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

1994 RESEARCH VESSEL PROGRAMME

REPORT : RV CIROLANA : CRUISE 2a

STAFF

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DURATION:

CIROLANA left Lowestoft at 1900h on 25 January
Arrived at Barrow in Furness at 0830h 7 February

LOCALITY

North Sea, English Channel, Celtic Deep, West and East, Irish Sea

AIMS

1. To sample and examine dab and other fish species for diseases
2. To collect samples of dab livers for histochemistry, electron microscopy and biomarker tests.
3. To collect samples of gall bladders from selected fish species to evaluate the use of their protozoan parasites as pollution biomarkers.
4. To examine herring for evidence of Ichthyophoniosis
5. To examine *Lophius* sp. for anomalies.
6. To examine *Nephrops* sp. for evidence of *Haematodinium* sp.
7. To collect samples of frozen dab, whiting and other commercial fish for the NMMP.
8. To collect biological samples from pre-spawning cod, plaice and sole.
9. To make a photographic record of benthos from each sampling area.

NARRATIVE:

R.V. CIROLANA steamed northwards to Flamborough Off Ground, but because of bad weather, had to dodge a.m. 26 February. Trawling commenced 1500h in ICES rectangle 37F0, 4x 1h tows were completed by 0100h 27 January. All commercial species were examined for diseases and biological samples were taken to meet the various aims. From Flamborough Off Ground, CIROLANA steamed southwards through poor weather conditions to ICES rectangle 30F0 (Rye Bay) to continue the above programme on 28 January. On completion of six tows the ship steamed on a

westerly track to the third sampling area, rectangle 29E6 (Lyme Bay) where five successful tows were made in good weather conditions.

These conditions prevailed over the next two days where four successful tows were worked in the Celtic Deeps and four tows in Waterford Bay. On leaving this latter area pm 31 January, the weather deteriorated to a strong south westerly wind. The decision was made to abandon the track to rectangle 33E5 (Cardigan Bay) and continue northwards along the Irish coast to Arklow when the ship again had to dodge. The weather abated and the trawl was shot at 1130hrs. At this sampling area, three valid tows were made.

Ideal conditions prevailed on 2 February for work at Rockabill, and CIROLANA completed six successful tows, providing good catches of fish. Early morning, 3 February a strong easterly, force 10 gale blew, with wind speeds of 50 knots and gusts of 70 knots or more. CIROLANA steamed northwards to rectangle 36E3 (Dundrum Bay) as planned, but had to seek shelter and dodged between 54.07.8N; 4.50 0W and 54.07.8N; 4.46.2W off the Isle of Man and dropped anchor pm on 3 February. Subsequently, the wind changed to a southerly direction, which made the anchorage dangerous, am 4 February, and the ship dodged until a decision was made to make a track to the shelter of Great Orme (33E6), for more favourable conditions.

On 5 February, the wind had died away and the trawl was shot at 0730h for the first of the two very productive tows off Gt Orme. 57 baskets mostly consisting of recently spent herring were landed. A short steam to the penultimate sampling area, Liverpool Bay, where three tows were made, one of which was invalid due to a cod-end tear.

On completion of this day's scientific work, attempts were made to drag up the anchor lost on CIROLANA 13/93 at 53.28.64N 03.26.45W. At 2200h, the anchor was successfully retrieved.

For the final sampling area, Morcambe Bay (37E6), the trawl was shot at 0730h in reasonable conditions. The first haul consisted mainly of a huge starfish catch and was designated as invalid. A move to a nearby station provided two good hauls of fish for sampling purposes. A member of the scientific team, (M. Vince) disembarked in the Z-boat for Fleetwood at 1500h.

The pilot boarded the ship at 0700h on 7 February and the ship docked at Barrow in Furness, 0830h.

RESULTS:

At total of 10 sample areas were completed, and 40 trawl tows with a Granton trawl fitted with a tickler chain and small mesh liner. There were 3 invalid trawl tows due to net damage, and one due to a large catch of starfish.

Aim 1. All dab (5906), cod (406) and flounder (76) were weighed, length measured, examined and recorded according to ICES recommendations for standardised disease monitoring. All suspect liver neoplasias were preserved for confirmatory diagnosis. Other commercial fish species were macroscopically examined for diseases. All results

were recorded on an Excel spreadsheet programme, for later statistical examination. Preliminary results, showed higher prevalences of diseases in dab from Flamborough Off Ground and Liverpool Bay than the other areas sampled.

Aim 2. Samples of liver and serum from dab were collected and frozen and preserved for laboratory studies at FDL, PML, and University of Swansea.

Aim 3. Gall bladders from samples of dab, and whiting were preserved for AE0602.

Aim 4. Up to 50 herring from each area were macroscopically examined for evidence of *Ichthyophonus* sp. This fungal disease was not identified.

Aim 5. A total of 49 *Lophius piscatorius*, and *Lophius bugadessa* were examined for anomalies. There was no evidence of blindness or abnormal pigmentation.

Aim 6. Samples of *Nephrops* sp. were collected for laboratory examination for disease.

Aim 7. Samples of frozen dab and whiting were collected for the NMMP (Dr. Franklin)

Aim 8. Plaice gonad maturity was examined on all stations in areas 7A, D, E and G and a small sample of 15 female gonads from stage 5-7 fish in area 7A. Plaice spawning was found to be more advanced in 7D than to the west in 7G. The small numbers of mature plaice caught in Liverpool Bay were mainly stage 4-5. Otolith samples were collected for FSM3 in 7D and for FSM2 in 7A, E and G.

Table 1 Summary: Totals of all fish for maturation and otolith sampling

Plaice	Dover sole	Lemon sole	Monkfish	Bass	Cod
469	162	71	51	1	45

Aim 9. A photographic record was taken of benthos from all areas trawled.

Other Activities: A specimen of *Trigloporus lastoviza*, streaked gurnard was frozen for fish identification training. (A. Watson)

An example of a goby (? *Lesueurigobius friesii*) was preserved for positive identification.

D. Bucke
Scientist in Charge

February, 1994

SEEN IN DRAFT

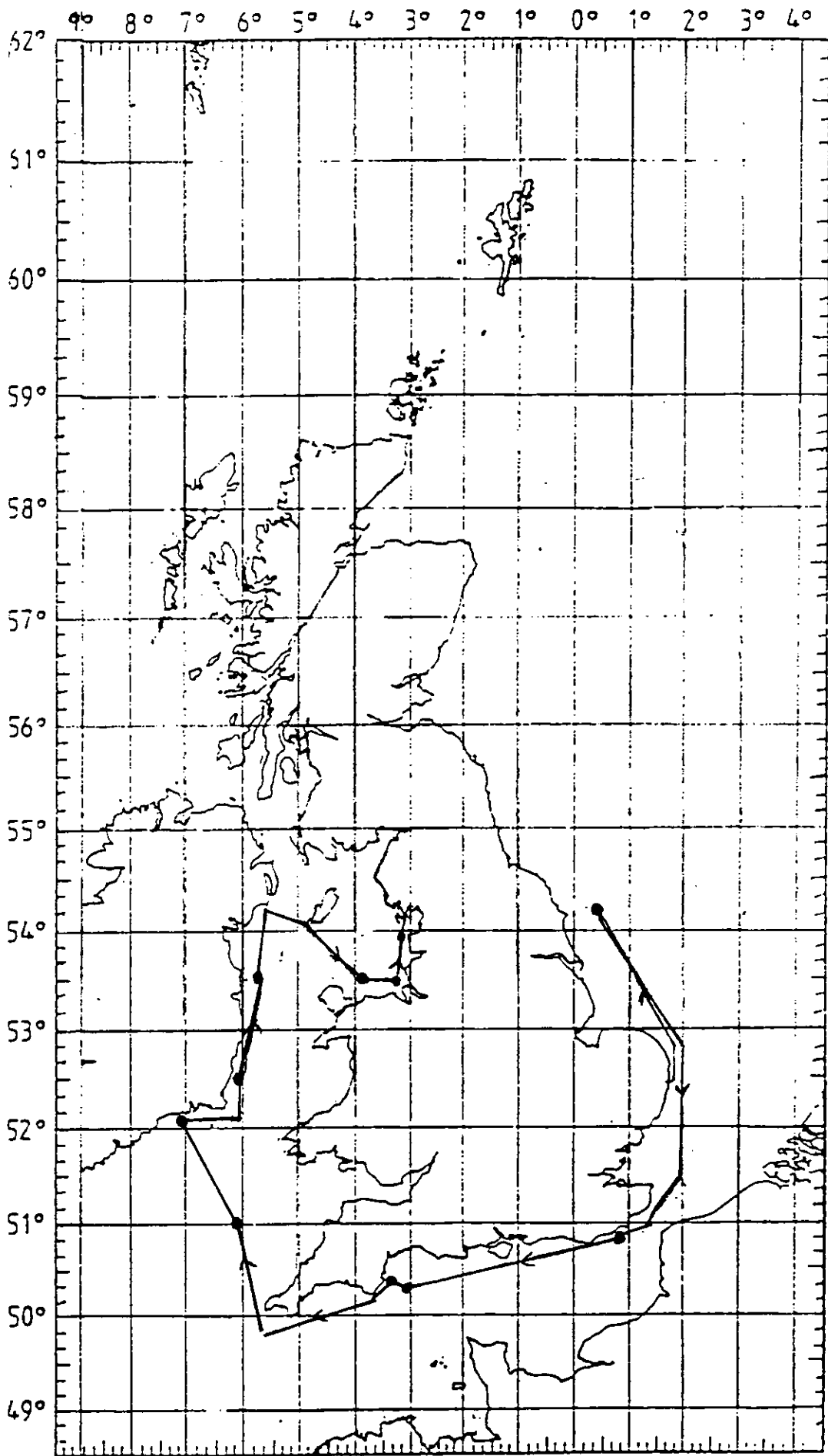
R J (Master)
M G C R (Fishing Skipper)

INITIALLED: P G S

DISTRIBUTION:

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DANI



TRACK & SAMPLING AREAS • for CIROLANA 2a/94