

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

1992 RESEARCH VESSEL PROGRAMME

REPORT: RV CIROLANA: CRUISE 11

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

STAFF: J G Shepherd (NIC) 20th-25th Oct
J G Pope (NIC) 25th Oct-21st Nov
D Thompson
T W Boon
G J Howlett
A Child
A M Watson
B D Rackham
D W James
J Webb
Mrs J Loveday 20th-25th Oct

DURATION: Departed Lowestoft 20th October
Arrived Lowestoft 21st November
All times are in Greenwich Mean Time

LOCALITY: North Sea

AIMS:

1. To carry out a groundfish survey of the North Sea using a standard GOV trawl in order to obtain information on:
 - a) Distribution and abundance of all fish species.
 - b) Length and age distribution of commercially important species.
 - c) Distribution of fish in relation to their environment.
 - d) Distribution of macrobenthos and anthropogenic debris.
2. To co-ordinate all surveys for this quarter, arrange cover for any areas missed and organise intership calibration and variance estimates.
3. To collect material for fish identification courses.
4. To provide fish samples for contaminant analysis for inclusion in the North Sea Task Force Quality Status Report (A Franklin).
5. To make a general investigation of an area east of the Farne Islands for the Sea Mammal Research Unit.

6. To collect samples of herring (*Clupea harengus*) for the study of Ichthyophonus disease.
7. To further trial the canvas kites with the GOV trawl.
8. To collect biological data from grey gurnard (*Eutrigla gurnardus*), angler fish (*Lophius* spp.), pollack (*Pollachius pollachius*), tusk (*Brosme brosme*) and four-beard rockling (*Rhinonemus cimbrius*).
9. To collect fish food.
10. To sample whiting for molecular biological programme.

NARRATIVE:

RV CIROLANA departed Lowestoft on the 20th of October. The first station was fished off Flamborough on the 21st October at 0730 hrs. RV CIROLANA then proceeded to work a further 11 stations to the east and in the southern North Sea before returning to Corton Roads to anchor on the night of the 24th and exchange staff and to bring an engineer aboard to repair the SATCOM-C. Staff exchange was made by searider.

CIROLANA then proceeded to a station on the SW patch of the Dogger Bank where Hydrographic and fishing recommenced at 0657 hrs on the 26th of October. RV CIROLANA then worked survey positions up the western side of the North Sea (see track chart). Work typically consisting of 3 trawl stations with their accompanying hydrographic observations (surface and bottom temperature and salinity) taken where possible in daylight hours. Until the mid-cruise break on the 5-6th of November work was uninterrupted except for minor delays. These were 2 delays due to trawl winch problems, a delay for gear repairs after one station being lost due to gear damage and minor delays due to marginal weather conditions. RV CIROLANA docked at Lerwick at 1600 hrs on the 5th November.

The mid-cruise break was taken at a time of deteriorating weather conditions and sailing was delayed until 0800 hrs of the 7th of November and fishing recommenced at 2023 hrs on the same day at a station in the north eastern North Sea. Weather and sea conditions continued to be marginal but some stations were worked each day in windows of better conditions until the 13th of November when gales forced work to be abandoned until 0737 hrs on the 14th of November. Work then proceeded at a high rate and by 2300 hrs on the 18th of November all but one trawl station had been worked. Severe gales then prevented work until the morning of 20th of November when the last hydro and trawl stations were completed. With all major aims completed RV CIROLANA then made passage for Lowestoft, docking at 0610 hrs 21st November.

RESULTS

Aim 1

80 survey tows were made with the GOV trawl, only 4 of which were invalid. All fish at each valid station were weighed and measured and otoliths were taken from selected species. The

results were computer logged. Preliminary results for the 1992 haddock yearclass were reported to Lowestoft to assist ACFM. The numbers of otoliths taken were as follows:

No. of Otoliths by Roundfish area

	1	2	3	4	5	6	7
Whiting	634	231	188	155	139	397	162
Cod	249	94	60	107	26	95	59
Haddock	513	204	211	129	0	5	85
Norway Pout	202	87	50	61	0	0	28
Plaice	4	15	74	29	31	128	111
Grey Gurnard	57	36	41	51	0	50	33
Monk	16	6	4	0	1	0	0
Tusk	13	0	0	0	0	0	0
Four Beard Rockling	34	2	0	0	7	1	0
Pollock	2	0	0	0	0	0	1
Saithe	184	1	1	0	0	0	4
Mackerel	93	45	16	24	44	72	4
Herring	268	163	107	138	110	164	110

Surface and bottom salinity and temperature were taken by Nansen bottle casts at each survey station. Weights and photographic records of macrobenthos were taken at each station. The weights and types of anthropogenic debris were recorded.

Aim 2

Mr T Boon acted as ICES coordinator for the 4th quarter IBTS. Contact with other ships being made when required. Due to overtime constraints and pressure of weather no intership calibration work was attempted nor were any replicate hauls made to estimate within station variance.

Aim 3

Mr A Watson arranged collection of material for his fish identification courses.

Aim 4

Fish samples were collected for contaminant analysis for inclusion in the North Sea Task Force Quality Status Report (A Franklin).

Aim 5

The investigation of the area east of the Farne Islands for the Sea Mammal Research Unit was not attempted due to constraints on overtime and weather.

Aim 6

Samples of herring (*Clupea harengus*) were collected for the study of Ichthyophonus disease.

Aim 7

Two trial tows of the GOV trawl were made with the Aeroplane canvas kites fitted instead of the usual Exocet kite. Headline heights and door spreads were monitored on these tows using the Scanmar apparatus. This indicated no improvement in headline height compared to that which should have been expected with floats alone. On this showing it seems unlikely that the canvas kites could be used as an alternative to the Exocet. However detailed attention to the rigging of these kites was not possible in the available time and it is possible that given suitable rigging they might find a use for some Ministry fishing requirements.

Aim 8

Additional biological materials were collected for grey gurnard (*Eutrigla gurnardus*), angler fish (*Lophius* spp.), pollack (*Pollachius pollachius*), tusk (*Brosme brosme*) and four-beard rockling (*Rhinonemus cimbrius*).

Aim 9

Fish food and '0' gadoids for stomach samples were collected for Dr Bromley and Mr T Watson.

Aim 10

Tissue samples (brain, eye, heart, liver and muscle) were taken from 200 whiting at both Stations 9 and 84 for allozyme and DNA studies at Lowestoft, the University of East Anglia and University College, Cork.

Other late and miscellaneous requests.

A request for samples of Quahogs (*Artica islandica*) for Dr Weidman, Woods Hole, USA was not met since no material being caught.

Samples of cod blood were taken and preserved in alcohol for Dr G Pogson, Department of Zoology, Cambridge who is carrying out genomic DNA sequencing. Sample 1 was collected at 51°40'N, 2°50'E (33) and 51°50'N, 03°35'E (23) and sample 2 was collected at 59°20'N, 30°05'E (25). Light meter records were logged at 10 minute intervals after Lerwick to assist with the design of possible salmon tags.

Ivory Gull (*Pagophila eburnea*)

A 1st winter ivory gull was observed from the RV CIROLANA (MAFF) between 1600h and 1700h on Thursday 12 November in the North Sea (58°15'N, 2°38'E). The scientific staff working on the aft deck sorting the trawl catch were alerted by a piping whistle coming from one of a mixed flock of kittewakes and fulmars. The ivory gull was quickly located flying 5-10m from the vessel.

The gull was pure white with flecks of black on the wings. The bill was a dark and dusky mask extended from the base of the bill to the eye. There was a narrow terminal black band on the tail and the legs were black. It was slightly larger than the kittewakes with broader wings.

J G Pope
30 December 1992

INITIALLED: JGS

DISTRIBUTION:

Basic List +
J G Shepherd
J G Pope
D Thompson
T W Boon
G J Howlett
A Child
A M Watson
B D Rackham
D W James
J Webb
Mrs J Loveday

CIROLANA 11/92 TRAWL STATIONS CRUISE TRACK

