

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

1988 RESEARCH VESSEL PROGRAMME

REPORT: CHARTER DOUBLE-BEAM TRAWLER (BRIXHAM)

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

STAFF:

M R Vince  
D W Palmer

DURATION:

29 September-7 October

LOCALITY:

Western English Channel

AIMS:

1. To carry out a trawl survey for sole by repeating the standard grid of station positions.
2. To collect length distributions and otolith samples of sole, 'monk', plaice and lemon sole.
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 details of all crab (Cancer pagurus), Lobster and Crawfish caught.
5. To devote one day of the charter period carrying out a 4 metre/6 metre beam-trawl comparison trial.\*

NARRATIVE:

Staff travelled to Brixham by van on 25 September. Due to strong SW gales the survey did not start until the morning of 29 September. A total of 47 half hour tows were made by 1000 hrs, 5 October when the BOGEY ONE went up the river Dart to exchange a 6 metre beam for a 4 metre beam. A further 12 tows were made by 1800 hrs, 6 October. Gear was off-loaded in Brixham and staff returned to Lowestoft on 7 October.

VESSEL, GEAR AND SURVEY AREA:

The vessel and gear was the same as used in previous years 1984-87. The two 6m beam-trawls were rigged with 72-73<sup>+</sup>mm couylene cod-ends with a 60 mm liner in the port side. The survey area was slightly reduced in size but still comparable with other years.

The gear comparison trial was carried out using the original 6 m gear on the starboard side and a 4 m gear on the port side. Both sets were rigged with identical chain mats and 40 mm liners in the cod-ends. The 4 m was not fitted with 'flip-up' ropes. The area worked was about 3 miles offshore between Berry Head and the north end of Start Bay.

RESULTS:

1-2. The survey grid consisted of 42 valid half-hour tows. Three void tows were due to cod-end trouble and one due to an excessive build-up of shelly sand in the port side gear.

\*measured with ICES spring loaded guage.

The mean cpue (uncorrected nos. per hour) for sole was the lowest since the survey began in 1984, and represents a reduction of 33% from the previous 4 year mean. The 1983 year class as 5 year olds contributed 37% of the total survey numbers and confirm previous indications of the relative strength of that year class. Both the 1986 and 1985 year class as 2 and 3 year olds respectively show a lower cpue than on any previous survey.

The number per hour for plaice continues to increase and represents an increase of 84% on the previous 4 year mean. The 'monk' (Lipiscatorius) cpue has changed little in the past three years and the catch of lemon sole, brill, and turbot continues at a low level.

Stratified samples of otoliths were collected from the following species: Sole 127, plaice 137, 'monk' 88, lemon sole 32.

3. Samples of Bryzoa and Hydrozoa were collected on many of the hauls for examination for scallop spat.

4. a total of 70 crab (Cancer pagurus) were measured and sexed. No lobster or crawfish were caught.

5. The fishing trial carried out to compare the catch rates of the 4 and 6 metre beam trawls was limited to a small area and depth range due to the adverse weather. Ten half hour and two one hour tows were made.

From this restricted experiment it was found that for plaice the cpue (nos per  $\frac{1}{2}$  hour) of the 6 m gear was greater than that of the 4 m, and the result gave a correlation coefficient of 0.94. No significant correlation was found for sole, although the mean cpue was higher for the 4 m gear (see table below).

6m			4m	
n	$\bar{x}$ (Nos/ $\frac{1}{2}$ hr)	coeff. of var.	$\bar{x}$ (Nos/ $\frac{1}{2}$ hr)	coeff. of var.
Plaice 12	25.75	0.74	21.08	0.74
Sole 12	6.75	0.59	8.67	0.44

The overall result of this trial came as no surprise to the skipper of BOGEY ONE who expected the 6 m gear to be more efficient on plaice but less so on sole. A further more extensive trial is hoped for in the near future.

#### COMMERCIAL FISHING ACTIVITY:

The three day delay in the start of this survey caused by the severe weather also prevented most of the beam-trawl and scallop-dredge fleet from fishing. During the survey little activity was observed apart from a few of the small vessels fishing for sprat close inshore. The 10% by-catch restriction on plaice landings from the English Channel for the beam-trawl fleet is causing problems, especially as the plaice stock within the survey area appears to be increasing in contrast to sole and 'monk'.

Once again, this was a vèry useful survey and thanks must go to the skipper and crew at the BOGEY ONE for their help and co-operation.

M R Vince  
1 November 1988

INITIALLED:

D J G

DISTRIBUTION:

Basic List+  
M R Vince  
D W Palmer  
Skipper Lovell (BOGEY ONE)

