

FISHERIES DIVERSIFICATION PROGRAM

Emerging Fisheries Development

Project Summary: FDP 358-2(A)

2002

Rock Crab Surveys Conducted Placentia Bay and Fortune Bay

Rock crab (*Cancer irrorates*) is quite common in Newfoundland waters, ranging in the Atlantic from Labrador to Florida, in water-depths from intertidal to 15 fathoms. It has been seen as a potential species for further commercial development.

For the most part, harvesting activity has been confined to Notre Dame and Bonavista Bays. A number of Newfoundland and Labrador fishing companies hold licences to process this crab species.

During 2001, funding was approved through the Fisheries Diversification Program (FDP)



Rock crab.



William Whyte is holding a rock crab pot.

to conduct surveys in Placentia and Fortune Bays using conical rock crab pots.

A total of 30 days' fishing activity was completed (15 days per contract) with some degree of success in a couple of areas.

Results from the project in Placentia Bay indicated there was potential for a directed fishery in the Sandy Harbour area, while in Fortune Bay catch rates were significant in shallow water areas around Brunette Island.

This would indicate that there is potential for a limited commercial fishery in these areas.

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Newfoundland
and Labrador

ROCK CRAB DATA SUMMARY

Fishing Area: Placentia Bay , William Whyte, Vessel: Sonny's Dream 34' 11", Bait: h-herring, m-mackerel, wf-winter flounder, sq-Squid, c-cunner

Date Hauled/Positions	# of pots	Depth fm (Av.)	Soak Time (hr)	Bait	Rock Crab (lbs)		By- Catch (lbs)
					<4"	>4"	
08 06 47 47 N 54 00 W	50	3.5	19	h/m	5	1	17
08 07 47 44 N 54 01 W	50	2.5	21	m/wf	64	10	1.5
08 08 47 42 N 53 58 W	50	4	20	h/m/wf	81	7	3.5
08 09 45 45 N 55 42 W	50	2 - 20	19	h/m	96	10	2
08 10 47 39 N 54 03 W	50	2.5 - 6	17	h/m/sq	33	3.5	2
08 11 47 37 N 54 04 W	50	2.5 - 6	20	m/sq	34	9.5	12
08 12 47 41 N 53 57 W	50	1 - 5	20	m/wf	34	1	6.5
08 13 47 39 N 53 57 W	50	1 - 4	19	h	65	8	11
08 14 47 33 N 54 05 W	50	1 - 4	20	h/m	180	170	2
08 15 47 39 N 54 05 W	50	1 - 7	20	h/m	134.5	13.5	13
08 16 47 39 N 54 08 W	50	1 - 7	20	m	113	18	5
08 17 47 37 N 54 09 W	50	1 - 8	22	m	234	102	1
08 18 47 51 N 54 05 W	50	1 - 5	19	m	258	57	3
08 19 47 47 N 54 11 W	50	1 - 9	19	m/c	230	70	28
08 20 47 41 N 54 18 W	50	1 - 7	21	m/c	279	341	1
Totals	750				1,840	821.5	108.5

Fishing Area: Fortune Bay Dan Baker, Vessel: Joanne & Jamie II, 34' 11" Bait: CF- Cod Frames, RF-Redfish Frames, TF-Turbot Frames

Date Hauled/Positions	# of pots	Depth fm (Av.)	Soak Time (hr)	Bait	Rock Crab (lbs)		By- Catch (lbs)
					<4"	>4"	
08 04 47 22 N 55 46 W	49	9	18	CF	34	11	2
08 05 47 15 N 55 55 W	49	7	20	CF	233	483	6
08 06 47 17 N 55 54 W	49	10	21	CF	120	105	12
08 07 47 16 N 55 51 W	48	8	22	CF	160	510	6
08 08 47 15 N 55 51 W	48	10	23	CF	160	385	10
08 09 47 17 N 55 52 W	48	9	21	CF	175	475	1
08 10 47 06 N 55 41 W	48	6	20	RF	23	3	31
08 11 47 07 N 55 37 W	48	5	47	CF	11	2	20
08 13 47 08 N 55 34 W	48	10	22	CF	12	2	31
08 14 47 09 N 55 29 W	48	8	23	CF	44	6	5
08 15 47 10 N 55 28 W	48	7	22	CF	8	2	7
08 16 47 24 N 55 36 W	48	7	21	TF	61	55	26
08 17 47 26 N 55 39 W	48	7	22	TF	14	10	35
08 18 47 27 N 57 27 W	48	7	22	TF	0	0	76
08 19 47 27 N 55 32 W	48	6	22	TF	0	0	60
Totals	723				1,055	2,049	328

Species Description

Rock crabs have a shield-like carapace (dorsal part of cephalothorax). They have five pairs of walking legs and a pair of well-developed claws on the front pair of legs, nine shallow, smooth-edged marginal teeth along each side of the front edge of the carapace. Claw and carapace surfaces are relatively smooth. Male rock crabs grow to approximately 0.25 kg. in weight and 140 mm. carapace width, with carapace length about 2/3 of the width. Females grow to approximately 90 mm. carapace width. The upper surface of the carapace is generally yellow-brown with minute purple or crimson spots, while the lower surface is whitish to creamy yellow. (*Fisheries and Oceans Canada Coastal Zone Species Profile Series No. 2.*)

Background

Since 1994, some attempts have been made to develop the rock crab fishery for the benefit of small boat fishers around the province. In other Atlantic provinces and Quebec, the fishery has been more firmly established.

In Newfoundland, harvesting activity, for the most part, has occurred in northern Bonavista and/or Notre Dame Bays. In 1999 and 2000, there were only 13 rock crab licence holders, all from the Bonavista North and Notre Dame Bay areas. The total number of rock crab licences for the entire province in 2000 was 29. There were no rock crab licences in the southern part of Bonavista Bay and all of Trinity, Placentia and Fortune Bays, including the Connaigre Peninsula.

Landings of rock crab amounted to 150,000 lbs in 1995; 73,000 lbs in 1997; 205,000 lbs in 1998; 151,965 lbs in 1999; and 411,000 lbs in 2000, with no activity in 1996. Some harvesters were working in conjunction with a local fish processor to develop this resource.

There was some indication in 2001 that local companies were interested in expanding this fishery, and there had already been expres-



Rock crab has potential.

sions of interest from harvesters in eastern areas, as well as from fishers on the Connaigre Peninsula, to pursue rock crab.

Rock crab harvesting is an inshore fishery involving fishers in the 20' to 34'11" vessel-class. Diversification for this fleet could mean increased revenue, while keeping gear-up costs to a minimal. However, the extent of the rock crab resource needs to be known.

This survey was to determine the abundance and distribution of rock crab in specific areas of Placentia and Fortune Bays where the fishery has not been established.

Methodology

The standard rock crab pot found on the Northeast Coast was used to complete the surveys. The pot is conical in shape and can be stacked. Fifty pots were attached to a 3/8" diameter poly main line at intervals of 25 fm. Pots were set in two fleets to give extended-coverage at specific locations. At each end of both fleets of the main line, a buoy line was attached, the length of which was determined by water depth in areas fished. Attached to each buoy line was a 30" diameter buoy. This arrangement is referred to as a string or fleet of gear. Each project vessel fished two fleets/strings of gear of 25 pots each. Soak time was 18 - 20 hours per set. The catch was measured, weighed and returned to the ocean. Data sheet entries were made by an assigned observer. Two areas were identified, namely the bottom of Placentia Bay from

Come By Chance to Fair Haven, and the Brunette Island, Sagona Island, Boxey, Grand Beach, and Garnish areas of Fortune Bay. A fishing day was defined as a day during which two fleets of pots (25 pots each fleet) were hauled, moved to a new location, baited and reset.

In each area, a total of 750 pots were hauled. Project vessels were selected from the <35' boat category by a public tender process. The tender required that the vessel be fully rigged and licenced for rock crab. The cost of bait, fuel and crew wages were the responsibility of the owner/operator.

The vessel was required to have all the necessary navigational/hydraulic and mechanical equipment required to comply with current CSI (Canadian Steamship Inspection) regulations. Coastline coverage was limited to 25 miles.

Results

A total of 15 survey days was completed in Placentia Bay between August 6 and 20, 2001 (see table) resulting in a total of 2,662 lbs. (822 lbs commercial and 1,840 lbs. undersize) of rock crab being harvested.

The depth of water fished ranged from six to ten fathoms and the soak time from 18 to 20 hours. The best catch occurred on August 20 when 341 lbs. were harvested. The total bycatch during this project was 108 lbs., of which 80 percent was lobster.

A total of 15 survey days was completed in Fortune Bay between August 4 and 19, 2001 (see table) resulting in a total of 3,104 lbs. (2,049 lbs. commercial and 1,055 lbs. under-size) of rock crab being harvested. The depth of water fished ranged from 6 to 10 fathoms and the soak time from 18 to 47 hours. The best catch occurred on August 7 when 510 lbs. were harvested. The total bycatch during this project was 328 lbs., of which 90 percent was lobster.

Conclusions

While the overall commercial catch rates from both projects were low (approximately 1 lb per pot in Placentia Bay and 3 lbs per pot in Fortune Bay), the Sandy Harbour area of Placentia Bay showed 7 lbs per pot and the Brunette Island area showed 8 lbs per pot. These catch rates were considered commercial. It is suspected that similar pockets of rock crab exist in other areas of both bays.

Based on the results, there is a potential for the development of a commercial rock crab fishery in limited areas of Placentia and Fortune Bays.

In Placentia Bay, it appears that this species is more abundant in areas near river mouths where muddy bottom and goose grass are prominent, while in Fortune Bay, the species was more abundant in localized areas around Brunette Island.

Further exploratory work is not recommended at this time.



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The \$10 million Fisheries Diversification Program is part of the \$81.5 million Canada-Newfoundland Agreement Respecting the Economic Development Component of the Canadian Fisheries Adjustment and Restructuring Initiative.