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FRV 'Goldseeker'

Cruise 11/88

11GR88

REPORT

19 September-8 October 1988

Personnel

J Mason	PSO (in charge 19-28 September)
D I Fraser	HSO (in charge 29 September-8 October)
D W McKay	HSO

Objectives

1. To investigate the settlement of scallops and queens in the Clyde Sea area, the Sound of Jura and the Sound of Mull.
2. To study the size and age composition of scallop and queen stocks in the same areas and to examine the gonads of both species to determine their maturity stage.

Narrative

Scientists and crew joined "Goldseeker" at Corpach in the afternoon of 19 September and the ship sailed at 0800 on the 20th.

Spat collectors were hauled in the Sound of Mull on the 20th and in the evening scallop dredges were picked up at Oban. On the 21st "Goldseeker" proceeded to the Sound of Jura, but owing to strong SE winds she continued through the Crinan Canal to the Clyde Sea area. It was possible to work on five of the next six working days - one day was lost owing to strong gale force winds between west and south. It was impossible to dredge on Ballantrae Bank and to pick up the spat collectors off Bennane Head and Ardwell Point. Elsewhere in the Clyde Sea area dredging and picking up collectors was attempted whenever and wherever shelter was available.

Fraser replaced Mason at Ardrishaig on 28 September and the vessel made passage through the Crinan Canal next day. Spat collectors were picked up and dredge hauls made west of the Mull of Kintyre and in the Sound of Mull.

Poor weather prevented work on 1 October, 6 October and 7 October and prevented spat collectors being picked up at Loch Indaal. The remaining work was successfully completed and the scientific staff left the vessel at Dunstaffnage on 8 October. The vessel then made passage for Corpach.

Results

1. Partly owing to adverse weather, only 55 spat collector strings were retrieved from the 106 strings set during cruise 7/88. Within the Clyde Sea area 25 were retrieved from a total of 40 shot; from the west of Kintyre area 20 strings were retrieved from a total of 50 shot and from the Sound of Mull 10 strings were retrieved from a total of 16 shot. A further attempt was made to retrieve the collectors at Loch Indaal (west of Kintyre) and East Clyde, using a small boat; 4 strings were found in Loch Indaal but none in East Clyde. Pectinid spat which had settled on the collector bags were counted and measured (Table 1). Growth of both species was particularly good and queens were generally more numerous than scallops, especially in the Clyde Sea area and in the Sound of Mull.

2. Dredging was undertaken using an array of three 85 cm dredges, two standard 9 toothed and one 11 toothed sampling dredge in the central position. A total of 25 hauls (one of 10 minutes, 17 of 30 minutes and 7 of 35-100 minutes duration) were made. Results showed that from all areas fished there were signs of good recruitment with 50%, 34% and 59% of the scallops caught from the Clyde, west of Kintyre and the Sound of Mull respectively being aged from 1-4 years old (Tables 2 and 3). There were signs of good prospective commercial catches in all areas where a high percentage of animals caught were found to be more than 100 mm in length (Tables 3 and 4).

Examination of scallop gonads suggested that an "Autumn spawning" had recently occurred in all areas (Table 5) and most scallops had either recently spawned (stage VIIp and VII) or were in the early stages of recovery (stages III and IV).

Moderate numbers of queens were caught in the west side of the Clyde. The best hauls were obtained at Ardlamont and the Cock of Arran where 47 and 36 queens were caught in 30 minute hauls. The queens length ranged from 40 mm to 88 mm, ages between 1 and 5 years old. Few queens were caught elsewhere.

D J Fraser

20 February 1989

Seen in draft: A Mair

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Table 1 Numbers of scallop and queen spat settled per collector string

	<u>Scallops</u>	<u>Range (mm)</u>	<u>Queens</u>	<u>Range (mm)</u>
Clyde Sea area	0-199	3-25	13-394	1-25
West Mull of Kintyre	35-120	6-25	8-116	3-27
Sound of Mull	13-56	6-21	14-311	2-18

Table 2 Numbers of scallops caught at each age group

<u>Growth Rings</u>	1	2	3	4	5	6	7	8	9	10	Total
West Clyde	.1	2	33	69	47	12	5	6	6	29	210
Jura Shore	1	5	17	21	23	21	10	12	4	19	133
Sound (Fishnish	1	1	4	13	7	10	5	9	11	16	77
of (Aros	1	19	36	22	15	3	9	2	3	3	113
Mull (WK Buoy (south)	3	11	40	26	9	9	3	3	3	7	114
(Bonnavonlin	1	8	19	12	7	5	2	3	4	7	68
Sound of Mull Total	6	39	99	73	38	27	19	17	21	33	372

Table 3 Age composition (percentage) of scallop catches

<u>Growth Rings</u>	1	2	3	4	5	6	7	8	9	10
West Clyde	0	1	16	33	22	6	2	3	3	14
Jura Shore	1	4	13	16	17	16	7	9	3	14
Sound of Mull	2	10	27	20	10	7	5	5	6	9

Table 4 Mean length of scallop caught at each age group (mm)

<u>Growth Rings</u>	1	2	3	4	5	6	7	8	9	10	OML
West Clyde	70	74	97	104	110	112	115	120	117	124	108
Jura Shore	50	74	86	96	104	109	112	114	122	122	104
Sound (Bonnavonlin	70	82	97	103	116	110	110	112	116	119	103
of (WK Buoy (south)	68	86	99	107	113	115	123	125	130	130	105
Mull (Aros	75	84	101	107	112	122	122	128	123	120	104
(Fishnish	65	75	91	97	102	109	112	110	116	120	108
Sound of Mull Total	69	84	99	105	111	113	118	115	119	122	105

Table 5 Gonad stages of mature scallops

<u>Stages</u>	<u>West Clyde</u>		<u>Jura Shore</u>		<u>Sound of Mull</u>	
	No.	%	No.	%	No.	%
III recovering	72	37	a few recovering		37	15
IV Filling	22	11			55	23
V Half Full	6	3			37	15
VI Full	5	3			32	13
VIIp Partially Spent	1	1	most spent or		18	7
VII Spent	87	45	partially spent		64	26
Total	193		133		243	