

WHALE AND SHARK ENTRAPMENTS IN INSHORE FISHING GEAR DURING 1984; A
PRELIMINARY REPORT TO FISHERIES AND OCEANS CANADA

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Abstract

Aid in releasing entrapped whales and sharks and minimizing damage to fishing gear was given to inshore fishermen. Gear damage caused by these animals was monitored during 1984 throughout Newfoundland and Labrador.

Reported entrapments of humpback whales were slightly lower than the past three years (N=26) and substantially lower than entrapment numbers reported in 1979-1980. The southern shore of the Avalon Peninsula reported the most entrapments. Other cetaceans entrapped included minke (N = 8), right (N = 1) and a variety of smaller cetaceans (n =11). A total of 38 basking sharks were incidentally caught, a substantial reduction from previous years catch due to the closure of the SW Coast salmon fishery.

Damage reports to fishing gear via cards and on-site reporting indicates a total of 261 cases estimating a total gear loss of \$81,000. Codtraps (52%) are the most commonly damaged gear; salmon nets, primarily in Labrador, and groundfish gillnets account for most of the remaining damage.

On the island problems with whales were not serious in 1984 compared to previous years. Labrador continues to incur the most damage with over 60% of crews in southern Labrador reporting some damage. Problems with basking sharks were much less in 1984 in all areas. Substantial numbers of harp seals were caught in several areas.

It is recommended that: (1) Fisheries and Oceans review the entrapment program and decide if it should continue especially in view of the number of animals caught; (2) Additional study of the Labrador whale problem is required and some assistance to Labrador South fishermen should be considered; (3) Careful monitoring of incidental captures of harp seals in fishing gear should be conducted.

INTRODUCTION

As in past years, the whale research group at Memorial University of Newfoundland has monitored whale and shark collisions with inshore fishing gear in Newfoundland and Labrador. Since 1978, with Fisheries and Oceans Canada, gear damage due to whales and large sharks has been monitored and assistance offered to fishermen who have animals entrapped in their gear.

Whale and shark collisions with inshore fishing gear are not a new problem for inshore fishermen of Newfoundland. There is much anecdotal and historical evidence indicating that inshore gear damage has always occurred at a low, irregular level. During the mid-seventies, there was a substantial increase in the amount of damage reported and whales and sharks were more commonly entrapped in gear made of stronger modern materials (Lien, 1980). Collisions with inshore gear have been monitored each year by a phone reporting system, a damage report card program and by in situ observers.

When a collision occurs, the animal is caught in the gear about 25-30% of the time. The trapped animal, alive or dead, because of its size presents a difficult task for the fishermen in retrieving his gear with a minimum of damage so fishing can be resumed. Because fishermen have difficulty coping with whales and sharks in gear methods have been developed to aid them with releasing the animals and retrieving their gear (Lien, 1980). The purpose of the present project is to make these methods available to fishermen who have problems with entrapped animals.

METHODS

Fishermen report whale and shark damages by an entrapment phone line, by using gear damage report cards or to on-site observers (Lien et al, 1982). These reporting systems have been used since 1979 and did not change from 1983 methods. This year on site observers were stationed throughout the summer fishing season in St. Mary's Bay and in Southern Labrador.

As required, help was sent fishermen who requested assistance in removing animals from gear. Help was sent to the fishermen within

24 hours of their request, usually within hours. In every case an effort was made to teach fishermen and local people, including fishery officers, release procedures.

RESULTS

Data on entrapped animals will be reported first. Next, a summary of stranded animals reported will be given. Finally, a summary of gear damage data will be provided.

Entrapments

Lists of animals reported entrapped in fishing gear are presented in Tables 1-6 and totals of entrapped animals in 1984 is presented in Table 7. Locations of entrapments by species are presented in Figures 1-4.

Humpback Whales

A total of 26 entrapped humpbacks were reported (Table 1). Locations of these entrapments are presented in Figure 1. Twenty animals (77%) were released alive; 6 (23%) were dead on release. Most entrapments occurred in July (69%), some in June (15%), May (11%), and one in August (4%). Gillnets (50%) and codtraps (46%) accounted for most entrapments.

Because of time shortages only two of the dead animals were examined.

Minke Whales

A total of 8 minke whales, 6 dead (75%) and 2 alive (25%), were reported entrapped (Table 2). Most were caught in codtraps (88%) and the remainder in groundfish gillnets (12%). Three (38%) of the animals were caught in June; the remainder in July (62%).

Misc. Cetacea

Eleven other cetaceans were reported entrapped in 1984 (Table 3). These include 4 unknown large cetaceans, 1 unknown dolphin, 4 harbor porpoise, 1 North Sea beaked whale, and 1 right whale.

The North Sea beaked whale and right whale must be considered rare in Newfoundland and Labrador waters. Separate reports of both these incidents will be written.

Basking Sharks

A total of 39 basking sharks were caught and reported during 1984 (Table 4). Locations of these captures is shown in Fig. 4. Terra Nova Fisheries of Clarenville purchased both fins and liver and aided fishermen in supplying containers and in shipping. On average a fins from a shark weighed 55.2 kg. and there was 635 kg. of liver. Six females, 10 males and 23 unsexed, unexamined

sharks were caught.

Misc. Sharks

Only two small sharks, both blue sharks, were reported during 1984 (Table 5).

Misc. Animals

Harp seals and leatherback turtles were also reported entrapped in inshore fishing gear during 1984 (Table 6). On Newfoundland's West Coast and in Bonivista Bay considerable numbers of harp seals were caught. Reports occurred only when fishermen became alarmed- all reports are of many animals caught- and probably considerably underestimate actual numbers captured.

Strandings

Strandings of marine animals are commonly reported on the toll-free entrapment phone. During 1984 a total of 16 strandings (Table 8) and 3 ice entrapments (Table 7) were received.

Only one mass stranding of pothead whales occurred during 1984. This was reported in early January 1984 when 10 dead potheads were found on a beach near Piccadilly. Several reports were received in December 1983 of this same group stranding.

Two reports of walrus were received. A dead animal was found in Trinity Bay in March. A live animal was repeatedly reported near Bonivista in August. It finally left the area, perhaps disturbed by too much attention.

A North Sea Beaked Whale was initially removed from a codtrap at Kelligrews, C.B. on 7 July. We believe the same animal stranded alive in Clark's Beach, C.B. on 20 July and two days later was found dead at Port de Grave.

Ice entrapped animals were reported during April in Trinity Bay (Table 7). Harbor porpoise occurred in Dildo and Hopall. Minke whales were seen in Hopall and Hans Harbor. None of the Harbor porpoise lived through the entrapment; all Minkes escaped alive.

Collision Damage to Fishing Gear

Damage determined by in situ interviews in Southern Labrador is presented in Table 9. A summary of damage reported on the card system is presented in Table 10.

Of a total of 144 fishing crews in S. Labrador that were interviewed 63% reported damage due to whales. A total of \$46,576. in gear loss was estimated which about \$518. per crew with damage. Most damage in Labrador was to salmon gear (78%)

although codtraps and groundfish gillnets were also damaged.

A total of 119 card damage reports were received which totaled \$34,442. in gear damages (Table 10). Most of these damage reports involved codtraps (52%) with groundfish gillnets and salmon nets equally accounting for the remaining damage reports. Mean loss was highest for codtraps (\$393.). Salmon nets (\$217.) and groundfish gillnet collisions (\$167.) were less expensive.

Total reported damages from the in situ observers, card reporting system and entrapment phone are presented in Table 11. From all sources 268 collisions were reported which estimated \$111,334. in gear loss.

DISCUSSION

Damage reports this year are compared with those reported in previous years in Table 12 and numbers of entrapped animals are compared in Table 13. Incidental catches of basking sharks was low this year (37) compared to many previous years and this helped keep collision totals low. Total collisions is up slightly due to the high number of reports from Labrador. Most of these collisions involved salmon nets. We believe that because of weather and traveling schedules this year, we obtained a more realistic estimate of Labrador damage. Damage estimates from previous years by in situ observers in Labrador have been under-estimates. A final estimate of damage frequency and cost will be available later after under-estimation assessment is complete.

The number of humpback whales caught in inshore fishing gear was lower by 25% compared to the past several years. Mortality as a result of entrapment was higher than it has been. However, all of these humpback deaths were not preventable.

The numbers of harp seals reported caught in inshore gear represents a dramatic increase over previous reports. In previous years only occasional reports have been received. Fishermen in 1984 were seriously alarmed and in several cases reported that the numbers of seals caught seriously interfered with normal fishing. Only limited markets were obtained for seal meat obtained in this way. A similar problem has recently occurred in Northern Norway.

The frequency of collisions in Labrador and the cost of damages is a problem for the area fishermen. It is the only area of the province where fishermen still regard whale and shark problems as a high priority even through there are areas where it is still an emotional problem. The Labrador problem is complicated by the common occurrence of whale shootings.

RECOMMENDATIONS

1. Because of the continued low numbers of entrapped whales

Fisheries and Oceans should consider if they wish to continue the entrapment release program. We request a meeting with D.F.O. to discuss this prior to the 1985 field season.

2. The numbers of harp seals entrapped in fishing gear should be included in the damage monitoring.

3. Southern Labrador has been the area where whale problems are the most serious over the past several years. Continued monitoring and study should be done in that area.

REFERENCES

Lien, J. (1980) Whale collisions with fishing gear in Newfoundland. Final report to Fisheries and Oceans Canada 316 pp.

Lien J. and L. Fawcett (1985) Distribution of basking shark (*Cetorhinus maximus*) incidentally caught in inshore fishing gear in Newfoundland. Canadian Field Naturalist In Press

TABLES AND FIGURES

Table 1: Humpback whales reported entrapped in inshore fishing gear during 1984.

Date	Location	Gear	Status on Release
25 May	Sunnyside, T.B.	Codtrap	Released alive
25 May	Sunnyside, T.B.	Codtrap	Dead
30 May	Lawn	Codtrap	Released alive
11 June	Point May	Gillnet	Self release
25 June	Forresters Point	Codtrap	Released alive
26 June	Roddickton (Main Brook)	Codtrap	Dead
29 June	St. Jullians	Codtrap	Dead
2 July	Portugal Cove South	Codtrap	Dead
2 July	Triton	Codtrap	Dead
3 July	Gaskiers	Codtrap	Self release
4 July	Henley Harbor	Codtrap	Released alive
7 July	Portugal Cove South	Gillnet	Released alive
10 July	Placentia, P.B.	Gillnet	Self release
11 July	Hermitage	Gillnet	Released alive
12 July	Trepassy	Gillnet	Released alive
13 July	St. Anthony	Gillnet	Released alive
14 July	St. John's	Gillnet	Released alive
15 July	St. John's	Codtrap	Released alive
16 July	St. Bride's	Gillnet	Self release
16 July	Branch	Gillnet	Released alive
17 July	Bain Harbor P.B.	Codtrap	Released alive
18 July	Bain Harbor P.B.	Gillnet	Self release
18 July	Greenspond, B.B.	Crabpots	Self release
20 July	St. Stephen's	Gillnet	Dead
28 July	Henley Harbor	Gillnet	Released alive
20 August	Henley Harbor	Gillnet	Self release

Table 2: Minke whales reported entrapped in inshore fishing gear during 1984.

Date	Location	Gear	Status on Release
23 June	Spanard's Bay, C.B.	Codtrap	Released alive
27 June	St. Shotts	Gillnet	Dead
27 June	Raleigh	Codtrap	Dead
4 July	Belle Isle	Codtrap	Released alive
8 July	Spotted Islands	Codtrap	Dead
11 July	Normans Cove, T.B.	Codtrap	Dead
13 July	Port Anne, P.B.	Codtrap	Dead
24 July	Baine Harbor, P.B.	Codtrap	Dead

Table 3: Misc. species of cetacea reported entrapped in inshore fishing gear during 1984.

Date	Species	Location	Gear	Status
11 June	Unknown	Point May	Gillnet	Self release
12 June	Unknown	Englee	Codtrap	Self release
21 June	2 Hbr. porpoise	Portugal Cove, C.B.	Gillnet	Dead
25 June	Hbr. porpoise	Dildo, T.B.	Salmon net	Dead
7 July	Unknown	Grey River	Codtrap	Self release
7 July	N.Sea Beaked	Kelligrews, C.B.	Codtrap	Release alive
26 July	Right	St. Stephens	Codtrap	Towed gear
20 Aug.	Unknown	Harbor Mille, F.B.	Gillnet	Dead
5 Sept.	Wt.side dolphin	Fogo Island	Herring net	Dead
28 Oct.	Unknown dolphin	St. Phillips, C.B.	Gillnet	Dead

Table 4: Basking sharks reported caught in inshore fishing gear during 1984.

Date	Location	Length	Sex	Fin Wt.	Liver Wt.	Gear	Damage (in \$)
06-14	Harbour Mille	7.6	F	62	502	Salmon	100
06-25	Grey River	9.1	-	-	-	Salmon	200
06-30	Fortune	-	-	-	-	Gillnet	200
07-05	Point au Gaul	7.6	M	47	846	Codtrap	-
07-05	Lamline	-	-	68	737	Codtrap	-
07-05	St. Bernards, F.B.	-	F	75	400	Gillnet	400
07-07	Bay Bulls	6.7	F	51	398	Salmon	nil
07-15	Hermitage	-	-	-	-	Salmon	-
07-16	Epworth, F.B.	7.9	M	47	535	Gillnet	150
07-16	St. John's	7.9	F	-	-	Codtrap	-
07-17	Fermuse	7.6	M	68	665	Codtrap	-
07-17	Burgeo	-	-	56	727	-	-
07-17	Arnolds Cove, P.B.	-	-	56	818	Salmon	200
07-21	Fleur De Lys	7.6	M	59	689	Codtrap	nil
07-21	Burin	9.1	M	83	770	Salmon	-
07-21	Perbecks Cove, W.B.	7.9	M	53	680	Salmon	-
07-26	Woody Point, B. B.	7.6	-	49	528	Salmon	300
07-26	Bellevue, T.B.	-	-	-	-	Codtrap	500
07-27	Burgeo	8.2	-	-	-	Gillnet	300
07-27	Bridgeport	-	-	70	818	-	-
07-27	Iwillingate	9.0	-	48	773	Codtrap	-
07-29	Portugal Cove, C.B.	-	-	-	-	Gillnet	20
07-30	Torbay	-	-	-	-	Codtrap	-
07-31	Port Aux Choix	8.2	-	64	909	-	-
07-31	Deep Bay, Fogo Is.	7.4	M	43	451	Codtrap	100
08-02	St. Vincent's	8.4	F	46	682	Codtrap	300
08-02	Terrenceville	-	-	4	21	-	-
08-04	North Harbor, S.M.B.	8.5	F	58	772	Salmon	200
08-02	St. Bride's	3.6	M	-	-	Gillnet	nil
08-06	Terranceville	-	-	4	23	Gillnet	nil
08-08	Bonivista	-	-	97	909	Gillnet	-
08-09	Francois	-	-	-	682	Salmon	-
08-09	Perlican, T.B.	-	-	75	500	Gillnet	-
08-13	Ferryland	3.7	-	-	-	Codtrap	nil
09-13	Bauline, C.B.	7.6	M	71	841	Codtrap	200
09-13	Bauline, C.B.	7.0	M	71	841	Codtrap	nil
09-20	Bellview, T.B.	9.1	-	-	-	Codtrap	500
10-03	Manuels, C.B.	-	-	-	-	Codtrap	-
10-07	Portugal Cove, C.B.	7.8	-	-	-	Herring	nil

Table 5: Misc. sharks reported caught in inshore fishing gear during 1984.

Date	Location	Species	Length
11 July	Petti Forte, P.B.	Blue	4.5
2 Aug.	Harbor Mille	Blue	3.6

Table 6: Misc. animals reported entrapped in inshore fishing gear during 1984.

Date	Location	Species	Details
14 June	Woody Point	Harp Seals	In 1 wk. fishermen caught over 200 in gillnets; up to 68/day.
2 July	Greenspond, B.B.	Harp Seals	20-30/day in groundfish gillnets
6 July	Valleyfield	Harp Seals	"many" taken each day in groundfish gillnets
13 August	Piacentia F.B.	Leatherback turtle	Caught in trawls - killed by fishermen

Table 7: Ice entrapments reported during 1984.

Date	Location	Details
15 April	Dildo, T.B.	20-25 Hbr. porpoise in large polyna
16 April	Hopall, T.B.	3 Minke whales, 15-20 Hbr. Porpoise, and possibly 1 large whale
18 April	Hans Harbor, T.B.	1 Minke whale

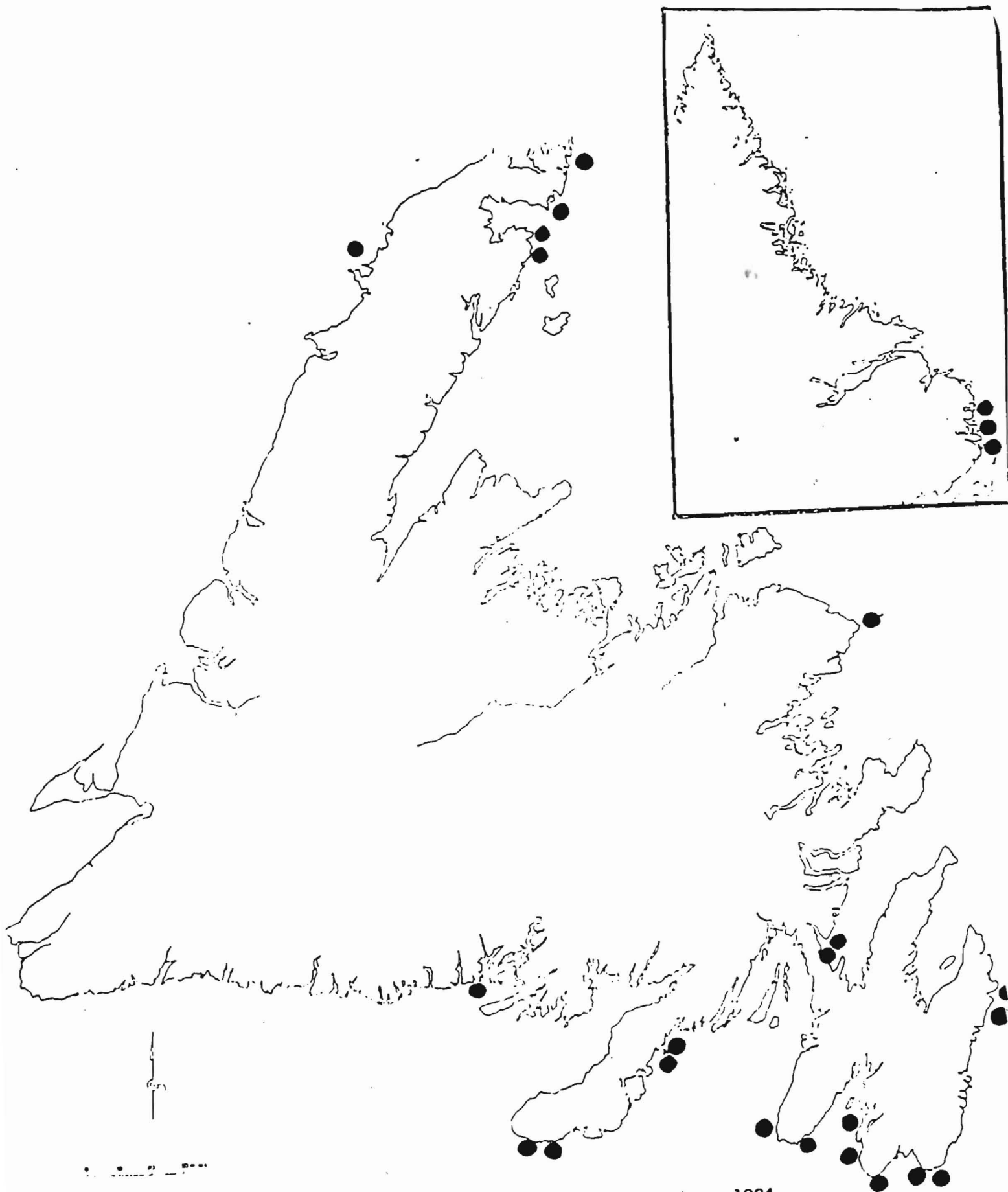


Fig. 1: Locations of humpback whale entrapments - 1984.

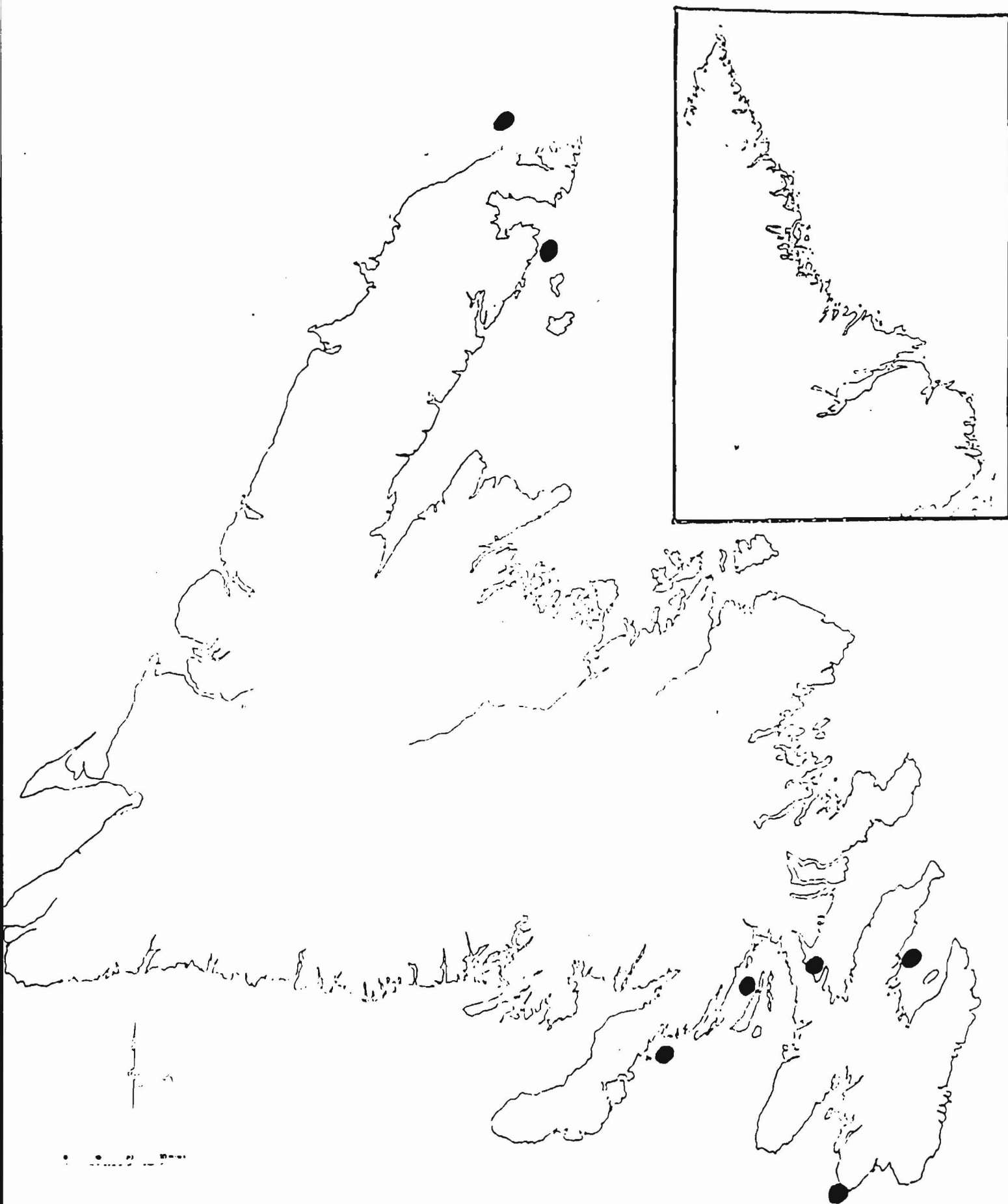


Fig. 2: Locations of minke whale entrapments - 1984.

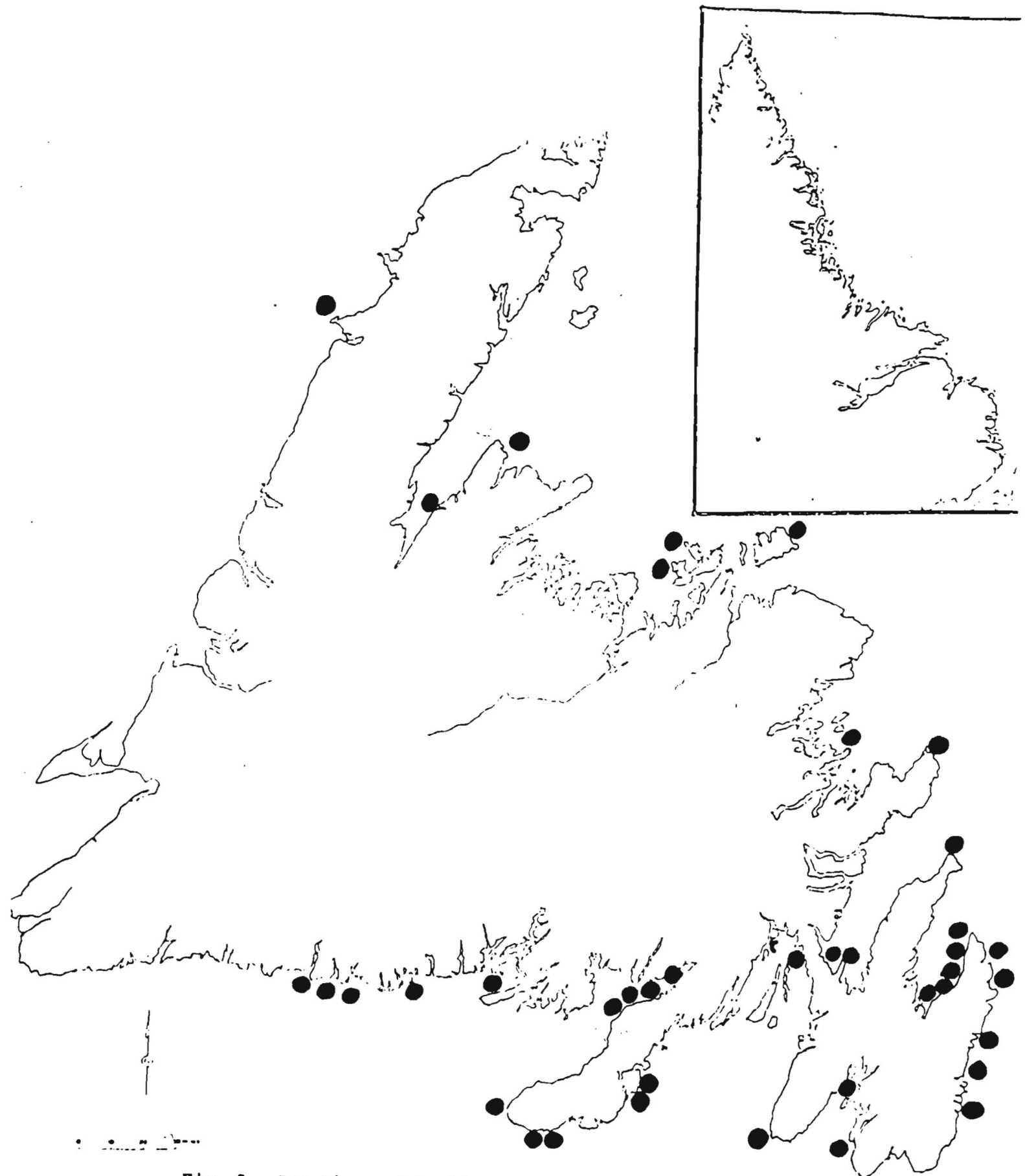


Fig. 3: Locations of basking shark incidental catch - 1984.

Table 8: Strandings reported during 1984.

Date	Species	Location	Details
Early Jan.	10 Potheads	Piccadilly	Stranded Dec.-83 Various reports
10 Jan	Fin	Pinware	est. 15.5 m., Badly decayed
Early Jan. -Aug.	Fin	Joe Batts	18.9 m male
8 March	Walrus	Greens Hbr.	Dead R tusk 19cm., L 10 cm
6-15 June	Humpback	Various place Bonivista Bay, Sweet Bay, B.B.	Dead Floating, 5 reports
7 June	Minke	Long Is., B.B.	Dead
12 July	Humpback	St. Vincents	9.1 m male
20 July	N.Sea Beaked	Clarks Beach	Alive - towed off by local people. Probably same animal as 7 July entrapped animal in Killigrews, C.B.
22 July	N.Sea Beaked	Port de Grave	Dead - same as above.
30 July	Humpback	St. Stephens	10.7 m male
4 Aug	Walrus	Bonivista	Alive - left when tourists got too thick
12 Aug.	Unknown	S.Western Brook	Long dead 9 m, probably Minke
5 Sept.	Humpback	Salmon Point	Dead, Drifted in briefly
15 Sept.	Unknown	Twillingate	2 small animals, badly decomposed, probably potheads

Table 9: Gear damage reports from interviews with South Labrador Coast fishermen during 1984.

Location	N Crews Interview with	N Crews with damage	% Crews with damage	Gear loss total (\$)	Mean Cost crews with damage
Rigolet	2	1	50	700	700
Fish Cove	2	2	100	300	150
West Bay	4	4	100	4300	1075
Cartwright	8	7	88	3980	568
Southeast Cv.	1	1	100	2000	2000
Black Tickle	8	6	75	7150	1192
Sandy Is.	1	1	100	400	400
Spotted Is.	7	7	100	2500	357
Square Is.	12	7	58	1560	223
Ship Hbr.	5	4	80	1500	375
Snug Cove	1	1	100	70	70
Fishing Ship	2	1	50	300	300
Parsons Tickle	4	1	25	100	100
Georges Cove	8	2	25	400	200
Francis Hbr.	4	0	0	0	0
Williams Hbr.	6	4	67	1250	312
Sandy Hook	2	2	100	1200	600
Murrays Hbr.	6	4	67	2185	546
Spear Hbr.	3	2	67	1200	600
Petty Hbr.	1	1	100	200	200
Fox Hbr.	12	6	50	2540	423
Marys Hbr.	3	1	33	300	300
Battle Hbr.	5	3	60	1400	467
Indian Cv.	3	1	33	400	400
Cape Charles	12	8	67	1140	142
Camp Is.	3	3	100	1100	367
Carrolls Cv.	3	2	67	700	350
Henley Hbr.	7	5	71	4950	990
Red Bay	9	3	33	2750	917
Totals	144	90	63	46,575	518



Table 10: Damage to fishing gear reported by cards (N = 119).

	Codtrap	Groundfish Gillnet	Salmon Gillnet	Other	Total
N	60	28	27	2	117
%	52	24	23	1	100
Total gear Loss (\$)	23,580	4,676	5,859	300	34,442
Mean Loss (\$)	393	167	217	150	294
Mean N Down Days	2.4	1.9	1.6	1.5	-
% of collisions gear lost rest of season	10	25	34	0	-

Table 11: Reports of whale and shark collisions with inshore fishing gear from all sources during 1984.

Card Reporting System	117	34,442.
Entrapment Phone	61	30,317.
Labrador South Interviews	90	46,575.

Table 12: Totals of damage reports received, estimated damage and frequency of damage excluding known basking shark damage from 1979-1984.

Year	Total Reported Damage		Estimated Damage		F Basking Shark Damage	Damage report frequency excluding sharks
	F	Cost	F	Cost		
1979	327	323,730	490	500,000	?	490
1980	562	288,868	813	380,000	66	747
1981	238	79,574	276	97,954	124	152
1982	174	70,000	231	94,600	35	196
1983	387	66,544	387	82,500	191	196
1984	268	111,884	NA	NA	37	231

Table 13: Whales reported entrapped in fishing gear (1979-1984).

Species	Status on Release	Year					
		1979	1980	1981	1982	1983	1984
Humpback	Alive	34	44	23	31	30	20
	Dead	13	17	8	4	5	6
Fin	Alive	4	1	0	0	0	0
	Dead	3	2	1	0	0	0
Minke	Alive	1	3	3	4	7	2
	Dead	9	9	8	5	4	6
Other	Alive	6	11	11	14	14	6
	Dead	5	4	49	15	1	4