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DEPARTMENT OF AGRICULTURE [NI]
AQUATIC SCIENCES RESEARCH DIVISION

Fisheries Research Laboratory

CRUISE REPORT - LF/18/90

NW IRISH SEA NEPHROPS STOCKS 9-14 December 1990

PERSONNEL

R. Briggs, PSO [SIC]
M. Armstrong, SSO
W. McCurdy, SSO
A. Hayes, ASO
C. Burnes, ASO

OBJECTIVES

To trawl stations within the NW Irish Sea identified during earlier cruises in 1990 and sample fish and shellfish present in these areas.

NARRATIVE

MRV Lough Foyle left Belfast at 22.40 on Sunday 9 December and proceeded south to station 1 off the south Down coast (Figure 1). During day 1 (weather NW3-4) stations 1-6 were trawled and the night was spent dodging ready for the next days sampling, when stations 7-12 were completed. Due to an unfavourable weather report a decision was made to spend the second night at anchor in Dundrum Bay. Stations 13-18 were completed during day 3 (Wednesday) returning for anchorage in Dundrum Bay overnight. Very calm conditions on Thursday 13 December enabled more northern stations (19-23) to be trawled and the vessel then steamed home through the night, docking in Belfast at 07.00 on Friday 14 December.

METHODS

Trawls (23) of 30 to 60 minutes duration were performed at each station as shown in figure 1 using a Nephrops net of 43.2(\pm 1.25)mm mesh size with a cod-end of 48.7(\pm 1.57)mm mesh size. Catch bulk was quantified by counting baskets filled from the catch. Sample baskets of catch were weighed and a sub-sample was sorted to provide a detailed assessment of species composition. The Nephrops in each sub-sample were divided into male and female components and the ovary

maturity stage of the females noted. Carapace length frequency distributions of both male and female Nephrops were measured and the number of recently moulted (soft shelled) animals counted. The contribution of commercial fish species in catches was quantified and the length composition of whiting, cod and hake from selected sub-samples measured. Details of station position, water depth, trawling speed and length of tow were obtained from instrumentation on the bridge.

RESULTS

During the cruise 23 stations were sampled (Figure 1) and table 1 shows the duration, length, water depth and Nephrops catch rate at each station. Preliminary analysis of the data showed spatial variability in the Nephrops populations as seen from earlier cruises. Mean sizes and sex ratio at each station are given in table 2. Stations were selected from those sampled for comparative work on seasonal variability in Nephrops and these data are undergoing further analysis. In addition to Nephrops over 20 fish and shellfish taxa were identified and quantified. These data will provide useful information on suitable study areas for future investigations of young fish distribution.

R.P. Briggs

14 December 1990

Table 1

DETAILS OF STATIONS SAMPLED

TOW	DURATION minutes	LENGTH miles	DEPTH metres	NEPHROPS CATCH kg/hr
1	30	1.6	45	105.8
2	30	2.2	44	17.9
3	45	2.6	52	73.7
4	35	1.82	44	202.6
5	35	1.86	45	181.2
6	38	2.01	36	51.6
7	27	1.30	27	23.2
8	36	1.95	33	5.3
9	32	1.33	37	14.9
10	37	1.70	93	7.6
11	30	1.60	83	5.7
12	31	1.60	50	72.1
13	47	1.80	63	146.3
14	32	1.40	63	12.5
15	30	1.22	57	3.6
16	34	1.56	99	35.3
17	30	1.35	89	57.8
18	38	2.10	105	0.5
19	39	1.65	55	103.0
20	43	2.21	47	62.9
21	47	1.80	70	112.4
22	30	1.58	62	256.0
23	60	2.66	72	90.4

TABLE 2

MEAN CARAPACE LENGTH AND SEX RATIO OF NEPHROPS

TOW	MALES mm CL	FEMALES mm CL	PERCENT FEMALE
1	24.2	20.4	40.6
2	22.7	21.5	46.7
3	25.2	19.8	31.5
4	23.9	19.8	30.7
5	25.1	20.4	46.9
6	23.0	19.5	35.1
7	24.2	19.2	25.7
8	29.2	20.5	17.0
9	23.0	20.0	34.9
10	25.0	21.4	24.1
11	24.6	21.7	33.7
12	26.8	21.9	22.2
13	24.4	21.2	40.0
14	23.9	20.9	35.6
15	28.8	23.3	21.6
16	24.0	19.7	29.6
17	24.2	19.2	25.7
18	24.4	17.3	32.3
19	25.2	21.4	33.8
20	22.7	20.3	46.0
21	20.7	20.2	49.0
22	20.9	19.0	53.2
23	20.6	18.6	51.6

CRUISE TRACK AND STATIONS SAMPLED

