

Indexed  
410

PD

Not to be cited without prior reference to the Laboratory

FRV "GOLDSEEKER"  
CRUISE 9/88

9GR88

Report

25 July-13 August 1988

Personnel

J Mason	PSO	4-13 August (In charge)
D I Fraser	HSO	25 July-3 August (In charge)
D W McKay	HSO	25 July-13 August

Objectives

To study the size, age composition and gonad stages of scallop and queen stocks in selected areas of north west Scotland; in particular at Arisaig, Loch Nevis, Loch Hourne, Loch Carron, Applecross and the Crowlin Islands, Gairloch and Eddrachillis Bay. Any time remaining was spent sampling around the islands of Skye, Eigg, Rhum, Canna, Colonsay and Mull.

Narrative

D I Fraser and D W McKay joined "Goldseeker" at Kyle of Lochalsh on 25 July in the evening and work commenced on 26 July. During the first week dredging was carried out without interruption off the north-west coast of Scotland between Skye and Eddrachillis Bay until the first half landing at Kyle on 1 August. Dredging was resumed on 2 August and J Mason replaced D I Fraser at Kyle on the evening of 3 August. The time up to the second half landing at Mallaig on 8 August was spent dredging between Scalpay and the south end of the Sound of Sleat. The remaining time was devoted to dredging off Arisaig, around the Small Isles, and in the Sound of Mull. Dredging off the south of Skye was restricted to four hauls owing to strong south-easterly winds in the final week.

"Goldseeker" berthed at Corpach at 1700 hours on 12 August and the scientific staff and crew left her on the morning of 13 August.

Results

A total of 86 dredge hauls were made (27 of less than 30 minutes' duration, 44 of 30 minutes and 15 of more than 30 minutes' duration) using an array of three 85 cm dredges (1 x 11 toothed sampling dredge each in starboard and port positions with a nine toothed standard dredge between). Catches were best south of Rubh Re, south-west of Skye and in the Sound of Sleat where 105, 87 and 67 scallops respectively were caught in 30 minute dredge hauls. The age/length compositions of the scallop catches are shown in Table 1 and results show signs of good recruitment in many places especially at Ardmore Bay (N Mull), Bonnavoulin (the Sound of Mull), south of Eigg, Arisaig, Taskavaig (S Skye) and in Loch Hourne where 72, 59, 50, 49, 38 and 36% respectively of the animals caught were aged between one and four years. There were signs of good prospective catches in most areas where a high percentage of animals caught were found to be more than 100 mm in length (Tables 2 and 3). High numbers of five year old animals were found in many areas, being the dominant year class in some areas.

This good year class may be related to the abundant settlement of scallop spat in the north west area in 1983.

Examination of scallop gonads indicated that spawning had recently occurred or that gonads had begun to recover. Only at Armadale in east Skye was a high percentage of full gonads found (Table 4). There were signs that spawning was more advanced further south where most gonads were either stage VII, III or IV (spent, recovering or filling).

D I Fraser

14 November 1988

Seen in Draft: A Mair

Table 1

Number of scallops caught at each age group

Growth rings	1	2	3	4	5	6	7	8	9	≥10	Total No
Eddrachillis Bay		3	11	3	9	4	10	5	6	10	61
Summer Isles		-	8	4	14	2	13	9	9	18	77
Summer Isles to Priest Island		-	1	3	5	5	9	16	15	19	73
Entrance to Loch Ewe		-	1	2	15	6	14	22	19	28	107
Rubh Re-South		2	9	25	60	36	28	21	24	100	305
Gairloch and Longa		1	9	18	34	17	18	17	5	33	152
Torridon				9	12	9	8	11	11	15	75
Applecross and Crowlin Isles			2	5	8	19	9	12	9	45	111
Sound of Raasay			2	4	10	22	19	9	8	19	93
Sandaig and Loch Hourne	3	9	34	18	46	19	11	13	5	18	176
Armadale to Ornsay		7	13	4	7	6	8	13	6	51	115
Tarskavaig (SW Skye)	1	2	36	17	31	5	15	4	4	34	149
Arisaig		18	41	15	29	11	9	13	4	9	149
S of Eigg	1	5	39	13	22	13	9	4	1	6	113
E of Rhum		2	17	11	17	10	13	9	13	36	129
Ardmore Bay (N Mull)	1	14	46	10	16	2	2	2	1	4	98
Bonnavoulin (Sound of Mull)		15	19	12	14	6	2	3	2	5	78
Fishnish (Sound of Mull)	1	8	20	31	14	4	6	7	7	5	103

Table 2

Age composition (percentage) of scallop catches

Growth Rings	1	2	3	4	5	6	7	8	9	>10
Eddrachillis Bay		5	18	5	15	7	16	8	10	16
Summer Isles			10	5	18	3	17	12	12	23
Summer Isles to Priest Island			1	4	7	7	12	22	21	26
Entrance to Loch Ewe			1	2	14	6	13	21	18	26
Rubh Re-South		1	3	8	20	12	9	7	8	33
Gairloch and Longa		1	6	12	22	11	12	11	3	22
Torridon				12	16	12	11	15	15	20
Applecross and Crowlin Isles			2	5	7	17	8	11	8	41
Sound of Raasay			2	4	11	24	20	10	9	20
Sandaig and Loch Hourne	2	5	19	10	26	11	6	7	3	10
Armadale to Ornsay		6	11	3	6	5	7	11	5	45
Tarskavaig (SW Skye)	1	1	24	11	21	3	10	3	3	23
Arisaig		12	27	10	19	7	6	9	3	6
S of Eigg	1	4	34	11	19	11	8	4	1	5
E of Rhum		2	13	8	13	8	10	7	10	28
Ardmore Bay (N Mull)	1	14	47	10	17	2	2	2	1	4
Bonnavoulin (Sound of Mull)		19	25	15	18	8	3	4	3	6
Fishnish (Sound of Mull)	1	8	19	30	14	4	6	7	7	5

Table 3

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

Growth rings	1	2	3	4	5	6	7	8	9	≥10	Overall mean length
Eddrachillis Bay		72	86	98	99	107	112	117	116	124	105
Summer Isles			86	90	101	107	112	112	116	117	108
S Summer Isles to Priest Island			85	92	94	105	106	113	114	119	111
Entrance to Loch Ewe			90	92	96	103	111	110	112	120	109
Rubh Re working south		82	86	92	99	101	105	106	109	109	103
Gairloch and Longa		70	82	91	98	100	106	107	106	111	101
Outside Loch Torridon				98	108	109	112	115	115	122	112
Applecross and Crowlin Isles			75	94	99	102	113	112	109	118	108
Sound of Raasay			80	92	101	104	107	115	116	115	108
Sandaig and Loch Hourne	52	79	93	97	103	109	113	114	121	120	103
Armadale to Ornsay		77	92	106	107	113	119	117	119	122	113
Tarskavaig	60	80	87	95	108	110	116	118	114	118	104
Arisaig		78	95	102	112	119	121	123	128	129	106
S of Eigg	50	79	96	114	115	119	124	130	120	127	109
E of Rhum		67	90	105	111	117	121	122	123	125	114
Ardmore Bay	65	85	102	115	119	118	135	140	140	133	107
Bonnavoulin		79	96	105	114	115	118	115	128	131	103
Fishnish	55	77	95	109	112	121	122	124	126	128	108

Table 4

## Gonad stages of mature scallops

Gonad stage	III		IV		V		VI		VIIp		VII		Date	Total
	No	%	No	%	No	%	No	%	No	%	No	%		
NORTH AREA														
Eddrachillis Bay	1	2	12	28	14	33	9	21	7	16			28.7	43
Summer Isles	2	3	15	23	16	25	9	14	16	25	6	9	29.7	64
SOUTH AREA														
Gruinard Bay	8	12	23	36	16	25	1	2	12	19	4	6	29.7	64
Entrance to Loch Ewe	19	21	21	23	14	15	1	1	25	27	12	13	30.7	92
Rubh Re to Melvaig	22	12	56	30	29	16	10	5	33	18	36	19	30.7	186
Gairloch and Longa	10	11	25	26	15	16	20	21	13	14	12	13	31.7	95
Applecross and Crowlin Isles	15	15	16	16	14	14	11	11	11	11	33	33	4.8	100
Sound of Raasay	1	1	37	53	14	20	6	9	8	11	4	6	3.8	70
Sandaig and Loch Hourne	61	37	37	23	13	7	10	8			42	26	6.8	163
Armadale to Ormsay (E Skye)	14	13	14	13	20	18	55	50			6	5	7.8	109
Tarskavaig (SW Skye)	56	40	41	29	5	4	3	2			36	26	7.8	141
Arisaig	56	40	56	40	9	6	2	1			17	12	9.8	140
S of Eigg	69	64	14	13	1	1					23	21	9.8	107
E of Rhum	43	35	40	33	8	6	2	2			30	24	9.8	123
Ardmore Bay (N Mull)	39	41	42	44	5	5	4	4			5	5	10.8	95
Bonnavoulin (Sound of Mull)	22	30	34	46	10	14	1	1			7	9	11.8	74
Fishnish (Sound of Mull)	33	35	24	26	6	6	1	1			30	32	12.8	94