

**MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, UK**

1995 RESEARCH VESSEL PROGRAMME

REPORT : RV CORYSTES: 2a/95

STAFF: M G Pawson (SIC)
Ms W A Dawson (part-time)
M R Vince (part-time)
P R Withames
M J Boon
B F Harley
Ms E Alesworth (IOM, part-time)

DURATION: Left Lowestoft 1740 h 27 January
Arrived Barrow-in-Furness 1645 h 9 February
All times GMT

LOCATION: Western English Channel and Irish Sea

AIMS:

1. To determine the size and age composition of mackerel in and around the 'mackerel box'.
2. To determine the proportion mature by size and age group of the sole and plaice populations in the Irish Sea.
3. To obtain sole, cod and plaice gonads for the determination of fecundity, atresia and spawning duration.

NARRATIVE:

CORYSTES departed Lowestoft at 1740 h on 27 January and made her way towards the 'mackerel' box in a south-westerly gale during 28 and 29 January. A lull on 30 January allowed 4 stations to be fished with a (Portuguese) high-headline trawl to the south of Plymouth and Start Point, before Ms Dawson was put ashore and Mr Vince embarked at Plymouth in the evening.

CORYSTES then steamed for Cardigan Bay, where stations 5 and 6 were fished with a 4 m beam trawl, keeping in the lee of the shore in a southerly gale on 31 January. The weather improved that night and the remainder of the beam-trawl sampling grid (stations 5-60 (Figure 1)) was completed fishing in darkness only by 8 February, when Ms Alesworth was put ashore at Port Erin, IOM, at 0900 h.

CORYSTES used a Granton trawl to catch cod for ovary samples off Cumbria (stations 61-68 in hatched area, Figure 1) before docking in Barrow-in-Furness at 1645 h on 9 February.

RESULTS:

Aim 1. Very little time was available for sampling in the mackerel box, and no mackerel were caught — only horse mackerel, which were weighed and measured.

Aim 2. The beam trawl sampling grid of 55 stations in the Irish Sea was successfully completed, and size frequency distributions, and otolith and individual weight samples were obtained for male and female, immature and mature sole and plaice at each station.

Aim 3. All stage IV ovaries of plaice, sole and cod were collected and preserved for fecundity determination, and sub-samples of other stage ovaries were preserved for estimation of atresia levels — see Table 1. All plaice and sole gonads were assigned maturity stages for determination of spawning duration. Plaice fecundity samples were put ashore at Port Erin. No mature female cod were caught off Cumbria.

Supplementary aims:

- A. All rays (6 species) were measured and sexed, reproductive organs were examined for maturity stage and female *R. clavata* reproductive tracts dissected and preserved (48 individuals across size range 20-87 cm) and vertebrae collected for ageing (J Metcalfe).
- B. All (26) monkfish caught were weighed, measured and assigned a maturity stage. Otoliths were taken and the degree of infestation by the parasite *Spraguea lophii* was determined (W Dawson).
- C. Twelve live cod were retained and transferred to Conwy laboratory's transport (B Howell).
- D. Benthos was identified and recorded at each beam-trawl station.

M.G Pawson (SIC)
14 February 1995

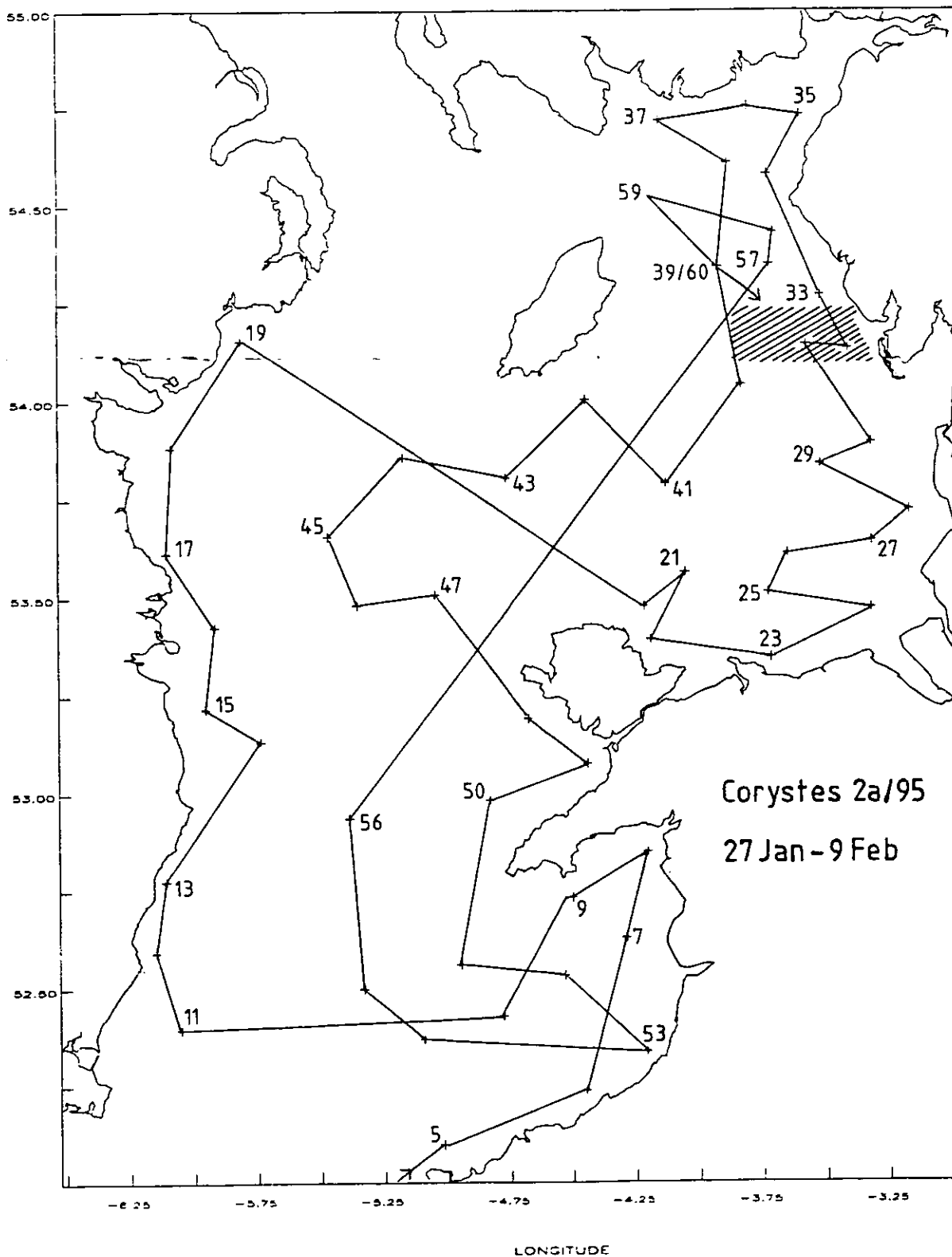
SEEN IN DRAFT: BGC (Master)
JBH (Fishing Skipper)

INITIALLED: C T M

DISTRIBUTION:

| | | |
|---------------|----------------|--------------------|
| Basic list + | P R Witthames | M Armstrong (DANT) |
| M G Pawson | M J Boon | P Connolly (DOM) |
| Ms W A Dawson | B F Harley | R Nash (PEML) |
| M R Vince | Ms E Alesworth | |

LATITUDE



Corystes 2a/95 - number of samples per area

| Length Group (cm) | N target | Cardigan Bay | Western Irish sea | Liverpool Bay | Cumbrian Coast | Chickens | Total |
|---------------------------|-------------|-----------------|----------------------|------------------|-------------------|----------|-------|
| | | | | | | | |
| 1. Plaice Fecundity tally | | | | | | | |
| | | | | | | | |
| < 24 | 15 | 1 | 11 | 14 | 3 | 0 | 29 |
| 25-29 | 10 | 9 | 25 | 15 | 10 | 0 | 59 |
| 30-34 | 10 | 4 | 11 | 11 | 16 | 0 | 42 |
| 35-39 | 10 | 2 | 5 | 1 | 12 | 0 | 20 |
| >40 | 15 | 1 | 2 | 1 | 5 | 0 | 9 |
| | | | | | | | |
| total | 60 | 17 | 54 | 42 | 46 | 0 | 159 |
| | | | | | | | |
| 2. Plaice Atresia tally | | | | | | | |
| | | | | | | | |
| total | 50 | 3 | 9 | 6 | 1 | 0 | 19 |
| | | | | | | | |
| 3. Sole Fecundity tally | | | | | | | |
| | | | | | | | |
| <26 | 15 | 5 | | 4 | 5 | 1 | 15 |
| 27-31 | 10 | 12 | | 7 | 9 | 2 | 30 |
| 32-36 | 10 | 7 | | 6 | 12 | 3 | 28 |
| >37 | 15 | 5 | | 1 | 6 | 7 | 19 |
| | | | | | | | |
| total | 50 | 29 | | 18 | 32 | 13 | 92 |