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Status of Atlantic Salmon (*Salmo salar* L.) Stocks of the Newfoundland Region, 1984

by

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Abstract

The commercial harvest of Atlantic salmon for the Newfoundland Region in 1984 showed a decline from 1983 (one of the worst years on record). Catches in the recreational fishery on the other hand were average, as were fishway counts, suggesting that river escapements were average. Catches were most likely influenced by the reduction in effort resulting from restrictions implemented under the 1984 Management Plan, namely a shortened season and a licence buy-back program. Also, for fishermen taking part in the commercial fishery, there are indications from logbook surveys that for a given Statistical Area, low catches of salmon, coupled with a corresponding greater emphasis placed on the exploitation of other commercial species and/or the presence of icebergs, resulted in only a portion of the total licenced gear being fished. Reduced effort most likely allowed salmon to escape the commercial fishery in numbers sufficient to maintain river escapements at average levels. This is suggestive of an overall low abundance of salmon in 1984.

Résumé

La pêche commerciale du saumon de l'Atlantique dans la région de Terre-Neuve en 1984 a présenté une diminution par rapport à celle de 1983 (une des pires années enregistrées). D'autres part, le nombre de prises en pêche récréative a été moyen, tout comme les dénombrements effectués, ce qui porte à croire que la nombre d'échappements dans les rivières a été moyen. Il semble que la principale cause de la diminution des prises ait été la réduction des efforts de pêche résultant des mesures du plan de gestion de 1984, notamment une saison de pêche écourtée et un programme de rachat des permis. De plus, dans le cas de la pêche commerciale, les relevés des carnets de bord pour une zone statistique donnée indiquent que les faibles prises de saumons, combinées à une exploitation accrue d'autres espèces commerciales, et/ou la présence d'icebergs se sont traduites par l'utilisation partielle des agrès de pêche autorisé. La réduction des efforts explique sans doute pourquoi les saumons ont pu échapper à la pêche commerciale en nombres assez élevés pour maintenir un niveau moyen d'échappements dans les rivières. Ces conditions semblent expliquer la faible abondance globale du saumon en 1984.

Introduction

This paper presents the status of Atlantic salmon stocks in the insular Newfoundland (Fig. 1) and Labrador (Fig. 2) portions of the Newfoundland Region in 1984. Catch and effort statistics for the commercial and recreational fisheries and fishway counts (insular Newfoundland) are examined in relation to historical data and the 1984 Management Plan.

Under the 1984 Management Plan, the start of the Newfoundland and Labrador commercial fishery was delayed until June 5 (compared to May 18 for 1981-83 and May 15 prior to 1981). Statistical Area J2 was completely closed and a compulsory licence buy-back program put into effect. A voluntary buy-back program involving both full-time and part-time fishermen went into effect for the remaining Statistical Areas. These restrictions were implemented as a means of reducing the interception of mainland-origin salmon as well as salmon destined to return to depleted rivers on the southwest coast of Newfoundland. An estimated 25% of the total number of large (multi-sea-winter) salmon taken in the Newfoundland and Labrador commercial fishery are of mainland origin (Pippy 1982). With respect to the recreational fishery, a catch-and-release policy pertaining to large salmon was adopted for insular Newfoundland; regulations governing grilse (one-sea-winter salmon) remained unchanged. Labrador was exempt from the catch-and-release regulation.

Methods

The 1984 catch and effort data were added to that previously presented by Moores et al. (1978), Moores and Tucker (1979, 1980), Ash and Tucker (1984), Moores and Ash (1984), and Ash and O'Connell (unpublished) for the recreational fishery and to that found in May and Lear (1971), Waldron (1974), Reddin and Waldron (1976), Reddin and Day (1980), Reddin and Short (1981), Short and Reddin (1981a, 1981b), Ash (1984), Moores et al. (1984), and Ash and O'Connell (unpublished) for the commercial fishery. Effort in the commercial fishery was presented as the numbers of gear units (50 fathoms of gill net or salmon trap) licenced to prosecute the fishery. Recreational fishing effort was presented as rod days (defined as any day or part thereof on which an angler fishes) and represents actual effort reported by DFO personnel. It contains an estimation of catch and effort during staff days off.

The calculation of mean weights of small (one-sea-winter) and large (multi-sea-winter) salmon as well are estimated numbers of fish in each category followed procedures outlined in Ash (1984).

Means and 95% confidence intervals for ratio variables were calculated according to Cochran (1977). Correlation analysis of commercial catch data by Statistical Area was done with Statistical Analysis Systems (1982) programs.

Results

Commercial fishery

The commercial catch for the entire Newfoundland Region (insular Newfoundland and Labrador combined) in 1984 is summarized in Table 1. Compared to 1983 (one of the worst years on record), landings in terms of weight of one-sea-winter (1SW) and multi-sea-winter (MSW) salmon decreased by 18.6 and 22.4% respectively; with respect to number of fish, the corresponding declines were 19.0 and 23.2% respectively. Compared to the 1969-83 mean, 1SW and MSW catches decreased by 40.3 and 55.2% respectively by weight and 40.3 and 52.8% respectively by number. For the island portion of the Newfoundland Region (Table 2), the catch of 1SW salmon decreased by 9.9% by weight and 9.4% by number from 1983, while for MSW salmon the decreases were 19.6% by weight and 18.9% by number; compared to the 1969-83 mean, 1SW and MSW catches decreased by 35.0 and 53.4% respectively by weight and 34.2 and 49.7% respectively by number. Catches for the Labrador portion of the Newfoundland Region in 1984 declined more strongly from 1983 than that presented above for insular Newfoundland. Catches of 1SW and MSW salmon declined by 44.0 and 25.5% respectively by weight and 48.2 and 28.2% by number from 1983; the declines from the 1969-83 mean were 56.8 and 57.2% for 1SW and MSW salmon respectively by weight and 60.0 and 56.2% by number.

An examination of insular Newfoundland on a Statistical Area basis reveals that catches of MSW salmon were below the lower limit of the 95% confidence interval of the 1969-83 mean in all cases (Tables 4 - 13). Catches of 1SW salmon on the other hand were within the 95% confidence interval for Statistical Areas B, C, F, G, and H (very close to the mean in most instances), but below the lower limit for the remaining Areas. For the Labrador portion of the Newfoundland Region, landings of MSW salmon were below the lower limit of the 95% confidence interval for Statistical Sections 51 - 53 (Tables 14 - 16); the same was true for 1SW catches in Sections 51 and 52, but not 53 where catches were within the confidence limits.

Recreational fishery

The catch of grilse in the 1984 recreational fishery for the entire Newfoundland Region (Table 17) increased by 11.0% over 1983. The 1984 catch was the same as the 1979-83 mean, but increased by 21.7% over the 1969-83 mean. For the island portion of the Newfoundland Region (Table 18), the grilse catch in 1984 increased by 14.3% over 1983; this catch represented an increase of 3.6 and 30.1% over the 1979-83 and 1969-83 means respectively. For the Labrador portion of the Newfoundland Region (Table 19), the grilse catch in 1984 decreased by 19.3% from 1983; this catch was also a decrease of 35.2 and 33.8% from the 1979-83 and 1969-83 means respectively.

The catch-and-release regulation under the 1984 Management Plan referred to above did not become official until August 8. Therefore, up to that time the release of large salmon was strictly voluntary. Released large salmon,

although counted as part of the bag limit, were not officially recorded as catch by Resource Management Division personnel. The value for large salmon for the island portion of the Newfoundland Region presented in Table 18 represents fish retained by anglers, i.e. not voluntarily released. Labrador was exempt from the catch and release regulation. The 1984 large salmon catch for Labrador increased by 6.0% over 1983, but was down by 27.6 and 23.4% respectively from the 1979-83 and 1969-83 means (Table 19).

On a Statistical Area basis for insular Newfoundland (Tables 20 - 29), the catch in 1984 (considering grilse only for reasons pointed out above) was higher than that recorded for 1983 for all Areas except A, E, and G. The difference for G was only slight, but for Areas A and E the decreases were substantial (39.5 and 30.9% respectively). Compared to the 1979-83 long-term mean, catch in 1984 was within the 95% confidence interval (close to or exceeding the mean in most cases) for all Areas except A and E where catch was below the lower limit. In terms of the 1969-83 mean, 1984 catch was within the 95% confidence interval in most cases, except for Areas G, H, and J1 where the upper limit was exceeded. For Statistical Sections 51 and 52 of Labrador (Tables 30 - 31), the catch of grilse and large salmon in 1984 was down substantially from 1983; the reverse was true for Section 53 (Table 32).

Effort for the entire Newfoundland Region in 1984 (Table 17) decreased only slightly from 1983 (3.1%). For insular Newfoundland (Table 18) there was a decrease of 3.07% compared with 3.32% for Labrador (Table 19). On a Statistical Area basis for insular Newfoundland (Tables 20 - 29), effort was below 1983 (ranging from 4.2% for J1 to 46.8% for A) for all Areas except B and C which recorded increases of 11.2 and 21.7% respectively. Effort for 1984 was generally within the 95% confidence intervals of the 1979-83 means and in most cases, above the upper limits of the 1969-83 means. For Statistical Sections 51 and 52 (Tables 30 - 31), effort for 1984 decreased (22.0 and 5.8% respectively) from that of 1983; Section 53 (Table 32) increased by 19.9%. Effort for 1984 was above or within the 95% confidence limits of both long-term means.

Catch per unit effort for the Newfoundland Region in total (Table 17) in 1984 increased by 13.8% over 1983. For the island alone (Table 18), there was an increase of 14.8%; for Labrador catch per unit effort dropped by 12.9% (Table 19). Comparing Statistical Areas for insular Newfoundland (Tables 20 - 29), catch per unit effort in 1984 increased over 1983 for Areas A, D, F, G, H, I, and J1 (range was 14.3% for A to 100% for F and H); Areas B, C, and D showed a decrease (5.7, 12.0, and 30.2% respectively). Compared to the long-term means, most Areas were within or above the 95% confidence limits. For Statistical Sections 51 and 52, catch per unit of effort in 1984 declined by 36.4% and 27.4% respectively from 1983, while for section 53, an increase of 23% was noted (Tables 30-32); values for 1984 were generally below the lower limits of the long-term means.

Fishway counts

Counts of grilse in 1984 increased over 1983 for all fishways except Indian River (Table 33). Compared to the 1979-83 mean, most showed an

increase, being most pronounced for Bishop's Falls and Great Rattling Brook. Large salmon increased over 1983 for all fishways except Indian River, Great Rattling Brook, and Middle Brook (Table 34). Compared to the 1979-83 mean, Indian River, Bishop's Falls, Great Rattling Brook, and Middle Brook decreased while the remainder showed an increase. It should be pointed out that the long-term means in some instances should be higher because of the inclusion of partial counts.

Discussion

Any conclusions regarding the status of Atlantic salmon stocks in 1984 relative to previous years have to take into account the possible confounding effects of the 1984 Management Plan. One question pertaining to the delayed opening of the commercial fishery is what proportion of fish originating in a given Statistical Area were intercepted in another Area? The results of smolt tagging studies conducted on Sand Hill River, Labrador (Section 52) in the early 1970s (Pratt et al. 1974), Exploits River (Section 07) in 1978, and North Harbour River, St. Mary's Bay (Section 28) during 1961-67 (Lear and Day 1977) are presented in Fig. 3 - 5, respectively. It is evident that the majority of both 1SW and MSW salmon recaptures occurred in the general region of the river of origin. Some 1SW recaptures may not have been grilse and instead were destined to become MSW salmon. This pertains mainly to distant recaptures; local recaptures were most likely grilse. Significant positive relationships resulting from a correlation analysis of commercial landings (1969-83) by Statistical Area (Table 35) are indicative of a tendency towards clumpings involving Areas in close goegraphical proximity for both 1SW and MSW salmon. While there is an overall indication that stocks are harvested mainly in the general vicinity of home waters, there is some evidence to suggest that the proportion of MSW salmon taken in more distant areas can vary annually as a result of distributional changes related to environmental conditions. An examination of tag returns for Sand Hill River (Fig. 3) reveals that in 1972, MSW salmon recaptures occurred considerably farther southward than that observed for 1971 and 1973. Likewise, the 4.0°C isotherm (surface) for the month of June (determined from British Meteorological Office (BMO) charts) extended much farther southward in 1972 than in 1971 and 1973. Also, there was a more southerly distribution of ice in 1972 (Fig. 6) than in 1971 (Fig. 7). From this, it is reasonable to conclude that ice conditions with attendant effects on water temperature in 1972 possibly resulted in MSW salmon striking in over an area much farther south than in 1971 and 1973. No such distributional change was noted for 1SW salmon. The Sand Hill River MSW recaptures along the northeast and east coasts of insular Newfoundland in 1972 occurred after June 5. An examination of the BMO chart for June 1984 showed the 4.0°C isotherm to be positioned in a similar manner to that observed for June 1972. Whether or not the same distribution of MSW salmon observed for 1972 also occurred in 1984 is unknown. The three MSW recaptures in Notre Dame Bay resulting from the Exploits River tagging study occurred prior to June 5; all other recaptures (both 1SW and MSW) were reported subsequent to June 5. The above tagging information establishes the fact that salmon originating in one Statistical Area are captured in another Area. Unfortunately, while there

are certain sources of environmental data available, without accompanying adequate smolt tagging information, any conclusions drawn as to the possible impacts of the delayed season in terms of such interceptions, remain purely speculative.

The overall low commercial catches of MSW salmon in 1984 reflect earlier predictions of low abundance by O'Connell et al. (1983) and Porter and Ritter (1984). For 1SW salmon on the other hand, O'Connell et al. (1983) predicted average abundance for all insular Newfoundland Region Statistical Areas except C, H, and J1; these predictions were based on average recreational catches in 1979 (assuming a 3+ modal smolt age) which were used as an index of spawning escapement (Chadwick 1982). All things being equal, if commercial catches are any indication of abundance, these predictions were obviously wrong in most cases; indeed, two of the three Areas where low abundance was predicted (C and H) recorded average catches in 1984. With respect to Labrador, predictions for 1SW salmon held true while for MSW salmon, results were ambiguous.

Catches of both 1SW and MSW salmon in 1984 were most likely affected by the reduction in effort resulting from the shortened season and the licence buy-back program. As well, for fishermen taking part in the fishery, there are indications that the amount of total licenced effort actually fished was low. A survey of commercial fishermen in Leading Tickles (Section 06) and Joe Batt's Arm (Section 08) in Notre Dame Bay in 1984 (O'Connell, unpublished) revealed that ice conditions (mainly the presence of icebergs) hampered the setting of gear for much of June, while in July lower effort was expended due to low catches of salmon (1SW and MSW) coupled with a greater emphasis placed on the exploitation of other species. Averaged over the period June 5 - early August, only 22% of the total licenced gear was fished in Leading Tickles (29 fishermen surveyed) and 19% in Joe Batt's Arm (31 fishermen surveyed). A survey of commercial fishermen in the Bay de Verde area of Conception Bay (Section 20) in 1984 showed the same conditions described above for Notre Dame Bay more or less prevailed here as well; overall, 30% of the total licenced gear was used (31 fishermen surveyed). In the Port de Grave area (Section 22), icebergs did not pose much of a problem with respect to setting gear (Port de Grave is located in the inner part of Conception Bay as opposed to the outer bay for Bay de Verde). However, scarcity of salmon from the beginning of the season onwards, along with greater effort directed towards exploitation of other species, resulted in only 22% of the total licenced gear being fished overall (30 fishermen surveyed). Similar observations were made for Conception Bay by O'Connell et al. (1984). In Labrador, the presence of pack ice hampered fishing for most of June and July in Sections 52 and 53. A regression of commercial landings in the Nain area on the surface area of shore-fast ice was negative and significant at the 5% level of confidence (Fig. 8); 1984 had the lowest landings and highest concentration of ice in terms of area. Landings most likely reflect low effort expenditure in relation to ice conditions and probably distribution patterns of salmon related to water temperature.

The recreational fishery in 1984 on the whole in insular Newfoundland was slightly better than in 1983 and compares quite favorably historically speaking. The angling season in insular Newfoundland in 1984 was characterized by high water temperatures and low water levels for a large part of the summer. This is demonstrated by temperature and water height data (Fig. 9) collected at

fishways and counting fence installations around the island (Fig. 10) in 1984. These conditions resulted in the closure of a large number of rivers for varying periods (most for nearly a month -- mid-July to mid-August) throughout the summer (Table 36). Had these conditions not prevailed, angling catches obviously would most likely have been higher. The recreational catch in Area A, as already pointed out, showed a sharp decline in 1984. This could be due in large part to the relative contribution of Main River (Sop's Arm) which can account for up to 60% of the total Area catch. Recreational catch for Main River in 1984 (Table 37) was below the exceptionally low level (relative to recent years) recorded in 1983.

Traditionally, on the north coast of the island, the commercial fishery commenced during the early part of June. On the south coast on the other hand, the fishery normally started at the opening of the season, i.e. mid-May. One would expect therefore the impact on river escapements, and hence recreational catch, of delaying the commercial fishery by two weeks to be felt mainly in more southern areas. It is not possible using recreational data on a Statistical Area basis to evaluate the possible contribution of fish released from the commercial fishery. With respect to large salmon, because of the catch and release regulation, the only way to assess escapements of this component in relation to the commercial fishery is by fishway counts; however, no firm conclusions can be drawn from these data. The fact that recreational catches and fishway counts were average in the face of overall low commercial catches was probably due to reduced fishing effort in the commercial fishery as a result of one or the other or all of the factors described above for a given Statistical Area. Reduced fishing effort resulted in the release of salmon from the commercial fishery in numbers sufficient to maintain river escapements at average levels. This is suggestive of an overall low abundance of salmon in 1984.

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TABLE 1. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR THE ENTIRE NEWFOUNDLAND REGION, 1969-84. WEIGHT IN METRIC TONNES.

NFLD. & LABRADOR (NFLD REGION)

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		407	222447	694	139003	1103	361449	36.90	61.54
1970		550	304808	713	142983	1267	447792	43.41	68.07
1971		371	202943	1006	201126	1377	404069	26.94	50.22
1972		380	207816	790	159056	1169	366870	32.51	56.65
1973	14389	584	324337	1116	224951	1704	549288	34.27	59.05
1974	17287	527	278744	1111	230437	1636	509181	32.21	54.74
1975	21847	644	339203	1071	238305	1713	577508	37.59	58.74
1976	20611	510	265272	1072	240707	1585	505979	32.18	52.43
1977	18902	470	238044	1134	237399	1605	475443	29.28	50.07
1978	19436	229	117836	756	160293	984	278129	23.27	42.37
1979	19310	417	207778	409	92004	823	299782	50.67	69.31
1980	19194	707	335392	1118	229763	1824	565155	38.76	59.35
1981	18346	604	309430	1096	221672	1701	531102	35.51	58.26
1982	16265	507	261553	633	139393	1136	400946	44.63	65.23
1983	16894	355	186872	509	113635	866	300507	40.99	62.19
1984[1]	13577	289	151373	395	87230	686	238603	42.13	63.44
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	18407.36	484.13	253498.33	881.87	184715.13	1366.20	438213.33	*35.44	*57.85
S.D.:	2090.68	126.21	63499.88	249.64	51369.98	337.66	101727.95	* 1.53	* 1.61
95% LCL:	17002.91	414.23	218329.78	743.61	156264.56	1179.19	381872.67	*32.44	*54.69
95% UCL:	19811.82	554.03	288666.89	1020.1	213165.71	1553.21	494554.00	*38.44	*61.01

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 2. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR THE INSULAR PORTION OF THE NEWFOUNDLAND REGION, 1969-84. WEIGHT IN METRIC TONNES.

INSULAR NEWFOUNDLAND (NFLD REGION)

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		339	185936	330	65796	671	251731	50.52	73.86
1970		469	259506	409	82159	881	341666	53.23	75.95
1971		255	139099	556	111021	811	250120	31.44	55.61
1972		309	168682	394	79683	701	248363	44.08	67.92
1973	11654	479	265479	651	131341	1134	396820	42.24	66.90
1974	15099	433	231751	587	123535	1019	355286	42.49	65.23
1975	19127	468	246706	642	138536	1108	385242	42.24	64.04
1976	17644	373	200215	549	124356	924	324571	40.37	61.69
1977	16037	353	179709	653	139083	1006	318792	35.09	56.37
1978	16268	173	88206	381	80535	554	168741	31.23	52.27
1979	16087	336	169258	196	43640	529	212898	63.52	79.50
1980	16218	498	240406	539	113946	1036	354352	48.07	67.84
1981	15417	380	201408	558	116944	938	318352	40.51	63.27
1982	13391	363	189483	271	62116	630	251599	57.62	75.31
1983	13935	264	140723	270	60912	536	201635	49.25	69.79
1984[1]	11114	238	127458	217	49379	457	176837	52.08	72.08
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	15534.27	366.13	193771.13	465.73	98240.20	831.87	292011.20	*44.01	*66.36
S.D.:	2033.07	92.96	49596.47	152.85	31755.62	213.37	70225.00	* 1.50	* 1.31
95% LCL:	14168.52	314.65	166302.79	381.08	80652.77	713.69	253118.02	*41.07	*63.79
95% UCL:	16900.02	417.62	221239.48	550.39	115827.63	950.04	330904.38	*46.96	*68.93

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 3. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR THE LABRADOR PORTION OF THE NEWFOUNDLAND REGION, 1969-84. WEIGHT IN METRIC TONNES.

LABRADOR (NFLD REGION)

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		68	36511	364	73207	432	109718	15.74	33.28
1970		81	45302	304	60824	386	106126	20.98	42.69
1971		116	63844	450	90105	566	153949	20.49	41.47
1972		71	39134	396	79373	468	118507	15.17	33.02
1973	2735	105	58858	465	93610	570	152468	18.42	38.60
1974	2188	94	46993	524	106902	617	153895	15.24	30.54
1975	2720	176	92497	429	99769	605	192266	29.09	48.11
1976	2967	137	65057	523	116351	661	181408	20.73	35.86
1977	2865	117	58335	481	98316	599	156651	19.53	37.24
1978	3168	56	29630	375	79758	430	109388	13.02	27.09
1979	3223	81	38520	213	48364	294	86884	27.55	44.33
1980	2976	209	94986	579	115817	788	210803	26.52	45.06
1981	2929	224	108022	538	104728	763	212750	29.36	50.77
1982	2874	144	72070	362	77277	506	149347	28.46	48.26
1983	2959	91	46149	239	52723	330	98872	27.58	46.68
1984[1]	2463	51	23915	178	37851	229	61766	22.27	38.72
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	2873.09	118.00	59727.20	416.13	86474.93	534.33	146202.13	*22.08	*40.85
S.D.:	274.09	51.19	23487.22	108.66	21532.05	146.15	40584.14	* 1.16	* 1.53
95% LCL:	2688.97	89.65	46719.11	355.95	74549.70	453.39	123725.15	*19.81	*37.85
95% UCL:	3057.21	146.35	72735.29	476.31	98400.17	615.28	168679.12	*24.36	*43.86

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 4. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA A, 1969-84. WEIGHT IN METRIC TONNES.

STATISTICAL AREA: A

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		90	49669	100	20086	190	69754	47.37	71.21
1970		127	70020	114	22889	241	92910	52.70	75.36
1971		81	44726	181	36251	262	80977	30.92	55.23
1972		61	33512	139	27891	200	61403	30.50	54.58
1973	2155	150	83298	181	36612	332	119910	45.18	69.47
1974	2430	67	33508	84	18563	151	52071	44.37	64.35
1975	2818	121	60303	122	27034	242	87337	50.00	69.05
1976	2639	170	89300	175	40698	345	129998	49.28	68.69
1977	2473	123	61651	242	51394	365	113045	33.70	54.54
1978	2516	51	25731	83	17675	135	43406	37.78	59.28
1979	2515	206	103080	66	15708	272	118788	75.74	86.78
1980	2480	167	80078	166	34853	334	114931	50.00	69.67
1981	2411	175	93998	177	36479	351	130477	49.86	72.04
1982	2198	112	59428	80	17340	191	76768	58.64	77.41
1983	2317	101	55721	95	20757	196	76478	51.53	72.86
1984[1]	2002	47	24962	65	14518	112	39480	41.96	63.23
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	2450.18	120.13	62934.87	133.67	28282.00	253.80	91216.87	*47.33	*68.99
S.D.:	187.43	46.28	23492.62	51.08	10593.06	76.68	28515.91	* 3.05	* 2.44
95% LCL:	2324.27	94.50	49923.79	105.38	22415.18	211.33	75423.71	*41.35	*64.20
95% UCL:	2576.09	145.76	75945.94	161.95	34148.82	296.27	107010.02	*53.32	*73.79

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 5. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA B, 1969-84. WEIGHT IN METRIC TONNES.

STATISTICAL AREA: B

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		62	34255	43	8595	105	42850	59.05	79.94
1970		108	59553	65	13080	173	72633	62.43	81.99
1971		48	26276	112	22506	160	48782	30.00	53.86
1972		37	20685	57	11299	94	31984	39.36	64.67
1973	2499	69	38440	46	9360	116	47800	59.48	80.42
1974	3151	54	26821	52	11456	105	38277	51.43	70.07
1975	3962	142	71225	103	22950	246	94175	57.72	75.63
1976	3547	57	30249	60	14303	117	44552	48.72	67.90
1977	3327	85	44691	96	20371	181	65062	46.96	68.69
1978	3371	36	17821	68	14564	104	32385	34.62	55.03
1979	3349	45	21524	33	7403	78	28927	57.69	74.41
1980	3485	135	64024	110	24029	245	88053	55.10	72.71
1981	3390	87	44106	128	26632	215	70738	40.47	62.35
1982	3007	98	50764	69	16022	166	66786	59.04	76.01
1983	3729	74	37560	56	12789	130	50349	56.92	74.60
1984[1]	3120	74	39055	51	11213	126	50268	58.73	77.69
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	3347.00	75.80	39199.60	73.20	15690.60	149.00	54890.20	*50.87	*71.41
S.D.:	381.99	33.28	16441.32	29.07	6124.68	54.40	20345.79	* 2.67	* 2.08
95% LCL:	3090.39	57.37	30093.79	57.10	12298.53	118.87	43621.96	*45.65	*67.34
95% UCL:	3603.61	94.23	48305.41	89.30	19082.67	179.13	66158.44	*56.10	*75.49

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 6. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA C, 1969-84. WEIGHT IN METRIC TONNES.

STATISTICAL AREA: C

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		25	13671	41	8210	66	21881	37.88	62.48
1970		41	22748	76	15278	117	38026	35.04	59.82
1971		14	7708	82	16499	96	24207	14.58	31.84
1972		23	12487	30	5939	52	18425	44.23	67.77
1973	1577	30	16852	126	25386	157	42238	19.11	39.90
1974	2014	31	15344	35	7551	65	22895	47.69	67.02
1975	2565	48	28024	112	24380	160	52404	30.00	53.48
1976	2354	13	6284	44	10811	57	17095	22.81	36.76
1977	2163	38	18031	90	19150	128	37181	29.69	48.50
1978	2172	22	11578	59	12785	81	24363	27.16	47.52
1979	2169	11	5342	18	3849	28	9191	39.29	58.12
1980	2320	40	18246	47	10609	87	28855	45.98	63.23
1981	1944	28	14252	65	14366	93	28618	30.11	49.80
1982	1551	37	18607	23	6089	60	24696	61.67	75.34
1983	1661	27	13723	31	7288	58	21011	46.55	65.31
1984[1]	1341	26	13726	34	8156	60	21882	43.33	62.73
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	2044.55	28.53	14859.80	58.60	12546.00	87.00	27405.73	*32.80	*54.22
S.D.:	332.96	10.97	6035.87	32.71	6623.14	38.79	11000.52	* 3.08	* 3.04
95% LCL:	1820.88	22.46	11516.91	40.48	8877.86	65.52	21313.24	*26.76	*48.26
95% UCL:	2268.22	34.61	18202.69	76.72	16214.14	108.48	33498.23	*38.84	*60.18

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 7. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA D, 1969-84. WEIGHT IN METRIC TONNES.

STATISTICAL AREA: D

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		27	14919	32	6416	59	21335	45.76	69.93
1970		36	19735	42	8359	77	28094	46.75	70.25
1971		19	10167	52	10451	71	20618	26.76	49.31
1972		32	17792	30	5870	61	23662	52.46	75.19
1973	1158	31	17011	62	12481	93	29492	33.33	57.68
1974	1589	74	39102	94	19185	168	58287	44.05	67.09
1975	2074	40	21994	67	14171	106	36165	37.74	60.82
1976	2074	21	10204	33	6648	54	16852	38.89	60.55
1977	1876	34	15236	57	11849	90	27085	37.78	56.25
1978	1901	21	10193	55	10689	76	20882	27.63	48.81
1979	1853	20	9661	9	1757	29	11418	68.97	84.61
1980	1834	29	14568	35	6919	63	21487	46.03	67.80
1981	1709	23	12843	50	10356	73	23199	31.51	55.36
1982	1536	23	12006	20	4278	43	16284	53.49	73.73
1983	1499	11	6432	18	4086	30	10518	36.67	61.15
1984[1]	1160	19	10723	16	3736	35	14459	54.29	74.16
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	1736.64	29.40	15457.53	43.73	8901.00	72.87	24358.53	*40.35	*63.46
S.D.:	274.08	14.49	7774.45	21.98	4496.11	34.14	11539.16	* 2.17	* 2.13
95% LCL:	1552.52	21.37	11151.76	31.56	6410.89	53.96	17967.72	*36.09	*59.28
95% UCL:	1920.75	37.43	19763.31	55.91	11391.11	91.77	30749.34	*44.61	*67.63

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 8. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA E, 1969-84. WEIGHT IN METRIC TONNES.

STATISTICAL AREA: E

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		22	12488	23	4786	46	17274	47.83	72.29
1970		30	16788	36	7129	66	23917	45.45	70.19
1971		3	1346	49	9864	52	11210	5.77	12.01
1972		13	7355	22	4437	35	11792	37.14	62.37
1973	1450	40	21877	97	19398	136	41275	29.41	53.00
1974	1861	43	21478	83	17277	126	38755	34.13	55.42
1975	2567	19	9819	56	12153	75	21972	25.33	44.69
1976	2276	15	7983	33	7042	48	15025	31.25	53.13
1977	1973	23	11318	56	11875	78	23193	29.49	48.80
1978	2066	10	4771	40	8572	50	13343	20.00	35.76
1979	1971	5	2347	7	1418	11	3765	45.45	62.34
1980	2024	22	10012	52	10747	74	20759	29.73	48.23
1981	1954	18	9363	55	11168	73	20531	24.66	45.60
1982	1548	6	3091	11	2425	17	5516	35.29	56.04
1983	1402	7	3741	16	3478	23	7219	30.43	51.82
1984[1]	1012	7	4165	13	2820	20	6985	35.00	59.63
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	1917.45	18.40	9585.13	42.40	8784.60	60.67	18369.73	*30.33	*52.18
S.D.:	348.58	12.15	6455.59	25.58	5209.49	35.68	10864.89	* 2.33	* 3.03
95% LCL:	1683.29	11.67	6009.79	28.24	5899.39	40.91	12352.36	*25.76	*46.25
95% UCL:	2151.62	25.13	13160.48	56.56	11669.81	80.43	24387.11	*34.90	*58.11

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 9. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA F, 1969-84. WEIGHT IN METRIC TONNES.

STATISTICAL AREA: F

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		30	16686	25	5072	56	21758	53.57	76.69
1970		61	33702	31	6178	92	39880	66.30	84.51
1971		48	26743	41	8148	89	34891	53.93	76.65
1972		33	18358	17	3411	50	21768	66.00	84.33
1973	1226	27	14685	56	11370	83	26055	32.53	56.36
1974	1608	50	27847	84	18210	134	46057	37.31	60.46
1975	1875	28	14513	83	17669	111	32182	25.23	45.10
1976	1823	17	9128	50	10628	67	19756	25.37	46.20
1977	1582	15	7915	55	11754	70	19669	21.43	40.24
1978	1588	3	1487	28	5901	31	7388	9.68	20.13
1979	1617	5	2719	9	1881	14	4600	35.71	59.11
1980	1536	22	10362	67	13953	89	24315	24.72	42.62
1981	1524	13	6940	38	8644	51	15584	25.49	44.53
1982	1395	9	3457	9	2238	17	5695	52.94	60.70
1983	1089	9	4836	15	3441	24	8277	37.50	58.43
1984[1]	774	16	8526	16	4203	33	12729	48.48	66.98
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	1533.00	24.67	13291.87	40.53	8566.53	65.20	21858.33	*37.83	*60.81
S.D.:	230.15	17.45	9872.48	24.82	5277.55	35.21	12569.74	* 4.54	* 4.94
95% LCL:	1378.39	15.00	7824.13	26.79	5643.64	45.70	14896.75	*28.93	*51.13
95% UCL:	1687.61	34.33	18759.61	54.28	11489.43	84.70	28819.92	*46.74	*70.49

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 10. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA G, 1969-84. WEIGHT IN METRIC TONNES.

STATISTICAL AREA: G

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		4	1996	10	2029	14	4025	28.57	49.59
1970		8	4528	15	3093	24	7621	33.33	59.41
1971		8	4601	1	87	9	4688	88.89	98.14
1972		7	4037	3	578	10	4615	70.00	87.48
1973	160	17	9679	5	920	22	10599	77.27	91.32
1974	407	8	4396	2	420	10	4816	80.00	91.28
1975	432	6	3395	3	628	9	4023	66.67	84.39
1976	347	5	2833	1	310	7	3143	71.43	90.14
1977	292	4	2454	1	266	6	2720	66.67	90.22
1978	287	7	3702	5	1013	11	4715	63.64	78.52
1979	283	21	11445	6	1239	26	12684	80.77	90.23
1980	268	12	6153	3	522	14	6675	85.71	92.18
1981	252	13	7024	4	834	17	7858	76.47	89.39
1982	222	13	6706	2	395	14	7101	92.86	94.44
1983	235	7	3891	2	447	9	4338	77.78	89.70
1984[1]	201	10	5491	2	348	12	5839	83.33	94.04
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	289.55	9.33	5122.67	4.20	852.07	13.47	5974.73	*69.31	*85.74
S.D.:	79.77	4.91	2657.99	3.82	783.95	6.22	2799.87	* 6.11	* 3.28
95% LCL:	235.96	6.61	3650.57	2.08	417.89	10.02	4424.06	*57.34	*79.31
95% UCL:	343.13	12.05	6594.76	6.32	1286.25	16.91	7525.40	*81.27	*92.17

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 11. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA H, 1969-84. WEIGHT IN METRIC TONNES.

STATISTICAL AREA: H

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		45	25018	7	1436	52	26454	86.54	94.57
1970		24	13482	2	444	27	13926	88.89	96.81
1971		15	8153	6	1249	21	9402	71.43	86.72
1972		70	38586	29	5870	99	44456	70.71	86.80
1973	556	74	40984	25	5134	100	46118	74.00	88.87
1974	1031	62	36686	36	7880	99	44566	62.63	82.32
1975	1330	15	9604	16	3304	31	12908	48.39	74.40
1976	1207	19	11266	20	4269	39	15535	48.72	72.52
1977	1063	19	11366	17	3677	36	15043	52.78	75.56
1978	1069	13	7416	22	4782	35	12198	37.14	60.80
1979	1051	5	3129	14	3106	20	6235	25.00	50.18
1980	1003	35	19347	28	5916	63	25263	55.56	76.58
1981	979	8	4698	11	2226	19	6924	42.11	67.85
1982	837	30	16820	16	3526	46	20346	65.22	82.67
1983	934	10	5084	12	2767	22	7851	45.45	64.76
1984[1]	718	21	11294	6	1341	28	12635	75.00	89.39
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	1005.45	29.60	16775.93	17.40	3705.73	47.27	20481.67	*62.62	*81.91
S.D.:	198.05	22.89	12776.53	9.41	1999.30	29.64	14047.54	* 3.72	* 2.38
95% LCL:	872.41	16.92	9699.82	12.19	2598.45	30.85	12701.62	*55.33	*77.24
95% UCL:	1138.50	42.28	23852.05	22.61	4813.02	63.68	28261.71	*69.92	*86.57

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 12. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA I, 1969-84. WEIGHT IN METRIC TONNES.

STATISTICAL AREA: I

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		13	7088	13	2623	26	9711	50.00	72.99
1970		23	12968	5	1010	29	13978	79.31	92.77
1971		8	4244	12	2434	20	6678	40.00	63.55
1972		4	2483	28	5514	32	7997	12.50	31.05
1973	400	22	12403	19	3906	42	16309	52.38	76.05
1974	586	19	11718	28	5612	47	17330	40.43	67.62
1975	594	15	9008	6	1246	21	10254	71.43	87.85
1976	577	17	10265	16	3575	34	13840	50.00	74.17
1977	554	5	3226	7	1550	13	4776	38.46	67.55
1978	576	7	4210	7	1512	14	5722	50.00	73.58
1979	588	7	4095	5	1029	12	5124	58.33	79.92
1980	593	12	5602	14	2960	26	8562	46.15	65.43
1981	598	7	3820	10	2031	17	5851	41.18	65.29
1982	472	19	10191	17	3868	36	14059	52.78	72.49
1983	570	6	3355	6	1414	13	4769	46.15	70.35
1984[1]	472	8	4292	5	1048	13	5340	61.54	80.37
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	555.27	12.27	6978.40	12.87	2685.60	25.47	9664.00	*48.17	*72.21
S.D.:	62.39	6.51	3739.39	7.65	1528.81	11.09	4392.30	* 4.39	* 3.49
95% LCL:	513.36	8.66	4907.39	8.63	1838.89	19.32	7231.38	*39.55	*65.38
95% UCL:	597.19	15.87	9049.41	17.10	3532.31	31.61	12096.62	*56.78	*79.04

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 13. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA J1, 1969-84. WEIGHT IN METRIC TONNES.

STATISTICAL AREA: J1

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		21	10146	36	6543	57	16689	36.84	60.79
1970		11	5982	23	4699	35	10681	31.43	56.01
1971		11	5135	20	3532	31	8667	35.48	59.25
1972		29	13387	39	8874	68	22261	42.65	60.14
1973	473	19	10250	34	6774	53	17024	35.85	60.21
1974	422	25	14851	89	17381	114	32232	21.93	46.08
1975	910	34	18821	74	15001	107	33822	31.78	55.65
1976	800	39	22703	117	26072	156	48775	25.00	46.55
1977	734	7	3821	32	7197	39	11018	17.95	34.68
1978	722	3	1297	14	3042	17	4339	17.65	29.89
1979	691	11	5916	29	6250	39	12166	28.21	48.63
1980	675	24	12014	17	3438	41	15452	58.54	77.75
1981	656	8	4364	20	4208	29	8572	27.59	50.91
1982	625	16	8413	24	5935	40	14348	40.00	58.64
1983	499	12	6380	19	4445	31	10825	38.71	58.94
1984[1]	314	10	5224	9	1996	18	7220	55.56	72.35
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	655.18	13.00	9565.33	39.13	8226.07	57.13	17791.40	*31.51	*53.76
S.D.:	145.30	10.51	5935.89	30.12	6428.06	38.82	11923.68	* 2.62	* 2.58
95% LCL:	557.57	12.18	6277.82	22.45	4665.97	35.63	11187.63	*26.36	*48.70
95% UCL:	752.79	23.82	12852.85	55.82	11786.16	78.63	24395.17	*36.65	*58.82

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 14. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR SECTION 51 (STATISTICAL AREA O), 1969-84. WEIGHT IN METRIC TONNES.

STATISTICAL SECTION: 51

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		24	12916	130	26110	154	39026	15.58	33.10
1970		49	27208	206	41196	255	68404	19.22	39.78
1971		48	26410	202	40462	250	66872	19.20	39.49
1972		39	21468	229	45833	268	67301	14.55	31.90
1973	1320	30	16955	184	37095	214	54050	14.02	31.37
1974	1499	63	31505	388	79265	451	110770	13.97	28.44
1975	1493	79	41392	224	52113	303	93505	26.07	44.27
1976	1595	64	30660	232	51639	297	82299	21.55	37.25
1977	1344	47	23365	232	47401	279	70766	16.85	33.02
1978	1492	17	9154	172	36608	189	45762	8.99	20.00
1979	1565	30	14211	62	14039	92	28250	32.61	50.30
1980	1501	85	38568	252	51218	337	89786	25.22	42.96
1981	1470	96	46542	195	38461	292	85003	32.88	54.75
1982	1309	70	34932	171	36696	241	71628	29.05	48.77
1983	1307	34	17199	96	21132	130	38331	26.15	44.87
1984[1]	980	16	7676	84	17888	100	25564	16.00	30.03
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	1445.00	51.67	26165.67	198.33	41284.53	250.13	67450.20	*20.66	*38.79
S.D.:	105.57	23.70	11118.10	74.73	15286.79	88.49	23076.13	* 1.84	* 2.42
95% LCL:	1374.08	38.54	20008.06	156.95	32818.15	201.13	54669.79	*17.06	*34.05
95% UCL:	1515.92	64.79	32323.28	239.72	49750.92	299.14	80230.61	*24.26	*43.53

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 15. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR SECTION 52 (STATISTICAL AREA O), 1969-84. WEIGHT IN METRIC TONNES.

STATISTICAL SECTION: 52

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		35	18667	197	39697	232	58364	15.09	31.98
1970		26	14707	68	13663	95	28370	27.37	51.84
1971		58	31991	187	37424	245	69415	23.67	46.09
1972		25	13642	120	24036	145	37678	17.24	36.21
1973	821	41	22923	168	33785	209	56708	19.62	40.42
1974	401	19	9277	101	20524	119	29801	15.97	31.13
1975	671	55	29000	129	30053	184	59053	29.89	49.11
1976	823	43	20273	152	33830	195	54103	22.05	37.47
1977	909	45	22607	151	30869	197	53476	22.84	42.28
1978	675	11	5946	79	16829	90	22775	12.22	26.11
1979	679	35	16890	79	17881	114	34771	30.70	48.57
1980	457	83	37831	215	42262	298	80093	27.85	47.23
1981	478	108	51864	220	41414	328	93278	32.93	55.60
1982	519	56	27964	125	26575	181	54539	30.94	51.27
1983	572	37	19043	82	18352	119	37395	31.09	50.92
1984[1]	491	18	8347	62	13092	80	21439	22.50	38.93
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	636.82	45.13	22841.67	138.20	28479.60	183.40	51321.27	*24.61	*44.51
S.D.:	166.83	24.90	11677.39	51.23	9580.02	71.86	19884.41	* 1.75	* 2.19
95% LCL:	524.75	31.34	16374.30	109.83	23173.83	143.60	40308.55	*21.18	*40.22
95% UCL:	748.89	58.92	29309.03	166.57	33785.37	223.20	62333.98	*28.04	*48.79

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 16. SUMMARY OF COMMERCIAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR SECTION 53 (STATISTICAL AREA O), 1969-84. WEIGHT IN METRIC TONNES.

STATISTICAL SECTION: 53

YEAR	POTENTIAL EFFORT	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)
1969		9	4928	37	7400	46	12328	19.57	39.97
1970		6	3387	30	5965	36	9352	16.67	36.22
1971		10	5443	61	12219	71	17662	14.08	30.82
1972		7	4024	47	9504	55	13528	12.73	29.75
1973	594	34	18980	113	22730	147	41710	23.13	45.50
1974	288	12	6211	35	7113	47	13324	25.53	46.62
1975	556	42	22105	76	17603	118	39708	35.59	55.67
1976	549	30	14124	139	30882	169	45006	17.75	31.38
1977	612	25	12363	98	20046	123	32409	20.33	38.15
1978	1001	28	14530	124	26321	151	40851	18.54	35.57
1979	979	16	7419	72	16444	88	23863	18.18	31.09
1980	1018	41	18587	112	22337	153	40924	26.80	45.42
1981	981	20	9616	123	24853	143	34469	13.99	27.90
1982	1046	18	9174	66	14006	84	23180	21.43	39.58
1983	1080	20	9907	61	13239	81	23146	24.69	42.80
1984[1]	992	17	7892	32	6871	49	14763	34.69	53.46
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS:									
MEAN:	791.27	21.20	10719.87	79.60	16710.80	100.80	27430.67	*21.03	*39.08
S.D.:	274.46	11.83	5879.99	36.02	7677.03	45.14	12512.32	* 1.67	* 2.46
95% LCL:	606.90	14.65	7463.32	59.65	12458.98	75.80	20500.89	*17.75	*34.26
95% UCL:	975.64	27.75	13976.42	99.55	20962.62	125.80	34360.45	*24.31	*43.90

[1]PRELIMINARY FIGURES.

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS BASED ON YEARS 1969-1983.
EFFORT STATISTICS BASED ON YEARS 1973-1983 ONLY.

TABLE 17. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR NEWFOUNDLAND REGION (TOTAL), 1953-84.

NEWFOUNDLAND REGION (TOTAL)

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	27955	7519	707	8226	0.29	.
1954	17074	3421	709	4130	0.24	91
1955	11381	4829	402	5231	0.46	89
1956	33633	7680	609	8289	0.25	89
1957	17856	8949	739	9688	0.54	91
1958	16959	10027	896	10923	0.64	91
1959	18070	8795	750	9545	0.53	93
1960	17929	7290	673	7963	0.44	93
1961	14364	5189	428	5617	0.39	94
1962	22252	9965	769	10734	0.48	87
1963	27518	11494	609	12103	0.44	94
1964	36469	17351	967	18318	0.50	92
1965	35909	13439	784	14223	0.40	96
1966	36353	15339	746	16085	0.44	95
1967	39503	10476	373	10849	0.27	98
1968	41825	18375	681	19056	0.46	94
1969	41966	17793	409	18202	0.43	98
1970	41683	17932	421	18353	0.44	98
1971	41056	15940	457	16397	0.40	98
1972	36295	15180	486	15666	0.43	97
1973	51408	25347	741	26088	0.51	95
1974	70673	17279	683	17962	0.25	97
1975	62220	18962	418	19380	0.31	98
1976	68112	19630	840	20470	0.30	96
1977	72373	24307	1879	26186	0.36	91
1978	67434	21841	1200	23041	0.34	95
1979	53308	21062	869	21931	0.41	96
1980	69097	26235	1272	27507	0.40	94
1981	79729	33921	852	34773	0.44	97
1982	88321	28820	1072	29892	0.34	97
1983	85295	23988	993	24981	0.29	97
1984	82669	26622	363	26985	0.33	99

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	75150.0	26805.2	1011.6	27816.8	0.37	96.36
$\bar{x}$±95% CL	±17678.1	±6080.1	±212.9	±6065.3	±0.08	±1.13
N	5	5	5	5	5	5
69-83	61931.3	21882.5	839.5	22721.9	0.37	96.31
$\bar{x}$±95% CL	±9304.1	±2894.4	±225.5	±3022.3	±0.04	±0.80
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 18. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR NEWFOUNDLAND REGION (INSULAR), 1953-84.

NEWFOUNDLAND REGION (INSULAR)

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	27955	7519	707	8226	0.29	.
1954	16974	3071	559	3630	0.21	93
1955	11183	4704	394	5098	0.46	89
1956	33532	7660	609	8269	0.25	89
1957	17514	7927	690	8617	0.49	92
1958	16593	9178	876	10054	0.61	90
1959	17570	7972	713	8685	0.49	93
1960	17530	6732	634	7366	0.42	93
1961	13730	4476	302	4778	0.35	96
1962	21641	9201	711	9912	0.46	86
1963	26824	10122	551	10673	0.40	94
1964	34886	15435	846	16281	0.47	92
1965	34083	11895	548	12443	0.37	97
1966	34073	13361	384	13745	0.40	97
1967	38067	9391	178	9569	0.25	99
1968	40004	16244	372	16616	0.42	96
1969	40347	16181	289	16470	0.41	98
1970	38933	15485	180	15665	0.40	99
1971	38417	12933	218	13151	0.34	99
1972	33487	12656	142	12798	0.38	99
1973	46180	19286	164	19450	0.42	99
1974	67894	15518	171	15689	0.23	99
1975	60191	16059	245	16304	0.27	98
1976	64853	16402	320	16722	0.26	98
1977	69057	21375	1186	22561	0.33	93
1978	63599	19723	616	20339	0.32	97
1979	50124	17845	379	18224	0.36	98
1980	66625	23373	720	24093	0.36	96
1981	77884	30428	552	30980	0.40	98
1982	85200	25987	531	26518	0.31	98
1983	82167	21616	695	22311	0.27	97
1984	79645	24708	47	24755	0.31	100

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	72400.0	23849.8	575.4	24425.2	0.34	97.64
$\bar{x}$±95% CL	±17762.9	±5859.7	±171.4	±5901.2	±0.06	±0.78
N	5	5	5	5	5	5
69-83	58997.2	18991.1	427.2	19418.3	0.33	97.80
$\bar{x}$±95% CL	±9295.0	±2720.7	±160.9	±2821.0	±0.04	±0.67
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 19. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR NEWFOUNDLAND REGION (LABRADOR), 1953-84.

NEWFOUNDLAND REGION (LABRADOR)

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	.	.	.	.	.	.
1954	100	350	150	500	5.00	.
1955	198	125	8	133	0.67	98
1956	101	20	0	20	0.20	100
1957	342	1022	49	1071	3.13	29
1958	366	849	20	869	2.37	98
1959	500	823	37	860	1.72	96
1960	399	558	39	597	1.50	95
1961	634	713	126	839	1.32	82
1962	611	764	58	822	1.35	92
1963	694	1372	58	1430	2.06	93
1964	1583	1916	121	2037	1.29	92
1965	1826	1544	236	1780	0.97	89
1966	2280	1978	362	2340	1.03	81
1967	1436	1085	195	1280	0.89	91
1968	1821	2131	309	2440	1.34	78
1969	1619	1612	120	1732	1.07	95
1970	2750	2447	241	2688	0.98	87
1971	2639	3007	239	3246	1.23	91
1972	2808	2524	344	2868	1.02	90
1973	5228	6061	577	6638	1.27	81
1974	2779	1761	512	2273	0.82	92
1975	2029	2903	173	3076	1.52	91
1976	3259	3228	520	3748	1.15	85
1977	3316	2932	693	3625	1.09	82
1978	3835	2118	584	2702	0.70	83
1979	3184	3217	490	3707	1.16	81
1980	2472	2862	552	3414	1.38	85
1981	1845	3493	300	3793	2.06	91
1982	3121	2833	541	3374	1.08	87
1983	3128	2372	298	2670	0.85	90
1984	3024	1914	316	2230	0.74	88

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	2750.0	2955.4	436.2	3391.6	1.23	87.14
$\bar{x}$±95% CL	±725.3	±527.3	±158.2	±549.0	±0.47	±4.55
N	5	5	5	5	5	5
69-83	2934.1	2891.3	412.3	3303.6	1.13	87.52
$\bar{x}$±95% CL	±481.2	±568.7	±97.3	±606.0	±0.15	±2.80
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 20. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA A, 1953-84.

STATISTICAL AREA: A

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	77	58	8	66	0.86	.
1954	134	33	0	33	0.25	100
1955	36	11	0	11	0.31	100
1956	164	70	0	70	0.43	100
1957	68	47	0	47	0.69	100
1958	236	35	0	35	0.15	100
1959	215	45	0	45	0.21	100
1960	183	48	1	49	0.27	98
1961	179	62	3	65	0.36	94
1962	368	95	0	95	0.26	100
1963	1332	216	0	216	0.16	100
1964	1406	440	0	440	0.31	100
1965	1710	735	4	739	0.43	99
1966	3074	1284	28	1312	0.43	96
1967	3412	497	2	499	0.15	100
1968	3778	1300	27	1327	0.35	95
1969	4310	966	45	1011	0.23	97
1970	2312	825	1	826	0.36	100
1971	1745	765	11	776	0.44	99
1972	1360	520	0	520	0.38	100
1973	2379	1218	2	1220	0.51	100
1974	2577	870	4	874	0.34	100
1975	2405	1153	0	1153	0.48	100
1976	3116	1039	1	1040	0.33	100
1977	3590	1673	4	1677	0.47	100
1978	2694	849	1	850	0.32	100
1979	3176	2166	0	2166	0.68	100
1980	3222	1819	37	1856	0.58	98
1981	3740	2505	11	2516	0.67	99
1982	4429	2687	88	2775	0.63	97
1983	4943	1749	4	1753	0.35	100
1984	2629	1059	0	1059	0.40	100

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	3902.0	2185.2	28.0	2213.2	0.57	98.73
$\bar{x}$±95% CL	±957.0	±511.5	±45.3	±537.2	±0.19	±1.88
N	5	5	5	5	5	5
69-83	3066.5	1386.9	13.9	1400.9	0.46	99.00
$\bar{x}$±95% CL	±557.9	±372.7	±13.7	±379.7	±0.09	±0.87
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 21. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA B, 1953-84.

STATISTICAL AREA: B

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	8630	2984	501	3485	0.40	.
1954	7344	1172	428	1600	0.22	87
1955	5125	2367	249	2616	0.51	82
1956	10672	3892	458	4350	0.41	84
1957	8789	4423	527	4950	0.56	88
1958	5888	4364	637	5001	0.85	87
1959	6321	3700	520	4220	0.67	89
1960	7051	3441	509	3950	0.56	88
1961	5277	2118	162	2280	0.43	96
1962	8842	4397	482	4879	0.55	81
1963	10910	3710	332	4042	0.37	93
1964	15608	7237	680	7917	0.51	85
1965	13749	4233	318	4551	0.33	96
1966	15249	6433	194	6627	0.43	96
1967	13915	4163	63	4226	0.30	99
1968	15318	5938	201	6139	0.40	95
1969	13807	4024	114	4138	0.30	98
1970	15759	4849	47	4896	0.31	99
1971	11379	3783	58	3841	0.34	99
1972	10778	3444	24	3468	0.32	99
1973	14544	6710	49	6759	0.46	99
1974	22038	5373	82	5455	0.25	99
1975	22384	5943	166	6109	0.27	97
1976	24787	6683	188	6871	0.28	97
1977	28117	8396	1086	9482	0.34	86
1978	24131	8774	502	9276	0.38	94
1979	21496	8026	327	8353	0.39	96
1980	25172	9414	507	9921	0.39	94
1981	32282	13536	361	13897	0.43	96
1982	32929	9973	258	10231	0.31	98
1983	26649	8954	297	9251	0.35	97
1984	29633	9900	15	9915	0.33	100

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	27705.6	9980.6	350.0	10330.6	0.37	96.61
$\bar{x}$±95% CL	±6028.6	±2621.6	±118.7	±2631.5	±0.06	±1.36
N	5	5	5	5	5	5
69-83	21750.1	7192.1	271.1	7463.2	0.34	96.37
$\bar{x}$±95% CL	±3934.2	±1532.7	±153.1	±1620.7	±0.04	±1.69
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 22. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA C, 1953-84.

STATISTICAL AREA: C

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	6209	1099	37	1136	0.18	.
1954	3302	499	29	528	0.16	97
1955	1764	815	35	850	0.48	93
1956	12072	1077	62	1139	0.09	93
1957	2326	822	44	866	0.37	96
1958	2719	1384	40	1424	0.52	95
1959	3063	1125	43	1168	0.38	97
1960	2580	767	14	781	0.30	99
1961	2185	409	36	445	0.20	96
1962	2639	973	62	1035	0.39	87
1963	4519	1546	61	1607	0.36	94
1964	4877	2376	63	2439	0.50	96
1965	5231	1803	33	1836	0.35	99
1966	4281	1431	35	1466	0.34	98
1967	3754	1569	25	1594	0.42	98
1968	3732	2226	44	2270	0.61	97
1969	5769	2605	27	2632	0.46	99
1970	3189	2226	35	2261	0.71	99
1971	5963	1680	38	1718	0.29	98
1972	2015	1895	20	1915	0.95	99
1973	3894	2112	12	2124	0.55	99
1974	9335	1637	21	1658	0.18	99
1975	7527	1988	23	2011	0.27	99
1976	6975	1898	65	1963	0.28	97
1977	10572	4616	44	4660	0.44	98
1978	9108	2858	28	2886	0.32	99
1979	3851	1327	20	1347	0.35	99
1980	8155	2702	29	2731	0.33	98
1981	8863	3488	35	3523	0.40	99
1982	9935	2433	53	2486	0.25	99
1983	10195	2357	170	2527	0.25	93
1984	12403	2703	1	2704	0.22	100

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	8199.8	2461.4	61.4	2522.8	0.31	97.57
$\bar{x}$±95% CL	±3186.1	±963.7	±76.8	±967.1	±0.08	±3.11
N	5	5	5	5	5	5
69-83	7023.1	2388.1	41.3	2429.5	0.35	98.42
$\bar{x}$±95% CL	±1538.8	±455.8	±21.2	±458.1	±0.06	±0.89
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 23. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA D, 1953-84.

STATISTICAL AREA: D

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	6513	118	0	118	0.02	.
1954	2515	44	0	44	0.02	100
1955	628	92	0	92	0.15	100
1956	4402	92	2	94	0.02	98
1957	805	87	0	87	0.11	100
1958	592	115	0	115	0.19	100
1959	535	55	0	55	0.10	100
1960	547	54	0	54	0.10	100
1961	512	19	0	19	0.04	100
1962	575	53	0	53	0.09	100
1963	837	93	1	94	0.11	98
1964	978	92	0	92	0.09	100
1965	871	85	3	88	0.10	97
1966	935	90	0	90	0.10	100
1967	1480	89	0	89	0.06	100
1968	1126	120	0	120	0.11	100
1969	917	106	0	106	0.12	100
1970	650	84	3	87	0.13	97
1971	710	55	1	56	0.08	99
1972	1345	119	0	119	0.09	100
1973	1683	250	0	250	0.15	100
1974	2685	303	1	304	0.11	100
1975	1851	94	1	95	0.05	100
1976	2864	247	2	249	0.09	98
1977	1869	401	19	420	0.22	93
1978	2237	296	7	303	0.14	98
1979	1766	244	2	246	0.14	99
1980	2807	320	14	334	0.12	95
1981	3406	605	29	634	0.19	92
1982	3031	288	17	305	0.10	97
1983	3684	296	10	306	0.08	97
1984	3218	312	5	317	0.10	98

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	2938.8	350.6	14.4	365.0	0.12	96.05
$\bar{x}$±95% CL	±915.5	±179.8	±12.3	±190.9	±0.06	±1.74
N	5	5	5	5	5	5
69-83	2100.3	247.2	7.1	254.3	0.12	97.21
$\bar{x}$±95% CL	±532.3	±79.7	±4.9	±83.9	±0.02	±1.24
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 24. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA E, 1953-84.

STATISTICAL AREA: E

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	244	43	0	43	0.18	.
1954	41	5	0	5	0.12	100
1955	7	0	0	0	0.00	100
1956	307	27	1	28	0.09	0
1957	59	24	1	25	0.42	96
1958	72	19	0	19	0.26	100
1959	134	13	0	13	0.10	100
1960	128	25	1	26	0.20	93
1961	54	7	2	9	0.17	93
1962	.	.	.	.	.	.
1963	275	36	0	36	0.13	.
1964	660	59	0	59	0.09	100
1965	762	165	1	166	0.22	98
1966	647	97	0	97	0.15	100
1967	997	78	0	78	0.08	100
1968	829	31	1	32	0.04	99
1969	1216	33	0	33	0.03	100
1970	1103	20	1	21	0.02	97
1971	1295	40	0	40	0.03	100
1972	875	61	0	61	0.07	100
1973	1167	131	0	131	0.11	100
1974	2019	133	2	135	0.07	98
1975	1436	40	0	40	0.03	100
1976	1128	30	0	30	0.03	100
1977	1775	78	1	79	0.04	97
1978	1786	99	1	100	0.06	99
1979	1332	125	0	125	0.09	100
1980	1546	102	1	103	0.07	99
1981	1348	123	2	125	0.09	98
1982	1621	155	10	165	0.10	92
1983	1804	139	34	173	0.10	82
1984	1381	96	4	100	0.07	97

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	1530.2	128.8	9.4	138.2	0.09	93.20
$\bar{x}$±95% CL	±245.1	±24.5	±17.8	±36.9	±0.03	±11.42
N	5	5	5	5	5	5
69-83	1430.1	87.3	3.5	90.7	0.06	96.25
$\bar{x}$±95% CL	±177.5	±25.8	±4.9	±28.3	±0.02	±4.79
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 25. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA F, 1953-84.

STATISTICAL AREA: F

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	50	6	0	6	0.12	.
1954	.	.	.	.	.	.
1955	.	.	.	.	.	.
1956	.	.	.	.	.	.
1957	.	.	.	.	.	.
1958	.	.	.	.	.	.
1959	.	.	.	.	.	.
1960	.	.	.	.	.	.
1961	.	.	.	.	.	.
1962	.	.	.	.	.	.
1963	.	.	.	.	.	.
1964	.	.	.	.	.	.
1965	17	44	6	50	2.94	.
1966	100	32	2	34	0.34	96
1967	.	.	.	.	.	.
1968	166	22	0	22	0.13	.
1969	16	12	0	12	0.75	100
1970	.	.	.	.	.	.
1971	290	25	9	34	0.12	.
1972	270	28	0	28	0.10	100
1973	410	94	4	98	0.24	88
1974	659	51	0	51	0.08	100
1975	527	87	0	87	0.17	100
1976	514	80	0	80	0.16	100
1977	530	81	0	81	0.15	100
1978	269	44	0	44	0.16	100
1979	331	100	0	100	0.30	100
1980	316	120	0	120	0.38	100
1981	384	77	0	77	0.20	100
1982	538	85	9	94	0.17	90
1983	414	41	5	46	0.11	94
1984	357	79	0	79	0.22	100

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	396.6	84.6	2.8	87.4	0.22	96.80
$\bar{x}$±95% CL	±109.7	±36.5	±5.1	±34.5	±0.11	±6.33
N	5	5	5	5	5	5
69-83	390.6	66.1	1.9	68.0	0.17	97.21
$\bar{x}$±95% CL	±92.9	±18.6	±2.0	±18.5	±0.04	±3.03
N	14	14	14	14	14	13

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 26. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA G, 1953-84.

STATISTICAL AREA: G

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	3012	1954	44	1998	0.66	.
1954	1712	617	32	649	0.38	98
1955	1701	673	36	709	0.42	94
1956	2411	1319	22	1341	0.56	97
1957	2602	1355	48	1403	0.54	96
1958	3094	1350	51	1401	0.45	96
1959	3557	1447	52	1499	0.42	96
1960	4223	937	46	983	0.23	97
1961	2681	705	17	722	0.27	98
1962	3685	1002	38	1040	0.28	95
1963	4311	1620	48	1668	0.39	95
1964	6044	1295	23	1318	0.22	99
1965	5214	1852	76	1928	0.37	94
1966	3416	822	13	835	0.24	99
1967	7421	900	17	917	0.12	98
1968	5264	1105	1	1106	0.21	100
1969	6976	1422	9	1431	0.21	99
1970	7701	1893	12	1905	0.25	99
1971	6704	1620	19	1639	0.24	99
1972	5633	1139	8	1147	0.20	100
1973	7660	2160	20	2180	0.28	98
1974	9162	1494	9	1503	0.16	100
1975	10046	1872	6	1878	0.19	100
1976	8809	1623	12	1635	0.19	99
1977	8766	1080	9	1089	0.12	99
1978	7224	1303	17	1320	0.18	98
1979	5859	1704	15	1719	0.29	99
1980	6446	2379	61	2440	0.38	97
1981	6343	1862	52	1914	0.30	98
1982	8574	1825	33	1858	0.22	98
1983	10754	2303	71	2374	0.22	96
1984	8754	2264	5	2269	0.26	100

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	7595.2	2014.6	46.4	2061.0	0.27	97.75
$\bar{x}$±95% CL	±2547.2	±378.4	±27.8	±403.0	±0.08	±0.98
N	5	5	5	5	5	5
69-83	7777.1	1711.9	23.5	1735.5	0.22	98.64
$\bar{x}$±95% CL	±848.1	±216.1	±11.6	±224.5	±0.04	±0.55
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 27. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA H, 1953-84.

STATISTICAL AREA: H

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	2216	712	44	756	0.34	.
1954	1486	356	37	393	0.26	95
1955	1584	306	29	335	0.21	92
1956	2814	425	14	439	0.16	96
1957	2064	484	30	514	0.25	93
1958	3046	1043	65	1108	0.36	88
1959	2525	657	33	690	0.27	97
1960	2197	511	23	534	0.24	97
1961	1507	236	2	238	0.16	100
1962	3658	679	68	747	0.20	78
1963	3785	1058	38	1096	0.29	95
1964	3507	1408	18	1426	0.41	98
1965	4591	875	43	918	0.20	97
1966	4334	820	22	842	0.19	98
1967	4942	333	4	337	0.07	100
1968	6641	1387	6	1393	0.21	98
1969	3800	979	29	1008	0.27	98
1970	3899	601	7	608	0.16	99
1971	4796	928	17	945	0.20	97
1972	5841	567	4	571	0.10	100
1973	8714	1785	42	1827	0.21	93
1974	10987	1212	14	1226	0.11	99
1975	5999	427	9	436	0.07	99
1976	8811	730	10	740	0.08	98
1977	7213	1097	5	1102	0.15	99
1978	8764	1595	42	1637	0.19	96
1979	6405	849	8	857	0.13	100
1980	9588	1524	27	1551	0.16	97
1981	9309	1317	29	1346	0.14	98
1982	9331	1256	10	1266	0.14	99
1983	9173	1140	79	1219	0.13	94
1984	6361	1457	2	1459	0.23	100

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	8761.2	1217.2	30.6	1247.8	0.14	97.55
$\bar{x}$±95% CL	±1645.8	±308.6	±35.6	±313.7	±0.03	±2.80
N	5	5	5	5	5	5
69-83	7508.7	1067.1	22.1	1089.3	0.15	97.96
$\bar{x}$±95% CL	±1247.1	±219.2	±11.2	±225.5	±0.02	±0.86
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 28. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA I, 1953-84.

STATISTICAL AREA: I

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	308	99	27	126	0.41	.
1954	130	75	2	77	0.59	98
1955	105	25	6	31	0.30	93
1956	225	65	9	74	0.33	74
1957	115	37	6	43	0.37	92
1958	189	107	11	118	0.62	77
1959	230	121	22	143	0.62	83
1960	242	89	11	100	0.41	92
1961	203	53	7	60	0.30	93
1962	352	197	10	207	0.59	84
1963	295	260	17	277	0.94	92
1964	677	483	7	490	0.72	97
1965	778	600	2	602	0.77	100
1966	416	355	5	360	0.87	99
1967	1271	579	7	586	0.46	98
1968	1579	1484	24	1508	0.96	96
1969	1739	3098	2	3100	1.78	100
1970	1770	2519	3	2522	1.42	100
1971	1580	1754	25	1779	1.13	99
1972	1599	1780	20	1800	1.13	99
1973	1836	1576	16	1592	0.87	99
1974	2415	1453	9	1462	0.61	99
1975	2410	975	4	979	0.41	100
1976	2796	1240	10	1250	0.45	99
1977	2873	1436	5	1441	0.50	100
1978	3339	1437	4	1441	0.43	100
1979	2834	912	3	915	0.32	100
1980	4231	1981	27	2008	0.47	97
1981	5206	2505	35	2540	0.49	98
1982	6159	1975	22	1997	0.32	99
1983	5271	1382	3	1385	0.26	100
1984	4668	1819	4	1823	0.39	100

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	4740.2	1751.0	18.0	1769.0	0.37	98.98
$\bar{x}$±95% CL	±1570.9	±763.3	±18.0	±780.4	±0.14	±0.60
N	5	5	5	5	5	5
69-83	3070.5	1734.9	12.5	1747.4	0.57	99.28
$\bar{x}$±95% CL	±821.1	±334.1	±6.0	±335.8	±0.19	±0.33
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 29. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL AREA J1, 1953-84.

STATISTICAL AREA: J1

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	530	343	30	373	0.70	.
1954	251	247	28	275	1.10	92
1955	180	389	39	428	2.38	86
1956	404	609	38	647	1.60	91
1957	503	452	32	484	0.96	95
1958	717	558	62	620	0.86	88
1959	831	618	24	642	0.77	96
1960	256	674	19	693	2.71	97
1961	837	590	70	660	0.79	91
1962	1190	1435	40	1475	1.24	94
1963	1082	1240	35	1275	1.18	98
1964	1396	1691	39	1730	1.24	97
1965	1559	1367	56	1423	0.91	97
1966	1945	1565	86	1651	0.85	94
1967	2054	807	53	860	0.42	97
1968	2784	2128	65	2193	0.79	93
1969	3211	2131	49	2180	0.68	98
1970	3123	1972	70	2042	0.65	97
1971	3772	1956	35	1991	0.53	98
1972	3364	2720	48	2768	0.82	98
1973	3800	2514	16	2530	0.67	99
1974	5757	2517	26	2543	0.44	99
1975	5028	2559	33	2592	0.52	99
1976	5092	2467	29	2496	0.49	99
1977	4356	2108	10	2118	0.49	100
1978	4143	2420	11	2431	0.59	99
1979	2720	1586	2	1588	0.58	100
1980	4896	2688	15	2703	0.55	99
1981	6093	3353	2	3355	0.55	100
1982	7174	3898	24	3922	0.55	99
1983	8561	2776	22	2798	0.33	99
1984	8199	3213	2	3215	0.39	100

MEANS 95% CONFIDENCE LIMITS

79-83	5888.8	2860.2	13.0	2873.2	0.49	99.55
$\bar{x}$±95% CL	±2766.4	±1071.6	±13.2	±1078.5	±0.17	±0.40
N	5	5	5	5	5	5
69-83	4739.3	2511.0	26.1	2537.1	0.54	98.97
$\bar{x}$±95% CL	±898.8	±315.8	±10.4	±314.0	±0.06	±0.45
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 30. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL SECTION 51, 1953-84.

STATISTICAL SECTION: 51

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	.	.	.	.	.	.
1954	.	.	.	.	.	.
1955	41	18	2	20	0.49	.
1956	101	20	0	20	0.20	100
1957	5	15	2	17	3.40	91
1958	25	49	0	49	1.96	100
1959	13	16	1	17	1.31	98
1960	31	46	4	50	1.61	80
1961	43	49	1	50	1.16	98
1962	26	42	2	44	1.69	96
1963	103	231	10	241	2.34	81
1964	175	202	32	234	1.34	88
1965	277	140	29	169	0.61	87
1966	50	88	7	95	1.90	95
1967	48	78	0	78	1.63	100
1968	50	46	0	46	0.92	100
1969	.	.	.	.	.	.
1970	109	201	5	206	1.89	.
1971	78	104	6	110	1.41	97
1972	52	58	2	60	1.15	98
1973	198	301	2	303	1.53	97
1974	312	232	3	235	0.75	99
1975	210	91	9	100	0.48	96
1976	324	179	11	190	0.59	89
1977	372	257	38	295	0.79	82
1978	301	154	26	180	0.60	91
1979	353	299	18	317	0.90	90
1980	240	198	45	243	1.01	87
1981	111	131	0	131	1.18	100
1982	268	114	11	125	0.47	92
1983	627	326	18	344	0.55	86
1984	489	168	2	170	0.35	99

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	319.8	213.6	18.4	232.0	0.73	92.07
$\bar{x}$±95% CL	±238.9	±119.3	±20.6	±126.5	±0.33	±8.05
N	5	5	5	5	5	5
69-83	253.9	188.9	13.9	202.8	0.80	93.15
$\bar{x}$±95% CL	±86.5	±49.2	±8.0	±52.0	±0.19	±3.62
N	14	14	14	14	14	13

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 31. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL SECTION 52, 1953-84.

STATISTICAL SECTION: 52

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	.	.	.	.	.	.
1954	100	350	150	500	5.00	.
1955	157	107	6	113	0.72	98
1956	.	.	.	.	.	.
1957	337	1007	47	1054	3.13	.
1958	341	800	20	820	2.40	98
1959	487	807	36	843	1.73	96
1960	368	512	35	547	1.49	96
1961	591	664	125	789	1.34	80
1962	585	722	56	778	1.33	92
1963	591	1141	48	1189	2.01	94
1964	1364	1696	86	1782	1.31	93
1965	1271	1347	132	1479	1.16	93
1966	1833	1523	103	1626	0.89	93
1967	920	888	89	977	1.06	94
1968	1023	1893	87	1980	1.94	91
1969	1619	1612	120	1732	1.07	94
1970	2221	1971	107	2078	0.94	94
1971	2038	2732	151	2883	1.41	93
1972	2066	2016	172	2188	1.06	94
1973	4330	5227	447	5674	1.31	82
1974	1998	1428	241	1669	0.84	96
1975	1574	2433	47	2480	1.58	97
1976	2007	2158	141	2299	1.15	95
1977	2135	1987	122	2109	0.99	95
1978	2840	1089	126	1215	0.43	94
1979	1730	2323	149	2472	1.43	88
1980	1521	1987	276	2263	1.49	89
1981	1320	2702	105	2807	2.13	95
1982	2111	1935	167	2102	1.00	94
1983	1807	1578	144	1722	0.95	93
1984	1703	1065	102	1167	0.69	94

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	1697.8	2105.0	168.2	2273.2	1.34	92.60
$\bar{x}$±95% CL	±371.2	±528.4	±80.0	±503.4	±0.53	±4.22
N	5	5	5	5	5	5
69-83	2087.8	2211.9	167.7	2379.5	1.14	92.96
$\bar{x}$±95% CL	±398.1	±525.0	±52.4	±560.1	±0.21	±1.59
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

TABLE 32. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR STATISTICAL SECTION 53, 1953-84.

STATISTICAL SECTION: 53

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	.	.	.	.	.	.
1954	.	.	.	.	.	.
1955	.	.	.	.	.	.
1956	.	.	.	.	.	.
1957	.	.	.	.	.	.
1958	.	.	.	.	.	.
1959	.	.	.	.	.	.
1960	.	.	.	.	.	.
1961	.	.	.	.	.	.
1962	.	.	.	.	.	.
1963	.	.	.	.	.	.
1964	44	18	3	21	0.48	.
1965	278	57	75	132	0.47	19
1966	397	367	252	619	1.56	18
1967	468	119	106	225	0.48	78
1968	748	192	222	414	0.55	35
1969	.	.	.	.	.	.
1970	420	275	129	404	0.96	.
1971	523	171	82	253	0.48	77
1972	690	450	170	620	0.90	50
1973	700	533	128	661	0.94	78
1974	469	101	268	369	0.79	67
1975	245	379	117	496	2.02	46
1976	928	891	368	1259	1.36	51
1977	809	688	533	1221	1.51	63
1978	694	875	432	1307	1.88	61
1979	1101	595	323	918	0.83	73
1980	711	677	231	908	1.28	72
1981	414	660	195	855	2.07	78
1982	742	784	363	1147	1.55	65
1983	694	468	136	604	0.87	85
1984	832	681	212	893	1.07	69

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	732.4	636.8	249.6	886.4	1.21	71.84
$\bar{x}$±95% CL	±303.7	±144.4	±115.2	±240.1	±0.56	±6.88
N	5	5	5	5	5	5
69-83	652.9	539.1	248.2	787.3	1.21	68.47
$\bar{x}$±95% CL	±128.8	±142.4	±79.0	±203.6	±0.26	±5.34
N	14	14	14	14	14	13

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

Table 33. Counts of grilse from fishways in insular Newfoundland 1955-84; also shown are correlation coefficients (r), means ($\bar{x}$), standard deviations (SD), and coefficients of variation (CV).

	Fishways									
	1	2A	2B	3	4	5	6	7	8	9
1955							53			
1956					324[a]	558	32			
1957				642	28[a]	141	21			
1958	843			1072	332[a]	677	10			
1959	438	886[a]	-	591	295[a]	394	120			
1960	494	1013	94	291		490	86			
1961	153	839	319	41		318	74		10	
1962	-	-	1037			496	284		44	
1963	267	1202	491			551	372		28	
1964	1199	-	1752			419	246		25	
1965	394	1228	587			474	334		18	
1966	292	829[a]	942			368	134		1	40
1967	116	1372	822			613	373		0	49
1968	682	-	1334			715	409	57[a]	4	29
1969	222	979	892			658	463		0	18
1970	392	-	1023			754	563		-	36
1971	364	961	902	714		580	316	159	6	51
1972	112	794	495[a]	541	838	609	330	236	31	57
1973	714	205	-	970	1079[a]	455	340	399[a]	108	95
1974	616	2583	-	862	770[a]		161	224	41	38
1975	788	9010	6012		1119[a]		782	186[a]	1	191
1976	353	4106	3037				346	294	133	341
1977	1307	6058	4294				371		192	789
1978	1125	3757	2633	755	1412	810	436	390	117	968
1979	2959	6693	3923	404	1283[a]	569	455	454	195	1984
1980	1760	-	4550	997	1703	842	422	433	301	788
1981	2696[a]	9015[a]	4286	2459	2415	1115	619	334[a]	110	2102
1982	2149	7654[a]	2836	1425	1281	964	625	86[a]	275	2112
1983	2205[a]	-	3031[a]	981	1195	1210	853	233	-	-
1984	1346[a]	17389	6398[a]	1081	1379	1232	911	419	-	-
1955-84										
r	0.68**	0.76**	0.81**	0.51NS	0.86**	0.80**	0.83**	0.44NS	0.76**	0.83**
1955-83										
$\bar{x}$	905.6	3114.9	2058.7	849.7	1005.3	615.8	332.1	268.1	78.1	569.9
SD	828.0	3040.6	1694.1	562.0	639.0	246.5	221.7	128.9	93.4	776.6
CV	91.42	97.61	82.29	66.14	63.56	40.03	66.76	48.08	119.59	136.27
1979-83										
$\bar{x}$	2353.8	7787.3	3725.2	1253.2	1575.4	940.0	594.8	308.0		
SD	474.4	1166.7	759.4	765.6	509.4	250.7	171.4	152.1		
CV	20.15	14.98	20.39	61.09	32.33	26.67	28.82	49.38		

** = Significant ($P < 0.01$)
NS = Not significant ($P > 0.05$)

1 Indian Brook
2 Exploits River
(a) Bishop's Falls
(b) Gt. Rattling Brook
3 Gander River
4 Middle Brook
5 L. Terra Nova River
6 U. Terra Nova River
7 Northeast River (Placentia)
8 Lomond River
9 Torrent River

[a]Partial counts.

Table 34. Counts of large salmon at fishways in insular Newfoundland 1955-84; also shown are correlation coefficients (r), means ($\bar{x}$), standard deviations (SD), and coefficients of variation (CV).

	Fishways									
	1	2A	2B	3	4	5	6	7	8	9
1955							24			
1956					56[a]	36	44			
1957				323	2[a]	41	1			
1958	80			502	231[a]	195	0			
1959	18	119[a]	-	290	13[a]	67	20			
1960	25	157	9	183		217	0			
1961	1	118	53	15		99	1		2	
1962	-	-	31			275	4		5	
1963	22	65	37			320	35		3	
1964	45	-	116			297	18		1	
1965	0	203	190			254	51		4	
1966	3	506[a]	470			220	2		1	0
1967	0	710	382			359	42		0	2
1968	0	-	687			374	28	11[a]	1	1
1969	3	498	290			393	136		0	5
1970	0	-	199			470	170		-	2
1971	0	300	261	494		277	121	21	0	4
1972	0	113	234[a]	53	10	348	202	34	14	3
1973	3	89	-	135	9[a]	299	222	64[a]	110	12
1974	8	411	-	8	77[a]		122	9	33	3
1975	11	1441	544		9[a]		48	36[a]	0	25
1976	3	493	121				37	56	11	47
1977	23	584	221				262		11	33
1978	13	302	78	52	16	20	88	32	12	21
1979	113	276	119	6	54[a]	170	30	37	1	39
1980	25	-	418	15	91	40	15	34	19	61
1981	151[a]	1695[a]	514	33	38	90	28	62[a]	50	97
1982	67	133[a]	123	18	20	19	8	36[a]	16	523
1983	48[a]	-	223[a]	12	74	57	76	22	-	-
1984	19[a]	355	111[a]	38	57	107	98	44		
1955-84										
r	0.30NS	0.37NS	0.18NS	-0.66**	-0.18NS	-0.20NS	0.36NS	0.32NS	0.33NS	0.56*
1955-83										
$\bar{x}$	26.5	432.3	241.8	142.6	50.0	205.7	63.3	34.9	14.0	51.6
SD	38.9	444.4	187.4	177.0	59.9	138.3	72.8	17.4	25.3	124.4
CV	146.79	102.80	77.50	124.12	119.80	67.23	115.01	49.86	180.71	241.08
1979-83										
$\bar{x}$	80.8	701.3	279.4	16.8	55.4	75.2	31.4	38.2		
SD	50.9	863.5	178.6	10.1	28.2	59.0	26.5	14.6		
CV	63.00	123.13	63.92	60.12	50.90	78.46	84.39	38.22		

* = Significant ($P < 0.05$)
** = Significant ($P < 0.01$)
NS = Not significant ($P > 0.05$)

1 Indian Brook
2 Exploits River
(a) Bishop's Falls
(b) Gt. Rattling Brook
3 Gander River
4 Middle Brook
5 L. Terra Nova River
6 U. Terra Nova River
7 Northeast River (Placentia)
8 Lomond River
9 Torrent River

[a]Partial counts.

Table 35. Correlation matrix of Atlantic salmon landings by Statistical Area for small (1SW) salmon (above diagonal) and large (MSW) salmon (below diagonal) by weight.

	A	B	C	D	E	F	G	H	I	J1	J2	K	L	M	N	50	51	52	53
A		0.35	-0.04	-0.27	-0.00	-0.31	0.60	-0.32	0.13	0.07	0.10	0.44	0.23	0.46	0.63	0.22	0.38	0.55	0.38
B	0.56		0.85	0.11	0.20	0.09	-0.02	-0.18	0.34	0.19	-0.03	-0.05	0.49	-0.03	0.44	0.43	0.66	0.53	0.52
C	0.57	0.38		0.41	0.44	0.21	-0.17	0.12	0.37	0.08	0.05	-0.07	0.45	-0.31	0.28	0.36	0.45	0.20	0.35
D	0.25	0.27	0.57		0.77	0.57	-0.15	0.53	0.43	0.32	0.45	0.05	-0.07	-0.43	-0.09	0.37	0.23	-0.26	-0.08
E	0.47	0.27	0.70	0.87		0.51	-0.03	0.63	0.60	0.22	0.72	0.54	0.21	-0.38	0.07	0.13	0.10	-0.14	0.11
F	0.39	0.38	0.54	0.81	0.81		-0.27	0.41	0.46	0.22	0.37	-0.15	0.09	-0.47	-0.30	0.03	0.07	-0.19	-0.43
G	-0.33	-0.32	0.06	-0.14	-0.15	-0.26		0.02	0.12	-0.24	0.14	0.31	0.22	0.15	0.70	-0.21	0.04	0.26	0.10
H	0.01	-0.16	-0.13	0.38	0.42	0.44	-0.48		0.37	0.40	0.59	0.49	0.28	-0.53	0.04	-0.01	-0.17	-0.30	-0.13
I	0.02	-0.24	-0.23	0.28	0.29	0.20	-0.30	0.71		0.35	0.67	0.20	0.21	-0.11	0.39	0.11	0.18	-0.12	0.10
J1	0.04	-0.20	-0.00	0.35	0.22	0.52	-0.28	0.37	0.39		0.45	0.17	0.02	0.04	-0.01	0.68	0.32	-0.02	0.28
J2	0.05	-0.14	-0.01	0.22	0.05	0.36	0.24	-0.05	0.11	0.64		0.54	-0.11	-0.26	0.13	0.17	-0.01	-0.16	0.28
K	0.19	0.03	0.25	0.16	0.09	0.10	0.58	0.30	-0.12	-0.04	0.25		0.32	-0.05	0.32	-0.09	-0.07	0.15	0.32
L	0.13	0.21	-0.11	0.30	0.28	0.48	-0.18	0.52	0.19	0.11	0.33	-0.06		0.06	0.40	-0.15	0.17	0.23	0.06
M	0.35	0.29	-0.02	0.03	-0.02	0.29	-0.32	0.26	-0.18	0.17	0.26	-0.08	0.63		0.08	-0.03	-0.04	-0.04	0.05
N	0.55	0.54	0.44	0.23	0.41	0.29	-0.26	0.12	-0.13	-0.32	-0.17	-0.30	0.48	0.43		0.08	0.49	0.53	0.30
50	0.58	0.30	0.54	0.74	0.64	0.70	-0.28	0.28	0.16	0.42	0.26	0.45	0.25	0.30	0.13		0.54	0.14	0.47
51	0.28	0.28	0.17	0.76	0.64	0.76	-0.27	0.60	0.60	0.51	0.34	0.28	0.53	0.19	0.07	0.73		0.77	0.34
52	0.62	0.57	0.26	0.10	0.32	0.30	-0.23	-0.03	0.16	-0.05	0.18	-0.23	0.26	0.09	0.55	0.01	0.15		0.34
53	0.48	0.35	0.27	0.03	0.25	0.20	-0.39	0.22	-0.18	0.08	-0.13	-0.36	0.20	0.36	0.46	0.15	-0.03	0.37	

Significant at less than 5%.

Table 36. List of rivers closed for varying periods in the 1984 recreational fishery.

Statistical Area/River	Date closed	Date opened
Statistical Area A		
Middle Arm Brook	July 25	August 20
Wild Cove Brook	July 25	August 22
Southern Arm Brook	July 26	August 20
Woodstock River	July 26	August 22
Baie Verte River	July 26	August 20
Main River (Sop's Arm)	August 14	August 22
Coney Arm River	August 14	August 22
Statistical Area B		
Salmon Brook (Gander River)	July 25	August 20
Exploits River (vicinity of Stoney Brook and Grand Falls fishway)	July 12	August 20
Burlington River	July 25	August 20
South Brook	July 25	August 20
Tommy's Arm River	July 25	August 20
Barneys Brook	July 26	August 20
Peter's River	July 26	August 20
Charles Brook	July 26	August 20
Campbellton River	August 2	August 20
Gander River (bridge at Glenwood to headwaters, including NW and SW tributaries)	August 2	August 14
Northern Arm River	August 2	August 20
Western Arm River	August 2	August 20
West Brook	August 7	August 20
Indian River	August 7	August 22
Great Rattling Brook (Exploits River)	August 7	August 20
Dog Bay River	August 14	August 20
Statistical Area C		
Northwest Arm Brook (Alexander Bay)	July 26	August 20
Northwest Brook (Indian Bay)	July 30	July 31
Traverse Brook	August 2	August 14
Triton Brook & Parsons Brook (Gambo River)	August 2	August 14
Middle Brook	August 7	August 14
Southwest Brook	August 7	August 14

Table 36 (cont'd)

Statistical Area/River	Date closed	Date opened
Statistical Area D		
Big Brook (Little Catalina)	June 16	August 20
Salmon Cove River	July 30	July 31
Shoal Harbour River	July 30	July 31
Trouty River	July 30	July 31
Statistical Area G		
Branch River	July 16	August 20
Biscay Bay River	July 19	August 20
Little Salmonier River	July 19	August 20
Big Barachois River	July 19	August 20
North Arm River	August 7	August 20
North Harbour River, S.M.B.	July 19	August 20
Statistical Area H		
Northwest River, Placentia (mouth to Fitzgeralds Pond)	July 16	August 20
Statistical Area J1		
Bernards Brook & Twillick Brook	July 16	August 20

TABLE 37. SUMMARY OF RECREATIONAL ATLANTIC SALMON CATCH AND EFFORT DATA FOR MAIN RIVER (SOPS ARM), 1953-84.

RIVER: MAIN RIVER (SOPS ARM) CODE: 04031100

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	17	10	1	11	0.65	.
1954	48	25	0	25	0.52	100
1955	.	.	.	.	.	.
1956	18	0	0	0	0.00	.
1957	4	2	0	2	0.50	0
1958	10	3	0	3	0.30	100
1959	40	5	0	5	0.13	100
1960	5	2	0	2	0.40	100
1961	110	24	0	24	0.22	100
1962	112	60	0	60	0.54	100
1963	164	89	0	89	0.54	100
1964	465	284	0	284	0.61	100
1965	666	538	4	542	0.81	99
1966	1350	911	20	931	0.69	96
1967	891	128	1	129	0.14	100
1968	1036	749	26	775	0.75	83
1969	1625	690	44	734	0.45	94
1970	832	472	1	473	0.57	100
1971	713	405	9	414	0.58	98
1972	703	281	0	281	0.40	100
1973	685	409	0	409	0.60	100
1974	797	464	0	464	0.58	100
1975	1231	782	0	782	0.64	100
1976	1082	501	0	501	0.46	100
1977	1041	693	0	693	0.67	100
1978	616	252	0	252	0.41	100
1979	830	983	0	983	1.18	100
1980	916	976	35	1011	1.10	97
1981	1098	1275	2	1277	1.16	100
1982	1848	1620	87	1707	0.92	94
1983	1812	482	1	483	0.27	100
1984	723	302	0	302	0.42	100

MEANS 95% CONFIDENCE LIMITS N'S:

79-83	1300.8	1067.2	25.0	1092.2	0.84	97.71
$\bar{X}$±95% CL	±611.9	±521.8	±46.8	±555.8	±0.56	±3.50
N	5	5	5	5	5	5
69-83	1055.3	685.7	11.9	697.6	0.66	98.29
$\bar{X}$±95% CL	±225.3	±213.4	±13.8	±222.9	±0.17	±1.63
N	15	15	15	15	15	15

- PERCENT GRILSE IS CALCULATED BY SMOLT CLASS.
- IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR.

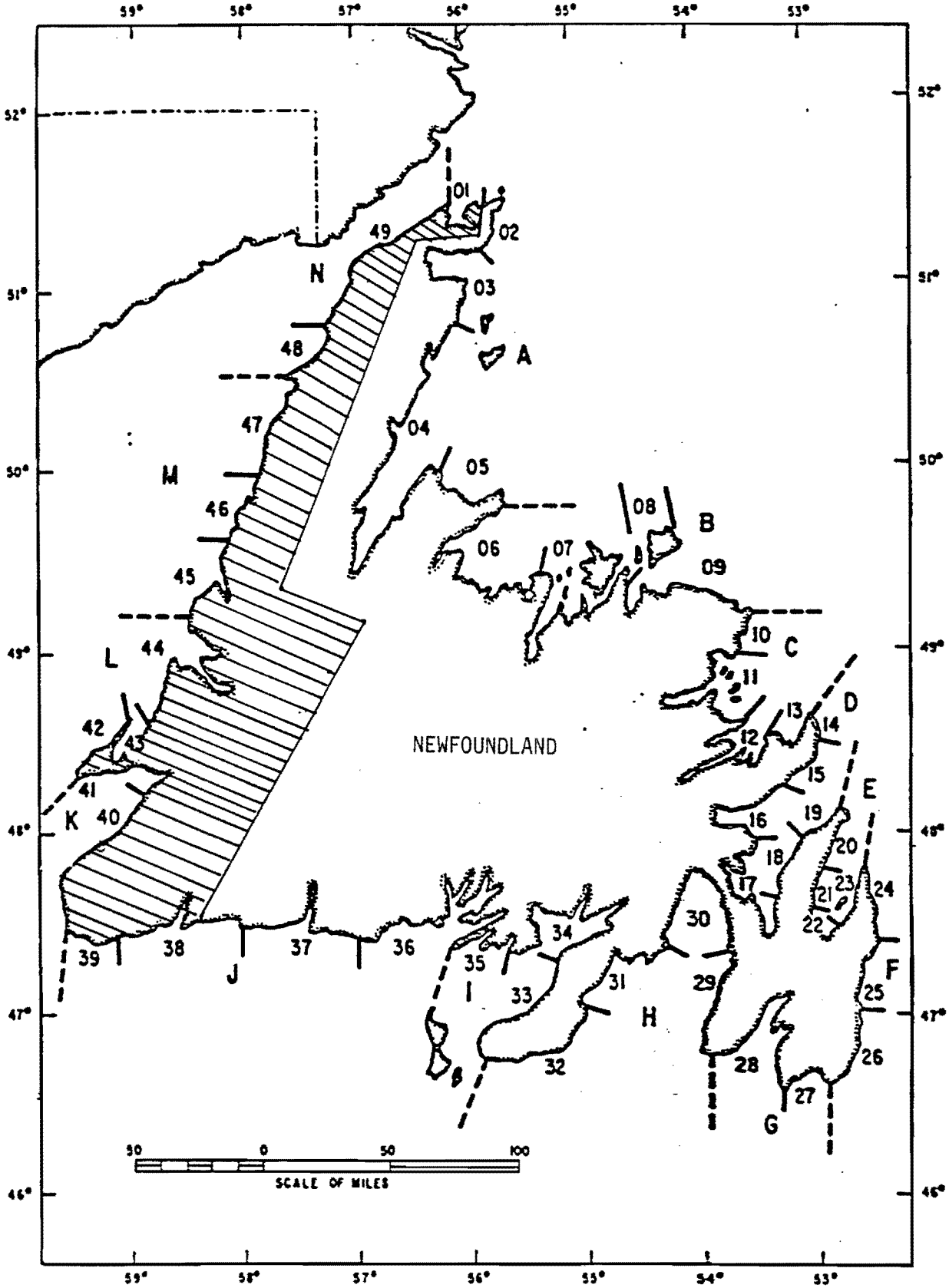

Fig. 1. Boundaries of Statistical Areas (alphabetical) and Statistical Sections (numerical) for insular Newfoundland. Cross-hatched portion denotes area belonging to the Gulf Region.

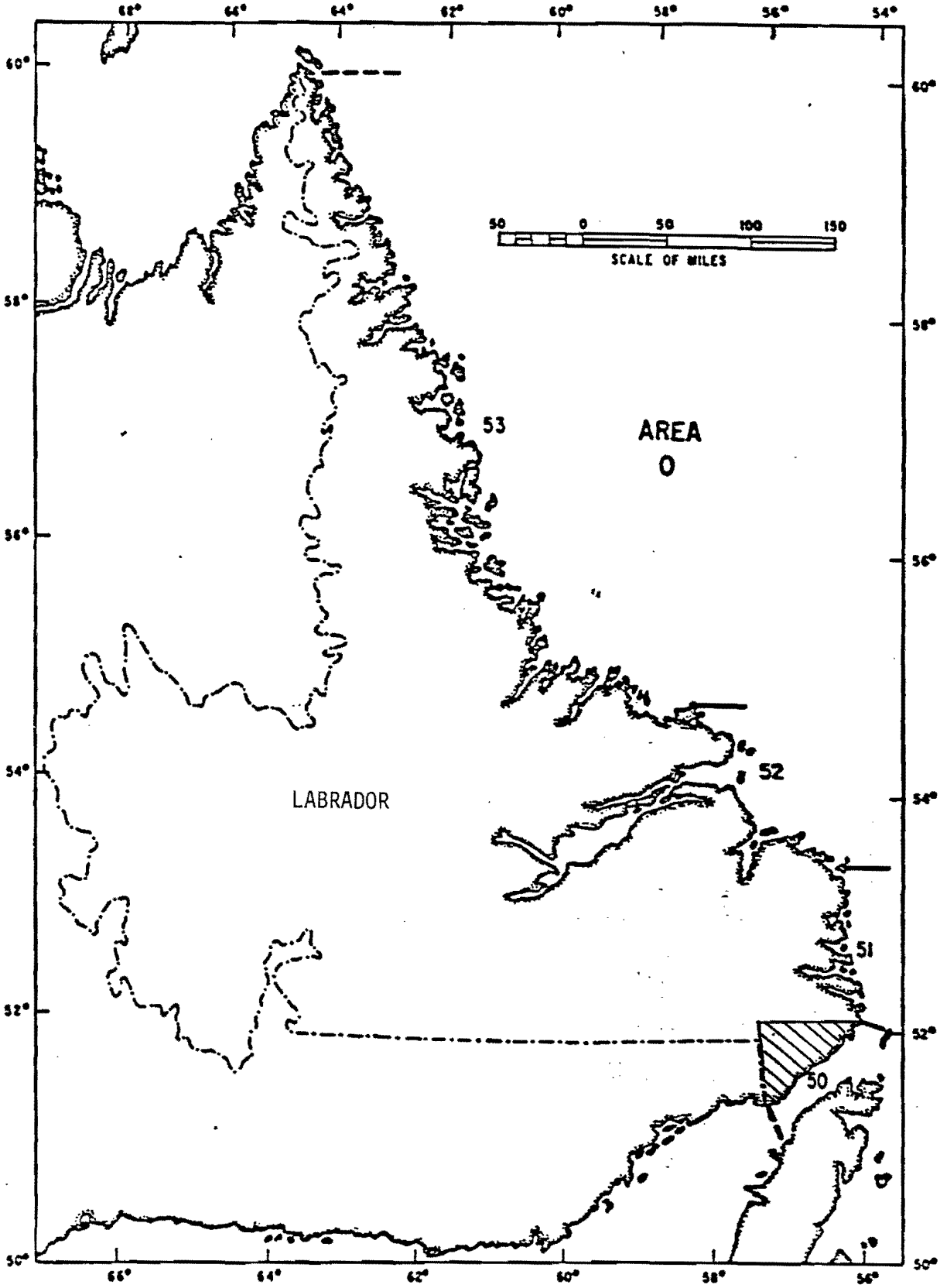

Fig. 2. Boundaries of Statistical Sections for Labrador (Statistical Area 0). Cross-hatched portion denotes area belonging to the Gulf Region.

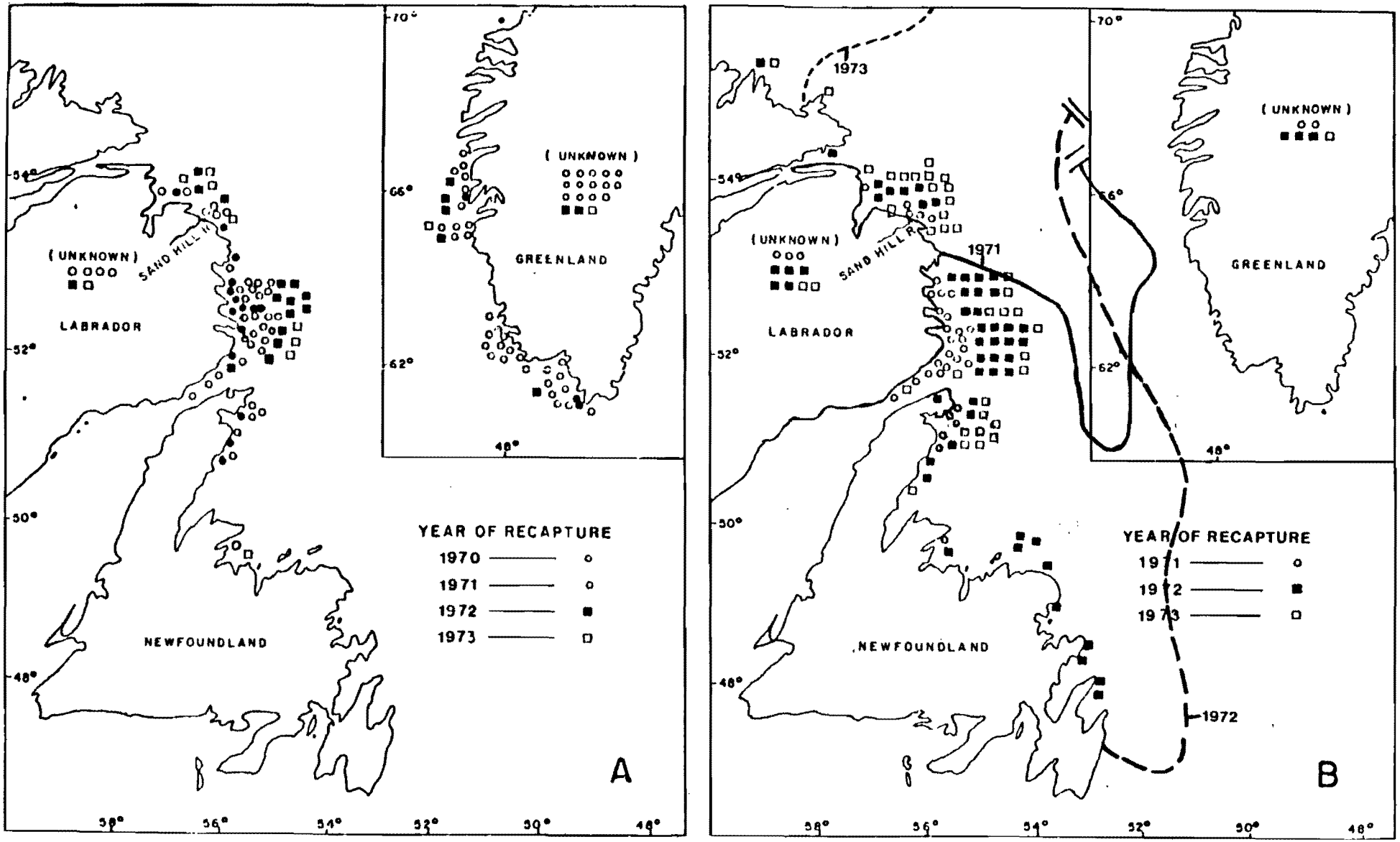

Fig. 3. Distribution of captured 1SW (Panel A) and MSW (Panel B) salmon that were tagged as smolts at the Sand Hill River counting fence, Labrador. From Pratt et al. (1974). Also shown are the approximate locations of the 1971, 1972, and 1973 4°C isotherms superimposed on the original map (disregard inset of Greenland in this context).

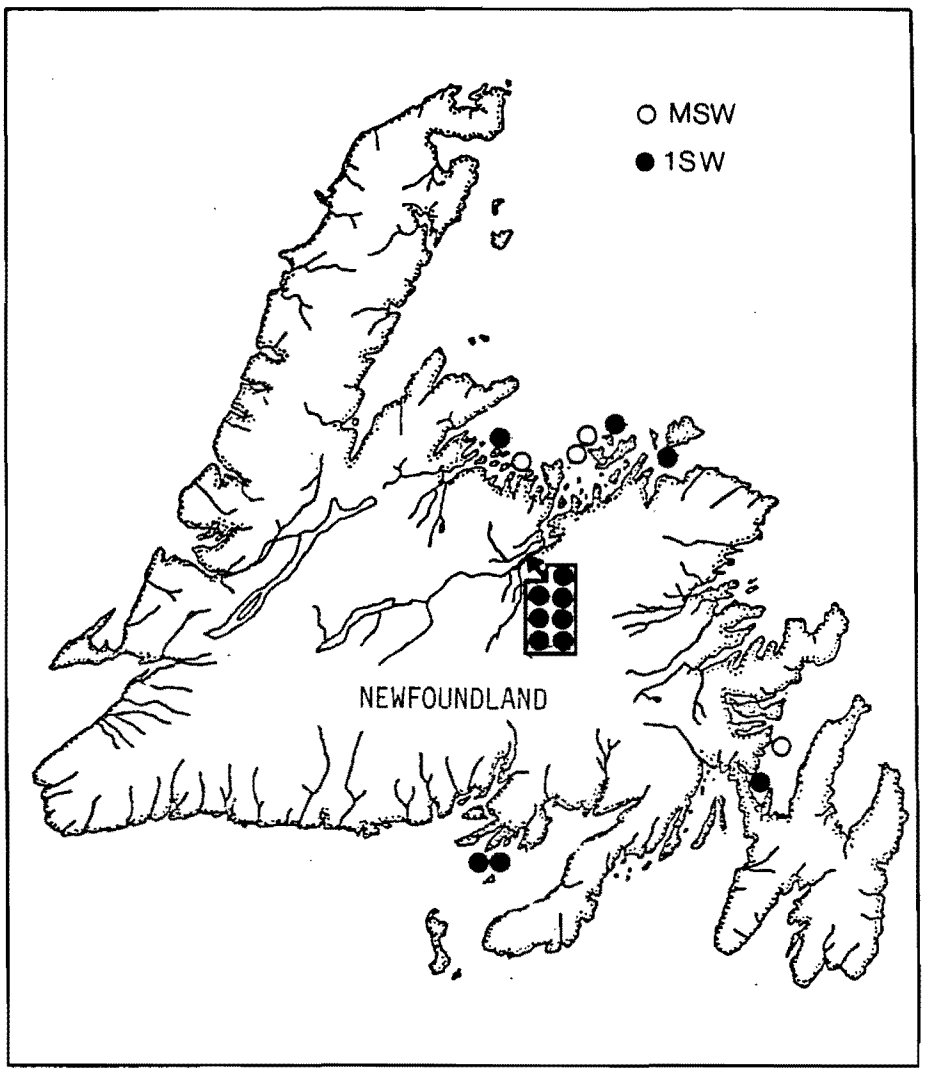

Fig. 4. Distribution of captured 1SW and MSW salmon that were tagged as smolts in the Exploits River (Noel Paul's Brook counting fence) in 1978.

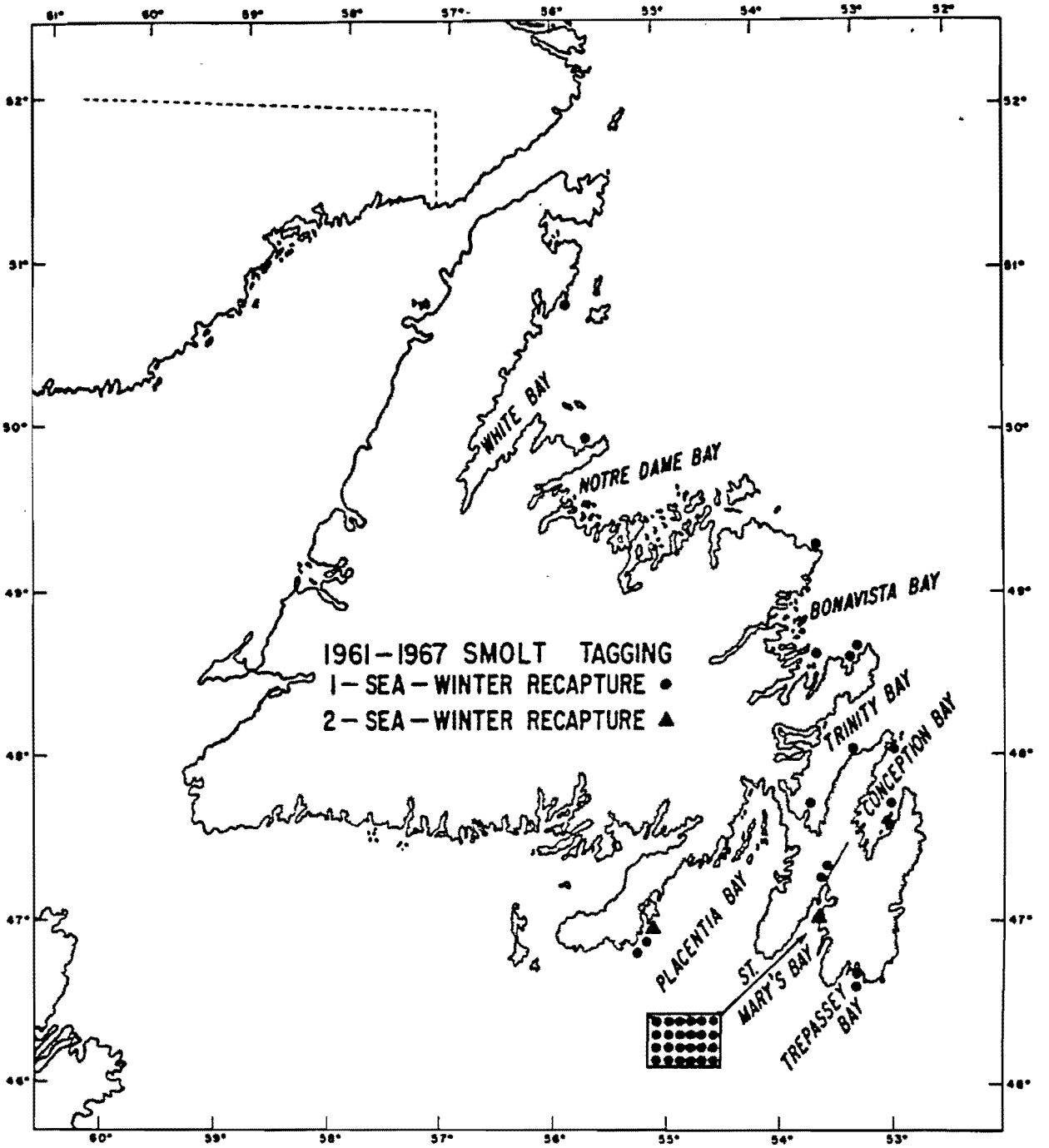

Fig. 5. Distribution of captured 1SW and MSW salmon that were tagged as smolts during 1961-67 in North Harbour River, St. Mary's Bay, Newfoundland. From Lear and Day (1977).

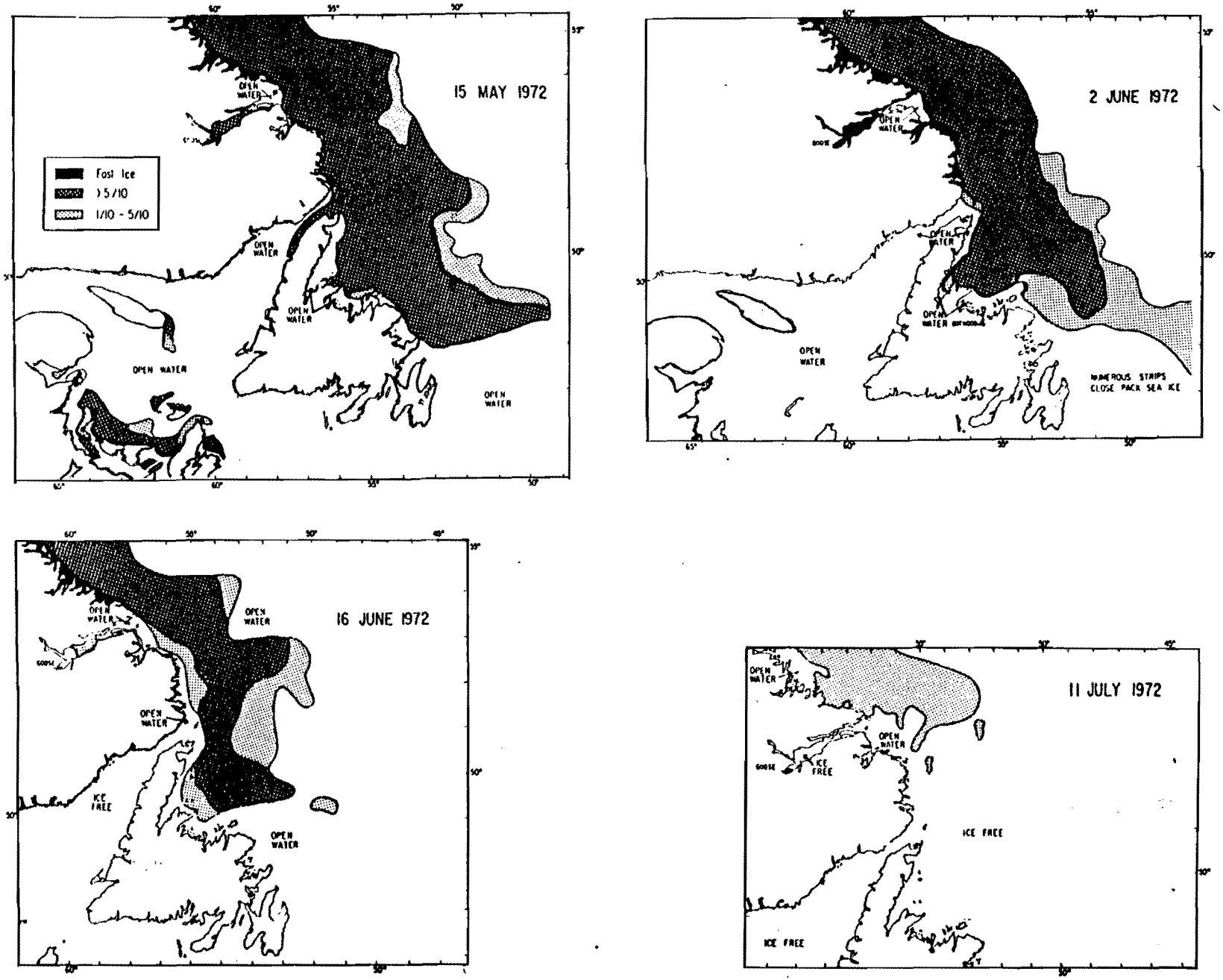

Fig. 6. The distribution of ice for Newfoundland during the 1972 commercial salmon fishery. Fractions indicate proportion of sea covered by ice. From Reddin and Day (1980).

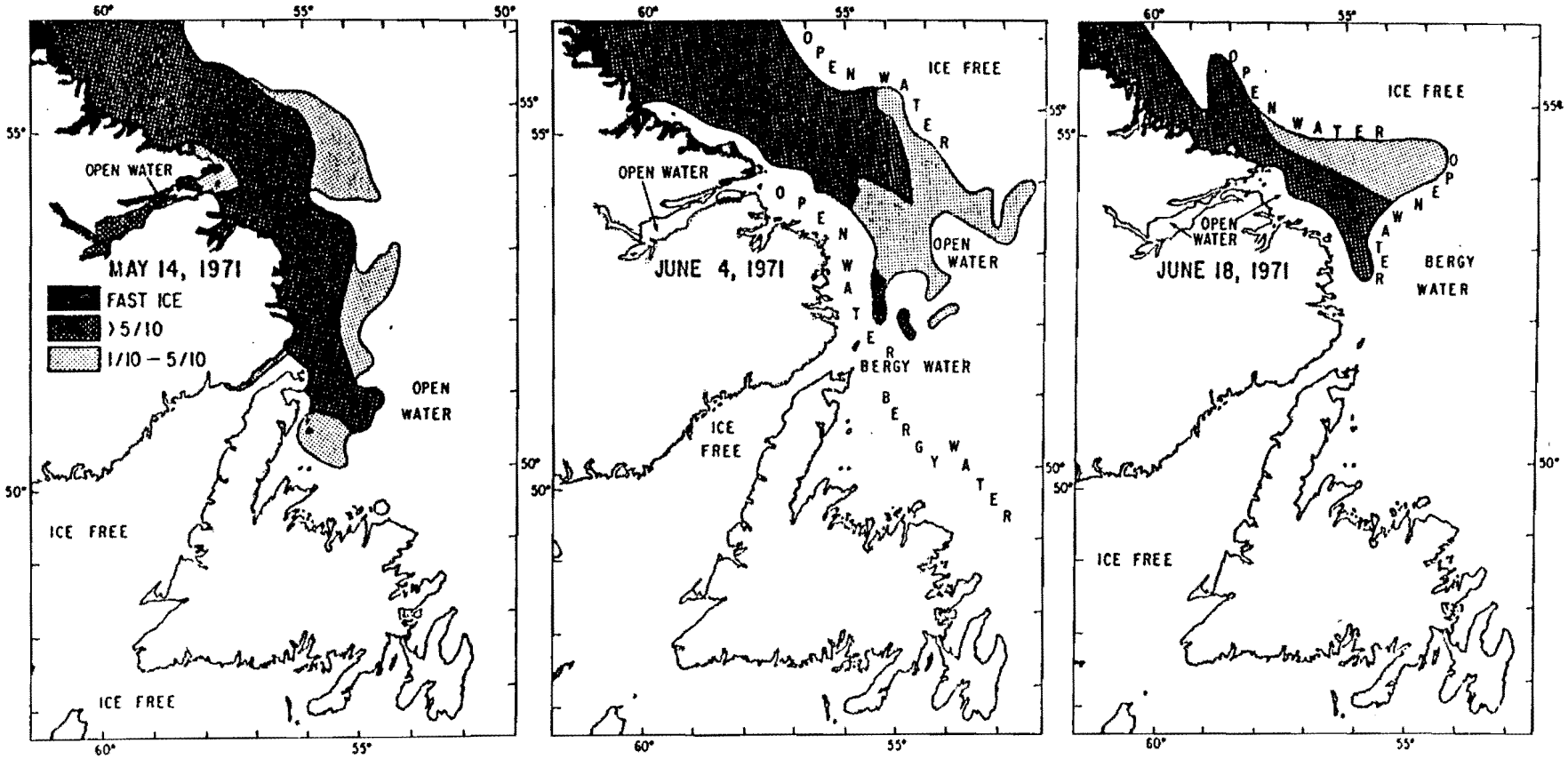

Fig. 7. The distribution of ice for Newfoundland during the 1971 commercial salmon fishery. Fractions indicate proportion of sea covered by ice. From Reddin and Day (1980).

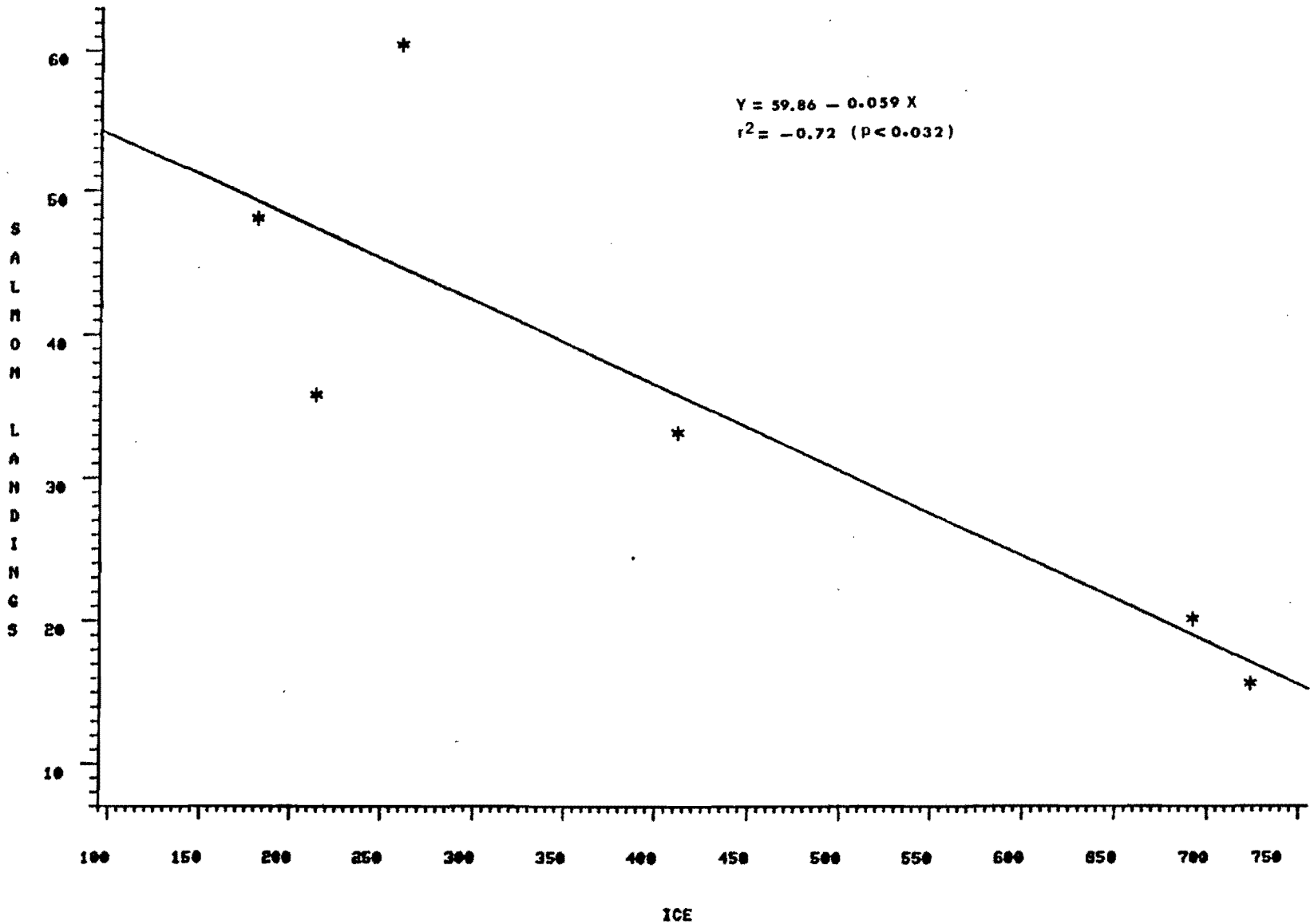

FIG. 8 REGRESSION OF NAIN SALMON CATCH ON ICE AREA

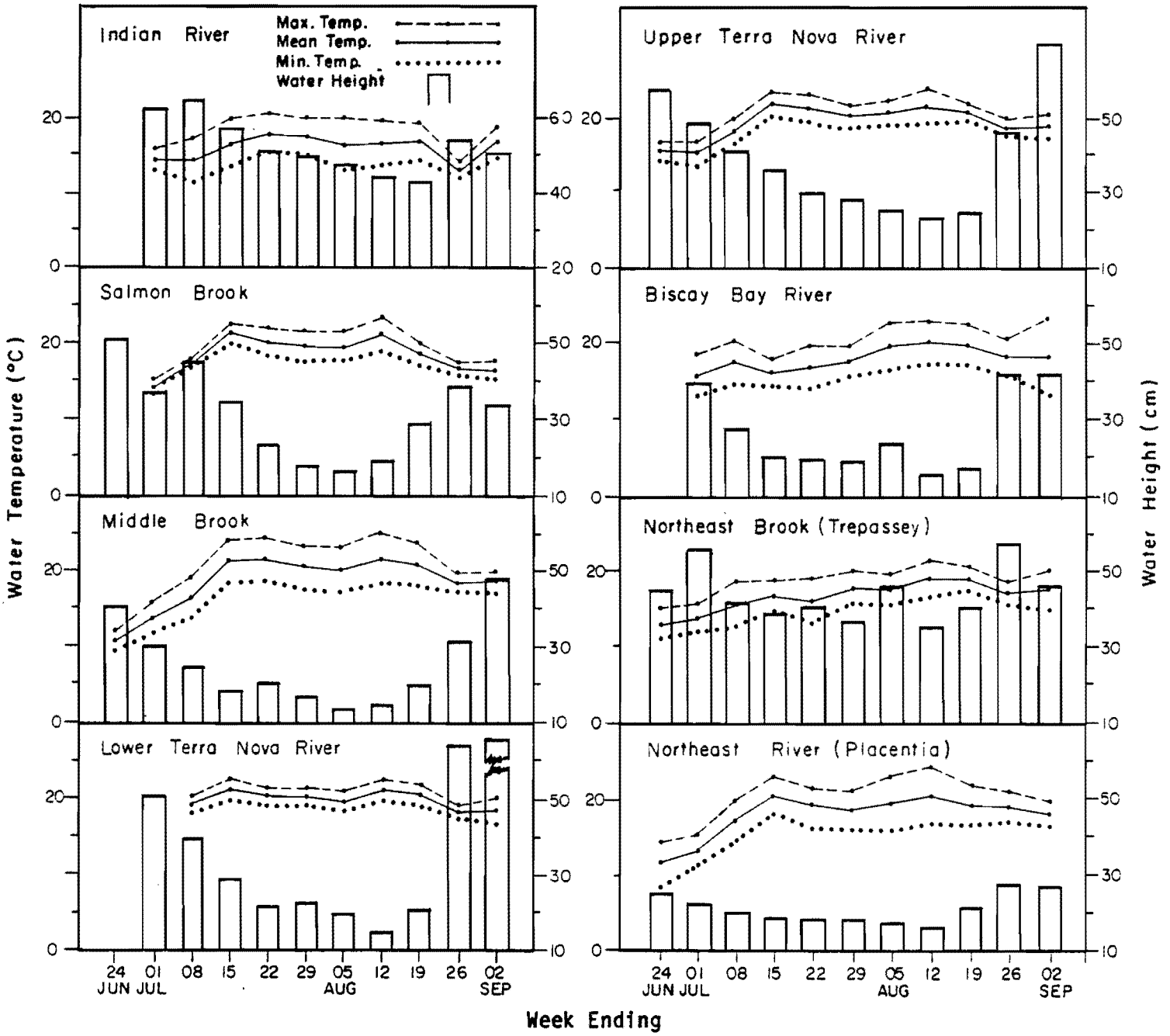

Fig. 9. Weekly temperature and water height data collected at fishways and counting fence installations, 1984.

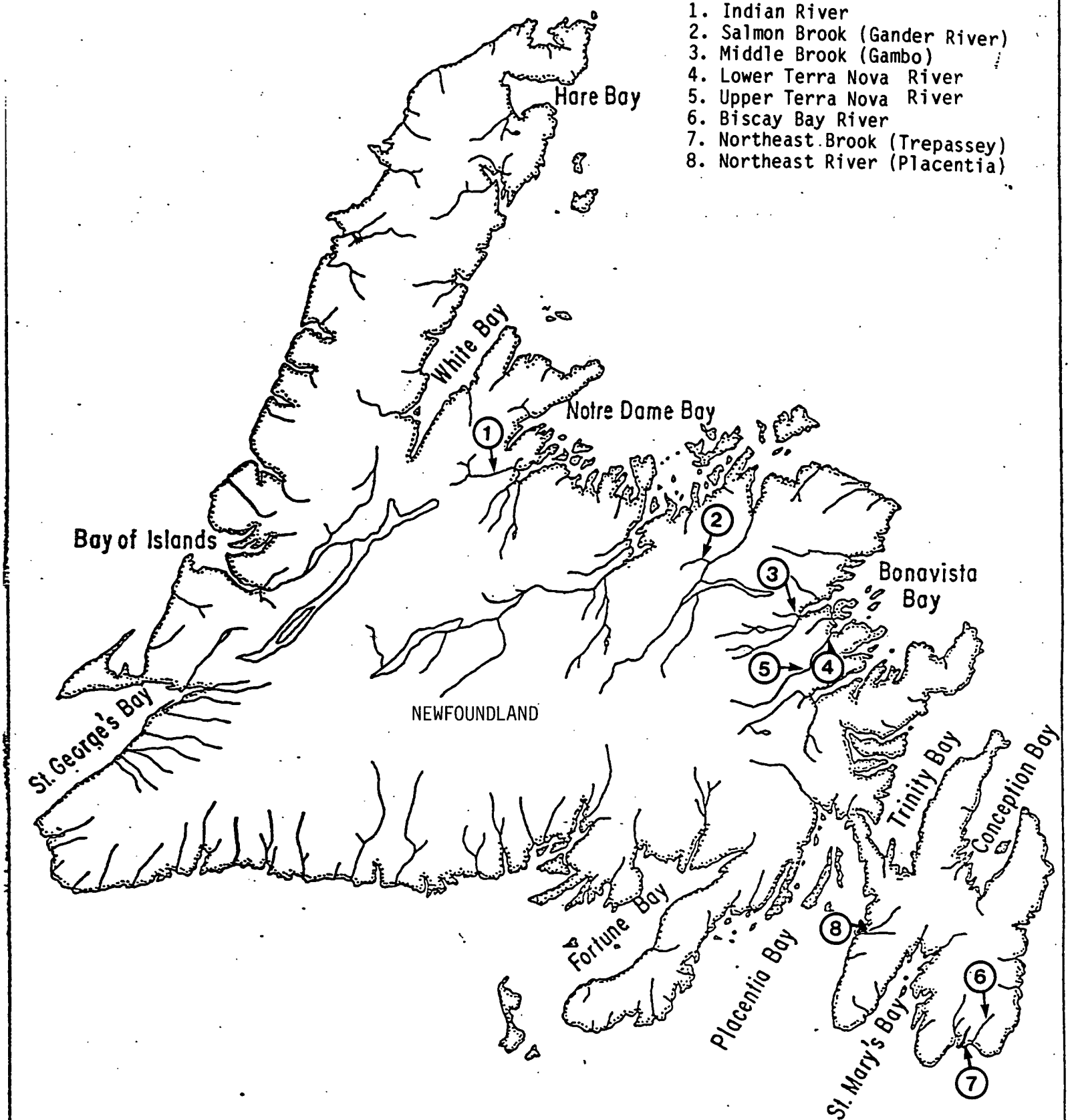

Fig. 10. Locations of fishways and counting fence installations (Biscay Bay River and Northeast Brook, Trepassey) where adult Atlantic salmon counts were obtained in 1984.