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Charter Vessel *Aora* (Millport)

CRUISE REPORT

4-17 October 1989

Personnel

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Objectives

1. To investigate the settlement of scallop, queen and crab species at selected sites off north west Scotland.
2. To keep live scallop spat for transfer to the SFIA Laboratory at Ardtoe.
3. To study the size and age composition and maturity of scallop and queen stocks.
4. To record surface and sub-surface temperature.

Narrative

Scientific staff joined *Aora* at Mallaig on the afternoon of Thursday 5 October and dredging commenced in Loch Nevis that day. Over the next four days, the vessel worked north to Eddrachillis Bay retrieving spat collector strings. The remaining six days were spent working south, retrieving spat collector strings and, where time allowed, dredging for scallops near to the collector stations. Scientific work was completed on Sunday 15 October allowing time for the vessel to return to Millport by the evening of Tuesday 17 October.

Results

1. From a total of 101 collector strings, set at 14 stations, between 28 June and 2 July 1989, 75 strings were retrieved. Samples of molluscan and crustacean "spat" were taken from each spat collector bag, deep frozen then taken to the Laboratory for analysis.
2. Five thousand scallop spat were transferred to the SFIA Laboratory at Ardtoe for ongrowing.
3. Dredging was undertaken using an array of three 85 cm standard dredges (two standard nine toothed dredges at port and starboard positions and an 11 toothed sampling dredge in the central position). A total of 23 hauls were made, mostly of 30 minute duration, and results are shown in Table 1 (a-c).

From a study of scallop gonads there was evidence of a recent late summer-autumn spawning in all areas fished. Most scallops were observed to have spent gonads or to be in various states of recovery (Table 2).

4. Water temperatures were taken at all areas and the results are shown in Table 3.

D I Fraser
14 November 1989

1989 NW Aora

Table 1 Size and age composition of the scallop stock

a) Numbers of scallops caught at each age group

Area	Hours fished	Growth rings										Total
		1	2	3	4	5	6	7	8	9	10	
L Nevis	1.25	1	14	42	23	15	22	10	10	2	12	151
Armadale	2.5	1	84	27	16	14	21	18	22	12	33	248
Sandaig	0.5		5	7	5	7	14	4	3	2	1	48
Pabay	1.1		1	2	1	3	10	5	6	4	6	38
L Carron	0.25						3	1		3	2	9
Camusteil	1.0	1			2	1	8	4	1	1	14	32
Red Point	1.0	3	17	17	4	6	33	18	27	14	100	239
L Ewe	0.75		2	2	2		1	3	3	1	6	20
Total	8.35	6	123	97	53	46	112	63	72	39	174	785

b) % age composition

Area	1	2	3	4	5	6	7	8	9	10
L Nevis	1	9	28	15	10	15	7	7	1	8
Armadale	-	34	11	6	6	8	7	9	5	13
Sandaig		10	15	10	15	29	8	6	4	2
Pabay		3	5	3	8	26	13	16	11	16
L Carron						33	11	-	33	22
Camusteil	3			6	3	25	13	3	3	44
Red Point	1	7	7	2	3	14	8	11	6	42
L Ewe		10	10	10		5	15	15	5	30
Overall %	1	16	12	7	6	14	8	9	5	22

c) Mean length of scallops caught at each age group (mm)

Growth rings	1	2	3	4	5	6	7	8	9	10	Overall Mean
L Nevis	65	83	95	114	100	107	108	113	125	130	102
Armadale	65	68	92	105	107	110	112	113	115	120	95
Sandaig		66	91	92	100	104	105	108	115	110	97
Pabay		75	85	100	100	108	113	113	124	124	111
L Carron						93	115		107	112	104
Camusteil	60			98	100	112	116	115	125	120	113
Red Point	65	85	94	106	113	119	116	119	119	123	115
L Ewe		90	98	108		110	123	123	125	141	120

Table 2 Gonad stages of mature scallops

Gonad stage	No III recovering	No IV filling	No V half-full	No VI full	No VII spent	No VIIp partially spent	Date sampled
L Nevis	7	3			94		5 & 5.10
Armadale	65	5	1		91		14.10
Sandaig	11				20		13.10
Pabay	7	6			21		13.10
L Carron	3				6		13.10
Camusteil	24	3			3	1	12.10
Red Point	29	28	1		55	3	11.10

Table 3 1989 - Water temperature (0°C) at each spat collector station

Station	Date	Depth (m)	Sea bed	Midwater	Surface
L Nevis	16.10	15	11.5	11.5	11.5
L Hourne	7.10	18	11.0	11.0	11.0
L Carron	8.10	12	10.0	10.0	10.25
Crowlin Isles	12.10	20	11.0	11.0	11.0
Camuisteil	11.10	20	11.25	11.25	11.25
Red Point	11.10	15	11.0	11.0	11.25
Gairloch	9.10	15	10.5	10.5	10.5
Loch Ewe	9.10	16	11.25	11.5	11.25
Eddrachillis Bay	9.10	18	10.75	11.0	11.0