

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK NR33 0HT

1994 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 3

(PROVISIONAL: Not to be quoted without prior reference to the author)

STAFF: D J Symonds
S Flatman
M R Vince
P A Large
M J Boon
B F M Harley

DURATION: Left Lowestoft 1200h 3 March
Arrived Lowestoft 1015h 29 March
(All times are Greenwich Mean Time)

LOCALITY: Irish Sea, Bristol Channel, Celtic Sea

AIMS:

1. To carry out beam trawl surveys of groundfish in the Irish Sea, Bristol Channel and Celtic Sea.
2. To collect data on maturity and weight at age of sole, plaice and lemon sole.
3. To determine the distribution and abundance of juvenile and adult sole and plaice.
4. To collect ovaries of sole, plaice and cod in the Irish Sea.
5. To tag pre-recruit sole and plaice if the opportunity arises.

NARRATIVE:

CORYSTES made a good passage to the west coast and commenced the first trawl station 25 miles west of Trevoise Head at 0745h on 5 March. Despite moderate to fresh W to SW winds, which resulted in a heavy swell, the Celtic Sea and Bristol Channel surveys were completed by 11 March. These W to SW winds persisted when trawling continued in the Irish Sea off Tuskar Rocks on the following day but, by careful selection of stations, little time was lost due to the weather. Most of the stations in the western Irish Sea had been completed by the 16th when CORYSTES proceeded to Douglas, IOM, for the mid-cruise break, arriving at 1520h.

CORYSTES sailed from Douglas at 0630h on 18 March and was on station 9 miles south of Douglas Head at 0742h. Trawling continued in the north-east Irish Sea with a short delay during the morning of the 20th due to an engine fault. The planned overnight steam on the 21st to trawl stations in St George's Channel was not accomplished because of increasing SW winds, but additional tows in the relative shelter of Liverpool Bay were carried out on the 22nd after a further delay in the morning caused by a recurrence of the engine problem. One station north of Anglesey was completed on the 23rd before the SW gale stopped work and CORYSTES dodged for the rest of the day. With moderating winds, stations in Caernarfon and Tremadoc Bays were worked on 24 March and the remaining stations in St George's Channel over the following two days. Three hauls were made at Trevoise Head on the 27th in fresh S to SE winds before completing the scientific programme and course was set for Lowestoft at 1200h.

RESULTS

Aims 1, 2 and 3. A total of 120 valid 30 minute tows with the 4m beam trawl fitted with chain mat, flip-up ropes and a 40mm codend liner was carried out in the Bristol Channel, Celtic Sea and Irish Sea. Fish were identified to species, weighed and measured. Photographs were taken of the benthos and the abundance of the major animal groups were recorded. Data from the ROXANN ground discrimination system and the continuous temperature and salinity system were logged. In addition salinity and temperature profiles were determined by shallow-water Guildline each day before and after trawling and discrete water samples were collected regularly throughout the cruise for subsequent laboratory salinity analysis to calibrate the logged data.

In general, fish catches were similar to those seen in previous years. Eighty three species were recorded, the main ones being, by weight, lesser spotted dogfish (21%), plaice (13%) and whiting (11%) and, by number, dab (16%), whiting (14%) and plaice (12%). All station and catch data were input to the Fishing Survey System.

The sex, maturity stage and weight of all individual otolithed fish (except whiting) were recorded. Special attention was given to sole where data were also collected on gutted weight, soma weight, stomach contents and weights. The incidence of the microsporean parasite *Spraguea lophii* in all anglerfish was recorded. The weights and maturity stages of six species of rays were also noted.

The distributions of immature and mature sole and plaice in the survey area were established. Both immature and mature sole in the Irish Sea were concentrated in Liverpool Bay whereas, in the Bristol Channel/Celtic Sea area, the two groups were more or less spatially separated, with the immature fish in Cardigan and Swansea Bays and the mature fish off north Cornwall and southeast Ireland. Both immature and mature plaice in the Irish Sea were more widely distributed than sole being found throughout the northeast sector and at inshore stations along the Irish coast. Catch rates of all plaice in the Bristol Channel were low.

Otoliths of 3447 fish from eight species were collected for biological studies and assessment purposes:

Species	ICES Division			Total
	VIIa	VIIIf	VIIg	
Plaice	1428	117	69	1614
Sole	627	207	40	874
Whiting	202	132	35	369
Cod	31	18	14	63
Lemon sole	120	67	88	275
Megrim	7	12	55	74
L. piscatorius	60	46	71	177
L. budegassa	0	0	1	1

Selected fish and crustacean samples were collected. These included frozen fish specimens for the laboratory's fish identification courses, samples of plaice, sole, flounder, dab, whiting and cod from various NMP sites (Mr Franklin) bass (Mr Eaton), lesser weevers (Dr Nash, Port Erin), various flatfish (Ms Mignot, Swansea) and elasmobranch material (Mr Ellis, Swansea). Spider crabs (University of Cambridge) and berried edible crabs (Ms Naylor) were brought back live; attempts to transport live anglerfish failed.

Aim 4. Samples of plaice ovaries were collected from off the Irish coast and from two areas in the eastern Irish Sea to provide estimates of atresia in different populations.

Aim 5. The opportunity to tag pre-recruit plaice and sole did not arise.

D J Symonds
5 April 1994

INITIALLED: JWH

SEEN IN DRAFT: Master: BAC
Senior Fishing Skipper - JBWH

DISTRIBUTION:

Basic List +
D J Symonds
S Flatman
M R Vince
P A Large
M J Boon
B F M Harley
P R Withames
M J Armstrong (DANI, Belfast)
P Connolly (DOM Dublin)

Sea Fisheries Committees:
Cumbria
North Western and North Wales
South Wales
Devon
Cornwall

