

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1986 RESEARCH VESSEL PROGRAMME

REPORT RV CLIONE: CRUISE 3
(PROVISIONAL: Not to be quoted without prior reference to the author)

STAFF

- M Greer Walker
- P Scholes
- R J Turner
- Ms L S Emerson
- Ms J Stone
- Ms A Dubiel

DURATION

Left Lowestoft 1000h 10 February
Arrived Lowestoft 1300h 2 March

LOCALITY

South Falls: Dover Strait

AIM

To study the migration of plaice moving to and from their spawning grounds in the Eastern Channel in relation to the lunar cycle.

NARRATIVE

CLIONE left Lowestoft at 1000h 10 February and steamed to the South Falls arriving at 1600h. Midwater trawling on both northerly and southerly tides began that same evening and continued until 17 February when high winds prevented fishing. CLIONE docked at Harwich at 1400h 17 February. This opportunity was used to take on board further supplies of liquid nitrogen for tissue preservation and an Agassiz trawl for bottom sampling. CLIONE left Harwich at 1930h the following day and returned to the working area. There were interruptions to the work on account of bad weather on 23 and 24 February and again from February 26 to 2 March. During the latter period CLIONE sheltered in the estuary of the River Blackwater and the Wicket. CLIONE docked at 1300h 2 March.

RESULTS

Details of the midwater hauls on northerly and southerly tides by day and by night together with the maturity stages of the plaice caught are given in the attached table. Bad weather interrupted the sequence of paired hauls after the full moon (February 24) and as a result it was not possible to determine whether this event had any demonstrable effect on the numbers of spent fish moving northwards through the Dover Strait. It was noted, however, that the easterly gales reduced catches of all fish dramatically and this was a complicating factor.

FEMALE PLAICE

Significantly more spent (Stage VII) plaice were caught on northerly ($P < .001$) as opposed to southerly tides but the occurrence of maturity stages II-VI was rare on both tides. The smaller stage I or immature fish were present on both tides but in significantly greater numbers on south going tides at night ($P = 0.0003$). There was an insufficient number of hauls to test the data by day.

MALE PLAICE

The majority of male plaice caught were maturity stage VI. There were significantly ($P < .0001$) more fish caught on northerly tides than southerly tides both by night and by day. The number of Stage I plaice caught showed no significant differences either by tide or by day and by night.

MISCELLANEOUS ITEMS

1. 6 live cod were returned to the laboratory for Dr P Bromley.
2. 400 pituitary glands from plaice were preserved in liquid nitrogen for Mr A Canario.
3. A collection of marine animals was made for the Norwich Museum by Ms A Dubiel. These were obtained by Agassiz trawl in the working area and the Queen's Channel on 20 and 21 February.
4. Several whiting were preserved in buffered formalin in order to study the thymus gland (Dr J O'Neill, Leicester Polytechnic).
5. 200 alimentary canals were dissected out of a length range of whiting, cleaned, and then frozen for Dr Thorndyke (London University)
6. Several stage IV and stage V plaice ovaries were preserved for histological analysis.
7. 7 bass were collected for Dr M Pawson.
8. Quantitative estimates were made of other species commonly occurring in the hauls. Namely, whiting, cod, sprat, sole, dab, flounder, ray and spurdog.
9. Cod, whiting, plaice, dab and flounder (25 of each) were collected for contaminant analysis (Dr A Franklin).

SEEN IN DRAFT: D J G

INITIALLED:

CIRCULATION

Basic List+
M Greer Walker
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STN NO	DATE	TIME		DAY OR NIGHT	DE NORTH OR SOUTH	MALE PLAICE MATURITY STAGES				FEMALE PLAICE MATURITY STAGES							TOTAL ALL FISH	AGE OF MOON
		SHOT h	HAULED h			I-II	VI	VII	TOTAL	I	II-III	IV	V	VI	VII	TOTAL		
1	10-2-86	1923	2223	N	S	4	1	0	5	28	0	1	0	0	0	29	34	01
2	11-2-86	0120	0421	N	N	5	3	0	8	10	0	1	0	0	8	19	27	02
3	11-2-86	0736	1037	D	S	1	0	1	2	20	1	3	0	0	1	25	27	02
4	11-2-86	1344	1644	D	N	1	1	1	3	5	0	0	0	0	9	14	17	02
5	11-2-86	1953	2253	N	S	1	0	1	2	14	0	0	0	0	0	14	16	02
6	12-2-86	0150	0450	N	N	3	9	1	13	5	0	0	0	0	32	37	50	03
7	12-2-86	2031	2331	N	S	1	1	0	2	13	0	0	0	0	1	14	16	03
8	13-2-86	0221	0523	N	N	2	20	0	22	5	0	0	0	0	31	36	58	04
9	13-2-86	0853	1153	D	S	1	2	0	3	8	0	1	0	0	2	11	14	04
10	13-2-86	1433	1733	D	N	0	9	0	9	2	0	0	0	0	18	20	29	04
11	13/14-2-86	2107	0008	N	S	0	3	2	5	14	0	0	0	0	1	15	20	04
12	14-2-86	0303	0603	N	N	1	16	0	17	11	0	0	0	0	19	30	47	05
13	14-2-86	2145	0045	N	S	2	3	0	5	22	0	0	0	0	2	24	29	05
14	15-2-86	0341	0641	N	N	3	20	1	24	3	0	0	0	1	26	30	54	06
15	15-2-86	1715	2015	N	N	2	7	3	12	3	0	0	0	0	8	11	23	06
16	15/16-2-86	2217	0116	N	S	3	3	1	7	18	0	1	0	0	2	21	28	06
17	16-2-86	1730	2030	N	N	0	47	5	52	8	0	0	0	1	65	74	126	07
18	17-2-86	2311	0211	N	S	5	1	0	6	14	0	1	0	0	2	17	23	08
19	19-2-86	0750	1051	D	N	0	14	1	15	1	0	0	0	0	11	12	27	10
20	19-2-86	1404	1704	D	S	1	0	0	1	0	0	0	0	0	0	0	1	10
21	19-2-86	2050	2351	N	N	2	7	0	9	1	0	0	0	0	3	4	13	10
22	20-2-86	0313	0613	N	S	0	0	1	1	2	0	0	0	0	3	5	6	11
27	20/21-2-86	2153	0053	N	N	1	45	5	51	2	0	0	0	0	30	32	83	11
28	21-2-86	0323	0626	N	S	4	2	0	6	8	0	0	0	0	1	9	15	12
29	21-2-86	1010	1310	D	N	1	31	0	32	1	0	0	0	1	54	56	88	12

STN NO	DATE	TIME		DAY OR NIGHT	TIDE NORTH OR SOUTH	MALE PLAICE MATURITY STAGES				FEMALE PLAICE MATURITY STAGES						TOTAL ALL FISH	AGE OF MOON	
		SHOT h	HAULED h			I-II	VI	VII	TOTAL	I	II-III	IV	V	VI	VII			TOTAL
32	21-2-86	2228	0128	N	N	0	36	0	36	1	0	1	0	0	35	37	73	12
33	22-2-86	1054	1354	D	N	6	76	22	104	4	0	0	0	0	72	76	180	13
35	23-2-86	2303	0204	N	N	0	27	6	33	9	0	0	0	0	37	46	79	13/14
36	24-2-86	1153	1453	D	N	0	18	2	20	7	0	1	0	0	10	18	38	15
37	24-2-86	1808	2108	N	S	3	9	3	15	22	0	0	0	0	4	26	41	15
38	25-2-86	0013	0314	N	N	2	15	0	17	4	0	0	0	0	9	13	30	16
39	25-2-86	0655	0955	D	S	5	4	2	11	18	0	0	0	0	4	22	33	16
40	25-2-86	1221	1521	D	N	3	24	12	39	1	0	0	0	0	27	28	67	16
41	25-2-86	1846	2146	N	S	0	2	3	5	17	0	0	0	0	1	18	23	16