FISHERIES DIVERSIFICATION PROGRAM

Emerging Fisheries Development

Project Summary: FDP 358-2(B) and 424-1 2002

Rock Crab Survey
Western Region

Introduction

Rock crab (Cancer irroratus) is a species of shellfish which has a male population that grows to approximately 0.25 kg in weight, a maximum carapace width of 140 mm, and carapace length about 2/3 of the width. Females normally grow to approximately 90 mm carapace width. They are found from Labrador to Florida at depths from the low water mark to less than 750 meters. In the North, they tend to be found in depths of 5 to 20 meters, while in the South, they prefer to reside in deeper water. They are most abundant in shallow areas (particularly bays) in the Gulf of St. Lawrence and the coastlines of Newfoundland and Nova Scotia.

Beothic Fish Processors in Valleyfield is the major processor of rock crab in the province. In the year 2000, they processed approxi-
mately 400,000 lbs and paid fishers $0.40/lb for their product. The majority of this crab was harvested on the Northeast Coast and the Avalon Peninsula, with a small quantity coming from the St. Anthony area. In 2001, the company processed approximately 855,000 lbs, with 420,000 lbs being shipped from Nova Scotia. Beothic Fish Processors indicated that their markets could easily accommodate more of this product and would like to see an expansion of this fishery.

The markets for rock crab are continually improving. More Newfoundland and Labrador companies are showing interest in this species due to these improved markets and also because of shrinking resources of snow crab. Identification of additional rock crab resources will be very beneficial to these companies and to small-boat enterprises (<45') that have seen a major decline in annual earnings due to a downturn in other fisheries. Entrance into a rock crab fishery would be very convenient for small-boat fishers because the only major financial commitments they would require would be for the purchase of pots. Vessel operating expenses would be very low due to this fishery occurring within a few miles of the shoreline.

Methodology

Through a public tender process, proponents were hired to complete surveys in the Port Aux Basques area of the Southwest Coast, Crabb’s River area of Bay St. George, Sop’s Arm area of White Bay and six areas on the Western side of the Northern Peninsula. The Northern Peninsula locations included Cow Head, River of Ponds, Port Saunders, Barr’d Harbour, Pond Cove and Sandy Cove.

The Department of Fisheries and Aquaculture supplied rock crab pots for all surveys with the exception of the Port aux Basques survey where the proponent supplied the pots used. Each location utilized 50 pots with the proponents suppling the vessel, crew, and all other equipment necessary to carry out the surveys. The fishing activity was directed at water depths not greater than 60 fathoms, with all catches of rock crab being returned to the water unharmed after all pertinent data was collected.

Observers were hired through Seawatch Inc. and were responsible for duties such as: recording all data related to the project, ensuring that the fishing plan was executed as outlined, providing progress reports on a semi-weekly basis and conducting biological sampling as requested.

Results

Port Aux Basques

Mr. Charles Riles of Port Aux Basques conducted 20 survey days between August and December 2001. A total of 2,124 lbs of male rock crab was harvested from 939 pots. Only 37.4 percent (794 lbs) of the male rock crab harvested was of commercial size (>102mm/4”); this equates to 0.8 lbs per pot. The average soak time was 33 hrs, with the average fishing depth being 5.8 fathoms. A variety of by-catch species were encountered with the major catches being whelk and sea urchin.

Rock crab catches in this survey appeared to be best where large volumes of fresh water were entering the ocean. Better catch rates were also encountered in the fall than in the
summer. Longer soak times gave better results with fewer small males and females being retained in the pots. Mr. Riles had approximately 20 pots extensively damaged as a result of a storm which was encountered during the November survey period.

**Crab's River**
Mr. Brent Hynes of St. David's conducted 17 survey days between August and November 2002. A total of 1,147 lbs of male rock crab was harvested from the hauling of 850 pots, for an average catch of 1.3 lbs per pot. The average soak time was 27 hours, with the average fishing depth being 6.3 fathoms. The major by-catch consisted of cunners, rock crab and non-legal size lobsters. The final three days of survey work allocated for this area were not completed due to adverse weather conditions.

**Cow Head**
Mr. Darrell House of Daniel's Harbour conducted 10 days of survey work in July and August 2002. A total of 363 lbs of rock crab was harvested from 500 pots for an average of 0.7 lbs per pot. The average soak time was 33 hours, and the average depth was 6.2 fathoms. The only by-catch consisted of a very small amount of non-legal size lobster. The final 10 days of this survey were not completed.

**Jackson's Arm**
Mr. Ephraim Pittman of Sop's Arm completed 20 days of survey activity between July and October 2002. A total of 2,841 lbs of rock crab was harvested from 998 pots for an average of 2.8 lbs per pot. Only 15 percent (429 lbs) of the rock crab caught was of legal size. The average soak time was 22.7 hours, and the average depth was 3.2 fathoms. The by-catch consisted mostly of whelk and toad crab.

**River of Ponds**
Mr. Barry Patey of River of Ponds completed the five-day survey in August 2002. A total of 581 lbs of male rock crab was harvested from 235 pots for an average of 2.5 lbs per pot. Eighteen percent (107.5 lbs) of the rock crab caught was of legal size. The average soak time was 26.5 hours and the average depth was 6.4 fathoms. The only by-catch was cunners.

**Port Saunders**
Mr. Eugene Caines of Port Saunders completed the five-day survey in July 2002 with 632 lbs of rock crab harvested from 230 pots for an average catch of 2.7 lbs per pots. The average soak time was 21 hours and the average depth was 6.2 fathoms. The by-catch consisted of a small amount of undersized lobsters.

**Barr'd Harbour**
Mr. Melvin Baines of Shoal Cove West completed the five-day survey in August 2002. A total of 315 lbs of male rock crab was harvested from 235 pots for an average catch rate of 1.3 lbs per pot. Thirty-two percent (103 lbs) of the male rock crab caught in this area was of legal size. The average soak time was 61 hours, and the average depth was 13.6 fathoms. The only by-catch encountered in this area was found in one string of pots which was set at 39 fathoms. This string had catches of snow and toad crab.

**Pond Cove**
Mr. Melvin Baines of Shoal Cove West conducted the five-day survey in August and September 2002. A total of 686 lbs of male rock crab was harvested from 235 pots for an average of 2.9 lbs per pot. Forty-three percent (296 lbs) of the rock crab caught was of legal size. The average soak time was 21.8 hours and the average depth was 6.3 fathoms. No by-catch was encountered in this area.
Mr. Melvin Baines of Shoal Cove West completed the five-day survey in September 2002. A total of 533 lbs of rock crab was harvested from 235 pots for an average catch of 2.3 lbs per pot. Forty-six percent (250 lbs) of the catch was of legal size. The average soak time was 31.3 hours, with the average depth being 9.1 fathoms. The only by-catch species encountered was toad crab.

Conclusion

There is limited commercial potential for rock crab in any areas which were surveyed. Isolated locations showed encouraging catch rates, in excess of seven or eight lbs per pot, but these rates were not present throughout the survey area. A large variety of baits were used, but there appeared to be no significant difference in catch rates due to any particular type. The minimal success of any type of bait, coupled with the fact that the surveys were carried out over various time periods, would suggest that there are very few rock crab present in the areas fished. No further exploratory work is recommended unless markets improve to the point where harvesters are paid more to pursue this fishery. If further work is done, the targeted areas should be very close to shore in less than 15 fathoms of water, should have sandy or pebbly bottom substrate and should have large amounts of fresh water runoff.

Sandy Cove

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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.