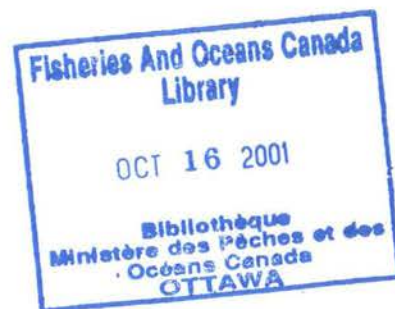


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AN ECONOMIC REVIEW OF
THE NORTHERN CRAB FISHERY

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Economics Branch
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Newfoundland Region
December, 1982

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AN ECONOMIC REVIEW OF
THE NORTHERN CRAB FISHERY

December 1982

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I. INTRODUCTION

This review of the crab fishery along the Northeast Coast of Newfoundland was undertaken in order to assess the economic viability of the existing crab fleet in that area and the potential for expansion in the numbers of vessels in that fleet. Fishermen were interviewed to obtain cost information pertaining to vessel operations and an extensive review of biological and economic research documents was undertaken. Since much of the analysis incorporated in the latter was based upon 1979 and/or 1980 data, an effort was made to update such analysis with 1981 and 1982 data. With respect to biological analysis, catch/effort relationships were investigated using data derived from the 1981 and 1982 log books. Cost and earnings information was collected on the 1982 fishing season from 11 of the 13 vessels operating in the fishery and extrapolated to the fleet as a whole. In addition, cost and earnings profiles of the fleet were interpolated for the years 1980 and 1981 from the 1979 and 1982 data in order to provide some indication of changes in fleet profitability over time. Of necessity, much of the 1982 data used in this analysis is of a preliminary nature since, in certain instances, it was collected before the fishing season was concluded. Time did not permit a thorough reconciliation of inconsistencies in the data nor was complete data always available.

This report is comprised of four main sections. Section II which follows provides a brief historical overview of the northern crab fishery from the mid-1970's to the present. Section III summarizes the biological status of the individual stocks of crab in the area with the objective of identifying potential and realizable catch levels. Section IV provides an analysis of the economic condition of the crab fleet in the northern area over the 1979-82 period and reviews other developments expected to occur in 1983 and 1984. Section V summarizes the conclusions of the report.

II. OVERVIEW

The crab fishery began on a continuing basis in 1972 with a total catch of 72 t. Landings increased fairly steadily throughout the 1970's reaching 778 t. in 1979 despite serious constraints placed upon vessel catches by a low level of processing capacity and plant-imposed boat quotas. Landings declined to 582 t. in 1980 because of the inshore fishermen's strike but increased to approximately 1,198 t. in 1981 (Table 1). In 1982, catches are estimated at 1,907 t. for the 13 crab vessels deployed in White Bay and Green Bay. Excluded are catches of more than 365 t. (60 t. in 'traditional' areas and more than 305 t. in previously unexploited areas) by three (3) vessels which have traditionally fished out of Valleyfield.

The northern crab fishery is organized into a number of management areas (M.A.) as described in Diagram I. The areas in which fishing currently takes place are White Bay (M.A. 36), the Horse Islands (M.A. 34) and Green Bay (M.A. 32). In the case of the latter two areas the existing fleet does not deploy over the whole of the management areas. In M.A. 34 the fleet has not yet fished further than 10-12 miles beyond the Horse Islands (or approximately one-half the distance between the Horse Islands and the Grey Islands). In M.A. 32 the existing fleet fishes in Green Bay which represents only about one-half of the management area. However, 3 Valleyfield vessels fished the eastern half of the area for virtually the first time in 1982.

A number of developments have occurred since 1979 which are of significance in the fishery. Processing capacity in the area has expanded somewhat with the construction of a more modern crab plant in Jackson's Arm. In addition, the crab plant in Little Bay Islands has come under new management and appears capable of handling higher volumes of throughput and operating for longer periods of time. While the LaScie plant has a Provincial crab processing licence, it has

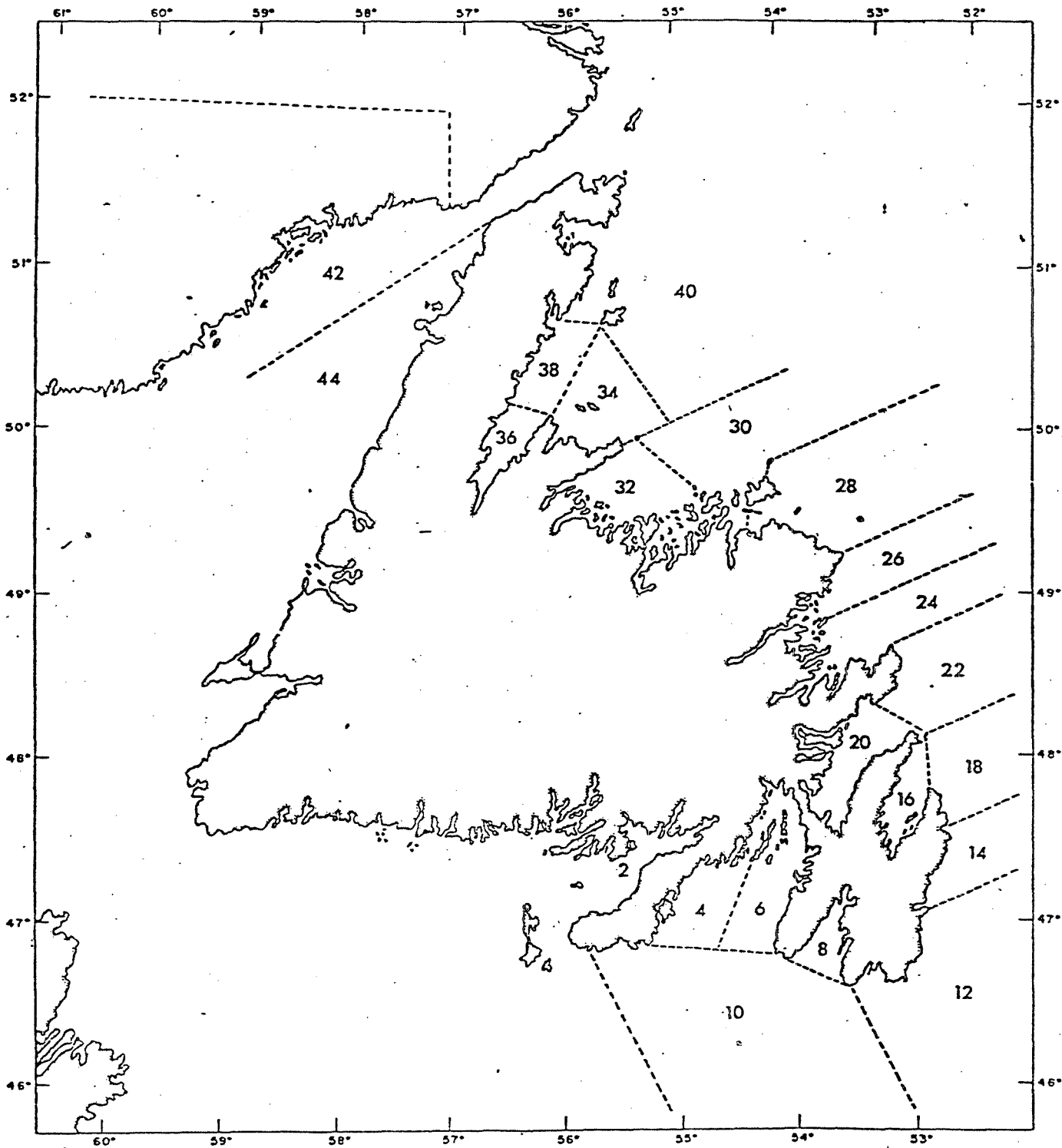


Diagram 1. Snow crab management areas

TABLE I - Crab Fishing Effort, Total Catches and CPUE by Management Area, 1979-82

	White Bay (36)		Horse Islands (34)		Green Bay (32)		Total	
<u>Fishing Effort (,000 Pots Hauled):</u>								
1979	21.3	(27%)	11.8	(15%)	46.2	(58%)	79.3	(100%)
1980	17.9	(81%)	7.3	(12%)	33.3	(57%)	58.5	(100%)
1981	19.8	(21%)	19.2	(21%)	54.4	(58%)	93.4	(100%)
1982 ^P	28.3	(17%)	52.8	(29%)	89.6	(54%)*	166.7	(100%)
<u>Landings (M.T.):</u>								
1979	156	(20%)	141	(18%)	491	(62%)	788	(100%)
1980	158	(27%)	96	(17%)	328	(56%)	582	(100%)
1981	230	(19%)	322	(27%)	646	(54%)	1,198	(100%)
1982 ^P	353	(18%)	731	(37%)	883*	(45%)	1,967	(100%)
<u>Catch Per Unit Of Effort (Kg.):</u>								
1979	7.3		11.9		10.6		9.9	
1980	8.8		13.0		9.9		9.9	
1981	11.6		17.0		11.9		12.8	
1982 ^P	12.5		13.8		9.9		11.4	

p = preliminary

* Does not include catches and effort of vessels fishing in eastern Notre Dame Bay.

yet to purchase and process any significant volume of crab.

The alleviation of the constraints on vessel catches has prompted fishermen to increase their fishing effort and to exploit grounds which hitherto were uneconomical to fish because of plant imposed boat quotas. Fishing effort, denoted in terms of the number of crab pots 'hauled' increased by 110% between 1979 and 1982 with most (92%) of the increase occurring in 1982. A significant proportion of this increase in fishing effort has occurred in the Horse Islands area which in previous years has been only lightly fished. Catches from the Horse Islands area represented less than 20% of the total in 1979 but have increased to 37% in 1982. In 1979, only one vessel from White Bay fished the Horse Islands area. By 1982, four White Bay vessels fished these stocks exclusively. This shift of fishing effort from the White Bay area to the Horse Islands area appears to have benefited the 3 vessels which continued to fish the former area. Catches have increased with vessels utilizing and hauling a greater number of crab pots on grounds that are now less congested.

The 6 vessels fishing in Green Bay (M.A. 32) have not as yet attempted to exploit the Horse Islands crab stocks and catches continue to be obtained from within the traditional area of fishing. While there may be some movement by vessels into areas within M.A. 32 that, in the past, were only lightly fished, it is not possible to confirm any such trend at this time. Catches and effort have increased significantly over the 1979-82 period with catches reaching 883 t. in 1982 (from 491 t. in 1979) and effort rising to 89,600 pot hauls in 1982 (from 46,200 pot hauls in 1979).

There has been remarkably little change in the structure of the crab fleet over the 1979-82 period. Ten (10) of the 13 vessels that were deployed in 1979 were still active in 1982 though one was replaced part-way through the 1982 season with a new vessel, the other two were replaced by 'second-hand' vessels. The average

Table 2 - Distribution of Vessels by Age

Vessel Age	Number of Vessels	
	1979	1982
Less than 2 Yrs.	1	1
2 - 4 Yrs.	-	2
5 - 9 Yrs.	7	4
10 - 14 Yrs.	4	4
15 - 19 Yrs.	1	1
20 Yrs. or More	<u>-</u>	<u>1</u>
Total	<u>13</u>	<u>13</u>
(AVERAGE AGE)	(8.3)	(9.5)

age of the fleet (Table 2) has also increased slightly since 1979 and two vessels appear to be eligible for replacement by 1983 and possibly two more by 1984.

III. BIOLOGICAL OVERVIEW

The crab fishery has only recently exploited local crab stocks to any significant degree. As a consequence, although there are six (6) primary stock management areas only two (M.A. 32 and 36) were fished to any degree until 1981. M.A. 34 was only lightly fished and M.A. 38, 40, and 30 were virtually untouched. Moreover, in M.A. 32 and 36 crab vessels did not deploy over all available grounds. In M.A. 36, some prime cod and crab fishing grounds overlapped which resulted in crab fishermen being excluded from fishing certain areas by the gillnet fishery. This situation did not result in 1982. In M.A. 32, crab fishermen effectively exploited less than one-half of the available grounds and have only recently begun to deploy vessels on the more distant grounds within the management area. Until 1982, however, the eastern part of the Notre Dame Bay was untouched and exploitation in 1982 in that area was only undertaken by several vessels that previously operated out of Valleyfield. While fishing effort has increased substantially in the last two years in M.A. 34, as yet not all the grounds identified as having commercial potential are being exploited.

As a consequence, biomass estimates, which are indicative of the size of the available resources, must be interpreted with a great deal of caution. Because of the limited movement of crab within an area, such estimates, in fact, generally reflect only the crab stock available on grounds which have been fished. In areas which have been only lightly fished in the past, catch rates tend to reflect virgin stock conditions and may not be reliable for biomass estimation. This problem was encountered with data from the Horse Island fishery in 1982.

Table 3 describes the estimated biomass in each management area that is currently fished. It is evident that, as fishermen move to exploit new grounds and increase their catch, the estimated biomass increases. This trend will, however, continue only as long as new or unexploited grounds exist within an area.

Table 3: Biomass Estimates and Exploitation Rates by Management Area, 1979-82

	Year			
	1979	1980	1981	1982 ^p
<u>Estimated Biomass (mt):</u>				
Management Area: 32	882	807	NA	850
34	NA	106	503	NA
36	383	276	515	708
<u>Landings (mt):</u>				
Management Area: 32	491	328	646	883
34	141	96	322	731
36	156	158	230	353
<u>Exploitation Rate (%)</u>				
Management Area: 32	55.7%	40.6%	NA	103.9%
34	NA	90.6%	64.0%	NA
36	40.7%	57.3%	44.7%	50.0%

p - preliminary

Current (1982) estimates suggest a crab biomass of 708 t. in White Bay and 850 t. in Green Bay though the latter estimate encompasses only one-half (at most) of the management area. The scientific advice strongly suggests that exploitation or catches not exceed 50-60% of the estimated biomass otherwise the fishery becomes heavily dependent upon annual recruitment into the crab stock. In addition there appears to be a very strong direct correlation between high

exploitation rates and the incidence of soft-shell (or moulting) crab which are very frequently commercially unacceptable. Exploitation rates tend to vary substantially from one year to the next within an area; however, exploitation in M.A. 36 on traditionally fished grounds appears to be near the optimum of 50-60 percent. It should be emphasized that, though the biomass estimate for M.A. 32 is for only one-half of the management area, there does appear to be reason for concern. Given the 1982 exploitation rate it appears that there is a real danger of over-exploitation. While the 1982 data does not permit biomass estimation for M.A. 34, the available information suggests that further increases in catches are both possible and likely.

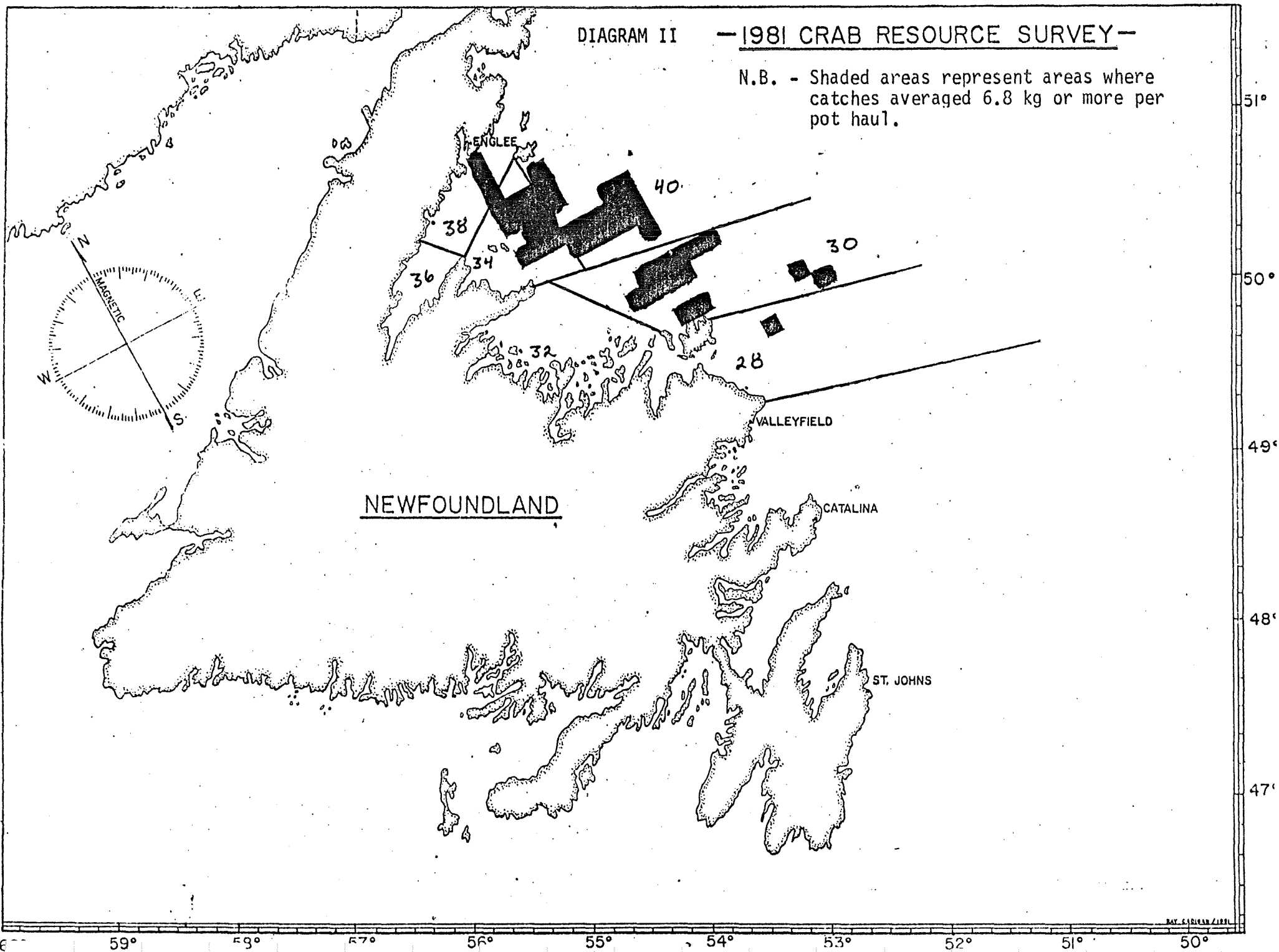
Exploratory surveys have indicated the existence of potentially commercial crab grounds outside of the areas currently fished. These grounds overlap a number of management areas, specifically 30, 34 and 38, only one of which, M.A. 34, is currently being fished. The data obtained from the exploratory survey does not permit biomass estimation; however, survey catch rates do appear commercially acceptable over an area (encompassing more than 1,300 sq. miles) which is within the technical deployment range of a longliner crab fleet. A rough approximation of the location of the potential grounds is depicted in Diagram II.

Catch rates in exploratory surveys were on the order of at least 6.8 kg. per pot haul in most areas and reached 11.0 kg. per pot haul in a number of areas both of which are commercially acceptable. Fishermen may, in fact, be able to obtain higher catch rates by concentrating in the best areas. For comparative purposes, catch rates around the Horse Islands averaged 17.0 kg. per pot haul in 1981 and 13.8 kg. per pot haul in 1982.

DIAGRAM II

- 1981 CRAB RESOURCE SURVEY -

N.B. - Shaded areas represent areas where catches averaged 6.8 kg or more per pot haul.



IV. ECONOMIC OVERVIEW

Several significant developments have occurred with respect to the operations of the crab fleet over the 1979-82 period. Firstly, vessels began to direct an increasing proportion of their fishing effort to the crab fishery. In 1979, crab vessels in total spent about one-third of their time fishing non-crab species. By 1982, virtually all of their time was directed towards the crab fishery. Their ability to continue this pattern will depend largely upon the continued viability of the fishery and the health of local crab stock. The second major development is the increase in total vessel investment (Table 4) that occurred over the 1979-82 period. In 1979, the total investment in vessels by fishermen (net of vessel construction subsidies/bounties) amounted to \$371,563 or an average of \$28,582 per enterprise. By 1982, fishermen's net vessel investment had increased to \$709,631 or \$54,587 per enterprise. While the increase is largely the result of the introduction of a new vessel in 1980, it is indicative of the types of investment increases that may occur over the next few years.

Table 5 describes the costs and earnings of the crab fleet over the 1979-82 period. Cost data for 1980 and 1981 has been interpolated from 1979 and 1982 data.

The financial performance of the crab fleet over the 1979-82 period indicates that the fleet operated on a fairly marginal basis for two of the four years with most (76%) of the overall net profit being generated in 1982. The fleet lost money in 1980 with losses being more or less offset in 1981. Over the four year period, Net Revenue before capital costs (i.e. interest and depreciation) amounted to only \$531,157 for the fleet as a whole or an annual average of \$10,215 per enterprise. In terms of a return on investment,

TABLE 4 - Total and Average Vessel Investment, 1979 and 1982

	1979	1982
<u>Total Investment: All Vessels</u>		
Original Vessel Cost	381,702	768,529
Major Alterations/Additions	<u>79,180</u>	<u>137,248</u>
Total	460,882	905,777
less: Grants/Subsidies	<u>89,319</u>	<u>196,146</u>
Net (Fisherman) Vessel Investment	<u><u>371,563</u></u>	<u><u>709,631</u></u>
<u>Average Investment: Per Vessel</u>		
Original Vessel Cost	29,362	59,118
Major Alterations/Additions	<u>6,091</u>	<u>10,557</u>
Total	35,453	69,675
less: Grants/Subsidies	<u>6,871</u>	<u>15,088</u>
Net (Fisherman) Vessel Investment	<u><u>28,582</u></u>	<u><u>54,587</u></u>

the above would represent a gross profit rate of 21.2%. After depreciation and interest have been deducted, the profit rate amounts to only 11%. This is not by any reasonable definition an excessive return on investment; however, it is most likely much higher than rates of return being earned by enterprises in the groundfish fishery. It must also be noted that comparable rates of return will be necessary to support the replacement of some of the older vessels in the fleet.

The available data suggests that, though the crab fleet operated very profitably this year (1982), this performance was quite possibly an exception to the norm. The biological status of local crab stocks are sufficiently uncertain that it is questionable whether the 1982 performance can be duplicated in the future. Particular problems may occur in Green Bay (M.A. 32) where exploitation rates exceed 100% and very significant "soft-shell" problems were encountered during the season. Though the estimated biomass amounts to only 850 t., the 95% confidence intervals range from 623 t. to 2,039 t. If the "true" biomass is closer to the latter figure, then the exploitation rate would, at best, be 45% (or close to the optimum level) leaving little room for increased exploitation of the stock.

While the crab fleet numbers only 13 vessels, a large increase in fishing effort (e.g. vessels and pot hauls) can be expected in the future. This year (1982) saw a shift in fishing effort from Bonavista Bay to Notre Dame Bay by 3 Valleyfield boats. These vessels moved from their traditional areas on the western shore of Bonavista Bay when catch rates fell to about 5 - 8 kg. per pot haul in the months of June and July and fished in western Notre Dame Bay and around the Horse Islands where catch rates were appreciably higher (8 - 15 kg. per pot haul). All three vessels fished in the area for 2 - 4 months and represented a great increase in fishery effort. The two vessels for which

data are available made a total of 92 fishing trips in the Notre Dame Bay - Horse Islands area but hauled a total of 32,240 pots or 350 pots per trip. In comparison, the local crab fleet averages less than 140 pot hauls per trip. At the present time, these vessels are restricted to fishing the western Notre Dame Bay and Horse Islands areas and are excluded from Green Bay and White Bay though there is some concern that log records have been falsified and there was some encroachment upon areas traditionally fished by Green Bay fishermen.

In view of the condition of the crab stocks in western Bonavista Bay, it appears very probable that the Valleyfield vessels will continue to press for access to Notre Dame Bay and will fish the area in the summer and fall when catch rates in their own area have declined to uneconomic levels.

A further increase in fishing capacity can be anticipated with the issuance of crab fishing permits to 3 fishermen in the Canada Bay area and to 6 fishermen in the Twillingate-Fogo area. While it is clearly intended that these licences will be utilized in areas not currently exploited by the existing fleet, some competition for grounds is likely to occur as each fleet component moves outward.

As noted previously, the most promising unexploited grounds identified by exploratory surveys lie between the Horse Islands and the Grey Islands and appear to extend through Management Areas 38, 34 and perhaps, 40. Additional grounds are available in M.A. 30 and in the eastern part of Notre Dame Bay.

The existing Green Bay fleet is moving out towards the fringes of M.A. 34 and 30, while the Horse Islands fleet is moving out further in M.A. 34. In 1981, the maximum distance travelled by the latter was about 10 - 12 miles beyond the Horse Islands. Vessels moved slightly further out in 1982.

While the recipients of the 9 new licences to be issued in 1983 are likely to concentrate on grounds adjacent to their home ports, experience in other areas has indicated that crab fishermen are relatively mobile in terms of where

they fish. Moreover, the new licences will be eligible to fish anywhere within the northern zone (M.A. 30 - 40 inclusive) if the viability of the new grounds is proven which might result in a concentration of effort on the most productive grounds. Such areas may be more localized than the exploratory surveys would appear to indicate.

Our analysis indicates that over the 1979-82 period, the existing crab vessels required an annual average catch of 1,079 t. (83 t. per vessel) to breakeven, an estimate which is based upon some portion of their fishing time being spent on non-crab species. If they were to concentrate on crab only, they would have required an annual average catch of 1,285 t. (or 99 t. per vessel). Based solely on the 1982 cost and effort structure, the fleet broke even when total catches reached 1,142 t. (88 t. per vessel). In general, the data suggest that the existing vessels require an average annual catch of 85 - 100 t. to breakeven. However, environmental and other factors will necessitate some degree of variation around this average and, in this context, the 1982 season where catches averaged 147 t. per vessel offset poor years in 1980 and 1981.

If the 9 additional vessels to be licenced for 1983 require equivalent catch volumes, the requirements of the fleet as a whole (22 vessels) will increase to 1,870 - 2,200 t.; however, catching capability in good years may amount to over 3,000 t. At the present time, there is insufficient information respecting the volume of crab resources available to determine whether such catches are even possible.

The above analysis does not include the requirement of the 3 Valleyfield vessels which may amount to 350 - 400 t. annually or more depending upon the condition of crab stocks in the Valleyfield area. Nevertheless these vessels are currently permitted to fish in certain parts of the northern zone and

TABLE 5 - Total Revenues and Costs of the Northern Crab Fleet, 1979-82

	1979	1980	1981	1982	Total 1979-82
<u>Revenues:</u>	<u>587,282</u>	<u>407,402</u>	<u>703,407</u>	<u>1,229,178</u>	<u>2,927,269</u>
Crab	479,188	325,780	674,483	1,229,178	2,708,629
Other Species	108,094	81,622	28,924	*	218,640
<u>Operating Costs:</u>	<u>58,374</u>	<u>48,197</u>	<u>104,415</u>	<u>171,829</u>	<u>382,815</u>
Fuel	25,589	25,403	44,471	73,601	169,064
Bait	14,778	9,513	19,695	33,918	77,904
Provisions	11,905	9,144	13,797	20,701	55,547
Other	6,102	4,137	26,452	43,609	80,300
<u>Repair And Maintenance:</u>	<u>79,639</u>	<u>72,067</u>	<u>84,929</u>	<u>98,690</u>	<u>335,325</u>
Hull				8,769	
Engine	22,895	15,378	20,841	19,213	87,742
Equipment				646	
Gear Repair	8,293	5,224	9,609	12,569	35,695
Gear Purchases	48,451	51,465	54,479	57,493	211,888
<u>Fixed Costs:</u>	<u>9,230</u>	<u>16,204</u>	<u>17,054</u>	<u>29,120</u>	<u>71,608</u>
Marine Insurance	7,940	14,064	14,064	14,064	50,132
Fees, etc.	1,290	2,140	2,990	1,552	21,476
Other				13,504	
<u>Payments To Crew</u>	<u>345,244</u>	<u>231,037</u>	<u>384,271</u>	<u>645,812</u>	<u>1,606,364</u>
<u>TOTAL: NON-CAPITAL COSTS</u>	<u>492,487</u>	<u>367,505</u>	<u>590,669</u>	<u>945,451</u>	<u>2,396,112</u>
Net Revenue before Interest and Depreciation (%-ROI)	94,795 (25.5%)	39,897 (5.6%)	112,738 (15.8%)	283,727 (40.0%)	531,157 (+21.2%)
Interest Charges	7,730	26,085	26,085	26,085	85,985
Depreciation (% - ROI)	25,899	47,550	47,550	47,550	168,549
Net Revenue After Interest and Depreciation	61,166 (+16.5%)	(33,738) (-4.7%)	39,103 (+5.5%)	210,092 (+29.5%)	276,623 (+11.0%)

*Not Significant

represent a very significant amount of catching capability.

As a consequence of the above considerations and notwithstanding the viability of the existing fleet, it would appear more desirable to maintain the number of crab vessels in the northern zone at the existing level until the status of the crab stocks in the zone can be accurately delineated and the deployment pattern of the new vessels (that will enter the fishery in 1983) is established.

V. SUMMARY:

1. The existing crab fleet is comprised of 13 vessels which, in 1982, fished crab exclusively. Three vessels from the Valleyfield area also fished in Notre Dame Bay in 1982, catching an estimated 412 t. during the late summer and fall months. An additional 9 licences are to be issued in 1983 with 3 licences to be issued in the Canada Bay area and 6 in the Fogo-Twillingate area. These licences will be temporary and restricted (in terms of areas that can be fished) from two or three years; however, they will subsequently become 'full' licences if a viable fishery is established and subject to the same restrictions as existing vessels.
2. A significant expansion since 1979 in fishing effort by the existing 13 vessels has taken place with vessels not only directing effort away from other fisheries to the crab fishery but also increasing daily effort in terms of the number of pots hauled. In 1982, vessels have fished crab an average of 91 days, whereas in 1979, they fished crab an average of 56 days and other species for 28 days. Pot hauls have increased from an average of about 100 per day in 1979 to 140 per day in 1982 and further increases appear likely as plant imposed boat quotas increase.
3. The increase in fishing effort has been largely made possible by an apparent readiness on the part of the two local crab plants to buy increased volumes of crab. This has permitted or encouraged the fleet to fish more distant grounds where catch rates are somewhat higher. As a result, crab vessels have gradually expanded their area of operations beyond the narrow confines of White Bay or Green Bay.
4. Estimation of the amount of crab available for fishing exploitation is not possible for all areas. Reasonable estimates are available only for

Green Bay (M.A. 32) and White Bay (M.A. 36). In the latter area, the stock biomass is estimated at 708 t. with a desirable catch level of 350 - 425 t. Current catches are within this range suggesting an optimal level of exploitation. In Green Bay, biomass estimates really relate only to the Western half of the area and suggest a biomass of 850 t. with a desirable catch level of 425 - 510 t. Current (1982) catches totalled 883 t. (exploitation rate 104%) and significant soft-shell problems were encountered. The Horse Islands stock biomass could not be estimated because of the continual movement of vessels to "virgin" grounds; throughout the season however, catches totalled 731 t. and will probably increase further.

5. Exploratory surveys have identified potential crab grounds near Canada Bay (M.A. 38), Fogo and Twillingate (M.A. 28 and 30) and between the Horse Islands and the Grey Islands (M.A. 34 and 40). In addition, vessels from Valleyfield fished in the eastern part of Notre Dame Bay (M.A. 32) with catches of approximately 350 t. in 1982. The resource capacity available in all of these areas is unknown because fishing effort has been minimal to date.
6. The issuance of 9 new licences was predicated on the vessels fishing these new and relatively unexploited areas. Nevertheless, some overlap in terms of the existing fleet (including the 3 Valleyfield vessels) is possible in M.A. 32 and 34. This may result in over-exploitation of specific local crab populations.
7. The 13 vessels based in Green Bay and White Bay operated on a very profitable basis in 1982 with an average gross profit of \$21,825 per vessel before interest and depreciation charges. This represents a 40.0% gross return on invested capital. However, over the 1979-82

period, vessel operations have been considerably less profitable. Between 1979 and 1982 the fleet averaged an annual gross profit of \$10,215 per vessel (21.2% return on investment) before interest and depreciation charges. If a normal or desirable rate of return is on the order of 10% and depreciation averages about 6.7% then vessels have operated only marginally above a "normal" profit level.

8. The breakeven level of landings required by the existing fleet can be calculated from a variety of bases; however, the results consistently indicated that vessels require an annual average of 80 - 100 t. of crab to breakeven. Over the 1979-82 period, catches have averaged 86 t. with substantial variations from year to year. Based on 1982 cost structures, the fleet as a whole requires an annual catch of 1,144 t. to breakeven. While this would appear to suggest that significant potential exists for expanding the fleet size, this conclusion is predicated almost solely on the success of one fishing season. The resource capability of the area remains too uncertain to support any supposition that the current (1982) level of landings can be sustained from the existing areas that are being fished. In view of (1) the probable expansion in fishing effort generated by the 9 new licenced vessels in the area, (2) the gradual deployment of existing vessels into area not currently fished and (3) the deployment of Valleyfield boats in the area, it would not appear desirable to generate any additional fishing effort at this time.