



Report of the 2023 Labrador Mixed-Stock Atlantic Salmon Fisheries

EXECUTIVE SUMMARY

- Atlantic salmon fisheries in Labrador that take place in estuaries and coastal areas using gillnets are considered to be mixed-stock fisheries. The management of these fisheries includes a number of conditions related to gear, seasons, weekly fishery closures, limits on total catch using carcass tags, logbook catch reporting, and prohibition on sales.
- The majority of salmon caught in these fisheries are within estuaries (84.2% in 2023) where the potential for the interception of non-local stocks is reduced.
- The logbook reporting rate (i.e., percentage of total tags reported) for the four user groups was 60% in 2023 (range 51% to 93%).
- The estimated total catch (i.e., adjusted for non-reporting) in 2023 was 46.2 t (15,403 salmon by number, 7,677 small salmon and 7,726 large salmon). The reported catch from 2010 to 2023 ranged from 32.5 t to 42.4 t.
- A sampling rate of at least 10% of the Labrador FSC and resident fisheries catch is required to detect the low proportions of non-local stocks in these fisheries (ICES WGNAS 2021). Since 2020, sampling effort and genetic analyses were directed toward the northern and southern Labrador coasts where the interception of non-local stocks is most likely to occur. The 2023 sampling rate along the Labrador coasts was 8.7%.
- A total of 726 tissue samples were successfully analysed for genetic origin in 2023. As in previous years, the majority of samples (95%) assigned to Labrador genetic reporting groups. One small salmon (< 63 cm fork length) caught in southern Labrador assigned to the USA genetic reporting group.
- A total of 10,808 Labrador fishery samples have been analysed for genetic origin from 2006–2023. Less than 0.1% (8 small salmon and 5 large salmon) have assigned to the USA genetic reporting group.

INTRODUCTION

In support of the North American Commission agenda item to address mixed-stock fisheries in domestic waters of Commission member Parties, this document presents the following information regarding the 2023 Labrador mixed-stock fisheries:

- fisheries management measures
- preliminary catch by salmon size (small < 63 cm fork length and large \geq 63 cm fork length) and geographic location of catch (in-river, estuarine, and coastal)
- summary of the biological sampling program and genetic origin of samples

There are currently three Atlantic salmon fisheries in Canada: (1) Indigenous food, social and ceremonial (FSC) fishery, (2) Labrador resident trout/charr fishery that permits a salmon bycatch of 3 salmon, and (3) in-river recreational angling fishery. All commercial Atlantic salmon fisheries under Canadian jurisdiction have been closed since 2000 and the sale of Canadian wild Atlantic salmon, regardless of fishery source, is prohibited.

FSC fisheries in Quebec and the Maritime provinces generally occur in close proximity to rivers and within tidal waters. The Labrador FSC and resident fisheries occur in both estuaries and coastal waters adjacent to remote coastal communities. These two Labrador fisheries have been shown to intercept salmon from other regions of eastern North America and are considered mixed-stock fisheries by NASCO.

MANAGEMENT MEASURES

Labrador is divided geographically in three Salmon Fishing Areas (SFAs) for fisheries management purposes: northern Labrador coast SFA 1A, central Labrador Lake Melville SFA 1B and southern Labrador coast SFA 2 (Figure 1).

In previous years, the fishing season and mesh sizes in the Labrador FSC and resident net fisheries were modified in an effort to reduce the capture of large salmon while maintaining the opportunity to catch small salmon, trout, and charr.

General management measures:

- carcass tags are required to be placed on all Atlantic salmon at time of capture
- catches are limited by the number of tags allocated
- the number of fishers is limited to one designate or licence holder per household
- only nylon twine netting is permitted (monofilament not permitted)
- net must be set in a straight line
- gear must be clearly marked with the full name of the fisher and other group specific information as required
- nets must be removed from the water between 6:00 pm Sunday and 6:00 pm Monday
- nets are not to be left unattended for a period of more than 24 hours
- completed catch logbook must be submitted to Fisheries and Oceans Canada (DFO) at the end of season
- all sales of Atlantic salmon are prohibited

Resident Subsistence Trout Fishery

There is a long-standing tradition of trout net fishing in Labrador targeting Brook trout/Brook charr (*Salvelinus fontinalis*) and Arctic charr (*Salvelinus alpinus*). Following the 1998 closure of the commercial salmon fishery in Labrador, there was an increased dependency on the trout fishery for subsistence purposes. A subsistence trout net licence is required and provided to residents of Labrador to catch trout. There is a recognized bycatch of 3 Atlantic salmon per licence in trout nets and management measures are in place to minimize catch.

- 215 licences were issued in 2023 and the number varied by SFA:
 - 5 in northern Labrador SFA 1A
 - 137 in central Labrador SFA 1B
 - 73 in southern Labrador SFA 2

Additional management measures:

- seasonal limit of 50 trout/charr
- maximum bycatch of three Atlantic salmon
- fishing must cease when either the three salmon bycatch or 50 trout/charr limits are taken
- licence holders are permitted to use a single net with a maximum length of 15 fathoms
- mesh size permitted is not less than 102 mm (4 inches)
- mesh size greater than 127mm (5 inches) is not permitted in Northern Labrador
- seasons in 2023 varied by SFA:
 - northern Labrador SFA 1A: 24 June to 23 July
 - central Labrador SFA 1B: 15 June to 2 July and 22 July to 20 August (Kenamu River area closes 30 July)
 - southern Labrador SFA 2: 8 July to 30 July

Indigenous food, social, and ceremonial (FSC) fisheries

In response to the Supreme Court of Canada decision interpreting Section 35 of the Constitution Act of 1982, DFO provided resource access to Indigenous groups of Labrador for FSC purposes. Between 1999 and 2005, a FSC fishery was made available for members of the Labrador Inuit Association (LIA) in northern Labrador (SFA 1A) as well as the Lake Melville area in central Labrador (SFA 1B) (Figure 1). In 2006, with the signing of the LIA Land Claims Agreement, a subsistence fishery with the Nunatsiavut Government (NG) which is the successor organization to the LIA was negotiated within Upper Lake Melville (ULM) and the Labrador Inuit Settlement Area (LISA). The Innu Nation also fishes for salmon in Lake Melville from the community of Sheshatshiu and in Northern Labrador from Natuashish (Figure 1). The NunatuKavut Community Council (NCC) negotiated a subsistence salmon fishery in southern Labrador (SFA 2) in 2004 and ULM (SFA 1B) in 2013 (Figure 1). A total of 18 200 tags were allocated to Labrador FSC fisheries in 2023.

Specific 2023 management measures by FSC group:

Nunatsiavut Government

- Approximately 7000 beneficiaries
- 732 designated fishers

- 8700 tags issued
 - Upper Lake Melville (ULM):
 - 4000 tags issued
 - mesh size: minimum 3 inch to maximum 4 inch
 - maximum length of net permitted per household is 25 fathoms
 - season extends from 15 June to 8 July and 20 July to 1 September
 - fishing permitted in tidal waters of the ULM area outside LISA
 - Labrador Inuit Settlement Area (LISA)
 - 4700 tags issued
 - various minimum mesh size requirements from 3 to 5 inches
 - maximum length of net permitted per household is 25 fathoms
 - season extends from 15 June to 31 August
 - fishing permitted in tidal waters in various locations close to communities

Innu Nation

- Approximately 3200 members
- 121 designated fishers
- 2500 tags issued
 - Sheshatshiu
 - 2000 tags issued
 - mesh size: minimum 3 inch to maximum 4 inch
 - maximum net length based on location: 225 feet or 37.5 fathoms
 - season extends from 15 June to 15 September
 - fishing in tidal waters does not occur outside ULM
 - Natuashish
 - 500 tags issued
 - mesh size: minimum 3.5 inch to maximum 5 inch
 - maximum length of net permitted per household is 25 fathoms
 - season extends from 15 June to 15 September
 - fishing permitted in the tidal waters near the community

NunatuKavut Community Council

- Approximately 6000 members
- 1233 designated fishers
- 7000 tags issued
 - Southern Labrador

- 6400 tags issued
- mesh size: minimum 3.5 inch to maximum 4 inch
- maximum length of net permitted per household is 25 fathoms
- season extends from 1 July to 7 August
- fishing is permitted in tidal waters
- Upper Lake Melville
 - 600 tags issued
 - mesh size: minimum 3.5 inch to maximum 4 inch
 - maximum length of net permitted per household is 25 fathoms
 - season extends from 15 June to 8 July, and 20 July to 1 September
 - fishing permitted in tidal waters of the ULM area outside LISA

FISHERIES CATCH

Labrador FSC and resident fishers are required to use logbooks to record catch and effort information, including no effort (i.e., did not fish) or the number of unused tags. Data from returned logbooks are compiled by each user group and submitted to Fisheries and Oceans Canada (DFO) at the end of each season. Total catch for each user group is estimated by raising the reported catches proportionately based on the number of tags issued and reported (used or unused). The 2023 logbook reporting rate (i.e., percentage of total tags reported) for the four user groups was 60% (range 51% to 93%).

The total catch of Atlantic salmon in 2023 from the Labrador FSC and resident fisheries was 46.2 t. The proportion of catch from estuarine and coastal areas is based on fixed estimates for each community (Table 1). These estimates have been used since 2007 and were provided by the local Nunatsiavut Conservation Officers in northern Labrador (SFA 1A), DFO Fishery Officers and NunatuKavut Community Council Guardians in southern Labrador (SFA 2). Catches from the Lake Melville estuary area (SFA 1B) include catches from the community of Rigolet where 15% of the catch was attributed to the coastal area (Figure 1).

The majority of the Labrador FSC and resident fisheries catch, 38.9 t (84.2%), were caught from estuaries (Tables 2 and 3). From 2002 to 2022, the percentage of salmon taken from coastal areas ranged from 16% to 26%. Details of the 2023 Atlantic salmon catch (by weight and number) within each salmon fishing area (SFA) by salmon size category (small < 63 cm fork length and large \geq 63 cm fork length) are provided in Table 4. In Labrador, small salmon (< 63 cm fork length) are predominantly maiden one-sea winter (1SW) and large salmon (\geq 63 cm fork length) are maiden two-sea winter (2SW) or repeat spawners (1SW and 2SW). The large salmon comprised 67.7% by weight and 50.2% by number of the 2023 catch.

The Labrador resident fishery catch decreased after 2003 as many individuals fishing under the Labrador resident licence began fishing and reporting under the NCC negotiated subsistence fishery. Since 2004, the catch of Atlantic salmon in the resident fishery has varied between 1.4 t and 3.2 t, with large salmon representing between 23% and 67% of the total catch of salmon by weight and 13% to 51% of the total by number. In 2023, the total catch was the lowest on record at 1.2 t (0.5 t small salmon and 0.7 t large salmon) and 429 salmon by number (247 small salmon and 182 large salmon) (Table 5).

In 2023, the Labrador FSC fisheries catch was 45 t (15 t small salmon and 30 t large salmon) and 14,947 salmon by number (7,430 small salmon and 7,544 large salmon) (Table 6).

SAMPLING PROGRAM

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

In 2023, a total of 739 salmon were sampled: 137 from northern Labrador (SFA 1A), 111 from central Labrador (SFA 1B), and 491 from southern Labrador (SFA 2). The samples represent 8.7% of the catch by number along the north and south coasts (11.0% of small salmon, 5.6% of large salmon). Sampling was conducted in 12 communities (4 in SFA 1A, 3 in SFA 1B, and 8 in SFA 2) throughout the fishing season (Figure 2). Sample and catch by salmon size category and salmon fishing area (SFA) are presented in Table 7.

Not all scales can be interpreted for age. In 2023, the percent sea age composition was 70% 1SW, 24% 2SW, <1% 3SW (one sample) and 5% previously spawned salmon. All salmon samples interpreted for river age were two to seven years (modal age four). There was no river age one and few river age two salmon sampled suggesting that very few salmon from southern stocks of North America (USA, Scotia-Fundy) are exploited in these fisheries (Table 8).

Genetic origin of catch

In 2023, 726 Atlantic salmon tissue samples were successfully analysed for genetic origin using the SNP panel with 31 range-wide reporting groups (Table 9, Figure 3 and 4).

The estimated percent contributions (and associated 95% credible interval) to each reporting group in 2023 are shown in Table 10 and summarized in Figure 5. As in previous years (2006–2022), the estimated origin of the samples from the Labrador FSC catch were dominated (>95%) by the three Labrador genetic reporting groups. Furthermore, samples from each SFA (SFA 1A, SFA 1B, and SFA 2) assigned to the corresponding genetic reporting groups suggesting largely local catch.

One small salmon (< 63 cm fork length) caught and sampled in southern Labrador (SFA 2) in 2023 assigned to the USA genetic reporting group. A total of 10,808 Labrador fishery samples have been analysed for genetic origin from 2006–2023. Less than 0.1% (8 small salmon and 5 large salmon) have assigned to the USA genetic reporting group (Figure 6).

LITERATURE CITED

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Table 1. The proportion of the Labrador FSC and resident fisheries catch from estuarine and coastal areas is based on fixed estimates for each community.

Area SFA/Community	Proportion catch	
	Estuarine	Coastal
<hr/>		
North coast SFA 1A		
Makkovik	0.75	0.25
Postville	0.90	0.10
Hopedale	0.10	0.90
Nain	0.00	1.00
Central SFA 1B		
Lake Melville	1.00	0.00
Rigolet	0.85	0.15
South coast SFA 2		
Sandwich Bay	0.85	0.15
Black Tickle	0.01	0.99
Charlottetown Lodge Bay	to 0.70	0.30

Table 2. Labrador FSC and resident fisheries Atlantic salmon catch (t) by geographic location from 2002 to 2023 preliminary (2023P).

Year	Catch (t)			Catch (%)	
	Estuarine	Coastal	Total	Estuarine	Coastal
2002	14.0	3.6	17.6	79.6	20.4
2003	17.5	4.6	22.1	79.1	20.9
2004	24.8	6.8	31.5	78.6	21.4
2005	24.7	7.2	31.9	77.5	22.5
2006	25.0	7.8	32.7	76.3	23.7
2007	20.5	6.0	26.5	77.3	22.7
2008	26.9	9.4	36.3	74.1	25.9
2009	22.6	7.2	29.8	75.9	24.1
2010	29.7	6.8	36.5	81.4	18.6
2011	34.2	7.8	42.0	81.5	18.5
2012	28.9	7.6	36.6	79.1	20.9
2013	31.8	8.1	40.0	79.7	20.3
2014	26.3	6.2	32.5	80.9	19.1
2015	34.2	8.2	42.4	80.6	19.4
2016	32.7	6.9	39.6	82.5	17.5
2017	30.3	9.0	39.4	77.1	22.9

2018	26.1	6.7	32.8	79.5	20.5
2019	31.3	6.5	37.8	82.7	17.3
2020	33.0	7.9	40.9	80.7	19.3
2021	29.3	7.2	36.5	80.3	19.7
2022	31.8	6.9	38.7	82.2	17.8
2023P	38.9	7.3	46.2	84.2	15.8

Table 3. Percent of the Labrador FSC and resident fisheries Atlantic salmon catch taken in coastal areas by salmon fishing area (SFA) from 2009 to 2023 preliminary (2023P).

Year	Percent coastal catch			Labrador Total
	North coast SFA 1A	Central Lake Melville SFA 1B	South coast SFA 2	
2009	44.7	5.4	35.6	24.1
2010	40.1	3.4	32.2	18.6
2011	38.5	1.7	33.4	18.5
2012	47.5	5.5	30.1	20.9
2013	45.8	4.8	32.8	20.3
2014	43.7	5.0	32.2	19.1
2015	43.8	4.5	30.4	19.4
2016	45.4	3.5	31.1	17.5
2017	63.4	6.2	30.0	22.9
2018	44.2	5.0	31.9	20.5
2019	39.6	2.4	31.3	17.3
2020	44.1	2.9	30.3	19.3
2021	46.0	3.2	30.4	19.7
2022	44.4	1.8	30.7	17.8
2023P	44.4	1.8	30.7	15.8

Table 4. Preliminary 2023 Labrador FSC and resident fisheries Atlantic salmon catch by weight (kg) and number for each salmon fishing area (SFA) and salmon size category (small < 63 cm and large \geq 63 cm). The percent catch of large salmon by weight and number are also provided.

Salmon Fishing Area	Weight (kg)			Number of fish			Percent Large	
	Small	Large	Total	Small	Large	Total	By weight	By number
SFA 1A	1,117	3,365	4,482	560	914	1,474	75.1	62.0
SFA 1B	7,616	18,376	25,992	3,883	4,279	8,162	70.7	52.4
SFA 2	6,183	9,530	15,713	3,234	2,533	5,767	60.7	43.9
Labrador Total	14,916	31,271	46,187	7,677	7,726	15,403	67.7%	50.2%

Table 5. Preliminary 2023 Labrador resident fisheries Atlantic salmon catch by weight (kg) and number for each salmon fishing area (SFA) and salmon size category (small < 63 cm and large ≥ 63 cm). The percent catch of large salmon by weight and number are also provided.

Salmon Fishing Area	Weight (kg)			Number of salmon			Percent large salmon	
	Small	Large	Total	Small	Large	Total	By weight	By number
North coast SFA 1A	0	36	36	0	9	9	100.0	100.0
Lake Melville SFA 1B	298	508	806	150	124	274	63.0	45.3
South coast SFA 2	188	178	366	97	49	146	48.6	33.6
Labrador Total	486	722	1,208	247	182	429	59.8%	42.4%

Table 6. Preliminary 2023 Labrador FSC fisheries Atlantic salmon catch by weight (kg) and number for each salmon fishing area (SFA) and salmon size category (small < 63 cm and large ≥ 63 cm). The percent catch of large salmon by weight and number are also provided.

Salmon fishing area	Weight (kg)			Number of salmon			Percent large salmon	
	Small	Large	Total	Small	Large	Total	By weight	By number
North coast SFA 1A	1,117	3,329	4,446	560	905	1,465	74.9	61.8
Lake Melville SFA 1B	7,318	17,868	25,186	3,733	4,155	7,888	70.9	52.7
South coast SFA 2	5,995	9,352	15,347	3,137	2,484	5,621	60.9	44.2
Labrador Total	14,430	30,549	44,979	7,430	7,544	14,974	67.9%	50.4%

Table 7. Percent of the 2023 Labrador FSC fisheries catch sampled by size category (small < 63 cm and large ≥ 63 cm) for each salmon fishing area (SFA). Note: 18 samples (2 in SFA 1A and 16 in SFA 2) did not have size data.

	Small salmon			Large salmon			Total		
	Samples	Harvest	% of Harvest	Samples	Harvest	% of Harvest	Samples	Harvest	% of Harvest
North coast SFA 1A	87	560	15.5	48	914	5.3	137	1474	9.3
Lake Melville SFA 1B	59	3883	1.5	52	4279	1.2	111	8162	1.4
South coast SFA 2	331	3234	10.2	144	2533	5.7	491	5767	8.5
Labrador Total	477	7677	6.2	244	7726	3.2	739	15403	4.8
Labrador coasts SFA 1A & 2 Total	418	3794	11.0	192	3447	5.6	628	7241	8.7

Table 8. River age of Atlantic salmon sampled from the 2023 Labrador FSC fisheries sampling program for each salmon fishing area (SFA). Note: 32 samples could not be interpreted for river age.

Salmon fishing area	Number of scale samples interpreted	River age (%)						
		1	2	3	4	5	6	7
North coast SFA 1A	133	0.00	0.0	3.8	36.1	48.1	10.5	1.5
Lake Melville SFA 1B	98	0.00	0.0	8.2	39.8	48.0	4.1	0.0
South coast SFA 2	476	0.00	0.2	9.7	48.5	35.1	6.5	0.0
All areas	707	0.00	0.1	8.3	45.0	39.3	6.9	0.3

Table 9. Genetic reporting groups and acronyms defined from the range wide single nucleotide polymorphism (SNP) genetic baseline for Atlantic salmon in the North Atlantic. See Bradbury *et al.* (2021) for baseline details and performance evaluation.

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

Table 10. Genetic mixture analysis of Labrador FSC and subsistence fisheries for 2023 using the SNP range wide baseline (Jeffery et al., 2018). Mean percent values (and 95% credible interval) by range wide genetic reporting groups (Figures 3 and 4) 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. Note: 18 samples did not have salmon size data.

Reporting group	Total	Small	Large	SFA 1A	SFA 2	SFA 1B
Maine, United States	0.1 (0.0, 0.4)	0.3 (0.0, 1.0)	0 (0.0, 0.0)	0 (0.0, 0.0)	0.3 (0.0, 1.0)	0 (0.0, 0.0)
Gulf of St Lawrence	0 (0.0, 0.0)	0.3 (0.0, 1.0)	1 (0.1, 2.8)	0 (0.0, 0.0)	0.7 (0.1, 1.6)	0 (0.0, 0.0)
Québec City Region	0.4 (0.0, 1.0)	0 (0.0, 0.0)	0 (0.0, 0.0)	2.1 (0.0, 5.9)	0 (0.0, 0.0)	0 (0.0, 0.0)
Gaspé Peninsula	0.3 (0.0, 0.9)	0 (0.0, 0.0)	0.6 (0, 2.1)	0 (0.0, 0.0)	0 (0.0, 0.0)	0 (0.0, 0.0)
St Lawrence North Shore Lower	1.1 (0.5, 2.0)	1.2 (0.4, 2.4)	0.4 (0, 1.6)	0 (0.0, 0.0)	1.3 (0.4, 2.6)	0 (0.0, 0.0)
Newfoundland 2	1.1 (0.4, 2.0)	0.5 (0.1, 1.4)	0 (0.0, 0.0)	0 (0.0, 0.0)	0.7 (0.1, 1.6)	0 (0.0, 0.0)
Avalon Peninsula	0 (0.0, 0.0)	0.2 (0.0, 0.8)	0 (0.0, 0.0)	0 (0.0, 0.0)	0.2 (0.0, 0.8)	0 (0.0, 0.0)
Newfoundland 1	1.2 (0.5, 2.1)	1 (0.3, 2.2)	0.4 (0, 1.5)	0 (0.0, 0.0)	1.1 (0.3, 2.3)	0 (0.0, 0.0)
Northern Newfoundland	0.5 (0.0, 1.1)	0 (0.0, 0.0)	0 (0.0, 0.0)	0 (0.0, 0.0)	0 (0.0, 0.0)	0 (0.0, 0.0)
Labrador South	69.7 (66.2, 73.2)	53.1 (48, 58.3)	41.9 (35.0, 49.0)	0 (0.0, 0.0)	77.8 (73.4, 82.1)	3.3 (0.5, 7.9)
Lake Melville	12.3 (9.9, 15.0)	20.8 (16.9, 25.0)	29.0 (22.7, 35.5)	14.0 (7.4, 21.7)	7.4 (5.1, 10.0)	94.4 (89.1, 98.0)
Labrador Central	12.9 (10.1, 15.8)	21.9 (17.4, 26.7)	23.9 (17.4, 31.0)	82.8 (74.6, 90.0)	9.3 (6.0, 12.9)	0.0 (0.0, 0.0)
Ungava	0 (0.0, 0.0)	0 (0.0, 0.0)	1.3 (0.3, 3.0)	1.5 (0.2, 4.0)	0.2 (0.0, 0.8)	0 (0.0, 0.0)
Total samples	726	472	236	136	479	111

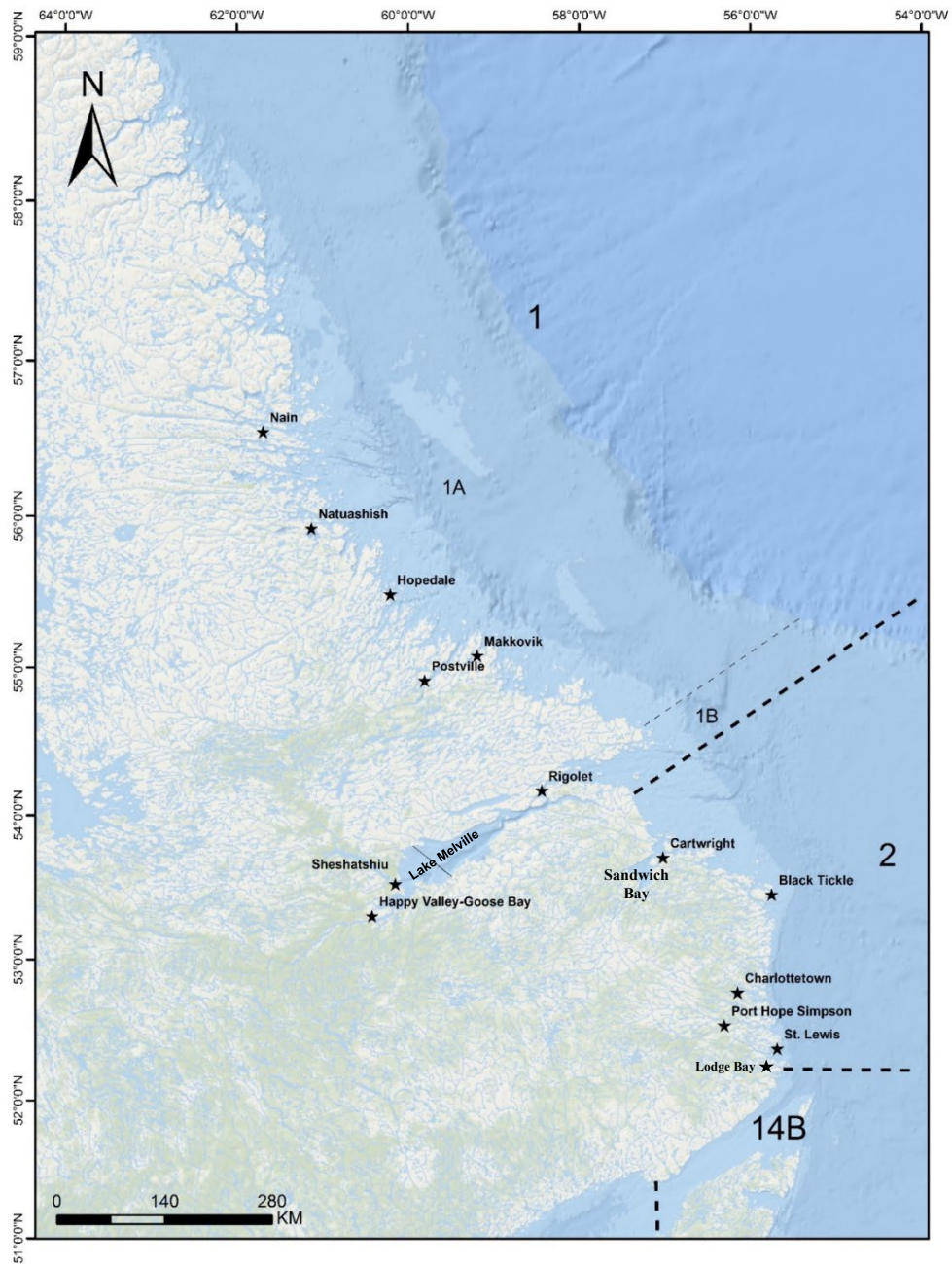


Figure 1. Map of Salmon Fishing Areas (SFAs 1A, 1B, 2 and 14B) and local communities in Labrador. Line across Lake Melville marks the division between Upper Lake Melville and the Labrador Inuit Settlement Area (LISA).

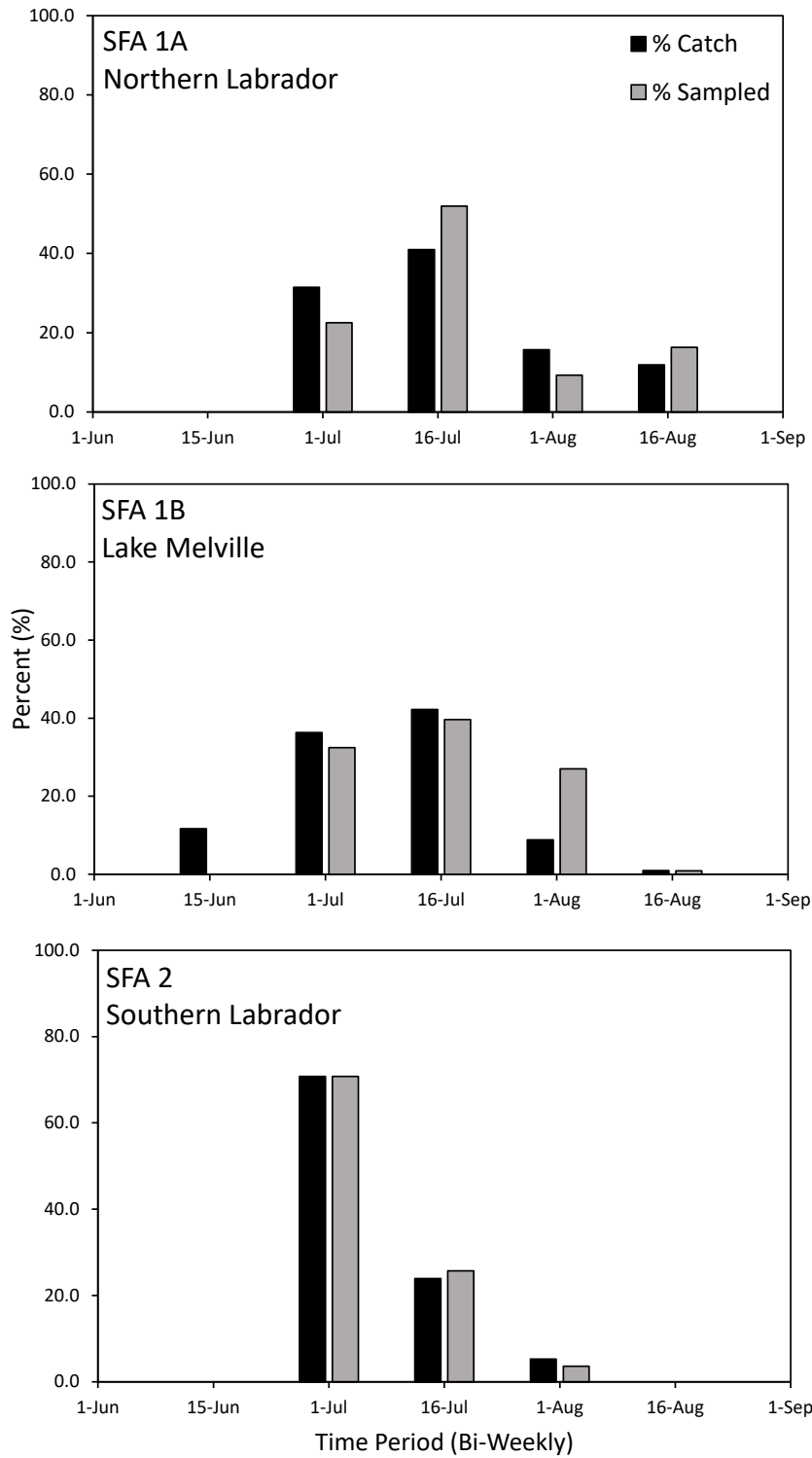


Figure 2. Bi-weekly distribution (%) of the Labrador FSC and resident fisheries Atlantic salmon harvest and sampling by area.

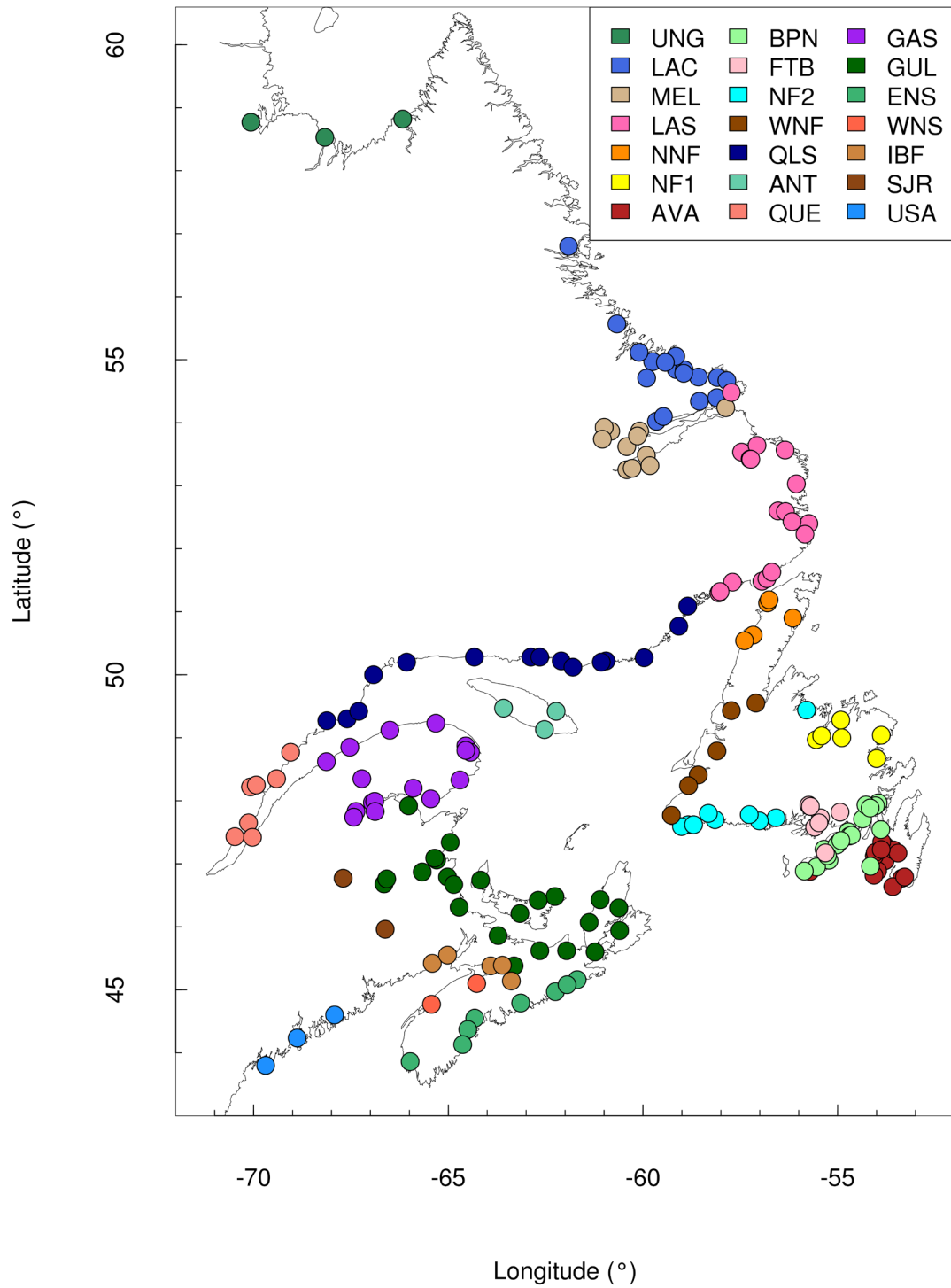


Figure 3. Map of North American sample locations used in the SNP baseline for Atlantic salmon. The 21 North American genetic reporting groups are labelled and identified by colour. See Bradbury *et al.* (2021) for baseline details and performance evaluation.

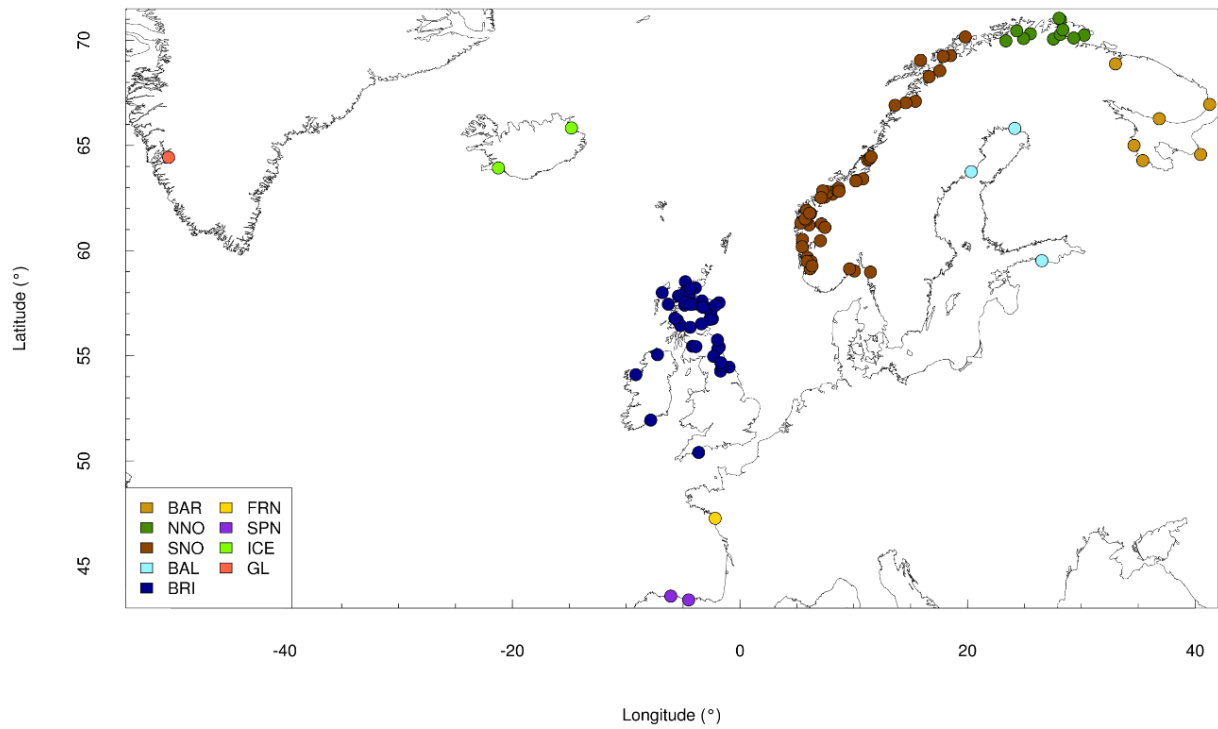


Figure 4. Map of sample locations from Greenland, Iceland and Europe used in the SNP baseline for Atlantic salmon and the 9 defined genetic reporting groups (labelled and identified by colour). See Figure 3 for North American locations (note: no location provided for the European Broodstock reporting group). See Bradbury *et al.* (2021) for baseline details and performance evaluation.

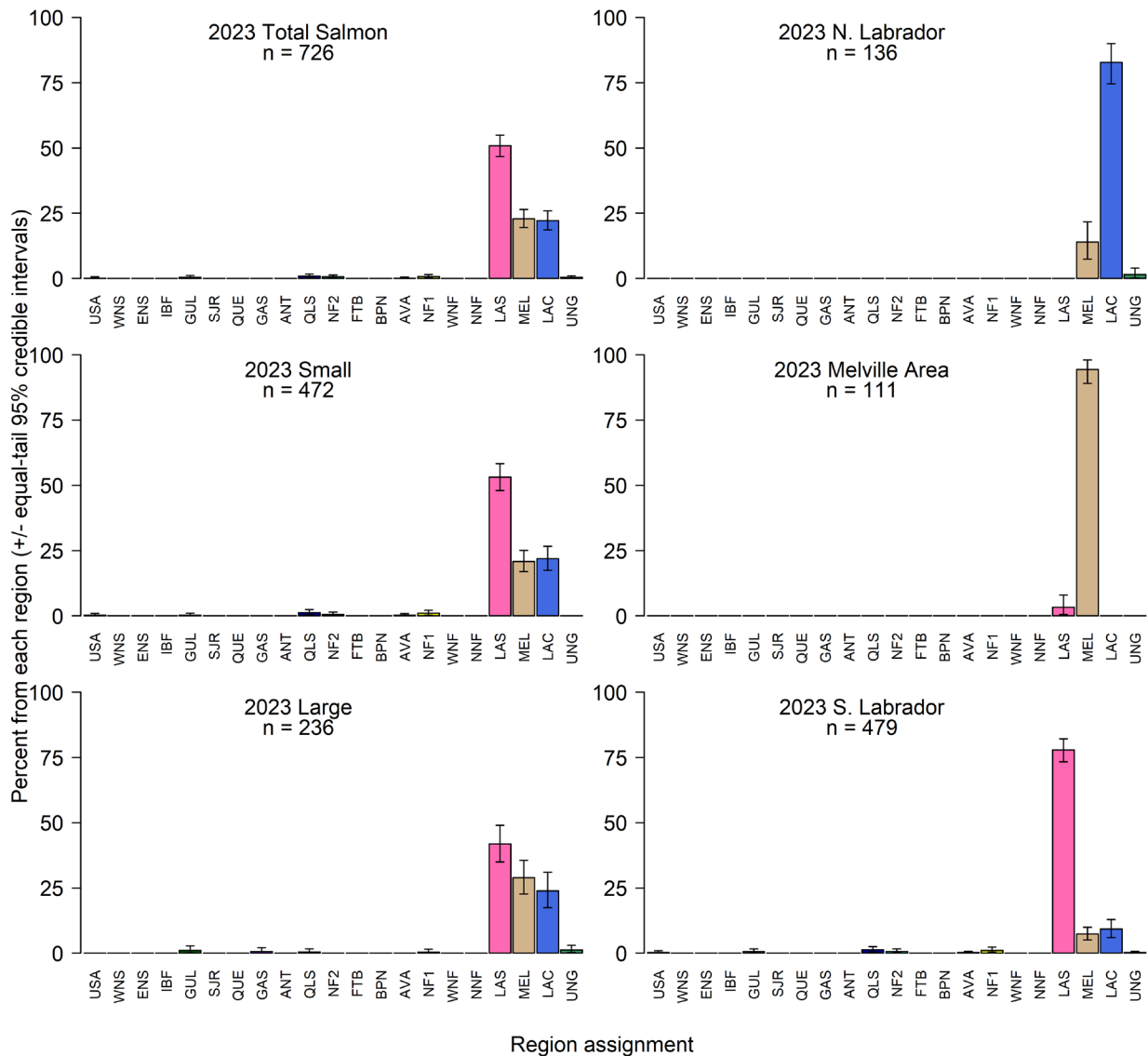


Figure 5. Bayesian estimate of the genetic mixture composition of Atlantic salmon samples from the 2023 Labrador FSC and resident fisheries by size category (small <63 cm and large \geq 63 cm) and area using the SNP range wide baseline for Atlantic salmon. Genetic reporting group colours refer to those identified in Figure 3 and acronyms are explained in Table 10. Notes: 18 samples did not have salmon size data. Credible intervals with a lower bound including zero indicate little support for the mean assignment value.

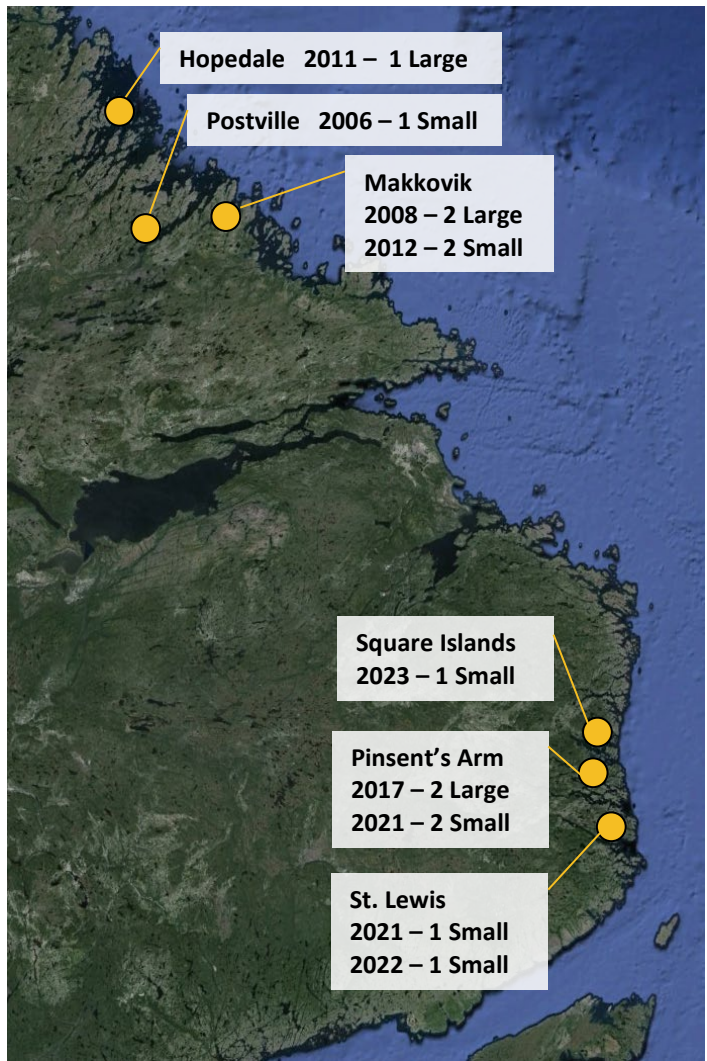


Figure 6. Map of the locations where 13 Atlantic salmon that assigned to the USA genetic reporting group were sampled in the Labrador FSC and resident fisheries from 2006 to 2023.