



ASF's State of Wild Atlantic Salmon report
July 2024





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i. Glossary

Adult salmon: large and small salmon

Conservation limit: the number of spawning adult salmon required to sustain viable populations, accounting for fisheries.

Large salmon: Atlantic salmon larger than 63 cm that have spent two or more winters at sea.

Small salmon: Atlantic salmon less than 63 cm that spend a single winter at sea before returning to freshwater to spawn.

ii. Sources

1. ICES. 2024. Working group on North Atlantic Salmon (WGNAS). ICES Scientific Reports. 6:36. 415 pp. <https://doi.org/10.17895/ices.pub.25730247>
2. Fisheries and Oceans Canada. Atlantic Salmon Fishway Counts. Newfoundland and Labrador Region. <https://www.nfl.dfo-mpo.gc.ca/en/atlantic-salmon-fishway-counts>. Retrieved July 18, 2024.
3. Quebec. 2024. Bilan de l'exploitation du saumon au Quebec en 2023. <https://mffp.gouv.qc.ca/documents/faune/peche/bilan-exploitation-saumon-2023.pdf>. Retrieved July 12, 2024.



iii. Executive summary

ASF's *2024 State of Wild Atlantic Salmon* report is a summary of North American population estimates and harvests from fisheries for 2023. The primary source this report relies on was recently published by the International Council for the Exploration of the Seas (ICES), following analysis of data collected in 2023 by government agencies in Canada and the United States. The full 2024 ICES report on North Atlantic salmon is [available here](#).

ICES reports that **adult salmon** returns to North America in 2023 exceeded the 2018-2022 average, continuing a positive trend that began in the early 1990s. Although adult Atlantic salmon returns declined from 2022, we rely on comparisons with the most recent five-year average, offering a clearer picture of trends.

Last year's overall results were principally thanks to Labrador, where estimates of **small salmon** and **large salmon** returns were highest in the 54-year time series used by ICES, dating back to 1970. Every other Canadian region, including Newfoundland, Quebec, and the Gulf of St. Lawrence, saw declines in adult returns, especially small salmon.

Small salmon returns were the lowest on record for Quebec and the Gulf of St. Lawrence region, and among the ten worst years ever recorded for Newfoundland. Large salmon returns were also down in 2023 for Newfoundland and the Gulf of St. Lawrence, but stable in Quebec.

The positive, multi-decade trend of increasing adult returns to North America is the result of concerted conservation efforts. It began around the time that the last Canadian commercial fisheries closed and is helped by low catches in recent years off Greenland and in Canadian Indigenous and angler fisheries.

These conservation measures are an important counterweight to environmental factors that are causing high rates of marine mortality, including hyper-abundant predator populations, abnormal sea-temperatures, and changes in the prevalence and distribution of prey.

For the first time, the ICES Working Group offers predictions for future returns of Atlantic salmon. They provide estimates for 2024, 2025, 2026, and 2027. For North America, the scientists predict a dip in returning adults for 2024 and then healthy increases in 2025, 2026, and 2027.

These predictions, if they prove reasonably accurate, will be a major benefit to sustainable fisheries management.



iv. Analysis and Actions

ASF's strengths are habitat restoration, applied research, advocacy, and long-term conservation projects. We work throughout Maine, Eastern Canada, and internationally, especially in Greenland.

In response to observed trends and research, which are reflected in this report, the Gulf of St. Lawrence region is a priority concern for ASF. Returns of adult salmon to the region were down last year, especially in the Miramichi watershed. At 13,500 square kilometres, the Miramichi watershed has historically exceeded runs of 120,000 adult Atlantic salmon, but in recent years estimates have been less than 20,000.

ASF's long-term salmon tracking research has led us to conclude that predation from hyperabundant striped bass is the primary driver of salmon declines on the Miramichi. We have worked with partners like the North Shore Mi'kmaq District Council and the Miramichi Salmon Association to advocate for a reasonable increase in the commercial striped bass quota.

In the marine environment, our ASF-NASF Greenland Conservation Agreement brings more adult salmon back to North American rivers each year. However, our ability to influence environmental conditions in the North Atlantic is near zero. That's why we have expanded our freshwater programs to help rivers put out more, healthy, wild smolt to the ocean. ASF Headwaters expanded from Maine to Canada in 2024 and Wild Salmon Watersheds was established in 2022.

These are complimentary programs: Headwaters invests in shovel ready, partner-led projects focused on fish passage and coldwater enhancement, and Wild Salmon Watersheds is a 100-year approach to large scale planning, research and assessment, and landscape conservation. Both contribute to healthy, biodiverse, and climate resilient freshwater habitat. As of 2024, we have freshwater projects underway in every Eastern Canadian province.

From a governance and policy perspective, our primary focus is on ensuring that Canada finishes and funds the draft 12-year Wild Atlantic Salmon Conservation Strategy. This is a generational opportunity to conserve and restore Atlantic salmon and enhance the benefits that people and communities receive through sustainable fisheries.

We are excited that ICES has adopted a model with predictive capacity. If scientists can accurately forecast salmon returns, and explain variances when they occur, this will significantly help with management and conservation decisions.



v. Estimated North American returns and sustainability

Median estimate of Atlantic salmon returns to North America

Adult salmon: 668,600 compared to the previous five-year average of 651,100

Large salmon: 176,400 compared to the previous five-year average of 149,800

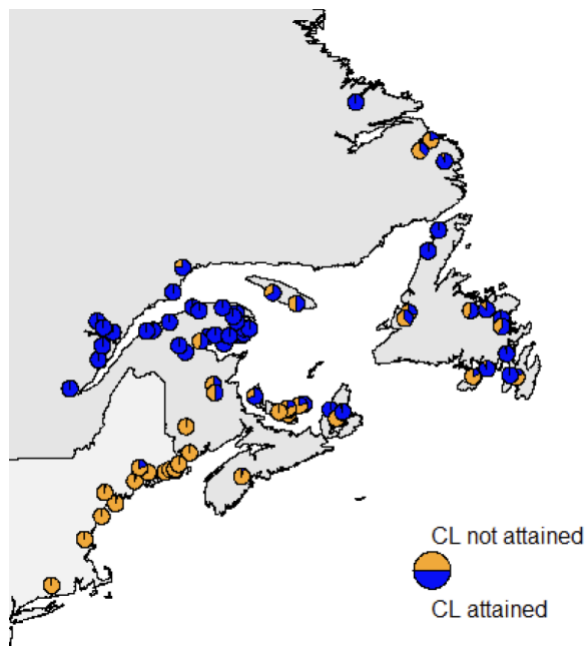
Small salmon: 507,600 compared to the previous five-year average of 501,300

ICES Forecasted median estimate of returns to North America

| | Small salmon | Large salmon | Total adults |
|-------------|--------------|--------------|----------------|
| 2024 | 386,100 | 147,400 | 533,500 |
| 2025 | 437,200 | 157,600 | 594,800 |
| 2026 | 512,700 | 173,400 | 686,100 |
| 2027 | 496,200 | 191,000 | 687,200 |

Conservation limits met

In 2023, 66 Canadian rivers were assessed to determine if **conservation limits** were met. 33 met or exceeded the established values. In the United States, 13 rivers were assessed and 0 met established conservation limits. The image below from ICES shows a clear south to north gradient for population health.



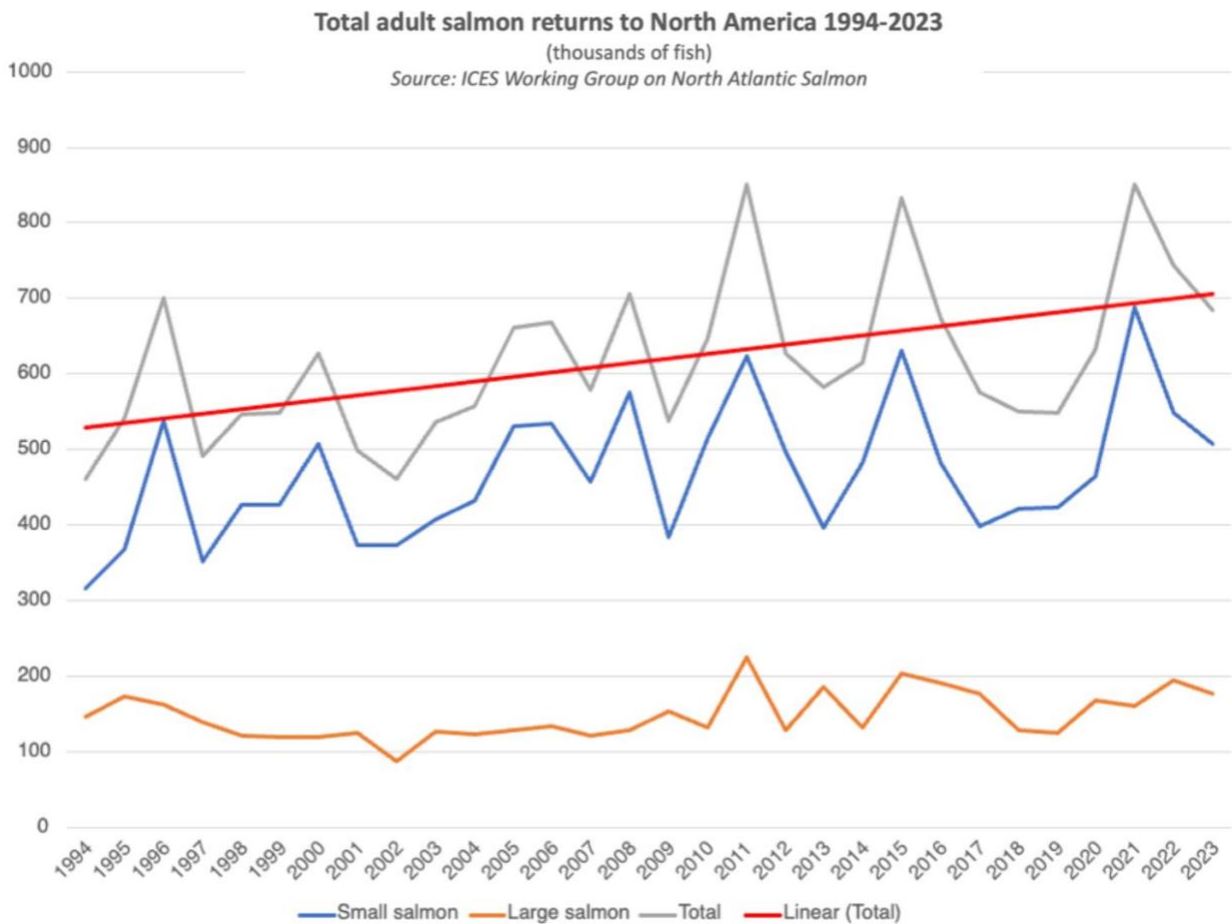
Source: ICES. 2024. Working group on North Atlantic Salmon (WGNAS).



vi. Graph North American returns 1993-2023

The graph below relies on ICES data to determine adult salmon returns to North America over the last 30 years. This includes small and large salmon.

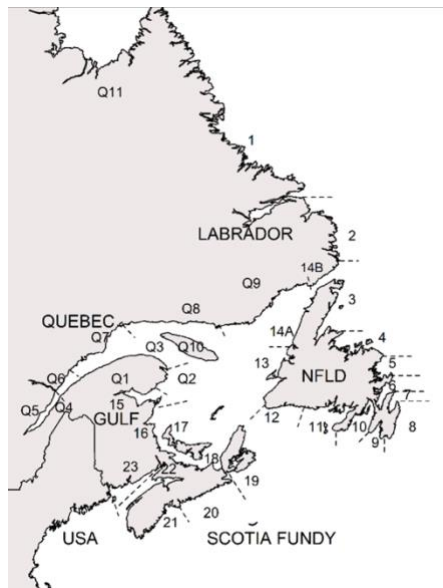
Since 1993, there have been a concerted effort by governments, communities, and individuals to conserve and restore wild Atlantic salmon. A sharp reduction in harvests at Greenland, the closure of Canadian commercial fisheries, extensive freshwater habitat restoration, and the widespread adoption of live release angling practices have all contributed to increasing adult salmon returns to North America.





vii. Regional returns and analysis

ICES uses six stock complexes for reporting and assessment, Labrador, Newfoundland, Quebec, the Gulf of St. Lawrence region, Scotia Fundy, and U.S.A.



Source: ICES. 2024. Working group on North Atlantic Salmon (WGNAS).

Labrador

Small salmon: In 2023, estimated median returns were 354,000, 58% higher than the 2018 to 2022 average of 223,800.

Large salmon: In 2023, estimated median returns were 97,200, 92% higher than the 2018 to 2022 average of 50,700.

Analysis: Labrador is one of the healthiest Atlantic salmon regions in the world. The estimate of small and large salmon returns in 2023 were the highest in the 54-year time series used by ICES.

ICES forecasted returns to Labrador

| | Small salmon | Large salmon | Total adults |
|-------------|--------------|--------------|----------------|
| 2024 | 173,200 | 80,900 | 254,100 |
| 2025 | 160,700 | 73,900 | 234,600 |



| | | | |
|-------------|---------|--------|----------------|
| 2026 | 180,900 | 71,400 | 252,300 |
| 2027 | 196,600 | 78,500 | 275,100 |

Newfoundland

Small salmon: In 2023, estimated median returns were 121,900, 47% lower than the 2018 to 2022 average of 227,900

Large salmon: In 2023, estimated median returns were 14,700, 54% lower than the 2018 to 2022 average of 36,000.

Analysis: 2023 was a bad year for adult Atlantic salmon returns to Newfoundland. Of the 15 rivers with counting facilities in operation last year, DFO assessed 10 as being in the critical zone of its fisheries management framework. The poor returns triggered a full Atlantic salmon stock assessment for Newfoundland and Labrador that will take place in 2024.

Atlantic salmon populations in Newfoundland are primarily composed of small salmon and last year's steep declines indicate one or more events had a severe impact on the 2022 smolt class, which were destined to return as small salmon in 2023. To date in 2024, DFO's fishway counts show a year-over-year increase on all monitored rivers.

ICES Forecasted returns to Newfoundland

| | Small salmon | Large salmon | Total adults |
|-------------|---------------------|---------------------|---------------------|
| 2024 | 142,900 | 9,800 | 152,700 |
| 2025 | 196,800 | 13,800 | 210,600 |
| 2026 | 237,400 | 18,300 | 255,700 |
| 2027 | 188,600 | 22,800 | 211,400 |

Quebec

Small salmon: In 2023, estimated median returns were 14,200, 45% lower than the 2018 to 2022 average of 25,900.

Large salmon: In 2023, estimated median returns were 29,700, in line with the 2018 to 2022 average of 32,800.

Analysis: Like Newfoundland, Quebec also experienced a sharp drop in small salmon returns in 2023. Small salmon returns last year were the lowest in the 54-year time series used by ICES. Large salmon returns were stable, within the range of estimated returns for the previous 20-years.



Quebec continues to have one of the best managed, most sustainable Atlantic salmon resources in the world. In 2023, assessments were completed on 30 rivers and 26 met established conservation limits.

ICES Forecasted returns to Quebec

| | Small salmon | Large salmon | Total adults |
|-------------|--------------|--------------|---------------|
| 2024 | 22,600 | 26,000 | 48,600 |
| 2025 | 26,000 | 28,200 | 54,200 |
| 2026 | 26,300 | 31,500 | 57,800 |
| 2027 | 26,700 | 30,900 | 57,600 |

Gulf of St. Lawrence

Small salmon: In 2023, estimated median returns were 8,400, 60% lower than the 2018 to 2022 average of 20,900.

Large salmon: In 2023, estimated median returns were 24,100, 25% lower than the 2018 to 2022 average of 32,100.

Analysis: Estimated returns of small salmon to rivers that empty into the Gulf of St. Lawrence were the worst in the 54-year time series used by ICES. Large salmon returns ranked among the five worst years in the same time series.

Regional declines for the Gulf of St. Lawrence region are primarily driven by estimates for the Miramichi watershed which is at or near historic lows. For example, an estimated 186,000 adult salmon returned to the Miramichi system in 1992, compared to 18,000 in 2022, the last year for which river specific data is available.

Other Gulf of St. Lawrence rivers where assessments occur, like the Restigouche and Margaree are not exhibiting similar declines and in the case of the Margaree population estimates show an increasing trend.

ASF's long-term research has shown that the majority of smolt mortality on the Miramichi system occurs when smolt overlap with the spawning aggregation of striped bass from the southern Gulf of St. Lawrence population. This has led ASF and others to conclude that striped bass are preying heavily on Atlantic salmon and other species native to the Miramichi.



ICES Forecasted returns to Gulf of St. Lawrence rivers

| | Small salmon | Large salmon | Total adults |
|-------------|--------------|--------------|---------------|
| 2024 | 15,400 | 20,700 | 36,100 |
| 2025 | 15,500 | 23,500 | 39,000 |
| 2026 | 13,500 | 24,400 | 37,900 |
| 2027 | 13,700 | 21,000 | 34,700 |

Scotia Fundy

Small salmon: In 2023, estimated median returns were 700, 73% lower than the 2018 to 2022 average of 2,600.

Large salmon: In 2023, estimated median returns were 1,100, 17% lower than the 2018 to 2022 average of 1,300.

Analysis: Rivers that empty into the Bay of Fundy and the Atlantic Ocean along mainland Nova Scotia have critically low wild salmon populations.

The dismal returns of the most recent five years contrast sharply with the five-year average from 40-years ago. Between 2019 and 2023, an average estimate of 3,700 adult salmon returned to the region, compared to 73,300 between 1979 and 1983. Hugely productive salmon rivers like the St. John in New Brunswick have been heavily dammed. Invasive species like smallmouth bass and chain pickerel are prevalent throughout the Scotia Fundy region, and intense open net-pen salmon farming in coastal waters has emerged as an existential threat to remnant wild salmon populations.

ICES working group members recommend alternative conservation strategies be adopted for severely depressed regions like Scotia Fundy to prevent further extirpations.

ICES Forecasted returns to the Scotia Fundy region

| | Small salmon | Large salmon | Total adults |
|-------------|--------------|--------------|--------------|
| 2024 | 1,100 | 1,500 | 2,600 |
| 2025 | 1,100 | 1,700 | 2,800 |
| 2026 | 1,400 | 1,500 | 2,900 |
| 2027 | 1,500 | 1,900 | 3,400 |



U.S.A

Small salmon: In 2023, estimated median returns were 100, 67% lower than the 2018 to 2022 average of 300

Large salmon: In 2023, estimated median returns were 1,700, 81% greater than the 2018 to 2022 average of 900.

Analysis: Determined habitat restoration efforts by ASF and our partners, thanks to significant state, federal, and private funding has led to a major recovery of migratory fish species in Maine, where all the work targeting Atlantic salmon is concentrated.

The Penobscot River stands out globally as an example of habitat restoration and ecosystem renewal. Between 1999 and 2016, ASF led a coalition of partners who removed two large dams and built a natural fish by-pass around a third. Since then, dozens of smaller fish passage projects in the watershed have also been completed.

Of the estimated 1,800 Atlantic salmon that returned to the United States last year, 1,570 were counted at fishways leading into the Penobscot. The Kennebec River watershed, also in Maine has similar recovery potential due to an abundance of high-quality, cold-water habitat in its upstream tributaries. ASF and our partners are engaged in multiple regulatory and legal processes to remove up to four large dams on the Kennebec.

ICES Forecasted returns to U.S.A.

| | Small salmon | Large salmon | Total adults |
|-------------|---------------------|---------------------|---------------------|
| 2024 | 300 | 1,900 | 2,200 |
| 2025 | 300 | 1,100 | 1,400 |
| 2026 | 700 | 1,200 | 1,900 |
| 2027 | 700 | 2,500 | 2,200 |

viii. 2023 salmon harvests

North American Atlantic salmon are fished in Canada, Greenland, and the French islands of Saint Pierre and Miquelon, off the south coast of Newfoundland. There are no fisheries in the United States, where Atlantic salmon are listed under the *Endangered Species Act*.



2023 Canadian Atlantic salmon harvest

Overall: 88 tonnes of wild Atlantic salmon was harvested legally by all groups in Canadian waters. It is among the lowest figures on record, less than the five-year average of 96 tonnes and far below the 1969 to 2000 average of 1,557 tonnes, when recreational and commercial fisheries were active.

Note: Catch reporting in all Canadian Atlantic salmon fisheries is poor. ICES notes that outside of Quebec, there are no mechanisms in place to require anglers to report their catches. While logbooks are used to monitor the Indigenous fishery in Labrador, reports from Maritime First Nations are mostly incomplete or missing and Inuit in the Ungava Bay region of Quebec are not required to report. In all cases, ICES uses the best available data to estimate catches.

Anglers: 29.2 tonnes of wild Atlantic salmon was harvested by anglers, 93% of which were small salmon. The total is 39% lower than the most recent five-year average and the lowest in the ICES time series which dates to 1974.

Note: Live release of Atlantic salmon caught in angler fisheries is mandatory in Nova Scotia, New Brunswick, and Prince Edward Island. In Quebec, anglers may keep up to four salmon per season, including one large salmon, from rivers open to retention. In Newfoundland and Labrador, anglers can keep a maximum of two small salmon per season.

Indigenous: 63.9 tonnes, with 73% of the harvest comprised of large salmon. The 2023 estimate is above the previous five-year average of 56.5 tonnes.

Note: Indigenous fisheries in Canada occur primarily in coastal areas and estuaries.

Labrador resident: 1.2 t with 60 per cent of the harvest comprised of large salmon. The previous five-year average harvest was 1.6 t.

Note: The Labrador resident fishery for salmon is a legal by-catch fishery permitted by DFO. Participants use gillnets to target trout and Arctic charr but are issued three salmon tags. 232 individuals had licenses in 2023.

Illegal and unreported fisheries: 16.4 t compared to the previous five-year average of 20 tonnes.



Note: ICES states that reports of illegal and unreported Atlantic salmon fishing were not provided for all Eastern Canadian provinces and the 2023 estimate is based on best available data.

Live release fisheries: It is estimated that anglers caught and released 21,845 small salmon and 20,750 large salmon for a total of 42,595 fish, compared to the previous five-year average estimate of 58,200.

Note: ICES does not provide an estimate of losses from live release fisheries.

2023 Greenland Atlantic salmon fishery

Overall: 34.3 tonnes with 33 tonnes harvested off west Greenland and 1.3 tonnes off east Greenland. The total harvest is equal to approximately 10,290 Atlantic salmon. The 2023 harvest is comparable to the previous five-year average reported catch of 33.8 tonnes but exceeded the 27-ton quota set by the Greenland government.

Catch composition: Samples collected and analyzed from the Greenland fishery showed that 62.5% of the catch in 2023 was of North American origin and 37.5 from European rivers. This is lower than the previous 10-year average where 76% of fish sampled were of North American origin.

Participation and reporting: In 2023, 792 individuals participated in the Greenland Atlantic salmon fishery, including 318 professional fishers and 474 private fishers. Overall, 78% of license holders reported their catch to Greenlandic authorities.

Private license holders can use one net and use their catch for personal consumption. Professional license holders can set up to 20 nets and sell their catch within Greenland at 17 open air markets. Exports are prohibited.

Note: The Atlantic salmon fishery at Greenland is one of the best managed in the world. ASF and the North Atlantic Salmon Fund in Iceland have reached multiple agreements with Greenland salmon fishers since 1993 that have contributed to significant, real reductions in the harvest and overall improvements, especially since 2018 when the current Greenland Salmon Conservation Agreement was signed.



Using data on fisheries and marine survival, we estimate that successive Greenland Salmon Conservation Agreements have contributed to a savings of more than 300,000 large salmon over time, mostly large female fish.

2023 Saint Pierre and Miquelon Atlantic salmon fishery

Overall: 1.4 tonnes, or approximately 558 salmon, all North American origin. The reported catch is 50% less than the previous 20-year average. 86 individuals participated in the fishery.