

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

1991 COMMERCIAL VESSEL PROGRAMME

REPORT: SILVER HARVESTER

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

STAFF: T J Hulme  
A M Watson

DURATION: Sailed Plymouth 1730h 7 February  
Docked Plymouth 2015h 20 February

AIM:

To ascertain, by directed fishing for mackerel, the proportion of juvenile mackerel in, and around the Mackerel Box.

NARRATIVE:

On the 6 February, the scientific staff travelled from Lowestoft to Plymouth to join SILVER HARVESTER. Because of an easterly gale in the Channel, and the need for the vessel to discharge 40t of pilchards, the survey of the Mackerel Box did not begin until 1700h the following day. During the period 7-18 February, the area between 3°W and 5°W inside the Box, and between 3°W and 4°30'W, at approximately 49°20'N, outside the Box, was searched for Mackerel traces using the vessels colour sonar and colour split-beam echo sounder. Wherever good traces were found, they were fished on using a mid-water trawl rigged with a cable-less headline transducer. On the 19 and 20 February, searching and fishing was carried out east of 3°W in the vicinity of the Channel Light Vessel, before SILVER HARVESTER docked at Cattedown Wharf, Plymouth at 2015h 20 February to end the survey. After visiting MAFF Fisheries Office, Plymouth, and then unloading the sampling equipment and gear from SILVER HARVESTER, the scientific staff returned to Lowestoft on 21 February.

RESULTS:

A total of 20 hauls, of varying length, were made with the mid-water trawl (40mm codend) at the positions shown on the attached chart (Fig 1), and seven landings were made to the Interfish plant at Cattedown Wharf, Plymouth. Of the 20 hauls made, 6 were of pure mackerel, 6 were of mainly mackerel with around 10% pilchard, 3 were of pure pilchard, 2 were of pure horse mackerel, 1 of pure herring, 1 of large mackerel with a small percentage of horse mackerel, and 1 was blank. SILVER HARVESTER is equipped with 3 RSW tanks and the fish from each haul are transferred from the codend into these tanks by means of a powerful pump. On those hauls that contained mackerel, 3 baskets of fish were taken one each from the start, middle and end of the pumping session, and these fish were weighed and measured at sea when weather conditions allowed. From the 13 hauls made that contained mackerel, a total of 4926 fish were measured. The length frequency distributions of the mackerel caught on each of the hauls made in the four statistical rectangles fished, are given in Fig 2, with the arbitrary length split between juveniles and adults shown for reference.

Fish were selected for a stratified age/length key, and biologically sampled, aboard the vessel in harbour. No searching or fishing was carried out East of the Box, and no fish traces were found South of the Box. Indeed, after the north-easterly gale on 17 and 18 February, the Scottish purse seiner ACCORD searched South of the Box, west of 3°W, without finding any fish traces at all. Furthermore, during the survey, the wind was mainly from the East and North-

east, and it was noticeable that, after a gale from those directions, the fish shoals were more fragmented and harder to find.

Both the area searched, and the number of hauls made during the survey, were definitely restricted by the inordinate amount of time spent alongside the quay at Cattedown Wharf waiting to discharge our catches. On the other hand, the co-operation and help we received from Mike Hoskins, owner of SILVER HARVESTER, and Skipper Geof Cudd and his crew, was first class, and I would like to record my thanks to them for their valuable contribution to the success of the survey.

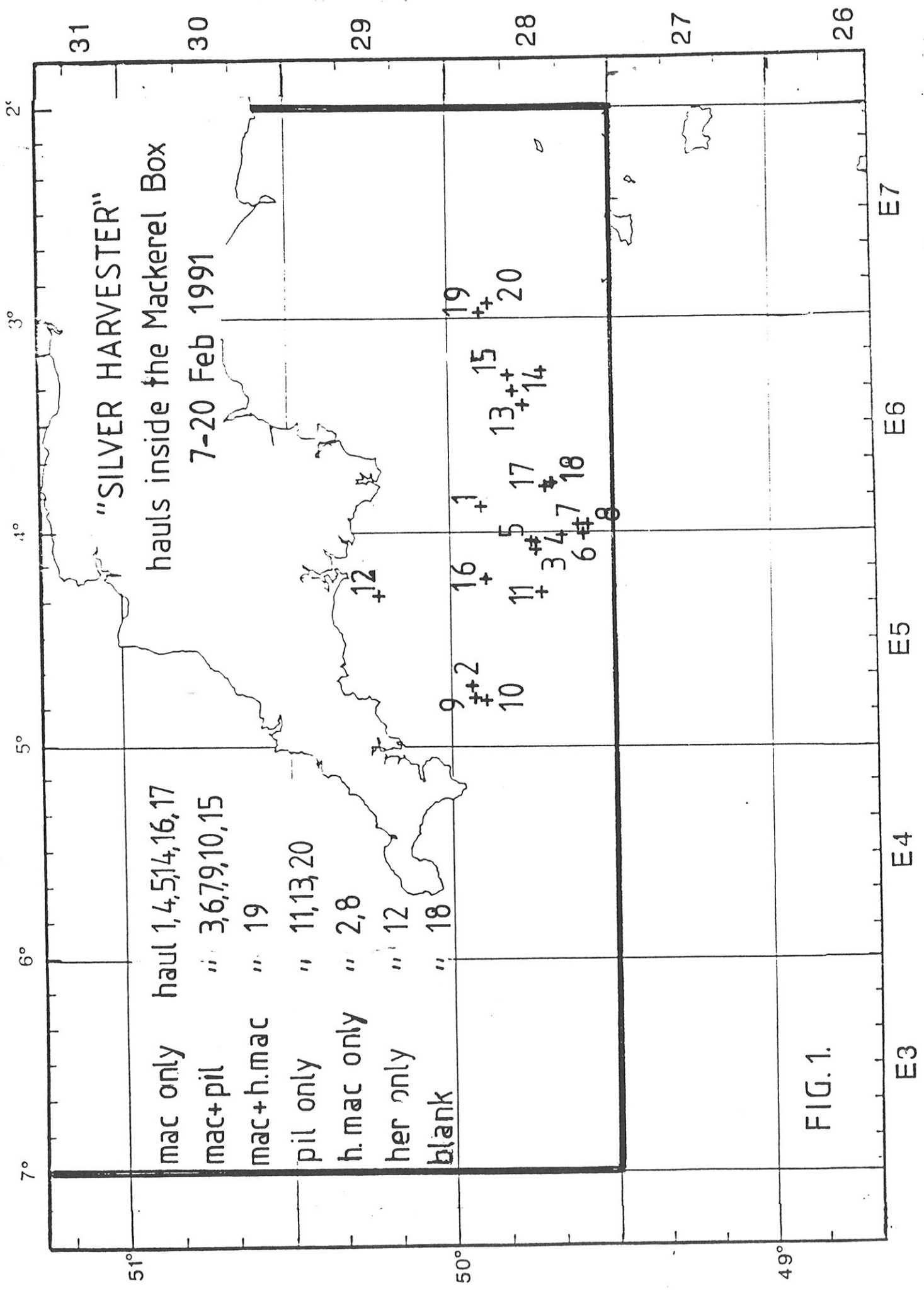
T J Hulme  
28 February 1991

INITIALLED:

A handwritten signature in black ink, appearing to be 'TJH', written over a horizontal line.

DISTRIBUTION:

Basic List +  
T J Hulme  
A M Watson  
Mr M Hoskins  
Skipper G Cudd



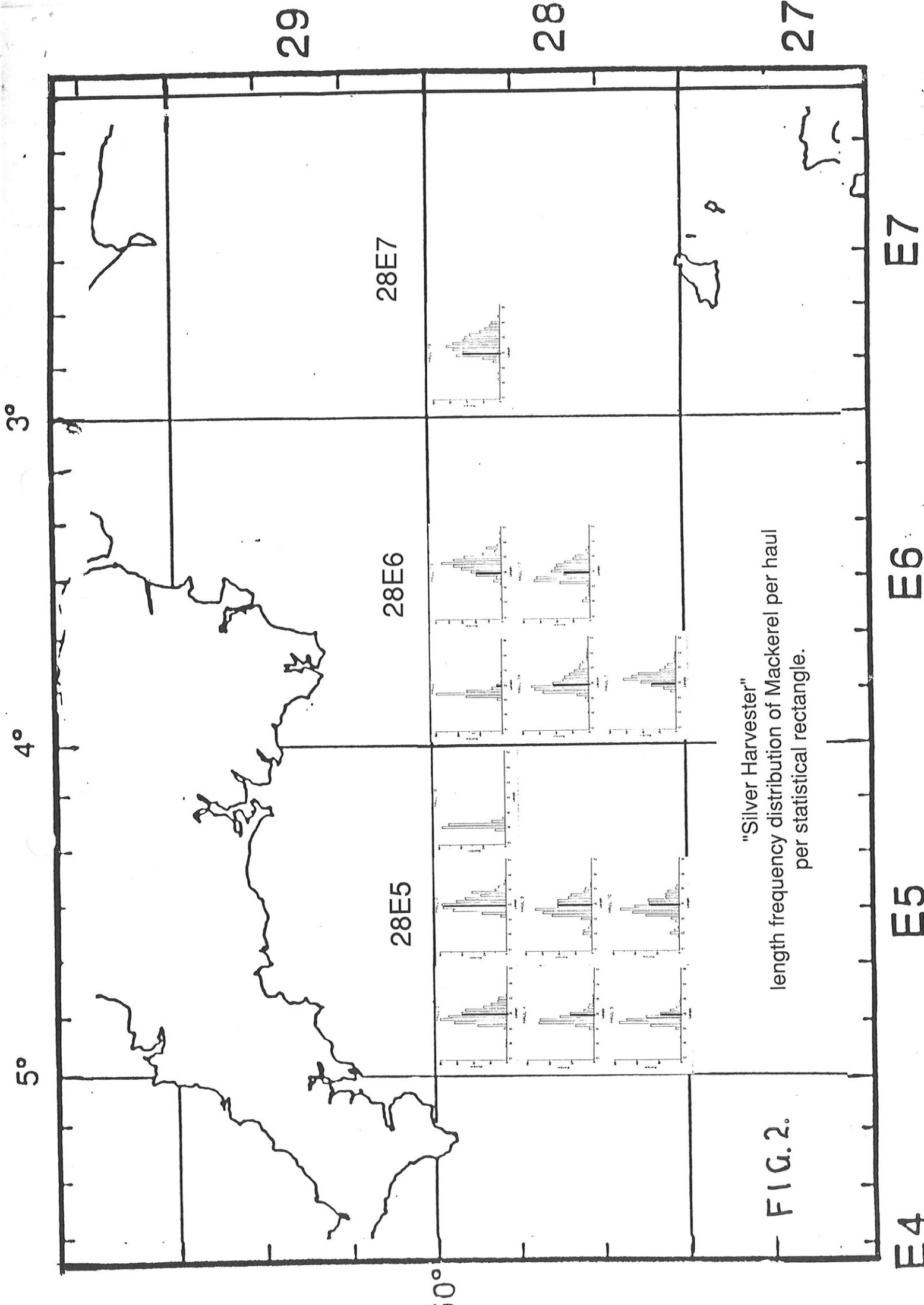


FIG. 2.

"Silver Harvester"  
length frequency distribution of Mackerel per haul  
per statistical rectangle.

E4 E5 E6 E7

29

28

27

3°

4°

5°

50°

28E7

28E6

28E5