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Charter Vessel MV *Ocean Bounty*

## REPORT

13-22 May 1991

### Personnel

J Kinnear	HSO (in charge)
C Shand	HSO (part-time)
P Barkel	SO (part-time)
D Bova	SO

### Objectives

1. To study the efficiency and effective fishing area of crab creels using TV and creel spacing methods.
2. To compare the size composition of creel caught crabs with the wild population.
3. To make observations on the use of escape gaps in creels and on the survival of commercially caught discards.

### Narrative

Crew and scientists joined the vessel at Kyle of Lochalsh. Unfavourable weather restricted operations to the commercial crab grounds around the Kyle area. Areas investigated were Raasay, Crowlin Islands, Applecross, Loch Kishorn and Scalpay. The trip finished at Kyle of Lochalsh on 22 May.

### Results

The TV sledge was used to survey the areas shown on the chart, all of which were known commercial crab grounds. None of the areas showed any signs of crab activity or crabs in commercial numbers. The depths surveyed were from 5 to 50 m; beyond this depth the bottom was predominantly mud, unsuitable for *C. pagurus*. The only animal seen in any numbers was the squat lobster *G. squamifera*. It was very common around the Crowlin Island (4 per m<sup>2</sup>) where the bottom topography was a mixture of stone, sand and mud. In all the other areas it was less common, the bottom being composed predominantly of sand, mud and gravel interspersed with a few larger stones. No other invertebrates were seen in any quantity. The areas surveyed around Applecross Bay, Scalpay the south end of Raasay were noticeably barren.

Creels were baited with fresh fish and shot in and around the areas which were surveyed. Catches were minimal, best catch rates being 8 crabs per 100 creel hauls from Loch Kishorn. The creel results confirmed the observations with the TV sledge.

Unfortunately, the extremely poor catch rates meant that the objectives of the cruise could not be fulfilled. A move to the north was not feasible with the strong north to north west winds and lack of time.

### **ROV Trials**

A fleet of ten creels were shot in 20 m of water off the north shore of Loch Kishorn. *Ocean Bounty* was anchored a short distance to seaward and the ROV was used to observe the creels on the sea bed. It was found to be a simple matter to steer the ROV along the fleet of creels, and make continuous observations. The surrounding area could also be surveyed quickly and the reaction of crab and other animals to the creels noted. The scarcity of crab meant that such observations were limited, however a complete sequence of a female *C. pagurus* (120 mm carapace width) was filmed, from the initial approach to the creels to final capture.

Unfortunately the ROV developed a fault and could not be used during the last four days.

### **Conclusion**

Although the initial objectives could not be met, it was obvious that the combination of the TV sledge, ROV and appropriate fishing gear enabled accurate observations to be made on the crab resources in the surveyed areas. The reason for the lack of crab in areas which have been regarded as good commercial fishing grounds in previous years is not known. A watch will be kept on our catch per effort data from fishermen in the area to see if catch rates improve, or remain depressed.

J Kinnear  
1 October 1991

Bottom survey May 1991

