

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

1995 RESEARCH VESSEL PROGRAMME

REPORT: R V CIROLANA CRUISE 3

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J. Dann (Second half)
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M. Etherton
C. Lordan (Observer, Ireland)

DURATION: 13 March- 10 April inclusive.

LOCALITY: Celtic Sea, South-western Approaches, western English Channel

AIMS:

1. To carry out a trawl survey of the western Celtic Sea to obtain information on:
 - a) Distribution and abundance at length of all fish species.
 - b) Age length distributions of selected species.
2. To sample juvenile fish for recruitment estimates.
3. To collect material for fish identification courses.
4. To collect, and preserve frozen, any scallops that are caught.
5. To obtain data on stomach contents to supplement the data set collected on earlier cruises.
6. To obtain data on development rates of fish eggs and larvae on an opportunistic basis.
7. To collect and preserve mackerel ovaries for fecundity estimation .
8. To collect and preserve bass ovaries for fecundity estimation.
9. To carry out further trials of electronic data capture equipment.
10. To collect samples of herring for the study of Ichthyophonus disease.
11. To monitor distribution and abundance and collect biological data on Ommastrephid squids (University College Cork, Ireland).

NARRATIVE:

CIROLANA sailed from Lowestoft at 1800h on 13 March and made a good passage to the western English Channel. The trawl survey commenced on the morning of 15 March. Fishing operations were suspended for 24 hours from the morning of 17 March due to severe weather but resumed on the morning of 18 March. Good progress was made in excellent weather conditions until 28 March when CIROLANA docked in Falmouth at 1700h for the mid cruise break and exchange of 2 members of the scientific staff. CIROLANA left Falmouth at 0800h on 30 March to resume the fishing survey.

Work continued uninterrupted in exceptionally good weather conditions for the time of year, and the main survey grid was completed by 7 April. Cirolana then spent the following day carrying out extra survey tows in the "Mackerel Box". At 1830h on Saturday 8 April, Cirolana set a course for Lowestoft, where she docked at 0530h on Monday 10 April.

RESULTS:

Aim 1. 79 trawl stations were completed, including 7 in the Mackerel box in addition to the main survey grid. Two further stations using rod and line were carried out in an attempt to collect additional mackerel samples. Trawling was carried out using a modified Portuguese High-Headline Trawl fitted with rubber bobbins, a bunt tickler chain and a codend liner. Sixty floats were attached to the headline and polyvalent doors were used. A chart indicating the position of each trawl station is attached. Scanmar equipment was used to monitor headline height, door spread and bottom temperature.

At each station the catch of each species was weighed and all fish, or an appropriate sample, were measured. Samples of otoliths for age determination studies were taken as required. Benthos and crustacea were identified to species wherever possible. The resultant data were input to computer database using the Fishing Survey System, and preliminary summations and analyses were made.

Catches of the main commercial demersal species were generally higher than observed in recent years, whereas catches of the main pelagics (mackerel and horse mackerel) were much less than usual. Catch rates of hake were above average. The same is true for megrim, although the catch of 4-spot megrim this year was the highest for the cruise series. Catches of cod haddock and whiting were also high, and the distribution of haddock in particular seemed to extend further South than previously observed. Female haddock in spawning condition were caught off the southern coast of Ireland.

Charts showing the distribution of catches of some species are attached.

Aim 2. Preliminary indications are that 1-group hake are about average in abundance. 1-group cod, haddock and whiting as in 1994, were unusually abundant. Larger than normal numbers of small (15 cm.) white anglerfish were also recorded. 1-group horse mackerel were encountered in quantity at only three locations, off Ushant, south of the Scillies, and in Eddystone Bay. The relative abundance of 1-group mackerel was low in the survey area.

Aim 3. Specimens of 67 different fish species were preserved for the Laboratory's fish identification courses

- Aim 4.** A total of eight scallops were caught and preserved.
- Aim 5.** No supplementary stomach contents data were recorded, since all potentially suitable specimens had disgorged on capture.
- Aim 6.** No studies of egg development rates were carried out since no specimens in suitable spawning condition were caught.
- Aim 7.** Ovaries from 123 mackerel caught in ICES Division VIIJ were preserved for fecundity studies.
- Aim 8.** No bass ovaries were preserved for fecundity estimation since the only specimen caught was a male.
- Aim 9.** Following the mid-cruise break, the system was extensively tested. In total 95 fish samples, representing 4090 fish, were measured and input to the PC database. There was a favourable reception to the system and some discussion on possible improvements. Detailed discussion also centered around the development of an electronic data capture system for the deckmaster.
- Aim 10.** 50 herring hearts from fish caught in ICES rectangle 32E1 were examined and preserved for *Ichthyophonus* studies
- Aim 11.** Distribution and relative abundance by length, sex, and maturity for all squid species was monitored by our Irish colleague. Data on stomach contents was also collected.

MISCELLANEOUS:

1. Samples of whiting (51 fish), hake (5), plaice (5) and cod (12) were collected from two groups of stations used for collecting samples for contaminant studies (A. Franklin):
2. 18 cuttlefish and 133 John Dory specimens were preserved for biological studies (Matthew Dunn)
3. Blood serum samples from 10 elasmobranch species were collected for immunogenetic studies (University of Salford)
4. 2 unidentified flatfish species (1 specimen of each caught) were preserved. Neither species could be identified using the reference books on board.
5. Specimens of squid (*Illex coindetii*), whiting and blue whiting were preserved to investigate unidentified parasite infestations (S. Feist).
6. 2 specimens of six-gilled shark and 1 electric ray were preserved (Swansea University)
7. 277 otoliths from cod, haddock, whiting and plaice captured in ICES Division VIIJ were collected for Maria Doherty (Fisheries research Centre, Dublin)
8. Tissue samples (gills) from 47 whiting were taken for genetic studies (EC FAR Molecular genetics Programme, D. James).
9. One hermaphrodite Anglerfish was preserved for further investigation.

10. 50 herring were frozen whole for population genetic studies (G. Carvahlo, Swansea University).

J. Casey.
10 April 1995.

SEEN IN DRAFT:

M. Reynolds. (SFM)

W.G.A. Guyatt (Master)

INITIALLED: J.W.H

DISTRIBUTION:

Basic list +

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Cornwall Sea Fisheries Committee

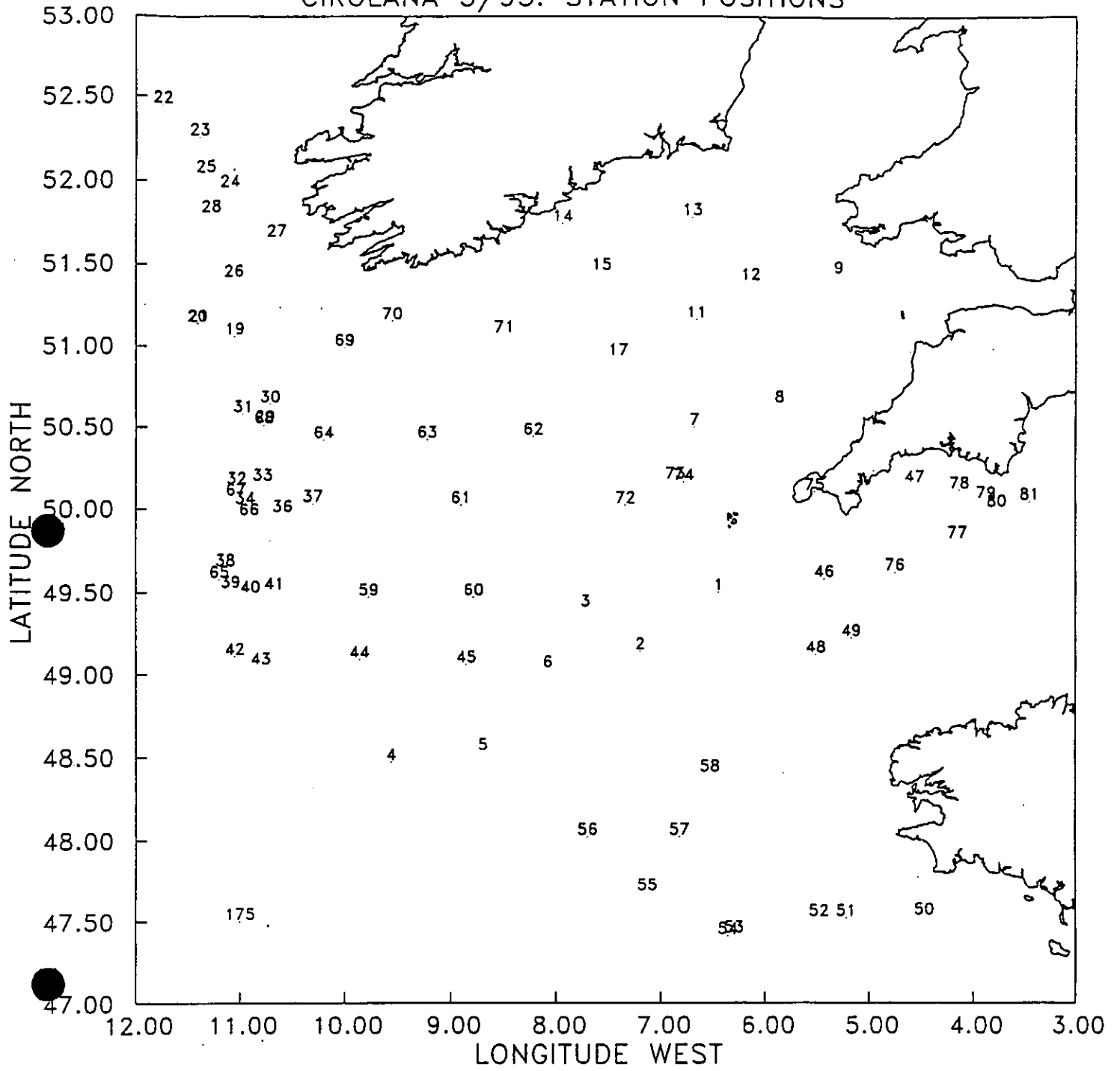
Devon Sea Fisheries Committee

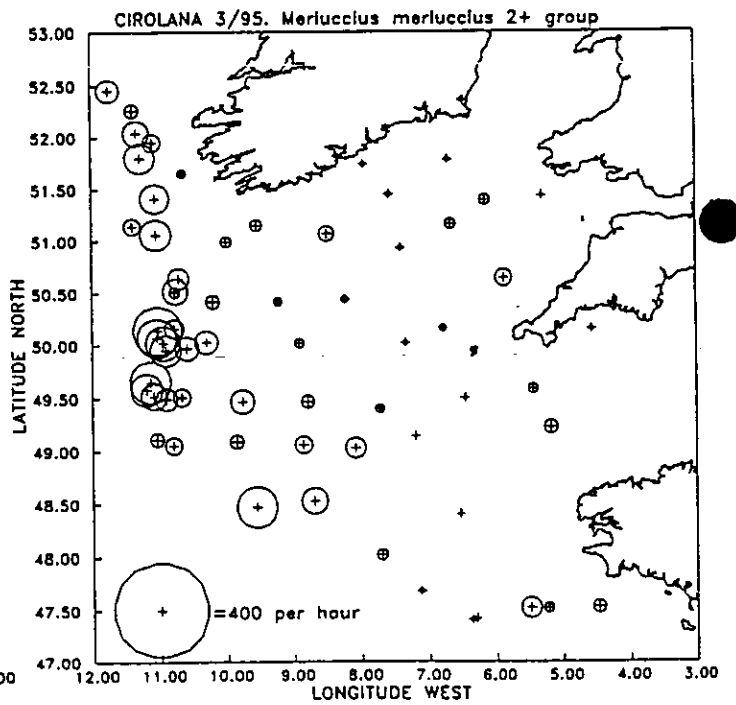
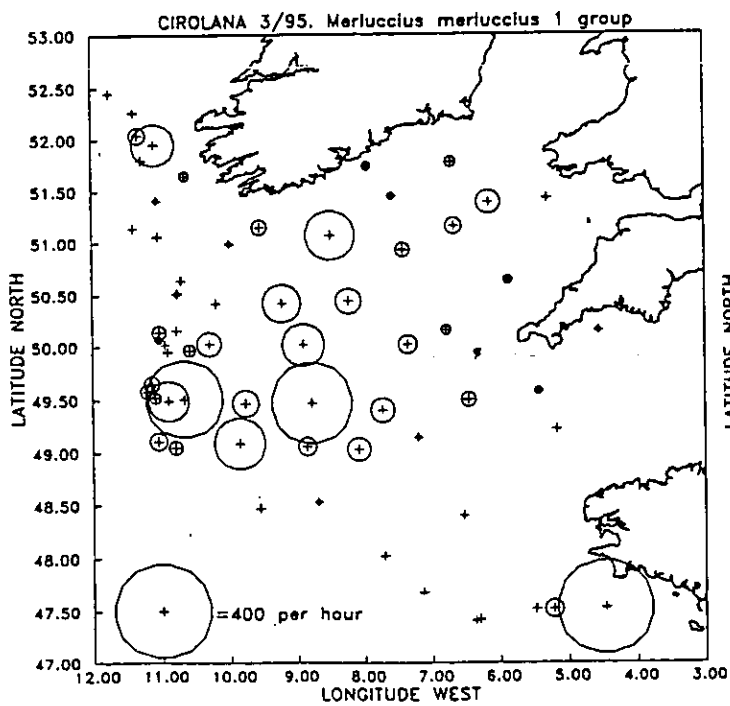
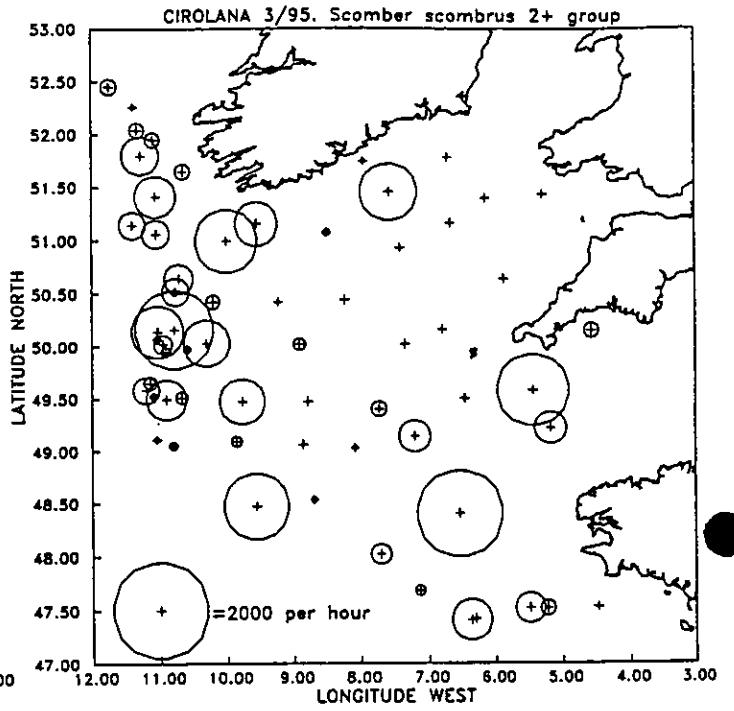
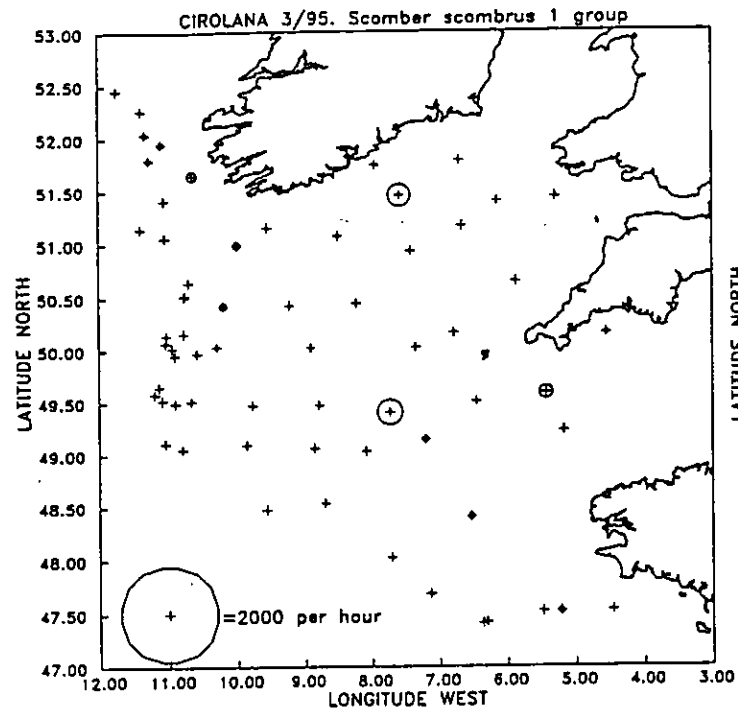
Isles of Scilly Sea Fisheries Committee

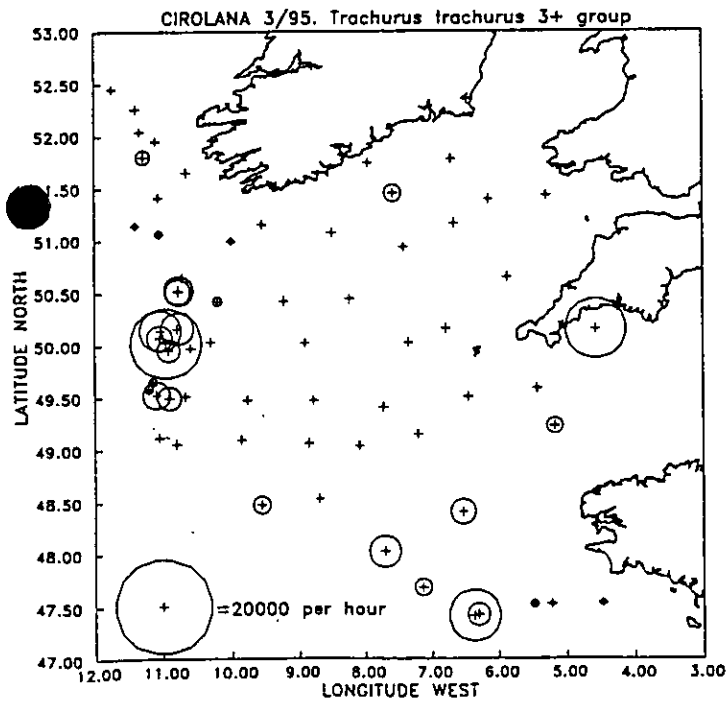
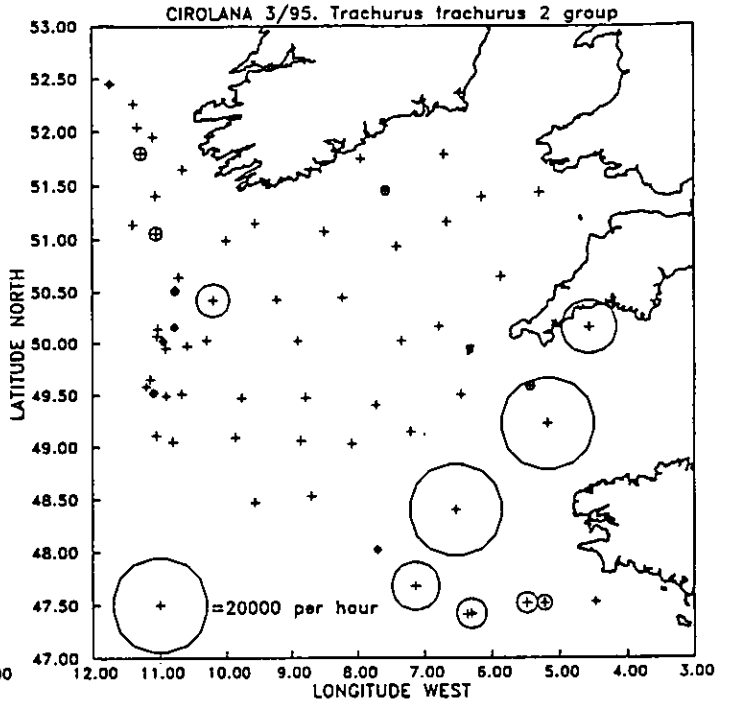
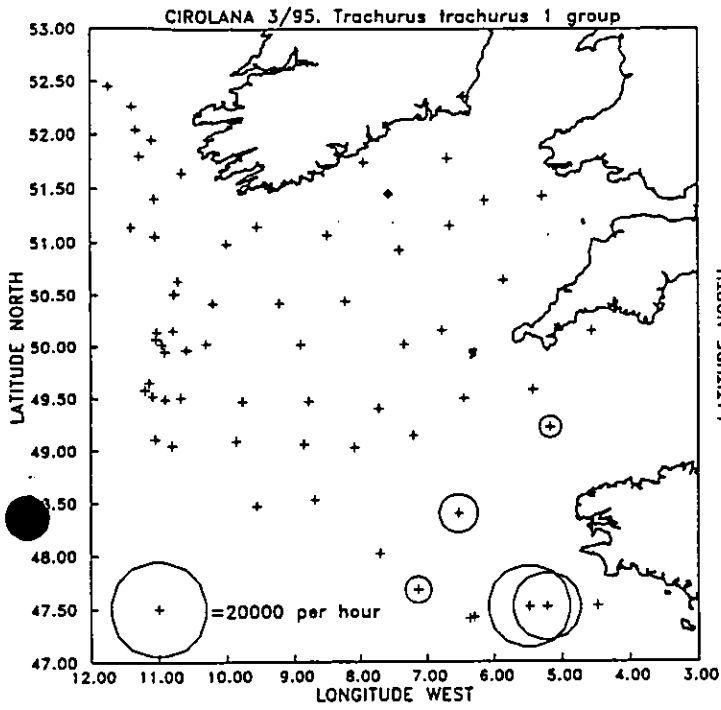
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France, via Foreign Office

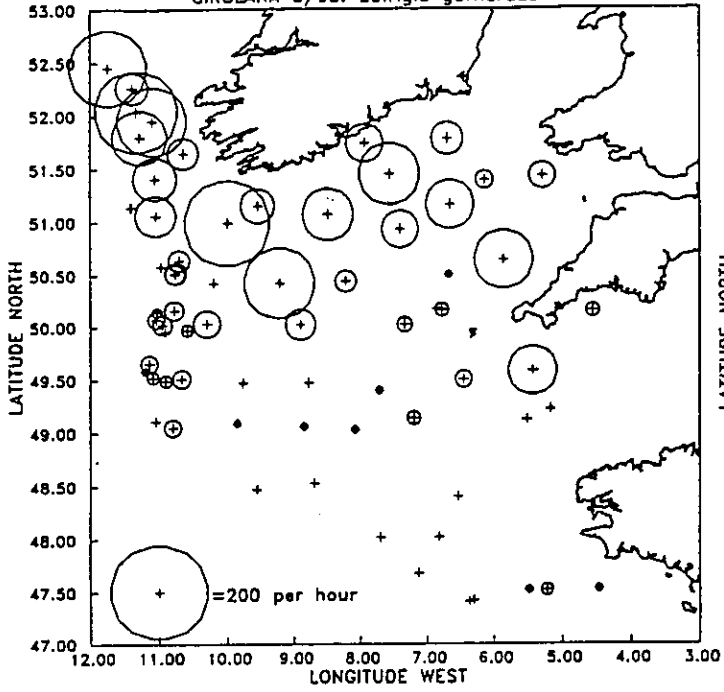
CIROLANA 3/95. STATION POSITIONS



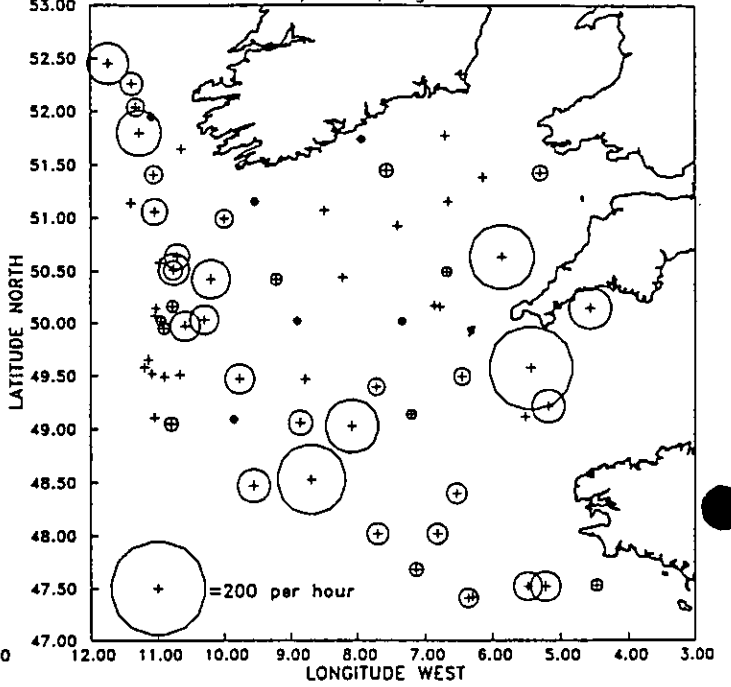




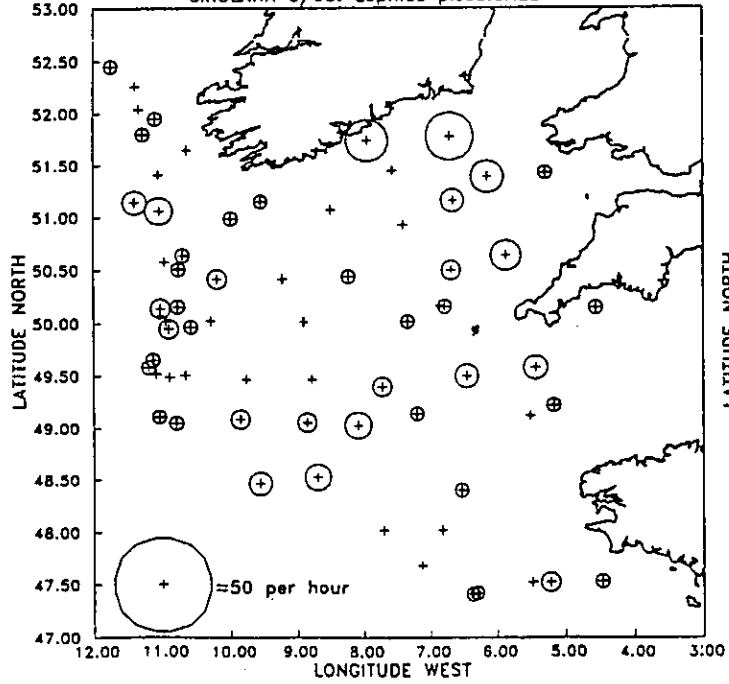
CIROLANA 3/95. *Eutrigma gurnardus*



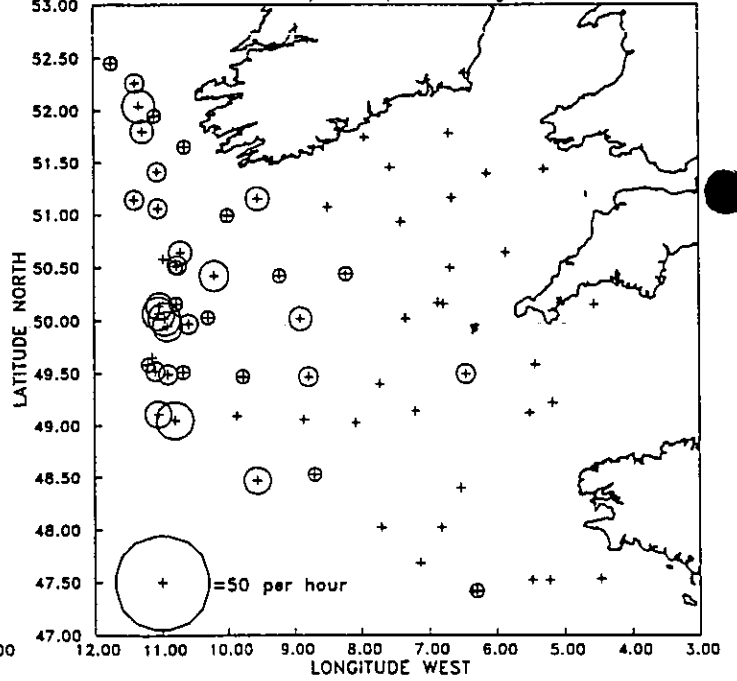
CIROLANA 3/95. *Aspitrigla cuculus*

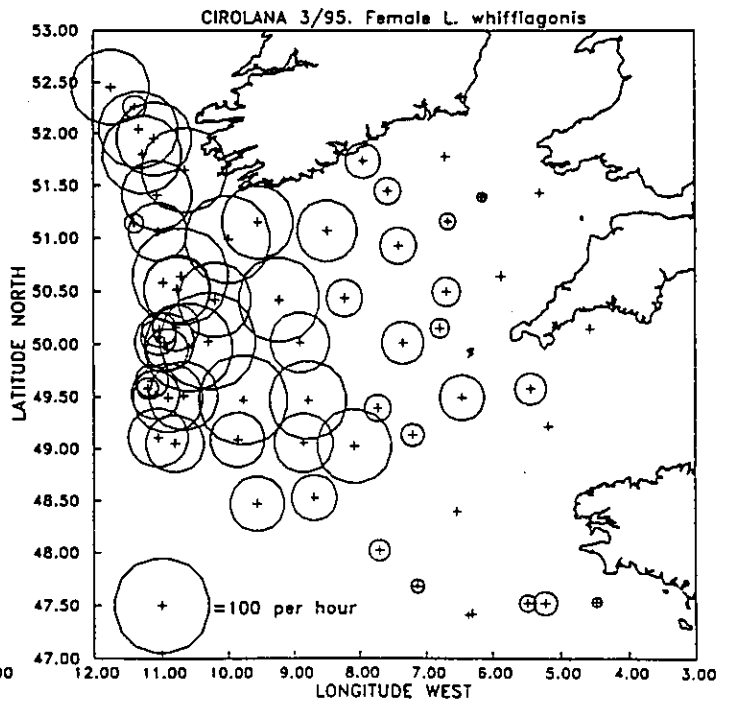
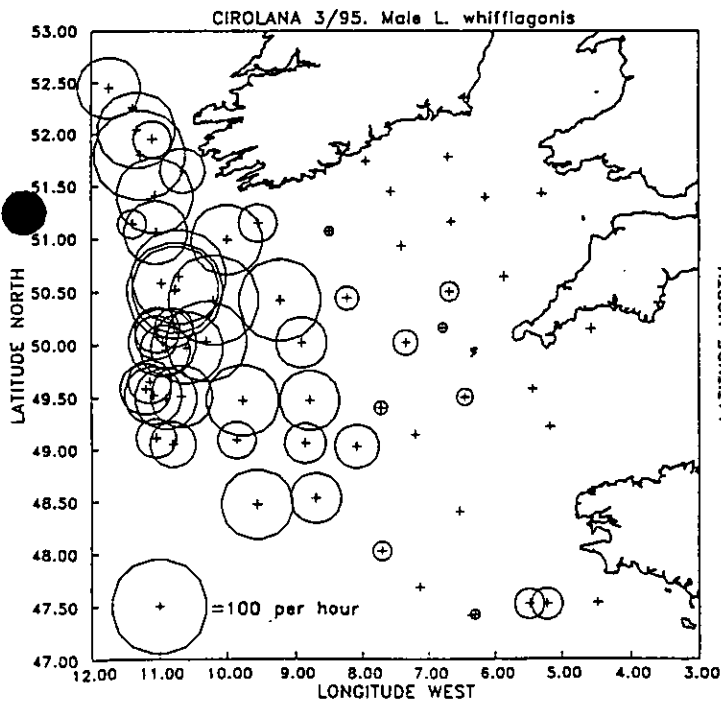
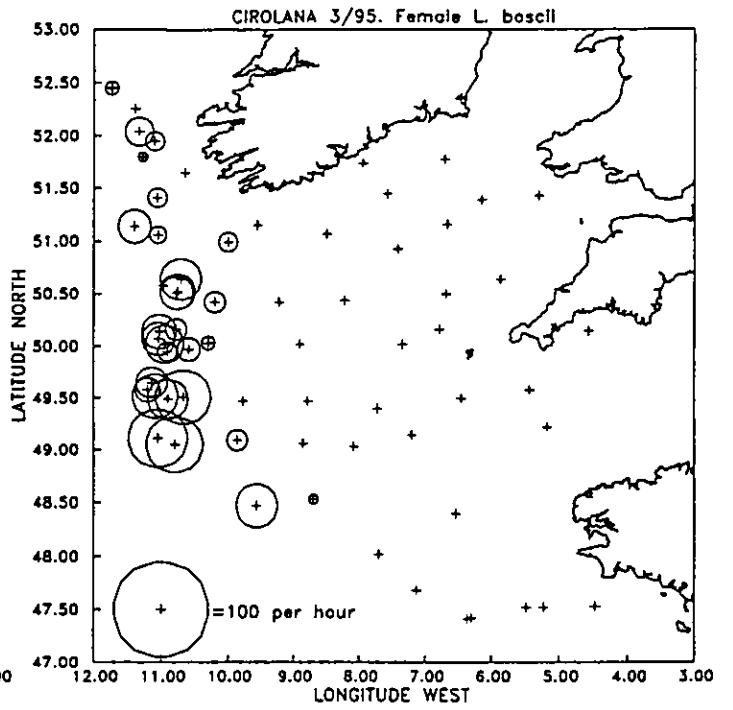
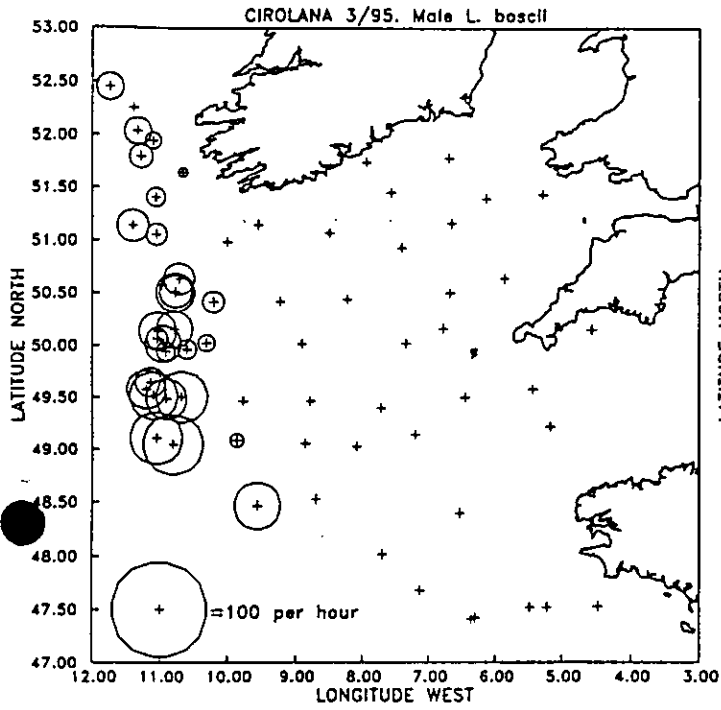


CIROLANA 3/95. *Lophius piscatorius*

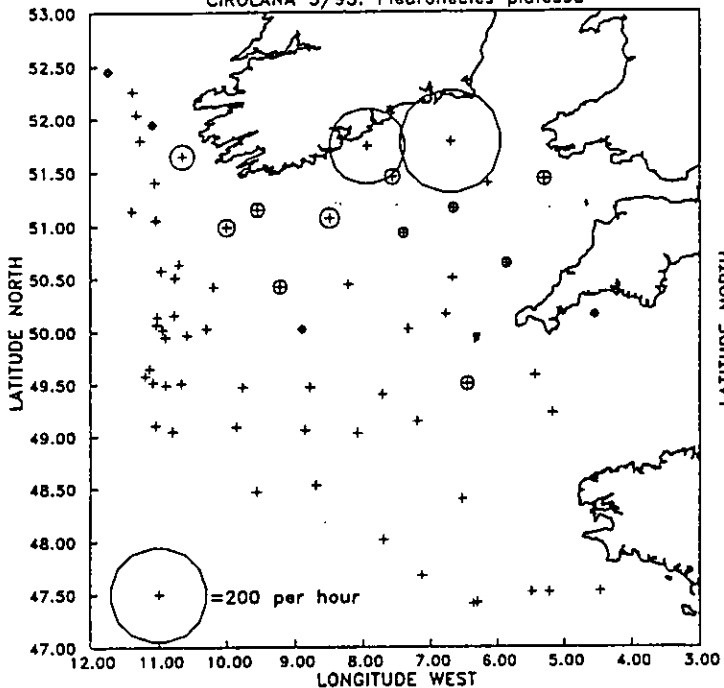


CIROLANA 3/95. *Lophius budegassa*

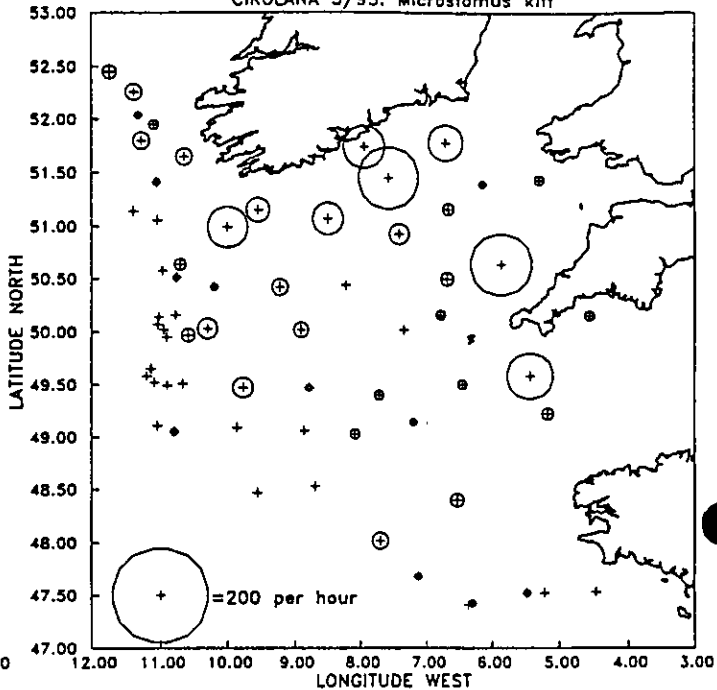




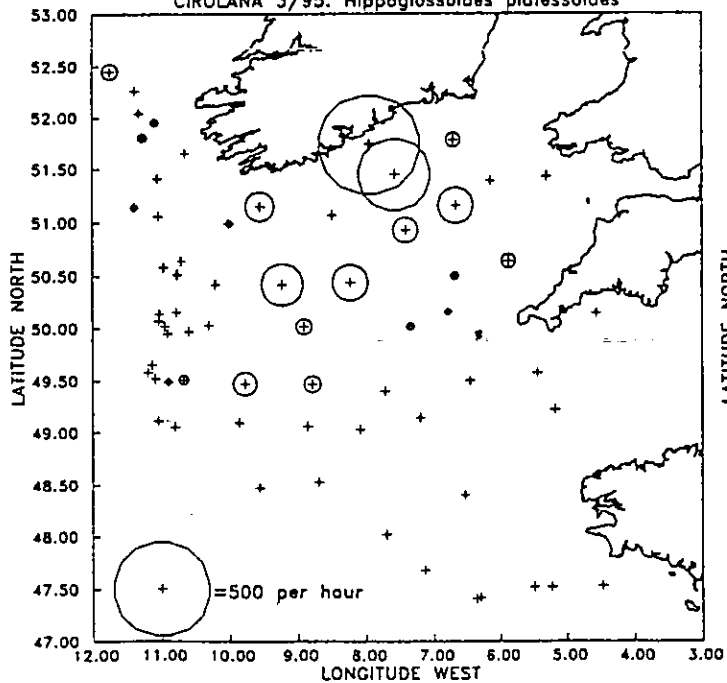
CIROLANA 3/95. *Pleuronectes platessa*



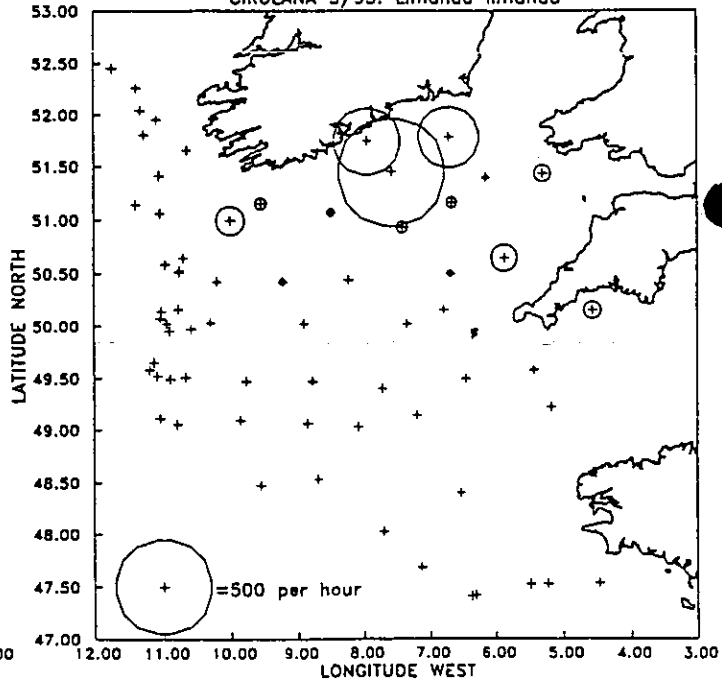
CIROLANA 3/95. *Microstomus kitt*

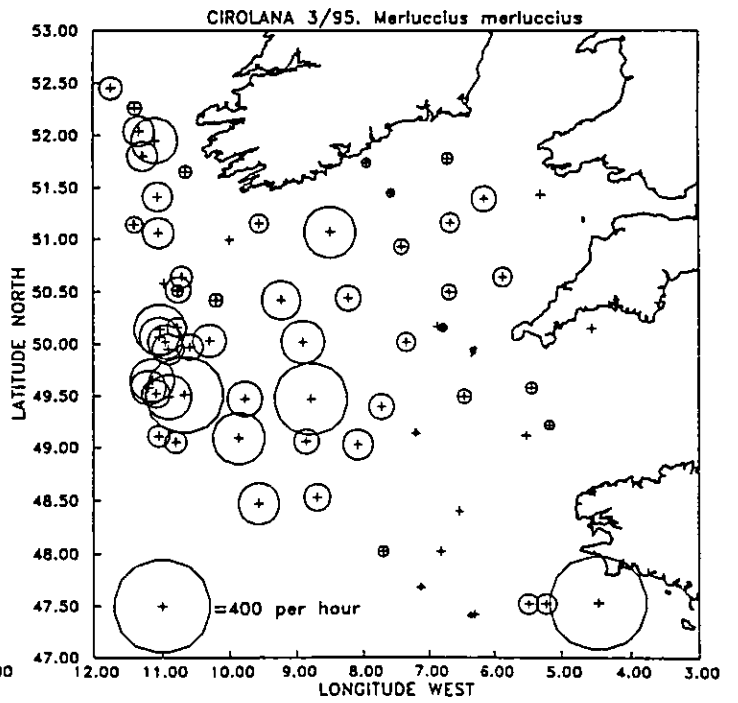
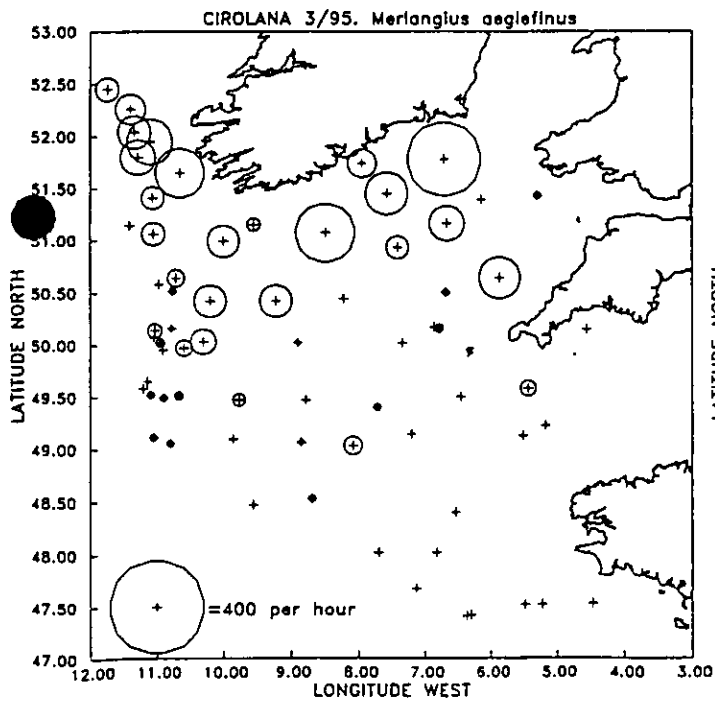
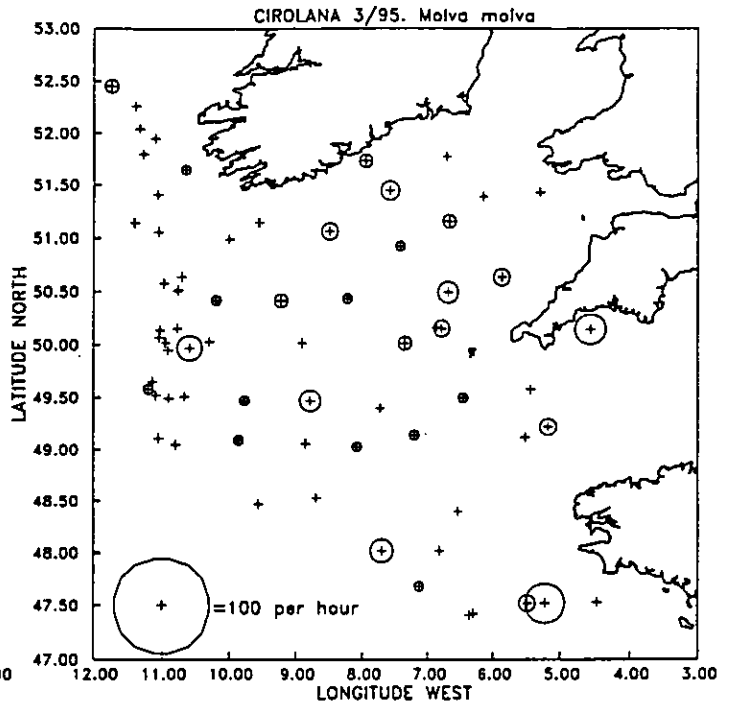
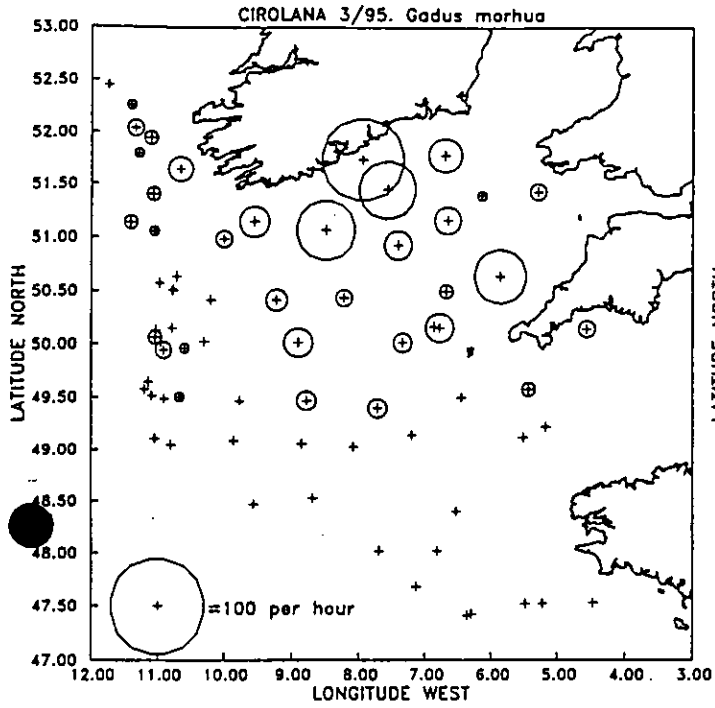


CIROLANA 3/95. *Hippoglossoides platessoides*

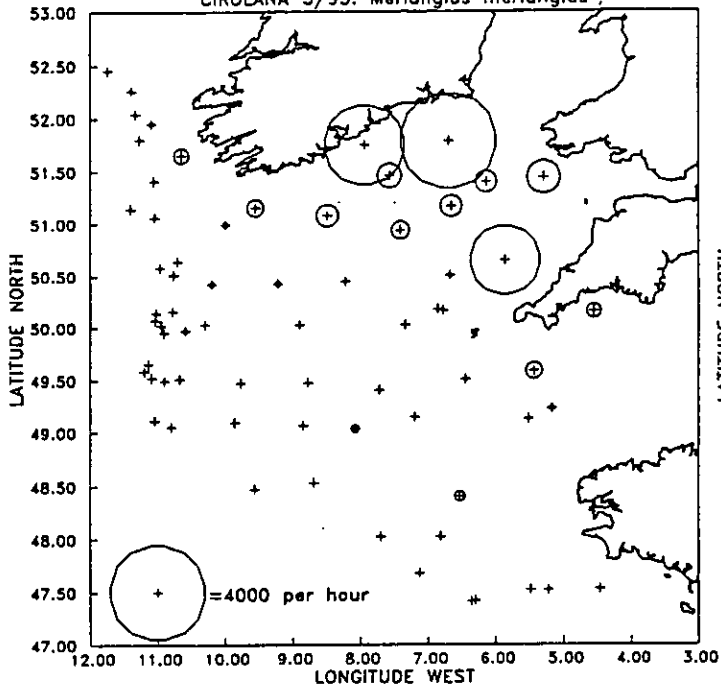


CIROLANA 3/95. *Limanda limanda*

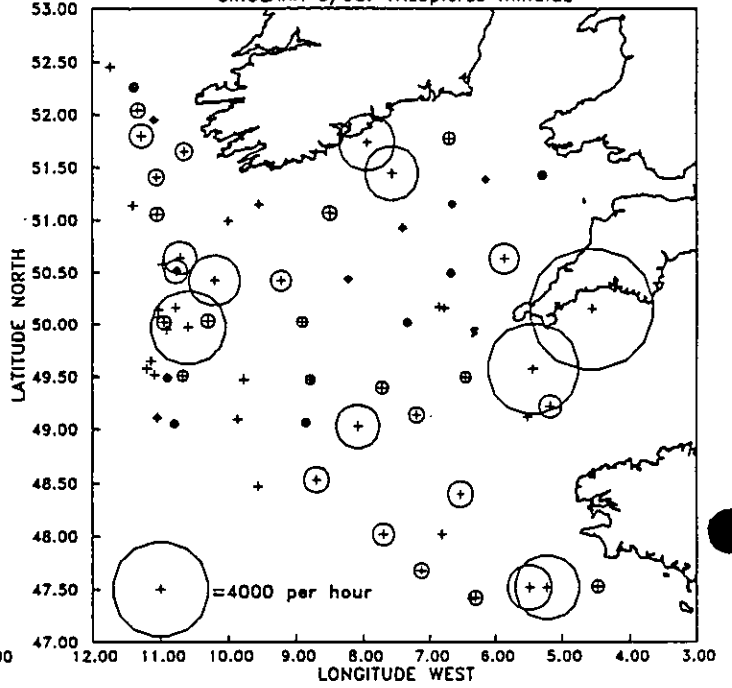




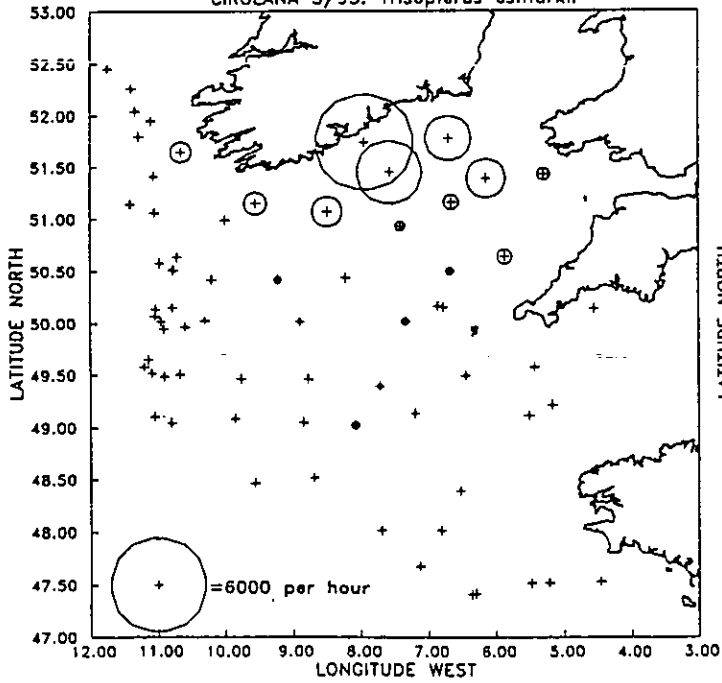
CIROLANA 3/95. *Merlangius merlangus*



CIROLANA 3/95. *Trisopterus minutus*



CIROLANA 3/95. *Trisopterus esmarkii*



CIROLANA 3/95. *Micromesistius poutassou*

