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

1983 RESEARCH VESSEL PROGRAMME

REPORT: R V CLIONE: CRUISE 3

STAFF: J D Riley
C G Brown
J M Last
C L Whiting
P M Hudson

DURATION: Left Lowestoft 1030 hours, 15 February
Arrived Lowestoft 1100 h, 3 March

All times are Greenwich Mean Time

LOCALITY: Middle and southern North Sea

AIMS:

1 To describe the distribution of pre-recruit cod and other gadoids in terms of salinity, temperature and depth.

2 To record surface and bottom salinity (S^{o}/oo) and temperature ($T^{o}C$) en route and at each fishing position.

3 To bring back live fish for laboratory use.

NARRATIVE:

On 16 February, a survey of the S^{o}/oo and $T^{o}C$ distribution in the German Bight was started using the Guildline CTD system, in order to find a transect with a large salinity gradient with minimum variation in $T^{o}C$ and depth. By 17 February one such had been identified (A on track plot) and between 18 and 23 February five stations on the transect were sampled for gadoid abundance. On the evening of 23 February, CLIONE headed for IJmuiden continuously sampling the surface $T^{o}C$ and S^{o}/oo and taking bottom values every 15-20 nmls.

February 25 was taken as the mid-cruise break in IJmuiden and stores and water were taken aboard.

On 26 February fish sampling was started on a similar salinity gradient in the 'broad fourteens' off IJmuiden (B on track plot). This completed, CLIONE returned to Lowestoft sampling the surface and bottom $T^{o}C$ and S^{o}/oo into the Thames and catching fish for Laboratory use off Sizewell, on the way.

RESULTS:

1 Catch rates of cod, whiting and bib by year classes, on the two salinity gradients can be summarised:

a. Both I and II group cod were taken in higher numbers in low salinity, as were I group bib.

b. II group bib showed no differences.

c. Both I and II whiting were taken in at higher cpue at the higher salinities.

As expected difficulties were experienced in finding areas where only salinity varied. Mean depth ranges were restricted to $\leq$ 12 m and the temperature gradations to $\leq 1.2^{o}C$. On each transect, S^{o}/oo graded from $30.4^{o}/oo$ to at A, 33.5, and at B, $34.2\ ^{o}/oo$.

2 Surface T°C and S°/oo estimations were continuously recorded and 62 bottom stations were also made. Reversing bottle estimations were also made for the purpose of calibration.

3 Live dab, flounder and lumpsucker were, on request, brought back for Dr Greer Walker.

J D Riley
21 March 1983

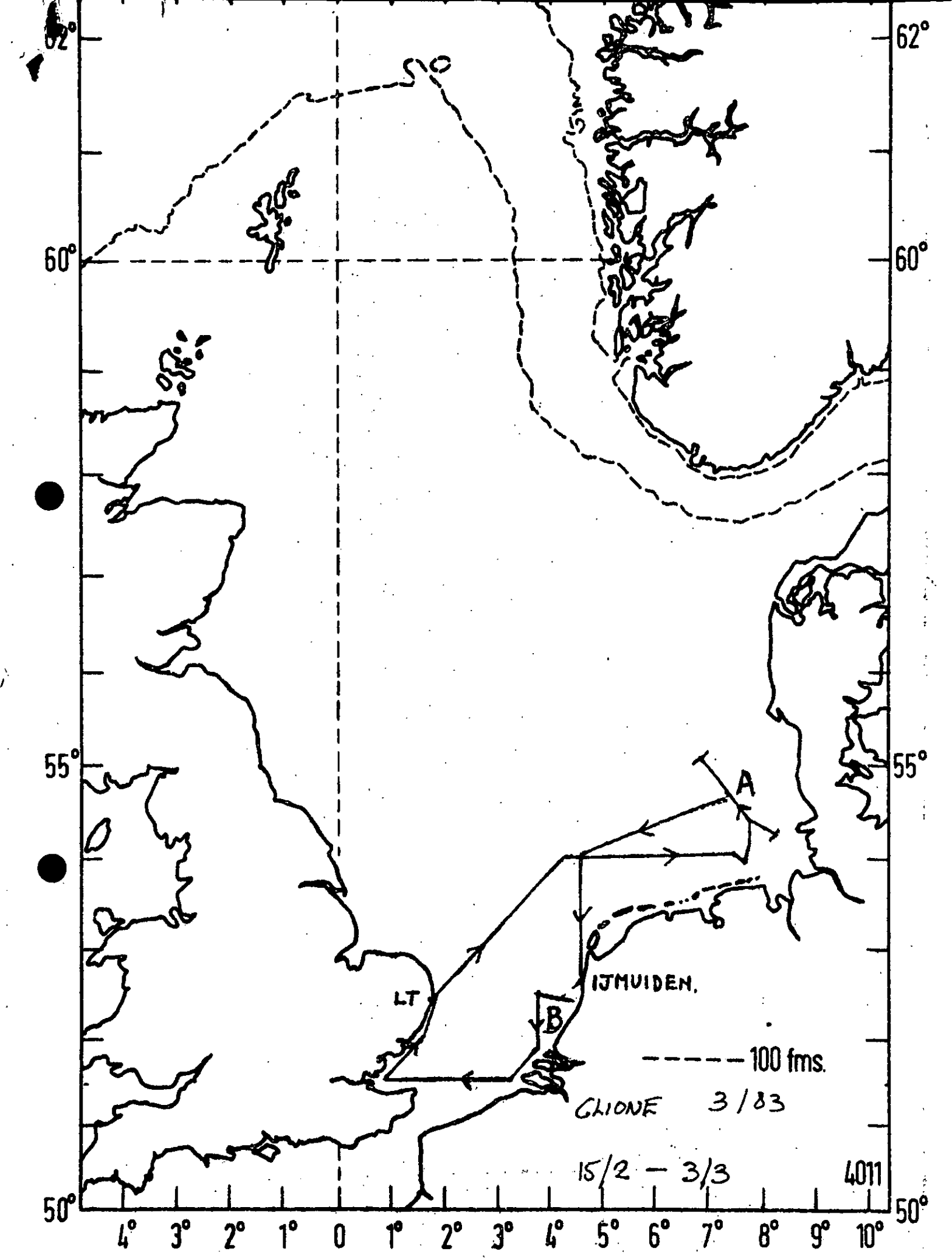
SEEN IN DRAFT: J R F Master
R G Fishing Skipper

INITIALLED: D J G

DISTRIBUTION:

BASIC list

J D Riley
C G Brown
J M Last
C L Whiting
P M Hudson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