State of North American Atlantic Salmon Populations, May 2019

A compilation of reports from the International Council for the Exploration of the Sea and Fisheries & Oceans Canada based on 2018 Atlantic salmon data. For an explanation of terms and concepts see the glossary at the end of this report.

SCIENTIFIC ADVICE & RECOMMENDATIONS

The International Council for the Exploration of the Sea (ICES) advises:
• There is no surplus of Atlantic salmon to support mixed stock coastal fisheries in Canada or Greenland.
• In-river salmon fisheries should only take place where specific populations are exceeding conservation requirements.
• Complete and timely reporting of catch statistics from all Canadian Atlantic salmon fisheries is recommended
• Additional monitoring is required to accurately estimate stock status in Labrador

COUNTRIES THAT CONTRAVENTED SCIENTIFIC ADVICE BY HARVESTING MIXED POPULATIONS OF NORTH AMERICAN SALMON IN 2018

• Canada, Greenland, and France at St-Pierre et Miquelon

SUMMARY: 2018 NORTH AMERICAN SALMON RETURNS

• Small salmon, also known as grilse, rebounded in 2018. Returns were estimated to be 581,000, the third highest total in the 48-year time series and 29% above 2017 estimates. The vast majority of North American small salmon (92%) return to Newfoundland and Labrador.
• Returns of large salmon, which include multi-sea-winter salmon and salmon that have previously spawned, were estimated to be 131,800 in 2018, 24% lower than the estimate of 161,500 in 2017 and even lower than the estimated 173,900 large salmon in 2016. The vast majority of large salmon in North America (81%) return to three regions: Labrador, Quebec, and the Gulf (Southern Gulf of St. Lawrence).
• Of the 878 wild Atlantic salmon rivers identified in North America, 86 were assessed in 2018. It was estimated that 44% reached defined conservation limits while 33% received less than half the number of eggs required to prevent declines.

SUMMARY: 2018 NORTH ATLANTIC SALMON HARVESTS

• The reported Canadian harvest was estimated to be an all-time low 89.5 metric tons in 2019, with an additional estimated 24.4 metric tons of unreported catch, mostly due to poaching.
• The estimated Greenland harvest in 2018 was 39.9 metric tons.
• No fishery for North American Atlantic salmon occurred at the Faroe Islands as a result of an ongoing conservation agreement involving ASF.
• Only 1 metric ton of salmon was harvested by France at St-Pierre and Miquelon in 2018.
• No Atlantic salmon fishery occurred in the United States.
REGIONAL RETURNS AND POPULATION HEALTH

ICES uses six assessment regions in North America (see figure below)

QUEBEC

• Returns to Quebec reached 63% of the two-sea-winter salmon conservation limit in 2018. This measure excludes small salmon, repeat spawners, and maiden salmon which have spent more than two winters at sea.
• The number of returning large salmon and small salmon to Quebec rivers was estimated to be 27,800 and 23,700 respectively.
• The number of returning large salmon was the third lowest on record for Quebec.
• Overall estimates were based on 36 assessed rivers. Of these, 27 met or surpassed egg deposition conservation limits, which includes contributions from large and small salmon.
• Rivers surpassing egg deposition conservation limits include the Cascapedia (964%), York (348%), Dartmouth (392%)
• Rivers not meeting egg deposition conservation limits in 2018 include the Grand Pabos (57%), Ouelle (19%), Aux Rochers (85%), and MacDonald (42%)

LABRADOR

Note: Only four counting facilities exist in Labrador and only one of these is in northern Labrador. Information from these four facilities are used to determine return estimates for all 96 Labrador rivers.

• Returns to Labrador reached 75% of the two-sea-winter salmon conservation limit in 2018. This measure excludes small salmon which are the majority of returning adults to Labrador. It also excludes repeat spawners, and maiden salmon which have spent more than two winters at sea.
• The number of adults returning to Labrador in 2018 was estimated to be 285,000 small salmon and 45,900 large salmon. This represents a 74% increase and 40% decrease respectively compared to 2017.
• The English River in northern Labrador reached 237% of its egg deposition conservation limit in 2018. In southern Labrador, Muddy Bay Brook achieved 132% of its egg deposition conservation limit, but Southwest Brook, and Sand Hill did not, at 77% and 95% respectively.
• Overall, small and large salmon returns to Labrador have oscillated around an upward trend since the closure of commercial salmon fisheries in 1998.
NEWFOUNDLAND

- Returns to Newfoundland reached 58% of the two-sea-winter salmon conservation limit in 2018. This measure excludes returning small salmon which represent the majority of returning adults to Newfoundland. It also excludes repeat spawners, and maiden salmon which have spent more than two winters at sea.
- The number of adults returning to Newfoundland in 2018 was estimated to be 252,400 small salmon and 22,900 large salmon. This represents a 8% increase and a 19% decrease respectively compared to 2017. Small salmon returns were the highest on record since 2015.
- Nine of 17 rivers with counting facilities met egg deposition conservation limits.
- In 2018, the Conne, an index river for Newfoundland’s south coast, where wild salmon have been assessed as Threatened by COSEWIC, declined to 21% of its egg deposition conservation limit. Harry’s River in western NL met 101% of its egg deposition conservation limit compared to 73% in 2017. The Exploits River reached 31% of its egg deposition conservation limit in 2018 compared to 25% in 2017. Rivers on the Northern Peninsula did very well, with the Torrent and Western Arm Brook reaching at 712%, and at 499% of egg deposition conservation limits respectively.
- Elsewhere, the Campbellton River improved to 408% of egg CL, and Middle Brook 378%.
- Overall, one-sea-winter salmon and multi-sea-winter salmon returns to Newfoundland have oscillated around an upward trend since the closure of commercial salmon fisheries in 1992.

GULF (SOUTHERN GULF OF ST. LAWRENCE)

Note: In 2018, DFO began implementation of the precautionary approach to fisheries management for Atlantic salmon in the southern Gulf of St. Lawrence region by defining new thresholds to assess population health. As a result of the supporting science which shows the rivers are seeded primarily by large salmon which are bigger, and more productive in eggs than small salmon, DFO revised the number of returning adults required to meet minimum egg deposition requirements for the region from 30,430 to 18,737. In accordance with the precautionary principle, the Miramichi and Restigouche river systems will be assessed relative to two reference points that determine whether populations are placed in the critical, cautious, or healthy zone. These parameters may be applied to other Gulf rivers in the future, but for now, systems like the Margaree are still assessed using standard egg deposition conservation limits.

- Returns to the Southern Gulf of St. Lawrence reached 127% of the new two-sea-winter salmon conservation limit in 2018. Under previous guidelines, 77% of the two-sea-winter salmon conservation limit would have been reached. This measure excludes returning one-sea-winter salmon. It also excludes repeat spawners, and maiden salmon which have spent more than two winters at sea.
- An estimated 33,100 large salmon returned to the Southern Gulf of St. Lawrence in 2018, a 16% increase over 2017 returns.
- Small salmon declined again in 2018 to an estimated 19,100, the third lowest count on record and a 20% drop from 2017.
- The Southwest Miramichi River had estimated returns of 20,600 small and large salmon. As a result, its current conservation status is in the cautious zone.
- The Northwest Miramichi River had estimated returns of 6,600 small and large salmon. As a result its current conservation status is in the critical zone.
- The Restigouche River and its tributaries (excluding the Matapedia River), had estimated returns of 5,159 large salmon and 3,158 small salmon in 2018. This represents a 32% decline in large salmon and a 28% increase in small salmon. Its current conservation status is in the critical zone.
- The Margaree River had estimated total returns of 2,250 large salmon and 456 small salmon in 2018, representing 49% and 22% increase respectively compared to 2017. Both figures remain below the long-term average of 2,750 large salmon and 900 small salmon.
- On Prince Edward Island, 24 salmon rivers were surveyed in 2018. Five rivers in the Island’s northeast exceeded egg deposition conservation limits. On the rest of the island, two rivers exceeded 50% of egg deposition conservation limits and 17 were at less than 50%.

SCOTIA-FUNDY

Note: Wild Atlantic salmon throughout the Scotia-Fundy assessment region remain at or near historic lows. Many populations in the Bay of Fundy and the Atlantic coast of mainland Nova Scotia have been lost. Others are the target of enhance-
Returns to the Scotia-Fundy region reached 6% of the two-sea-winter salmon conservation limit in 2018. This measure excludes returning small salmon, repeat spawners, and maiden salmon which have spent more than two winters at sea.

Small salmon returns to the region were estimated to be 1,346, the second lowest figure on record.

Returns to the St. John River above Mactaquac were 63 large salmon and 446 small salmon in 2018. The large salmon count was the lowest on record while small salmon were up slightly from 326 in 2017.

Approximately 1% of the egg deposition conservation limit was achieved by wild salmon in the St. John River in 2018. However 744 captive reared fish were also released above Mactaquac, increasing egg deposition to an estimated 6% of the conservation limit.

Estimated returns to the Nashwaak River were 31 large salmon and 89 small salmon, a 69% and 56% decrease from 2017 numbers of 100 large and 203 small salmon respectively.

In Eastern Cape Breton, the Middle, Baddeck, and North rivers reached 60%, 43% and 40% of their egg deposition conservation limit in 2018, all down from 2017.

The LaHave River reached an estimated 4% of its egg deposition conservation limit in 2018, down from 7% in 2017, and similar to results in 2016.

**UNITED STATES**

**Note:** Atlantic salmon return to rivers between Connecticut and Maine, but populations are at critically low levels. There is no harvest of Atlantic salmon in the U.S.A. as a result of listing under the Endangered Species Act. In February 2019, the U.S. federal government released an official recovery plan for the species.

Returns to U.S. rivers met 3% of the two-sea-winter salmon conservation limit. Estimated 2018 returns were 550 large salmon and 320 small salmon, a 20% and 11% drop from 2017 respectively.

The Penobscot River had 480 large salmon and 289 small salmon, totalling 769 compared to total returns of 849 in 2017.

The Kennebec River had 8 large salmon and 3 small salmon in 2018, compared to 38 total fish counted in 2017.

Returns to the Narraguagus in 2018 were 20 large salmon and 22 small salmon. The large salmon returns more than doubled the previous year.

**2018 NORTH AMERICAN SALMON HARVESTS**

**CANADA**

Total 2018 harvest in Canada was estimated to be 89.5 metric tons or approximately 36,185 large and small salmon. It the lowest recorded figure in the historical series of data.

The estimated Canadian harvest was comprised of 8,420 large salmon and 27,765 small salmon. This represents a 27% decrease in large salmon harvested and an 11% decline in small salmon compared to 2017.

In 2018, an estimated 41% of all salmon were harvested in rivers, 51% in estuaries and 8% in coastal waters. This is a significant increase in the proportion of salmon harvested in estuaries, likely the result of reduced recreational catches in Quebec and Newfoundland and Labrador.

Recreational retention fisheries occurred in Quebec and Newfoundland and Labrador accounting for an estimated 34.7 metric tons or 39% of the overall Canadian harvest. An estimated 960 large salmon were harvested along with 17,627 small salmon.

Indigenous food, social and ceremonial fisheries took place in New Brunswick, Nova Scotia, Quebec, and Labrador accounting for an estimated 53.4 metric tons or 60% of the overall Canadian harvest. An estimated 7,305 large salmon and 9,700 small salmon were harvested.

The Labrador Resident Food Fishery accounted for an estimated 1.5 metric tons or 2% of the overall Canadian harvest. This represent a slight increase over 2017 harvest

Canada estimates that 24.4 metric tons of salmon were killed as unreported catch, mostly from poaching.

Live release recreational fisheries occurred throughout Atlantic Canada and Quebec in 2018. More than 70% of all salmon caught by anglers were released, including an estimated 22,476 large salmon and 27,708 small salmon. This is the highest percentage of salmon released since the time series began in 1991.
GREENLAND

**Note:** Atlantic salmon from more than 2,000 rivers overwinter off the coast of Greenland. A domestic subsistence and professional fishery allows license holders to set nets August 15 and October 31 every year, or until quotas are reached.

• Greenland’s 2018 reported salmon harvest was 39.9 metric tons, all made up of salmon destined to return as large fish. This figure is in excess of the 2018 NASCO regulatory measure which established a 30 metric ton quota and the Greenland Salmon Conservation Agreement involving ASF, the North Atlantic Salmon Fund, and Greenland’s union of professional fishermen, which has established a 20 metric ton quota.

• The overharvest was detected as a result of mandatory reporting requirements established by the Greenland Salmon Conservation Agreement and subsequent NASCO regulatory measures.

• ASF and its partners in the conservation agreement are working closely with the Greenland government to further strengthen reporting procedures to prevent overharvest in future years.

• In 2018, the reported harvest was 80% North American origin, equal to approximately 10,600 salmon (32.4 t). The proportion of North American salmon is up from 74% in 2017, and 64% in 2016.

• Genetic sampling in 2018 showed that 70% of the North American salmon harvested at Greenland came from three regions: Quebec, Labrador, and the Gulf (Southern Gulf of St. Lawrence).

ST-PIERRE ET MIQUELON (FRANCE)

• The estimated catch for fishermen at St-Pierre and Miquelon of 1.3 metric tons in 2018 is the lowest reported harvest since 1995.

• Genetic sampling conducted in 2018 and 2017 determined that 60% of fish caught off St-Pierre were of Newfoundland origin.

FAROE ISLANDS

• No fishery was conducted at the Faroe Islands in 2018. The last time salmon fishing occurred was in 2000, and that is the only occurrence since 1991. The cessation is largely the result of private conservation agreements with commercial license holders involving ASF and the North Atlantic Salmon Fund.

• ICES advises there should be no catch in 2019 and 2020 at the Faroe Islands, because of population declines in home water countries of Europe.

• Recent genetic analysis of scales from salmon harvested off the Faroes in the early 1990s has shown approximately 18% were of North American origin, a higher incidence than previously believed. No sampling has been conducted in recent years.

BACKGROUND

**The ICES Report Process:**

• Government and non-government organizations gather data, then during the following winter compile and compute results. Through the Working Group on North Atlantic Salmon, part of the International Council for Exploration of the Sea (ICES) based in Copenhagen, Denmark, scientists evaluate and compile the available information and produce an annual report usually released in May.

• The ICES report provides non-biased advice to the North Atlantic Salmon Conservation Organization (NASCO) and its members ahead of an annual assembly that takes place in June.

• NASCO is composed of delegations from most countries with resident Atlantic salmon populations in North America and Europe. Go To: https://tinyurl.com/wgnas-salmon-2019
**GLOSSARY OF TERMS**

**Grilse**
Atlantic salmon that spend one winter at sea, then return to their home river to spawn. Some rivers, and groups of rivers have mostly grilse.

**Two-Sea-Winter (2SW) Salmon**
Atlantic salmon spending two winters at sea before returning. They are the most common fish harvested in Greenland waters.

**Multi-Sea-Winter (MSW) Salmon**
Atlantic salmon, including Two-Sea-Winter salmon, that spend more than a single winter at sea. Some may spend three or more winters, and may return to spawn several times. Some rivers are mostly composed of multi-sea-winter salmon.

**Mixed Population/Mixed Stock Fishery**
At sea, in coastal areas, and some estuaries, there may be Atlantic salmon from several different rivers. Some of these may come from endangered populations, and are caught alongside salmon from healthy stocks. This occurs at Greenland, coastal Labrador, and St-Pierre et Miquelon.

**Minimum Conservation Limit:**
The minimum conservation limit is the threshold for spawning adult salmon below which populations are unable to sustain themselves and begin to decline.

**Egg Conservation Limit (Egg CL)**
The minimum deposition of Atlantic salmon eggs in a river required to sustain the population.

**CL for 2SW Spawners**
The minimum number of large Atlantic salmon that must successfully spawn for a river to sustain its population.

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*Pre-fishery Abundance (PFA) is a measure of abundance at sea before any harvest takes place in a given year. The green line is the total number of 2SW salmon required to meet the Minimum Conservation Limit in North American rivers, equal to 193,697 at the time PFA is estimated. ICES 2019 report of the Working Group on North Atlantic Salmon*