



## Report from

### Atlantic Salmon Federation

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## 2020 STATE OF WILD ATLANTIC SALMON REPORT

*A summary of public reports on 2019 adult salmon returns and population*

- I. Summary of returns
- II. Summary of harvests
- III. Advice to countries
- IV. About ASF's State of Wild Atlantic Salmon Report
- V. Glossary of terms and concepts

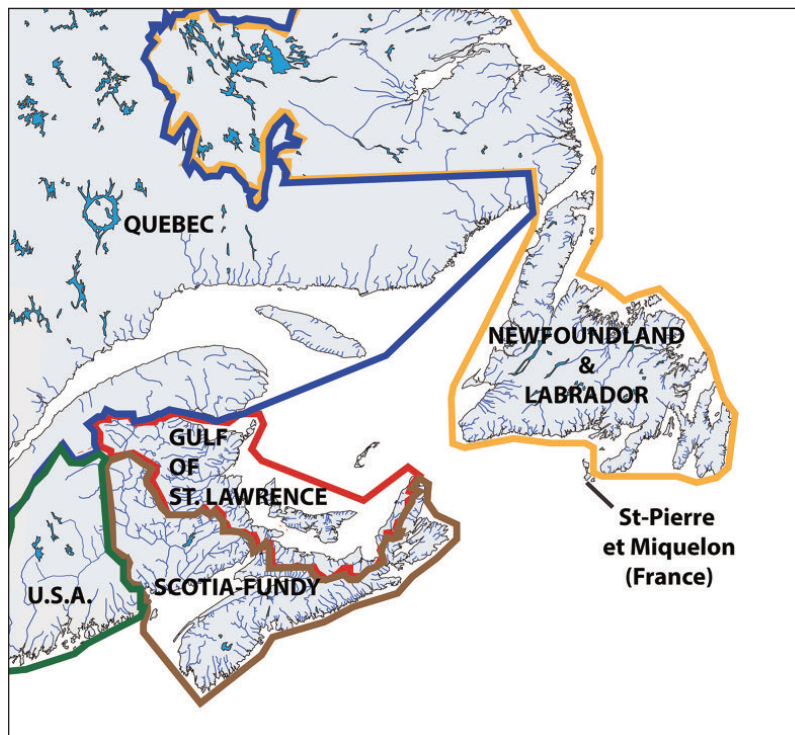
### I. SUMMARY OF RETURNS

#### 2019 NORTH AMERICAN ATLANTIC SALMON RETURNS

- It is estimated that 436,000 adult Atlantic salmon returned to North American rivers in 2019.
- Large salmon returns were estimated to be 103,900, the 3rd lowest figure in a 49-year data series.
- Grilse returns were estimated at 332,100, the 8th lowest in a 49-year data series

#### 2019 REGIONAL ATLANTIC SALMON RETURNS

*The International Council for the Exploration of the Sea uses five regions for its assessment of wild Atlantic salmon returns to North America, and a sixth, St-Pierre et Miquelon for harvests only.*



## NEWFOUNDLAND AND LABRADOR

Note: Fisheries and Oceans Canada has implemented a precautionary approach to Atlantic salmon management in Newfoundland and Labrador. A zonal assessment that informs management decisions has replaced the old singular conservation limit.



- Of the 24 rivers assessed in Newfoundland and Labrador in 2019, 10 showed declines compared to average returns over the previous 2 generations of salmon, equal to 12-years. In seven of those ten rivers, population declines were greater than 30%.
- In total, 10 of the 24 rivers assessed were found to be in the *critical zone*, 3 in the *cautious zone*, 6 healthy, 2 straddling the *cautious/healthy* boundary, and 3 at the *critical/cautious* boundary.
- Rivers in this region are dominated by grilse. In 2019, grilse numbers were down 59% in Labrador (117,500), but up 81% in Newfoundland (171,400) compared to 2018. Labrador and Newfoundland together accounted for 87% of total grilse returns to North America in 2019.

## LABRADOR RIVERS

Only four counting facilities exist in Labrador, which has 96 known salmon rivers. Information from these four facilities are used to determine return estimates for all Labrador rivers.

- **South West Brook**, a tributary of the Paradise River, and the **Sand Hill River** were both in the critical zone with 24 and 49% of the conservation limit achieved respectively. The **English River** and **Muddy Bay Brook** were both in the cautious zone with 109% and 129% of the conservation limit achieved.

## NEWFOUNDLAND RIVERS

Assessments were carried out on 20 rivers on the island of Newfoundland in 2019

Monitored Rivers in Newfoundland	SFA	Final Count 2019	% Difference Vs 2014-2018 Average	% Difference Vs 2004-2018 Average	Stock Status (preliminary)
Exploits River	4	13356	-44	-56	Healthy
Campbellton River	4	2998	-17	-22	Healthy
Salmon Brook	4	1491	+45	+19	Cautious
Terra Nova River	5	6607	+43	+67	Cautious
Middle Brook	5	2022	-36	-20	Healthy
Northwest River	5	2551	-	-	Healthy
Rocky River	9	533	-	-	Critical
Northeast River Placentia	10	538	-	-	Healthy
Garnish River	11	279	-	-	Critical
Conne River	11	423	-65	-78	Critical
Little River	11	2	-95	-99	Critical
Corner Brook Stream	13	78	-29	-	Cautious
Harry's River	13	2980	-19	-9	Cautious
Little Barachois Brook	13	618	-	-	Critical
Middle Barachois Brook	13	565	-	-	Critical
Robinsons River	13	946	-	-	Critical
Western Brook	14A	238	-	-	Critical
Torrent River	14A	3327	-32	-32	Healthy
Western Arm Brook	14A	489	-65	-63	Critical
Deer Arm Brook	14A	310	-	-	Healthy

■ Critical - <100% CL   
 ■ Cautious – 100-149% CL   
 ■ Healthy – ≥150% CL

Table derived from 2019 Atlantic salmon fishway counts by Fisheries and Oceans Canada

## QUEBEC

*Note: The Government of Quebec, under agreement with Fisheries and Oceans Canada, is the principle manager of Atlantic salmon in the province. Under the current 10-year management plan, officials use optimal egg deposition as a measure of river health (see glossary for details).*

- 37 rivers were assessed in 2019 through a combination of counting fences, angler reports, and other physical surveys.
- 13 surpassed the optimal egg deposition target while 24 did not.
- Of the 24 rivers that did not meet optimal egg deposition targets, nine were assessed below minimum egg deposition targets
- Rivers surpassing the optimal level included the **Bonaventure, Cascapedia, Grande-Rivière, St-Jean (Gaspé), York, Dartmouth, Madeleine, Sainte-Anne, Cap Chat, Matane, Rimouski, St-Jean (Saguenay), and Vieux Fort**
- Among the better-known rivers that failed to reach optimal egg deposition in 2019 were the **Petite Cascapedia, Matapedia, Causapsal, Patapédia, Jacques Cartier, Malbaie (Charlevoix), A Mars, Trinité, Aux Rochers,** and the **Jupiter River** on Anticosti Island.

## GULF OF ST. LAWRENCE

*Note: Like Newfoundland and Labrador, Fisheries and Oceans Canada's Gulf Region is implementing a precautionary approach to Atlantic salmon management in the area. A limit reference point which divides the critical and cautious zones has been defined, but Gulf Region managers have not established an upper stock reference which divides the cautious and healthy zones.*

- In 2019, the **Restigouche River** was in the critical zone with an estimated 4,145 large salmon and 4,700 grilse returning to the river and its tributaries. The trend over the past 12-years is for a 46 and 51% decline respectively. The Restigouche River has now been in the critical zone for 9 of the last 12 years.
- Overall, the **Miramichi River** system, including both main branches and their tributaries, saw an estimated 6,500 large salmon and 8,800 grilse return in 2019, the lowest count for large salmon since data collection began in 1971 and a 33% declining trend over the past 12-years. Grilse returns showed a 68% declining trend over the same period.
- The **Southwest Miramichi** was in the critical zone in 2019. Large salmon and grilse returns showed a 39 and 72% declining trend respectively compared to the past 12-years.
- The **Northwest Miramichi** showed a 10% decline in large salmon and 55% declining trend in grilse over the past 12-years.
- **Prince Edward Island** – 10 of the 25 rivers currently known to have salmon on P.E.I. were surveyed by redd count in 2019. Only the **Naufrage** and the **Morell** exceeded the limit reference point at 138% and 193% respectively. Comparisons with 2018 are difficult because only three rivers had complete surveys that year.
- **Nova Scotia** Salmon abundance in the province is determined by analyzing data from anglers. Approximately 20% of the 2,450 recreational salmon license holders in Nova Scotia returned information last year. Along the **Northumberland Strait rivers** of mainland Nova Scotia, the **West River (Antigonish), East River (Pictou) and River Philip** all saw declines in large salmon catches last year compared to 2018. On the **Margaree**, the median estimate of 2,515 large salmon and 584 grilse were both below the long-term return averages. The estimated number of eggs deposited by returning salmon in the Margaree exceeded the limit reference point in 2019 and has every year since 1987.

## SCOTIA-FUNDY

*Note: Fisheries and Oceans Canada's Maritimes Region oversees wild Atlantic salmon throughout the Bay of Fundy and along the Atlantic coast of Nova Scotia. Managers in the Maritimes Region have not adopted new egg deposition values to support implementation of the precautionary approach to management and still rely on the old singular conservation requirement to assess population health.*

- The **Middle, Baddeck** and **North** rivers in eastern Cape Breton were all assessed using angler data and dive counts, where snorkelers physically count large salmon and grilse. The estimated number of eggs deposition in each river was below conservation egg requirement .

- The **LaHave River** was at 4% of its conservation egg requirement in 2019, with returns of 11 large salmon and 142 grilse.
- The **St. John River** at Mactaquac had returns of 202 large salmon and 507 grilse, a combination of wild and captive reared individuals accounting for 11% of the river system's conservation egg limit. These are the second lowest returns on record.
- The **Nashwaak River** in 2019 had 68 large salmon and 238 grilse return, accounting for 5% of its conservation egg requirement.
- The **Magaguadavic River** in 2019 had 78 aquaculture escapees and 1 salmon determined to be of wild origin.
- The **Inner Bay of Fundy** is the only population of wild Atlantic salmon in Canada listed on the federal *Species at Risk Act*. It remains near extirpation despite recovery efforts.

## UNITED STATES

*Note: Population health is determined using a conservation limit which is the "number of returning Atlantic salmon needed to fully utilize all juvenile rearing habitats." The United States Atlantic Salmon Assessment Committee uses counts of maiden two-sea winter adult Atlantic salmon to determine the percentage of the conservation limit achieved.*

- Total returns of large salmon and grilse to the U.S. was 1,535 in 2019, almost entirely to rivers which empty into the Gulf of Maine, the 9th highest figure since 1991.
- 74% of U.S. returns were large salmon and 26% were grilse. The number of natural origin Atlantic salmon, 368, is the second highest since 2008. Nearly 4.75 million juvenile salmon of varying ages were released from hatcheries into U.S. rivers last year.
- **Penobscot** had 1,196 salmon returning, equal to 7% of the river's two-sea winter salmon conservation limit
- The **Pleasant River** in Downeast Maine had 21 salmon returning, providing 16% of the river's two-sea winter conservation limit.
- While the **Kennebec** had 53 adult salmon return, they accounted for only 1.2% of the river's two-sea winter conservation limit.
- The **Narraguagus** attained 15% of its two-sea winter conservation limit

## II. SUMMARY OF HARVESTS

*Note: Recreational anglers harvest wild Atlantic salmon in Quebec and Newfoundland and Labrador. New Brunswick, Nova Scotia, and P.E.I. have live release recreational fisheries. Indigenous Food, Social, and Ceremonial fisheries for wild Atlantic salmon occur in all eastern provinces except P.E.I. No fishery for Atlantic salmon occurs in the United States. Catch reporting in Canada remains poor.*

### OVERALL HARVEST

- It is estimated that **127 metric tons (t)** of North American wild Atlantic salmon was harvested in 2019. The breakdown is as follows:
  - **Canada** reported an estimated 93.8 t of reported catch and a further 11.6 t of unreported catch for a total of 105.4 t. The harvest is split roughly 50/50 between grilse and large salmon.
  - **Greenland** reported a 2019 total harvest of 34.6 t to the North Atlantic Salmon Conservation Organization. This is comprised of 28.8 t of reported catch and an estimated 5.8 t of unreported catch. Of this total, 72% of fish harvested were of North American origin, equal to 20.3 t or 6,800 salmon. The reported element of the Greenland catch is significantly lower than the 39.9 t in 2018.
  - **St-Pierre et Miquelon (France)** reported a harvest of 1.3 t.
- No harvest took place in the **United States of America**

## HARVEST IN NORTH AMERICA BY GROUP

- Canada - Indigenous 57% (54 t)
- Canada - Recreational 40% (38 t)
- Labrador Resident 2% (2 t)
- St-Pierre et Miquelon 1% (1 t)

## GREENLAND HARVEST IN DETAIL

*Note: An annual sampling program carried out by member countries of the North Atlantic Salmon Conservation Organization at Greenland provides information about the origin of fish captured. Nearly half of the Greenland harvest came from three areas of Canada; the Gaspé Peninsula (19%), Gulf of St. Lawrence region (14%) and Labrador (14%).*

- About 122 salmon taken by Greenland fishermen in 2019 were of U.S. origin where salmon are listed on the federal Endangered Species Act. This accounts for 2% of the total Greenland harvest.
- The largest European component was 28% from the United Kingdom and Ireland
- The 2019 reported catch of 28.8 t is down from the 39.9 t catch in 2018
- Reporting of salmon catches by fishermen in Greenland is high. The national government has made significant investment in improvements since 2018. In 2019, 276 commercial and 361 private license holders reported catch information, representing 91 and 87% of license holders, compared to persistent poor reporting in many Canadian recreational and Indigenous fisheries.

## III. ADVICE TO COUNTRIES

*The International Council for the Exploration of the Sea provides advice to member countries of the North Atlantic Salmon Conservation Organization. The Council's advice for the 2018-2020 period remains unchanged. It is:*

- There is no surplus of Atlantic salmon to support mixed stock fisheries in Canada, Greenland, or Ste-Pierre et Miquelon.
- In-river fisheries that harvest salmon should only take place where these populations are exceeding conservation requirements.
- Mixed stock fisheries present particular threats, and should be managed based on the individual status of all stocks exploited in the fishery

## IV. ABOUT ASF'S STATE OF WILD ATLANTIC SALMON REPORT

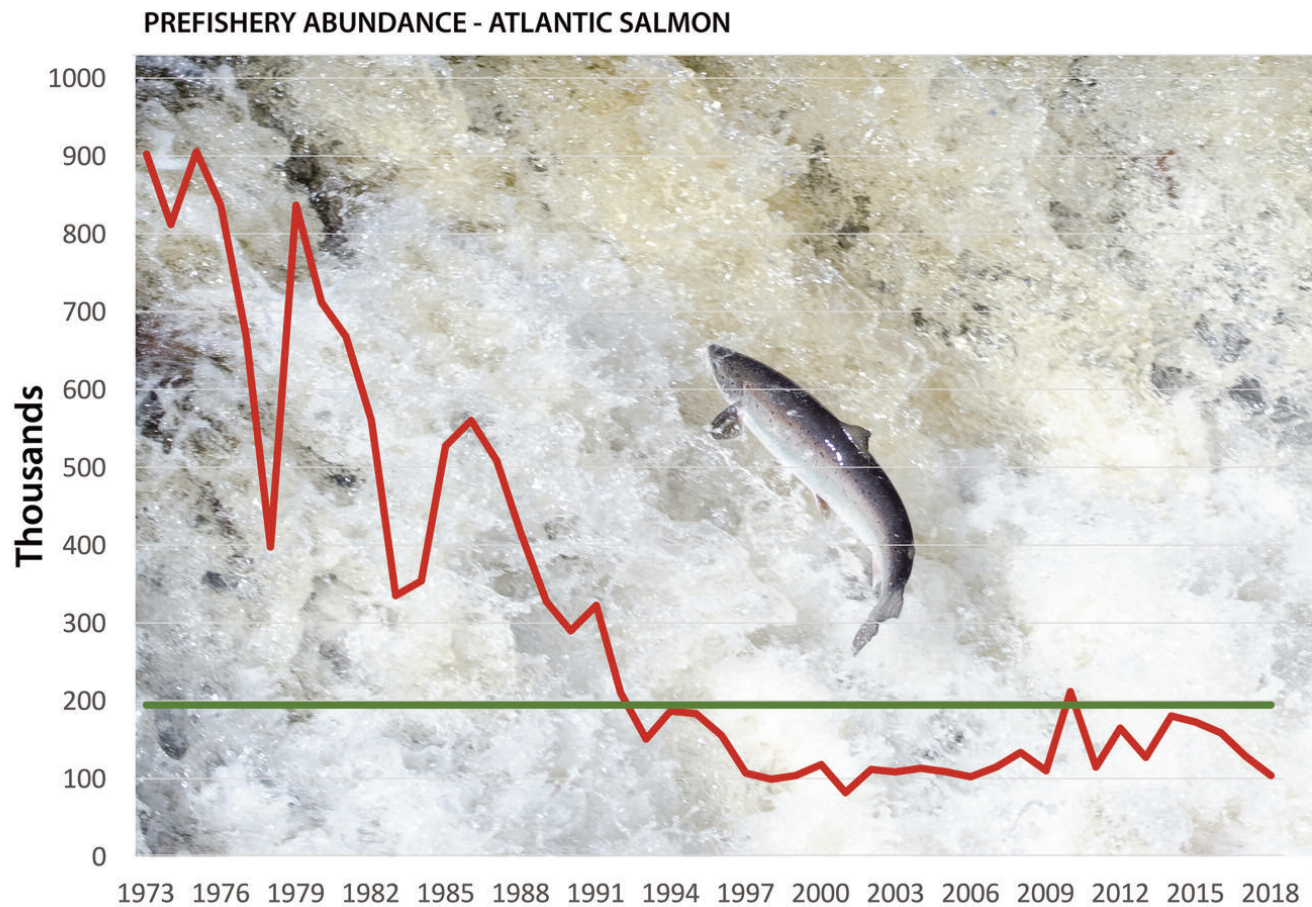
Every year ASF compiles and analyzes publicly available information on North American wild Atlantic salmon and attempts to provide a concise report on the status of populations. The information in this report reflects preliminary data for 2019 Atlantic salmon returns. It takes several months for scientists to convert raw data to abundance estimates.

Primary sources for this report include the final report of the International Council for the Exploration of the Sea's Working Group on North Atlantic Salmon, on which ASF is represented, the final report for 2019 of the United States Atlantic Salmon Assessment Committee, and various stock status updates and reports from Fisheries and Oceans Canada and from the Province of Quebec.

## V. PRE-FISHERY ABUNDANCE

Pre-fishery Abundance is a measure of salmon abundance at sea before any harvest takes place in a given year. Pre-fishery abundance of North American two-sea winter Atlantic salmon has been compiled by ICES since 1973. Although the graph does not capture abundance of all types of adult Atlantic salmon, it does illustrate a general trend. The green line is the total number of two-sea winter salmon required to meet the minimum conservation limit in North American rivers, equal to approximately 194,000 fish

Source: 2020 report of the ICES Working Group on North Atlantic Salmon



## GLOSSARY OF TERMS

**Grilse:** Adult Atlantic salmon which have spent one winter at sea. Grilse are usually less than 63-centimeters in length.

**Large salmon:** All adult Atlantic salmon other than grilse including maiden fish that have spent two or more years at sea and salmon spawning for the second or more time. Large salmon usually exceed 63-centimeters in length.

**Limit reference point:** A biological determination that separates the critical and cautious management zones. With regards to Fisheries and Oceans Canada's precautionary approach framework, the limit reference point is "the stock level below which productivity is sufficiently impaired to cause serious harm."

**Two Sea-Winter Salmon:** A subset of large salmon that have spent two years at sea before returning to spawn for the first time. They are the most common returning age class of salmon harvested at Greenland when they are one sea-winter age.

**Optimal egg deposition:** A measure of population health used by the Quebec provincial government that takes into account the total productive habitat in a given river and the eggs required to make optimal use of it.

**Conservation egg requirement:** A measure of population health used by officials in Fisheries and Oceans Canada's Maritimes Region formerly known as the conservation limit. It is the eggs required in a given river to sustain populations, below which serious harm may occur.

**Upper stock reference point:** A biological and socio-economic determination that separates cautions and healthy management zones. With regards to Fisheries and Oceans Canada's precautionary approach framework, the upper stock reference is "the threshold below which removals must be progressively reduced in order to avoid reaching the [limit reference point]."

**Conservation Limit:** A measure applied to United States populations of Atlantic salmon that is determined by the "number of returning Atlantic salmon needed to fully utilize all juvenile rearing habitats."

**Mixed Stock Fishery:** Fisheries that occur in certain rivers, estuaries, and at sea which target Atlantic salmon from several distinct populations. Fishermen in Canada, Greenland, and France at St-Pierre et Miquelon carry out mixed stock fisheries against the advice of the International Council for the Exploration of the Sea.

**International Council for the Exploration of the Sea (ICES):** A scientific organization based in Copenhagen, Denmark, that provides non-biased fishery advice to member countries, including Canada and the United States. ICES convenes its Working Group on North Atlantic Salmon each year to review data provided by member countries of the North Atlantic Salmon Conservation Organization and from Iceland, which is no longer a NASCO member.

**North Atlantic Salmon Conservation Organization (NASCO):** A treaty organization founded in 1984 that gives member countries the ability to discuss and influence fishery management decisions affecting wild Atlantic salmon populations. NASCO holds an annual meeting and is comprised today of six member Parties and 44 accredited NGOs.