

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

1990 RESEARCH VESSEL PROGRAMME

REPORT: RV MARBELLA: CHARTER VESSEL: CRUISE 1/90

STAFF

J Casey
M R Vince
D R Eaton
S Warnes

DURATION

Left Ijmuiden 1630h 24 January
Arrived Ijmuiden 0630h 6 February
All times are Greenwich Mean Time

LOCALITY

Western English Channel

AIMS

1. To determine the selectivity of square mesh codends and extensions on midwater trawls for mackerel.
2. To collect biological material for stock assessment purposes.

NARRATIVE

Marbella sailed from Ijmuiden at 1630h GMT on 24 January 1990 and steamed to Dover in a SW gale force 8 arriving at 0930h on 25 January 1990. Scientific staff and fishing crew joined the ship at approximately 1000h. Weather conditions rapidly deteriorated to SW violent storm force 11 and Marbella dodged at anchor in Dover harbour until 0720h on 26 January 1990. During this period experimental codends were attached to a 3700 mesh Engel midwater trawl. On leaving Dover harbour sea conditions were still poor and Marbella steamed towards the western channel into a SW force 6-7. Mackerel shoals were reported to be about 12 miles south of Start Point and the first shoals were located at 0710 on 27 January 1990 at latitude 50° North, longitude 03° 33' West. The standard 3700 Engel trawl with 40mm diamond mesh codend was shot at 0805h and approximately 23.5 tonnes of mixed scad/mackerel were hauled aboard. Mackerel comprised 88% of the catch by weight. The trawl with 60mm square mesh experimental codends was shot in daylight at 1046h and a clean catch of 12 tonnes of scad was taken aboard.

Weather conditions by this time were worsening and after a brief visit from fishery protection vessel HMS Blackwater, Marbella set a course

for Torbay to shelter until darkness and to launch her inflatable in order to free a blocked galley drain. By nightfall in marginal conditions Marbella headed back to the area 12 miles south of Start Point to resume fishing.

Suitable shoals of mackerel were identified and at 0025h, 28 January 1990, the experimental trawl was shot and 27 tonnes of almost pure mackerel were caught. Weather conditions were deteriorating rapidly with the arrival of a NW storm force 10 and a course was set for Start Bay arriving at 0415h. By 1700h a southerly violent storm 11 was forecast and Marbella shifted to Torbay for a safer anchorage where she remained until 2200h on 31 January 1990. A course was then set for 12 miles south of Start Point. The square mesh trawl was shot at 0235h, 1 February 1990, and after towing for only 5 minutes the net was hauled and the whole of the square mesh codend and extension was filled with almost pure mackerel. A single bag was lifted aboard (approx 2 tonnes) and because of the marginal sea conditions a large proportion of the catch was slipped in order to reduce the risk of losing the codend. However, whilst attempting a second lift, the codend and selvages parted immediately forward of the lifting beckett and the rest of the catch was lost. A further tow was undertaken with the 40mm diamond mesh codend and approximately 30 tonnes of mixed mackerel and pilchard was safely brought aboard. Marbella then once more set a course for Torbay to avoid a southwesterly force 10, in order to process the catch, repair the square mesh codend and to put a crewman ashore.

Marbella put to sea once again at 1630h on 2 February 1990 and by 0110h 3 February 1990 four hauls had been successfully carried out and the ship steamed landward to process her catch of approximately 50-55 tonnes of mackerel. During processing Marbella dodged in the area 2 miles south of Berry Head until 1715h. Fishing operations then resumed in the area 12 miles south of Start Point and two successful tows were undertaken, one with each trawl. At 0130h on 4 February 1990, Marbella headed for Torbay with approximately 50 tonnes of mackerel aboard for processing.

Fishing operations resumed at 2100h on Sunday 4 February 1990 and by 0700h on 5 February 1990 the experimental codend trawl was shot twice and the standard codend trawl once. On the penultimate haul the square mesh codend parted horizontally across one of the panels and about 50 tonnes of fish were lost. Approximately 90 tonnes of clean mackerel was taken aboard and the ship headed for Torbay for the last time for processing. Marbella then set a course for Dover where scientific staff and crew were put aboard at 1630h on 6 February 1990 and Marbella continued on to Ijmuiden to land her catch and terminate the survey.

RESULTS

Aim 1

All fishing operations were carried out in the area between 49° 54'N to 50° 03'N and 3° 40'W and 3° 20'W. A total of fourteen hauls were made, nine using the experimental codend trawl and 5 using the standard codend trawl. An estimated total catch of 470 tonnes of mackerel was taken using both gears although only approximately 280 tonnes were

retained on board and frozen for sale. The catch details for each haul are given in table 1. The size composition of the mackerel ranged from 18cm to 37cm, well within the expected selection range of the gear under test. The aggregated length compositions for each gear is given in figure 1 and it is obvious that the length compositions are virtually identical and that no detectable selection is taking place using the 60mm square mesh codends.

It is also important to note that over 90% of the total catch in numbers for both gears comprises fish of 29cm or less, and an approximate estimate of the relative numbers of the 1989, 1988 and 1987 and older yearclasses are 52%, 35% and 12% respectively.

Aim 2

The total catch of all species is given in table 2. No biological samples of mackerel were taken. Two samples of pilchard were frozen for T J Hulme. Sixteen bass were examined for biological data.

J Casey
12 February 1990

Seen in draft W J Taylor (Skipper Marbella)
J W Horwood (Head of FSM2)

Initialled JGS

DISTRIBUTION

Basic List +

J Casey
M R Vince
D R Eaton
S Warnes
B W Jones

Clerks of: Devon Sea Fisheries Committee
Cornwall " "
Southern " "
Isles of Scilly "

TABLE 1

FV MARBELLA Mackerel Catch Data

STATION	3	4	6	8	9	11	12	13
CE Mesh	D	S	S	S	D	D	S	S
Wt landed	21	0	27	2	26	25	6	3
Discarded	0	0	0	58	0	35	0	0

Total	21	0	27	60	26	60	6	3

STATION	14	16	17	19	20	21	TOTAL	
CE Mesh	S	S	D	S	S	D		
Wt landed	18	10	55	10	10	70	283	
Discarded	15	0	35	0	50	0	193	

Total	33	10	90	10	60	70	476	

D = Diamond

S = Square

TABLE 2 FV MARBELLA Cruise 1/90
Catch Details

	<u>Wt Caught</u>
Mackerel	476 tonnes
Scad	15 tonnes
Pilchard	4 tonnes
Squid	100 Kg
Bass	25.5 Kg
Plaice	0.340 Kg
Whiting	11 Kg
Pollack	18.5 Kg
John Dory	4 Kg
Hake	2 Kg
Blue Whiting	250 g
Black Sea Bream	100 g

Figure 1

