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FRV "Goldseeker"

Cruise 7/87

### Report

8-27 June 1987

### Personnel

J Mason	PSO	8-21 June (In charge)
D I Fraser	HSO	8-27 June (In charge 22-27 June)
K MacKenzie	ASO	22-27 June

### Objectives

1. To investigate the settlement of scallops and queens in the Clyde Sea area and the Sound of Jura.
2. To study the size and age composition of scallop and queen stocks in the same areas.
3. To examine the gonads of both species to determine their maturity stage.
4. To record surface and sub surface water temperature and salinity.

### Narrative

Staff joined "Goldseeker" at Troon on June 8 and work commenced in the Clyde Sea Area next day. "Goldseeker" spent 2 days in east Clyde and 4 days in west Clyde, setting out strings of pectinid spat collectors and dredging for scallops and queens, before spending the first half landing at Tarbert on 15 June. The vessel then made passage round the Mull of Kintyre to Bruichladdich on the island of Islay. The next five days were spent settling collectors and dredging around Islay, Jura, Gigha and north to Easdale. The second half landing was spent at Oban on June 22. Further dredge hauls were made in the Sound of Mull, Lismore and around Kerrera. An array of dredges together with tow bar and bridle were lost when the warp snapped during a dredge haul, at Easdale Bay, on 23 June. Subsequently a half day was lost while new gear was purchased and assembled. Attempts were made to retrieve the gear on the morning of 25 June when a "creeper" was towed over the dredge tow path - but without success.

Temperature readings were taken at selected positions during the cruise which ended at Corpach on 26 June.

### Results

1. A total of 92 strings, each of 4 spat collectors were set in 22 positions; 9 in the Clyde and 13 west of the Peninsula of Kintyre. The collectors will be retrieved in September 1987 (Cruise 11/87).

2. Dredging was undertaken using an array of three 85 cm dredges, two standard 9 toothed and one sampling dredge in the central position. A total of 63 hauls, 53 of 30 minutes duration and the remainder of 15-20 minutes, were made. Results showed that from all areas fished there were signs of good recruitment especially in the Sound of Mull and Jura areas where 49% and 40% respectively of the scallops caught were from 2-4 years old (Table 2). 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 2 and 3).

Moderate numbers of queens were caught in the west side of the Clyde. The best catch was obtained at the south side of Sannox, on Arran, where 265 queens, mean length 63 mm, were caught in one 30 minute tow. Most of these queens were 2 years old and the growth ring on their shells were probably laid down in May. The mean distance of the outermost growth ring from the edge of the shell was 3.5 mm (Table 5). Few queens were caught elsewhere.

3. Examination of scallop gonads suggested that spawning had recently occurred in east and west Clyde where a high percentage of animals were already starting to recover to stage IV (Table 4). The majority of animals from Gigha had full or partially spent gonads whereas most of the scallops caught further north at Islay, Jura and the Sound of Mull had yet to spawn (mostly showing gonad stages of V and VI).
4. The temperature/salinity meter was unreliable during the cruise and so results are not reported.

D I Fraser  
15 July 1987

Seen in draft: A Mair

TABLE 1 NUMBERS OF SCALLOPS CAUGHT AT EACH AGE GROUP

GROWTH RINGS	1	2	3	4	5	6	7	8	9	>9	TOTAL
East Clyde	0	1	20	5	18	9	5	6	8	16	88
West Clyde	0	5	46	64	91	31	24	30	17	92	400
N & S Gigha	0	1	6	14	6	2	13	8	7	14	71
East Jura Shore	0	1	79	118	84	73	39	21	12	62	488
South Islay Shore	0	1	13	40	13	18	19	38	18	60	220
Sound of Mull	0	8	72	75	42	27	23	16	15	38	316
TOTAL	0	16	236	916	254	160	123	119	77	282	1583

TABLE 2 AGE COMPOSITION (PERCENTAGE) OF SCALLOP CATCHES

GROWTH RINGS	1	2	3	4	5	6	7	8	9	>9
East Clyde	0	1	23	6	20	10	6	7	9	18
West Clyde	0	1	12	16	23	8	6	8	4	23
Gigha	0	1	8	20	8	3	18	11	10	20
East Jura Shore	0	0	16	24	17	15	8	4	2	13
South Islay Shore	0	+	6	18	6	8	9	17	8	27
Sound of Mull	0	3	23	24	13	9	7	5	5	12

TABLE 3 MEAN LENGTH OF SCALLOPS CAUGHT AT EACH AGE GROUP (MM)

GROWTH RINGS	1	2	3	4	5	6	7	8	9	>9	OVERALL MEAN
East Clyde	-	79	93	118	123	130	138	139	141	142	123
West Clyde	-	74	88	98	103	111	113	117	119	124	105
Gigha	-	77	100	116	127	138	135	135	139	138	123
East Jura Shore	-	-	86	94	100	110	124	122	123	129	111
South Islay Shore	-	73	97	100	111	116	119	125	128	128	111
Sound of Mull	-	73	75	99	105	112	115	119	119	121	104

TABLE 4 GONAD STAGES OF MATURE SCALLOPS

GONAD STAGES	East Clyde		West Clyde		Islay		Gigha		Jura		Sound of Mull	
	No	%	No	%	No	%	No	%	No	%	No	%
IV Filling	47	62	186	57	10	5	5	5	13	3	13	4
V Half Full	8	11	31	9	96	44	14	14	129	26	160	54
VI Full	1	1	2	1	89	41	41	42	326	67	114	39
VII Spent and Partially Spent	20	26	108	33	22	10	37	38	20	4	9	3
TOTAL	76		327		217		97		488		296	

TABLE 5 AGE COMPOSITION OF QUEENS CAUGHT AT S SANNOX, ARRAN

RINGS OF GROWTH	NO	%	MEAN GROWTH (MM) LAID DOWN IN 1987
1	1	-	5.0
2	224	85	3.5
3	27	10	1.6
4	6	2	1.5
5	4	2	0-1
6	1	-	0
TOTAL	263		