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INFORMATION ON THE PANDALUS STOCKS IN THE DISKO BAY FROM INTERVIEWS
WITH FISHERMEN IN 1975 AND 1976

by

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ABSTRACT

Interviews with shrimp fishermen in the Disko Bay seem to indicate that the shrimp fishery there is near the MSY level.

I. INTRODUCTION

Since attempts to collect more exact catch-effort data by questionnaires distributed among the fishermen engaged in the small boat shrimp fishery in the Disko Bay have failed, several fishermen were interviewed at meetings in shrimp plants and on board some fishing vessels. Several questions were asked concerning the various local shrimp stocks, the possible influence of the fishery on the stocks, the size distribution of the catches, and the influence of the environmental factors on the availability of shrimps.

Meetings were held in 1975 and 1976 in the plants in Jakobshavn, with 20 and 7 fishermen respectively, and in Christianshåb, where 5 and 10 fishermen participated. Furthermore, in 1976 8 shrimp fishing cutters in Jakobshavn and Christianshåb were visited and the crew interviewed. The statements of the fishermen both on the meetings in Jakobshavn and in Christianshåb, and on board the vessels were very uniform. Information from about 15-20 fishermen is summarized in the following points.

II. THE INFLUENCE OF THE FISHERY ON THE CATCH PER EFFORT

When the shrimp fishery was started at Christianshåb in 1950 and at Jakobshavn in 1961 only the nearest shrimp grounds were known, but in the following years still more and more distant grounds were discovered and exploited. This development has continued until the latest years. All statements from the

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fishermen in both towns indicate that catches on the first known grounds close to the cities have declined so much in recent years that the fishing vessels have left them and moved to more distant grounds in order to get better catches. However, also on the new grounds catch rate seems to decline after some time, and it is the general opinion among the fishermen, that concentration of cutters on a ground will result in smaller catches in the course of some days. However, when the ground has not been fished for some time the catch rate increase again. In spite of the introduction since 1973 of a new and more effective type of trawl with bobbins, now used by nearly all vessels, it seems that catch per day was higher in the 1950ies and 1960ies than at the present time, and the fishermen feel that the Disko Bay is now fully exploited.

This information allows only a rough estimate of the exploitation rate of the Disko Bay, and as data on a total effort and on catch-per-effort are very scarce a MSY level cannot at present be estimated through a General Production model. However, the trends in the fishery as described by fishermen seem to indicate that the MSY level is not far from the total annual catches during recent years (about 8000 tons, see Res. Doc. 76/VI/16. by Carlsson and Smidt).

III. SIZE DISTRIBUTION OF THE SHRIMP CATCHES

Research in previous years (since 1948) and information from a fisherman indicate that there are relatively more small sized shrimps on the relatively shallow grounds near land and in the fjords. However, information from several fishermen indicate a tendency of a decrease in mean size of shrimps in catches when the grounds have been fished for some time. Normally the biggest shrimps are found on new grounds not previously exploited.

IV. THE INFLUENCE OF ENVIRONMENTAL FACTORS ON THE AVAILABILITY OF SHRIMPS

Concordant with the results of biological research work the fishermen are of the opinion, that the shrimps occur in concentrations under influence of the currents. It was also observed that two similar cutters fishing with similar gear on the same ground and at the same time could get catches of very different size, leading the fishermen to believe that the shrimps occur in shoals. It was further noticed that after stormy weather and rough sea the shrimp catches become higher with more big shrimps in the catch.

It is commonly known that light influence the vertical distribution of the shrimps. The fishermen reported that they get smaller catches by night than by day in summer and especially in autumn as the shrimps move up in the water by night, but in winter there is not much difference between day and night hauls in the Disko Bay. Some fishermen have observed shrimps swimming in the surface when it was dark.

Thus, the distribution and thereby the availability of the shrimps to the fishery seem to be influenced by several environmental factors.