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

1986 RESEARCH VESSEL PROGRAMME

REPORT: CHARTER DOUBLE-BEAM TRAWLER (Brixham)

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

STAFF: M. R. Vince (29 Sep-13 Oct)  
P. A. Large  
L. E. Woolner (13-17 Oct)

DURATION:

29 September-17 October 1986  
(All times are Greenwich Mean Time)

LOCALITY:

Part I Western English Channel (ICES division VIIe)  
Part II Bristol Channel (ICES division VIIf)

AIMS:

PART I

1. To carry out a trawl survey for sole by repeating the grid of station positions established in a similar survey in 1935.
2. To collect length distributions and otolith samples of sole, 'monk', and plaice.
3. To collect samples of Bryzoa and Hydrozoa from all hauls on which they occur for later examination by the shellfish group for scallop spat.
4. To collect samples of ungutted fish for A. Franklin (Burnham-on-Crouch).

PART II

5. To carry out a similar survey grid of trawl hauls in the Bristol Channel and repeat aims 2 and 3.

NARRATIVE

Messrs Vince and Large travelled to Brixham by van on 28 September. The following morning after the gear and ice had been put aboard the BOGEY ONE sailed for grounds situated about 20 miles SSE of Start Point.

The first survey continued uninterrupted for nine days. A total of 60 half-hour tows were made in similar positions to those on the 1985 survey. Various maintenance and repair jobs were carried out to the vessel and gear during Wednesday 8 October ready for the passage to Padstow the following day.

The BOGEY ONE collected the staff from Padstow at 1030 h 10 October and began the second survey about 9 miles WSW of Trevoze Head. By 2030 h 12 October 22 half-hour tows had been made on the western side of the survey grid. On the morning of 13 October a decision was taken to land Mr Vince who was unwell. The vessel steamed for Padstow where she docked at high water in the afternoon. The BOGEY ONE returned to sea at 1600 h the following day with Mr Woolner on board in place of Mr Vince. The survey continued under the direction of Mr Large until the afternoon of 17 October when the staff were landed at Padstow having completed a survey grid of 50 hauls. Mr Large and Mr Woolner returned to Lowestoft by van the following day.

#### VESSEL AND GEAR

The vessel was the same as used in 1984 and 1985. Only minor changes to the 6 m beam trawls had been made, and both nets were fitted with 80 mm courlene cod-ends with a 60 mm liner inside the starboard side cod-end for the purpose of the surveys. An additional electronic navigator had been fitted and proved very useful by providing a constantly updated mean speed of tow over the ground. These additional data have been used to cross check the distances covered during each tow and can be used when calculating c.p.u.r.e.

#### RESULTS

1. The first survey consisted of 60 half-hour tows and as in 1984 and 1985 a proportion were carried out in the hours of darkness. The numbers of sole caught per hour appears to be slightly up on 1985, but this will have to be re-calculated when the distance towed is taken into consideration.

The survey carried out in the Bristol Channel was the first of its kind. A grid comprising of about 90 sub-rectangles each of a similar size as those making up the western channel survey was devised. The total of 50 half-hour tows gave a good cover of the area. Some sub-rectangles were not fished due to fixed gear activity or were left out due to lack of time.

There are no figures for a direct comparison but the calculated mean number of sole caught per hour was very slightly up on the figure obtained in the western channel survey.

2. All sole, 'monk', plaice, lemon sole, megrim, John Dory, red mullet, hake, whiting, cod and haddock were measured. Approximate numbers of other species were recorded together with details of benthos. Otolith samples were taken from sole, 'monk' and plaice from both survey areas. In both survey areas the mean length and size range of sole was similar. These were 31 cm and 21 to 50 cm respectively. The cpue of 'monk' (L. piscatorius) in the western channel is again down compared with the previous year. The mean length is however up but this is probably due to the effect of a particular year class going through the fishery. The catch rate of this species in the Bristol Channel is more than double that found in VIIe but the mean length is smaller by 12 cm. Plaice catch rates in VIIe appear to be slightly up, whilst those in VIIf are on a par with the western channel in 1985. Only small numbers of lemon sole, brill and turbot are caught on the western channel survey but all appear to be slightly down on 1985. The catch rate in the Bristol Channel was found to be higher for these species, but the mean length of lemon sole was smaller than those caught in division VIIe.

3. Samples of Bryzoa and Hydrozoa were collected from many of the hauls in division VIIe but only a few in VIIIf. Twenty four of the sixty hauls made on the first survey yielded scallop compared with only fourteen of the total of fifty made in the Bristol Channel.
4. One sample of whole ungutted plaice was collected from VIIe. This was deep frozen for A. Franklin.

Little beam trawler activity was observed in division VIIe. (During the period of the survey this area was subject to a sole 10% by-catch restriction.) Some of the larger vessels were rigged with scallop dredges on their beams and working into the 3 mile limit. Included in this group was the largest of the Brixham fleet powered by a main engine of 1700 bhp.

In division VIIIf there were a few large Belgian beam trawlers observed working in the area about 30 miles NNW of Trevoise Head. In this area the tows made from the BOGEY ONE yielded mixed fishing consisting of sole, 'monk', lemon sole, John Dory and a few small hake. This latter species occurred on many of the hauls in this division but were only small in size and number. Three UK registered beam trawlers were seen working along the 12 mile limit off Pembroke. The catches made on the BOGEY ONE in this area consisted of mixed fish but with sole, plaice and ray predominating.

The success of these surveys was due to the remarkably settled period of weather and the usual skill and good planning by the skipper of the BOGEY ONE. The staff involved gratefully acknowledge the help and co-operation received aboard.

M. R. VINCE  
5 November 1986

INITIALLED: DJG

DISTRIBUTION:

Basic List :

M. R. Vince  
P. A. Large  
L. E. Woolner

'BOGEY ONE' Sep/Oct 1986

WESTERN ENGLISH CHANNEL AND BRISTOL CHANNEL  
BEAM TRAWL SURVEY

Summary of otoliths taken

<u>Species</u>	<u>VIIE</u>	<u>VIIF</u>	<u>Total</u>
Sole	281	210	491
Plaice	74	54	128
'Monk'			
<u>L. piscatorius</u>	94	111	205
<u>L. budegassa</u>	1	4	5

