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DEPARTMENT OF AGRICULTURE [NI]
FISHERIES RESEARCH LABORATORY

CRUISE REPORT - LF/22/89

NW IRISH SEA SCALLOP STOCKS 14-17 November 1989

PERSONNEL

R.P. Briggs, PSO [SIC]
J.A.D. Peel, TASO
K. Gibson, Tlab. Att.

OBJECTIVES

1. To dredge scallop grounds sampled in previous cruises around County Down coast from Carnlough to Ardglass and measure the following population parameters:
 - a. catch per unit effort.
 - b. age composition
 - c. weight, height and length of individual scallops
 - d. allocate gonad maturity indices to scallops
2. Collect samples of scallop abductor muscle tissue for metal analysis.
3. Identify and quantify macrofauna associated with Pecten maximus.

NARRATIVE

RV Lough Foyle left Belfast at 09:15 on Tuesday 14 November; weather flat calm. A delayed start was due to thick fog which meant the vessel had to queue for use of the Belfast shipping lane. The first haul was made near to the sludge dumping area (Figure 1) of Belfast Lough and yielded 2 scallops. Tows 2-3 were made north of the Lough. Half way through tow 4 the gear became fast and the towing warp was broken resulting in loss of all the gear. The vessel returned to Belfast to fit new dredges overnight. Day 2 commenced at 06:30 with RV Lough Foyle steaming to the northern part of Belfast Lough where fishing resumed at 08:30; weather SE 4-5. Continued problems with gear rotation resulting in no catch resulted in a decision to weight the dredges with chain. This modification improved catch rates. On completion of station 12 (Figure 1) the vessel returned to Belfast Lough to spend the night at anchor. The third day commenced at 06:30 sailing to the southern extremity of Belfast Lough; weather SE 5-6 deteriorating. Stations off Donaghadee were completed and a southward course pursued. Progress was slow due to problems with the gear and several tows had to be repeated. Work

ceased after tow 18 due to poor weather conditions (SE 7-8) returning to Belfast Lough to anchor for the night. Damage to the dredge beam coupled with a further deterioration in weather conditions (gales from the east) forced a decision to terminate the cruise and RV Lough Foyle returned to Belfast, docking at 10:05 on Friday 17 November.

METHODS

The gear used during the cruise was a beam with four 2-foot scallop dredges of the design currently used in the commercial fishery. One of the dredges was fitted with a small meshed liner to aid retention of juvenile scallops and small associated species. Catches from tows of 1 hour duration were sorted and the associated fauna identified and counted. The length and weight of commercial fish species was recorded. Scallops were aged, weighed and measured [shell length and height]. Selected age classes [normally 6-year-olds] had their abductor muscle removed which was frozen for future metal analysis. Gonads of scallops from all stations were examined and allocated a maturity index based upon those described by Mason (1958).

RESULTS

Figure 1 shows the approximate position of each station and details are given in appendix 1. Table 1 shows the number of scallops caught per hour at each age and the number below the minimum landing size of 110mm shell length. In general catches were low and this was thought to be attributed to the gear and poor weather conditions rather than a scarcity of scallops. As in previous surveys a marked absence of 1-year-olds and 2-year-olds was noted and there was a variation in the proportion of 3-4 year old scallops between stations. Examination of scallop gonads showed stage V individuals (half full) to dominate catches from the areas sampled.

As in the February survey of these grounds (LF/7/89) the fauna associated with Pecten maximus was found to consist of over 30 taxa with the Echinodermata and Crustacea being well represented.

REFERENCE

Mason, J., 1958. The breeding of the scallop Pecten maximus (L.), in Manx waters. J. mar. biol. Ass. U.K., Vol.37, pp 653-671.

R.P. Briggs, SIC
17 November 1989

Table 1

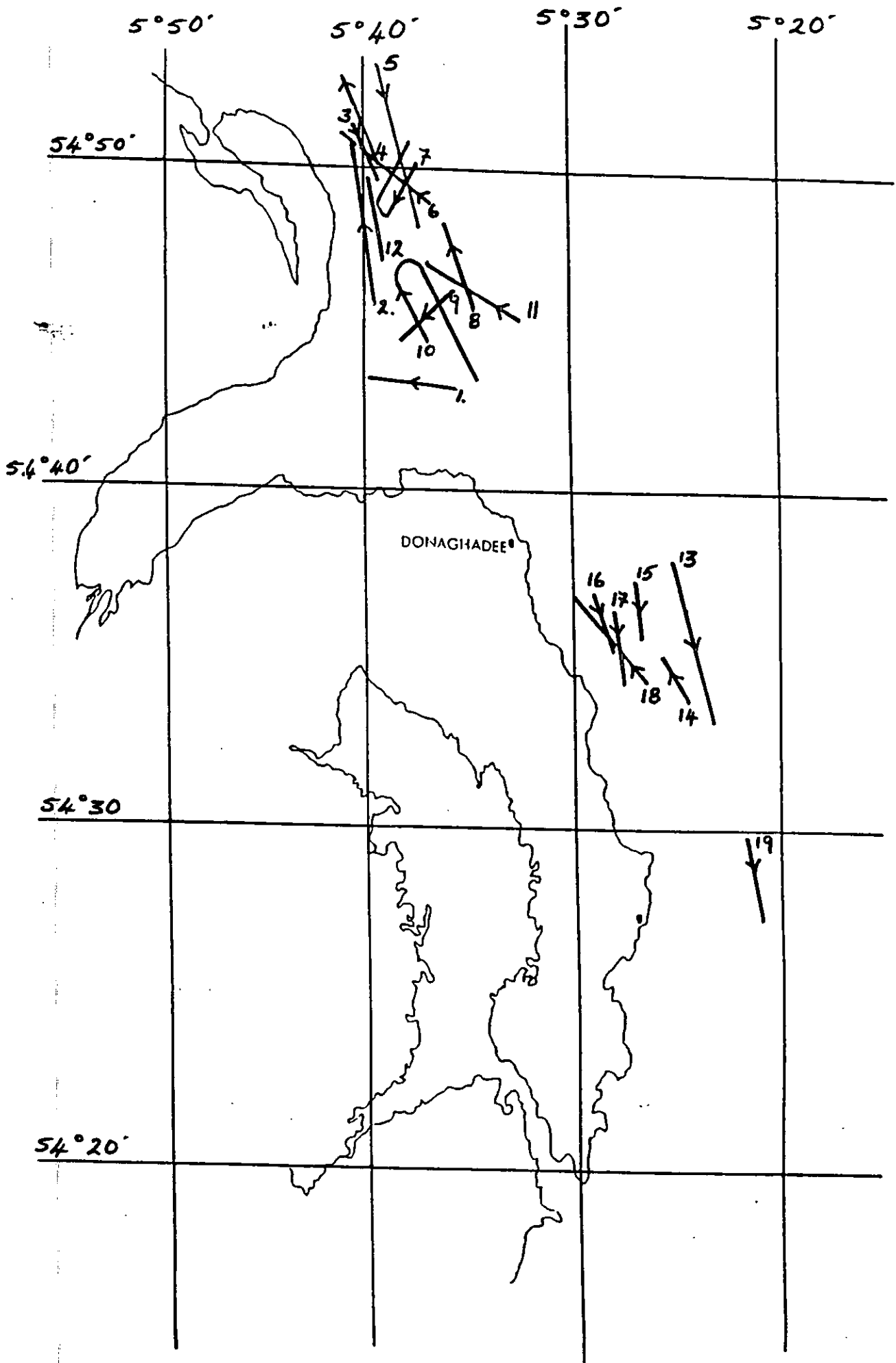
AGE COMPOSITION OF SCALLOP SAMPLES
(number caught per hour by 4 x 2' dredges)

AGE TOW	1	2	3	4	5	6	7	8	9	9+	total	<110
1	-	-	-	-	-	-	-	-	-	2	2	-
2	-	-	-	6	8	10	2	5	-	5	36	25
3*	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	lost dredges			-	-	-	-	-	-
5*	-	-	-	-	-	-	-	-	-	-	-	-
6*	-	-	-	-	-	-	-	-	-	1	1	-
7	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-
9*	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	2	1	-	-	-	9	12	-
11	-	-	-	2	-	-	-	-	-	15	17	-
12	-	-	-	21	1	9	4	7	-	18	60	21
13*	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	1	3	5	6	5	1	1	8	29	-
15	-	-	-	7	-	6	2	1	-	1	17	-
16*	-	-	-	-	-	-	-	-	-	-	-	-
17*	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	3	6	1	-	1	-	-	11	-
19*	-	-	-	-	-	-	-	-	-	-	-	-

* = up-side-down dredge

FIGURE 1

Position of hauls made during cruise.



APPENDIX

POSITION OF SCALLOP STATIONS

STN	SHOT		HAULED		DEPTH m	Catch
	[long-lat]		[long-lat]			
1	54 43.06N	5 35.86W	54 43.83	5 39.80	23-23	2
2	54 46.46N	5 39.81W	54 51.41N	5 40.78W	23-113	36
3	54 50.20N	5 39.71W	54 50.16N	5 39.75W	116-108	usd
4	54 50.16N	5 39.90W	54 52.62N	5 40.90W	lost dredges	
5	54 52.00N	5 39.50W	54 48.20N	5 38.00W	112-112	usd
6	54 49.20N	5 38.43W	54 51.22N	5 40.16W	112-112	usd
7	54 50.10N	5 38.36W	54 50.56N	5 37.87W	114-114	1
8	54 46.08N	5 34.51W	54 54.48N	5 35.00W	63-63	0
9	54 46.47N	5 34.74W	54 45.68N	5 36.53W	60-60	usd
10	54 45.65N	5 36.15W	54 44.85N	5 33.10W	58-58	12
11	54 45.57N	5 31.80W	54 46.58N	5 36.80W	220	17
12	54 47.39N	5 39.57W	54 50.09N	5 39.64W		60
13	54 37.76N	5 25.44W	54 33.35N	5 23.98W		usd
14	54 33.90N	5 24.51W	54 35.54N	5 25.35W		29
15	54 35.89N	5 25.79W	54 36.81N	5 25.87W		17
16	54 36.44N	5 27.84W	54 34.95N	5 27.04W		usd
17	54 34.31N	5 26.34W	54 36.80N	5 29.96W		usd
18	54 35.86N	5 27.55W	54 35.41N	5 27.68W		11
19	54 29.16N	5 20.92W	54 27.83N	5 21.25W		usd

usd = up-side-down dredges