36351	362	1550	1912	7130	7958	15088	68	68	136	3905	11533	15438	37610	31315	68925
2017	22544	8137	30681	330	732	1062	5935	6179	12114	68	68	136	3191	10173	13364	32068	25289	57357
2018	26403	3562	29965	526	2180	2706	4703	6978	11681	68	68	136	2747	8776	11523	34447	21564	56011
2019	30784	6937	37721	508	1564	2072	4506	3507	8013	68	68	136	2845	9849	12694	38711	21925	60636
2020	25964	8359	34323	346	1446	1792	5401	5197	10598	68	68	136	1620	8149	9769	33399	23219	56618
2021	39465	6183	45648	844	1222	2066	5551	3271	8822	68	68	136	2041	8343	10384	47969	19087	67056
2022	23577	5344	28921	743	2242	2985	1647	2242	3889	68	68	136	3048	11682	14730	29083	21578	50661
2023	17488	4597	22085	449	2311	2760	1647	3708	5355	68	68	136	2194	10065	12259	21845	20750	42595
2024	15246	3305	18551	207	818	1025	1215	2582	3797	68	68	136	1937	5330	7267	18673	12103	30776

Table 4.1.4.1. Reported catches and losses expressed as 2SW salmon equivalents (number of fish x 1 000) in North American salmon fisheries, 1972-2024, year of 2SW catches in North America. Only midpoints of the run-reconstruction Monte Carlo simulated values are shown. Geographic locations are: SPM = Saint Pierre and Miquelon, LAB = Labrador, NF = Newfoundland, QC = Quebec, GF = Gulf, SF = Scotia-Fundy.

	Mixed-stock fisheries in North America					Canada – losses from all sources (terminal fisheries, catch and release mortality, bycatch mortality) in year (i)												
Year (i)	NF-LAB comm / subs 1SW (Year i-1) (a)	% 1SW of total 2SW equivalents (Year i)	NF-LAB Comm/subs 2SW (Year i) (a)	NF-LAB Comm/ subs total (Year i)	SPM (Year i)	LAB	NF	QC	GF	SF	Total	US	North America Total Losses	Terminal losses as % of NA Total	Greenland Total (Year i - 1)	NW Atlantic Total	Catch in homewaters as % of total NW Atlantic	Estimated abundance in North America (2SW)	Exploitation rate in North America
1972	21.9	13	144.2	166.2	0	0.4	0.6	27.4	20.2	5.6	54.3	0.3	220.8	25	197.8	418.6	53	292.4	0.76
1973	18.7	8	205.8	224.6	0	1.0	0.8	32.8	15.6	6.2	56.4	0.3	281.3	20	148.0	429.4	66	363.3	0.77
1974	23.7	9	236.0	259.7	0	0.8	0.5	47.9	18.1	13.1	80.3	0.2	340.3	24	186.7	527.0	65	449.6	0.76
1975	23.4	9	237.7	261.1	0	0.3	0.5	41.1	14.2	12.5	68.6	0.4	330.1	21	154.6	484.7	68	417.0	0.79
1976	34.9	12	256.7	291.6	0.3	0.8	0.4	41.9	16.1	11.1	70.3	0.2	362.5	19	194.7	557.2	65	431.3	0.84
1977	26.6	10	241.4	268.0	0	1.3	0.8	42.1	28.9	13.5	86.5	1.4	355.8	25	113.0	468.9	76	473.4	0.75
1978	26.9	15	157.4	184.3	0	0.8	0.5	37.6	20.4	9.4	68.7	0.9	253.9	27	142.9	396.8	64	317.5	0.80
1979	13.5	13	92.1	105.6	0	0.6	0.1	25.2	6.3	3.9	36.1	0.4	142.1	26	103.7	245.7	58	172.1	0.83
1980	20.6	9	217.3	237.9	0	0.9	0.6	53.6	25.4	17.4	97.9	1.5	337.3	29	141.9	479.2	70	451.9	0.75
1981	33.6	14	201.5	235.1	0	0.5	0.4	44.2	14.5	12.8	72.5	1.3	308.9	24	120.9	429.7	72	365.5	0.85
1982	33.5	20	134.5	168	0	0.6	0.4	35.1	20.6	8.9	65.6	1.4	235.0	29	161.2	396.2	59	291.2	0.81
1983	25.2	18	111.6	136.8	0.3	0.4	0.4	34.5	17.3	12.3	64.9	0.4	202.5	32	145.9	348.3	58	237.5	0.85
1984	19.0	19	82.9	101.9	0.3	0.5	0.2	19.2	3.6	3.9	27.4	0.7	130.3	22	26.8	157.2	83	199.5	0.65
1985	14.3	15	78.8	93.1	0.3	0.3	0	22.1	0.8	5.1	28.3	0.6	122.3	24	32.4	154.8	79	213.1	0.57
1986	19.5	16	105.0	124.5	0.3	0.5	0	27.1	1.9	3.0	32.5	0.6	157.9	21	99.0	256.9	61	266.9	0.59
1987	24.7	16	132.3	157.0	0.2	0.6	0	27.1	1.9	1.4	31.1	0.3	188.6	17	123.7	312.3	60	260.0	0.73
1988	31.5	28	81.2	112.7	0.2	0.7	0	27.4	1.4	1.4	30.9	0.2	144.1	22	123.8	267.8	54	215.2	0.67
1989	21.9	21	81.4	103.3	0.2	0.5	0	23.6	1.2	0.3	25.5	0.4	129.4	20	84.9	214.2	60	195.8	0.66
1990	19.2	25	57.4	76.6	0.2	0.4	0	22.8	1.3	0.6	25.1	0.7	102.6	25	43.6	146.2	70	176.0	0.58

Year (i)	Mixed-stock fisheries in North America					Canada – losses from all sources (terminal fisheries, catch and release mortality, bycatch mortality) in year (i)						US	North America Total Losses	Terminal losses as % of NA Total	Greenland Total (Year i - 1)	NW Atlantic Total	Catch in homewaters as % of total NW Atlantic	Estimated abundance in North America (2SW)	Exploitation rate in North America
	NF-LAB comm / subs 1SW (Year i-1) (a)	% 1SW of total 2SW equivalents (Year i)	NF-LAB Comm/subs 2SW (Year i) (a)	NF-LAB Comm/ subs total (Year i)	SPM (Year i)	LAB	NF	QC	GF	SF	Total								
1991	11.8	23	40.5	52.3	0.1	0.1	0	23.4	1.1	1.4	26.0	0.2	78.7	33	52.2	130.9	60	148.4	0.53
1992	9.8	28	25.1	34.9	0.3	0.8	0.1	23.9	1.1	1.1	27.1	0.2	62.5	44	79.5	142.0	44	145.9	0.43
1993	3.1	19	13.3	16.4	0.3	0.4	0	18.4	0.7	1.2	20.7	0.2	37.6	56	29.8	67.4	56	122.1	0.31
1994	2.1	15	11.9	14.0	0.4	0.5	0.1	19.1	0.7	0.8	21.2	0	35.6	60	1.9	37.5	95	107.2	0.33
1995	1.2	12	8.7	9.9	0.1	0.5	0.1	17.8	0.5	0.4	19.3	0	29.2	66	1.9	31.1	94	134.3	0.22
1996	1.0	15	5.6	6.7	0.2	0.4	0.2	17.1	0.9	0.8	19.4	0	26.2	74	19.2	45.4	58	113.8	0.23
1997	0.9	14	5.6	6.5	0.2	0.2	0.2	14.1	0.8	0.6	15.9	0	22.6	70	19.3	41.9	54	93.9	0.24
1998	1.2	40	1.8	2.9	0.3	0.2	0.1	7.9	0.5	0.3	9.0	0	12.2	74	13	25.2	48	64.5	0.19
1999	0.2	17	0.8	1.0	0.3	0.3	0.1	6.6	0.7	0.5	8.2	0	9.4	86	4.3	13.8	69	68.3	0.14
2000	0.1	12	1.1	1.2	0.3	0.3	0.2	6.3	0.6	0.2	7.6	0	9.0	84	6.4	15.5	58	70.1	0.13
2001	0.3	17	1.3	1.6	0.2	0.3	0.1	6.8	0.9	0.3	8.4	0	10.2	82	5.9	16.2	63	80.9	0.13
2002	0.3	19	1.1	1.3	0.2	0.2	0	4.2	0.5	0.2	5.2	0	6.7	77	8.6	15.3	44	51.0	0.13
2003	0.3	15	1.7	2.0	0.3	0.2	0.1	6.1	0.7	0.2	7.3	0	9.6	76	3.2	12.9	75	78.3	0.12
2004	0.3	11	2.9	3.2	0.2	0.3	0.1	6.0	0.9	0.1	7.3	0	10.7	68	3.5	14.2	76	76.0	0.14
2005	0.5	17	2.2	2.7	0.3	0.3	0.1	5.3	1.0	0.1	6.7	0	9.7	69	4.3	14.1	69	78.2	0.12
2006	0.6	19	2.4	3.0	0.5	0.2	0.1	4.9	0.8	0.2	6.1	0	9.5	64	4.2	13.7	69	74.7	0.13
2007	0.6	21	2.1	2.6	0.2	0.2	0.1	4.7	0.9	0.1	6.0	0	8.9	68	4.9	13.8	64	69.7	0.13
2008	0.5	14	3.0	3.5	0.4	0.2	0.1	4.5	0.8	0.1	5.7	0	9.7	59	6.6	16.3	59	76.8	0.13
2009	0.5	17	2.6	3.1	0.4	0.2	0.1	4.6	0.9	0.1	6.0	0	9.5	63	7.5	17.0	56	90.4	0.11
2010	0.4	13	2.9	3.3	0.5	0.2	0.1	4.2	0.8	0.1	5.4	0	9.2	59	6.7	15.9	58	73.3	0.13
2011	0.5	13	3.5	4.0	1.0	0.1	0.1	5.9	1.5	0.1	7.7	0	12.7	61	8.8	21.5	59	146.1	0.09
2012	0.6	16	3.3	3.9	0.2	0.1	0	4.5	0.7	0.1	5.3	0	9.4	57	6.9	16.2	58	76.0	0.12

Year (i)	Mixed-stock fisheries in North America					Canada – losses from all sources (terminal fisheries, catch and release mortality, bycatch mortality) in year (i)						US	North America Total Losses	Terminal losses as % of NA Total	Greenland Total (Year i - 1)	NW Atlantic Total	Catch in homewaters as % of total NW Atlantic	Estimated abundance in North America (2SW)	Exploitation rate in North America
	NF-LAB comm / subs 1SW (Year i-1) (a)	% 1SW of total 2SW equivalents (Year i)	NF-LAB Comm/subs 2SW (Year i) (a)	NF-LAB Comm/ subs total (Year i)	SPM (Year i)	LAB	NF	QC	GF	SF	Total								
2013	0.5	10	5.0	5.6	1.2	0.2	0.1	4.9	1.0	0	6.1	0	12.9	47	7.1	20.0	65	113.3	0.11
2014	0.4	12	3.1	3.5	0.6	0.1	0	3.5	0.6	0	4.3	0	8.4	51	9.6	18.0	47	83.9	0.10
2015	0.5	9	4.8	5.3	0.4	0.1	0.1	4.1	0.8	0	5.1	0	10.8	47	11.4	22.2	49	121.6	0.09
2016	0.5	11	4.3	4.9	0.3	0.2	0.1	4.3	0.7	0	5.3	0	10.5	51	11.7	22.2	47	116.2	0.09
2017	0.4	9	4.5	5.0	0.1	0.2	0.1	3.8	0.7	0	4.8	0	9.8	49	5.6	15.4	63	115.1	0.09
2018	0.4	11	3.2	3.6	0.2	0.1	0	3.1	0.7	0	3.9	0	7.7	51	5.4	13.1	59	92.2	0.08
2019	0.5	10	4.5	5.0	0.2	0.2	0.1	3.1	0.3	0	3.7	0	8.9	42	9.6	18.5	48	70.5	0.13
2020	0.4	8	4.9	5.3	0.2	0.2	0.1	3.2	0.7	0	4.2	0	9.7	43	6.4	16.1	60	105.6	0.09
2021	0.4	12	3.3	3.7	0.2	0.1	0.1	3.0	0.5	0	3.6	0	7.6	48	4.3	11.9	64	87.3	0.09
2022	0.5	10	4.5	5.0	0.1	0.1	0.1	3.0	0.6	0	3.7	0	8.9	42	8.6	17.4	51	125.5	0.07
2023	0.5	8	6.0	6.5	0.2	0.1	0.1	2.8	0.4	0	3.5	0	10.1	34	7.4	17.5	58	121.8	0.08
2024	0.5	11	3.7	4.2	0.2	0.1	0	2.8	0.4	0	3.3	0	7.8	43	6.5	14.3	54	60.2	0.13

Variations in numbers from previous assessments are due to updates to data inputs and to stochastic variation from Monte Carlo simulation.

NF-LAB comm / subs 1SW (Year i-1) = Catch of 1SW non-maturing * 0.677057 (M of 0.03 per month for 13 months to July for Canadian terminal fisheries).

NF-LAB comm / subs 2SW (Year i) = catch of 2SW salmon * 0.970446 (M of 0.03 per month for 1 month to July of Canadian terminal fisheries).

Canada: Losses from all sources = 2SW returns - 2SW spawners (includes losses from catches from catch and release mortality and other in-river losses such as bycatch mortality but excludes the fisheries at St-Pierre and Miquelon and NF-LAB comm / subs fisheries).

a - starting in 1998 there was no commercial fishery in Labrador; numbers reflect catches of the Indigenous and resident subsistence fisheries.

Greenland total catch = estimated catch in year i -1 of 1SW non-maturing salmon of North American origin at Greenland * 0.719 which is the discounted catch for 11 months of mortality at sea as returning 2SW salmon to eastern North America (M of 0.03 per month for 11 months).

Table 4.1.5.1. Correspondence between the stock unit used by ICES for assessing the status of North American salmon stocks and the genetic reporting groups (Figure 4.1.5.1 and Figure 4.1.5.2) defined using the SNP range-wide baseline (Jeffery *et al.*, 2018).

Stock unit	Genetic reporting group	Group acronym
Labrador	Labrador Central	LAC
	Lake Melville	MEL
	Labrador South	LAS
Quebec	Ungava	UNG
	St Lawrence North Shore Lower	QLS
	Anticosti	ANT
	Gaspe Peninsula	GAS
	Quebec City Region	QUE
Gulf	Gulf of St Lawrence	GUL
Scotia–Fundy	Inner Bay of Fundy	IBF
	Eastern Nova Scotia	ENS
	Western Nova Scotia	WNS
	Saint John River & Aquaculture	SJR
Newfoundland	Northern Newfoundland	NNF
	Western Newfoundland	WNF
	Newfoundland 1	NF1
	Newfoundland 2	NF2
	Fortune Bay	FTB
	Burin Peninsula	BPN
	Avalon Peninsula	AVA
US	Maine, United States	US
Europe	Spain	SPN
	France	FRN
	European Broodstock	EUB
	United Kingdom and Ireland	BRI
	Barents-White Seas	BAR
	Baltic Sea	BAL
	Southern Norway	SNO

Stock unit	Genetic reporting group	Group acronym
	Northern Norway	NNO
	Iceland	ICE
	Greenland	GL

Table 4.1.5.2. Genetic mixture analysis of Labrador FSC and subsistence fisheries for 2024 using the SNP range wide baseline (Jeffery *et al.*, 2018). Mean percent values (and 95% credible interval) by range wide reporting groups (Figure 4.1.5.1 and Figure 4.1.5.2) by size (Small <63 cm, Large >=63 cm; 29 samples did not have size data) and SFA. Reporting groups with zero support have been excluded from the table. Note that credible intervals with a lower bound including zero indicate little support for the mean assignment value.

Reporting group	Total	Small	Large	SFA 1A	SFA 2	SFA 1B
Gulf of St Lawrence	0.1	0.2	0	0	0.2	0
	(0.0, 0.5)	(0.0, 0.7)	(0.0, 0.0)	(0.0, 0.0)	(0.0, 0.8)	(0.0, 0.0)
Newfoundland 2	0.5	0.0	2.0	0	0.7	0
	(0.1, 1.2)	(0.0, 0.0)	(0.3, 5.1)	(0.0, 0.0)	(0.1, 1.6)	(0.0, 0.0)
Burin Peninsula	0	0.8	0	0	0	0
	(0.0, 0.0)	(0.0, 1.9)	(0.0, 0.0)	(0.0, 0.0)	(0.0, 0.0)	(0.0, 0.0)
Avalon Peninsula	0	0.2	0	0	0	0
	(0.0, 0.0)	(0.0, 0.7)	(0.0, 0.0)	(0.0, 0.0)	(0.0, 0.0)	(0.0, 0.0)
Newfoundland 1	1.3	0.9	2.4	0	2.0	0
	(0.5, 2.4)	(0.2, 2.0)	(0.4, 5.7)	(0.0, 0.0)	(0.8, 3.5)	(0.0, 0.0)
Western Newfoundland	0.4	0.5	0	0	0.6	0
	(0.1, 1.0)	(0.1, 1.2)	(0.0, 0.0)	(0.0, 0.0)	(0.1, 1.4)	(0.0, 0.0)
Northern Newfoundland	0.7	0.7	0	0	0.9	0
	(0.2, 1.4)	(0.2, 1.5)	(0.0, 0.0)	(0.0, 0.0)	(0.3, 1.9)	(0.0, 0.0)
Labrador South	59.1	64.3	37.9	0	79.4	1.7
	(54.9, 63.1)	(59.8, 68.7)	(28.8, 47.3)	(0.0, 0.0)	(75.3, 83.3)	(0.0, 5.3)
Lake Melville	21.7	20.7	23.4	11.3	9.3	95.2
	18.6, 25.1)	(17.2, 24.3)	(16.2, 31.3)	(2.8, 22.1)	(6.9, 12)	(89.9, 98.7)
Labrador Central	13.5	10.7	27.2	87.5	3.8	0
	(10.4, 16.9)	(7.5, 14.2)	(18.6, 36.5)	(76.3, 96.3)	(1.5, 6.5)	(0.0, 0.0)
Ungava	1.9	0.9	6.3	0	2.4	1.1
	(1.0, 3.0)	(0.3, 1.7)	(3.0, 10.8)	(0.0, 0.0)	(1.3, 3.9)	(0.0, 3.9)
Total samples	738	586	144	104	531	103

Table 4.1.5.3. Genetic mixture analysis of Saint Pierre and Miquelon for 2024 using the SNP range wide baseline (Jeffery et al., 2018). Mean percent values (and 95% credible interval) by range wide reporting groups (Figure 4.1.5.1 and Figure 4.1.5.2) by size (Small <63 cm, Large >=63 cm). Reporting groups with zero support have been excluded from the table. Note that credible intervals with a lower bound including zero indicate little support for the mean assignment value.

Reporting group	Total	Small	Large
Gulf of St Lawrence	22.9	0	48.2
	(10.4, 38.8)	(0.0, 0.0)	(24.1, 73.5)
Gaspe Peninsula	12.2	0	25.1
	(3.1, 25.2)	(0.0, 0.0)	(5.3, 50.8)
St Lawrence North Shore Lower	2.4	0	5.0
	(0.0, 8.6)	(0.0, 0.0)	(0.0. 18.1)
Fortune Bay	10.7	20.1	0
	(0.0, 23.8)	(0.0, 40.6)	(0.0, 0.0)
Avalon Peninsula	5.6	10.2	0
	(0.0, 15.2)	(0.3, 25.5)	(0.0, 0.0)
Newfoundland 1	5.6	10.2	0
	(0.0, 15.2)	(0.3, 25.5)	(0.0, 0.0)
Western Newfoundland	24.7	36.7	9.1
	(12.4, 39.0)	(18.2, 56.9)	(0.0, 27.1)
Northern Newfoundland	6.3	10.8	0
	(1.0, 15.3)	(1.8, 25.3)	(0.0, 0.0)
Lake Melville	2.0	0	4.3
	(0.0, 7.6)	(0.0, 0.0)	(0.0, 16.6)
Total samples	45	25	20

Table 4.3.1.1. Time-series of stocks in Canada and the US with established CLs the number of rivers assessed and the number and percent of assessed rivers meeting CLs 1991 to 2024. In 2016, Quebec implemented a new Atlantic salmon management plan which changed their river-specific LRP values (Dionne *et al.*, 2015) and DFO Gulf Region revised the river-specific reference points in 2018 (DFO 2018).

Year	Canada				US			
	No. CLs	No. assessed	No. met	% met	No. CLs	No. assessed	No. met	% met
1991	74	64	34	53				
1992	74	64	38	59				
1993	74	69	30	43				
1994	74	72	28	39				
1995	74	74	36	49	33	16	0	0
1996	74	76	44	58	33	16	0	0
1997	266	91	38	42	33	16	0	0
1998	266	83	38	46	33	16	0	0
1999	269	82	40	49	33	16	0	0
2000	269	81	31	38	33	16	0	0
2001	269	78	29	37	33	16	0	0
2002	269	80	21	26	33	16	0	0
2003	269	79	33	42	33	16	0	0
2004	269	75	39	52	33	16	0	0
2005	269	70	31	44	33	16	0	0
2006	269	65	29	45	33	16	0	0
2007	269	61	23	38	33	16	0	0
2008	269	68	29	43	33	16	0	0
2009	375	70	32	46	33	16	0	0
2010	375	68	31	46	33	16	0	0
2011	458	75	50	67	33	16	0	0
2012	472	74	32	43	33	16	0	0
2013	473	75	46	61	33	16	0	0
2014	476	69	20	29	33	16	0	0
2015	476	74	43	58	33	16	0	0
2016	476	62	41	66	33	16	0	0
2017	476	68	42	62	33	16	0	0
2018	498	70	38	54	33	16	0	0
2019	498	71	41	58	33	16	0	0
2020	498	57	40	70	33	16	0	0
2021	498	73	39	53	33	14	0	0
2022	498	69	45	65	33	14	0	0
2023	498	66	33	50	33	14	0	0
2024	498	63	25	32	33	13	0	0

Table 4.3.2.1. Estimated smolt production by smolt migration year in mentioned rivers of eastern North America, 1991-2024.

Smolt Migration Year	US	Scotia-Fundy				Gulf				
	Narraguagus	Nashwaak	LaHave	St Mary's (West)	Middle	Margaree	NW Miramichi	SW Miramichi	Restigouche	Kedgwick
1991										
1992										
1993										
1994										
1995										
1996			20510							
1997	2869		16550							
1998	2845	22750	15600							
1999	4247	28500	10420				390500			
2000	1843	15800	16300				162000			
2001	2562	11000	15700				220000	306300		
2002	1774	15000	11860			63200	241000	711400	1066584	172325
2003	1201	9000	14034			83100	286000	48500	799021	69295
2004	1284	13600	21613			105800	368000	1167000	608750	85675
2005	1287	5200	5270	7350		94200	151200		805667	78297
2006	2339	25400	22971	25100		113700	435000	1330000	591776	125446
2007	1177	21550	24430	16110		112400		1344000	1129024	116300

Smolt Migration Year	US	Scotia-Fundy				Gulf				
	Narraguagus	Nashwaak	LaHave	St Mary's (West)	Middle	Margaree	NW Miramichi	SW Miramichi	Restigouche	Kedgwick
2008	962	7310	14450	15217		128800		901500	547733	52055
2009	1176	15900	8643	14820		96800		1035000	621321	142908
2010	2149	12500	16215					2165000	726058	101233
2011	404	8750		8066			768000		795124	254577
2012	969	11060							883417	167911
2013	1237	10120	7159		11103				1008650	121250
2014	1615	11100	29175		11907				302987	58008
2015	1201	7900	6664		24110				1065469	236891
2016		7150	25849	4394	14848				597926	74996
2017				15190					536615	56586
2018	604			4171	9554				315037	64338
2019	829	8710		1742					379137	57707
2020									834414	103445
2021	1426		5293	3289						
2022	1031	15400							385945	108118
2023	524	5205								
2024	541	10125								

Table 4.3.2.1. Cont'd. Estimated smolt production by smolt migration year in monitored rivers of eastern North America, 1991-2024.

Smolt Migration Year	Quebec			Newfoundland					
	St Jean	De la Trinité	Vieux-Fort	Conne	Rocky	Campbellton	Western Arm Brook	Garnish	Terra Nova River
1991	113927	40863		74645	7732		13453		
1992	154980	50869		68208	7813		15405		
1993	142972	86226		55765	5115	31577	13435		
1994	74285	55913		60762	9781	41663	9283		
1995	60227	71899		62749	7577	39715	15144		
1996	104973	61092		94088	14261	58369	14502		
1997		31892		100983	16900	62050	23845		
1998	95843	28962		69841	12163	50449	17139		
1999	114255	56557		63658	8625	47256	13500		
2000	50993	39744		60777	7616	35596	12706		
2001	109845	70318		86898	9392	37170	16013		
2002	71839	44264		81806	10144	32630	14999		
2003	60259	53030		71479	4440	35089	12086		
2004	54821	27051		79667	13047	32780	17323		
2005	96002	34867		66196	15847	30123	8607		
2006	102939			35146	13200	33304	20826		
2007	135360	42923		63738	12355	35742	16621		
2008	45978	35036		68242	18338	40390	17444		

Smolt Migration Year	Quebec			Newfoundland					
	St Jean	De la Trinité	Vieux-Fort	Conne	Rocky	Campbellton	Western Arm Brook	Garnish	Terra Nova River
2009	37297	32680		63512	14041	36705	18492		
2010	47187	37500		54392	15098	41069	19044		
2011	45050	44400		50701	9311	37033	20544		
2012	40787	45108		51220	5673	44193	13573		
2013	36849	42378		66261	6989	44928	19710		
2014	56456	30741	30873	56224	9901	45634	19771		
2015		47566	25096	32557	6454	32747	14278		
2016	58307	42269	28234		4542	44785	14255		
2017	34261	27433	34447	58803	5233	36005	15439	11903	
2018	38356	35519	16046		3600	38485	13317	10425	
2019	36988	28230		25241	1149	40848	12732	16405	
2020	38110	38892							
2021	60655	42679		22163	5267	20412	11285	8494	
2022	43634	28991		22695	5880	50024		20368	
2023	35742			22540			12167	13353	
2024	63229	22203		19989	4459	23530	10374	17986	27727

Table 4.3.3.1. Estimated small salmon returns (medians, 5th percentile, 95th percentile; x 1 000) from run reconstruction to the six geographic areas and overall, for NAC 1970 to 2024. Returns for Scotia-Fundy (SF) do not include those from SFA 22 and a portion of SFA 23. The last four years (2025-2028) are forecast values from the LCM under the 0-catch scenario.

Year	Median of estimated returns (x 1 000)							5th percentile of estimated returns (x 1 000)							95th percentile of estimated returns (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
1970	49.1	135.7	23.7	62.8	26.5	NA	298.8	34.1	119.7	19.4	53.9	22.8	NA	272.8	72.6	150.7	27.9	71.9	30.3	NA	328.6
1971	64.4	118.5	18.7	49.9	18.9	0	271.2	44.6	105.5	15.3	42.7	16.1	0	244.2	95.4	131.9	22.1	57.0	21.7	0	305.2
1972	48.5	110.6	15.6	62.7	17.0	0	255.4	33.7	97.6	12.8	53.6	14.1	0	231.4	71.6	123.4	18.4	72.0	19.8	0	283.2
1973	13.9	159.9	20.7	63.3	24.4	0	282.4	9.4	142.0	17.0	54.2	20.8	0	260.8	19.8	177.7	24.4	72.2	28.1	0	304
1974	54.0	120.6	21.0	98.5	43.7	0.1	338.7	37.5	106.9	17.2	83.8	37.2	0.1	309.1	79.4	134.2	24.8	112.9	50.0	0.1	372
1975	103.4	151.1	22.5	88.4	33.9	0.1	400.9	71.4	133.2	18.6	75.6	30.5	0.1	358.3	153.7	169.0	26.7	101.2	37.3	0.1	454.9
1976	73.6	158.8	25.0	128.9	53.0	0.2	440.7	51.1	138.9	20.5	110.9	46.7	0.2	401.8	109.1	178.5	29.4	146.7	59.2	0.2	485.8
1977	65.7	159.4	22.7	46.3	46.2	0.1	341.6	45.8	140.1	18.6	39.9	40.2	0.1	310.2	97.1	179.4	26.8	52.6	52.1	0.1	379
1978	32.7	139.4	21.3	41.2	15.8	0.2	251.5	23.0	121.9	17.4	36.2	14.5	0.2	228.9	48.1	157.1	25.0	46.1	17.1	0.2	275
1979	42.2	152.1	27.0	72.5	48.9	0.2	344.0	29.2	133.0	22.2	62.4	42.3	0.2	315.8	63.1	170.7	32.0	82.1	55.4	0.3	374.4
1980	96.1	172.5	37.2	63.3	70.6	0.8	441.9	66.2	152.6	30.5	54.5	62.7	0.8	401.1	143.1	192.7	43.9	71.9	78.5	0.8	493.6
1981	105.6	225.4	51.9	106.1	59.3	1.1	551.7	72.6	197.2	42.7	85.4	50.9	1.1	497.9	157.8	253.3	61.5	127.2	67.7	1.1	614.8
1982	73.8	200.4	29.5	120.6	36.1	0.3	463.2	50.9	177.1	24.3	95.9	31.4	0.3	416.8	108.9	223.9	34.9	145.8	40.7	0.3	511.8
1983	45.7	156.6	22.5	37.2	22.6	0.3	286.2	31.8	137.5	18.4	29.6	19.9	0.3	259	68.1	175.4	26.6	44.7	25.3	0.3	316.1
1984	24.4	206.8	25.5	54	42.8	0.6	354.8	16.8	179.4	24.5	44.5	36.6	0.6	323.6	35.8	233.7	26.5	63.5	48.8	0.6	385.7
1985	43.1	195.6	27.5	85.9	47.5	0.4	401.7	29.9	168.8	26.4	68.1	40.2	0.4	363	63.9	222.7	28.7	103.9	54.8	0.4	440.8
1986	66.1	200.1	38.5	160.3	49.1	0.8	516.9	45.2	174.8	37.1	125.7	41.7	0.8	463.7	97.6	225.7	40.0	194.1	56.8	0.8	569.8
1987	82.7	135.5	44.1	122	51.4	1.1	438.6	56.6	118.5	42.3	97.2	43.4	1.1	393.6	122.7	152.5	45.9	147.5	59.2	1.1	488.7
1988	75.7	217.5	50.6	172.2	51.8	1.0	571.3	51.7	190.5	48.8	136.3	44.1	1.0	515.1	112.9	244.4	52.5	207.5	59.6	1.0	629.1
1989	52.0	107.7	40.1	103.6	54.6	1.3	360.8	35.9	95.0	38.6	81.7	46.6	1.2	326.4	77.2	120.5	41.5	125.3	62.8	1.3	397.1
1990	30.4	152.3	45.4	117.2	55.3	0.7	402.4	21.0	138.3	43.9	92.9	46.3	0.7	369.1	45.0	166.3	47.1	141.7	64.1	0.7	435.9
1991	24.4	105.6	36.4	85.7	28.2	0.3	281.4	16.6	96.4	35.3	68.1	24.6	0.3	258.1	36.3	114.7	37.7	103.4	31.9	0.3	305.2
1992	33.9	229.0	40.0	193.2	34.0	1.2	532.2	24.1	199.4	38.6	164.2	29.3	1.2	487.9	50.9	257.5	41.5	221.5	38.6	1.2	577.1
1993	45.6	265.6	34.5	137.2	25.7	0.5	511	33.3	235.4	33.4	89.4	21.9	0.5	450.3	66.7	296.0	35.7	184.7	29.5	0.5	570.9
1994	33.9	161.0	33.0	67.2	10.5	0.4	307.3	25.1	138.6	32.0	57.2	9.3	0.4	279.9	48.3	183.1	34.0	77.2	11.6	0.4	334.7
1995	47.7	204.0	26.6	60.9	20.0	0.2	360.8	36.1	173.3	25.7	52.1	17.5	0.2	325.5	66.8	234.8	27.4	69.8	22.5	0.2	397.6

Year	Median of estimated returns (x 1 000)							5th percentile of estimated returns (x 1 000)							95th percentile of estimated returns (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
1996	90.2	313.1	35.2	57.2	31.8	0.7	530.6	67.8	269.0	34.2	47.9	27.5	0.6	477.1	127.2	357.4	36.1	66.4	36.1	0.7	586.8
1997	95.6	176.8	27.6	30.6	9.4	0.4	341.7	73.7	159.1	26.7	24.9	8.2	0.4	310.0	130.6	194.6	28.5	36.3	10.5	0.4	380.1
1998	150.4	183.6	28.7	39.9	20.4	0.4	423.7	102.7	171.3	27.6	34.2	18.7	0.4	373.5	199.6	196.4	29.7	45.6	2.02	0.4	474.8
1999	147.9	201.2	30.0	35.5	10.6	0.4	425.4	100.2	185.7	28.9	31.0	9.8	0.4	374.9	194.6	216.9	31.1	40.0	11.4	0.4	475.5
2000	182.3	228.9	27.9	50.9	12.4	0.3	502.8	123.9	216.9	26.1	44.7	11.3	0.3	442.9	240.1	240.8	29.8	57.1	13.4	0.3	562.1
2001	144.4	156.2	18.9	43.0	5.4	0.3	368.5	99.0	148.3	18.2	37.7	5.0	0.3	321.5	192.1	164.3	19.6	48.5	5.8	0.3	416.6
2002	102.7	155.7	30.3	69.2	9.9	0.5	368.2	66.4	143.4	29.4	60.3	9.0	0.4	328.3	139.0	168.0	31.2	78.1	10.7	0.5	407.9
2003	86.0	242.4	25.2	41.7	5.8	0.2	401.5	52.4	232.9	24.5	36.1	5.3	0.2	365.9	119.1	252.0	26.1	47.4	6.3	0.2	436.1
2004	95.2	210.4	34.2	76.5	8.4	0.3	424.7	72.2	192.3	32.4	65.9	7.6	0.3	393.0	117.6	228.2	35.9	87.3	9.2	0.3	456.8
2005	220.7	221.8	23.0	47.4	7.5	0.3	521.2	166.1	176.9	21.9	39.4	6.8	0.3	447.3	275.4	266.6	24.1	55.6	8.2	0.3	595.1
2006	213.6	212.8	28.1	59.7	10.3	0.4	524.6	140.5	194.3	27.0	49.3	9.3	0.4	449.0	285.9	231.7	29.3	69.7	11.3	0.5	599.5
2007	194.8	183.8	21.4	41.1	7.7	0.3	448.9	138.4	158.5	20.3	33.0	7.0	0.3	386.0	250.6	208.7	22.4	49.1	8.5	0.3	511.1
2008	203.9	247.7	35.7	61.9	15.4	0.8	565.9	149.0	222.6	34.3	49.9	13.9	0.8	503.0	258.7	272.9	37.2	74.0	16.9	0.8	628.6
2009	102.1	223.3	20.8	25.8	4.2	0.2	376.0	60.0	194.3	19.8	20.7	3.8	0.2	323.3	144.4	251.1	21.9	30.9	4.6	0.2	430
2010	122.0	267.8	27.5	73.3	14.9	0.5	505.8	83.1	256.1	26.1	64.0	13.4	0.5	463.5	160.8	279.2	28.8	82.4	16.4	0.5	547.8
2011	247.6	242.9	36.9	74.6	9.5	1.1	613.5	147.3	216.1	35.4	61.0	8.5	1.1	509.0	345.9	270.1	38.4	89.0	10.4	1.1	715.3
2012	174.3	270.9	23.1	18.8	0.6	0	487.3	112.2	250.8	22.1	15.1	0.5	0	422.6	235	290.6	24.2	22.5	0.7	0	551.6
2013	156.5	187.6	18.8	24.8	2.1	0.1	389.8	90.5	172.3	17.8	19.3	1.9	0.1	321.5	220.5	203.3	19.7	30.1	2.3	0.1	455.3
2014	267.1	170.1	22.0	12.5	1.4	0.1	473.2	185.4	155.2	21.0	10.3	1.3	0.1	390.7	350.6	184.8	23.0	14.9	1.6	0.1	557.9
2015	257.4	283.2	36.8	39.6	4.2	0.1	621.4	183.4	253	35.4	35.0	3.8	0.1	540.1	331.9	313.4	38.2	44.4	4.6	0.2	702.5
2016	206.5	208.8	33.2	24.0	2.6	0.2	474.9	118.3	184.2	31.7	19.7	2.3	0.2	383.6	294.4	233.2	34.7	28.3	2.8	0.2	565.7
2017	164.9	175.3	24.4	22.4	3.9	0.4	391.1	90.4	148.3	23.2	18.7	3.5	0.4	311.7	238.2	201.9	25.5	26.1	4.3	0.4	470.0
2018	275.1	94.3	23.7	17.6	1.3	0.3	412.7	176.4	77.7	22.7	14.8	1.3	0.3	312.8	377.4	110.8	24.8	20.4	1.4	0.3	516.1
2019	118.5	257.9	20.9	15.8	3.5	0.4	416.5	67.1	199.0	19.9	12.9	3.2	0.4	336.7	168.5	316.2	21.8	18.7	3.8	0.4	496.2
2020	198.2	202.9†	26.1	26.7†	3.1†	0.2	457.1†	139.5	154.4	24.9	22.8	2.8	0.2	378.5	258.6	252.1	27.2	30.7	3.4	0.2	538.1
2021	190.7	422.4	34.0	29.1	3.6	0.2	679	114.1	317.2	32.6	21.3	3.3	0.2	545.4	268.2	524.9	35.3	36.6	4.0	0.2	815.1
2022	335.5	160.4	25.4	18.0	1.5	0.4	540.7	171.1	138.6	24.4	13.7	1.3	0.4	377.2	505.7	182.8	26.4	22.6	1.6	0.4	712.1
2023	354.0	121.9	14.2	8.4	0.7	0.1	499.9	159.3	98.9	13.6	6.4	0.6	0.1	305.2	551.4	144.6	14.9	10.3	0.7	0.1	697.5
2024	116.7	155.1	12.1	2.7	1.9	0.4	288.3	81.8	112.7	11.5	2	1.7	0.4	232.2	151.6	196.5	12.7	3.4	2.1	0.4	344.7

Year	Median of estimated returns (x 1 000)							5th percentile of estimated returns (x 1 000)							95th percentile of estimated returns (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
Prev. 5-year																					
	238	232.5	23.8	19.1	2.5	0.3	516.3														
%Change (recent year relative to previous 5-year mean)																					
	-51%	-33%	-49%	-86%	-25%	37%	-44%														
Rank (highest = 1 to lowest) over 55 years (1971 to 2024)																					
	23	42	55	55	50	22	49														
Forecast:																					
2025	141.1	209.6	15.8	8.3	0.7	0.1	405.7	49.2	83.5	6.3	2	0.1	0	212.5	333.1	517.4	41.1	36.6	3.7	0.9	770.7
2026	160.3	250.4	16.6	7.6	0.8	0.2	485	46.1	86.1	5.3	1.3	0.1	0	219	451.7	661.8	49.1	37.6	5.9	2.5	1004
2027	180.9	199.3	16.5	7.5	0.7	0.2	475.5	46.4	60.6	4.1	1	0	0	188.2	593.2	601.1	54.7	43.4	5.9	3.3	1020.9
2028	217	134.1	14.6	4.9	0.4	0.1	427.9	40.6	33.9	3.2	0.5	0	0	155.3	709.5	453	52.9	34.6	5.7	2.7	1046.7

†: In 2020, some regions were affected by the COVID-19 global pandemic and monitoring programs could not operate. For these areas previous 5-year average were used.

Table 4.3.3.2. Estimated large salmon returns (medians, 5th percentile, 95th percentile; x 1 000) from run reconstruction to the six geographic areas and overall, for NAC 1970 to 2024. Returns for Scotia-Fundy (SF) do not include those from SFA 22 and a portion of SFA 23. The last four years (2025-2028) are forecast values from the LCM under the 0-catch scenario.

Year	Median of estimated returns (x 1 000)							5th percentile of estimated returns (x 1 000)							95th percentile of estimated returns (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
1970	10.0	14.9	103.5	69.5	20.3	NA	218.6	5.0	11.8	84.9	67.1	18.0	NA	198.3	17.0	17.9	122.1	71.9	22.6	NA	238.8
1971	14.3	12.6	59.2	40.0	15.9	0.7	143.1	7.1	10.0	48.5	37.6	14.1	0.6	128.5	24.3	15.1	69.8	42.5	17.6	0.7	158.4
1972	12.4	12.6	77.3	57.0	19.0	1.4	180.2	6.1	10.0	63.3	48.9	17.1	1.4	161.4	20.9	15.2	91.1	65.0	20.9	1.4	198.8
1973	17.2	17.3	85.4	53.4	14.8	1.4	190.1	8.5	13.8	70.0	45.6	13.4	1.4	169.1	29.1	20.9	100.6	61.3	16.1	1.4	211.6
1974	17.0	14.3	114.0	77.7	28.6	1.4	253.7	8.3	12.7	93.9	66.0	26.3	1.4	227.0	28.8	15.8	134.9	89.4	30.9	1.4	281.3
1975	15.7	18.4	97.3	50.5	30.6	2.3	215.5	7.8	16.1	79.6	43.1	28.0	2.3	192.7	26.7	20.7	114.6	57.8	33.2	2.4	237.8
1976	18.2	16.6	96.3	48.7	28.8	1.3	210.7	9.0	14.6	79.0	41.4	25.9	1.3	188.3	30.8	18.6	114.0	56.1	31.6	1.3	234.1
1977	16.2	14.6	113.5	87.8	38.1	2.0	273.1	8.0	13.0	93.3	75.3	34.6	2.0	245.9	27.3	16.3	134.2	100.5	41.5	2.0	300.2
1978	12.6	11.4	102.5	43.9	22.2	4.2	197.3	6.2	10.4	84.0	39.0	20.6	4.2	176.3	21.4	12.3	120.9	48.9	23.9	4.2	218.6
1979	7.3	7.2	56.5	17.4	12.8	1.9	103.3	3.6	6.3	46.4	15.2	11.6	1.9	91.7	12.3	8.1	66.7	19.6	14.0	2.0	115.2
1980	17.4	12.1	134.1	62.4	43.7	5.8	276.1	8.5	11.1	110.0	54.7	39.5	5.7	247.6	29.2	13.0	158.5	70.2	47.8	5.8	304.8
1981	15.6	28.9	105.5	39.3	28.2	5.6	223.9	7.7	25.3	86.5	33.0	25.4	5.6	200.5	26.4	32.4	124.5	45.7	31.0	5.7	246.8
1982	11.5	11.6	93.4	54.0	23.7	6.1	200.9	5.6	10.1	76.7	42.7	21.5	6.0	177.8	19.5	13.1	110.6	65.4	25.8	6.1	223.5
1983	8.4	12.4	77.0	40.9	20.6	2.2	161.6	4.1	11.3	63.0	34.0	18.4	2.1	144.6	14.1	13.6	90.7	47.8	22.8	2.2	178.5
1984	6.0	12.4	64.0	32.7	24.6	3.2	143.0	2.9	9.2	62.2	23.4	21.2	3.2	131.5	10.1	15.7	65.8	42.0	27.8	3.3	154.7
1985	4.7	10.9	66.7	44.4	34.1	5.5	166.7	2.3	7.6	64.6	32.0	29.3	5.5	152.4	8.0	14.2	68.9	57.0	39.0	5.6	181.2
1986	8.2	12.3	78.3	68.1	28.2	6.2	201.7	4.0	9.5	76.4	49.1	23.8	6.1	180.8	13.7	15.1	80.2	87.5	32.7	6.2	222.7
1987	11.0	8.4	73.7	46.1	17.7	3.1	160.4	5.4	6.4	71.8	33.6	15.0	3.1	145.6	18.7	10.4	75.6	58.4	20.3	3.1	175.4
1988	6.9	13.0	81.3	53.1	16.4	3.3	174.2	3.4	9.9	78.9	38.8	13.7	3.3	158.5	11.7	16.0	83.6	67.0	19.1	3.3	189.4
1989	6.7	6.9	74.0	42.1	18.5	3.2	151.7	3.3	5.4	72.0	31.2	15.7	3.2	139.2	11.2	8.5	75.9	53.3	21.4	3.2	164.3
1990	3.8	10.3	72.7	56.4	16.1	5.1	164.4	1.9	8.4	70.1	39.3	13.5	5.0	146.7	6.5	12.2	75.4	73.2	18.5	5.1	182.1
1991	1.9	7.5	65.7	56.9	15.7	2.6	150.5	0.9	6.1	63.3	39.4	13.4	2.6	132.4	3.2	9.0	68.1	74.5	17.9	2.7	168.7
1992	7.6	31.5	65.9	59.6	14.3	2.5	181.5	4.0	22.1	63.5	50.9	12.3	2.4	167.7	12.8	41.0	68.2	68.4	16.2	2.5	195.7
1993	9.5	17.1	50.6	63.4	10.1	2.2	153.3	6.0	13.8	49.6	34.4	8.9	2.2	123.6	15.1	20.4	51.7	93.1	11.2	2.3	183.3
1994	13.1	17.3	51.2	40.9	6.3	1.3	130.8	8.6	13.8	50.3	32.9	5.7	1.3	120.1	20.6	21.0	52.1	49.2	7.0	1.4	142.4
1995	25.9	19.0	59.3	48.1	7.5	1.7	162.0	18.3	14.7	58.2	41.2	6.6	1.7	149.9	37.8	23.4	60.3	55.1	8.4	1.8	176.1

Year	Median of estimated returns (x 1 000)							5th percentile of estimated returns (x 1 000)							95th percentile of estimated returns (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
1996	18.6	28.9	53.7	40.7	10.9	2.4	155.7	13.2	23.7	52.6	32.5	9.6	2.4	144.0	26.8	34.2	54.8	48.8	12.2	2.4	167.9
1997	16.1	28.0	44.4	35.6	5.6	1.6	131.8	11.6	22.9	43.6	28.1	5.0	1.6	121.4	23.6	33.1	45.3	43.1	6.2	1.6	143.1
1998	13.4	35.2	34.0	30.7	3.8	1.5	118.7	8.0	27.4	33.2	25.2	3.5	1.5	107.6	18.8	43.3	34.8	36.3	4.2	1.5	129.9
1999	16.1	32.1	37.2	27.6	4.9	1.2	119.0	9.6	25.0	36.0	23.3	4.6	1.2	108.0	22.6	39.2	38.4	32.0	5.3	1.2	130.3
2000	21.7	27.0	35.5	30.1	2.9	0.5	117.7	13.1	23.0	34.0	25.5	2.6	0.5	106.8	30.8	31.0	37.0	34.6	3.1	0.5	128.9
2001	23.2	17.8	37.3	40.1	4.7	0.8	123.8	13.8	15.2	36.0	35.0	4.3	0.8	112.6	32.6	20.6	38.6	45.1	5.1	0.8	135.1
2002	16.9	16.8	26.4	23.6	1.6	0.5	85.8	9.8	13.7	25.5	19.9	1.4	0.5	77.1	24.0	19.9	27.4	27.4	1.7	0.5	94.8
2003	14.1	24.5	42.1	40.1	3.5	1.2	125.4	7.4	19.4	40.5	33.7	3.2	1.2	114.5	21.0	29.5	43.8	46.3	3.9	1.2	136.3
2004	17.1	22.3	36.6	39.8	3.1	1.3	120.2	11.6	17.0	35.3	32.6	2.8	1.3	109.6	22.5	27.5	37.8	46.8	3.4	1.3	130.8
2005	21.0	28.3	35.5	38.6	2.0	1.0	126.5	12.1	20.4	34.3	31.7	1.8	1.0	112.2	29.8	36.2	36.6	45.5	2.2	1.0	140.4
2006	21.2	35.7	32.9	37.3	3.0	1.0	131.1	13.3	30.0	31.9	30.8	2.7	1.0	119.2	29.0	41.4	33.9	43.8	3.3	1.0	143.2
2007	21.8	29.6	30.2	35.0	1.6	1.0	119.0	12.8	23.4	29.2	29.5	1.5	0.9	106.9	31.0	35.7	31.1	40.4	1.7	1.0	131.7
2008	26.2	28.9	36.3	29.1	3.3	1.8	125.7	15.9	22.5	34.8	23.2	2.9	1.8	111.4	36.5	35.2	37.7	34.8	3.6	1.8	139.6
2009	38.9	34.3	35.1	36.3	3.1	2.1	150.0	20.7	23.9	33.9	30.7	2.8	2.1	127.5	57.8	45.0	36.3	41.9	3.4	2.1	173.3
2010	18.9	35.3	37.8	33.2	2.5	1.1	128.6	11.6	28.8	36.7	27.8	2.3	1.1	117.4	26.1	42.1	38.9	38.5	2.7	1.1	140.4
2011	57.2	43.5	47.8	64.8	4.8	3.1	221.0	33.1	31.5	46.4	52.4	4.3	3.1	190.5	82.0	55.4	49.1	76.9	5.3	3.1	252.0
2012	33.5	28.8	33.6	27.1	1.3	0.9	125.2	20.5	23.3	32.5	22.3	1.2	0.9	109.9	47.0	34.4	34.7	32.0	1.4	0.9	141.0
2013	64.3	37.7	38.5	35.9	3.2	0.5	180.1	39.7	25.9	37.4	28.8	2.8	0.5	150.7	88.7	49.7	39.7	43.1	3.6	0.5	208.9
2014	62.0	20.2	22.1	22.9	0.8	0.3	128.4	38.7	16.4	21.5	18.3	0.7	0.3	104.1	85.5	23.9	22.8	27.5	0.8	0.3	152.7
2015	88.5	36.9	36.4	33.3	0.7	0.8	197.0	53.8	29.1	35.4	27.5	0.7	0.8	160.4	124.2	44.7	37.5	39.2	0.8	0.8	233.0
2016	72.0	35.0	39.3	38.2	1.6	0.4	186.4	39.2	27.8	38.0	30.2	1.4	0.4	151.6	103.8	42.5	40.6	46.3	1.7	0.4	220.1
2017	75.2	19.9	38.1	35.6	1.2	0.7	170.8	35.3	15.3	36.8	30.4	1.1	0.7	130.2	116.4	24.4	39.5	41.1	1.3	0.7	212.1
2018	46.4	8.8	28.6	39.5	1.6	0.5	125.2	25.3	6.3	27.7	31.0	1.4	0.5	101.9	67.2	11.3	29.5	47.9	1.7	0.5	148.5
2019	27.5	36.9	30.6	23.2	0.7	1.1	120.0	14.4	25.4	29.7	17.9	0.7	1.1	101.0	40.5	48.3	31.5	28.3	0.8	1.1	138.8
2020	45.9	29.6†	38.8	44.6†	1.2†	1.5	161.6†	44.4	19.5	37.7	36.3	1.0	1.5	148.3	47.3	39.2	39.8	53.1	1.3	1.5	174.3
2021	49.3	53.6	32.7	20.3	0.8	0.4	157.2	46.2	34.9	31.8	14.5	0.7	0.4	137.7	52.4	72.2	33.6	26.1	0.9	0.4	176.9
2022	84.7	30.4	36.0	34.3	2.3	1.2	188.8	46.5	20.0	35.0	27.5	2.0	1.1	148.6	123.5	41.0	36.9	41.1	2.6	1.2	230.0
2023	97.2	14.7	29.7	24.1	1.1	1.7	168.7	74.0	10.6	28.9	17.8	1.0	1.7	144.2	121.5	18.8	30.6	30.6	1.3	1.7	194.2
2024	34.5	21.7	19.5	13.9	1.2	1.1	92	27.7	13.9	18.8	11.2	1.1	1.1	81	41.5	29.6	20.3	16.6	1.4	1.2	103.4

Year	Median of estimated returns (x 1 000)							5th percentile of estimated returns (x 1 000)							95th percentile of estimated returns (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
Prev. 5-year																					
	61.2	33.3	33.1	29.1	1.2	1.2	159														
%Change (recent year relative to previous 5-year mean)																					
	-44%	-35%	-41%	-52%	-0.1%	-4%	-42%														
Rank (highest = 1 to lowest) over 55 years (1971 to 2024)																					
	13	25	55	55	48	37	54														
Forecast:																					
2025	37.3	23.7	20.6	15.8	1.4	0.6	108.5	15.8	8.3	10.8	6	0.4	0.2	63.4	84	64.9	37.5	39.5	3.8	1.8	181.5
2026	38.3	34.4	26.4	17	1.4	0.9	135.2	11.7	8.5	10.5	5	0.3	0.2	71.6	115.6	118.2	57.2	58.5	5.6	3.7	261.1
2027	43.7	42.8	26.6	14.6	1.5	2	156.7	11.3	7.1	8.7	3.3	0.2	0.2	66.3	159.1	178.1	67.8	57	8.7	10.8	358.5
2028	51.6	34.3	26	14.9	1.2	1.5	159.7	10	4.8	7.6	2.7	0.1	0.2	61.8	205.8	151.1	74.8	66.1	8.3	11.1	383.5

†: In 2020, some regions were affected by the COVID-19 global pandemic and monitoring programs could not operate. For these areas previous 5-year average were used.

Table 4.3.3.3. Estimated 2SW salmon returns (medians, 5th percentile, 95th percentile; x 1 000) from run reconstruction to the six geographic areas and overall, for NAC 1970 to 2024. Returns for Scotia-Fundy (SF) do not include those from SFA 22 and a portion of SFA 23. The last four years (2025-2028) are forecast values from the LCM under the 0-catch scenario.

Year	Median of estimated returns (x 1 000)							5th percentile of estimated returns (x 1 000)							95th percentile of estimated returns (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
1970	10.0	4.1	75.6	59.5	17.1	NA	166.7	5.0	3.1	62.0	57.5	15	NA	151.4	17.0	5.2	89.1	61.6	19.2	NA	182.4
1971	14.3	3.6	43.2	34.8	13.5	0.7	110.6	7.1	2.6	35.4	32.6	11.9	0.6	98.1	24.3	4.6	51.0	37.0	15.2	0.7	123.7
1972	12.4	3.7	56.4	49.4	16.0	1.4	139.7	6.1	2.7	46.2	42.4	14.3	1.4	124.6	20.9	4.8	66.5	56.5	17.7	1.4	155.1
1973	17.2	4.6	62.3	47.6	12.9	1.4	146.6	8.5	3.5	51.1	40.6	11.7	1.4	129.6	29.1	5.8	73.5	54.7	14.1	1.4	164.9
1974	17.0	3.7	83.2	67.4	27.1	1.4	200.3	8.3	2.9	68.5	56.9	24.9	1.4	178.9	28.8	4.4	98.4	77.3	29.4	1.4	222.6
1975	15.7	5.2	71.0	43.0	28.9	2.3	166.5	7.8	3.9	58.1	36.6	26.3	2.3	148.5	26.7	6.5	83.7	49.3	31.5	2.4	185.1
1976	18.2	4.4	70.3	40.4	26.6	1.3	161.8	9.0	3.3	57.7	34.3	23.8	1.3	143.4	30.8	5.4	83.2	46.2	29.4	1.3	181.0
1977	16.2	3.5	82.9	80.6	32.3	2.0	218.0	8.0	2.9	68.1	69.0	28.9	2.0	196.0	27.3	4.2	98.0	92.3	35.7	2.0	241.2
1978	12.6	3.6	74.8	36.3	18.8	4.2	150.9	6.2	2.9	61.3	32.2	17.2	4.2	134.2	21.4	4.2	88.2	40.5	20.4	4.2	167.7
1979	7.3	1.7	41.2	11.6	10.5	1.9	74.5	3.6	1.3	33.8	10.1	9.4	1.9	65.4	12.3	2.1	48.7	13.0	11.6	2.0	83.8
1980	17.4	3.9	97.9	56.9	38.7	5.8	221.0	8.5	3.2	80.3	49.7	34.7	5.7	198.6	29.2	4.6	115.7	64.0	42.6	5.8	243.9
1981	15.6	7.0	77.0	24.4	23.2	5.6	153.5	7.7	5.5	63.2	20.4	20.8	5.6	135.4	26.4	8.6	90.9	28.4	25.6	5.7	171.8
1982	11.5	3.2	68.2	41.9	16.7	6.1	148.2	5.6	2.5	56.0	32.7	14.8	6.0	130.0	19.5	3.8	80.7	51.0	18.6	6.1	166.0
1983	8.4	3.7	56.2	31.4	16.5	2.2	118.6	4.1	3.0	46.0	25.9	14.5	2.1	105.1	14.1	4.4	66.2	36.9	18.5	2.2	131.9
1984	6.0	3.4	46.7	29.5	21.5	3.2	110.6	2.9	2.5	45.4	20.8	18.3	3.2	100.2	10.1	4.3	48.1	38.2	24.6	3.3	120.9
1985	4.7	2.7	48.7	35.9	29.7	5.5	127.5	2.3	1.9	47.1	25.1	25.4	5.5	115.0	8.0	3.6	50.3	46.7	34.0	5.6	139.5
1986	8.2	3.3	57.2	56.7	21.4	6.2	153.3	4.0	2.4	55.8	40.4	18.2	6.1	135.8	13.7	4.1	58.6	73.3	24.7	6.2	171.1
1987	11.0	2.3	53.8	35.6	13.7	3.1	119.9	5.4	1.7	52.4	25.5	11.6	3.1	107.0	18.7	3.0	55.2	45.6	15.7	3.1	132.8
1988	6.9	3.4	59.3	42.0	11.8	3.3	127.0	3.4	2.4	57.6	30.6	9.9	3.3	114.5	11.7	4.4	61	53.4	13.6	3.3	139.5
1989	6.7	1.7	54.0	27.9	14.6	3.2	108.3	3.3	1.2	52.6	20.4	12.4	3.2	99.2	11.2	2.1	55.4	35.5	16.9	3.2	117.3
1990	3.8	2.7	53.1	36.6	11.7	5.1	113.1	1.9	2.0	51.2	26.0	9.9	5.0	101.7	6.5	3.4	55.1	47.3	13.4	5.1	124.4
1991	1.9	2.1	48.0	35.7	13.0	2.6	103.4	0.9	1.6	46.2	24.5	11.1	2.6	91.7	3.2	2.5	49.7	46.9	14.9	2.7	114.9
1992	7.6	8.1	48.1	37.6	12.0	2.5	116.1	4.0	5.5	46.4	31.9	10.3	2.4	108.1	12.8	10.9	49.8	43.5	13.7	2.5	124.6
1993	9.5	4.4	37.0	43.3	8.1	2.2	104.9	6.0	3.2	36.2	23.1	7.2	2.2	83.7	15.1	5.5	37.7	63.4	9.0	2.3	125.7
1994	13.1	4.0	37.4	30.1	5.2	1.3	91.5	8.6	2.9	36.7	23.9	4.7	1.3	83.1	20.6	5.2	38.0	36.3	5.7	1.4	100.9
1995	25.9	3.8	43.3	39.4	6.8	1.7	121.3	18.3	2.6	42.5	33.5	6.0	1.7	110.6	37.8	5.1	44.0	45.3	7.6	1.8	134.5

Year	Median of estimated returns (x 1 000)							5th percentile of estimated returns (x 1 000)							95th percentile of estimated returns (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
1996	18.6	5.7	39.2	29.2	9.2	2.4	104.7	13.2	4.1	38.4	23.0	8.1	2.4	95.6	26.8	7.3	40.0	35.4	10.3	2.4	114.7
1997	16.1	6.0	32.4	23.9	4.6	1.6	85.2	11.6	4.3	31.8	18.2	4.1	1.6	76.9	23.6	7.8	33.1	29.7	5.0	1.6	94.3
1998	8.7	6.5	24.8	16.5	2.6	1.5	60.7	5.2	4.5	24.3	12.9	2.4	1.5	55.2	12.5	8.4	25.4	20.1	2.8	1.5	66.3
1999	10.5	6.3	27.1	16.0	4.2	1.2	65.3	6.3	4.4	26.3	13.1	3.9	1.2	59.5	15.0	8.2	28.0	19.0	4.5	1.2	71.2
2000	14.2	6.3	25.9	17.0	2.4	0.5	66.4	8.5	4.5	24.8	14.0	2.2	0.5	59.4	20.4	8.2	27.0	19.9	2.6	0.5	73.6
2001	15.1	2.5	27.2	27.1	4.3	0.8	77.0	9.0	1.7	26.3	23.4	3.9	0.8	69.6	21.5	3.3	28.2	30.8	4.6	0.8	84.6
2002	11.0	2.4	19.3	14.1	1.0	0.5	48.4	6.5	1.6	18.6	11.6	0.9	0.5	42.9	15.9	3.3	20.0	16.6	1.0	0.5	54.1
2003	9.2	3.4	30.8	26.1	3.3	1.2	73.9	4.9	2.2	29.6	21.4	3.0	1.2	67.1	13.8	4.5	31.9	30.7	3.6	1.2	80.9
2004	11.1	3.3	26.7	25.7	2.7	1.3	70.9	7.6	2.1	25.8	20.5	2.5	1.3	64.2	14.9	4.6	27.6	30.9	2.9	1.3	77.6
2005	13.7	4.4	25.9	26.9	1.7	1.0	73.7	7.9	2.6	25.0	21.7	1.5	1.0	65.2	19.7	6.3	26.7	32.1	1.8	1.0	82.1
2006	13.8	5.4	24.0	22.5	2.5	1.0	69.3	8.7	3.5	23.3	18.1	2.3	1.0	62.1	19.3	7.2	24.8	26.9	2.8	1.0	76.7
2007	14.2	4.2	22.0	22.5	1.4	1.0	65.3	8.4	2.6	21.3	18.8	1.3	0.9	58.0	20.5	5.7	22.7	26.3	1.5	1.0	72.8
2008	17.2	3.9	26.5	19.1	3.1	1.8	71.4	10.4	2.4	25.4	14.8	2.7	1.7	62.8	24.3	5.3	27.6	23.3	3.4	1.8	80.0
2009	25.3	4.6	25.7	24.1	2.7	2.1	84.5	13.4	2.8	24.8	20.1	2.4	2.1	71.6	37.7	6.4	26.5	28.2	2.9	2.1	97.8
2010	12.2	4.7	27.6	20.4	2.0	1.1	68.0	7.5	3.2	26.8	16.4	1.8	1.1	61.3	17.1	6.2	28.4	24.4	2.2	1.1	74.7
2011	37.1	3.7	34.9	51.9	4.6	3.0	135.1	21.5	2.4	33.9	41.5	4.2	3.0	116.1	53.7	4.9	35.8	61.8	5.1	3.1	155.1
2012	21.7	2.3	24.5	19.3	1.1	0.9	69.8	13.3	1.6	23.7	15.9	1.0	0.9	60.6	30.9	3.0	25.3	22.8	1.2	0.9	79.9
2013	41.7	4.8	28.1	25.6	2.9	0.5	103.5	25.7	3.1	27.3	20.4	2.6	0.5	86.5	58.3	6.6	29.0	30.9	3.3	0.5	121.2
2014	40.2	2.9	16.1	16.9	0.7	0.3	77.1	25.0	1.9	15.7	13.3	0.6	0.3	61.4	56.1	3.8	16.6	20.5	0.8	0.3	93.4
2015	57.4	4.9	26.6	22.0	0.7	0.8	112.3	34.9	3.3	25.8	17.7	0.6	0.8	89.4	81.6	6.6	27.3	26.1	0.7	0.8	136.9
2016	46.8	3.1	28.7	27.7	1.5	0.4	108.2	25.5	2.3	27.7	21.6	1.4	0.4	85.8	68.0	4.0	29.7	33.8	1.7	0.4	130.7
2017	48.8	2.1	27.8	26.6	1.1	0.7	107.1	22.9	1.4	26.8	22.3	1.0	0.7	80.7	75.8	2.7	28.8	31.0	1.3	0.7	134.6
2018	30.1	1.5	20.9	31.6	1.4	0.5	86.1	16.4	0.8	20.2	24.5	1.3	0.5	70.1	44.0	2.1	21.6	38.8	1.6	0.5	102.0
2019	17.9	4.7	22.3	17.1	0.7	1.1	63.8	9.4	2.8	21.7	12.9	0.7	1.1	53.9	26.5	6.7	23.0	21.4	0.8	1.1	74.0
2020	29.8	3.9†	28.3	32.7†	1.1†	1.5	97.3†	27.5	2.3	27.5	25.8	1.0	1.4	89.7	32.2	5.6	29.1	39.6	1.2	1.5	104.8
2021	32.0	8.1	23.9	16.0	0.8	0.4	81.2	28.9	4.4	23.2	11.1	0.7	0.4	74.3	35.3	11.8	24.5	20.8	0.8	0.4	88.2
2022	54.9	3.8	26.3	25.8	2.1	1.1	114.0	30.1	2.3	25.6	20.0	1.8	1.1	88.4	80.9	5.2	27.0	31.5	2.3	1.2	140.7
2023	63.2	2.6	24.5	18.8	1.0	1.7	112.1	47.7	1.4	23.8	13.4	0.9	1.7	95.2	80.3	3.8	25.2	24.4	1.2	1.7	129.9
2024	22.4	3.2	16.1	10.6	1	1.1	54.4	17.8	1.7	15.5	8.4	0.9	1.1	49	27.5	4.6	16.8	12.9	1.1	1.1	60.2

Year	Median of estimated returns (x 1 000)							5th percentile of estimated returns (x 1 000)							95th percentile of estimated returns (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
Prev. 5-year																					
	39.7	4.6	27.3	21.9	1.1	1.2	95.9														
%Change (recent year relative to previous 5-year mean)																					
	-44%	-32%	-41%	-52%	-15%	-5%	-43%														
Rank (highest = 1 to lowest) over 55 years (1971 to 2024)																					
	15	40	55	55	51	38	54														
Forecast:																					
2025	24.2	3.4	17.3	12	1.3	0.6	62.5	10.3	1.2	9	4.5	0.4	0.2	36.3	54.6	9.3	31.4	30	3.5	1.7	105.6
2026	24.9	4.9	22	12.9	1.2	0.8	75.2	7.6	1.2	8.8	3.8	0.2	0.2	38	75.2	16.9	47.8	44.5	5.1	3.7	148
2027	28.4	6.1	22.3	11.1	1.4	1.9	82.1	7.4	1	7.3	2.5	0.2	0.2	37.1	103.5	25.5	56.7	43.3	7.9	10.6	200.1
2028	33.5	4.9	21.7	11.4	1.1	1.5	88.5	6.5	0.7	6.4	2	0.1	0.2	34.9	133.8	21.6	62.5	50.2	7.6	11	228.6

†: In 2020, some regions were affected by the COVID-19 global pandemic and monitoring programs could not operate. For these areas previous 5-year average were used.

Table 4.3.4.1. Estimated small salmon spawners (medians, 5th percentile, 95th percentile; x 1 000) from run reconstruction to the six geographic areas and overall, for NAC 1970 to 2024. Spawners for Scotia-Fundy (SF) do not include those from SFA 22 and a portion of SFA 23.

Year	Median of estimated spawners (x 1 000)							5th percentile of estimated spawners (x 1 000)							95th percentile of estimated spawners (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
1970	45.1	105.2	13.8	39.3	18.4	NA	222.5	30.1	89.9	11.3	30.3	14.6	NA	197.4	68.5	120.6	16.3	48.3	22.2	NA	252.1
1971	60.5	92.2	11.7	32.6	12.2	0	209.9	40.7	79.0	9.6	25.6	9.3	0	182.9	91.5	105.4	13.8	39.7	15.0	0	243.8
1972	45.5	86.3	10.3	40.1	10.8	0	194.0	30.7	73.2	8.4	31.1	8.0	0	169.8	68.7	99.1	12.1	49.4	13.7	0	222.3
1973	6.5	124.3	13.7	45.9	18.3	0	208.8	1.9	106.7	11.3	36.7	14.6	0	187.6	12.3	142.0	16.2	54.5	22.0	0	230.2
1974	51.5	94.2	12.6	76.4	33.0	0	268.5	35.0	80.7	10.3	61.6	26.7	0	239.9	76.9	107.9	14.8	90.7	39.5	0	301.1
1975	99.5	117.5	14.5	67.5	26.2	0.1	326.3	67.4	99.5	11.9	54.5	22.7	0.1	283.8	149.7	135.7	17.1	80.2	29.6	0.1	381.1
1976	67.8	124.3	16.2	90.0	40.7	0.2	341.0	45.4	104.6	13.3	72.0	34.5	0.1	301.3	103.4	144.0	19.2	107.9	47.0	0.2	385.8
1977	61.1	125.3	15.0	24.8	32.2	0.1	259.7	41.2	106.2	12.3	18.6	26.3	0.1	228.0	92.5	144.9	17.7	30.9	38.0	0.1	296.6
1978	30.0	110.8	14.4	22.8	9.0	0.1	188.1	20.3	93.0	11.7	18.0	7.7	0.1	166.0	45.4	128.5	16.9	27.6	10.4	0.1	211.8
1979	38.0	120.8	19.8	49.6	36.5	0.2	266.5	25.1	102.0	16.3	40.0	30.1	0.2	238.3	59.0	139.7	23.4	59.1	43.1	0.2	296.4
1980	92.3	136.4	26.1	43.5	49.6	0.7	349.9	62.4	116.5	21.3	35	41.8	0.7	308.9	139.3	156.4	30.7	51.9	57.6	0.7	402.0
1981	100.4	178.8	38.7	69.8	40.4	1.0	430.7	67.4	151.2	31.7	49.5	32.0	1.0	377.2	152.6	206.4	45.7	90.7	48.6	1.0	493.3
1982	69.7	158.7	21.1	88.8	24.4	0.3	364.8	46.8	135.8	17.3	63.8	19.7	0.3	319.2	104.8	181.8	24.9	113.8	29.2	0.3	413.4
1983	41.3	124.4	15.0	23.6	14.8	0.3	220.7	27.4	105.6	12.3	16.1	12.1	0.3	194.0	63.7	143.2	17.8	31.3	17.6	0.3	250.1
1984	21.4	167.0	20.8	21.6	32.8	0.5	264.9	13.9	140.3	19.8	12.0	26.6	0.5	233.5	32.9	193.4	21.8	31.0	38.8	0.5	296.1
1985	40.0	159.2	21.1	59.4	36.1	0.4	317.3	26.8	132.2	20.0	41.9	28.9	0.4	279.4	60.8	186.7	22.3	77.5	43.4	0.4	357.0
1986	62.6	162.8	28.2	121.8	39.5	0.7	416.7	41.8	137.2	26.7	86.6	31.9	0.7	364.8	94.2	188.5	29.6	154.9	47.1	0.7	470.5
1987	77.3	111.0	33.2	89.2	41.1	1.1	354.4	51.2	93.7	31.4	64.5	33.2	1.1	310.2	117.4	127.7	35.0	113.9	49.0	1.1	404.0
1988	70.2	177.3	36.8	126	42.3	0.9	456.1	46.2	151.1	35.0	91.1	34.4	0.9	400.3	107.3	204.6	38.7	161.4	50.0	0.9	514.6
1989	47.3	89.2	31.2	69.5	43.7	1.1	283.6	31.2	76.3	29.8	47.7	35.5	1.1	248.9	72.5	101.9	32.6	91.2	51.7	1.1	319.4
1990	27.1	122.3	33.3	84.3	44.0	0.6	312.7	17.6	108.2	31.8	60.3	35.2	0.6	280.4	41.7	136.6	34.9	108.3	52.9	0.6	345.5
1991	22.1	85.1	26.6	66.2	22.3	0.2	223.3	14.3	75.7	25.4	48.8	18.6	0.2	200.4	34.0	94.4	27.8	83.9	26.0	0.2	246.9
1992	31.1	205.4	27.8	159.8	26.4	1.1	453.0	21.3	176.4	26.4	131.7	21.7	1.1	408.9	48.1	234.4	29.2	187.7	31.0	1.1	497.3
1993	42.9	239.1	22.6	112.8	20.5	0.4	440.2	30.6	209.0	21.4	65.9	16.7	0.4	379.3	64.0	268.9	23.7	160.2	24.3	0.4	501.1
1994	31.0	130.1	21.2	44.8	9.1	0.4	237.6	22.2	107.8	20.3	35.1	8.0	0.4	210.6	45.4	152.0	22.2	54.4	10.2	0.4	265.4
1995	44.9	171.1	18.0	48.2	17.9	0.2	301.8	33.2	140.3	17.2	39.4	15.3	0.2	266.2	63.9	201.7	18.9	56.9	20.4	0.2	338.2
1996	87.3	274.3	23.2	35.2	28.2	0.7	451.3	64.9	230.7	22.3	28.6	24.0	0.6	398.0	124.2	318.1	24.2	41.6	32.5	0.7	506.8

Year	Median of estimated spawners (x 1 000)							5th percentile of estimated spawners (x 1 000)							95th percentile of estimated spawners (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
1997	93.0	151.7	18.9	19.0	8.3	0.4	292.3	71.2	133.8	18.0	14.6	7.2	0.4	261.5	128.1	169.4	19.7	23.5	9.5	0.4	331.3
1998	147.9	158.4	21.6	25.5	19.9	0.4	373.9	100.2	145.9	20.6	21.2	18.3	0.4	324.0	197.1	170.6	22.7	29.9	21.5	0.4	424.7
1999	145.4	176.4	23.8	21.4	10.2	0.4	377.9	97.7	161.0	22.7	17.9	9.4	0.4	327.0	192.1	191.8	24.9	24.8	.0	0.4	427.4
2000	179.0	204.7	21.4	31.2	12.0	0.3	448.5	120.6	192.7	19.6	26.4	11.0	0.3	388.7	236.9	216.7	23.3	36.0	13.0	0.3	507.7
2001	141.8	133.5	13.9	26.6	5.1	0.3	321.2	96.4	125.4	13.2	22.5	4.7	0.3	275.1	189.6	141.8	14.6	30.6	5.5	0.3	369.2
2002	100.1	133.1	21.4	44.3	9.6	0.5	308.8	63.8	120.6	20.5	37.2	8.7	0.4	269.0	136.4	145.3	22.3	51.4	10.4	0.5	347.8
2003	83.4	219.6	19.4	25.9	5.6	0.2	353.8	49.8	210.0	18.6	21.7	5.1	0.2	318.5	116.5	229.4	20.2	30.0	6.1	0.2	389.0
2004	92.8	188.4	26.3	49.4	8.1	0.3	365.5	69.8	170.2	24.6	41.1	7.4	0.3	334.5	115.2	206.5	28.1	57.4	8.9	0.3	395.6
2005	218.0	197.3	18.3	29.6	7.3	0.3	471.7	163.4	151.9	17.2	23.8	6.6	0.3	395.3	272.7	241.8	19.4	35.4	8.0	0.3	543.9
2006	211.4	191.3	21.6	38.7	10.0	0.4	473.8	138.3	172.7	20.5	31.0	9.1	0.4	397.1	283.6	209.8	22.7	46.5	11.0	0.5	548.6
2007	192.6	167.9	16.7	26.4	7.5	0.3	411.2	136.2	142.7	15.6	20.7	6.8	0.3	348.7	248.3	193	17.8	32.2	8.3	0.3	473.2
2008	201.3	217.4	26.9	39.5	15.1	0.8	500.9	146.5	192.0	25.5	30.3	13.7	0.8	439.3	256.2	242.7	28.3	48.8	16.6	0.8	563.1
2009	100.4	197.2	16.2	15.8	4.1	0.2	334.1	58.3	169.0	15.2	11.9	3.7	0.2	281.6	142.8	225.5	17.2	19.7	4.5	0.2	386.9
2010	120.1	235.1	21.5	47.0	14.8	0.5	439.3	81.1	223.7	20.1	40.0	13.3	0.5	397.2	158.8	246.8	22.8	53.9	16.2	0.5	480.3
2011	245.5	214.2	28.2	48.8	9.4	1.1	546.8	145.1	187.8	26.7	38.5	8.4	1.1	442.2	343.7	241.2	29.7	59	10.3	1.1	650.1
2012	172.6	246.9	17.8	11.5	0.6	0	449.4	110.5	226.8	16.7	8.6	0.5	0	383.8	233.3	266.9	18.8	14.4	0.6	0	514.6
2013	154.7	163.4	14.6	15.1	2.1	0.1	349.0	88.7	148.0	13.6	11.1	1.9	0.1	282.0	218.7	178.7	15.5	19.1	2.3	0.1	415.4
2014	265.1	146.1	16.8	8.8	1.4	0.1	438.4	183.4	131.2	15.8	7.1	1.3	0.1	355.9	348.6	160.8	17.8	10.5	1.5	0.1	523.2
2015	255.6	251.8	28.1	37.7	4.2	0.1	577.3	181.6	222.1	26.7	33.2	3.8	0.1	495.9	330.1	281.8	29.5	42.1	4.6	0.2	658.0
2016	204.6	178.8	26.3	23.0	2.5	0.2	435.6	116.4	154.6	24.7	18.7	2.3	0.2	344.6	292.6	203.3	27.7	27.2	2.8	0.2	526.6
2017	162.9	156.2	19.1	21.3	3.9	0.4	363.3	88.4	129	17.9	17.7	3.5	0.4	283.6	236.3	183.3	20.2	25.0	4.3	0.4	442.5
2018	274.2	91.8	18.1	17.1	1.3	0.3	403.3	175.5	74.2	17.1	14.3	1.2	0.3	302.9	376.5	109.3	19.2	19.9	1.4	0.3	506.0
2019	117.1	238.2	16.5	15.4	3.5	0.4	390.6	65.7	180.2	15.5	12.5	3.2	0.4	310.2	167.1	297.3	17.4	18.3	3.8	0.4	470.7
2020	197.2	183.9†	21.1	25.8†	3.1†	0.2	431.6†	138.5	135.3	20.0	21.9	2.8	0.2	351.4	257.6	231.8	22.2	29.8	3.4	0.2	512.6
2021	189.2	402.4	28.0	28.5	3.6	0.2	652.1	112.6	297.5	26.5	20.9	3.3	0.2	515.0	266.7	505.2	29.3	36.2	4.0	0.2	788.8
2022	334.2	141.4	20.5	17.5	1.5	0.4	515.4	169.8	119.9	19.6	13.1	1.3	0.4	351.2	504.4	163.8	21.5	21.9	1.6	0.4	687.3
2023	353.2	111.5	11.1	8.0	0.7	0.1	485.2	158.5	88.5	10.5	6.0	0.6	0.1	290.5	550.6	134.2	11.8	9.9	0.7	0.1	682.8
2024	115.9	146.8	10.2	2.5	1.9	0.4	277.2	81	104.4	9.6	1.8	1.7	0.4	221.1	150.8	188.3	10.8	3.2	2.1	0.4	333.6

Year	Median of estimated spawners (x 1 000)							5th percentile of estimated spawners (x 1 000)							95th percentile of estimated spawners (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
Prev. 5-year																					
	236.8	215.8	19.2	18.5	2.5	0.3	493.3														
%Change (recent year relative to previous 5-year mean)																					
	-51%	-32%	-47%	-87%	-25%	37%	-44%														
Rank (highest = 1 to lowest) over 55 years (1971 to 2024)																					
	23	32	55	55	50	21	42														

†: In 2020, some regions were affected by the COVID-19 global pandemic and monitoring programs could not operate. For these areas previous 5-year average were used.

Table 4.3.4.2. Estimated large salmon spawners (medians, 5th percentile, 95th percentile; x 1 000) from run reconstruction to the six geographic areas and overall, for NAC 1970 to 2024. Spawners for Scotia-Fundy (SF) do not include those from SFA 22 and a portion of SFA 23.

Year	Median of estimated spawners (x 1 000)							5th percentile of estimated spawners (x 1 000)							95th percentile of estimated spawners (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
1970	9.5	12.7	39.1	11.8	7.9	NA	81.4	4.4	9.7	32.1	9.6	5.5	NA	70.9	16.5	15.7	46.2	14.1	10.2	NA	92.3
1971	13.9	11.0	20.3	11.8	8.2	0.5	65.8	6.6	8.4	16.6	9.4	6.4	0.5	56.1	23.8	13.6	23.9	14.2	10.0	0.5	77.3
1972	12.0	11.3	39.8	33.3	11.9	1.0	109.6	5.7	8.7	32.6	25.5	10.1	1.0	96.3	20.5	13.9	46.8	41.1	13.9	1.0	123.5
1973	16.1	15.4	40.4	35.4	7.6	1.1	116.4	7.5	11.8	33.0	27.8	6.3	1.1	101.2	28.1	18.9	47.5	43.0	8.9	1.1	132.9
1974	16.2	13.0	49.1	55.8	15.2	1.1	150.9	7.5	11.4	40.2	44.5	13.0	1.1	132.7	28.0	14.6	57.9	67.4	17.5	1.2	169.9
1975	15.4	17.1	40.9	33.7	17.8	1.9	127.3	7.4	14.9	33.4	26.5	15.2	1.9	112.6	26.4	19.5	48.0	41.0	20.5	2.0	142.6
1976	17.4	15.6	38.9	29.2	17.0	1.1	119.5	8.1	13.6	31.8	22.0	14.1	1.1	104.3	30.0	17.6	45.8	36.3	19.8	1.1	135.8
1977	14.9	11.8	55.9	55.4	21.6	0.6	160.9	6.7	10.2	45.8	43.3	18.1	0.6	141.2	26.0	13.5	65.8	67.8	25.0	0.6	180.5
1978	11.9	9.8	51.2	19.3	10.9	3.3	106.8	5.5	8.8	42.0	14.5	9.2	3.3	93.2	20.7	10.8	60.4	24.1	12.5	3.3	120.4
1979	6.7	6.6	22.0	8.8	7.9	1.5	53.7	2.9	5.7	18.0	6.7	6.7	1.5	47.0	11.6	7.5	25.9	10.9	9.2	1.5	60.7
1980	16.5	10.1	60.9	34.5	24.0	4.3	150.6	7.6	9.2	50.0	26.9	19.8	4.2	132.9	28.3	11.1	71.9	42.0	28.0	4.3	169.2
1981	15.1	27.5	44.8	16.0	12.7	4.3	120.9	7.2	23.9	36.7	9.9	9.9	4.3	106.1	25.9	31.1	52.8	22.3	15.5	4.4	136.3
1982	10.9	10.4	45.5	26.8	10.4	4.6	109.0	5.0	8.8	37.2	15.8	8.3	4.6	92.5	18.8	11.9	53.6	38.3	12.5	4.7	125.6
1983	8.0	11.1	29.6	18.2	5.7	1.8	74.7	3.7	9.9	24.3	11.4	3.5	1.8	63.7	13.7	12.3	34.9	25.2	7.9	1.8	85.5
1984	5.5	11.9	37.6	28.7	20.0	2.5	106.3	2.4	8.6	35.9	19.3	16.7	2.5	94.9	9.6	15.1	39.5	37.8	23.4	2.6	117.7
1985	4.4	10.9	36.5	43.1	28.6	4.9	128.7	2.0	7.6	34.4	30.6	23.7	4.8	114.3	7.7	14.2	38.7	55.9	33.4	4.9	143.3
1986	7.8	12.2	41.2	65.9	24.9	5.6	157.7	3.6	9.4	39.2	46.8	20.5	5.5	136.8	13.2	15.1	43.1	85.5	29.3	5.6	178.9
1987	10.4	8.4	36.5	43.5	16.0	2.8	117.9	4.7	6.4	34.6	30.9	13.4	2.8	103.3	18.0	10.4	38.5	55.8	18.7	2.8	132.9
1988	6.2	13.0	43.7	51.1	14.8	3.0	132.2	2.7	9.8	41.3	37.3	12.1	3.0	116.6	11.0	16.1	46.0	65.0	17.5	3.1	147.5
1989	6.2	6.9	41.7	40.2	18.2	2.8	116.1	2.8	5.4	39.8	29.1	15.2	2.8	103.4	10.7	8.4	43.6	51.2	21.0	2.8	128.7
1990	3.5	10.2	41.5	54.5	15.2	4.4	129.5	1.5	8.3	38.8	37.8	12.8	4.3	111.8	6.1	12.1	44.2	71.4	17.8	4.4	147.1
1991	1.8	7.5	33.6	55.5	14.1	2.4	115.0	0.8	6.1	31.2	38.2	11.9	2.4	97.2	3.1	8.9	35.9	73.2	16.3	2.4	133.4
1992	6.8	31.2	33.0	57.6	13.0	2.3	144.4	3.2	21.9	30.6	49.1	11.0	2.3	130.3	12.0	40.5	35.3	66.2	15.0	2.3	158.2
1993	9.1	17.0	25.4	62.7	8.8	2.1	125.6	5.6	13.6	24.5	33.6	7.6	2.0	95.7	14.7	20.2	26.4	91.9	9.9	2.1	155.1
1994	12.6	16.9	25.0	40.0	5.4	1.3	101.9	8.1	13.4	24.1	31.9	4.8	1.3	91.0	20.2	20.4	26.0	48.0	6.1	1.4	113.1
1995	25.4	18.6	34.9	47.3	7.1	1.7	135.4	17.8	14.0	33.8	40.4	6.2	1.7	123.3	37.4	23.0	35.9	54.3	8.0	1.8	149.7
1996	18.2	28.4	30.2	39.4	10.0	2.4	129	12.9	23.3	29.2	31.5	8.7	2.4	117.6	26.5	33.6	31.3	47.4	11.3	2.4	141.4

Year	Median of estimated spawners (x 1 000)							5th percentile of estimated spawners (x 1 000)							95th percentile of estimated spawners (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
1997	15.9	27.6	25.1	34.3	4.9	1.6	109.8	11.4	22.5	24.2	26.9	4.3	1.6	99.2	23.4	32.6	26.0	41.8	5.5	1.6	121.1
1998	13.1	34.8	23.2	29.8	3.5	1.5	105.9	7.7	27.0	22.4	24.3	3.2	1.5	94.6	18.5	42.8	24.0	35.2	3.8	1.5	117.1
1999	15.7	31.8	28.1	26.2	4.4	1.2	107.4	9.1	24.6	26.9	21.9	4.1	1.2	96.4	22.2	38.9	29.3	30.5	4.8	1.2	118.0
2000	21.3	26.5	26.8	28.9	2.7	1.6	108.0	12.6	22.5	25.3	24.3	2.4	1.6	97.0	30.4	30.6	28.4	33.6	2.9	1.6	119.2
2001	22.7	17.5	28	38.5	4.4	1.5	112.7	13.3	14.8	26.7	33.6	4.0	1.5	101.3	32.1	20.2	29.3	43.5	4.8	1.5	123.8
2002	16.6	16.5	20.7	22.7	1.4	0.5	78.4	9.5	13.5	19.8	19.0	1.2	0.5	69.6	23.7	19.7	21.6	26.4	1.5	0.5	87.2
2003	13.7	24.2	33.8	38.8	3.3	1.2	115.0	7.0	19.0	32.2	32.5	3.0	1.2	104.1	20.6	29.1	35.4	45.1	3.6	1.2	125.8
2004	16.7	21.8	28.4	38.5	3.0	1.3	109.6	11.2	16.7	27.1	31.4	2.7	1.3	99.0	22.0	26.9	29.6	45.6	3.2	1.3	120.1
2005	20.6	27.8	28.2	37.1	1.9	1.1	116.6	11.7	20.0	27.0	30.3	1.7	1.1	102.4	29.4	35.8	29.3	44.1	2.1	1.1	131.0
2006	20.9	35.2	26.2	35.9	2.8	1.4	122.4	12.9	29.5	25.2	29.4	2.5	1.4	110.4	28.6	40.9	27.2	42.3	3.1	1.4	134.5
2007	21.4	29.2	23.7	33.5	1.5	1.2	110.6	12.5	23.2	22.7	28.2	1.3	1.2	98.0	30.6	35.5	24.6	38.9	1.6	1.2	123.2
2008	25.9	28.2	30.1	27.7	3.2	2.2	117.5	15.6	22.0	28.7	21.9	2.8	2.2	103.4	36.2	34.5	31.6	33.5	3.5	2.3	131.1
2009	38.6	34.0	28.8	34.9	3.0	2.3	141.9	20.3	23.5	27.6	29.3	2.7	2.3	119.2	57.5	44.7	30.0	40.7	3.3	2.3	165.0
2010	18.6	34.8	32.0	31.6	2.4	1.5	120.7	11.3	28.1	30.9	26.3	2.1	1.5	109.3	25.8	41.5	33.1	37.0	2.6	1.5	132.1
2011	56.9	42.8	39.7	62.9	4.7	3.9	210.9	32.9	30.7	38.3	50.9	4.2	3.9	180.9	81.8	54.7	41.0	74.9	5.2	3.9	242.0
2012	33.4	28.6	27.5	26.1	1.2	2.1	118.9	20.4	23.0	26.4	21.4	1.1	2.0	103.7	46.9	34.2	28.6	30.9	1.4	2.1	134.7
2013	64.1	37.4	31.8	34.4	3.1	5.3	175.9	39.5	25.5	30.7	27.3	2.8	5.2	147.0	88.4	49.0	33.0	41.5	3.5	5.3	205.1
2014	61.9	19.9	17.4	22.4	0.7	0.6	122.9	38.5	16.2	16.7	17.8	0.7	0.6	98.9	85.3	23.7	18.0	26.9	0.8	0.6	147.0
2015	88.4	36.3	30.9	32.6	0.7	1.5	190.2	53.7	28.5	29.8	26.7	0.7	1.5	154.7	124.1	44.0	31.9	38.3	0.8	1.5	227.3
2016	71.7	34.4	33.3	37.2	1.5	0.9	179.4	38.9	27.0	32.0	29.3	1.4	0.9	144.4	103.5	41.9	34.7	45.1	1.7	0.9	213.0
2017	74.8	20.4	32.9	34.8	1.2	1.5	165.5	35.0	15.4	31.6	29.5	1.1	1.4	125.4	116.1	25.5	34.2	40.1	1.3	1.5	207.4
2018	46.3	8.4	24.4	38.7	1.5	0.9	120.1	25.2	6.2	23.5	30.2	1.3	0.9	97.0	67.1	10.5	25.3	47.1	1.7	0.9	143.2
2019	27.3	36.2	26.3	22.5	0.7	1.2	114.3	14.1	24.8	25.4	17.3	0.7	1.2	95.8	40.3	47.9	27.3	27.7	0.8	1.2	133.2
2020	45.6	30.7†	34.4	43.6†	1.1†	1.5	157.0†	44.1	20.1	33.4	35.1	1.0	1.5	143.6	47.1	41.0	35.5	51.9	1.3	1.5	170.2
2021	49.2	52.9	28.6	19.7	0.8	0.4	151.7	46.1	34.6	27.6	14.0	0.7	0.4	132.0	52.3	71.7	29.5	25.4	0.9	0.4	171.6
2022	84.5	30.4	31.7	33.3	2.3	1.5	183.7	46.4	19.9	30.7	26.7	2.0	1.5	143.5	123.4	40.9	32.6	40.2	2.6	1.5	225.0
2023	97.0	14.4	25.6	23.5	1.1	3.7	165.4	73.8	10.3	24.7	17.2	1.0	3.6	141.0	121.4	18.5	26.4	29.9	1.3	3.7	190.9
2024	34.3	21.5	16.2	13.4	1.2	1.6	88.4	27.6	13.7	15.5	10.7	1.1	1.6	77.4	41.3	29.4	17	16	1.3	1.6	99.8

Year	Median of estimated spawners (x 1 000)							5th percentile of estimated spawners (x 1 000)							95th percentile of estimated spawners (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
Prev. 5-year																					
	61	32.8	28.9	28.3	1.2	1.7	153.8														
%Change (recent year relative to previous 5-year mean)																					
	-44%	-34%	-44%	-53%	0.3%	-3%	-43%														
Rank (highest = 1 to lowest) over 55 years (1971 to 2024)																					
	13	25	55	52	48	25	50														

†: In 2020, some regions were affected by the COVID-19 global pandemic and monitoring programs could not operate. For these areas previous 5-year average were used.

Table 4.3.4.3. Estimated 2SW salmon spawners (medians, 5th percentile, 95th percentile; x 1 000) from run reconstruction to the six geographic areas and overall, for NAC 1970 to 2024. Spawners for Scotia-Fundy (SF) do not include those from SFA 22 and a portion of SFA 23.

Year	Median of estimated spawners (x 1 000)							5th percentile of estimated spawners (x 1 000)							95th percentile of estimated spawners (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
1970	9.5	3.2	28.6	9.9	6.5	NA	58	4.4	2.3	23.4	8.2	4.7	NA	49.5	16.5	4.2	33.7	11.7	8.3	NA	67.2
1971	13.9	3.0	14.8	10.4	7.1	0.5	49.8	6.6	2.1	12.1	8.3	5.6	0.5	40.9	23.8	3.9	17.5	12.5	8.5	0.5	60.3
1972	12.0	3.1	29.1	29.1	10.4	1.0	84.9	5.7	2.2	23.8	22.3	8.7	1.0	73.4	20.5	4.1	34.2	36.0	12.0	1.0	97.2
1973	16.1	3.8	29.5	32.2	6.7	1.1	89.9	7.5	2.8	24.1	25.2	5.5	1.1	76.3	28.1	4.9	34.7	39.1	7.8	1.1	104.6
1974	16.2	3.1	35.8	49.0	14.1	1.1	119.9	7.5	2.4	29.3	38.9	11.9	1.1	103.8	28.0	3.8	42.3	58.9	16.2	1.2	136.8
1975	15.4	4.7	29.8	28.9	16.3	1.9	97.3	7.4	3.4	24.4	22.7	13.9	1.9	84.6	26.4	6.0	35.1	35.1	18.8	2.0	111.4
1976	17.4	4.0	28.4	24.1	15.5	1.1	90.7	8.1	3.0	23.2	18.3	12.9	1.1	77.6	30.0	5.0	33.4	29.9	18.1	1.1	105.6
1977	14.9	2.8	40.8	51.5	18.8	0.6	129.8	6.7	2.2	33.4	40	15.7	0.6	112.4	26.0	3.4	48.1	62.9	21.9	0.6	148.0
1978	11.9	3.1	37.3	16.0	9.4	3.3	81.4	5.5	2.5	30.7	12.1	7.9	3.3	70.0	20.7	3.6	44.1	19.9	10.9	3.3	93.1
1979	6.7	1.6	16.0	5.8	6.7	1.5	38.4	2.9	1.2	13.1	4.4	5.6	1.5	32.9	11.6	2.0	18.9	7.2	7.7	1.5	44.5
1980	16.5	3.3	44.5	31.5	21.3	4.3	121.7	7.6	2.6	36.5	24.7	17.6	4.2	106.1	28.3	3.9	52.5	38.3	24.9	4.3	137.7
1981	15.1	6.6	32.7	9.8	10.4	4.3	79.0	7.2	5.1	26.8	5.9	8.3	4.3	67.3	25.9	8.1	38.5	13.7	12.5	4.4	92.4
1982	10.9	2.8	33.2	21.2	7.8	4.6	80.8	5.0	2.2	27.1	12.2	6.2	4.6	67.3	18.8	3.4	39.1	30.2	9.4	4.7	94.7
1983	8.0	3.3	21.6	14.0	4.2	1.8	53.1	3.7	2.7	17.8	8.6	2.7	1.8	44.2	13.7	3.9	25.5	19.6	5.7	1.8	62.3
1984	5.5	3.2	27.5	25.9	17.5	2.5	82.4	2.4	2.3	26.2	17.3	14.5	2.5	72.1	9.6	4.1	28.8	34.7	20.5	2.6	92.9
1985	4.4	2.7	26.7	35.1	24.6	4.9	98.6	2.0	1.9	25.1	24.2	20.6	4.8	86.3	7.7	3.5	28.3	45.8	28.8	4.9	110.7
1986	7.8	3.2	30.0	55.1	18.4	5.6	120.4	3.6	2.4	28.6	38.9	15.3	5.5	102.8	13.2	4.1	31.4	71.6	21.6	5.6	138.2
1987	10.4	2.3	26.7	33.5	12.2	2.8	88.3	4.7	1.6	25.3	23.5	10.2	2.8	75.7	18.0	3.0	28.1	43.2	14.2	2.8	100.9
1988	6.2	3.4	31.9	40.7	10.3	3.0	95.9	2.7	2.4	30.2	29.4	8.5	3.0	83.4	11.0	4.4	33.6	52.0	12.1	3.1	108.4
1989	6.2	1.7	30.4	26.6	14.3	2.8	82.3	2.8	1.2	29.1	19.1	12.1	2.8	73.2	10.7	2.1	31.8	34.1	16.6	2.8	91.4
1990	3.5	2.7	30.3	35.5	11.0	4.4	87.5	1.5	2.0	28.4	24.8	9.2	4.3	76.0	6.1	3.3	32.3	46.0	12.8	4.4	98.8
1991	1.8	2.0	24.5	34.8	11.6	2.4	77.3	0.8	1.6	22.8	23.7	9.8	2.4	65.8	3.1	2.5	26.2	45.8	13.5	2.4	88.6
1992	6.8	8.1	24.1	36.5	10.8	2.3	88.7	3.2	5.4	22.3	30.7	9.2	2.3	80.8	12	10.8	25.8	42.3	12.5	2.3	97.3
1993	9.1	4.3	18.6	42.7	6.9	2.1	83.9	5.6	3.2	17.9	22.3	6.0	2.0	63	14.7	5.4	19.3	62.5	7.8	2.1	104.8

Year	Median of estimated spawners (x 1 000)							5th percentile of estimated spawners (x 1 000)							95th percentile of estimated spawners (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
1994	12.6	3.9	18.3	29.4	4.4	1.3	70.4	8.1	2.8	17.6	23.2	3.9	1.3	61.9	20.2	5.0	18.9	35.7	4.9	1.4	79.9
1995	25.4	3.7	25.5	38.9	6.5	1.7	101.9	17.8	2.4	24.7	33.0	5.6	1.7	91.5	37.4	5.0	26.2	44.8	7.3	1.8	115.2
1996	18.2	5.5	22.1	28.3	8.4	2.4	85.2	12.9	3.9	21.3	22.0	7.3	2.4	76.1	26.5	7.1	22.9	34.5	9.4	2.4	95.5
1997	15.9	5.9	18.3	23.1	4.0	1.6	69.3	11.4	4.1	17.7	17.4	3.5	1.6	61.0	23.4	7.6	18.9	28.9	4.4	1.6	78.4
1998	8.5	6.3	16.9	15.9	2.3	1.5	51.6	5.0	4.4	16.3	12.5	2.1	1.5	46.1	12.3	8.3	17.5	19.5	2.5	1.5	57.2
1999	10.2	6.2	20.5	15.2	3.7	1.2	57.1	6.0	4.3	19.7	12.3	3.5	1.2	51.4	14.7	8.1	21.4	18.1	4.0	1.2	62.8
2000	13.9	6.2	19.6	16.3	2.2	1.6	59.9	8.3	4.4	18.5	13.4	2.0	1.6	53.0	20.1	8.0	20.7	19.3	2.4	1.6	67.2
2001	14.8	2.4	20.5	26.2	4.0	1.5	69.4	8.7	1.7	19.5	22.5	3.7	1.5	62.0	21.1	3.2	21.4	29.8	4.4	1.5	77.0
2002	10.8	2.4	15.1	13.6	0.8	0.5	43.2	6.3	1.6	14.4	11.1	0.7	0.5	37.7	15.7	3.2	15.8	16.1	0.9	0.5	48.8
2003	9.0	3.3	24.7	25.3	3.1	1.2	66.7	4.6	2.2	23.5	20.7	2.8	1.2	59.8	13.6	4.5	25.9	29.9	3.4	1.2	73.4
2004	10.8	3.2	20.7	24.9	2.6	1.3	63.6	7.3	2.0	19.8	19.7	2.4	1.3	56.9	14.6	4.5	21.6	29.9	2.8	1.3	70.1
2005	13.4	4.3	20.6	25.9	1.6	1.1	66.9	7.6	2.5	19.7	20.8	1.4	1.1	58.7	19.5	6.2	21.4	30.9	1.7	1.1	75.2
2006	13.6	5.3	19.1	21.7	2.4	1.4	63.5	8.4	3.5	18.4	17.4	2.1	1.4	56.2	19.0	7.1	19.9	26	2.6	1.4	71.0
2007	14.0	4.1	17.3	21.7	1.3	1.2	59.5	8.1	2.6	16.6	18.0	1.2	1.2	52.1	20.2	5.6	18.0	25.3	1.4	1.2	67.1
2008	16.9	3.8	22.0	18.2	3.0	2.8	66.8	10.1	2.4	20.9	14.0	2.6	2.8	58.1	24.0	5.2	23.0	22.4	3.3	2.8	75.4
2009	25.0	4.5	21.0	23.2	2.5	2.3	78.7	13.2	2.7	20.1	19.1	2.3	2.3	65.7	37.5	6.4	21.9	27.3	2.8	2.3	92.1
2010	12.0	4.6	23.3	19.5	1.9	1.5	62.9	7.3	3.1	22.5	15.6	1.7	1.5	56.2	16.9	6.1	24.1	23.5	2.1	1.5	69.6
2011	37.0	3.6	28.9	50.4	4.6	3.9	128.4	21.3	2.4	27.9	40.3	4.1	3.8	109.2	53.5	4.9	29.9	60.3	5.0	3.9	148.1
2012	21.6	2.3	20.0	18.6	1.0	2.0	65.7	13.2	1.6	19.2	15.2	0.9	2.0	56.3	30.8	3.0	20.9	22.1	1.1	2.0	75.6
2013	41.5	4.8	23.2	24.5	2.9	5.2	102.1	25.5	3.0	22.4	19.2	2.6	5.2	85.0	58.2	6.5	24.1	29.6	3.3	5.3	119.9
2014	40.1	2.8	12.7	16.4	0.7	0.6	73.3	24.9	1.9	12.2	12.8	0.6	0.6	57.5	56	3.8	13.1	20.1	0.7	0.6	89.6
2015	57.3	4.8	22.5	21.4	0.7	1.5	108.4	34.8	3.2	21.8	17.2	0.6	1.5	85.3	81.5	6.4	23.3	25.6	0.7	1.5	132.7
2016	46.6	3.1	24.3	27.0	1.5	0.9	103.3	25.3	2.2	23.4	21.1	1.3	0.9	81.1	67.8	3.9	25.3	33.0	1.6	0.9	125.7
2017	48.6	2.0	24.0	26.0	1.1	1.4	103.2	22.7	1.4	23.0	21.7	1.0	1.4	76.8	75.6	2.7	25.0	30.3	1.2	1.5	130.7
2018	30.0	1.4	17.8	31.0	1.4	0.9	82.5	16.4	0.8	17.1	23.9	1.2	0.9	66.8	44.0	2.1	18.5	38.2	1.6	0.9	98.7
2019	17.7	4.6	19.2	16.8	0.7	1.2	60.1	9.2	2.7	18.5	12.6	0.6	1.2	50.3	26.3	6.5	19.9	21.0	0.7	1.2	70.1

Year	Median of estimated spawners (x 1 000)							5th percentile of estimated spawners (x 1 000)							95th percentile of estimated spawners (x 1 000)						
	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC	LAB	NF	QC	GF	SF	US	NAC
2020	29.7	3.8†	25.1	32†	1.1†	1.5	93.2†	27.3	2.2	24.4	25.2	1.0	1.4	85.8	32.0	5.5	25.9	38.8	1.2	1.5	100.5
2021	32.0	8.0	20.8	15.5	0.8	0.4	77.6	28.9	4.3	20.2	10.7	0.7	0.4	70.7	35.2	11.7	21.5	20.4	0.8	0.4	84.5
2022	54.8	3.7	23.1	25.2	2.1	1.5	110.4	30.0	2.3	22.4	19.5	1.8	1.5	84.9	80.8	5.2	23.8	30.8	2.3	1.5	137.3
2023	63.1	2.5	21.7	18.4	1.0	3.7	110.6	47.6	1.4	21.0	13.0	0.9	3.6	93.6	80.1	3.7	22.4	23.9	1.2	3.7	128.4
2024	22.3	3.2	13.3	10.3	1	1.6	51.6	17.7	1.7	12.7	8	0.9	1.6	46.1	27.4	4.6	13.9	12.5	1.1	1.6	57.3
Prev. 5-year																					
	39.6	4.6	24.3	21.3	1.1	1.7	92.6														
%Change (recent year relative to previous 5-year mean)																					
	-44%	-31%	-45%	-52%	-15%	-4%	-44%														
Rank (highest = 1 to lowest) over 55 years (1971 to 2024)																					
	15	35	55	52	50	26	52														
2SW CL																					
	34.7	4.0	17.4	18.7	24.7	29.2															
% 2SW CL attained in most recent year (2024)																					
	64%	78%	77%	55%	4%	5%															
2SW management objective																					
					11.0	4.5															
% 2SW management objective attained in most recent year (2024)																					
					9%	35%															

†: In 2020, some regions were affected by the COVID-19 global pandemic and monitoring programs could not operate. For these areas previous 5-year average were used.

Table 4.3.5.1. Return rates (%) by year of smolt migration of wild Atlantic salmon to 1SW (or small) salmon to North American rivers 1991 to 2024 smolt migration years. The year 1991 was selected for illustration as it is the first year of the commercial fishery moratorium for the island of Newfoundland.

	US	Scotia-Fundy				Gulf				Quebec				Newfoundland						
Smolt year	Narraguagus	Nashwaak	La Have	St Mary's	Middle	Margaree	NW Miramichi	SW Miramcihi	Miramichi	À la Barbe	Saint Jean	Bec scie	de la Trinité	Highlands	Conne	Rocky	NE Trepassey	Campbellton	Garnish	WAB
1991										0.6	0.5	1.2	1.6		3.4	3.1	2.6			3.6
1992										0.5	0.4	1.3	0.8		4.0	3.7	4.7			6.1
1993										0.4	0.3	0.9	0.7	1.5	2.7	3.1	5.4	9.0		7.1
1994											0.3	1.2	0.6	1.6	5.8	3.9	8.5	7.3		8.9
1995											0.6	1.4	0.9	1.6	7.2	4.7	9.2	8.1		8.1
1996			1.5								0.3		0.6	3.2	3.4	3.1	2.9	3.4		3.5
1997	0.04		4.3										1.7	1.4	2.9	2.5	5.0	5.3		7.2
1998	0.21	2.9	2.0								0.3		1.4	2.5	3.4	2.7	4.9	6.1		6.1
1999	0.31	1.8	4.8				3.0				0.3		0.4	0.6	8.1	3.2	5.9	3.8		11.1
2000	0.28	1.5	1.2				4.9				0.5		0.3	0.6	2.5	3.1	3.2	6.0		4.4
2001	0.16	3.1	2.7				6.6	8.6	7.9		0.5		0.6		3.0	2.9	7.1	5.3		9.2
2002	0.00	1.9	2.0			1.5	2.4	3.0	3.0		0.6		0.9		2.4	4.0	5.5	6.8		9.4
2003	0.08	6.4	1.8			1.6	4.1	6.8	5.9		0.6		0.6		5.3	3.8	6.6	7.8		9.5
2004	0.08	5.1	1.1			0.9	2.6	1.8	2.0		0.7		1.0		2.5	3.3	4.4	11.4		5.9
2005	0.24	12.7	8.0	3.0		1.1	3.6				0.4		1.5		4.0	2.2	5.5	9.2		15.1
2006	0.09	1.8	1.5	0.7		0.7	1.4	1.5	1.5		0.3				3.3	1.3	2.7	5.6		3.8
2007	0.35	5.6	2.3	2.2		1.3		1.6			0.4		1.5		4.4	5.6	5.5	11.2		11.6
2008	0.22	3.9	1.2	0.6		0.3		1.0			0.6		0.7		2.4	2.7	2.6	8.8		6.1
2009	0.26	12.4	3.5			1.0		3.3			0.8		1.9		2.5	6.8	4.9	9.5		9.6

Smolt year	US	Scotia-Fundy				Gulf				Quebec				Newfoundland						
	Narraguagus	Nashwaak	La Have	St Mary's	Middle	Margaree	NW Miramichi	SW Miramcihi	Miramichi	À la Barbe	Saint Jean	Bec scie	de la Trinité	Highlands	Conne	Rocky	NE Trepassey	Campbellton	Garnish	WAB
2010	0.95	7.9	1.8					1.5			0.7		2.5		2.7	5.1	5.6	11.0		7.1
2011	0.32	0.3									0.4		0.6		3.9	4.6	3.0	9.7		5.7
2012	0.00	1.6									0.4		0.4		5.3	3.7	4.0	9.3		5.2
2013	0.26	1.6	0.6		0.2						0.9		0.6		1.9	5.3		10.0		7.2
2014	0.32	2.9	0.6		0.4						0.9		1.9		4.1			8.8		8.2
2015	0.09	5.0	0.4		0.2								1.2		3.6			8.4		9.4
2016		2.8	0.7		1.1						0.2		0.5			7.7		3.7		5.7
2017											0.8		0.7		0.8	6.2		8.5	2.8	9.3
2018	1.99				0.4						0.5		0.4			14.7		7.0	2.5	3.4
2019	0.27										1.4		0.8		0.6	17.0		7.3	0.9	5.6
2020											1.2		2.0							
2021	0.49		1.1								0.7		0.5		1.2	5.4			3.9	10.7
2022	0.39										0.5		0.1			2.6			1.1	
2023	0.07	6.0									0.2				2.8					3.7

Table 4.3.5.2. Return rates (%) by year of smolt migration of wild Atlantic salmon to 2SW salmon to North American rivers 1991 to 2022 smolt migration years. The year 1991 was selected for illustration as it is the first year of the commercial fishery moratorium for the island of Newfoundland.

Smolt year	**US**	**Scotia-Fundy**				**Gulf**				**Quebec**				**Nfld**
	Narraguagus	Nashwaak	LaHave	St Mary's	Middle	Margaree	NW Miramichi	SW Miramcihi	Miramichi	À la Barbe	Saint Jean	Bec scie	de la Trinité	Highlands
1991										0.6	0.9	0.4	0.6	
1992										0.5	0.7	0.4	0.5	
1993										0.4	0.8	0.9	0.7	1.2
1994											0.9	1.5	0.7	1.4
1995											0.9	0.4	0.5	1.3
1996			0.2								0.4		0.5	0.9
1997	0.87		0.4										1.1	1.2
1998	0.28	0.7	0.3								0.4		0.7	1.1
1999	0.53	0.8	0.9				1.2				0.7		0.2	0.7
2000	0.17	0.3	0.1				0.5				1.2		0.1	0.7
2001	0.85	0.9	0.6				0.6	3.3	2.3		0.9		0.3	
2002	0.58	1.3	0.5			6.2	0.7	1.4	1.3		0.9		0.5	
2003	1.01	1.6	0.2			3.9	0.9	2.0	1.6		1.4		0.2	
2004	0.98	1.3	0.3			3.0	0.5	0.8	0.7		1.1		0.7	
2005	0.73	1.5	0.5	0.3		2.3	1.1				0.6		0.5	
2006	0.74	0.6	0.4	0.1		3.0	0.2	0.5	0.4		0.5			
2007	2.07	1.3	0.2	0.1		2.1		0.8			0.5		0.3	
2008	0.65	2.1	0.3			2.4		0.7			1.8		0.5	
2009	1.80	3.3	0.9			5.7		2.2			1.9		0.8	

Smolt year	**US**	**Scotia-Fundy**				**Gulf**				**Quebec**				**Nfld**
	Narraguagus	Nashwaak	LaHave	St Mary's	Middle	Margaree	NW Miramichi	SW Miramcihi	Miramichi	À la Barbe	Saint Jean	Bec scie	de la Trinité	Highlands
2010	0.24	0.4	0.2								1.0		0.6	
2011	0.56	1.0									1.7		0.3	
2012	1.02	0.3									0.6		0.1	
2013	1.91	0.5	0.2		1.7						1.9		0.3	
2014	0.51	0.6	0.2		1.5						1.2		0.6	
2015	0.62	1.2	0.4		2.0								0.4	
2016		0.4	0.2		2.2						0.7		0.2	
2017											1.9		0.3	
2018	3.31				3.8						2.0		0.3	
2019	0.40	0.5									1.9		0.3	
2020											3.1		0.6	
2021	1.2										2.2		0.3	
2022	0.88	0.8									1.4		0.1	

Table 4.3.5.3. Return rates (%) by year of smolt migration of hatchery Atlantic salmon to 1SW salmon to North American rivers 1991 to 2024 smolt migration years. The year 1991 was selected for illustration as it is the first year of the commercial fishery moratorium for Newfoundland.

Smolt year	US			Scotia-Fundy				Gulf	Quebec			
	Connecticut	Penobscot	Merrimack	Saint John	La Have	East Sheet	Liscomb	Morell	Mill	West	Valleyfield	Aux Rochers
1991	0.00	0.14	0.01	0.69	4.51	0.15	0.50	3.16			0.48	0.43
1992	0.00	0.04	0.00	0.41	1.26	0.21	0.42	1.43	0.44	2.16	0.70	0.07
1993	0.00	0.05	0.00	0.39	0.62	0.32	0.56	0.14	0.37		0.02	0.10
1994	0.00	0.03	0.00	0.66	1.44	0.36	0.35	5.20	0.11		0.08	0.02
1995		0.08	0.02	1.14	2.26	0.37	0.64					0.07
1996		0.04	0.02	0.56	0.47	0.07	0.17					0.31
1997		0.04	0.02	0.75	0.87	0.03	0.15					0.46
1998		0.04	0.09	0.47	0.34	0.05	0.10					1.04
1999		0.03	0.05	0.46	0.79	0.23						0.32
2000	0.00	0.04	0.01	0.27	0.43	0.03						1.15
2001		0.07	0.06	0.45	0.87							0.02
2002		0.04	0.02	0.34	0.63							0.07
2003	0.00	0.05	0.03	0.32	0.72							
2004	0.00	0.05	0.02	0.39	0.53							
2005	0.02	0.06	0.02	0.56								
2006	0.00	0.04	0.02	0.24								
2007	0.01	0.13	0.01	0.83								
2008	0.00	0.03	0.00	0.13								
2009	0.00	0.07	0.03	1.44								
2010	0.01	0.12	0.18	0.12								

Smolt year	US			Scotia-Fundy				Gulf	Quebec			
	Connecticut	Penobscot	Merrimack	Saint John	La Have	East Sheet	Liscomb	Morell	Mill	West	Valleyfield	Aux Rochers
2011	0.00	0.00	0.00	0.02								
2012		0.01	0.00	0.67								
2013		0.02	0.01	0.11								
2014		0.02		0.24								
2015		0.06		0.11								
2016		0.05		0.54								
2017		0.05		0.25								
2018		0.05		0.15								
2019		0.04		0.67								
2020		0.04										
2021		0.06										
2022		0.02										
2023		0.07										

Table 4.3.5.4. Return rates (%) by year of smolt migration of hatchery Atlantic salmon to 2SW salmon to North American rivers 1991 to 2022 smolt migration years. The year 1991 was selected for illustration as it is the first year of the commercial fishery moratorium for Newfoundland.

Smolt year	**US**			**Scotia Fundy**				**Gulf**				**Quebec**
	Connecticut	Penobscot	Merrimack	Saint John	La Have	East Sheet	Liscomb	Morell	Mill	West	Valleyfield	Aux Rochers
1991	0.04	0.19	0.02	0.15	0.48	0.00	0.05	0.04			0.00	0.13
1992	0.08	0.08	0.00	0.22	0.24	0.01	0.03	0.07	0.00	0.05	0.06	0.06
1993	0.04	0.19	0.03	0.19	0.21	0.02	0.03	0.31	0.91		0.01	0.19
1994	0.04	0.22	0.05	0.27	0.23	0.06	0.02					0.05
1995		0.16	0.06	0.19	0.23	0.00	0.03					0.04
1996		0.14	0.09	0.08	0.13	0.01						0.07
1997		0.10	0.11	0.20	0.17	0.01						0.08
1998		0.05	0.06	0.06	0.11	0.00						0.09
1999		0.08	0.13	0.16	0.21	0.00						0.02
2000	0.01	0.06	0.03	0.05	0.07							0.01
2001		0.16	0.26	0.15	0.13							0.02
2002		0.17	0.18	0.11	0.17							
2003	0.00	0.12	0.05	0.06	0.09							
2004	0.03	0.12	0.13	0.09	0.11							
2005	0.02	0.10	0.10	0.12								
2006	0.02	0.23	0.15	0.06								
2007	0.02	0.30	0.08	0.17								
2008	0.01	0.15	0.05	0.16								
2009	0.04	0.39	0.17	0.13								
2010	0.00	0.09	0.11	0.07								

Smolt year	**US**			**Scotia Fundy**				**Gulf**				**Quebec**
	Connecticut	Penobscot	Merrimack	Saint John	La Have	East Sheet	Liscomb	Morell	Mill	West	Valleyfield	Aux Rochers
2011	0.01	0.05	0.02	0.02								
2012		0.03	0.08	0.10								
2013		0.10	0.02	0.02								
2014		0.04		0.09								
2015		0.12		0.04								
2016		0.08		0.00								
2017		0.16		0.00								
2018		0.22		0.06								
2019		0.06										
2020		0.17										
2021		0.26										
2022		0.20										

Table 4.3.6.1. Estimates (medians, 5th percentiles, 95th percentiles; x 1 000) of Pre-fishery Abundance (PFA) for 1SW maturing salmon (PFA1SWmat), 1SW non-maturing salmon (PFA1SWnmat) and the total cohort of 1SW salmon (PFA1SWcohort) as of 01 January of the second summer at sea for NAC as derived from the LCM. Years are PFA years. Predicted abundances are provided for four years under a 0-catch scenario.

Year	Median of estimated PFA (x 1 000)			5th percentile of estimated PFA (x 1 000)			95th percentile of estimated PFA (x 1 000)		
	PFA1SWmat	PFA1SWnmat	PFA1SWcohort	PFA1SWmat	PFA1SWnmat	PFA1SWcohort	PFA1SWmat	PFA1SWnmat	PFA1SWcohort
1971	623.0	980.9	1605.8	573.6	892.6	1502.6	684.2	1075.2	1716.6
1972	634.6	1043.6	1681.2	577.8	970.0	1583.8	708.7	1124.3	1787.7
1973	785.1	1278.2	2064.3	711.8	1197.2	1954.6	877.9	1363.0	2189.5
1974	830.6	1161.7	1994.0	754.5	1090.6	1888.0	926.7	1236.9	2115.5
1975	941.5	1274.2	2218.0	873.0	1194.7	2105.3	1025.3	1358.5	2340.2
1976	927.4	1177.7	2106.5	863.9	1118.1	2013.2	1000.5	1240.6	2206.0
1977	698.0	962.0	1660.9	654.2	904.0	1585.0	747.5	1022.4	1738.7
1978	477.6	585.2	1063.4	444.9	547.3	1012.0	514.0	626.4	1120.0
1979	728.1	1171.5	1900.3	682.6	1109.5	1820.4	779.8	1237.2	1985.8
1980	954.5	1093.7	2049.6	892.5	1034.9	1960.2	1027.6	1156.6	2146.0
1981	1057.8	974.2	2031.9	991.5	915.3	1940.0	1131.5	1037.7	2134.4
1982	890.9	818.7	1710.9	832.3	772.0	1631.5	957.0	868.2	1795.6
1983	608.0	495.0	1103.1	567.6	471.1	1055.4	652.5	521.7	1156.9
1984	631.4	528.0	1160.2	590.9	502.1	1110.6	676.8	556.5	1215.6
1985	778.4	768.2	1547.1	725.4	722.9	1475.0	839.8	814.1	1626.1
1986	984.9	804.3	1790.6	915.7	758.3	1704.0	1062.6	853.3	1883.8
1987	967.7	737.3	1705.4	902.3	691.6	1623.1	1042.4	786.2	1795.7
1988	955.7	629.3	1585.1	891.7	591.3	1507.7	1024.6	670.3	1667.4
1989	707.5	505.8	1213.7	661.3	476.3	1155.8	760.1	538.5	1278.4
1990	671.2	441.5	1113.1	629.4	415.8	1062.3	717.4	471.1	1170.4
1991	519.3	497.3	1016.8	484.6	468.0	970.2	557.7	528.5	1066.7

Year	Median of estimated PFA (x 1 000)			5th percentile of estimated PFA (x 1 000)			95th percentile of estimated PFA (x 1 000)		
	PFA1SWmat	PFA1SWnmat	PFA1SWcohort	PFA1SWmat	PFA1SWnmat	PFA1SWcohort	PFA1SWmat	PFA1SWnmat	PFA1SWcohort
1992	677.1	338.4	1016.5	628.7	309.8	957.4	730.8	373.8	1084.4
1993	613.2	265.3	879.2	563.0	247.6	822.2	670.1	285.5	942.2
1994	407.7	290.0	698.0	376.8	272.1	660.4	441.1	310.0	738.5
1995	454.6	321.2	775.7	416.1	300.9	729.7	496.0	343.3	825.8
1996	617.8	296.5	914.5	568.5	281.4	861.9	672.4	312.8	972.6
1997	422.0	226.2	648.7	398.1	210.2	618.2	447.1	244.3	680.5
1998	488.3	210.5	699.4	451.0	195.3	656.3	532.8	227.8	749.5
1999	515.0	204.7	720.1	471.8	190.7	671.6	566.1	221.1	776.7
2000	593.5	217.3	810.9	545.0	203.4	758.2	651.6	233.8	874.7
2001	438.1	161.2	599.7	399.7	149.1	556.9	484.6	175.1	650.1
2002	475.0	216.4	691.9	437.9	201.2	649.7	520.1	232.8	741.8
2003	508.3	216.3	725.0	471.5	200.6	682.7	551.1	233.3	772.5
2004	550.0	217.8	768.3	514.2	200.5	725.6	588.5	237.7	814.0
2005	616.8	232.9	850.3	551.7	216.3	779.9	690.4	251.9	928.3
2006	644.7	210.1	855.1	583.0	193.9	787.4	719.0	228.7	935.7
2007	558.3	228.7	788.2	499.7	209.0	722.8	628.5	251.5	864.0
2008	698.7	243.9	943.4	639.7	222.8	875.7	768.4	268.3	1019.9
2009	480.9	237.9	719.2	432.6	220.0	665.3	537.8	257.8	781.1
2010	654.9	347.5	1003.2	606.2	318.5	941.4	710.0	381.3	1073.1
2011	671.8	235.7	908.1	605.3	213.5	835.0	749.4	262.4	994.1
2012	577.5	311.2	889.9	522.8	277.1	822.3	643.4	352.3	970.1
2013	517.5	211.5	729.6	457.5	189.3	660.4	595.6	240.7	820.0
2014	558.4	316.7	877.0	491.0	280.7	791.1	642.6	361.7	982.9
2015	739.6	325.4	1066.4	668.2	291.7	980.2	822.8	369.0	1166.2

Year	Median of estimated PFA (x 1 000)			5th percentile of estimated PFA (x 1 000)			95th percentile of estimated PFA (x 1 000)		
	PFA1SWmat	PFA1SWnmat	PFA1SWcohort	PFA1SWmat	PFA1SWnmat	PFA1SWcohort	PFA1SWmat	PFA1SWnmat	PFA1SWcohort
2016	559.6	250.5	811.1	494.9	224.8	734.0	641.3	284.3	908.2
2017	459.7	210.1	671.5	399.6	185.0	598.8	537.4	242.5	761.0
2018	407.0	219.8	628.1	351.0	197.3	560.7	476.5	247.9	708.6
2019	504.7	292.5	797.9	430.5	273.7	718.9	592.3	314.9	889.8
2020	607.5	255.7	863.4	526.8	236.4	778.5	700.4	279.3	963.5
2021	734.3	324.8	1060.8	631.3	283.6	939.3	858.1	378.6	1205.6
2022	551.0	302.0	854.5	453.8	267.7	744.8	681.2	343.5	993.6
2023	389.6	178.7	569.1	313.9	163.2	488.7	498.8	196.5	681.6
Prev. 5-year mean									
	570.2	276.1	847.4						
Change (recent year relative to previous 5-year mean)									
	-32%	-35%	-33%						
Rank (highest = 1 to lowest) over time-series (1971 to most recent year)									
	53 / 53	52 / 53	53 / 53						
Forecast:									
2024*	429.2	194.3	628.8	264.1	117	403	725.9	319.3	980.2
2025	515.7	232	756	270.1	122.9	430.7	979.8	448	1343.9
2026	616.5	268.9	903.8	278.4	113.9	436.3	1276.4	615.1	1750.9
2027	604.4	274.1	898.8	239.3	106.1	415	1297.8	658.1	1840.6
2028	544	246.9	820.8	197.4	92.3	335.8	1330.6	684.9	1860.8

***PFA values are derived from incomplete input data (returns of 1SW maturing are not included) and therefore 2024 PFA values should not be compared to 2024 returns and spawners of 1SW fish (tables 4.3.2.1 to 4.3.2.3 and 4.3.3.1 to 4.3.3.3). These values are included for completeness**.

Figure 4.1.2.1. Map of Salmon Fishing Areas (SFAs) and Quebec Management Zones (Qs) in Canada.

Figure 4.1.2.2. Summary of recreational fisheries management measures in Canada in 2024. Note: details on specific regions are available in the text and may not appear on the figure.

Figure 4.1.3.1. Nominal catch (t) of small salmon, large salmon and both sizes combined (weight and number) for Canada, 1960-2024 (top panel) and 2008-2024 (bottom panel) by all users.

Figure 4.1.3.2. Nominal catch (number) of small salmon, large salmon, and both sizes combined in the recreational fisheries in Canada, 1974-2024 (top panel) and 2008-2024 (bottom panel).

Figure 4.1.3.3. The number (bars) of caught and released small salmon and large salmon in the recreational fisheries of Canada, 1984-2024. Black lines represent the proportion released of the total catch (released and retained) (grey diamond); small salmon (yellow circle) and large salmon (grey square).

Figure 4.1.4.1. Estimates of the 2SW salmon catch (number of fish; year of 2SW catch) taken at Greenland (year – 1) and in North America (upper panel A) and the percentages of the catch of North American origin 2SW salmon equivalents taken in various fishing areas of the North Atlantic (lower panel B) 1972-2024.

Figure 4.1.5.1 Map of North American sample locations used in the development of the SNP range wide baseline for Atlantic salmon (Jeffery *et al.*, 2018). The 21 North American reporting groups are labelled and identified by colour). See Figure 4.1.5.2 for full range wide baseline sampling locations.

Figure 4.1.5.2. Map of range wide sample locations used in the development SNP baseline for Atlantic salmon and the 31 defined reporting groups (labelled and identified by colour) (Jeffery *et al.,* 2018). See Figure 4.1.5.1 for finer resolution of North American locations.

Figure 4.1.5.3. Total tissue samples available and proportions of samples genotyped by Salmon Fishing Area in the Labrador Atlantic salmon Indigenous fisheries in 2024.

Figure 4.1.5.4. Bayesian estimate of mixture composition of samples from the Labrador Atlantic salmon Indigenous fisheries for 2024 by size group (small < 63 cm, large ≥ 63 cm) and region (Figure 4.1.2.1: SFA 1A – N. Labrador, SFA 1B – Lake Melville, and SFA 2 –S. Labrador) using the SNP range wide baseline for Atlantic salmon (Jeffery *et al.* 2018). Baseline locations refer to regional reporting groups identified in Figure 4.1.5.1 and Figure 4.1.5.2. Regional assignment acronyms are explained in Table 4.1.5.1. Data are summarized in Table 4.1.5.2. Note that credible intervals with a lower bound including zero indicate little support for the mean assignment value.

Figure 4.1.5.5. Bayesian estimate of mixture composition of samples from the Saint Pierre and Miquelon Atlantic salmon fishery for 2024 by size group (small < 63 cm, large ≥ 63 cm) using the SNP range wide baseline for Atlantic salmon (Jeffery *et al.* 2018). Baseline locations refer to regional reporting groups identified in Figure 4.1.5.1 and Figure 4.1.5.2. Regional assignment acronyms are explained in Table 4.1.5.1. Data are summarized in Table 4.1.5.3. Note that credible intervals with a lower bound including zero indicate little support for the mean assignment value.

Figure 4.1.6.1. Exploitation rates in North America on the North American stock complex of small and large salmon 1971-2024. The symbols are the median and the error bars are the 5th to 95th percentiles of the distributions from Monte Carlo simulation.

Figure 4.3.1.1. Time-series for Canada and the US showing the number of rivers with established CLs, the number rivers assessed, and the number of assessed rivers meeting CLs for 1991-2024. One additional US river (Kennebec River) was monitored, but CL attainment was not reported as a recovery program transfers adult salmon into inaccessible habitat not considered within the established CL.

Figure 4.3.1.2. Proportion of the conservation requirement attained in the 76 assessed rivers in 2024 of the North American Commission area. One additional US river (Kennebec River) was monitored, but CL attainment was not reported as a recovery program transfers adult salmon into inaccessible habitat not considered within the established CL.

Figure 4.3.2.1. Time-series of wild smolt production from thirteen monitored rivers in eastern Canada and one river in eastern US, 1970-2024. Smolt production is expressed as a proportion of the conservation egg requirements for the river. Note y-axis range change from one river to the other.

Figure 4.3.3.1. Estimated (median 5th to 95th percentile range) pre-fishery abundance (PFA) for 1SW maturing and 1SW non-maturing salmon, returns of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW, spawners of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW and egg contribution from 1SW, MSW and total (1SW/MSW) for NAC as derived from the LCM. Solid line: median of the marginal posterior distributions. Yellow shaded area: hindcasting on the historical time-series. Blue shaded area (for PFA and returns): forecasting obtained under a scenario with 0 catches in all fisheries. The dashed line corresponds to the CL for NAC. Forecasts of PFA and returns are provided for years 2024 to 2028.

Figure 4.3.3.2. Estimated (median 5th to 95th percentile range) pre-fishery abundance (PFA) for 1SW maturing and 1SW non-maturing salmon, returns of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW, spawners of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW and egg contribution from 1SW, MSW and total (1SW/MSW) for Labrador as derived from the LCM. Solid line: median of the marginal posterior distributions. Yellow shaded area: hindcasting on the historical time-series. Blue shaded area (for PFA and returns): forecasting obtained under a scenario with 0 catches in all fisheries. The dashed line corresponds to the CL for Labrador. Forecasts of PFA and returns are provided for years 2024 to 2028.

Figure 4.3.3.3. Estimated (median 5th to 95th percentile range) pre-fishery abundance (PFA) for 1SW maturing and 1SW non-maturing salmon, returns of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW, spawners of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW and egg contribution from 1SW and total (1SW/MSW) for Newfoundland as derived from the LCM. Solid line: median of the marginal posterior distributions. Yellow shaded area: hindcasting on the historical time-series. Blue shaded area (for PFA and returns): forecasting obtained under a scenario with 0 catches in all fisheries. The dashed line corresponds to the CL for Newfoundland. Forecasts of PFA and returns are provided for years 2024 to 2028.

Figure 4.3.3.4. Estimated (median 5th to 95th percentile range) pre-fishery abundance (PFA) for 1SW maturing and 1SW non-maturing salmon, returns of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW, spawners of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW and egg contribution from 1SW, MSW and total (1SW/MSW) for Quebec as derived from the LCM. Solid line: median of the marginal posterior distributions. Yellow shaded area: hindcasting on the historical time-series. Blue shaded area (for PFA and returns): forecasting obtained under a scenario with 0 catches in all fisheries. The dashed line corresponds to the CL for Quebec. Forecasts of PFA and returns are provided for years 2024 to 2028.

Figure 4.3.3.5. Estimated (median 5th to 95th percentile range) pre-fishery abundance (PFA) for 1SW maturing and 1SW non-maturing salmon, returns of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW, spawners of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW and egg contribution from 1SW, MSW and total (1SW/MSW) for Gulf as derived from the LCM. Solid line: median of the marginal posterior distributions. Yellow shaded area: hindcasting on the historical time-series. Blue shaded area (for PFA and returns): forecasting obtained under a scenario with 0 catches in all fisheries. The dashed line corresponds to the CL for Gulf. Forecasts of PFA and returns are provided for years 2024 to 2028.

Figure 4.3.3.6. Estimated (median 5th to 95th percentile range) pre-fishery abundance (PFA) for 1SW maturing and 1SW non-maturing salmon, returns of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW, spawners of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW and egg contribution from 1SW, MSW and total (1SW/MSW) for Scotia-Fundy as derived from the LCM. Solid line: median of the marginal posterior distributions. Yellow shaded area: hindcasting on the historical time-series. Blue shaded area (for PFA and returns): forecasting obtained under a scenario with 0 catches in all fisheries. The dashed line corresponds to the MO for Scotia-Fundy. Forecasts of PFA and returns are provided for years 2024 to 2028.

Figure 4.3.3.7. Estimated (median 5th to 95th percentile range) pre-fishery abundance (PFA) for 1SW maturing and 1SW non-maturing salmon, returns of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW, spawners of 1SW, MSW (mostly maiden MSW and repeat spawners) and 2SW and egg contribution from 1SW, MSW and total (1SW/MSW) for US as derived from the LCM. Solid line: median of the marginal posterior distributions. Yellow shaded area: hindcasting on the historical time-series. Blue shaded area (for PFA and returns): forecasting obtained under a scenario with 0 catches in all fisheries. The dashed line corresponds to the MO for US. Forecasts of PFA and returns are provided for years 2024 to 2028. The 2SW CL for US (29 990 fish) is off the scale in the plot. For US, estimated spawners exceed the estimated returns in the later years due to adult stocking restoration efforts; therefore, 2SW returns are assessed relative to the management objective for US.

Figure 4.3.4.8. Estimated returns (circle symbol) and spawners (square symbol) of 2SW salmon in 2024 to six stock units of North America relative to ICES stock status categories. The percentage of the 2SW CLs for the four northern regions and to the rebuilding management objectives (MO) for the two southern areas are shown based on the median of the Monte Carlo distribution. The colour shading is interpreted as follows: blue refers to the stock being at full reproductive capacity (median and 5th percentile of the Monte Carlo distributions are above the CL), orange refers to the stock being at risk of suffering reduced reproductive capacity (median is above but the 5th percentile is below the CL), and red refers to the stock suffering reduced reproductive capacity (the median is below the CL).

Figure 4.3.4.9. Estimated total eggs in the returns (circle symbol) and spawners (square symbol) of salmon in 2024 to six stock units of North America relative to ICES stock status categories. The percentage of the CLs for the four northern regions and to the rebuilding management objectives (MO) for the two southern areas are shown based on the median of the Monte Carlo distribution. The colour shading is interpreted as follows: blue refers to the stock being at full reproductive capacity (median and 5th percentile of the Monte Carlo distributions are above the CL), orange refers to the stock being at risk of suffering reduced reproductive capacity (median is above but the 5th percentile is below the CL), and red refers to the stock suffering reduced reproductive capacity (the median is below the CL).

Figure 4.3.5.1. River-specific trends in return rates of wild Atlantic salmon to monitored rivers of NAC. The rivers are aligned generally south to north by row. A Loess smoother (span = 0.9) is shown in each panel for illustration.

Figure 4.3.5.2. River-specific trends in return rates of hatchery origin Atlantic salmon to monitored rivers of NAC. The rivers are aligned generally south to north by row. A Loess smoother (span = 0.9) is shown in each panel for illustration.

Figure 4.3.7.1. Post-smolt survival for the six stock units in NAC (upper panels) and NAC overall (lower panel), derived from the LCM. Years are smolt migration years. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Yellow shaded area: hindcasting on the historical time-series. Blue shaded area: forecasting obtained under a scenario with 0 catches in all fisheries.

Figure 4.3.7.2. Probability to mature as 1SW for the six stock units in NAC (upper panels) and NAC overall (lower panel), derived from the LCM. Years are smolt migration years. Solid line: median of the marginal posterior distributions. Shaded area: 90% Bayesian credibility interval. Yellow shaded area: hindcasting on the historical time-series. Blue shaded area: forecasting obtained under a scenario with 0 catches in all fisheries.

5 Atlantic salmon in the West Greenland Commission

5.1 NASCO has requested ICES to describe the key events of the 2024 fishery

The Atlantic salmon fishery is currently regulated according to the Government of Greenland's Executive Order No. 29 of 28 July 2022. Since 1998, with the exception of 2001, the export of Atlantic salmon has been banned. There are two landing categories reported for the fishery: i) commercial landings where professional fishers can sell salmon to hotels, institutions, and local markets; and ii) recreational landings where both professional fishers and non-professional fishers fish for private consumption. Since 2018, all fishers are required to have a licence to fish for Atlantic salmon.

In 2021, the Government of Greenland published a "Management Plan for Atlantic Salmon in Greenland" (GoG 2021), which is to remain in force from 01 July 2021 through 31 December 2025. The management plan recognizes three separate management areas and specifies fishing seasons for each. The plan also outlines two different user groups and outlines how established total allowable catches (TAC) will be distributed according to historical catch data. The purpose of the management plan is to ensure access for the Greenlandic population to the utilization of Atlantic salmon while taking into account the international agreements that Greenland has negotiated. Information on the different management areas, fishing seasons, user groups, and quota allotment are provided below:

Management Areas	Fishing season	User Group	% of TAC by area	% of TAC by user group
Northwest	01 Sep – 31 Oct		40%	
		Commercial		28%
		Recreational		12%
Southwest	01 Aug – 30 Sep		60%	
		Commercial		42%
		Recreational		18%
East Greenland	15 Aug – 15 Oct		3 t annually	
		Commercial		50%
		Recreational		50%

In 2022, parties of the West Greenland Commission (WGC) of NASCO were able to agree to a "Multi-Annual Regulatory Measure for Fishing for Atlantic Salmon at West Greenland" to cover the time period of 2022-2025 (NASCO 2022; see WGC(22)10). The agreement maintained many of the provisions that were in the preceding measures while also outlining a new measure to minimize the likelihood of overharvest. At least for the first year of the agreement, it was agreed that the fishery would be closed when the registered catch had reached no more than 49% of the overall TAC to help ensure that the TAC would not be exceeded. In subsequent years, the percentage could be adjusted, in consultation with the WGC, based on previous experiences and the

expected effect of new management measures. As outlined in the measure, the Government of Greenland set a total quota for all components of the 2024 fishery at 30 t, with 27 t for the fishery at West Greenland and 3 t for the fishery at East Greenland. The Government of Greenland has also maintained the trigger to close the fishery at 49% in each of the subsequent years.

The total catch reported to ICES was 20.8 t (19.9 t at West Greenland and 0.9 t at East Greenland) for the 2024 fishery. Detailed statistics on the quotas and quota uptake by each region and user group for the 2024 fishery are provided below:

Management Areas	Opening Dates	User Groups	Quotas (t)	Closing Dates	Catch (t)
Northwest	01 Sep				
		Commercial	7.56	31 Oct	5.93
		Recreational	3.24	16 Nov	1.02
Southwest	10 Aug				
		Commercial	11.34	31 Oct	9.41
		Recreational	4.86	20 Sep	3.46
East Greenland	01 Sep				
		Commercial	1.5	31 Oct	0.31
		Recreational	1.5	16 Nov	0.65

Given the dynamic nature of the management of the fishery with differing opening and closing dates for each region and between years and differing quotas for each user group within a region, the length of the fishing season for each region-user group can vary. Detailed statistics on the opening and closing dates and length of each regional user group are provided below:

Management Areas	User Groups	2022 Opening-Closing Dates (length in days)	2023 Opening-Closing Dates (length in days)	2024 Opening-Closing Dates (length in days)
Northwest				
	Commercial	01 Sep-19 Oct (49)	01 Sep-02 Oct (32)	01 Sep-31 Oct (61)
	Recreational	01 Sep-31 Oct (61)	01 Sep-09 Oct (39)	01 Sep-16 Nov (77)
Southwest				
	Commercial	01 Aug-22 Aug (22)	01 Aug-15 Sep (46)	10 Aug-31 Oct (83)
	Recreational	01 Aug-11 Sep (42)	01 Aug-15 Sep (46)	10 Aug-20 Sep (42)
East Greenland				
	Commercial	15 Aug-15 Oct (62)	15 Aug-15 Oct (62)	01 Sep-31 Oct (78)
	Recreational	15 Aug-15 Oct (62)	15 Aug-15 Oct (62)	01 Sep-16 Nov (94)

5.1.1 Catch and effort in 2024

Only hooks and fixed gillnets are allowed to target salmon directly and the minimum mesh size has been 140 mm (stretched mesh) since 1985. Commercial fishers are allowed to use up to 20 gillnets at a time in a single string fixed to the shore. The use of up to 20 sections (~70 m per section) connected and used as a driftnet was historically allowed, but since 2020 the use of drift-nets has been banned. Recreational licensed fishers can only use one gillnet fixed to the shore or rod and reel. All nets must be tended regularly and marked with name and contact information. Gillnets are only allowed in the inshore areas.

Nets are the preferred gear in Greenland and very little rod and reel fishing in seawater takes place. However, a small recreational fishery directly targeting salmon via rod and reel has been noted in the Nuuk and Qaqortoq regions. Reports from recreational fishers fishing with rod and reel are received annually and are included in the reported landings. Landings from this gear type are considered insignificant at this time.

As in past years, officers from the Greenland Fisheries License Control Authority (GFLK) have patrolled areas with known salmon fishing activity during and after the season to remove gill-nets if they are not set in accordance with regulations. Officers also continue to visit local markets and public institutions to maintain a presence at these locations and to encourage adherence to the fishing regulations.

Catch data were collated from fisher reports. The reports were screened for errors and missing values. Catches were assigned to a NAFO/ICES Sub-area based on the reporting community. Reports which contained only the total number of salmon caught or the total catch weight without the number of salmon, were corrected using 3.25 kg gutted weight per salmon. Since 2005, it has been mandatory to report gutted weights, and these have been converted to whole weight using a conversion multiplier of 1.11. It was noted that errors in reported catch data have been decreasing given improved catch reporting since 2018 following the mandatory requirement for all fishers to report catches.

The total reported landings for 2024 are 20.8 t (19.9 t for West Greenland and 0.9 t for East Greenland; tables 5.1.1.1 and 5.1.1.2). Reported catch was distributed among the six NAFO divisions on the west coast of Greenland and in ICES Subarea 14b on the east coast of Greenland (Figure 5.1.1.1). Harvest reported for East Greenland is not included in assessments of the contributing stock complexes, owing to a lack of information on the stock composition of that fishery. Reported landings of Atlantic salmon increased from 60 t in 1960 to a peak of 2 689 t reported in 1971 and generally decreased until the closure of the export commercial fishery in 1998. Reported landings for the internal use-only fishery peaked at 57.9 t in 2014 and have averaged 37.9 t over the previous ten years (2014–2023; Table 5.1.1.1). As in previous years, the majority of the catch in 2024 was reported by commercial fishers (Figure 5.1.1.2). Detailed statistics on the reported landings for the 2022-2024 fisheries are provided below:

Reported Landings					
	Reported Landings (t (%))			Landings Type (t (%))	
	West Greenland only	East Greenland only	Total	Commercial	Recreational
2022	29.0 (97.3%)	0.8 (2.7%)	31.7	20.6 (69.3%)	9.2 (30.7%)
2023	33.0 (96.2%)	1.3 (3.8%)	34.3	25.2 (73.5%)	9.1 (26.5%)
2024	19.9 (95.6%)	0.9 (4.4%)	20.8	15.7 (75.4%)	5.1 (24.6%)

There is currently no quantitative approach for estimating the unreported catch for the fishery, but the 2024 value is likely to have been at the same level as previously reported by the Greenlandic authorities (10 t). The 10 t estimate was historically meant to account for recreational fishers in smaller communities fishing for private use but not reporting landings. This estimate was not meant to represent non-reporting by commercial fishers.

WGNAS has employed two different approaches to estimate unreported catch from commercial fishers: comparisons of the sampling programme statistics to reported landings and utilizing results from the previously implemented phone surveys. The need for an adjustment for some

unreported catch, primarily for commercial landings, has been assessed annually since 2002 by comparing the weight of salmon seen by the sampling teams with the corresponding community-specific reported landings for the entire fishing season (see Section 5.2). However, sampling only occurs during a portion of the fishing season and therefore these adjustments are considered minimum unreported catch adjustments.

The seasonal distribution of catches has previously been reported to WGNAS (ICES, 2002), but since 2002 this has generally not been possible although fishers are required to record daily catches. The seasonal distribution for factory landings, when allowed, is assumed to be accurate given the reporting structure in place between the factories and the GFLK.

Greenland Authorities issued 855 licences (315 for commercial fishers and 540 for recreational fishers) and received 1 553 reports from 670 fishers in 2024 (tables 5.1.1.3 and 5.1.1.4; Figure 5.1.1.3). The number of licences issued, the number of fishers who reported, and the number of reports received have generally increased since 2017 as a result of the 2018 regulations requiring all fishers to receive a licence and mandatory reporting requirements. The current levels are among the highest in the time-series and the number of fishers reporting landings exceeds the levels recorded during the commercial export fishery from 1987 to 1991. The percentage of fishers that reported in 2024 (78% overall: 79% for commercial and 78% for recreational) decreased slightly from the 2023 values and is approximate to the mean for the 2018-2023 time period (78% overall: 80% for commercial and 77% for recreational). A summary of the number of licenses issued and number and percentage of fishers reporting for 2022-2024 is provided below:

Licences and Reporting						
	Licences Issued			Number of Fishers Reporting (%)		
	Commercial	Recreational	Total	Commercial	Recreational	Total
2022	291	466	757	199 (68%)	312 (67%)	511 (68%)
2023	285	508	793	247 (87%)	405 (80%)	652 (82%)
2024	315	540	855	250 (79%)	420 (78%)	670 (78%)

WGNAS previously reported on the procedures for reporting salmon harvested in Greenland (ICES, 2014; ICES, 2016) and modifications to these procedures were made by the Government of Greenland in 2018. In summary, all fishers are required to have a licence to fish for Atlantic salmon and all licence holders are required to report catches. Reports can be made to GFLK by an online form, email, phone, fax, or returned logbook on a daily basis. Factory landings, when allowed, are submitted to GFLK either on a daily or weekly basis, depending on the likelihood of exceeding a quota. No factory landings have been allowed since 2015.

5.1.2 Phone surveys

Phone surveys were conducted in 2015, 2016, and 2017 to assess the 2014, 2015, and 2016 fisheries, respectively. The number of fishers contacted, the questions asked, and the method to estimate unreported catch differed from year to year. Based on the results from these surveys, estimated adjusted landings (survey) were added to the adjusted landings (sampling) as described in Section 5.2, and 'reported landings' to estimate the landings for assessment. A phone survey was initiated for the 2017 fishery, but only nine fishers were contacted and no landings adjustments were estimated. Phone surveys have not been conducted since the 2017 fishery and therefore no adjusted landings (survey) have been estimated since that time. A summary of the reported landings, adjusted landings (sampling), and adjusted landings (survey) is presented in Table 5.1.2.1. Adjusted 'landings for assessment' do not replace the official reported statistics.

5.1.3 Exploitation

The extant exploitation rates for NAC and Southern NEAC non-maturing 1SW fish at West Greenland are calculated by dividing the estimated continent of origin reported harvest of 1SW salmon at West Greenland by the PFA estimate to 01 August for the corresponding year for each stock complex. Estimated exploitation rates for NAC and Southern NEAC MSW fish at West Greenland were obtained directly from the LCM.

MSW exploitation rates for NAC and Southern NEAC are available for the 1971 to 2023 PFA years. The most recent estimate of exploitation available is for the 2023 fishery as the 2024 exploitation rate estimates are dependent on the 2024 PFA estimates derived from 2025 MSW returns. The 2023 NAC exploitation rate was 6.8% (Figure 5.1.3.1). This value is slightly above the mean estimate (4.9%) for the 2002-2022 time period, but still remains among the lowest in the time-series. NAC exploitation rate peaked in 1971 at approximately 37%. The 2023 Southern NEAC exploitation rate was 2.6%. The 2023 estimate is among the lowest of the time-series, but is above the mean estimate (0.8%) for the 2002-2022 time period. The Southern NEAC exploitation rate at Greenland peaked in 1975 at approximately 30%. It should be noted that annual estimates of exploitation vary slightly from year to year as they are dependent on the model outputs, which vary slightly from assessment to assessment.

5.2 International Sampling Programme

The International Sampling Programme for the fishery at West Greenland agreed by the parties at NASCO continued in 2024 (NASCO 2024; see WGC(24)06). The sampling was undertaken by participants from France, Ireland, UK (England & Wales) and US. Denmark (in respect of the Faroe Islands and Greenland), in co-operation with the Greenland Institute of Natural Resources (GINR), agreed to sample Atlantic salmon from the city of Nuuk over the course of the fishing season and to implement a Citizen Science sampling program similar to what was conducted in 2021 (ICES 2023; Sheehan *et al.* 2024). The Citizen Science Program involved mailing all license holders who had reported catches of five or more salmon in recent years. The mailing contained a letter requesting the fishers help to collect biological characteristics data and scale/tissue samples from their catch, an instruction sheet and five scale envelopes. It was requested that any collected samples and associated data be returned to the GINR at the conclusion of the fishing season.

Samplers were stationed in three communities (Figure 5.1.1.1) representing three NAFO Divisions: Sisimiut (NAFO Division 1B), Maniitsoq (1C), and Qaqortoq (1F). No samples were collected in Nuuk (1D) and the Citizen Science Program was not conducted in 2024. A small number of samples was collected from ICES Sub-area 14b via a collaborative effort between the French National Institute for Agricultural, Food and Environmental Research (INRAE), the French Office for Biodiversity (OFB) and Compagnie du Ponant, a company that operates luxury cruise ships. Samples were collected on board the Le Commandant Charcot, by the vessel's Scientific Coordinator, from Atlantic salmon obtained from local commercial fishers. This was the first year that such a collaboration was attempted and the Sampling Program Coordinator helped organize the effort throughout.

In 2024, a total of 617 salmon were sampled, approximately 10% by weight of the reported landings. A total of 617 fork lengths, 605 weights, 579 scale samples for age determination and 613 tissue samples were collected (Table 5.2.1). Detailed statistics on the number of samples collected by each sampling type across the NAFO Divisions and ICES Sub-area 14b are provided below:

Salmon Sampled (2024)									
	NAFO Division/ICES Sub-area								
	1A	1B	1C	1D	1E	1F	14b	Unk.	Grand Total
Citizen Science	-	-	-	-	-	-	-	-	-
Sampling Program	-	79	442	-	-	73	26	-	617
GINR	-	-	-	-	-	-	-	-	-
Total	-	79	442	-	-	73	26	-	617

The International Sampling Programme has been successful at annually sampling the harvest of Atlantic salmon at Greenland and the data collected have contributed valuable inputs to the assessment models used by WGNAS. Prior to any sampling, the sampler always obtains permission from the market manager or fisher before sampling the catch. This arrangement has generally been successful for all samplers, although there have been a small number of access issues in some years in some communities. There were no such issues in 2024.

In 2024, four adipose fin-clipped fish were recorded, but no internal or external tags were identified by the samplers and no tags were returned to the GINR directly. In 2023, four tags were reported to the GINR, but the details associated with those tags were not available prior to WGNAS meeting.

In 2023, two acoustic tags were reported. One tag was released and harvested near Qaqortoq as part of the 'Pop-off satellite tagging project' project (ICES 2023). The fish was identified as originating from the Gaspé Peninnsula region of origin group. A second acoustic tag was harvested near Nuuk and was released as part of the 'Atlantic salmon in the Eastern Canadian offshore regions' project (ICES 2023). The individual was tagged and released from the Conne River, Newfoundland. Two carlin tags were also report. Both tags were Canadian in origin and were harvested in Maniitsoq and Nanortalik. Further details on the Maniitsoq harvested fish are unavailable, but the Nanortalik fish was an adult salmon tagged and released from the Northwest Miramichi in 2022.

Starting in 2002, non-reporting of harvest was evident based on a comparison of reported landings and sample data. When there is this type of discrepancy, the reported landings are adjusted (Adjusted landings (sampling)) according to the estimated total weight of the fish identified as being landed during the sampling effort and these adjusted landings are carried forward for assessments. Adjusted landings do not replace the official reported statistics (tables 5.1.1.1 and 5.1.1.2). Landings for assessment are presented in Table 5.1.2.1. No adjustments have been made since 2017 and details of all adjustments made to date have been reported previously (ICES 2021a).

5.2.1 Biological characteristics of the catches

In 2024, the mean length and whole weight of North American non-maturing 1SW salmon were 64.5 cm and 2.97 kg, and the means for European non-maturing 1SW salmon were 63.8 cm and

3.04 kg (Table 5.2.1.1). All figures represent an increase from the previous year's values (63.1 and 61.1 cm mean fork length and 2.64 and 2.59 kg mean whole weight for North American and European salmon, respectively) but are below the previous 10-year (2014-2023) mean values for North American fish (65.1 cm and 3.10 kg) but equal to or slightly above the previous 10-year mean values for European fish (63.9 cm and 3.01 kg). The mean length and weight data reported in Table 5.2.1.1 have not been adjusted for the period of sampling and it is known that salmon grow quickly during the period of feeding at West Greenland. Preliminary analyses to adjust for period of sampling have been previously reported (ICES 2011; ICES 2015) and therefore caution is urged when interpreting the uncorrected data.

North American salmon sampled from the 2024 fishery at West Greenland were predominantly river age two to five (24.1, 29.0, 23.8, 19.1% respectively) year old fish (Table 5.2.1.2). European salmon were predominantly river age two (46.7%) and three (25.6%) year old fish (Table 5.2.1.3). As expected, the 1SW age group dominated the sample collection for both the North American (82.2%) and European (90.1%) origin fish in 2024 (Table 5.2.1.4). Of note is the particularly high contribution of previous spawners, and corresponding decrease in 1SW contribution, for both North American and European origin fish. The North American and European previous spawner contributions (14.4% and 7.5%, respectively) are the highest estimates in the time-series (1985-2024). The North American 1SW contribution is the lowest and the European contribution is the fourth lowest in the 40-year time-series.

5.2.2 Continent and region of origin of catches at West Greenland

In 2024, all of the 613 tissue samples collected from three NAFO Divisions and ICES Sub-area 14b were successfully genetically analysed and summarized: 1B (n = 79), 1C (n = 438), 1F (n = 73) and 14b (n = 23; Figure 5.2.2.1). No samples were excluded due to poor preservation. Samples with low assignment probability (P>0.8) were excluded from the biological characteristics sums.

Since 2017, a Single Nucleotide Polymorphism (SNP) rangewide baseline (Jeffery *et al.*, 2018) providing 21 North American and 9 European reporting groups has been used for continent and region of origin analysis. The baseline has since been revised, resulting in 21 North American and 10 European reporting groups (Table 5.2.2.1 and Figure 5.2.2.2; ICES 2019a). A Bayesian approach is used to estimate mixture composition or assign individuals to continent and region of origin. The approach uses the R package '*rubias*' (Anderson *et al.*, 2008).

In 2024, 59.9% of the salmon sampled, excluding the samples from ICES Subarea 14b, were of North American origin and 40.1% were of European origin (Table 5.2.2.2). The samples collected from ICES Sub-area 14b were 26.1% North American origin and 73.9% European origin. The NAFO division-specific continent of origin assignments for 2001-2024 are presented in Figure 5.2.2.3. The annual variation in the continental representation among divisions within the recent time-series underscores the need to sample multiple NAFO Divisions to achieve the most accurate estimate of the contribution of fish from each continent to the mixed-stock fishery.

The estimated weighted proportions of North American and European salmon since 1982 and the weighted numbers of North American and European salmon caught at West Greenland (excluding unreported catch and reported harvest from ICES Subarea 14b) are provided in Table 5.2.2.3 and figures 5.2.2.4 and 5.2.2.5.

In 2024, the estimated weighted proportion of North American salmon was 61%, and it was 39% for European salmon. The proportions of North American fish in 2024 and 2023 (64%) were lower than the 91% and 83% estimated for the 2022 and 2001 fisheries respectively, and below the long-term mean (70%; 1982-2024). These findings show that large proportions of fish from the North American stock complex continue to contribute to the fishery (Table 5.2.2.3 and Figure

5.2.2.4). Approximately 3 500 (11.9 t) North American origin fish and 2 300 (8.0 t) European origin fish were harvested in 2024.

WGNAS has previously reported on the region of origin of catches at West Greenland, both for North American and European origin salmon (ICES, 2019a). Region of origin estimates for the 2024 fishery, based on the rangewide SNP baseline, are provided in Table 5.2.2.1 and Figure 5.2.2.2.

As in previous years, the 2024 North American contributions to the West Greenland fishery were dominated by the Gaspé Peninsula, the Gulf of St. Lawrence, Labrador Central and Labrador South reporting groups (Table 5.2.2.4 and Figure 5.2.2.6). These four groups accounted for approximately 56% of the North American contributions in 2024. Of particular note is the 9.6% overall contribution (16% of the North American contribution) by the Ungava Bay reporting group whose overall contribution ranged from 3.6-4.8% from 2017-2020, but has remained above 7% since with the highest contribution of 14.4% in 2023. An additional 19.0% of the North American contribution was from the Lake Melville, St. Lawrence North Shore-Lower and Maine, United States reporting groups. The Northeast Atlantic contribution was dominated by the United Kingdom/Ireland reporting group, accounting for 97% of the European contributions in 2024. No Greenland reporting group fish, which represents the Kapisillit river, Greenland's only self-sustaining Atlantic salmon population, were identified in 2024. Since 2018, only two Greenlandic fish have been identified (2018 and 2022).

5.3 NASCO has requested ICES to describe the status of the stocks

The stocks contributing to the Greenland fishery are the six NAC 2SW regions and the single Southern NEAC MSW complex. The midpoints of the spawner abundance estimate for six NAC 2SW regions exploited at West Greenland were below conservation limits (CLs) in 2024 and therefore are suffering reduced reproductive capacity (Figure 5.3.1). The Southern NEAC MSW complex is at risk of suffering reduced reproductive capacity. A more detailed overview of status of stocks in the NEAC and NAC areas is presented in the relevant Commission sections (sections 3 and 4).

5.3.1 North American stock complex

The estimates of 2SW salmon spawners in North America for 2024 were lower across all six NAC regions compared to the previous five-year means (-52 to -4%; Table 4.3.3.3). The midpoints of the spawner abundance estimates were 64% of the 2SW CL for Labrador, 78% for Newfoundland, 77% for Quebec and 55% for Gulf, and 9% and 35% of the management objectives (MOs) associated with Scotia-Fundy and US, respectively (Figure 4.3.8.1). All six NAC regions are considered to be suffering reproductive capacity. Within each of the geographic areas, there are individual river stocks which are failing to meet CLs (Table 4.3.4.1; figures 4.3.4.1 and 4.3.4.2). In the southern areas of NAC (Scotia-Fundy and US) there are numerous populations at high risk of extinction and these are under consideration or receiving special protections under federal legislation. The estimated exploitation rate of salmon in North American fisheries has declined (Figure 4.1.6.1) from a peak of approximately 80% in 1971 for large salmon to a mean of 9% over the past 10 years. The 1SW non-maturing PFA forecasts for 2025 to 2028 show a slightly increasing trend, but forecast values remain below 275 000, which is approximately 25% of the high values of the 1970s (Table 4.3.6.1; Figure 4.3.2.1). A similar pattern is seen across the regional PFA forecasts during 2025 to 2028 for the six NAC regions (figures 4.3.2.2 - 4.3.2.7).

5.3.2 MSW Southern NEAC stock complex

The midpoint of the spawner abundance estimate for the Southern NEAC MSW stock complex was at the CL, but the stock complex is considered to be at risk of suffering reduced reproductive capacity (Figure 3.3.4.2). Individual countries stock status within the Southern NEAC MSW stock complex varied across all three stock status designations (Figure 3.3.4.3). Note that rivers in the south and west of Iceland are included in the assessment of the Southern NEAC stock complex. Within individual jurisdictions, there are large numbers of rivers not meeting CLs after homewater fisheries (Table 3.3.1.1 and Figure 3.3.1.1). Homewater exploitation rates on the MSW Southern NEAC stock complex are shown in Figure 3.1.9.1. Exploitation on MSW fish in Southern NEAC was 4% in 2024, which is at the same level as the previous five-year (4%), but lower than the previous 10-year (6%) means. The PFA MSW are forecast to remain below the SER for the years 2025 to 2028 and amongst the lowest estimates in the time-series (Figure 3.3.4.2; Table 3.3.5.4). No significant increases in the regional PFA forecasts during 2025 to 2028 are expected for any of the S-NEAC regions (figures 3.3.4.4f - 3.3.4.4k).

5.4 Tables & Figures

Table 5.1.1.1. Nominal catches of salmon at West Greenland since 1960 (t, round fresh weight) by participating nations. For Greenlandic vessels specifically, all catches up to 1968 were taken with set gillnets only whereas catches after 1968 were taken with set gillnets and driftnets. All non-Greenlandic vessel catches from 1969–1975 were taken with driftnets. The quota figures applied to Greenlandic vessels only and parenthetical entries identify when quotas did not apply to all sectors of the fishery.

Year	Norway	Faroes	Sweden	Denmark	Greenland	Total	Quota	Comments
1960	-	-	-	-	60	60		
1961	-	-	-	-	127	127		
1962	-	-	-	-	244	244		
1963	-	-	-	-	466	466		
1964	-	-	-	-	1539	1539		
1965	-	36	-	-	825	858		Norwegian harvest figures not available, but known to be less than Faroese catch
1966	32	87	-	-	1251	1370		
1967	78	155	-	85	1283	1601		
1968	138	134	43	272	579	1127		
1969	250	215	30	355	1360	2210		
1970	270	259	8	358	1244	2139		Greenlandic total includes 7 t caught by longlines in the Labrador Sea
1971	340	255	-	645	1449	2689	-	
1972	158	144	-	401	1410	2113	1100	
1973	200	171	-	385	1585	2341	1100	
1974	140	110	-	505	1162	1917	1191	
1975	217	260	-	382	1171	2030	1191	
1976	-	-	-	-	1175	1175	1191	
1977	-	-	-	-	1420	1420	1191	
1978	-	-	-	-	984	984	1191	
1979	-	-	-	-	1395	1395	1191	
1980	-	-	-	-	1194	1194	1191	
1981	-	-	-	-	1264	1264	1265	Quota set to a specific opening date for the fishery
1982	-	-	-	-	1077	1077	1253	Quota set to a specific opening date for the fishery
1983	-	-	-	-	310	310	1191	
1984	-	-	-	-	297	297	870	

Year	Norway	Faroes	Sweden	Denmark	Greenland	Total	Quota	Comments
1985	-	-	-	-	864	864	852	
1986	-	-	-	-	960	960	909	
1987	-	-	-	-	966	966	935	
1988	-	-	-	-	893	893	840	Quota for 1988–1990 was 2520 t with an opening date of 01 August. Annual catches were not to exceed an annual average (840 t) by more than 10%. Quota adjusted to 900 t in 1989 and 924 t in 1990 for later opening dates.
1989	-	-	-	-	337	337	900	
1990	-	-	-	-	274	274	924	
1991	-	-	-	-	472	472	840	
1992	-	-	-	-	237	237	258	Quota set by Greenland authorities
1993	-	-	-	-			89	The fishery was suspended. NASCO adopt a new quota allocation model.
1994	-	-	-	-			137	The fishery was suspended and the quotas were bought out.
1995	-	-	-	-	83	83	77	Quota advised by NASCO
1996	-	-	-	-	92	92	174	Quota set by Greenland authorities
1997	-	-	-	-	58	58	57	Private (non-commercial) catches to be reported after 1997
1998	-	-	-	-	11	11	20	Fishery restricted to catches used for internal consumption in Greenland
1999	-	-	-	-	19	19	20	
2000	-	-	-	-	21	21	20	
2001	-	-	-	-	43	43	114	Final quota calculated according to the ad hoc management system
2002	-	-	-	-	9	9	55	Quota bought out, quota represented the maximum allowable catch (no factory landing allowed), and higher catch figures based on sampling programme information are used for the assessments
2003	-	-	-	-	9	9		Quota set to nil (no factory landing allowed), fishery restricted to catches used for internal consumption in Greenland, and higher catch figures based on sampling programme information are used for the assessments
2004	-	-	-	-	15	15		Same as previous year

Year	Norway	Faroes	Sweden	Denmark	Greenland	Total	Quota	Comments
2005	-	-	-	-	15	15		Same as previous year
2006	-	-	-	-	22	22		Quota set to nil (no factory landing allowed) and fishery restricted to catches used for internal consumption in Greenland
2007	-	-	-	-	25	25		Quota set to nil (no factory landing allowed), fishery restricted to catches used for internal consumption in Greenland, and higher catch figures based on sampling programme information are used for the assessments
2008	-	-	-	-	26	26		Same as previous year
2009	-	-	-	-	26	26		Same as previous year
2010	-	-	-	-	40	40		No factory landing allowed and fishery restricted to catches used for internal consumption in Greenland
2011	-	-	-	-	28	28		Same as previous
2012	-	-	-	-	33	33	(35)	Unilateral decision made by Greenland to allow factory landing with a 35 t quota for factory landings only, fishery restricted to catches used for internal consumption in Greenland, and higher catch figures based on sampling programme information are used for the assessments
2013	-	-	-	-	47	47	(35)	Same as previous year
2014	-	-	-	-	58	58	(30)	Unilateral decision made by Greenland to allow factory landing with a 30 t quota for factory landings only, fishery restricted to catches used for internal consumption in Greenland, and higher catch figures based on sampling programme information and phone surveys are used for the assessments
2015	-	-	-	-	57	57	45	Unilateral decision made by Greenland to set a 45 t quota for all sectors of the fishery, fishery restricted to catches used for internal consumption in Greenland, and higher catch figures based on sampling programme information and phone surveys are used for the assessments
2016	-	-	-	-	27	27	32	Unilateral decision made by Greenland to reduce the previously set 45 t quota for all sectors of the fishery to 32 t based on overharvest of 2015 fishery, fishery restricted to catches used for internal consumption in Greenland, and higher catch figures based on sampling programme information and phone surveys are used for the assessments

Year	Norway	Faroes	Sweden	Denmark	Greenland	Total	Quota	Comments
2017	-	-	-	-	28	28	45	Unilateral decision made by Greenland to set a 45 t quota for all sectors of the fishery, fishery restricted to catches used for internal consumption in Greenland, and higher catch figures based on sampling programme information are used for the assessments
2018	-	-	-	-	40	40	30	No factory landing allowed and fishery restricted to catches used for internal consumption in Greenland
2019	-	-	-	-	30	30	20	Same as previous year
2020	-	-	-	-	32	32	21	Same as previous year
2021	-	-	-	-	43	43	30	Overall quota segregated across three management areas and two user groups with 27 t allocated for the fishery at West Greenland
2022	-	-	-	-	30	30	30	Same as previous year
2023	-	-	-	-	34	34	30	Same as previous year
2024	-	-	-	-	21	21	30	Same as previous year

Table 5.1.1.2. Distribution of nominal catches (t) by Greenland fishers since 1960. NAFO Division is represented by 1A–1F. Since 2005, gutted weights have been reported and converted to total weight by a factor of 1.11. Rounding issues are evident for some totals. No landings are reported for 1993 and 1994 as the fishery was suspended. Entries of '+' represent catches of < 0.5 t and '-' indicate no catch.

Year	1A	1B	1C	1D	1E	1F	Unk.	West Greenland	East Greenland	Total
1960	-	-	-	-	-	-	60	60	-	60
1961	-	-	-	-	-	-	127	127	-	127
1962	-	-	-	-	-	-	244	244	-	244
1963	1	172	180	68	45	-	-	466	-	466
1964	21	326	564	182	339	107	-	1539	-	1539
1965	19	234	274	86	202	10	36	861	-	861
1966	17	223	321	207	353	130	87	1338	-	1338
1967	2	205	382	228	336	125	236	1514	-	1514
1968	1	90	241	125	70	34	272	833	-	833
1969	41	396	245	234	370	-	867	2153	-	2153
1970	58	239	122	123	496	207	862	2107	-	2107
1971	144	355	724	302	410	159	560	2654	-	2654
1972	117	136	190	374	385	118	703	2023	-	2023
1973	220	271	262	440	619	329	200	2341	-	2341
1974	44	175	272	298	395	88	645	1917	-	1917
1975	147	468	212	224	352	185	442	2030	-	2030
1976	166	302	262	225	182	38	-	1175	-	1175
1977	201	393	336	207	237	46	-	1 420	6	1426
1978	81	349	245	186	113	10	-	984	8	992
1979	120	343	524	213	164	31	-	1395	+	1395
1980	52	275	404	231	158	74	-	1194	+	1194
1981	105	403	348	203	153	32	20	1264	+	1264
1982	111	330	239	136	167	76	18	1077	+	1077
1983	14	77	93	41	55	30	-	310	+	310
1984	33	116	64	4	43	32	5	297	+	297
1985	85	124	198	207	147	103	-	864	7	871
1986	46	73	128	203	233	277	-	960	19	979

Year	1A	1B	1C	1D	1E	1F	Unk.	West Greenland	East Greenland	Total
1987	48	114	229	205	261	109	-	966	+	966
1988	24	100	213	191	198	167	-	893	4	897
1989	9	28	81	73	75	71	-	337	-	337
1990	4	20	132	54	16	48	-	274	-	274
1991	12	36	120	38	108	158	-	472	4	476
1992	-	4	23	5	75	130	-	237	5	242
1993	-	-	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-	-	-
1995	+	10	28	17	22	5	-	83	2	85
1996	+	+	50	8	23	10	-	92	+	92
1997	1	5	15	4	16	17	-	58	1	59
1998	1	2	2	4	1	2	-	11	-	11
1999	+	2	3	9	2	2	-	19	+	19
2000	+	+	1	7	+	13	-	21	-	21
2001	+	1	4	5	3	28	-	43	-	43
2002	+	+	2	4	1	2	-	9	-	9
2003	1	+	2	1	1	5	-	9	-	9
2004	3	1	4	2	3	2	-	15	-	15
2005	1	3	2	1	3	5	-	15	-	15
2006	6	2	3	4	2	4	-	22	-	22
2007	2	5	6	4	5	2	-	25	-	25
2008	4.9	2.2	10.0	1.6	2.5	5.0	0	26.2	0	26.2
2009	0.2	6.2	7.1	3.0	4.3	4.8	0	25.6	0.8	26.3
2010	17.3	4.6	2.4	2.7	6.8	4.3	0	38.1	1.7	39.6
2011	1.8	3.7	5.3	8.0	4.0	4.6	0	27.4	0.1	27.5
2012	5.4	0.8	15.0	4.6	4.0	3.0	0	32.6	0.5	33.1
2013	3.1	2.4	17.9	13.4	6.4	3.8	0	47.0	0.0	47.0
2014	3.6	2.8	13.8	19.1	15.0	3.4	0	57.8	0.1	57.9
2015	0.8	8.8	10.0	18.0	4.2	14.1	0	55.9	1.0	56.8

Year	1A	1B	1C	1D	1E	1F	Unk.	West Greenland	East Greenland	Total
2016	0.8	1.2	7.3	4.6	4.5	7.3	0	25.7	1.5	27.1
2017	1.1	1.7	9.3	6.9	3.2	5.6	0	27.8	0.3	28.0
2018	2.4	5.7	13.7	8.2	4.2	4.8	0	39.0	0.8	39.9
2019	0.8	3.0	4.4	8.0	4.8	7.3	0	28.3	1.4	29.8
2020	0.9	3.6	6.6	9.7	3.0	7.1	0	30.9	0.8	31.7
2021	1.3	5.1	13.8	10.5	3.4	7.4	0.3	41.8	1.4	43.2
2022	1.4	3.0	5.3	8.2	4.1	7.0	0.8	29.0	0.8	29.8
2023	1.4	5.0	8.0	4.8	7.3	6.3	0.2	33.0	1.3	34.3
2024	1.3	1.8	3.8	5.5	3.6	4.0	0.1	19.9	0.9	20.8

Table 5.1.1.3. Total number of licences issued and number of fishers reporting catches of Atlantic salmon in the Greenland fishery by NAFO (1A-1F)/ICES Divisions. Reports received by fish factories prior to 1997 and to the Licence Office from 1998 to present. Blank cells indicate that the data were not reported or available. Starting in 2018, a new regulation was enacted which required all fishers to have a licence to fish for Atlantic salmon. Prior to 2018, only commercial fishers were required to have a licence.

Year	Licences	1A	1B	1C	1D	1E	1F	ICES	Unk.	Number of fishers reporting	Number of reports received
1987		78	67	74		99	233		0	579	
1988		63	46	43	53	78	227		0	516	
1989		30	41	98	46	46	131		0	393	
1990		32	15	46	52	54	155		0	362	
1991		53	39	100	41	54	123		0	410	
1992		3	9	73	9	36	82		0	212	
1993											
1994											
1995		0	17	52	21	24	31		0	145	
1996		1	8	74	15	23	42		0	163	
1997		0	16	50	7	2	6		0	80	
1998		16	5	8	7	3	30		0	69	
1999		3	8	24	18	21	29		0	102	
2000		1	1	5	12	2	25		0	43	
2001	452	2	7	13	15	6	37		0	76	
2002	479	1	1	9	13	9	8		0	41	
2003	150	11	1	4	4	12	10		0	42	
2004	155	20	2	8	4	20	12		0	66	
2005	185	11	7	17	5	17	18		0	75	
2006	159	43	14	17	20	17	30		0	141	
2007	260	29	12	26	10	33	22		0	132	
2008	260	44	8	41	10	16	24		0	143	
2009	294	19	11	35	15	25	31	9	0	145	
2010	309	86	17	19	16	30	27	13	0	208	389
2011	234	25	9	20	15	20	23	5	0	117	394
2012	279	35	9	32	8	16	16	6	0	122	553

Year	Licences	1A	1B	1C	1D	1E	1F	ICES	Unk.	Number of fishers reporting	Number of reports received
2013	228	28	8	21	19	7	11	1	0	95	553
2014	321	21	8	40	20	10	14	1	0	114	669
2015	310	18	18	58	31	14	41	9	0	189	938
2016	263	9	11	31	16	23	40	10	3	143	503
2017	282	17	9	40	24	23	28	2	0	143	631
2018	786	98	78	81	143	44	105	8	0	557	1536
2019	717	96	70	117	169	54	108	24	0	638	1531
2020	757	100	89	103	151	47	118	10	0	618	1321
2021	939	97	91	117	197	51	103	12	3	671	1840
2022	757	77	67	70	147	35	99	9	0	504	1266
2023	793	96	97	92	203	52	93	14	5	652	1625
2024	855	91	98	85	251	47	84	7	7	670	1553

Table 5.1.1.4. Total number of licences issued, number and percent of people reporting, and reported catch by fisher type in the Greenland Atlantic salmon fishery 1987-present. Mean values for different time periods are also provided for comparison. Prior to 2018, only commercial fishers were required to have a licence.

	Commercial Fishers				Recreational Fishers				Total			
Year	No. Licences	No. reporting	%	Catch (kg)	No. Licences	No. reporting	%	Catch (kg)	No. Licences	No. reporting	%	Catch (kg)
1987										579		
1988										516		
1989										393		
1990										362		
1991										410		
1992										212		
1993												
1994												
1995										145		
1996										163		
1997		185								185		59333
1998	405	46	11%	7463		24				70		11059
1999	424	110	26%	15551						110		19464
2000	179	45	25%	19900		1				46		20504
2001	451	57	13%	34184		30				87		42514
2002	480	24	5%	5753		19				43		8119
2003	150	23	15%	6008		19				42		8694
2004	157	32	20%	11342		32				64		15945
2005	185	55	30%	7133		20				75		13788
2006	166	69	42%	12023		67				136		20836
2007	261	102	39%	14919		28				130		22204
2008	262	78	30%	11303		173				251		26000
2009	293	100	34%	21955		45				145		26278
2010	309	110	36%	27332		98				208		39696
2011	242	61	25%	21397		56				117		27524

Year	Commercial Fishers				Recreational Fishers				Total			
	No. Licences	No. reporting	%	Catch (kg)	No. Licences	No. reporting	%	Catch (kg)	No. Licences	No. reporting	%	Catch (kg)
2012	276	79	29%	29056		43				122		33178
2013	328	66	20%	45600		29				95		46961
2014	320	98	31%	56246		16				114		57836
2015	310	114	37%	50841		75				189		56847
2016	263	71	27%	19395		69				140		27120
2017	282	93	33%	24919		50				143		28042
2018	329	235	71%	32597	457	322	70%	7268	786	557	71%	39865
2019	302	276	91%	21869	415	361	87%	7879	717	638	89%	29769
2020	339	277	82%	22000	418	341	82%	9669	757	618	82%	31670
2021	360	281	78%	32245	579	424	73%	10 972	939	705	75%	43216
2022	291	199	68%	20640	466	312	67%	9154	757	511	68%	29794
2023	285	247	87%	25182	508	405	80%	9083	793	652	82%	34266
2024	315	250	79%	15710	540	420	78%	5129	855	670	78%	20839
1998-2008 mean	**284**	**58**	**22%**	**13234**		**41**		**5475**		**85**		**19012**
2009-2017 mean	**291**	**88**	**30%**	**32971**		**53**		**5193**		**142**		**38165**
2018-2024 mean	**317**	**252**	**79%**	**24320**	**483**	**369**	**77%**	**8451**	**801**	**622**	**78%**	**32774**

Table 5.1.2.1. Adjusted landings estimated from comparing the weight of salmon seen by the sampling teams and the corresponding community-specific reported landings (Adjusted landings (sampling)) and from phone surveys (Adjusted landings (survey)). Dashes '-' indicate that no adjustment was necessary or that a phone survey was not conducted. Adjusted landings (sampling and surveys) are added to the reported landings for assessment purposes. Adjusted landings do not replace official reported statistics. Rounding issues are evident for some totals.

Year	Reported Landings (West Greenland only)	Adjusted Landings (Sampling)	Adjusted Landings (Survey)	Landings for Assessment
2002	9.0	0.7	-	9.8
2003	8.7	3.6	-	12.3
2004	14.7	2.5	-	17.2
2005	15.3	2.0	-	17.3
2006	23.0	-	-	23.0
2007	24.6	0.2	-	24.8
2008	26.1	2.5	-	28.6
2009	25.5	2.5	-	28.0
2010	37.9	5.1	-	43.1
2011	27.4	-	-	27.4
2012	32.6	2.0	-	34.6
2013	46.9	0.7	-	47.7
2014	57.7	0.6	12.2	70.5
2015	55.9	-	5.0	60.9
2016	25.7	0.3	4.2	30.2
2017	27.8	0.3	-	28.0
2018	39.0	-	-	39.0
2019	28.3	-	-	28.3
2020	30.9	-	-	30.9
2021	41.8	-	-	41.8
2022	29.0	-	-	29.0
2023	33.0	-	-	33.0
2024	19.8	-	-	19.8

Table 5.2.1. Size of biological samples and percentage (by number) of North American and European salmon in research vessel catches at West Greenland (1969 to 1982), from commercial samples (1978 to 1992, 1995 to 1997, and 2001) and from local consumption samples (1998 to 2000, and 2002 to present). Sampling did not occur in 1977, 1993, and 1994. Parenthetical sample numbers represent the number of samples available. The 95% confidence intervals for continent of origin were calculated according to the methods of Pella and Robertson (1979) for 1984–1986. Genetic-based continent of origin assignments are considered to be 100% accurate. The 606 research samples collected in 1978 were collected during the fishery and the 49 samples were collected after the fishery closed.

Source	Year	Sample Size			Continent of Origin (%)			
		Length	Scales	Genetics	North American	(95% CI)	European	(95% CI)
Research	1969	212	212		51	(57, 44)	49	(56, 43)
	1970	127	127		35	(43, 26)	65	(75, 57)
	1971	247	247		34	(40, 28)	66	(72, 50)
	1972	3488	3488		36	(37, 34)	64	(66, 63)
	1973	102	102		49	(59, 39)	51	(61, 41)
	1974	834	834		43	(46, 39)	57	(61, 54)
	1975	528	528		44	(48, 40)	56	(60, 52)
	1976	420	420		43	(48, 38)	57	(62, 52)
	1978	606	606		38	(41, 38)	62	(66, 59)
	1978	49	49		55	(69, 41)	45	(59, 31)
	1979	328	328		47	(52, 41)	53	(59, 48)
	1980	617	617		58	(62, 54)	42	(46, 38)
	1982	443	443		47	(52, 43)	53	(58, 48)
Commercial	1978	392	392		52	(57, 47)	48	(53, 43)
	1979	1653	1653		50	(52, 48)	50	(52, 48)
	1980	978	978		48	(51, 45)	52	(55, 49)
	1981	4570	1930		59	(61, 58)	41	(42, 39)
	1982	1949	414		62	(64, 60)	38	(40, 36)
	1983	4896	1815		40	(41, 38)	60	(62, 59)
	1984	7282	2720		50	(53, 47)	50	(53, 47)
	1985	13 272	2917		50	(53, 46)	50	(52, 34)
	1986	20 394	3509		57	(66, 48)	43	(52, 34)
	1987	13 425	2960		59	(63, 54)	41	(46, 37)

Source	Year	Sample Size			Continent of Origin (%)			
		Length	Scales	Genetics	North American	(95% CI)	European	(95% CI)
	1988	11 047	2562		43	(49, 38)	57	(62, 51)
	1989	9366	2227		56	(60, 52)	44	(48, 40)
	1990	4897	1208		75	(79, 70)	25	(30, 21)
	1991	5005	1347		65	(69, 61)	35	(39, 31)
	1992	6348	1648		54	(57, 50)	46	(50, 43)
	1995	2045	2045		68	(75, 65)	32	(35, 28)
	1996	3341	1397		73	(76, 71)	27	(29, 24)
	1997	794	282		80	(84, 75)	20	(25, 16)
	2001	4721	2655		69	(71, 67)	31	(33, 29)
Local Con-sumption	1998	540	406		79	(84, 73)	21	(27, 16)
	1999	532	532		90	(97, 84)	10	(16, 3)
	2000	491	491	490	70		30	
	2002	501	501	501 (1001)	68		32	
	2003	1743	1743	1779	68		32	
	2004	1639	1639	1688	73		27	
	2005	767	767	767	76		24	
	2006	1209	1209	1193	72		28	
	2007	1116	1110	1123	82		18	
	2008	1854	1866	1853	86		14	
	2009	1662	1683	1671	91		9	
	2010	1261	1265	1240	80		20	
	2011	967	965	964	92		8	
	2012	1372	1371	1373	82		18	
	2013	1155	1156	1149	82		18	
	2014	892	775	920	72		28	
	2015	1708	1704	1674	80		20	
	2016	1300	1240	1302	66		34	
	2017	1369	1328	986 (1367)	74		26	

Source	Year	Sample Size			Continent of Origin (%)			
		Length	Scales	Genetics	North American	(95% CI)	European	(95% CI)
	2018	1064	1048	979 (1111)	83		17	
	2019	1117	1049	1071 (1119)	72		28	
	2020	140	76	197	56		44	
	2021	1293	882 (1308)	1532	82		18	
	2022	672	623	669	94		6	
	2023	1240	1215	1266	62		38	
	2024	617	579	613	59		41	

[1] **CI - confidence interval calculated by method of Pella and Robertson (1979) for 1984–1986 and binomial distribution for the others.**

[2] **During 1978 Fishery.**

[3] **Research samples after 1978 fishery closed.**

Table 5.2.1.1. Annual mean whole weights (kg) and fork lengths (cm) by sea age (1SW, 2SW and PS = previous spawners) and continent of origin of Atlantic salmon sampled at West Greenland 1969 to the present (NA = North America and E = Europe). Sampling did not occur in 1977, 1993, and 1994. These data have not been adjusted for the period of sampling and it is known that salmon grow quickly during the period of feeding at West Greenland. Caution is urged when interpreting these uncorrected data. In addition, some estimates, especially with the older sea age fish are based on a small number of samples.

	Whole Weight (kg)									Fork Length (cm)					
	1SW		2SW		PS		All Sea Ages		Total	1SW		2SW		PS	
Year	NA	E	NA	E	NA	E	NA	E		NA	E	NA	E	NA	E
1969	3.12	3.76	5.48	5.80	-	5.13	3.25	3.86	3.58	65.0	68.7	77.0	80.3	-	75.3
1970	2.85	3.46	5.65	5.50	4.85	3.80	3.06	3.53	3.28	64.7	68.6	81.5	82.0	78.0	75.0
1971	2.65	3.38	4.30	-	-	-	2.68	3.38	3.14	62.8	67.7	72.0	-	-	-
1972	2.96	3.46	5.85	6.13	2.65	4.00	3.25	3.55	3.44	64.2	67.9	80.7	82.4	61.5	69.0
1973	3.28	4.54	9.47	10.00	-	-	3.83	4.66	4.18	64.5	70.4	88.0	96.0	61.5	-
1974	3.12	3.81	7.06	8.06	3.42	-	3.22	3.86	3.58	64.1	68.1	82.8	87.4	66.0	-
1975	2.58	3.42	6.12	6.23	2.60	4.80	2.65	3.48	3.12	61.7	67.5	80.6	82.2	66.0	75.0
1976	2.55	3.21	6.16	7.20	3.55	3.57	2.75	3.24	3.04	61.3	65.9	80.7	87.5	72.0	70.7
1977	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1978	2.96	3.50	7.00	7.90	2.45	6.60	3.04	3.53	3.35	63.7	67.3	83.6	-	60.8	85.0
1979	2.98	3.50	7.06	7.60	3.92	6.33	3.12	3.56	3.34	63.4	66.7	81.6	85.3	61.9	82.0
1980	2.98	3.33	6.82	6.73	3.55	3.90	3.07	3.38	3.22	64.0	66.3	82.9	83.0	67.0	70.9
1981	2.77	3.48	6.93	7.42	4.12	3.65	2.89	3.58	3.17	62.3	66.7	82.8	84.5	72.5	-
1982	2.79	3.21	5.59	5.59	3.96	5.66	2.92	3.43	3.11	62.7	66.2	78.4	77.8	71.4	80.9
1983	2.54	3.01	5.79	5.86	3.37	3.55	3.02	3.14	3.10	61.5	65.4	81.1	81.5	68.2	70.5
1984	2.64	2.84	5.84	5.77	3.62	5.78	3.20	3.03	3.11	62.3	63.9	80.7	80.0	69.8	79.5
1985	2.50	2.89	5.42	5.45	5.20	4.97	2.72	3.01	2.87	61.2	64.3	78.9	78.6	79.1	77.0
1986	2.75	3.13	6.44	6.08	3.32	4.37	2.89	3.19	3.03	62.8	65.1	80.7	79.8	66.5	73.4
1987	3.00	3.20	6.36	5.96	4.69	4.70	3.10	3.26	3.16	64.2	65.6	81.2	79.6	74.8	74.8
1988	2.83	3.36	6.77	6.78	4.75	4.64	2.93	3.41	3.18	63.0	66.6	82.1	82.4	74.7	73.8
1989	2.56	2.86	5.87	5.77	4.23	5.83	2.77	2.99	2.87	62.3	64.5	80.8	81.0	73.8	82.2
1990	2.53	2.61	6.47	5.78	3.90	5.09	2.67	2.72	2.69	62.3	62.7	83.4	81.1	72.6	78.6
1991	2.42	2.54	5.82	6.23	5.15	5.09	2.57	2.79	2.65	61.6	62.7	80.6	82.2	81.7	80.0
1992	2.54	2.66	6.49	6.01	4.09	5.28	2.86	2.74	2.81	62.3	63.2	83.4	81.1	77.4	82.7
1993	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	2.37	2.67	6.09	5.88	3.71	4.98	2.45	2.75	2.56	61.0	63.2	81.3	81.0	70.9	81.3
1996	2.63	2.86	6.50	6.30	4.98	5.44	2.83	2.90	2.88	62.8	64.0	81.4	81.1	77.1	79.4
1997	2.57	2.82	7.95	6.11	4.82	6.9	2.63	2.84	2.71	62.3	63.6	85.7	84.0	79.4	87.0
1998	2.72	2.83	6.44	-	3.28	4.77	2.76	2.84	2.78	62.0	62.7	84.0	-	66.3	76.0

	Whole Weight (kg)									Fork Length (cm)					
	1SW		2SW		PS		All Sea Ages		Total	1SW		2SW		PS	
Year	NA	E	NA	E	NA	E	NA	E		NA	E	NA	E	NA	E
1999	3.02	3.03	7.59	-	4.20	-	3.09	3.03	3.08	63.8	63.5	86.6	-	70.9	-
2000	2.47	2.81	-	-	2.58	-	2.47	2.81	2.57	60.7	63.2	-	-	64.7	-
2001	2.89	3.03	6.76	5.96	4.41	4.06	2.95	3.09	3.00	63.1	63.7	81.7	79.1	75.3	72.1
2002	2.84	2.92	7.12	-	5.00	-	2.89	2.92	2.90	62.6	62.1	83.0	-	75.8	-
2003	2.94	3.08	8.82	5.58	4.04	-	3.02	3.10	3.04	63	64.4	86.1	78.3	71.4	-
2004	3.11	2.95	7.33	5.22	4.71	6.48	3.17	3.22	3.18	64.7	65.0	86.2	76.4	77.6	88.0
2005	3.19	3.33	7.05	4.19	4.31	2.89	3.31	3.33	3.31	65.9	66.4	83.3	75.5	73.7	62.3
2006	3.10	3.25	9.72	-	5.05	3.67	3.25	3.26	3.24	65.3	65.3	90.0	-	76.8	69.5
2007	2.89	2.87	6.19	6.47	4.94	3.57	2.98	2.99	2.98	63.5	63.3	80.9	80.6	76.7	71.3
2008	3.04	3.03	6.35	7.47	3.82	3.39	3.08	3.07	3.08	64.6	63.9	80.1	85.5	71.1	73.0
2009	3.28	3.40	7.59	6.54	5.25	4.28	3.48	3.67	3.50	64.9	65.5	84.6	81.7	75.9	73.5
2010	3.44	3.24	6.40	5.45	4.17	3.92	3.47	3.28	3.42	66.7	65.2	80.0	75.0	72.4	70.0
2011	3.30	3.18	5.69	4.94	4.46	5.11	3.39	3.49	3.40	65.8	64.7	78.6	75.0	73.7	76.3
2012	3.34	3.38	6.00	4.51	4.65	3.65	3.44	3.40	3.44	65.4	64.9	75.9	70.4	72.8	68.9
2013	3.33	3.16	6.43	4.51	3.64	5.38	3.39	3.20	3.35	66.2	64.6	81.0	72.8	69.9	73.6
2014	3.25	3.02	7.60	6.00	4.47	5.42	3.39	3.13	3.32	65.6	64.7	86.0	78.7	73.6	83.5
2015	3.36	3.13	7.52	7.1	4.53	3.81	3.42	3.18	3.37	65.6	64.4	84.1	82.5	74.2	67.2
2016	3.18	2.79	7.77	5.18	4.03	4.12	3.32	2.89	3.18	65.2	62.6	85.1	76.0	72.2	70.9
2017	3.42	3.31	6.50	3.69	4.94	8.00	3.50	3.36	3.26	66.6	64.8	85.1	72.4	76.7	81.9
2018	2.91	2.93	9.27	5.59	4.53	-	2.97	3.00	2.97	63.8	63.9	87.5	76.3	77.1	-
2019	2.93	2.89	6.62	6.27	4.01	2.76	3.01	2.83	2.96	63.9	63.4	78.4	76.8	72.1	62.1
2020	3.20	3.38	-	-	7.90	-	3.59	3.38	3.50	66.6	65.6	-	-	85.0	-
2021	3.34	3.34	7.92	4.02	4.72	-	3.44	3.35	3.42	66.2	65.9	86.9	70.1	74.7	-
2022	2.79	2.73	6.51	6.05	3.25	-	2.83	3.05	2.85	63.9	62.4	80.9	81.5	69.0	-
2023	2.64	2.59	7.55	5.25	3.65	3.87	2.83	2.61	2.75	63.1	61.1	83.7	75.6	70.9	72.0
2024	2.97	3.04	7.64	5.36	4.67	5.17	3.38	3.24	3.32	64.5	63.8	86.7	77.2	76.5	79.9
Prev. 10-yr mean	**3.10**	**3.01**	**7.47**	**5.46**	**4.60**	**4.66**	**3.23**	**3.08**	**3.16**	**65.1**	**63.9**	**84.2**	**76.7**	**74.6**	**72.9**
Overall mean	**2.91**	**3.13**	**6.78**	**6.03**	**4.20**	**4.72**	**3.06**	**3.22**	**3.14**	**63.7**	**65.0**	**82.4**	**80.0**	**72.4**	**75.5**

Table 5.2.1.2. River age distribution (%) for all North American origin salmon caught at West Greenland from 1968 to the present. Sampling did not occur in 1977, 1993 and 1994.

Year	1	2	3	4	5	6	7	8
1968	0.3	19.6	40.4	21.3	16.2	2.2	0	0
1969	0	27.1	45.8	19.6	6.5	0.9	0	0
1970	0	58.1	25.6	11.6	2.3	2.3	0	0
1971	1.2	32.9	36.5	16.5	9.4	3.5	0	0
1972	0.8	31.9	51.4	10.6	3.9	1.2	0.4	0
1973	2.0	40.8	34.7	18.4	2.0	2.0	0	0
1974	0.9	36	36.6	12.0	11.7	2.6	0.3	0
1975	0.4	17.3	47.6	24.4	6.2	4.0	0	0
1976	0.7	42.6	30.6	14.6	10.9	0.4	0.4	0
1977	-	-	-	-	-	-	-	-
1978	2.7	31.9	43.0	13.6	6.0	2.0	0.9	0
1979	4.2	39.9	40.6	11.3	2.8	1.1	0.1	0
1980	5.9	36.3	32.9	16.3	7.9	0.7	0.1	0
1981	3.5	31.6	37.5	19.0	6.6	1.6	0.2	0
1982	1.4	37.7	38.3	15.9	5.8	0.7	0	0.2
1983	3.1	47.0	32.6	12.7	3.7	0.8	0.1	0
1984	4.8	51.7	28.9	9.0	4.6	0.9	0.2	0
1985	5.1	41.0	35.7	12.1	4.9	1.1	0.1	0
1986	2.0	39.9	33.4	20.0	4.0	0.7	0	0
1987	3.9	41.4	31.8	16.7	5.8	0.4	0	0
1988	5.2	31.3	30.8	20.9	10.7	1.0	0.1	0
1989	7.9	39.0	30.1	15.9	5.9	1.3	0	0
1990	8.8	45.3	30.7	12.1	2.4	0.5	0.1	0
1991	5.2	33.6	43.5	12.8	3.9	0.8	0.3	0
1992	6.7	36.7	34.1	19.1	3.2	0.3	0	0
1993	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-
1995	2.4	19.0	45.4	22.6	8.8	1.8	0.1	0

Year	1	2	3	4	5	6	7	8
1996	1.7	18.7	46.0	23.8	8.8	0.8	0.1	0
1997	1.3	16.4	48.4	17.6	15.1	1.3	0	0
1998	4.0	35.1	37.0	16.5	6.1	1.1	0.1	0
1999	2.7	23.5	50.6	20.3	2.9	0.0	0	0
2000	3.2	26.6	38.6	23.4	7.6	0.6	0	0
2001	1.9	15.2	39.4	32.0	10.8	0.7	0	0
2002	1.5	27.4	46.5	14.2	9.5	0.9	0	0
2003	2.6	28.8	38.9	21.0	7.6	1.1	0	0
2004	1.9	19.1	51.9	22.9	3.7	0.5	0	0
2005	2.7	21.4	36.3	30.5	8.5	0.5	0	0
2006	0.6	13.9	44.6	27.6	12.3	1.0	0	0
2007	1.6	27.7	34.5	26.2	9.2	0.9	0	0
2008	0.9	25.1	51.9	16.8	4.7	0.6	0	0
2009	2.6	30.7	47.3	15.4	3.7	0.4	0	0
2010	1.6	21.7	47.9	21.7	6.3	0.8	0	0
2011	1.0	35.9	45.9	14.4	2.8	0	0	0
2012	0.3	29.8	39.4	23.3	6.5	0.7	0	0
2013	0.1	32.6	37.3	20.8	8.6	0.6	0	0
2014	0.4	26.0	44.5	21.9	6.9	0.4	0	0
2015	0.1	31.6	40.6	21.6	6.0	0.2	0	0
2016	0.1	21.3	43.3	26.8	7.3	1.1	0	0
2017	0.3	31.0	41.6	19.6	7.2	0.3	0	0
2018	0.5	29.8	38.4	24.1	6.5	0.7	0	0
2019	0.6	26.9	32.5	25.4	13.7	0.8	0	0
2020	2.6	28.2	23.1	28.2	17.9	0	0	0
2021	0.4	27.3	38.3	21.7	10.1	2.0	0.1	0
2022	0.4	24.9	38.7	24.1	10.3	1.6	0	0
2023	1.0	15.8	26.4	29.9	23.1	3.8	0	0
2024	0.9	24.1	29.0	23.8	19.1	3.1	0	0

Year	1	2	3	4	5	6	7	8
Previous 10-yr mean	**0.6**	**26.3**	**36.7**	**24.3**	**10.9**	**1.1**	**0.0**	**0.0**
Overall mean	**2.2**	**30.5**	**38.8**	**19.5**	**7.8**	**1.1**	**0.1**	**0.0**

Table 5.2.1.3. River age distribution (%) for all European origin salmon caught in West Greenland 1968 to the present. Sampling did not occur in 1977, 1993 and 1994.

Year	1	2	3	4	5	6	7	8
1968	21.6	60.3	15.2	2.7	0.3	0	0	0
1969	0	83.8	16.2	0	0	0	0	0
1970	0	90.4	9.6	0	0	0	0	0
1971	9.3	66.5	19.9	3.1	1.2	0	0	0
1972	11.0	71.2	16.7	1.0	0.1	0	0	0
1973	26.0	58.0	14.0	2.0	0	0	0	0
1974	22.9	68.2	8.5	0.4	0	0	0	0
1975	26.0	53.4	18.2	2.5	0	0	0	0
1976	23.5	67.2	8.4	0.6	0.3	0	0	0
1977	-	-	-	-	-	-	-	-
1978	26.2	65.4	8.2	0.2	0	0	0	0
1979	23.6	64.8	11.0	0.6	0	0	0	0
1980	25.8	56.9	14.7	2.5	0.2	0	0	0
1981	15.4	67.3	15.7	1.6	0	0	0	0
1982	15.6	56.1	23.5	4.2	0.7	0	0	0
1983	34.7	50.2	12.3	2.4	0.3	0.1	0.1	0
1984	22.7	56.9	15.2	4.2	0.9	0.2	0	0
1985	20.2	61.6	14.9	2.7	0.6	0	0	0
1986	19.5	62.5	15.1	2.7	0.2	0	0	0
1987	19.2	62.5	14.8	3.3	0.3	0	0	0
1988	18.4	61.6	17.3	2.3	0.5	0	0	0
1989	18.0	61.7	17.4	2.7	0.3	0	0	0
1990	15.9	56.3	23.0	4.4	0.2	0.2	0	0
1991	20.9	47.4	26.3	4.2	1.2	0	0	0
1992	11.8	38.2	42.8	6.5	0.6	0	0	0
1993	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-
1995	14.8	67.3	17.2	0.6	0	0	0	0

Year	1	2	3	4	5	6	7	8
1996	15.8	71.1	12.2	0.9	0	0	0	0
1997	4.1	58.1	37.8	0.0	0	0	0	0
1998	28.6	60.0	7.6	2.9	0.0	1.0	0	0
1999	27.7	65.1	7.2	0	0	0	0	0
2000	36.5	46.7	13.1	2.9	0.7	0	0	0
2001	16.0	51.2	27.3	4.9	0.7	0	0	0
2002	9.4	62.9	20.1	7.6	0	0	0	0
2003	16.2	58.0	22.1	3.0	0.8	0	0	0
2004	18.3	57.7	20.5	3.2	0.2	0	0	0
2005	19.2	60.5	15.0	5.4	0	0	0	0
2006	17.7	54.0	23.6	3.7	0.9	0	0	0
2007	7.0	48.5	33.0	10.5	1.0	0	0	0
2008	7.0	72.8	19.3	0.8	0.0	0	0	0
2009	14.3	59.5	23.8	2.4	0.0	0	0	0
2010	11.3	57.1	27.3	3.4	0.8	0	0	0
2011	19.0	51.7	27.6	1.7	0	0	0	0
2012	9.3	63.0	24.0	3.7	0	0	0	0
2013	4.5	68.2	24.4	2.5	0	0	0	0
2014	4.5	60.7	30.8	4.0	0	0	0	0
2015	9.2	54.9	28.8	5.8	1.2	0	0	0
2016	2.5	63.3	29.6	4.3	0.3	0	0	0
2017	10.0	73.0	15.4	1.7	0	0	0	0
2018	13.7	62.1	19.0	5.2	0	0	0	0
2019	7.5	60.5	24.2	7.5	0.4	0	0	0
2020	9.7	74.2	9.7	3.2	3.2	0	0	0
2021	15.6	58.2	19.1	5.7	1.4	0	0	0
2022	17.9	53.8	17.9	5.1	5.1	0	0	0
2023	27.1	49.8	17.6	4.5	0.5	0.5	0	0
2024	5.3	46.7	25.6	13.7	6.6	2.2	0	0

Year	1	2	3	4	5	6	7	8
Previous 10-yr mean	**11.8**	**61.0**	**21.2**	**4.7**	**1.2**	**0.0**	**0.0**	**0.0**
Overall mean	**16.1**	**60.7**	**19.3**	**3.3**	**0.6**	**0.1**	**0.0**	**0.0**

Table 5.2.1.4. Sea age composition (%) of samples from fishery landings in West Greenland by continent of origin from 1985 to present. Sampling did not occur in 1993 and 1994.

Year	North American			European		
	1SW	2SW	Previous Spawners	1SW	2SW	Previous Spawners
1985	92.5	7.2	0.3	95.0	4.7	0.4
1986	95.1	3.9	1.0	97.5	1.9	0.6
1987	96.3	2.3	1.4	98.0	1.7	0.3
1988	96.7	2.0	1.2	98.1	1.3	0.5
1989	92.3	5.2	2.4	95.5	3.8	0.6
1990	95.7	3.4	0.9	96.3	3.0	0.7
1991	95.6	4.1	0.4	93.4	6.5	0.2
1992	91.9	8.0	0.1	97.5	2.1	0.4
1993	-	-	-	-	-	-
1994	-	-	-	-	-	-
1995	96.8	1.5	1.7	97.3	2.2	0.5
1996	94.1	3.8	2.1	96.1	2.7	1.2
1997	98.2	0.6	1.2	99.3	0.4	0.4
1998	96.8	0.5	2.7	99.4	0.0	0.6
1999	96.8	1.2	2.0	100.0	0.0	0.0
2000	97.4	0.0	2.6	100.0	0.0	0.0
2001	98.2	2.6	0.5	97.8	2.0	0.3
2002	97.3	0.9	1.8	100.0	0.0	0.0
2003	96.7	1.0	2.3	98.9	1.1	0.0
2004	97.0	0.5	2.5	97.0	2.8	0.2
2005	92.4	1.2	6.4	96.7	1.1	2.2
2006	93.0	0.8	5.6	98.8	0.0	1.2
2007	96.5	1.0	2.5	95.6	2.5	1.5
2008	97.4	0.5	2.2	98.8	0.8	0.4
2009	93.4	2.8	3.8	89.4	7.6	3.0
2010	98.2	0.4	1.4	97.5	1.7	0.8
2011	93.8	1.5	4.7	82.8	12.1	5.2

Year	North American			European		
	1SW	2SW	Previous Spawners	1SW	2SW	Previous Spawners
2012	93.2	0.7	6.0	98.0	1.6	0.4
2013	94.9	1.4	3.7	96.6	2.4	1.0
2014	91.3	1.1	7.6	96.1	2.4	1.5
2015	97.0	0.7	2.3	98.2	1.2	0.6
2016	93.5	2.5	4.0	95.5	3.5	1.0
2017	92.5	1.5	6.0	93.1	5.7	1.2
2018	97.4	0.4	2.2	97.4	2.6	0
2019	95.9	1.4	2.7	97.9	1.7	0.3
2020	92.3	0	7.7	97.1	0	2.9
2021	95.5	1.2	3.3	97.9	2.1	0
2022	94.7	0.7	4.6	90.0	10.0	0
2023	92.8	3.1	4.1	98.9	0.9	0.2
2024	82.2	3.4	14.4	90.1	2.3	7.5
Previous 10-yr mean	**94.3**	**1.3**	**4.5**	**96.2**	**3.0**	**0.8**
Overall mean	**94.8**	**2.0**	**3.2**	**96.4**	**2.6**	**1.0**

Table 5.2.2.1. SNP baseline reporting groups and codes used for continent and region of origin assignments. See Figure 5.2.2.2 for location details.

ICES region	Reporting group	Group acronym	ICES region	Reporting group	Group acronym
Quebec (North)	Ungava	UNG	Europe	Spain	SPN
Labrador	Labrador Central	LAC		France	FRN
	Lake Melville	MEL		European Broodstock	EUB
	Labrador South	LAS		United Kingdom / Ireland	BRI
Quebec	St Lawrence North Shore Lower	QLS		Barents-White Seas	BAR
	Anticosti	ANT		Baltic Sea	BAL
	Gaspe Peninsula	GAS		Southern Norway	SNO
	Quebec City Region	QUE		Northern Norway	NNO
Gulf	Gulf of St Lawrence	GUL		Iceland	ICE
Scotia-Fundy	Inner Bay of Fundy	IBF		Greenland	GL
	Eastern Nova Scotia	ENS			
	Western Nova Scotia	WNS			
	Saint John River & Aquaculture	SJR			
Newfoundland	Northern Newfoundland	NNF			
	Western Newfoundland	WNF			
	Newfoundland 1	NF1			
	Newfoundland 2	NF2			
	Fortune Bay	FTB			
	Burin Peninsula	BPN			
	Avalon Peninsula	AVA			
USA	Maine, United States	USA			

Table 5.2.2.2. The number of samples and continent of origin of Atlantic salmon by NAFO Division sampled in West Greenland in 2024. A total of 23 samples from ICES Sub-area 14b are provided below, but not included in the totals.

NAFO Division/ICES Sub-area	Sample dates	Numbers			Percentages	
		North American	European	Total	North American	European
1B	Sep 10 - Sep 18	48	30	78	61.5	38.5
1C	Sep 3 - Sep 27	257	181	438	58.7	41.3
1F	Aug 14 - Aug 31	47	25	72	65.3	34.7
TOTALS		**352**	**236**	**588**	**59.9**	**40.1**
14b	Apr 30 - May 10	6	17	23	26.1	73.9

Table 5.2.2.3. The estimated percentage and numbers of North American (NA) and European (E) Atlantic salmon caught in the West Greenland fishery based on NAFO Division continent of origin estimates weighted by catch weight (1982 to the present). Numbers are rounded to the nearest 100 fish. Unreported catch is not included in this assessment and sampling did not occur in 1993 and 1994.

	Percentage by continent weighted by catch		Numbers of salmon by continent	
Year	N	E	NA	E
1982	57	43	192200	143800
1983	40	60	39500	60500
1984	54	46	48800	41200
1985	47	53	143500	161500
1986	59	41	188300	131900
1987	59	41	171900	126400
1988	43	57	125500	168800
1989	55	45	65000	52700
1990	74	26	62400	21700
1991	63	37	111700	65400
1992	45	55	46900	38500
1995	67	33	21400	10700
1996	70	30	22400	9700
1997	85	15	18000	3300
1998	79	21	3100	900
1999	91	9	5700	600
2000	65	35	5100	2700
2001	67	33	9400	4700
2002	69	31	2300	1000
2003	64	36	2600	1400
2004	72	28	3900	1500
2005	74	26	3500	1200
2006	69	31	4000	1800
2007	76	24	6100	1900
2008	86	14	8000	1300
2009	89	11	7000	800

	Percentage by continent weighted by catch		Numbers of salmon by continent	
Year	**N**	**E**	**NA**	**E**
2010	80	20	10000	2600
2011	93	7	6800	600
2012	79	21	7800	2100
2013	82	18	11500	2700
2014	72	28	12800	5400
2015	79	21	13500	3900
2016	64	36	5100	3300
2017	74	26	6100	2200
2018	80	20	10600	2600
2019	72	28	6800	2600
2020	59	41	5200	3600
2021	83	17	10300	2000
2022	91	9	9200	900
2023	64	36	7000	3900
2024	61	39	3500	2300
Previous 10-yr mean	**74**	**26**	**8660**	**3040**
Overall mean	**70**	**30**	**35229**	**26746**

Table 5.2.2.4. Bayesian estimates of mixture composition for West Greenland Atlantic Salmon fishery by region and overall for 2024. Baseline locations refer to regional reporting groups identified in Table 5.2.2.1 and Figure 5.2.2.2. Sample locations are identified by NAFO Divisions. Mean estimates provided with 95% credible interval in parentheses. Estimates of mixture contributions not supported by significant individual assignments (P>0.8) are represented as zero and therefore all columns may not add up to 100. Credible intervals with a lower bound of zero, or close to zero, may indicate little support for the mean assignment value. Overall credible intervals with a lower bound of zero have been greyed out for visualization.

Reporting Group	COO	NAFO 1B	NAFO 1C	NAFO 1F	ICES XIVb	Overall
Baltic Sea	EUR	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Barents-White Seas	EUR	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)
European Broodstock	EUR	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)
UK/Ireland	EUR	37.7 (27.3, 48.7)	39.6 (35, 44.2)	32.6 (22.4, 43.7)	69.1 (48.8, 86.1)	39.9 (36.1, 43.8)
France	EUR	0 (0, 0)	0.5 (0.1, 1.3)	1.4 (0, 5.1)	0 (0, 0)	0.5 (0.1, 1.2)
Greenland	EUR	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Iceland	EUR	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Northern Norway	EUR	0 (0, 0)	0.5 (0.1, 1.3)	0 (0, 0)	0 (0, 0)	0.3 (0, 0.9)
Southern Norway	EUR	0 (0, 0)	0.4 (0, 1.2)	0 (0, 0)	0 (0, 0)	0.3 (0, 0.9)
Spain	EUR	0 (0, 0)	0.5 (0.1, 1.3)	0 (0, 0)	0 (0, 0)	0.3 (0, 0.9)
Anticosti	NA	0 (0, 0)	0.2 (0, 0.8)	2.7 (0.3, 7.4)	0 (0, 0)	0.5 (0.1, 1.2)
Avalon Peninsula	NA	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Burin Peninsula	NA	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Eastern Nova Scotia	NA	1.6 (0, 5.7)	1.3 (0.4, 2.6)	0 (0, 0)	0 (0, 0)	1.1 (0.4, 2.2)

Reporting Group	COO	NAFO 1B	NAFO 1C	NAFO 1F	ICES XIVb	Overall
Fortune Bay	NA	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Gaspé Peninnsula	NA	10 (4.2, 17.8)	8.5 (5.8, 11.6)	5.4 (1.1, 12.2)	0 (0, 0)	8.0 (5.8, 10.4)
Gulf of St Lawrence	NA	8.1 (3.1, 15.1)	7.1 (4.6, 9.9)	8.1 (2.9, 15.4)	0 (0, 0)	7.2 (5.1, 9.5)
Inner Bay of Fundy	NA	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Labrador Central	NA	13.5 (5.7, 23)	7.2 (4.6, 10.3)	8.5 (0.9, 18.2)	0 (0, 0)	8.3 (5.8, 11.1)
Labrador South	NA	4.7 (0.6, 12.2)	9.4 (6.5, 12.8)	20.1 (10.2, 31.8)	0 (0, 0)	9.6 (7, 12.4)
Lake Melville	NA	6.7 (1.8, 13.7)	4.9 (2.9, 7.3)	5.9 (1.5, 13)	0 (0, 0)	4.9 (3.1, 6.9)
Newfoundland 1	NA	0 (0, 0)	1.2 (0.4, 2.5)	0 (0, 0)	0 (0, 0)	1.0 (0.3, 2)
Newfoundland 2	NA	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Northern Newfoundland	NA	0 (0, 0)	1 (0.3, 2.2)	0 (0, 0)	0 (0, 0)	0.9 (0.2, 1.9)
St. Lawrence North Shore-Lower	NA	5.2 (1.4, 11.2)	3.2 (1.7, 5.1)	7.2 (2.5, 14.3)	7.9 (0.7, 21.7)	4.1 (2.6, 5.8)
Québec City Region	NA	0 (0, 0)	1.1 (0.1, 2.6)	0 (0, 0)	0 (0, 0)	0.8 (0, 2.1)
Saint John River & Aquaculture	NA	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Ungava Bay	NA	7.8 (2.9, 14.7)	10.7 (8, 13.8)	4.1 (0.8, 9.6)	8.4 (1, 22)	9.6 (7.4, 12.1)
Maine, United States	NA	2.1 (0, 6.7)	1.9 (0.8, 3.4)	2.8 (0.2, 7.7)	0 (0, 0)	2.0 (1, 3.3)
Western Newfoundland	NA	0 (0, 0)	0.8 (0.2, 2)	0 (0, 0)	0 (0, 0)	0.6 (0.1, 1.5)
Western Nova Scotia	NA	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)

Figure 5.1.1.1. Map of south Greenland showing communities to which Atlantic salmon have historically been landed and corresponding NAFO divisions and ICES Statistical Areas.

Figure 5.1.1.2. Nominal catches and commercial quotas (t, round fresh weight) of salmon at Greenland for 1960–2024 (top panel) and 2015–2024 (bottom panel). Total reported landings from 2015–2024 are displayed by landings type. A single quota for all components of the fishery was set in 2015 and from 2016-2020 the overall quota was adjusted annually to account for overharvest the previous year. Quotas since 2021 have not been adjusted and have remained at 30 t.

Figure 5.1.1.3. Number of licences issued by licence type (top), number of fishers reporting by license type (middle), and percent of licensed fishers reporting by license type (bottom). Detailed statistics are available from 1998 to the present. Starting in 2018 all fishers were required to have a licence.

Figure 5.1.3.1. Exploitation rate (proportion) for NAC and Southern NEAC MSW Atlantic salmon at West Greenland, 1971–2023. Exploitation rate estimates are only available to 2023, as 2024 exploitation rates are dependent on 2025 returns. Unreported catch is included in the calculation.

Figure 5.2.2.1. Map showing total samples and subsamples for West Greenland Atlantic Salmon fishery 2024 SNP-based analyses to estimate continent and region of origin. Pie charts are scaled to sample size and blue and grey areas represent the proportions genotyped and not genotyped.

Figure 5.2.2.2. Map of sample locations for the SNP-based genetic baseline for European (top) and North American (bottom) reporting groups. The EUB (European Broodstock) reporting group does not have a geographic location and is therefore not represented on the top map. See Table 5.2.2.1 for location abbreviations.

Figure 5.2.2.3. Percentage of North American (orange) and European (blue) origin Atlantic salmon sampled from Greenland fisheries by year (2001–2024) and NAFO Division. The northernmost NAFO Division (1A) is the top graph and southernmost (1F) is the bottom graph. Where data are presented, samples were collected during that year and within that NAFO Division.

Figure 5.2.2.4. Estimated weighted percentages of the North American and European origin Atlantic salmon harvested from 1982 to the present. Sampling did not occur in 1993 and 1994.

Figure 5.2.2.5. Number of North American and European Atlantic salmon caught at West Greenland from 1982–2024 (top) and 2015–2024 (bottom). Estimates are based on continent of origin by NAFO division, weighted by catch (weight) in each division. Numbers are rounded to the nearest 100 fish. Unreported catch is not included. Sampling did not occur in 1993 and 1994.

Figure 5.2.2.6. Bayesian estimates of mixture composition of samples from the West Greenland Atlantic salmon fishery for 2024 by region and overall using the SNP baseline. Baseline locations refer to genetic reporting groups identified in Table 5.2.2.1 and Figure 5.2.2.2. See Table 5.2.2.4 for detailed results. Estimates of mixture contributions not supported by significant individual assignments (P > 0.8) are not included.

Figure 5.3.1. Summary 2SW (NAC regions) and MSW (Southern NEAC) 2024 median (from the Monte Carlo posterior distributions) spawner estimates in relation to conservation limits/management objectives (CL/MO). The colour shading represents the three ICES stock status designations: Full (at full reproductive capacity: the 5th percentile of the spawner estimate is above the CL); At Risk (at risk of suffering reduced reproductive capacity: median spawner estimate is above the CL, but the 5th percentile is below); and, Suffering (suffering reduced reproductive capacity: median spawner estimate is below the CL).

6 WGNAS consideration of the ICES generic ToRs

ToR 5 was to "Address relevant points in the Generic ToRs for Regional and Species Working Groups for each salmon stock complex". The WGNAS considered each of these requests in turn. Table 6.1 summarizes the responses, referencing report sections where requests have been addressed.

Table 6.1. Summary of the WGNAS consideration of the Generic ToRs

ToR	WGNAS response
a) Conduct an assessment on the stock(s) to be addressed in 2025 using the method (assessment, forecast or trends indicators) as described in the stock annex and documented in TAF; - complete and document an audit of the calculations and results; and produce a brief report of the work carried out regarding the stock, providing summaries of the following where relevant: **Quality control and quality assurance of input data. In the event of late, missing or inconsistent data document issues and deviations from the stock annex.**	Sections 2.3, 3.3, and 4.3 present updates on the status of stocks for the Northeast Atlantic, North American and West Greenland Commission areas. Data on catch numbers, exploitation rates, and unreported catch rates were not available to ICES for the stock years 2021-2024 for any of the four Russian Federation stock units.
a.i) Where misreporting of catches is significant, provide qualitative and where possible quantitative information and describe the methods used to obtain the information;	Section 2.1.3 and Table 2.1.3.1 presents estimates of unreported catches by year (1987 to 2024) and Commission Area, and Figure 2.1.3.1 presents estimates of unreported catches relative to the total nominal catch. A description of the methods used to derive the unreported catches was provided by ICES (2000) and updated for the NEAC region in ICES (2002).
a.ii) For relevant stocks (i.e., all stocks for NEAFC request advice), estimate the percentage of the total catch that has been taken in the NEAFC Regulatory Area in the most recent years.	N/A
a.iii) For Category 3 stocks replace the former 2 over 3 advice rule (2 over 5 for elasmobranchs) which is no longer considered precautionary for any remaining stocks not using the appropriate rule in Table 1 of ICES 2023.	N/A
a.iv) Evaluate spawning stock biomass, total stock biomass, fishing mortality, catches (projected landings and discards) using the method described in the stock annex;	Sections 3.3.4 and 4.3.4 present modelled predictions of spawners (by number) for the three Commission areas and the Northeast North American Commission areas and associated countries/jurisdiction. Sections 3.1.9, 4.1.9, and 5.1.9 present modelled exploitation indices for the three Commission areas. Section 2.1.1 summarizes nominal catches (retained and reported) throughout the North Atlantic, while sections 3.1.4, 4.1.4, and 5.1.4 present catches for the three Commission areas and associated countries/jurisdiction. A practical definition of total stock biomass or abundance has yet to be defined for salmon throughout the North Atlantic.

ToR	WGNAS response
a.iv.1) for category 1 and 2 stocks, in addition to the other relevant model diagnostics, the recommendations and decision tree formulated by WKFORBIAS (see Annex 2 of https://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/Fisheries%20Resources%20Steering%20Group/2020/WKFORBIAS_2019.pdf) should be considered as guidance to determine whether an assessment remains sufficiently robust for providing advice.	To be considered further in 2026 alongside the development of new catch advice.
a.iv.2) If the assessment is deemed no longer suitable as basis for advice, provide advice using an appropriate Category 2-5 approach as described in ICES technical guidance for harvest control rules and stock assessments for stocks in categories 2 and 3 or in Advice on fishing opportunities (for Cat 5 & 6).	N/A, cat 1 stocks
a.iv.3) If the assessment has been moved to a Category 2-5 approach in the past year, consider what is necessary to move back to a Category 1 and develop proposal for the appropriate benchmark process.	N/A, cat 1 stocks
a.v) Provide all requested catch scenarios for the year(s) beyond the terminal year of the data (These are listed in ICES Guidance for completing single-stock advice)	Not applicable for 2025 and not catch advice required this year. This will be addressed again in 2026 alongside the development of new catch advice.
a.vi) Historical and analytical performance of the assessment and catch options with a succinct description of associated quality issues. For the analytical performance of category 1 and 2 age-structured assessments, report the mean Mohn's rho (assessment retrospective bias analysis) values for time-series of recruitment, spawning stock biomass, and fishing mortality rate. The WG report should include a plot of this retrospective analysis. The values should be calculated in accordance with the "Guidance for completing ToR viii) of the Generic ToRs for Regional and Species Working Groups - Retrospective bias in assessment" and reported using the ICES application for this purpose.	Not applicable for 2025 and not catch advice required this year. This will be addressed again in 2026 alongside the development of new catch advice.
b) Produce and quality assure a first draft of the advice for each stock according to ACOM guidelines.	Completed and provided to the ADG, not reported here.
c) Include non-fisheries conservation considerations in accordance with the "ICES Guidelines on Non-Fisheries Conservation Considerations".	Completed
d) Review progress on benchmark issues and processes of relevance to the Expert Group.	
d.i) update the benchmark issues lists for the individual stocks in SID;	No issues are listed for any salmon stock in the Benchmark Rolling Issues List
d.ii) review progress on benchmark issues and identify potential benchmarks to be initiated in 2025 for conclusion in 2026;	See Annex 6 for updated response to Benchmark Reviewers' Recommendations

ToR		WGNAS response
d.iii)	determine the prioritization score for benchmarks proposed for 2027–2028;	N/A
d.iv)	as necessary, document generic issues to be addressed by the Benchmark Oversight Group (BOG)	None
e)	**Prepare the data calls for the next year's update assessment and for planned data evaluation workshops;**	ToRs will be developed in response to questions from NASCO meetings in June 2025, and data call developed thereafter
f)	**Identify research needs of relevance to the work of the Expert Group.**	See section 2.5
g)	**Review and update information regarding operational issues and research priorities on the Fisheries Resources Steering Group SharePoint site.**	This will be completed after the Advice is published
h)	**Update TAF, SAG, ASD (Advice and Scenarios database) and SID with final assessment input and output and advice information.**	LCM scripts are provided in the TAF at https://github.com/ices-taf/wgnas-lcm; SAG and ASD will be updated during ADG; SID has been updated for the 3 stocks
i)	**Consider and comment on Ecosystem and Fisheries Overviews with a focus on:**	
i.i)	identifying and correcting mistakes and errors (both in the text, tables and figures)	See Annex 7
i.ii)	proposing concrete evidence-based input that is considered essential for the advice but is currently under-developed or missing (with references and Data Profiling Tool entries, as appropriate).	Not considered yet.

Annex 1: List of Working Papers submitted to WGNAS 2025

The table below lists the working documents presented to WGNAS 2025 and are inserted in full in this annex in the following pages.

WP No.	Authors	Title
01	Nygaard, R.	The salmon fishery in Greenland 1960 - 2024
02	Sheehan, T.F., Hawkes, J., Kelly, S., McLauren, S., Morris, B., Nygaard, R., Bradbury, I.R. and Robertson, M.J.	The International Sampling Program: Continent of Origin and Biological Characteristics of Atlantic Salmon Collected at West Greenland in 2024
03	Bardarson, H., Gudbergsson, G., Jonsson, I.R., and Sturlaugsson, J.	National Report for Iceland: The 2024 Salmon Season
04	Erkinaro, J., Orell, P., Falkegård, M., Kytökorpi, M.,Kylmäaho, M., Fagard, P., Haantie, J., Kuusela, J. & Foldvik, A.	Status of Atlantic salmon stocks in the rivers Teno/Tana and Näätämöjoki/Neidenelva, Finland/Norway
05	Fiske, P., Wennevik, V., Bolstad, G.H. & Utne, K.R.	Atlantic salmon; National Report for Norway 2024
06	Ahlbeck Bergendahl, I., Staveley,T	Swedish National report for 2024
08	Jacobsen, J.A.	Status of the fisheries for Atlantic salmon and production of farmed salmon in 2024 for the Faroe Islands
09	Kelly, S., Maxwell, H., Dillane, M., O'Higgins, K., Fitzgerald, C., & Millane, M.	National Report for Ireland - The 2024 Salmon Season
10	Marine Directorate of the Scottish Government	National Report for UK (Scotland): 2024 season
11	Cefas, Environment Agency and Natural Resources Wales	UK E&W National Report Tables Figures 2024_Draft
12	Kennedy, R.	Summary of Salmon Fisheries and Status of Stocks in Northern Ireland for 2024
13	Lebot, C.	National report France including Saint Pierre and Miquelon 2024
14		Not provided in 2024
15	April, J. and Cauchon, V.	Status of Atlantic salmon Stocks in Québec in 2024
16	April, J. and Cauchon, V.	Smolt production and returns rate for the two index rivers in Québec, the Saint-Jean and the Trinité (2024)
17	Anon.	2024 Stock Status Update of Atlantic Salmon in Newfoundland and Labrador

WP No.	Authors	Title
18	C. Breau, S. Douglas, T. Imlay and S. Roloson	Southern Gulf of St. Lawrence (SFA 15-18) Atlantic salmon (*Salmo salar*) update of stock indicators up to 2024
19	Taylor, A.D. and D. Hogan	Status of Atlantic salmon in Canada's Maritimes Region (Salmon Fishing Areas 19 to 21, and 23).
20	Hawkes, J., Kocik, J., Atkinson, E., Sweka, J. and Sheehan, T.F.	National Report for the United States, 2024

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Annex 3: List of participants

Member	Country
Ida Ahlbeck Bergendahl	Sweden
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Hlynur Bárðarson	Iceland
Geir Bolstad	Norway
Cindy Breau	Canada
Colin Bull	UK
Gérald Chaput	Canada
Anne Cooper	Denmark (ICES)
Jaakko Erkinaro	Finland
Peder Fiske	Norway
Marko Freese	Germany
Jonathan Gillson	UK (England & Wales)
Stephen Gregory	UK (England & Wales)
Nora Hanson	UK (Scotland)
David Hardie	Canada
Alison Harvey	Norway
Derek Hogan	Canada
Niels Jepsen	Denmark
Nicholas Kelly	Canada
Seán Kelly	Ireland
Richard Kennedy	UK (Northern Ireland)
Clément Lebot	France
Hugo Maxwell	Ireland
Michael Millane	Ireland
Rasmus Nygaard	Greenland
James Ounsley	UK (Scotland)

Member	Country
Etienne Rivot	France
Martha Robertson	Canada
Kjell Rong Utne	Norway
Timothy Sheehan	US
Tom Staveley	Sweden
Alan Walker (Chair)	UK (England & Wales)
Vidar Wennevik	Norway

Annex 4: Glossary of terms and acronyms used in the report

Note that this list does not contain SI units or terms used in formulae or some of the tables and figures.

1SW (One-Sea-Winter) – Maiden adult salmon that has spent one winter at sea; also called a grilse.

2SW (Two-Sea-Winter) – Maiden adult salmon that has spent two winters at sea.

ACOM (Advisory Committee) of ICES – The Committee works on the basis of scientific assessment prepared in the ICES expert groups. The advisory process includes peer review of the assessment before it can be used as the basis for advice. The Advisory Committee has one member from each member country under the direction of an independent chair appointed by the Council.

ASC – Annual Science Conference of ICES.

ASF – Atlantic Salmon Federation.

ASRJV – Atlantic Salmon Research Joint Venture of Canada.

BEAM – Bycatch Evaluation and Assessment Matrix, developed by WGBYC.

B_{pa} – Biomass for precautionary approach.

Catch – removing fish from water. Note this term can have several definitions depending on the fate of the fish after it is removed from the water (i.e. retained or released) and whether the information is reported or not.

CL (Conservation Limit) – Demarcation of undesirable stock levels or levels of fishing activity; the ultimate objective when managing stocks and regulating fisheries will be to ensure that there is a high probability that undesirable levels are avoided, i.e. that stock levels exceed the undesirable levels.

CoASal "Conserving our Atlantic salmon as a sustainable resource for people of the North; fisheries and conservation in the context of growing threats and a changing environment" – A project under the EU's Kolarctic project.

CPUE (Catch per Unit of Effort) – A derived quantity obtained from the independent values of catch and effort.

C&R (Catch and Release) – Catch and release is a practice within recreational fishing intended as a technique of conservation. After capture, the fish are unhooked and returned to the water before experiencing serious exhaustion or injury. Using barbless hooks, it is often possible to release the fish without removing it from the water (a slack line is frequently sufficient).

COVID-19 – Coronavirus pandemic.

CWT (Coded Wire Tag) – The CWT is a length of magnetized stainless-steel wire 0.25 mm in diameter. The tag is marked with rows of numbers denoting specific batch or individual codes. Tags are cut from rolls of wire by an injector that hypodermically implants them into suitable tissue. The standard length of a tag is 1.1 mm.

DCF (Data Collection Framework) – Framework under which EU Member States collect, manage and make available a wide range of fisheries data needed for scientific advice.

DC-MAP (Data Collection Multi-Annual Programme) – European Union multiannual programme which includes the Data Collection Framework.

DFO (Department of Fisheries and Oceans) – DFO and its Special Operating Agency, the Canadian Coast Guard, deliver programs and services that support sustainable use and development of Canada's waterways and aquatic resources.

Distant water fisheries – Fisheries undertaken by a Party that take salmon originating in another Party's rivers; primarily used with reference to the fisheries in waters off Greenland and the Faroes.

DNA (Deoxyribonucleic Acid) – DNA is a nucleic acid that contains the genetic instructions used in the development and functioning of all known living organisms (with the exception of RNA-Ribonucleic Acid viruses). The main role of DNA molecules is the long-term storage of information. DNA is often compared to a set of blueprints, like a recipe or a code, since it contains the instructions needed to construct other components of cells, such as proteins and RNA molecules.

DSG (diadromous subgroup) – Pan-regional subgroup within the Regional Coordination Groups to coordinate and identify data collection needs for diadromous species in relation to the EU data collection regulation Data Collection Framework/Data Collection-Multi-Annual Programme.

DST (Data Storage Tag) – A miniature data logger with sensors including salinity, temperature, and depth that is attached to fish and other marine animals.

eDNA - Environmental DNA.

EG - Expert Group of ICES.

ESRF - Canada's Environmental Studies Research Fund.

EU - European Union.

EUB – European baseline for genetics.

Extant exploitation rate – Note that the term 'exploitation rate' may have several definitions and uses in the report. Specifically, however, extant exploitation rates for NAC and Southern MSW fish at West Greenland were calculated by dividing the estimated continent of origin reported harvest of MSW salmon at West Greenland by the MSW PFA estimates for the corresponding year for each stock complex (see Section 5 of the WGNAS report for more details).

FAO - Food and Agriculture Organization of the United Nations.

FSC (Food, Social and Ceremonial fishery) – Indigenous fishery in Canada for food, social or ceremonial purposes.

GFLK – Greenland Fisheries Licence Control Authority.

GINR – Greenland Institute of Natural Resources.

GLM (Generalised Linear Model) – A conventional linear regression model for a continuous response variable given continuous and/or categorical predictors.

GoSL or GoStL – Gulf of St. Lawrence, Canada.

Harvest – The catch and retention of fish.

Homewaters – Riverine, estuarine and marine waters out to 12 nautical miles of countries producing salmon.

ICES (International Council for the Exploration of the Sea) – A global organization that develops science and advice to support the sustainable use of the oceans through the coordination of oceanic and coastal monitoring and research, and advising international commissions and governments on marine policy and management issues.

IMR – Institute of Marine Research, Norway.

Interreg – European Union research funding scheme.

ISA – Infectious Salmon Anaemia.

ISSG Diad – The Intersessional Sub Group Diadromous Fish of the Regional Coordination Groups (RCG's).

IYS – The International Year of the Salmon.

KNAPK - Kalaallit Nunaanni Aalisartut Piniartullu Kattuffiat, the Organization of Fishermen and Hunters in Greenland.

LAB / Lab (Labrador) – Labrador, Canada.

LCM – The North Atlantic-wide Life Cycle Model or Bayesian Life Cycle Model.

MO – Management Objective.

MSA – Missing Salmon Alliance, UK.

MSW (Multi-Sea-Winter) – A MSW salmon is an adult salmon which has spent two or more winters at sea. These include 'maiden' fish that have yet to spawn for the first time, and repeat spawners.

MSY – Maximum Sustainable Yield.

$MSY.B_{escapement}$ – A target based on the amount of biomass left to spawn.

NAC (North American Commission) – The North American Atlantic Commission of NASCO or the North American Commission area of NASCO.

NAFO (Northwest Atlantic Fisheries Organization) – NAFO is an intergovernmental fisheries science and management organization that ensures the long-term conservation and sustainable use of the fishery resources in the Northwest Atlantic.

NASCO (North Atlantic Salmon Conservation Organization) – An international organization, established by an inter-governmental convention in 1984. The objective of NASCO is to conserve, restore, enhance and rationally manage Atlantic salmon through international cooperation taking account of the best available scientific information.

NCC (NunatuKavut Community Council) – NCC is one of four subsistence fisheries harvesting salmonids in Labrador.

NEAC (North East Atlantic Commission) – North-East Atlantic Commission of NASCO or the North-East Atlantic Commission area of NASCO.

N-NEAC or NEAC–N (North East Atlantic Commission- northern area) – The northern portion of the North-East Atlantic Commission area of NASCO. Also described as 'Northern or northern NEAC'.

S-NEAC or NEAC–S (North East Atlantic Commission – southern area) – The southern portion of the North-East Atlantic Commission area of NASCO. Also described as 'Southern or southern NEAC'.

NF (Newfoundland) – Newfoundland, Canada.

NG (Nunatsiavut Government) – NG is one of four subsistence fisheries harvesting salmonids in Labrador. NG members are fishing in the northern Labrador communities.

NOAA – The National Ocean and Atmospheric Administration of the USA.

Nominal catch – The catch of a fishery, defined as the round, fresh weight of fish, that are caught and retained, and reported.

NPAFC – The North Pacific Anadromous Fish Commission.

PICES – The North Pacific Marine Science Organization.

PFA (Pre-Fishery Abundance) – The numbers of post-smolt salmon estimated to be alive in the ocean on 01 January of their first winter at sea.

PFANAC1SW (PFA NAC 1SW) – The non-maturing component of 1SW salmon, destined to be 2SW returns (excluding 3SW and previous spawners) is represented by the PFA estimate for year i.

PIT (Passive Integrated Transponder) – PIT tags use radio frequency identification technology. PIT tags lack an internal power source. They are energized on encountering an electromagnetic field emitted from a transceiver. The tag's unique identity code is programmed into the micro-chip's non-volatile memory.

Precautionary Approach – NASCO's Agreement on the Adoption of a Precautionary Approach states that an objective for the management of salmon fisheries is to maintain the diversity and abundance of salmon stocks, and NASCO's Standing Committee on the Precautionary Approach interpreted this as being "to maintain both the productive capacity and diversity of salmon stocks" (NASCO, 1998).

PSAT – pop-off satellite tag.

R – A computer programming language.

RCG (Regional Coordination Group) – Group(s) that coordinate and identify data collection needs in relation to the EU data collection regulations.

RDB – A Regional Database.

RDBES - Regional Database and Estimation System.

RENOSAUM (Rénovation de la stratégie de gestion du saumon en Bretagne) – A French management-orientated research project.

RRM – Run-Reconstruction Model.

RSD – Red skin disease.

SER (Spawner Escapement Reserve) – The CL increased to take account of natural mortality between the recruitment date (assumed to be 1st January after first entering the sea) and the date of return to homewaters.

SEUPB – Special EU Programmes Body.

SFA (Salmon Fishing Areas) – Areas for which the Department of Fisheries and Oceans (DFO) Canada manages the salmon fisheries.

S_{lim} – Limit reference point.

SLU – Swedish University of Agricultural Sciences.

SNP (Single Nucleotide Polymorphism) – Type of genetic marker used in stock identification and population genetic studies.

S_{pa} – ICES Precautionary target reference point.

St P & M or SPM – St Pierre and Miquelon, Islands of France south of Newfoundland.

SoBI – Strait of Belle Isle, Canada.

SU – Stock-units.

TAC – Total Allowable Catch.

ToR – Terms of reference.

UK (United Kingdom of Great Britain and Northern Ireland) – Salmon stocks are grouped and managed according to three UK jurisdictions: Scotland, England and Wales; Northern Ireland.

URMS – Urban runoff mortality syndrome.

USA – United States of America.

VNIRO (PINRO) – Russian Federal Research Institute of Fisheries and Oceanography.

WGBAST – ICES Working Group for Baltic Salmon and Trout.

WGC (West Greenland Commission) – The West Greenland Commission of NASCO or the West Greenland Commission area of NASCO.

WGDIAD (Working Group on the Science Requirements to Support Conservation, Restoration and Management of Diadromous Species) – A Working Group of ICES.

WGNAS (Working Group on North Atlantic Salmon) – ICES working group responsible for the annual assessment of the status of salmon stocks across the North Atlantic and formulating catch advice for NASCO.

WKBaltSalMP I and II – ICES Workshop on Evaluating Draft Baltic Salmon Management Plan.

WKBSALMON – Workshop for the benchmark of the salmon assessment approach.

WKSALMODEL – ICES Salmon Life Cycle Modelling Workshop.

WKSALMON II – ICES/NASCO Workshop 2 for North Atlantic Salmon At-Sea Mortality.

YOY – Young of the year.

Annex 5: Reported nominal catch of salmon in numbers and weight (tonnes round fresh weight) by sea age class. Catches reported for 2024 may be provisional. Methods used for estimating age composition given in footnote

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	**Year**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**
Canada (6)																	
	1982	358000	716									240000	1082			598000	1798
	1983	265000	513									201000	911			466000	1424
	1984	234000	467									143000	645			377000	1112
	1985	333084	593									122621	540			455705	1133
	1986	417269	780									162305	779			579574	1559
	1987	435799	833									203731	951			639530	1784
	1988	372178	677									137637	633			509815	1310
	1989	304620	549									135484	590			440104	1139
	1990	233690	425									106379	486			340069	911
	1991	189324	341									82532	370			271856	711
	1992	108901	199									66357	323			175258	522
	1993	91239	159									45416	214			136655	373

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	1994	76973	139									42946	216			119919	355
	1995	61940	107									34263	153			96203	260
	1996	82490	138									31590	154			114080	292
	1997	58988	103									26270	126			85258	229
	1998	51251	87									13274	70			64525	157
	1999	50901	88									11368	64			62269	152
	2000	55263	95									10571	58			65834	153
	2001	51225	86									11575	61			62800	147
	2002	53464	99									8439	49			61903	148
	2003	46768	81									11218	60			57986	141
	2004	54253	94									12933	68			67186	162
	2005	47368	83									10937	56			58305	139
	2006	46747	82									11248	55			57995	137
	2007	37075	63									10311	49			47386	112
	2008	58386	100									11736	57			70122	157
	2009	42943	74									11226	52			54169	126
	2010	58531	100									10972	53			69503	153
	2011	63756	110									13668	69			77424	179
	2012	43192	74									10980	52			54172	126
	2013	41311	72									13887	66			55198	138
	2014	44171	77									8756	41			52927	118

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	2015	48838	86									11473	54			60311	140
	2016	45265	79									11716	56			56981	135
	2017	31314	55									11563	55			42877	110
	2018	21802	39									8548	39			30350	78
	2019	30759	53									9774	47			40533	100
	2020	29757	52									10606	51			40363	103
	2021	32159	58									8385	40			40544	98
	2022	25544	45									9939	45			35483	90
	2023	19377	34									10778	47			30155	82
	2024	17301	31									8315	35			25616	67
Denmark																	
	2020															1946	9
	2021	626										732				1758	
	2022	524										660				1591	
	2023	398										695				1358	
	2024	342	1									467	3			809	4
Faroes																	
	1983	9086		101227		21663		448		29						132453	625
	1984	4791		107199		12469		49								124508	651
	1985	324		123510		9690								1653		135177	598

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	1986	1672		141740		4779		76						6287		154554	545
	1987	76		133078		7070		80								140304	539
	1988	5833		55728		3450		0								65011	208
	1989	1351		86417		5728		0								93496	309
	1990	1560		103407		6463		6								111436	364
	1991	631		52420		4390		8								57449	202
	1992	16		7611		837										8464	31
	1993			4212		1203										5415	22
	1994			1866		206										2072	7
	1995			1807		156										1963	6
	1996			268		14										282	1
	1997																
	1998	339		1315		109										1763	6
	1999																
	2000	225		1560		205										1990	8
	2001	0		0		0										0	
	2002	0		0		0										0	
	2003	0		0		0										0	
	2004	0		0		0										0	
	2005	0		0		0										0	
	2006	0		0		0										0	

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	**Year**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**
	2007	0		0		0										0	
	2008	0		0		0										0	
	2009	0		0		0										0	
	2010	0		0		0										0	
	2011	0		0		0										0	
	2012	0		0		0										0	
	2013	0		0		0										0	
	2014	0		0		0										0	
	2015	0		0		0										0	
	2016	0		0		0										0	
	2017	0		0		0										0	
	2018	0		0		0										0	
	2019	0		0		0										0	
	2020		0		0		0										0
	2021		0		0		0										0
	2022		0		0		0										0
Finland																	
	1982	2598	5									5408	49			8006	54
	1983	3916	7									6050	51			9966	58
	1984	4899	9									4726	37			9625	46

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	1985	6201	11									4912	38			11113	49
	1986	6131	12									3244	25			9375	37
	1987	8696	15									4520	34			13216	49
	1988	5926	9									3495	27			9421	36
	1989	10395	19									5332	33			15727	52
	1990	10084	19									5600	41			15684	60
	1991	9213	17									6298	53			15511	70
	1992	15017	28									6284	49			21301	77
	1993	11157	17									8180	53			19337	70
	1994	7493	11									6230	38			13723	49
	1995	7786	11									5344	38			13130	49
	1996	12230	20	1275	5	1424	12	234	4	19	1			354	3	15536	45
	1997	10341	15	2419	10	1674	15	141	2	22	1			418	3	15015	46
	1998	11792	19	1608	7	1660	16	147	3					460	3	15667	48
	1999	17929	31	2055	8	1643	17	120	2	6	0			592	3	22345	63
	2000	20199	37	5247	25	2502	25	101	2	0	0			1090	7	29139	96
	2001	14979	25	6091	28	5451	59	101	2	0	0			2137	12	28759	126
	2002	8095	15	5550	20	3845	41	135	2	10	0			2466	15	20101	93
	2003	8375	15	2332	8	3551	33	145	2	5	0			2424	15	16832	75
	2004	4177	7	1480	6	1077	10	246	4	6	0			1430	11	8416	38
	2005	10412	19	1287	5	1420	14	56	1	40	1			804	7	14019	47

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	**Year**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**
	2006	17359	30	4217	18	1350	13	62	1	0	0			764	5	23752	67
	2007	4861	7	5368	20	2287	22	17	0	6	0			1195	8	13734	59
	2008	5194	8	2518	8	4161	40	227	4	0	0			1928	11	14028	71
	2009	9960	13	1585	5	1252	11	223	3	0	0			899	5	13919	37
	2010	7260	13	3270	13	1244	11	282	4	5	0			996	8	13057	49
	2011	9043	15	1859	8	1434	13	173	3	10	0			789	5	13308	44
	2012	15904	30	2997	13	1234	11	197	3	5	0			967	7	21304	64
	2013	9408	14	3044	15	1186	11	63	1	7	0			806	5	14514	46
	2014	13031	26	3323	13	928	9	96	2	0	0			1284	7	18662	57
	2015	8255	13	3562	16	1069	9	79	1	0	0			903	6	13868	45
	2016	6763	14	3028	10	1997	20	91	1	0	0			959	5	12838	50
	2017	2533	5	1642	7	1349	14	116	2	3	0			530	3	28973	31
	2018	6699	11	849	4	393	4	43	1	0	0			719	5	8703	25
	2019	2628	4	2205	8	310	3	27	1	4	0			727	5	5901	21
	2020	2064	3	477	2	746	7	30	0							3805	16
	2021	156	0									83	1			239	1
	2022	189	0									127	1			316	1
	2023	181	0									130	1			311	1
	2024	76	0									143	0			219	1
France (4,7)																	

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	1987	6013	18									1806	9			7819	27
	1988	2063	7									4964	25			7027	32
	1989	1124	3	1971	9	311	2									3406	14
	1990	1886	5	2186	9	146	1									4218	15
	1991	1362	3	1935	9	190	1									3487	13
	1992	2490	7	2450	12	221	2									5161	21
	1993	3581	10	987	4	267	2									4835	16
	1994	2810	7	2250	10	40	1									5100	18
	1995	1669	4	1073	5	22	0									2764	9
	1996	2063	5	1891	9	52	0									4006	14
	1997	1060	3	964	5	37	0									2061	8
	1998	2065	5	824	4	22	0									2911	9
	1999	690	2	1799	9	32	0									2521	11
	2000	1792	4	1253	6	24	0									3069	10
	2001	1544	4	1489	7	25	0									3058	11
	2002	2423	6	1065	5	41	0									3529	11
	2003	1598	5									1540	8			3138	13
	2004	1927	5									2880	14			4807	19
	2005	1236	3									1771	8			3007	11
	2006	1763	3									1785	9			3548	12
	2007	1378	3									1685	9			3063	12

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	**Year**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**
	2008	1471	3									1931	9			3402	12
	2009	487	1									975	4			1462	5
	2010	1658	4									821	4			2479	8
	2011	1145	3									2126	9			3271	12
	2012	1010	2									1669	7			2679	9
	2013	1457	3									1679	7			3136	10
	2014	1469	3									2159	9			3628	12
	2015	1239	3									2435	9			3674	12
	2016	1017	2									972	4			1989	6
	2017	1524	4									986	5			2510	9
	2018	1071	4									1678	7			2749	11
	2019	472	2	1094	4	42	0					4	0			3810	14
	2020	469	2	451	2	33	0					1	0			2150	8
	2021	437	2	286	1	20	0					3	0			1550	6
	2022	246	1	524	2	6	0					993	4			1805	7
	2023	277	1									1000	4			1358	5
	2024	106	0	3	0							716	3			918	3
Germany																	
	2023											5	0			5	0
	2024											14	0			14	0

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	**Year**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**
Greenland																	
	1982	315532		17810										2688		336030	1077
	1983	90500		8100										1400		100000	310
	1984	78942		10442										630		90014	297
	1985	292181		18378										934		311493	864
	1986	307800		9700										2600		320100	960
	1987	297128		6287										2898		306313	966
	1988	281356		4602										2296		288254	893
	1989	110359		5379										1875		117613	337
	1990	97271		3346										860		101477	274
	1991	167551	415	8809	53									743	4	177103	472
	1992	82354	217	2822	18									364	2	85540	237
	1993																
	1994																
	1995	31241		558										478		32277	83
	1996	30613		884										568		32065	92
	1997	20980		134										124		21238	58
	1998	3901		17										88		4006	11
	1999	6124	18	50	0									84	1	6258	19
	2000	7715	21	0	0									140	0	7855	21
	2001	14795	40	324	2									293	1	15412	43

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	2002	3344	10	34	0									27	0	3405	10
	2003	3933	12	38	0									73	0	4044	12
	2004	4488	14	51	0									88	0	4627	14
	2005	3120	13	40	0									180	1	3340	14
	2006	5746	20	183	1									224	1	6153	22
	2007	6037	24	82	0	6	0							144	1	6263	25
	2008	9311	26	47	0	0	0							177	1	9535	27
	2009	7442	27	268	1	0	0							328	1	8038	29
	2010															11579	40
	2011															8088	28
	2012															9622	33
	2013															14030	47
	2014															17440	58
	2015															16855	57
	2016															8522	27
	2017															8023	28
	2018															12864	40
	2019																30
	2020															10138	32
	2021															14136	43

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	2022															9712	31
	2023	10542	34													10542	34
	2024	5819	21													5819	21
Iceland (3)																	
	1991	29601		11892												41493	130
	1992	38538		15312												53850	175
	1993	36640		11541												48181	160
	1994	24224	59	14088	76											38312	135
	1995	32767	90	13136	56											45903	146
	1996	26927	66	9785	52											36712	118
	1997	21684	56	8178	41											29862	97
	1998	32224	81	7272	37											39496	118
	1999	22620	59	9883	52											32503	111
	2000	20270	49	4319	24											24589	73
	2001	18538	46	5289	28											23827	74
	2002	25277	64	5194	26											30471	90
	2003	24738	61	8119	37											32857	98
	2004	32600	84	6128	28											38728	112
	2005	39980	101	5941	28											45921	129
	2006	29857	71	5635	23											35492	94
	2007	31899	74	3262	15											35161	89

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	2008	44391	106	5129	26											49520	132
	2009	43981	103	4561	24											48542	127
	2010	43457	105	9251	43											52708	148
	2011	28550	74	4854	24											33404	98
	2012	17011	39	2848	12											19859	51
	2013	40412	97	4274	19											44686	116
	2014	13593	29	3317	22											16910	51
	2015	33713	78	3201	16											36914	94
	2016	19528	49	5082	23											24610	72
	2017	20229	51	3726	15											23955	66
	2018	18753	48	2661	12											21414	60
	2019	11102	267	2932	10											14034	37
	2020	18378	46	2368	9							2431	11			23177	66
	2021	14978	38									1241	6			20639	56
	2022	20341	47									2262	10			22603	57
	2023	13805	34									2079	9			15884	43
	2024	15214	38									1974	7			17188	46
Ireland																	
	1980	248333	745									39608	202			287941	947
	1981	173667	521									32159	164			205826	685

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	1982	310000	930									12353	63			322353	993
	1983	502000	1506									29411	150			531411	1656
	1984	242666	728									19804	101			262470	829
	1985	498333	1495									19608	100			517941	1595
	1986	498125	1594									28335	136			526460	1730
	1987	358842	1112									27609	127			386451	1239
	1988	559297	1733									30599	141			589896	1874
	1989															330558	1079
	1990															188890	567
	1991															135474	404
	1992															235435	631
	1993															200120	541
	1994															286266	804
	1995															288225	790
	1996															249623	685
	1997															209214	570
	1998															237663	624
	1999															180477	515
	2000															228220	621
	2001															270963	730
	2002															256808	682

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	2003															204145	551
	2004															180953	489
	2005															156308	422
	2006															120834	326
	2007															30946	84
	2008															33200	89
	2009															25170	68
	2010															36508	99
	2011															32308	87
	2012															32599	88
	2013															32303	87
	2014															20883	56
	2015															23416	63
	2016															21504	58
	2017															26714	72
	2018															17866	58
	2019															16521	44
	2020	15794	43									1212	3			40152	108
	2021	16914	46									1794	5			18708	51
	2022	12273	33									2372	6			14645	40

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	2023	10053	27									1833	5			11886	32
	2024	11643	31									2000	5			13643	37
Norway (6)																	
	1981	221566	467									213943	1189			435509	1656
	1982	163120	363									174229	985			337349	1348
	1983	278061	593									171361	957			449422	1550
	1984	294365	628									176716	995			471081	1623
	1985	299037	638									162403	923			461440	1561
	1986	264849	556									191524	1042			456373	1598
	1987	235703	491									153554	894			389257	1385
	1988	217617	420									120367	656			337984	1076
	1989	220170	436									80880	469			301050	905
	1990	192500	385									91437	545			283937	930
	1991	171041	342									92214	535			263255	877
	1992	151291	301									92717	566			244008	867
	1993	153407	312	62403	284	35147	327									250957	923
	1994		415		319		262										996
	1995	134341	249	71552	341	27104	249									232997	839
	1996	110085	215	69389	322	27627	249									207101	786
	1997	124387	241	52842	238	16448	151									193677	630
	1998	162185	296	66767	306	15568	139									244520	741

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	1999	164905	318	70825	326	18669	167									254399	811
	2000	250468	504	99934	454	24319	219									374721	1177
	2001	207934	417	117759	554	33047	295									358740	1266
	2002	127039	249	98055	471	33013	299									258107	1019
	2003	185574	363	87993	410	31099	298									304666	1071
	2004	108645	207	77343	371	23173	206									209161	784
	2005	165900	307	69488	320	27507	261									262895	888
	2006	142218	261	99401	453	23529	218									265148	932
	2007	78165	140	79146	363	28896	264									186207	767
	2008	89228	170	69027	314	34124	322									192379	806
	2009	73045	135	53725	241	23663	219									150433	595
	2010	98490	184	56260	250	22310	208									177060	642
	2011	71597	140	81351	374	20270	183									173218	697
	2012	81638	162	63985	289	26689	245									172312	696
	2013	70059	117	49264	227	14367	131									133690	475
	2014	85419	171	47347	203	12415	116									145181	490
	2015	83196	153	64069	296	15407	134									162672	583
	2016	65470	117	69167	321	19406	174									154043	612
	2017	83032	164	67761	307	20913	196									171706	667
	2018	84348	167	62447	289	15247	138									162042	594

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	**Year**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**
	2019	67097	122	53239	244	15889	147									136225	513
	2020	79612	143	52344	239	15868	145									147824	527
	2021	42963	81									38658	214			81621	295
	2022	59863	118									48680	272			108543	389
	2023	44147	83	29182	136	8680	78									82009	297
	2024	31443	60	14792	67	4358	40									50593	168
Russia (5)																	
	1987	97242		27135		9539		556		18				2521		137011	564
	1988	53158		33395		10256		294		25				2937		100065	420
	1989	78023		23123		4118		26		0				2187		107477	364
	1990	70595		20633		2919		101		0				2010		96258	313
	1991	40603		12458		3060		650		0				1375		58146	215
	1992	34021		8880		3547		180		0				824		47452	167
	1993	28100		11780		4280		377		0				1470		46007	139
	1994	30877		10879		2183		51		0				555		44545	141
	1995	27775	62	9642	50	1803	15	6	0	0	0			385	2	39611	129
	1996	33878	79	7395	42	1084	9	40	1	0	0			41	1	42438	132
	1997	31857	72	5837	28	672	6	38	1	0	0			559	3	38963	110
	1998	34870	92	6815	33	181	2	28	0	0	0			638	3	42532	130
	1999	24016	66	5317	25	499	5	0	0	0	0			1131	6	30963	102
	2000	27702	75	7027	34	500	5	3	0	0	0			1853	9	37085	123

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	2001	26472	61	7505	39	1036	10	30	0	0	0			922	5	35965	115
	2002	24588	60	8720	43	1284	12	3	0	0	0			480	3	35075	118
	2003	22014	50	8905	42	1206	12	20	0	0	0			634	4	32779	108
	2004	17105	39	6786	33	880	7	0	0	0	0			529	3	25300	82
	2005	16591	39	7179	33	989	8	1	0	0	0			439	3	25199	83
	2006	22412	54	5392	28	759	6	0	0	0	0			449	3	29012	91
	2007	12474	30	4377	23	929	7	0	0	0	0			277	2	18057	62
	2008	13404	28	8674	39	669	4	8	0	0	0			312	2	23067	73
	2009	13580	30	7215	35	720	5	36	0	0	0			173	1	21724	71
	2010	14834	33	9821	48	844	6	49	0	0	0			186	1	25734	88
	2011	13779	31	9030	44	747	5	51	0	0	0			171	1	23778	81
	2012	17484	42	6560	34	738	5	53	0	0	0			173	1	25008	82
	2013	14576	35	6938	36	857	6	27	0	0	0			93	1	22491	78
	2014	15129	35	7936	38	1015	7	34	0	0	0			106	1	24220	81
	2015	15011	38	7082	36	723	5	19	0	0	0			277	1	23112	80
	2016	11064	28	4716	22	621	4	23	0	0	0			289	2	16713	56
	2017	5592	14	5930	28	644	4	7	0	0	9			90	0	12263	55
	2018	12626	30	9355	43	820	5	13	0	0	0			232	1	23046	79
	2019	8720	21	6145	30	588	4	15	0	0	0			136	1	15604	113
	2020	8870	20	4399	23	605	5	13	0	0	0			71	0	13958	97

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	2021																49
	2022															0	55
	2023															0	52
Spain (2)																	
	1993	1589		827		75										2491	8
	1994	1658	5									735	4			2393	9
	1995	389	1									1118	6			1507	7
	1996	349	1									676	3			1025	4
	1997	169	0									425	2			594	2
	1998	481	1									403	2			884	3
	1999	157	0									986	5			1143	5
	2000	1227	3									433	3			1660	6
	2001	1129	3									1677	9			2806	12
	2002	651	2									1085	6			1736	8
	2003	210	1									1116	6			1326	7
	2004	1053	3									731	4			1784	7
	2005	412	1									2336	11			2748	12
	2006	350	1									1864	9			2214	10
	2007	481	1									1468	7			1949	8
	2008	162	0									1371	7			1533	7
	2009	106	0									250	1			356	1

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	2010	81	0									166	1			247	1
	2011	18	0									1027	5			1045	5
	2012	237	1									1064	6			1301	7
	2013	111	0									725	4			836	4
	2014	48	0									1160	6			1208	6
	2015	46	0									1048	5			1094	5
	2016	332	1									806	4			1138	5
	2017	140	0									358	2			498	2
	2018	123	0									477	3			600	3
	2019	125	0									866	4			991	4
	2020	244	1									816	4			1060	5
	2021	21	0	492	3							74	0			649	4
	2022	34	0	52	0	3	0					382	2			488	3
	2023	26	0	27	0	2	0					352	1			441	1
	2024	32	0	39	0	1	0					343	2			463	2
SPM																	
	2019															506	1
	2020															616	2
	2021															690	2
	2022															478	1

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	2023															558	1
	2024															602	2
Sweden																	
	1990	7430	18									3135	15			10565	33
	1991	8990	20									3620	18			12610	38
	1992	9850	23									4655	26			14505	49
	1993	10540	23									6370	33			16910	56
	1994	8035	18									4660	26			12695	44
	1995	9761	22									2770	14			12531	36
	1996	6008	14									3542	19			9550	33
	1997	2747	7									2307	12			5054	19
	1998	2421	6									1702	9			4123	15
	1999	3573	8									1460	8			5033	16
	2000	7103	18									3196	15			10299	33
	2001	4634	12									3853	21			8487	33
	2002	4733	12									2826	16			7559	28
	2003	2891	7									3214	18			6105	25
	2004	2494	6									2330	13			4824	19
	2005	2122	5									1770	10			3892	15
	2006	2585	4									1772	10			4357	14
	2007	1228	3									2442	13			3670	16

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	2008	1197	3									2752	16			3949	19
	2009	1269	3									2495	14			3764	17
	2010	2109	5									3066	17			5175	22
	2011	2726	7									5759	32			8485	39
	2012	1900	5									4826	25			6726	30
	2013	1052	3									1996	12			3048	15
	2014	2887	8									3657	22			6544	30
	2015	1028	2									2569	15			3597	17
	2016	742	2									1389	7			2131	9
	2017	1093	3									2674	15			3767	18
	2018	1712	4									2027	12			3739	17
	2019	981	2									3168	18			4149	20
	2020	976	2									2082	12			3058	14
	2021	1130	3									1452	8			2582	11
	2022	681	2									1229	7			1910	8
	2023	764	2									1541	9			2305	10
	2024	992	2									994	5			1986	8
UK (E&W)																	
	1985	62815										32716				95531	361
	1986	68759										42035				110794	430

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	1987	56739										26700				83439	302
	1988	76012										34151				110163	395
	1989	54384										29284				83668	296
	1990	45072										41604				86676	338
	1991	36671										14978				51649	200
	1992	34331										10255				44586	171
	1993	56033										13144				69177	248
	1994	67853										20268				88121	324
	1995	57944										22534				80478	295
	1996	30352										16344				46696	183
	1997	30203										11171				41374	142
	1998	30272										6645				36917	123
	1999	27953										13154				41107	150
	2000	48153										12800				60953	219
	2001	38480										12827				51307	184
	2002	34708										10961				45669	161
	2003	14656										7550				22206	89
	2004	24753										5806				30559	111
	2005	19883										6279				26162	97
	2006	17204										4852				22056	80
	2007	15540										4383				19923	67

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	**Year**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**
	2008	14467										4569				19036	64
	2009	10015										3895				13910	54
	2010	25502										7193				32695	109
	2011	19708										14867				34575	136
	2012	7493										7433				14926	58
	2013	13113										9495				22608	84
	2014	7678										6541				14219	54
	2015	9053										10209				19262	68
	2016	9447										13047				22494	86
	2017	4866										7298				12164	49
	2018	5052										6174				11226	42
	2019	497										642				1139	5
	2020	329	1									425	2			754	6
	2021	108	0									172	1			280	1
	2022	114	0									163	1			277	1
	2023	88	0									171	1			259	1
	2024	103	0									150	1			253	1
UK (NI)																	
	2020															888	2
	2021															624	2

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	2022															566	1
	2023	0	0	0	0							0	0			290	1
	2024	0	0	0	0							0	0			323	1
UK (Scot)																	
	1982	208061	496									128242	596			336303	1092
	1983	209617	549									145961	672			355578	1221
	1984	213079	509									107213	504			320292	1013
	1985	158012	399									114648	514			272660	913
	1986	202838	525									148197	744			351035	1269
	1987	164785	419									103994	503			268779	922
	1988	149098	381									112162	501			261260	882
	1989	174941	431									103886	464			278827	895
	1990	81094	201									87924	423			169018	624
	1991	73608	177									65193	285			138801	462
	1992	101676	238									82841	361			184517	599
	1993	94517	227									71726	320			166243	547
	1994	99479	248									85404	400			184883	648
	1995	89971	224									78511	364			168482	588
	1996	66465	160									57998	267			124463	427
	1997	46866	114									40459	182			87325	296
	1998	53503	121									39264	162			92767	283

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	1999	25255	57									30694	143			55949	200
	2000	44033	114									36767	161			80800	275
	2001	42586	101									34926	150			77512	251
	2002	31385	73									26403	118			57788	191
	2003	29598	71									27588	122			57091	193
	2004	37631	88									36856	159			74033	245
	2005	39093	91									28666	126			67117	215
	2006	36668	75									27620	118			63848	193
	2007	32335	71									24098	100			56433	171
	2008	23431	51									25745	110			49176	161
	2009	18189	37									19185	83			37374	120
	2010	33426	69									26988	111			60414	180
	2011	15706	33									28496	126			44202	159
	2012	19371	40									19785	84			39156	124
	2013	20747	45									17223	74			37970	119
	2014	12581	26									13329	58			25910	84
	2015	13659	29									9165	39			22824	68
	2016	4220	8									4163	19			8383	27
	2017	3727	8									4419	19			8146	27
	2018	3834	8									2578	12			6412	20

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	2019	2480	5									1890	8			4370	13
	2020	2218	5									2113	9			4331	14
	2021	1280	3									996	4			2276	7
	2022	1092	2									918	4			2010	6
	2023	778	2									726	3			1504	5
	2024	796	2									715	3			1511	5
USA																	
	1982	33		1206		5								21		1265	6
	1983	26		314	1	2								6		348	1
	1984	50		545	2	2								12		609	2
	1985	23		528	2	2								13		566	2
	1986	76		482	2	2								3		563	2
	1987	33		229	1	10								10		282	1
	1988	49		203	1	3								4		259	1
	1989	157	0	325	1	2								3		487	1
	1990	52	0	562	2	12								16		642	2
	1991	48	0	185	1	1								4		238	1
	1992	54	0	138	1	1										193	1
	1993	17		133	1	0	0							2		152	1
	1994	12		0	0	0	0									12	0
	1995	0	0	0	0	0	0									0	0

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	Year	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt	No.	Wt
	1996	0	0	0	0	0	0									0	0
	1997	0	0	0	0	0	0									0	0
	1998	0	0	0	0	0	0									0	0
	1999	0	0	0	0	0	0									0	0
	2000	0	0	0	0	0	0									0	0
	2001	0	0	0	0	0	0									0	0
	2002	0	0	0	0	0	0									0	0
	2003	0	0	0	0	0	0									0	0
	2004	0	0	0	0	0	0									0	0
	2005	0	0	0	0	0	0									0	0
	2006	0	0	0	0	0	0									0	0
	2007	0	0	0	0	0	0									0	0
	2008	0	0	0	0	0	0									0	0
	2009																
	2010																
	2011																
	2012																
	2013																
	2014																
	2015																

		1SW		2SW		3SW		4SW		5SW		MSW(1)		PS		Total	
Country	**Year**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**	**No.**	**Wt**
	2016																
	2017																
	2018																
	2019																
	2020																
	2021																
	2022																

1. MSW includes all sea ages >1, when this cannot be broken down.

Different methods are used to separate 1SW and MSW salmon in different countries:

- Scale reading: Faroe Islands, Finland (1996 onwards), France, Russia, USA and West Greenland.

- Size (split weight/length): Canada (2.7 kg for nets; 63 cm for rods), Finland up until 1995 (3 kg),

Iceland (various splits used at different times and places), Norway (3 kg), UK Scotland (3 kg in some places and 3.7 kg in others),

All countries except Scotland report no problems with using weight to categorize catches into sea age classes; mis-classification may be very high in some years.

In Norway, catches shown as 3SW refer to salmon of 3SW or greater.

2. Based on catches in Asturias (80-90% of total catch) 1993-2018, and on catches for all Spain in 2019-2020 with 2SW, MSW and Not-Specified assigned to MSW.

3. Iceland catches of wild fish only, i.e. excluding ranched fish.

4. France data for 2019 and 2020 show catch number only, as reported by the recreational fishery that doesn't report catch weight.

5. Russian data extracted from NASCO website at https://nasco.int/conservation/third-reporting-cycle-2/ No data available to the Working Group in 2024

6. For Norway and Canada, fish reported as Small are assigned to 1SW whereas those reported as Large are assigned to MSW

7. For France, fish reported as Small are assigned to 1SW whereas those reported as Large are assigned to NS

8. N.B. Totals include NS values which are not shown.

Annex 6: Response to benchmark reviewers' recommendations

The Benchmark reviewers recommended further additions to the LCM in terms of diagnostics, analytical approaches and management to improve both the modelling approach and outputs provided by the WGNAS. They suggested a prioritization based on their perceived level of importance and ease of incorporation (High, Medium, Low).

The full list of recommendations, with notes inserted to indicate those that have been addressed by WGNAS already, or when the WGNAS plans to address them in the future, is available in WGNAS 2024 report, Appendix 6. In 2025, WGNAS provides an answer to a high priority recommendation regarding the improvement of the computational efficiency of the LCM.

Recommendations

High priority

1. We recommend the authors use the nimbleHMC algorithm for estimation rather than the default Metropolis-Hastings/Gibbs MCMC algorithm used currently. The HMC algorithm will improve the speed in which the MCMC algorithm reaches a sufficient effective number of sample sizes and the ability to efficiently explore the posterior distribution of the model. The implementation of the HMC MCMC algorithm is relatively straightforward, as demonstrated in the benchmark and will allow the WGNAS to run models quickly during meetings. In the 2_compile_model.R script the "configureMCMC" function can be exchanged for "configureHMC" on line 84 and "buildDerivs = TRUE" added to the "nimbleModel" function call on line 49. Having 1100 iterations, with 10 thin and 500 burnin across 10 parallel chains ran in ~16 hours on a personal computer with greater level of convergence than illustrated in the benchmark (all Rhat < 1.01 and Neff > 10,000). The number of iterations could easily be reduced to ~300 to have the model run quicker and achieve >3,000 effective samples. In the long term, we recommend that authors transition the model to Stan because of the ability to optimize the model for sampling efficiency/speed and improved convergence diagnostics, but recognize that would take substantial effort and is not a priority.

WGNAS 2025 answer

Within the DIASPARA project, a framework to optimize the computational performance of high dimensional integrated stock assessment models built in the Bayesian hierarchical framework has been developed and tested. For the 2025 WGNAS assessment, a new version of the framework was developed using the nimbleHMC() library. This allows the use of a more efficient sampler (NUTS) to sample in the posterior distribution of model parameters and unknown variables, without the need to recode the model. Using this new configuration, convergence of the MCMC chain is obtained with a much lower MCMC sample size. The new recommended configuration is therefore to run 10 chains in parallel with a thin value of 2 (meaning one out of two successive MCMC samples is kept for inference), compared with thin = 250 as was used in the previous configuration. Using this new configuration, the computational time needed to get excellent convergence and efficient sample size for all variables (Gelman Rubin Rhat < 1.01 and Efficient sample size > 5000) has been divided by six with regards to the version used in WGNAS 2024.

Annex 7: Suggestions for Ecosystem, Fisheries, and Aquaculture Overviews

Ecosystem Overviews

The Bay of Biscay Overview was examined with respect to Atlantic salmon. Atlantic salmon and fisheries are mentioned in the overview, but excluded from Annex 1 listing "Status summary of the Bay of Biscay and Iberian Coast ecosystem stocks in 2024, relative to maximum sustainable yield (MSY) and the ICES precautionary approach (PA)". It is not apparent why salmon should be excluded in this way. The report says "Not all species with catch advice are assessed against any PA or MSY reference points because these points are undefined, this includes European eel, salmon and category 3 and 4 stocks." Salmon is assessed against reference points, but at the country level rather than for the ecoregion, so this omission should be checked. We note that Atlantic salmon is not listed in the Bycatch section despite it having threatened and protected status, but understand this list is being reviewed at present.

Atlantic salmon will be relevant in the Celtic Seas, Central Arctic, Barents Sea, Faroes, Greenland Sea, North East Ocean, Greater North Sea, Icelandic waters and Norwegian Sea Ecosystem Overviews, but WGNAS was not able to check these during the 2025 meeting.

Similarly, Atlantic salmon will be relevant for the Bay of Biscay, Celtic Seas, Barents Sea, Faroes, Greenland Sea, North East Ocean, Greater North Sea, Icelandic waters and Norwegian Sea Fisheries Overviews, but WGNAS was not able to check these during the 2025 meeting.

Atlantic salmon will also be relevant to the Aquaculture Overviews for the Bay of Biscay, Celtic Seas, Faroes and Norwegian Sea, but these could not be reviewed at this time.