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3CR78

FRV "Clupea"

CRUISE 3/78

REPORT

24 APRIL - 5 MAY 1978

### Objectives

- 1) To undertake a survey of the Pandalus borealis stocks on the Fladen ground.
- 2) To assess, using underwater television and still cameras the density and behaviour of Pandalus.
- 3) To undertake a Pandalid larval survey.
- 4) To undertake some exploratory dredge hauls for scallops on Bennachie Bank.
- 5) To undertake trials of the Deck Recording Depth Flowmeter.

### Narrative

"Clupea" left Aberdeen in the early afternoon of 24 April having loaded scientific equipment.

Four half hour hauls were made on Bennachie Bank using two 4 ft scallop dredges on a bar. After the dredging operations "Clupea" proceeded to the Fladen ground and commenced shrimp trawling on the 25 April. One two hour and six one hour trawl hauls were made using a Danish 1500 mesh shrimp trawl. Deteriorating weather conditions on the 27 April caused work to stop and "Clupea" steamed to Aberdeen docking at 2130.

After a weekend in Aberdeen, "Clupea" sailed for the Fladen ground at 1000 on 1 May. A further seven one hour hauls were made using the shrimp trawl. "Clupea" returned to Aberdeen on 4 May docking at 2130.

### Results

1) Trawling: The trawl survey extended from the Witch Ground in the south to the Fladen ground proper in the north. Shrimp catches were good in the more southerly areas but poor in the north. A total of 460 kg of shrimp were caught, with catches ranging from 0.5 kg to 150 kg per one hour haul. Very little of the catch, either fish or shrimp, passed through into the small mesh cover. A haul which yielded 23 kg of shrimp in a daylight tow yielded only 1.5 kg when repeated at night.

Nephrops were restricted to the southern part of the area survey and catches ranged from 1 kg to 16 kg per haul. The composition of the Nephrops catch is given in Table 1.

Cod was the dominant commercial fish caught, with lesser quantities of haddock, whiting and monkfish. Large quantities of small fish were caught, with Norway pout constituting up to 85% of the discarded catch. Haddock, whiting and long rough dab made up most of the remaining discards, but small hake were taken in one haul.

An unusual feature of the haul made at night was the presence of several Three-spined Stickleback.

A sample of 22 cod stomachs were examined, of which 36% contained Nephrops and 19% Pandalus.

2) Photographic work: Low light television and Nikon stereo cameras were used on a frame. Although weather conditions were excellent some difficulty was experienced because of a very slight swell which lifted the equipment off the bottom.

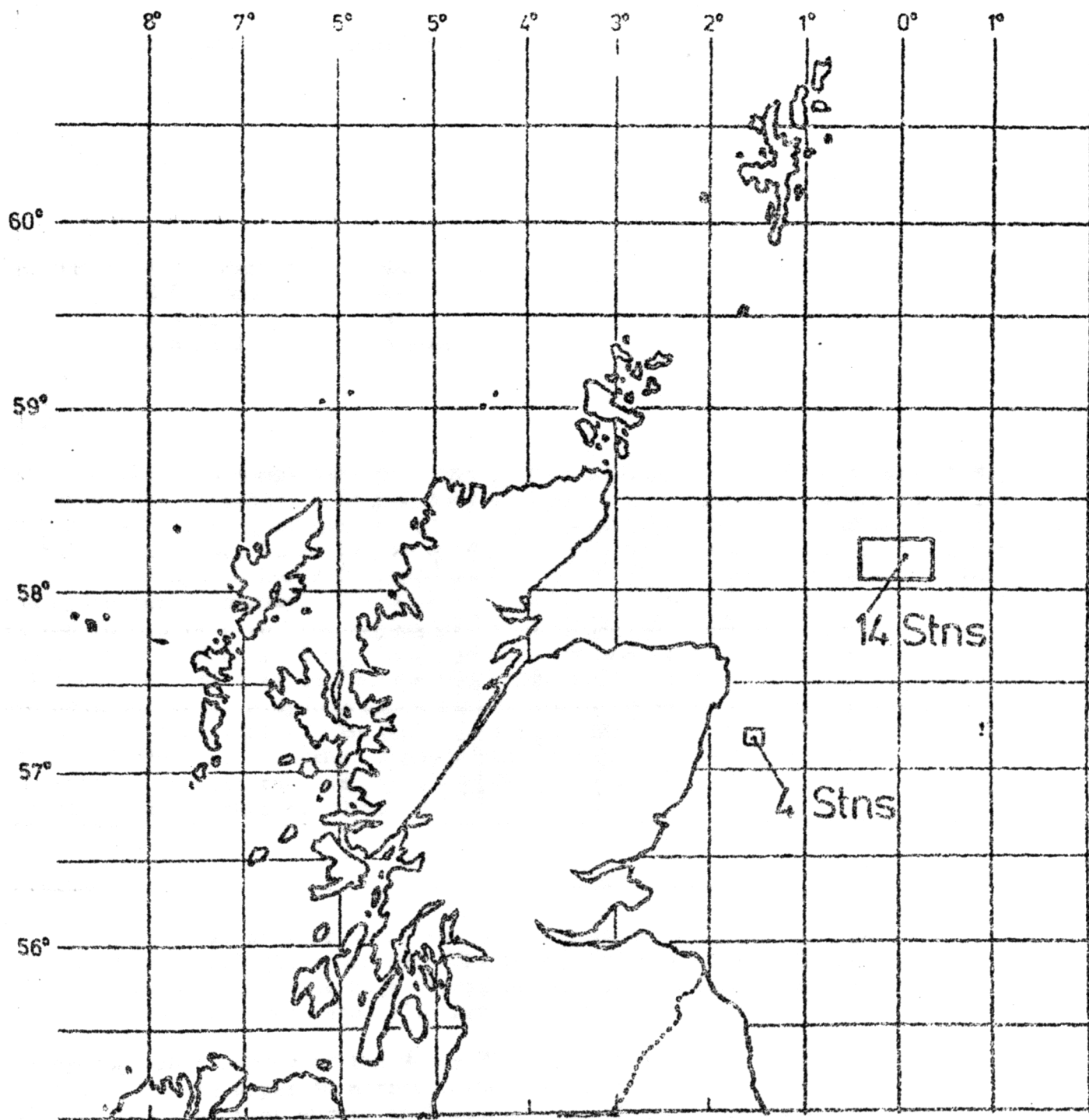
3) Other Work: A plankton haul using a metre ring net was made after each trawl haul. Only one Pecten maximus was caught in the dredge hauls on Bennachie Bank. The trials with the Deck Recording Depth Flowmeter were carried out while on passage to the shrimp grounds.

Table 1 Size range and sex ratio of Nephrops caught.

Carapace length (mm)	15.9	20.4	25.9	30.4	35.9	40.4	45.9	50.4	Total	Mean
Male	4	33	244	287	151	50	20	1	790	31.9
Female	7	40	283	110	28	2			470	28.3
Female berried			6	7					13	

F G Howard  
22 May 1978

Seen in draft: G Geddes



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