

Northwest Atlantic



Fisheries Organization

Serial No. N2454

NAFO SCR Doc. 94/75

SCIENTIFIC COUNCIL MEETING – SEPTEMBER 1994

Scientific Design of the Investigation on Board Faroese
Commercial Shrimp Vessels in NAFO Divisions 3L and 3M

by

Ámi Nicolajsen

Fisheries Laboratory, Fiskirannsóknarstovan
Nóatún, Tórshavn, Faroe Islands

Introduction

Two Faroese shrimp vessels were given permission to conduct exploratory fishing in 3L in the period 1 Jan - 30 June 1994. Two Faroese observers were engaged in the investigation. Parts of the investigation was carried out in Div 3M.

The exploratory fishing

The aim of the investigation is to follow the fluctuation of the stock biomass index, the development in the age structure and register changes in other biological parameters such as sex distribution and other features related to maturity as well as mean weight at length. Close attention is paid to the bycatches in relation to the use of sorting grade.

Stock biomass index. The skippers choose the trawling stations. Towing duration is about 3-4 hours. The index was calculated as catch per area swept based on registration of shrimp catch (kg), duration of trawl on the bottom, average towing speed and estimate of effective trawl width. Other data are date, time, position, depth, etc.

Age structure. Each day one or more samples were taken from the unsorted catches, about 200 specimens in each sample and grouped according to whether they carry eggs or not. The oblique carapace length is measured to the nearest 0.5 mm. Samples were grouped by area (NAFO Div 3L and 3M) and by month. Data are standardized by weighing each haul by catch per area swept before they are pooled.

Biological parameters. For each area and month three samples, about 200 specimens in each, were taken for biological analysis. The following parameters were recorded: oblique carapace length to the nearest 0.5 mm, whole weight to the 1/100 of a gr, sex, presence or absence of sternal spines, green headroe, eggs with or without eyespots. These data were grouped according to sex and maturity characteristics and used to help in the age structuring of the population.

Bycatches. For each haul it is noted whether a sorting grade is used or not and the spacing of the sorting grade is noted (mm). Weight (kg) of all bycatches were recorded and for each area 10 samples of each species (with 200 specimens per sample when available) are measured to the nearest cm below. For each species the mean bycatches per haul were calculated and length distribution was presented.