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Summary of Performance of the 1995 Newfoundland and Labrador Snow Crab Fishery

by

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ABSTRACT

Summaries of fishery performance in the Newfoundland and Labrador snow crab (*Chionoecetes opilio*), fishery are provided for 33 management areas within five NAFO Divisions. Comparative data are provided on yearly landings, effort and CPUEs for individual management areas and fleet components. In 1995 landings reached a record level of 31,986 t, a 12.2% increase over those achieved in 1994. This increase in landings is due to continuing high levels of abundance of commercial-sized animals in virtually all snow crab management areas. In addition to fishery performance statistics, figures illustrating fishing positions reported from 1994 to 1995 logbooks are presented.

RÉSUMÉ

Des résumés de la performance des pêcheries de crabe des neiges (*Chionoecetes opilio*) à Terre-Neuve et au Labrador sont donnés pour 33 secteurs de gestion dans cinq divisions de l'OPANO. Des données comparées sont fournies selon les flottes et les secteurs de gestion et portent sur les débarquements annuels, l'effort et les CPUE. En 1995, les débarquements ont atteint un niveau record de 31 986 tonnes, soit une augmentation de 12,2 % par rapport à 1994. Cet accroissement serait dû au maintien des niveaux élevés de l'abondance des crabes de taille commerciale dans presque tous les secteurs de gestion du crabe des neiges. En plus des statistiques sur la performance des pêcheries, on présente des figures illustrant la position des diverses pêches, d'après les journaux de pêche de 1994 et 1995.

Introduction

The Newfoundland snow crab (*Chionoecetes opilio*) fishery began in Trinity Bay in 1968. Initially, the catch consisted solely of crabs caught as groundfish gillnet bycatch but within several years there was a directed trap fishery in most inshore areas along the northeast coast of the Island. After this initial areal expansion, the fishery remained relatively stable until the early 1980's when the collapse of the Alaskan king crab fishery triggered a rapid expansion of the fishery both in terms of effort and landings but also in terms of areal expansion. During this time the fishery was prosecuted by approximately 50 vessels, restricted to 800 traps each. In 1981 Zonal Management was introduced which essentially restricted vessels to fishing within the NAFO Division where they resided.

The mid 1980's represent a turning point for the fishery with a depletion of the crab resource in 3K and 3L and the commencement of fisheries in 2J and 3Ps. In 1985 a supplementary fishery prosecuted by enterprises needing to supplement their income from a failing groundfish fishery was started in 3K. Vessels prosecuting this fishery were restricted to 150 traps and fished the same grounds as the fulltime (800 traps) vessels. A supplementary fishery in 3L commenced in 1987 with the same regulatory regime as that for the 3K supplementary fishermen.

In 1987 quota management was initiated in all areas of 3L accompanied by a redefinition of fishing seasons for both fleet sectors. Quota management was initiated in 3K in 1988. Depending on the area, fishing by supplementary vessels was restricted to specific seasons in the spring or fall or, in some cases, the quota was split between a fall and a spring season. With the introduction of quota management areas were redefined and quotas allocated to individual management areas (Fig. 1) by fleet sector. There is no biological basis for the current definition of management areas but rather, they are an attempt to allocate effort proportionally to resource availability. This strategy is an attempt to prevent over exploitation of near-shore areas. In 1989 fulltime vessels were restricted to offshore fishing grounds, and bays (except Bonavista Bay) were reserved for the supplementary fleet.

The fishery in Labrador began in 1985 and expanded significantly in 1991 with the commencement of fishing activity north of 53°31' latitude. This fishery, centered in Cartwright, is fished exclusively by supplementary vessels and they, like their southern Labrador counterparts, are permitted to fish 300 traps. There are only 3 fulltime vessels fishing in Southern Labrador.

In 1994 there were several important changes in the snow crab fishery. In 3K, a dockside monitoring program run by fishers was instituted with a great deal of success. Access to the fishery for supplementary vessels was expanded in 1994. There were now three fleet sectors: fulltime, supplementary larger than 40 gross tons in weight and supplementary less than 40 gross tons in weight but having an overall length greater than 35 ft. All three fleet components have designated trap limits, quotas and fishing areas. In order to avoid "gluts" trip limits and/or weekly harvest limits were introduced.

In 1995 dockside monitoring was extended to all NAFO divisions thereby providing reasonable assurance that data on vessel landings was accurate. Monitors were required to initial fishers logbook entries in order to validate them. Also in 1995 an additional fleet of fishers gained access to the snow crab resource. Vessels under 35 ft LOA were issued temporary seasonal permits and permitted into the fishery. 360 permits were issued for an allocation of 1800 t and each bay was allocated a quota and number of permits reflective of resource availability. Where too many fishers applied for the number of permits available, a draw system was implemented. Fishing grounds in all NAFO divisions were extended offshore (outside of 200 n mi in NAFO Div. 3LNO).

Methods

Logbook Data

While not all logbook entries were usable due to errors or omissions on the part of the fisher, most were suitable for generating estimates of CPUE for each management area and for use in plotting distribution of fishing activity.

Figures 3a and b illustrate the distribution of fishing effort for 1995 in relation to that for 1994. While the general pattern of fishing activity remains similar between years, the offshore expansion in all east coast NAFO divisions between the past two years is evident.

Results

Fishery Performance

Landings (Table 1a, Fig. 2) increased in NAFO Div. 2J, 3K, 3LNO, 3Ps, and 4R from 28,499 t in 1994 to 31,986 t in 1995, an increase of 12.2%. A summary of the comparison of 1994/95 fishery data by management area is given in Table 1 and a summary of yearly landings and effort for each snow crab management area is given in Tables 2-27.

2J

In the Northern Labrador area (Table 3), the northern boundary was moved further north in order to help fishers improve low catch rates. While decreased abundance may have been the primary cause of a further decline in CPUE from 1994 levels, logbook information indicates there was a high incidence of soft shelled crab on the traditional fishing grounds.

In Southern Labrador new fishing grounds that were first fished in 1994 continued to contribute substantially to the overall landings (Table 2) and indeed, much of the effort was redirected from traditional grounds to this new area. Direct comparison of 1994 and 1995 data is therefore difficult. Despite expansion of the fishery in southern Labrador, there was a drop in CPUE from 9.0 to 7.6 kg/trap haul. The eastern boundary was also moved further offshore from longitude 54° to 53°30' to allow fishers access to potentially new fishing grounds.

3K

Expansion into the newest offshore fishing grounds (NAFO Subarea 3Kcg) was hampered by low catch rates but only a small area in the southwest corner of the management area was exploited.

The dockside monitoring program initiated in 1994 in 3K was continued during 1995. During 1995 the fulltime fleet began fishing individual quotas (IQ's) which may compromise direct comparison with 1994 CPUE's which were calculated based on competitive fishing.

3L

Experimental quotas were assigned to two previously unfished areas in this Division; one for the area between 170 and 200 n mi and one for the area outside 200 n mi (Table 14). Offshore catch rates in both areas were quite good, comparable to those achieved in traditional areas.

Dockside monitoring was introduced to this division in 1995 and was apparently quite successful. An additional management initiative was the principal of a divisional quota, whereby management areas were fished sequentially following a strictly enforced schedule. If the quota for one area was exceeded the quota overrun was deducted from that of the next area to be fished.

3Ps

Catch rates in the Placentia Bay section of this division (Areas 10 and 10x) remained at levels comparable to those achieved in 1994 indicating high commercial abundance. However, in Fortune Bay, CPUE dropped sharply from 1994 levels.

4R

Development of the west coast crab fishery continued in 1995 with 47 new, temporary permits issued for six coastal areas (to 8 mi off) extending from La Poile Bay in 3Pn to Table Point (southern boundary of Zone 13) (Fig. 1). This component of the fishery landed 200 t of a 235 t quota (Table 26). The remaining permit/license holders including a few from Quebec in Zone 13, landed 720 t in 1995 (Table 27) at a mean catch rate of 5.9 kg/trap haul. This was up from 655 t at 5.5 kg/trap haul in 1994.

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Table 1. Summary of the comparison of 1994/95 snow crab fishery data by management area. Numbers represent the percentage change. The table was constructed from fishery performance information collated from vessel logbooks. The comparisons made based on CPUE may not accurately reflect abundance.

Area	Landings	Effort	CPUE
2J			
North	-21	-15	-7
South	-4	+32	-27
2K			
3A	+21	+73	-30
3B	-14	+5	+5
3C	+13	+9	+3
3D	+21	+52	-21
4	+3	+16	-14
3Kb	-15	-15	0
3Kc	+6	+13	-6
3Kg	+46	+26	+16
3L			
5A	-29	-23	-8
5B	+31	-38	+11
5Bx	-15	-57	+96
6A	+19	-9	+30
6B	+24	+11	+12
6C	+5	+9	-8
7A	-1	+4	-4
7B	+6	+9	-3
7C	+15	-7	+23
8	-31	-45	+11
9	-14	+27	-10
3Ps			
10	-22	-23	+2
10x	+108	+215	-10
11	-17	+117	-62

Table 1a. Summary of performance of the Newfoundland snow crab fishery, 1980-95.

Year	Div. 2J		Div. 3K		Div. 3LMNO		Div. 3Ps		Div. 4R		Total	
	Catch (t)	Effort ('000 trap hauls)	Catch (t)	Effort ('000 trap hauls)	Catch (t)	Effort ('000 trap hauls)	Catch (t)	Effort ('000 trap hauls)	Catch (t)	Effort ('000 trap hauls)	Catch (t)	Effort ('000 trap hauls)
1980	-	-	628	58	8190	527	-	-	-	-	8818	585
1981	-	-	1202	94	12636	808	-	-	-	-	13838	902
1982	-	-	2505	215	10673	762	-	-	-	-	13178	977
1983	-	-	4868	520	6188	745	-	-	-	-	11056	1265
1984	-	-	5080	606	4476	679	-	-	-	-	9556	1285
1985	311	20	3953	670	2605	496	602	-	-	-	7471	1186
1986	467	40	3958	917	3467	490	651	-	-	-	8543	1447
1987	256	30	2656	730	3083	552	596	199	-	-	6591	1511
1988	451	48	2565	656	5903	641	856	231	-	-	9775	1576
1989	523	50	2359	477	4985	653	529	113	-	-	8396	1293
1990	645	51	4253	334	5211	608	596	119	-	-	10705	1112
1991	989	66	7675	523	6394	688	176	31	-	-	15234	1308
1992	1529	110	7295	551	6652	519	121	10	-	-	15597	1190
1993	2275	161	9760	595	8979	554	704	61	-	-	21718	1371
1994	2978	295	11039	869	12237	847	1590	96	655	119	28499	2226
1995	3178	402	12245	1065	13790	806	1853	185	920	159	31986	2617

Table 2. Area 2J - Southern Labrador.

Year	Total landings		Total effort		CPUE (kg/trap)		Quota (t)	
	(t)	(Supp.)	('000's)	(Supp.)	Full	(Supp.)	Full	(Supp.)
1985	311		20.5		15.2			
1986	467		39.6		11.8			
1987	256		30.1		8.5			
1988	451		48.5		9.3		926	-
1989	523		50.3		10.4		920	-
1990	645		51.2		12.6		920	-
1991	917		59.2		15.5		920	
1992	1077	(317)	76.0	(22.5)	14.2	(14.4)	720	(300)
1993	1331	(455)	91.6	(31.6)	14.7	(14.4)	860	(440)
1994	1466	(491)*	130.2	(54.6)*	12.9	(9.0)	860	(440)
1995	1718	(1113)*	203.9	(146.8)*	10.6	(7.6)	600	(1060)

* the log records indicate that some of the effort and landings were by full-time fishermen

Table 3. Area 2J - Northern Labrador.

Year	Total landings (t)	Effort ('000's)	CPUE (kg/trap)	Quota (t)
1991	72	6.6	10.9	500
1992	452	45.7	9.9	400
1993	984	80.0	11.8	1000
1994	1182	168.9	7.0	1300
1995	931	143.2	6.5	1040

Table 4. Area 3A - Canada Bay - Supp.

Year	Total landings (t)	Total effort ('000's)	CPUE (kg/trap)	Quota (t)
1992	82	8.2	10.0	50
1993	104	10.0	10.4	75
1994	112	19.6	5.7	100
1995	136	34.0	4.0	150

Table 5. Area 3B - White Bay - Supp.

Year	Total landings (t)	Totale effort ('000's)	CPUE (kg/trap)	Quota (t)
1979	297	33.0	9.0	
1980	254	24.7	10.3	
1981	552	39.1	14.1	
1982	1153	84.2	13.7	
1983	2474	240.2	10.3	
1984	3048	354.4	8.6	
1985	1336	262.0	5.1	
1986	1353	397.9	3.4	
1987	418	154.8	2.7	
1988	387	184.3	2.1	750
1989	206	98.1	2.1	250
1990	182	41.4	4.4	150
1991	-	-	-	200
1992	209	26.1	8.0	200
1993	377	44.4	8.5	300
1994	476	58.8	8.1	400
1995	408	48.0	8.5	400

Table 6. Area 3C - Green Bay - Supp.

Year	Total landings (t)	Total effort ('000's)	CPUE (kg/trap)	Quota (t)
1979	491	46.3	10.6	
1980	374	37.8	9.9	
1981	650	54.6	11.9	
1982	1352	130.0	10.4	
1983	537	88.0	6.1	
1984	502	76.1	6.6	
1985	476	80.7	5.9	
1986	938	246.8	3.8	
1987	303	112.2	2.7	
1988	255	127.5	2.0	400
1989	243	69.4	3.5	180
1990	260	47.3	5.5	280
1991	407	59.9	6.8	400
1992	416	47.8	8.7	400
1993	606	60.0	10.1	500
1994	611	67.9	9.0	600
1995	689	74.1	9.3	750

Table 7. Area 3D - Fogo-Twillingate - Supp.

Year	Total landings (t)	Total effort ('000's)	CPUE (kg/trap)	Quota (t)
1983	1857	191.4	9.7	
1984	1463	164.4	8.9	
1985	1063	141.7	7.5	
1986	895	165.7	5.4	
1987	424	83.1	5.1	
1988	800	163.3	4.9	300
1989	410	75.9	5.4	400
1990	709	77.1	9.2	600
1991	1593	156.2	10.2	1300
1992	1183	113.8	10.4	1200
1993	1297	107.2	12.1	1200
1994	1169	111.3	10.5	1200
1995	1419	168.9	8.4	1400

Table 8. Area 4 - 3K Offshore.

Year	Total landings		Total effort		CPUE (kg/trap)		Quota (t)	
	(t)	(Supp.)	('000's)	(Supp.)	Full	(Supp.)	Full	(Supp.)
1984	67		11.0		6.1			
1985	225		40.2		5.6			
1986	772		108.7		7.1			
1987	594		108.0		5.5			
1988	1123		184.1		6.1		1900	
1989	1534		229.0		6.7		1600	
1990	3102		168.6		18.4		3300	
1991	5579	(1060)	378.4	(90.6)	15.7	(11.7)	4300	(1400)
1992	5405	(2030)	407.8	(175.0)	14.5	(11.6)	3100	(1700)
1993	5772	(2154)	351.0	(137.0)	16.9	(15.7)	3200	(1800)
1994	5662	(2269)	363.8	(173.2)	17.8	(13.1)	3200	(1800)
1995	5805	(3515)	432.2	(283.5)	15.4	(12.4)	2300	(3200)

Table 9. Area 3Kb.

Year	Total landings		Total effort		CPUE (kg/trap)		Quota (t)	
	(t)	(Supp.)	('000's)	(Supp.)	Full	(Supp.)	Full	(Supp.)
1993	868		51.4		16.9		750	
1994	1319	(873)	107.1	(68.7)	11.6	(12.7)	335	(665)
1995	1122	(773)	91.0	(66.1)	14.0	(11.7)	350	(650)

Table 10. Area 3Kc.*

Year	Total landings		Total effort		CPUE (kg/trap)		Quota (t)	
	(t)	(Supp.)	('000's)	(Supp.)	Full	(Supp.)	Full	(Supp.)
1994	971	(557)	65.6	(38.7)	15.4	14.4	335	665
1995	1026	(687)	73.9	(46.1)	12.2	14.9	350	650

Table 11. Area 3Kg.*

Year	Total landings		Total effort		CPUE (kg/trap)		Quota (t)	
	(t)	(Supp.)	('000's)	(Supp.)	Full	(Supp.)	Full	(Supp.)
1994	719	(572)	44.6	(36.0)	17.1	15.9	165	335
1995	1049	(707)	56.1	(36.8)	17.7	19.2	350	650

* A quota of 350 t and 650 t was allocated to fulltime and supplementary crab fishermen in 3Kcg extended which resulted in a catch of 273 t (CPUE 7.2) by fulltime fishermen and 318 t (CPUE 7.7) by supplementary fishermen.

Table 12. Area 5A - Bonavista Bay.

Year	Total landings		Total effort		CPUE (kg/trap)		Quota (t)	
	(t)	(Supp.)	('000's)	(Supp.)	Full	(Supp.)	Full	(Supp.)
1979	1586		172.4		9.2			
1980	1905		192.4		9.9			
1981	1376		172.0		8.0			
1982	905		96.3		9.4			
1983	1101		203.9		5.4			
1984	1327		250.4		5.3			
1985	728		251.0		2.9			
1986	648		140.9		4.6		500	
1987	602		84.8		7.1		500	
1988	844	(109)	89.6		8.2		600	(100)
1989	959	(320)	75.2		8.5		600	(300)
1990	1072	(416)	91.1	(37.8)	12.3	(11.0)	600	(300)
1991	1102	(479)	102.8	(41.7)	10.2	(11.5)	650	(350)
1992	1160	(468)	82.6	(35.2)	14.6	(13.3)	650	(350)
1993	1431	(526)	99.1	(41.1)	15.6	(12.8)	700	(400)
1994	1550	(984)	101.2	(70.3)	18.3	(14.0)	500	(600)
1995	1106	(736)	78.4	(52.9)	14.5	(13.9)	375	(725)

Table 13. Area 5B - Outer Bonavista Bay.

Year	Total landings		Total effort		CPUE (kg/trap)		Quota (t)	
	(t)	(Supp.)	('000's)	(Supp.)	Full	(Supp.)	Full	(Supp.)
1990	161	(161)	36.6	(36.6)	-	(4.4)	200	(200)
1991	479	(479)	41.6	(41.6)	-	(11.5)	350	(350)
1992	769	(433)	48.6	(27.9)	16.2	(15.5)	400	(400)
1993	1277	(826)	78.6	(47.5)	14.5	(17.4)	500	(500)
1994	1562	(868)	105.0	(57.5)	14.6	(15.1)	700	(600)
1995	1071	(507)	64.9	(32.7)	17.5	(15.5)	500	(500)

Table 14. Area 5B - extended.*

Year	Total landings		Total effort		CPUE (kg/trap)		Quota (t)	
	(t)	(Supp.)	('000's)	(Supp.)	Full	(Supp.)	Full	(Supp.)
1994	697	(431)	72.5	(49.0)	11.3	(8.8)	200	(400)
1995	592	(237)	31.5	(12.5)	18.7	(19.0)	400	(400)

* A quota of 450 t (fulltime), 950 t (supplementary), and 100 t (exploratory) was issued for areas outside the 200 mile limit in 3LMNO. Landings (CPUE) were 436 t (19.9 kg/trap haul), 831 t (19.7 kg/trap haul) and 103 t (unknown) respectively.

Table 15. Area 6A - Inner Trinity Bay - Supp.

Year	Total landings (t)	Total Effort ('000's)	CPUE (kg/trap)	Quota (t)
1979	67	4.2	16.0	
1980	59	4.6	12.9	
1981	110	14.9	7.4	
1982	65	10.7	6.1	
1983	72	12.0	6.0	
1984	17	2.5	6.9	
1985	19	5.0	3.8	
1986	18	3.5	5.1	
1987	44	9.0	4.9	100
1988	98	22.8	4.3	75
1989	180	35.3	5.1	200
1990	232	38.0	6.1	200
1991	259	46.3	5.6	200
1992	177	21.6	8.2	200
1993	380	43.2	8.8	275
1994	490	48.0	10.2	400
1995	583	43.8	13.3	525

Table 16. Area 6B - Conception Bay - Supp.

Year	Total landings (t)	Total effort ('000's)	CPUE (kg/trap)	Quota (t)
1979	464	28.8	16.1	
1980	869	56.4	15.4	
1981	502	43.7	11.5	
1982	694	60.9	11.4	
1983	564	64.1	8.8	
1984	333	52.0	6.4	
1985	139	26.2	5.3	
1986	193	32.7	5.9	
1987	227	24.7	9.2	
1988	499	45.0	11.1	
1989	476	78.0	6.1	500
1990	314	62.8	5.0	500
1991	383	100.8	3.8	400
1992	304	49.8	6.1	300
1993	309	44.1	7.0	300
1994	416	33.5	12.4	300
1995	516	37.1	13.9	525

Table 17. Area 6C - Eastern Avalon.

Year	Total landings		Total effort		CPUE (kg/trap)		Quota (t)	
	(t)	(Supp.)	('000's)	(Supp.)	Full	(Supp.)	Full	(Supp.)
1979	7632		436.1		17.5			
1980	5065		242.3		20.9			
1981	7607		484.5		15.7			
1982	3368		253.2		13.3			
1983	801		108.2		7.4			
1984	312		55.7		5.6			
1985	113		24.6		4.6			
1986	144		26.7		5.4			
1987	172		29.7		5.8			
1988	751		72.2		10.4		300	(300)
1989	661		68.1		9.7		400	(300)
1990	850	(231)	102.0	(36.1)	9.4	(6.4)	600	(400)
1991	1090	(391)	134.7	(61.1)	9.5	(6.4)	600	(400)
1992	1078	(428)	102.2	(47.6)	11.9	(9.0)	600	(400)
1993	1541	(839)	88.5	(55.2)	21.1	(15.2)	700	(500)
1994	2024	(1391)	110.5	(79.9)	20.7	(17.4)	700	(900)
1995	2128	(1658)	120.9	(97.0)	19.7	(17.1)	425	(1512)

Table 18. Area 7A - Outer Trinity Bay.

Year	Total landings		Total effort		CPUE (kg/trap)		Quota (t)	
	(t)	(Supp.)	('000's)	(Supp.)	Full	(Supp.)	Full	(Supp.)
1979	569		57.5		9.9			
1980	494		58.1		8.5			
1981	178		24.7		7.2			
1982	95		13.8		6.9			
1983	107		20.2		5.3			
1984	202		38.1		5.3			
1985	113		27.6		4.1			
1986	165		56.9		2.9			
1987	140		36.8		3.8			
1988	200		39.2		5.1			
1989	251		51.2		4.9		300	
1990	245		40.2		6.1		400	
1991	397		60.2		6.6		400	
1992	497	(176)	40.5	(13.1)	11.7	(13.4)	250	(150)
1993	751	(350)	52.5	(26.3)	15.3	(13.3)	300	(200)
1994	1066	(800)	68.0	(50.0)	14.8	(16.0)	300	(500)
1995	1060	(905)	70.7	(60.7)	15.5	(14.9)	200	(700)

Table 19. Area 7B - Offshore Avalon (Shoal Patch).*

Year	Total landings		Total effort		CPUE (kg/trap)		Quota (t)	
	(t)	(Supp.)	('000's)	(Supp.)	Full	(Supp.)	Full	(Supp.)
1981	1840		65.7		28.0			
1982	4194		218.4		19.2			
1983	1662		151.1		11.0			
1984	431		47.9		9.0			
1985	31		6.0		5.2			
1986	-		-		-			
1987	-		-		-			
1988	298		39.7		7.5			
1989	519		68.3		7.6			
1990	701		60.4		11.6		500	
1991	1371		114.3		12.0		1300	
1992	1758		102.2		17.2		1300	
1993	1730		82.8		20.9		1500	
1994	2383	(544)	118.1	(28.8)	20.6	(18.9)	1800	(200)
1995	2514	(841)	129.0	(47.8)	20.6	(17.6)	1700	(800)

* An area east of 49°30' in areas 7B and 7C was fished by fulltime (quota 175 t) and supplementary (quota 325 t) fishermen. Landings (CPUE) were 172 t (18.2 kg/trap haul) and 367 t (18.0 kg/trap haul) respectively.

Table 20. Area 7C - Downing Basin - Fulltime.

Year	Total landings		Total effort		CPUE (kg/trap)		Quota (t)	
	(t)	(Supp.)	('000's)	(Supp.)	Full	(Supp.)	Full	(Supp.)
1982	114		7.3		15.6			
1983	733		61.1		12.0			
1984	397		40.9		9.7			
1985	-		-		-			
1986	-		-		-			
1987	-		-		-			
1988	-		-		-			
1989	-		-		-			
1990	-		-		-			
1991	-		-		-			
1992	147		13.7		10.7		200	
1993	264		14.4		18.3		300	
1994	746		46.6		16.0		400	
1995	855	(374)	43.3	(20.4)	21.0	(18.3)	400	(300)

Table 21. Area 8A - Southern Avalon.

Year	Total landings		Total effort		CPUE (kg/trap)		Quota (t)	
	(t)	(Supp.)	('000's)	(Supp.)	Full	(Supp.)	Full	(Supp.)
1980	292		13.8		21.1			
1981	854		45.2		18.9			
1982	732		49.8		14.7			
1983	955		99.5		9.6			
1984	1068		135.2		7.9			
1985	627		87.1		7.2			
1986	1267		117.3		10.8			
1987	1129		92.5		12.2			
1988	2347		223.5		10.5		2300	
1989	1640		197.6		8.3		2400	
1990	448		65.9		6.8		2000	
1991	624		115.6		5.4		800	
1992	456	(276)	45.3	(25.1)	8.9	(11.0)	200	(200)
1993	855	(412)	85.1	(38.5)	9.5	(10.7)	400	(300)
1994	819	(303)	55.2	(20.3)	14.8	(14.9)	400	(800)
1995	-	(502)	-	(30.4)	-	(16.5)	-	(563)

Table 22. Area 9 - St. Mary's Bay - Supp.

Year	Total landings (t)	Effort ('000's)	CPUE (kg/trap)	Quota (t)
1979	8	1.2	6.7	
1980	-	-	-	
1981	168	11.2	15.0	
1982	506	48.2	10.5	
1983	274	37.5	7.3	
1984	264	35.2	7.5	
1985	164	23.1	7.1	
1986	102	21.3	4.8	
1987	4	0.7	5.8	
1988	266	36.9	7.2	
1989	217	29.7	7.3	200
1990	267	31.0	8.6	200
1991	317	27.8	11.4	300
1992	306	27.1	11.3	300
1993	441	36.8	12.0	300
1994	484	29.7	16.3	400
1995	554	37.7	14.7	600

Table 23. Area 10 - Placentia Bay - Supp.

Year	Total landings (t)	Effort ('000's)	CPUE (kg/trap)	Quota (t)
1983	43	3.1	13.9	
1984	175	18.6	9.4	
1985	385	44.8	8.6	
1986	930	91.2	10.2	
1987	596	198.7	3.0	600
1988	856	231.4	3.7	600
1989	529	112.6	4.7	600
1990	596	119.2	5.0	600
1991	176	31.4	5.6	600
1992	121	11.4	10.6	400
1993	603	55.3	10.9	400
1994	895	57.7	15.5	400
1995	700	44.3	15.8	625

Table 24. Area 10 - extended.

Year	Total landings (t)	Effort ('000's)	CPUE (kg/trap)	Quota (t)
1994	289	14.0	20.6	250
1995	818	44.2	18.5	800

Table 25. Area 11 - Fortune Bay.

Year	Total landings (t)	Effort ('000's)	CPUE (kg/trap)	Quota (t)
1993	101	10.9	9.3	100
1994	406	35.0	11.6	200
1995	335	76.1	5.6	575

Table 26. Temporary small boat fishery, Div. 4R-3Pn inside 8 miles.

Area	No. of permits	Boat quota (t)	Area quota (t)	Landings (t)
A. Lapoile Bay from: West Point 47°38'N, 57°13'W Eastern Point 47°39'N, 58°22'W	3	5	15	13
B. Cape Ray 47°37'N, 59°19'W Johnsons Cove 48°04'N, 59°09'W	2	5	10	2
C. Johnsons Cove 48°04'N, 59°09'W Cape St. George 48°28'N, 59°15'W	5 ¹	5	25	24
D. Cape St. George 48°28'N, 59°15'W Bear Head 49°01'N, 58°29'W	5	5	25	25
E. Bear Head 49°01'N, 58°29'W Cape St. Gregory 49°25'N, 58°14'W ²	10	5	50	50
G. Cape St. Gregory 49°25'N, 58°14'W Broom Point 49°50'N, 57°52'W	12	5	60	59
H. Broom Point 49°50'N, 57°52'W Table Point 50°22'N, 57°32'W	10	5	50	27
TOTAL	47		235	200

¹ Area C - These are in addition to 13 existing permit holders, three of whom are permitted to fish Bay St. George, Bay of Islands, and outside 8 miles.

² Area E - Excluding Bay of Islands inside a straight line from South Head 49°09'N, 58°22'W to North Head 49°19'N, 58°15'W

Table 27. West coast crab fishery, Div. 4R.

Area	Quota (t)		Landings (t)		Effort ('000s)		CPUE (kg/tr.h)			
	1994	1995	1994	1995	1994	1995	1994	1995		
Zone 13 ¹		889	889	334	198	61.9	29.6	5.4	6.7	
Outside 8 mi ²		-	225	157	205	23.1	41.8	4.8	4.9	
Inside 8 mi ³		-	150	-	143	-	20.7	-	6.9	
Bay of Islands ⁴		110	110	106	110	16.6	16.9	6.3	6.5	
St. George's Bay ⁵		65	65	58	64	8.4	7.9	7.1	8.1	

¹ Six of the 49 permit/licence holders for Zone 13 are from Newfoundland; the remainder are from Quebec. Some Quebec vessels land in Newfoundland and one Newfoundland vessel lands in Quebec. Only landings in Newfoundland are indicated.

² There are 11 permit holders for the area outside 8 miles. ⁶

³ There are 15 permit holders for the area inside 8 miles (excluding Bay of Islands and Bay St. George).

⁴ There are 11 permit holders for Bay of Islands. ⁶

⁵ There are 13 permit holders for Bay St. George. ⁶

⁶ Included in the permit holders for the area outside 8 miles, Bay of Islands and Bay St. George are three who are allowed to fish in all three areas.

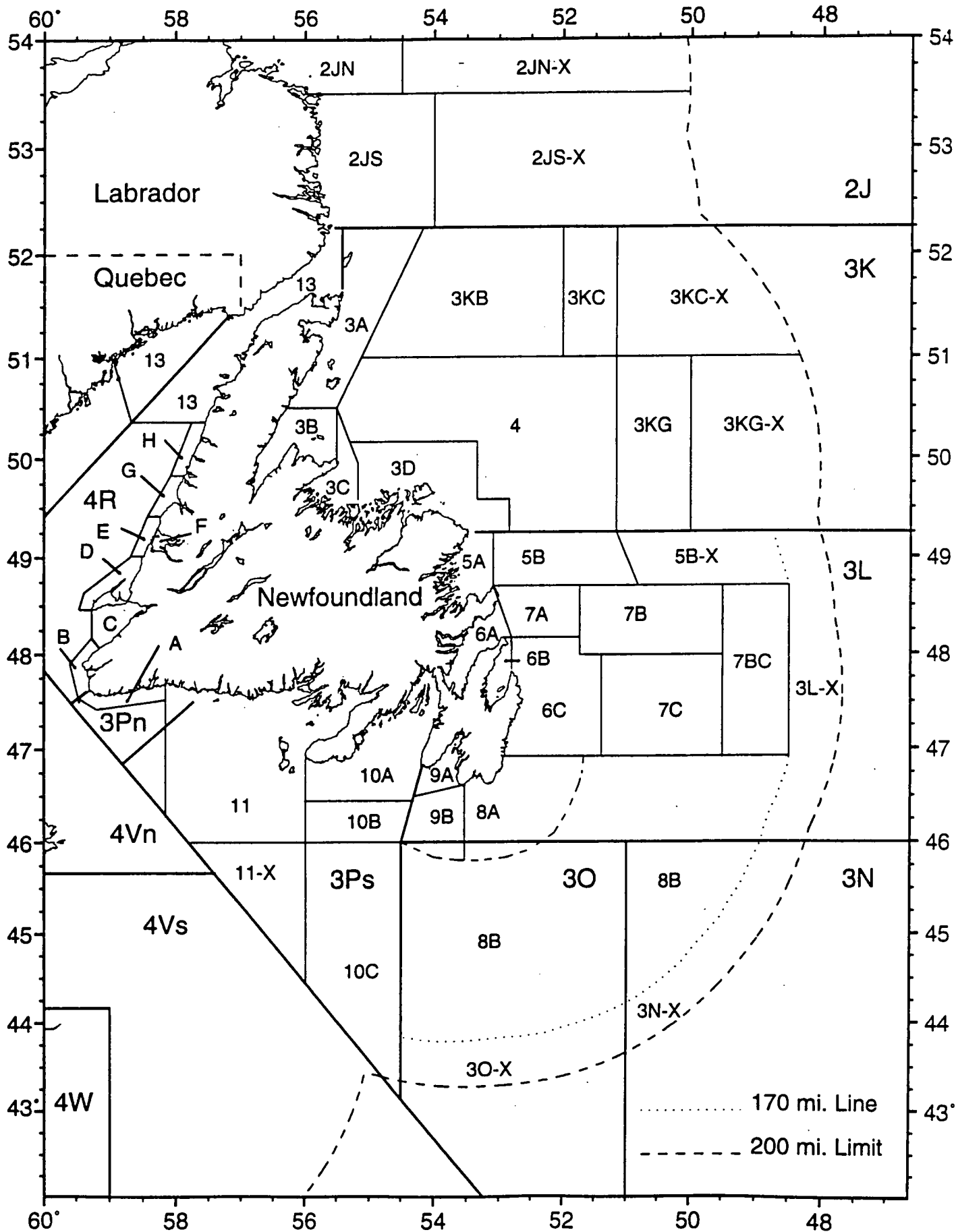


Figure 1. Snow crab management areas for Newfoundland and Labrador

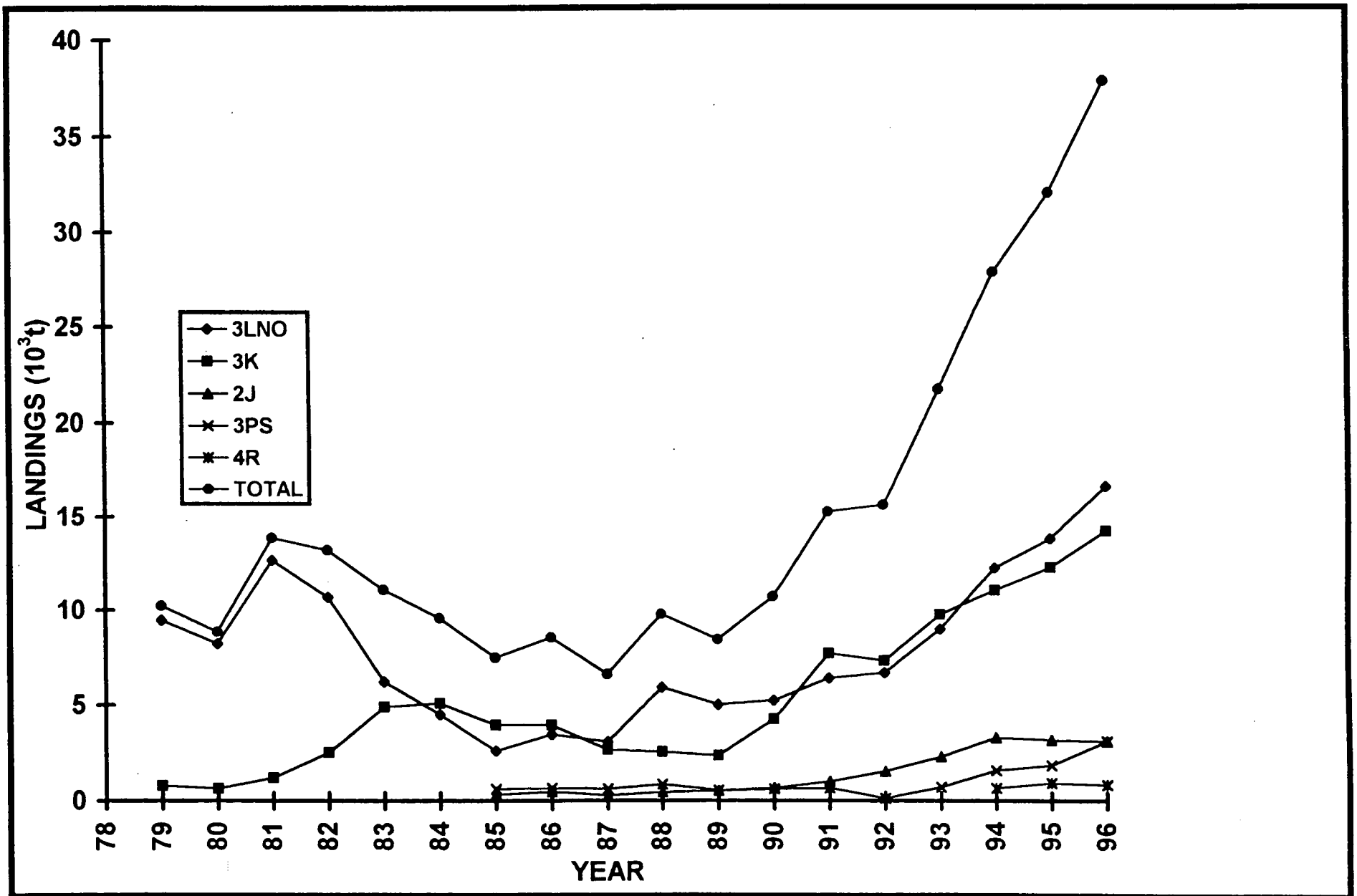


Figure 2. Summary of landings by NAFO division, 1979-1995.

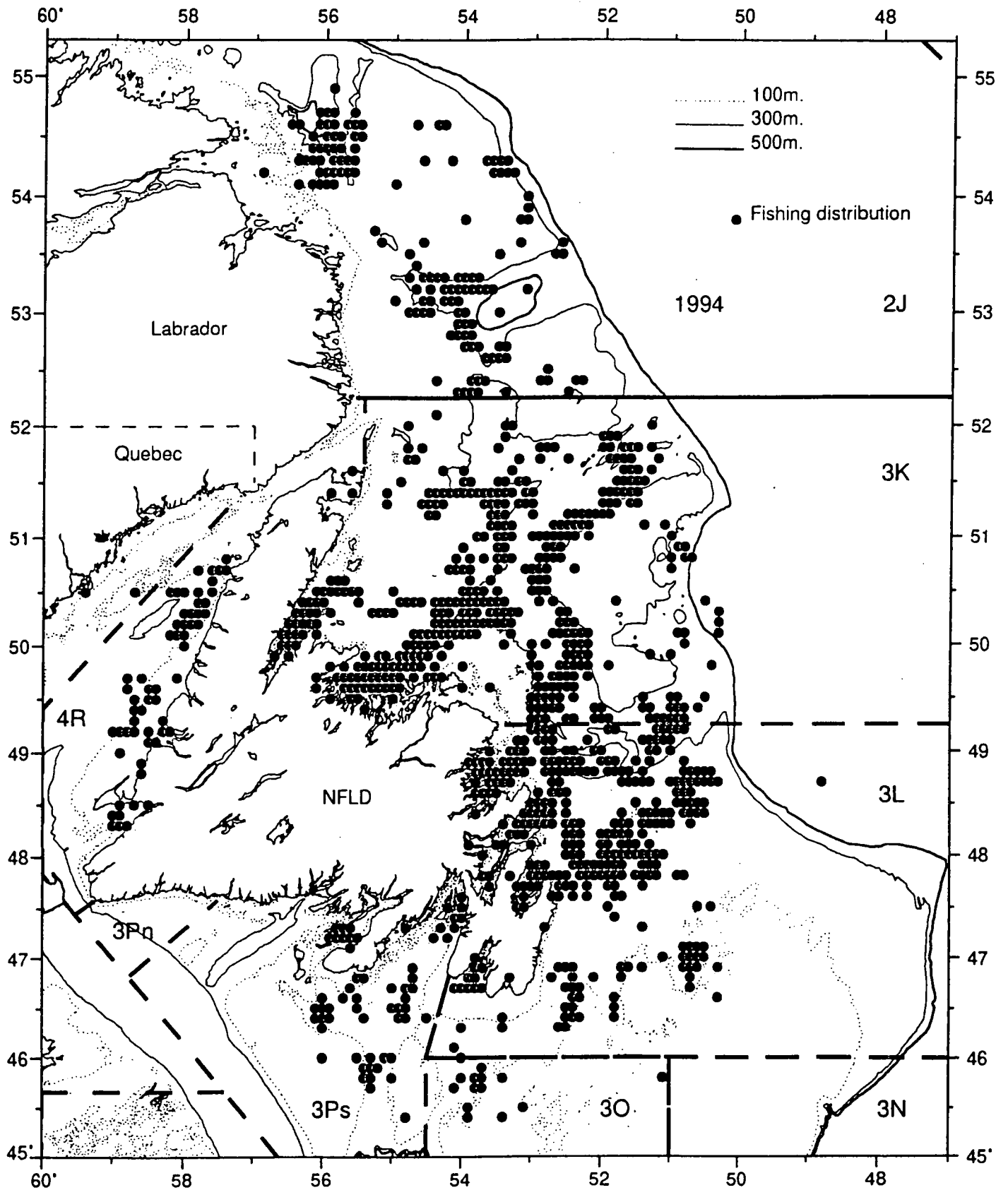


Figure 3a. Distribution of crab fishing effort, 1994.

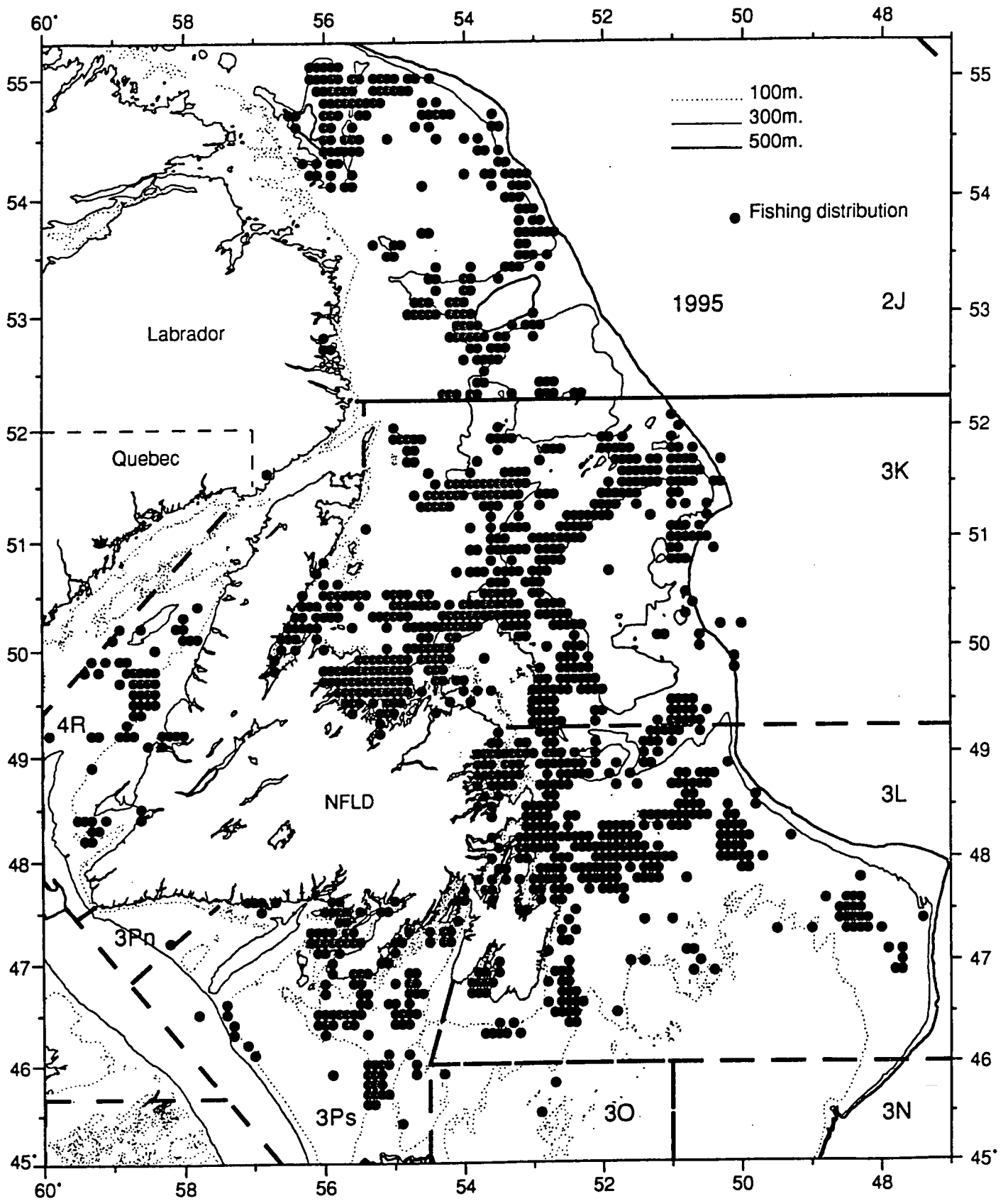


Figure 3b. Distribution of crab fishing effort, 1995.