

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

1980 RESEARCH VESSEL PROGRAMME

REPORT: R V G A REAY: CRUISE 11

STAFF: M G Pawson
M R Wince
J Dann
S M Stevens
N J Stone
J M Everett (Burnham)

DURATION: 3 - 24 November

LOCALITY: Northern North Sea

AIMS:

- 1 To make a trawl survey for Norway pout and associated by-catch species in the northern North Sea using the semi-pelagic high headline trawl.
- 2 To collect and freeze whole gadoids for determination of the length-weight relationships and whole weight-gutted weight raising factor (Mr Bedford).
- 3 To collect hearts from unusual species (Dr Greer Walker).

NARRATIVE:

G A REAY sailed from Aberdeen at 2100 h on 3 November and steamed directly to Station 1 (see Figure 1). Fishing commenced at 0700 h on 4 November, tows of one hour duration being made at Stations 1 to 19 before bad weather and a small engine repair forced an overnight (8-9 November) stay at anchor in Bressay Sound. The survey was resumed at 1500 h on 9 November and Stations 20 to 31 were fished before engine problems necessitated a return to Aberdeen during the evening of 13 November. The ship docked at 0115 h on the 14th. The opportunity was taken to carry out a whole weight-gutted weight relationship determination on all saithe collected to date, an electronic balance being borrowed from Torry Research Station for this purpose.

and

G A REAY left Aberdeen at 1130 h on 18 November/resumed fishing, completing Stations 32 to 45 during the remainder of the cruise. The survey was frequently interrupted by SW gales and as a consequence stations at the northern and eastern edges of the grid were not sampled. Stations 36 to 41 comprised a series of samples taken by fishing along the same tow over a 24 hour period. The ship berthed in Aberdeen at 1730 h 24 November in order to avoid being caught in a NE gale.

RESULTS

- 1 Forty five stations were sampled with a semi-pelagic high headline trawl towed for one hour at 3.5 to 4 knots. The catches are given in Table I. Sub-samples were taken to determine the species' composition at each station, and length measurements and stomach contents, sex and maturity were determined for Norway pout, cod, whiting, haddock, saithe and blue whiting. Otoliths of these species were taken according to the requirements of the North Sea roundfish sampling scheme.
- 2 Sixty-three saithe within the length range 54-100 cm were weighed in dock to determine whole weight-gutted conversion factors, and 134 cod (21-110 cm) and 11 witch were frozen whole to be returned to Lowestoft for similar analysis (Mr Bedford).

3 Two hearts from each of cod, spurdog, hake, ling, lesser spotted dogfish and Raja naevis, radiata and Montagui were were collected for cardiac anatomy studies (Dr Greer Walker).

4 Fifty, 1 stone cartons of small gadoids were collected and frozen for the Lowestoft Fish Cultivation Group (DR Purdom).

5 Two samples of herring were frozen for analysis at Lowestoft (Mr Wood).

6 Specimens of haddock, ling, megrim and Sebastes viviparous were collected for York University taxonomic studies (Mr P Walker).

M G Pawson
1 December 1980

SEEN IN DRAFT: W E C (Master, G A REAY)

INITIALLED: D J G

DISTRIBUTION:

Basic List

- M G Pawson
- M R Vince
- J Dann
- S M Stevens
- N J Stone
- J M Everett

FLA 3403

TABLE 1 CATCH RATES ($\text{kg}\cdot\text{h}^{-1}$) AT EACH STATION DURING G A REAY 11/80

Sta	Time of Fishing Shooting depth (m)	Total	Norway pout	Haddock	Whiting	Cod	Coalfish	Spurdog
11	0725	231	12	18	90	18	65	0
2	1055	1241	26	634.5	370.5	92	0	0
3	1425	701.5	360	30	210	42	22.5	0
4	1725	1035	832	16	96	25.5	16	0
5	0725	1081	312	560	128	11	13	0
6	1100	249	119	42	40	8	0	0
77	1400	1089	565.5	138	232	12	98	0
8	1850	595	25.5	382.5	102	1.5	16	1
9	0725	1256.5	531	180	396	28	2	0
10	1055	1670	672	319.5	399	77	126	0
11	1425	772.5	38.5	556.5	77	19	0	3
12	1845	733.5	533.5	55	99	11	0	0
13	0725	832	552	50	40	49	32	0
14	1035	1766	672	612.5	55.5	54.5	194.5	2
15	1355	725	351.5	224	7	4	35	0
16	1725	I N V A L I D						
17	0725	607	4	395	12	20	0	0
18	1230	1508	797.5	43.5	33	353	80	2
19	1615	832	347	273	178	24.5	0	0
20	1725	788	12	564	108	2	0	0
21	1950	1094	80	736	224	25	0	0
22	0730	1430	7	1054.5	185	4	0	166
23	1105	848	72	576	132	48	0	7
24	1425	656	250	110	290	17	0	-1
25	1845	789	363	80.5	276	35	0	0
26	0725	4104	3	3263.5	455	9	0	247
27	0725	1391	41	471.5	717.5	1	0	12
28	1220	1137	31	442	480.5	16	0	100
29*	1530	847.5	27	252	252	75	0	141
30	1840	1078	14.5	377	522	61.5	0	22
31	0725	2175	0.5	477	1378	10	0	96
32	0730	1773.5	102.5	348.5	881.5	109	0	262
33	1225	537	29	246.5	188.5	0	0	45
34	1400	233	66	81	2	2	0	2
35	1335	1012	15	305	543	72	0	47
36*	1900	663	18	252	315	26	0	28
37*	2310	413	19	99	214.5	4	0	28
38*	0315	194	6	75	62.5	3	0	6
39*	0730	1618	20	196	1013	43	0	324
40*	1105	1553	21	173	1107	54	0	231
41*	1505	923	23	191	469	80.5	0	115
42	1340	1016	+	147.5	369	1	0	9.5
43	1720	1258	1	192.5	1020	1	0	17
44	2215	922	1	115	599	0.5	0	102.5
45	0725	860	1	275	352	120	0	22

* All tows at same location

Figure 1 Industrial fisheries project "Norway pout" stations and ship's track.
R.V. G.F. REAY CRUISE 11-19 80

