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Cruise 7/80  
FRV *Golden Breeze*

REPORT

7GR80

3 - 25 June, 1980

Objectives

- 1) To tag Nephrops in the Clyde and Sound of Jura in order to study growth rates.
- 2) To measure abundance of Nephrops using mark-recapture methods.
- 3) To determine survival of tagged Nephrops in cages.
- 4) To recover cages of Nephrops left over from the previous cruise.

Narrative

The scientific staff and crew joined the vessel at Troon on 3 June. Work commenced the following day off the Little Cumbrae (55°42'N, 01°57'W). Creels were tried first but catches were very small. Most live Nephrops for tagging were therefore caught by trawl. On 15 June 'Goldsecker' passed through the Crinan Canal and worked to the NW of Gigha Island in the Sound of Jura (55°45'N, 05°45'W). On 25 June cages of Nephrops in the Lynn of Morven (left from previous cruise) were recovered on passage to Corpach where the cruise ended. Two days of the cruise were lost due to bad weather. Objectives 2) and 3) were postponed owing to shortage of time.

Results

1 Tagging

1897 Nephrops were marked with streamer tags and released during the cruise. All but 14 of these were caught by trawl. Details of the releases are given in Table I

Table I

Area	Tag Numbers	Nos released		Berried Female	Total
		Male	Female		
S. of Little Cumbrae	N3001 - N4000 (Blue)	910	119	1	1030 <sup>+</sup>
	N3001 - N3032 (Green)				
NW of Gigha	N3033 - N3900 (Green)	512	339	16	867
Totals		1422	458	17	1897

+ Includes 14 creel-caught Nephrops

## 2. Trawling

The length and sex composition of the catches from each area are shown in Table II. For grounds off Gigha females accounted for 57% of the total catch and 2.5% were berried. Off Little Cumbrae only 16% of the catch were females, none of which were berried.

Table II Numbers and composition of Nephrops in trawl catches.

### (A) S. of Little Cumbrae (8½ hours fishing)

Carapace length range (mm)	20/24	25/29	30/34	35/39	40/44	45/49	50/54	55/59	60/64	65/69	Total
Males	7	104	408	70	610	255	75	32	12	6	2079
Females	9	82	153	24	36	53	30	4	-	-	391

### (B) NW : Gigha (3 hours fishing)

Carapace length range (mm)	10/14	15/19	20/24	25/29	30/34	35/39	40/44	45/49	50/54	55/59	60/64
Males	-	38	238	579	448	236	116	61	47	12	1
Females	1	48	438	1047	684	127	3	-	-	-	-

Totals Males 1776  
Females 2348

## 3. Nephrops growth in cages

Seven cages of Nephrops in pre-moult condition had been left in the sea from the previous cruise. Three cages in the Lynn of Morven were lifted by 'Goldseeker' on 25 June ie 36-37 days after they had been set up. To achieve a similar time period four cages laid off Little Cumbrae were recovered by the Millport vessel 'Leander' on 30 June ie after 33-34 days.

The results are summarised in Table III. This shows that half the Nephrops survived in the cages and that 16 (25%) of these moulted, of which 15 were female. The increase in carapace length of females at moulting varied from 0.75 to 4.8 mm. The single moulting male increased 5.1 mm in carapace length. It was clear, from examination of the pleopods of Nephrops at the end of the experiment, that several more survivors were very close to moulting.

Table III Results of cage experiments on moulting of Nephrops

Area	Lynn of Morven	S. of Little Cumbrae	Both areas combined
Number of cages	3	4	7
Date set up	19 - 20 May	27-28 May	-
Duration (days)	36 - 37	33-34	-
Total number of <u>Nephrops</u>	52	70	122
survival %	63.5	42.9	51.6
Numbers moulting			
males	0	1	1
females	15	0	15
both sexes	15	1	16

C J Chapman  
2/9/80

Seen in draft W SMith