

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

1980 RESEARCH PROGRAMME

REPORT: MFV INDEPENDENCE

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

STAFF:

P. A. Large

DURATION:

Sailed from Scarborough 0120 h, 27 July

Returned to Scarborough 0700 h, 30 July

LOCALITY:

North East Coast

AIMS:

To obtain information on the discard rates of commercial fishing vessels off the North East Coast.

NARRATIVE:

INDEPENDENCE sailed at 0120 h, 27 July and steamed north-easterly to commence fishing at 0750 h at a position approximately 51 miles NE of Scarborough Castle (E. of Dab Hole - ICES rect E09). Two circular towpaths covering this area and the western edge of Brucey's Garden (E08) were completed by 1720 h, 27 July. INDEPENDENCE then steamed in an easterly direction to recommence fishing at a point approx. 50 miles NE x E of Scarborough Castle (W and SW edge of Brucey's Garden - single rect - E08). Six hauls were made at this location before returning on 29 July to the Dab Hole area to make two final tows following the same circular towpath fished in the early part of the trip. Fishing finished at 0030 h, 30 July, and with over 1,000 stones of fish on board the INDEPENDENCE steamed for Scarborough and docked at 0700 h, 30 July.

RESULTS:

Quantities of fish retained and discarded from each haul were recorded. Length compositions of the main species discarded were obtained from every haul with the exception of 'split rectangle tows', ie those that had taken place across the two ICES rectangles E08 and E09. Samples of otoliths from the discarded cod, haddock and whiting were collected on the same basis. A total of 1833 fish were measured and 159 pairs of otoliths were taken. The principal species retained were cod, whiting and haddock, whilst lemon soles, turbot, catfish, saithe, plaice, sole and monkfish were all landed in small quantities.

Catches made on the Dab Hole/Brucey's Garden grounds varied between 9 and 50 baskets per 4½ hour tow, the larger catches consisted mainly of mackerel whilst the smaller catches were comprised mainly of small and medium size codling. The first two tows produced relatively large quantities of mackerel (20 and 36 baskets respectively). This was considered by the skipper to be highly unusual, the norm being one or two boxes per 4 day trip. The main species discarded on these grounds was cod. The average % rejection (all spp) was approx 11% by weight of the total catch.

Tows made on the W and SW edges of Brucey's Garden (E08), yielded considerably different catches to those made in the Dab Hole area. Catches varied between 10 and 60 baskets per 5½ hour tow and consisted primarily of small and medium haddock, the majority of which were caught during the early hours of the morning. Small haddock were also the main component of the discarded catch, average % rejection (all spp) being approx. 16% by weight of the total catch.

A table is attached showing the estimates of retained catch and quantity discarded on a haul by haul basis.

INDEPENDENCE was built at Fraserburgh in 1977. She has a registered length of 54 ft and is powered by a 375 HP Kelvin engine. INDEPENDENCE is typical of the new generation of trawlers fishing out of the Yorkshire ports of Scarborough and Bridlington. She is Transom sterned, has a fixed Kort nozzle, and is fitted out with numerous navigational and fishing aids:- Kelvin Hughes MS44 and Simrad EQ echosounders (both with expanding scale), two multidirectional Wesmar sonars, a Foruno fish lupe, autopilot, Decca track-plotter, Decca radar (Type 914), two Decca navigators (MK.21).

The trawl net was of the 'Boris Box' type with a 100 ft groundrope fitted with 21" rubber bobbins in the bosom, grading down to 12" bobbins towards the wings. The cod end was 80 mm single mesh without a lifting bag. The net was fished with 1600 lb steel V-doors equipped with 30 fathom chain bobbins legs.

INDEPENDENCE is one of the top trawlers fishing out of Scarborough and she has a reputation for landing good size codling and chat haddocks. This was reflected in the length composition of the discarded gadoids, of which 50% by number were above the respective minimum size.

A feature of particular interest during the trip was the use of the Wesmar 220 sonar to locate rough ground. The system is of the forward and side-searching type, and by watching the display the skipper can determine whether he is towing over rough ground or fine ground. The system also emits a low pitched rasping noise, the intensity of which varies according to the degree of 'roughness'. The sonar enables the skipper to work a rough-ground trawl with considerable efficiency.

The total weight of fish landed from the trip was 1045 stones value £3992.

The skipper and crew were extremely helpful throughout the trip and I would like to thank them for their cooperation.

P A Large  
2 October 1980

INITIALLED: AJL

DISTRIBUTION:

Basic List +  
P A Large x 3

## HAUL BY HAUL SUMMARY

MFV INDEPENDENCE

Sailed 27.7.80

Returned 30.7.80

Location	Haul No	Skipper's estimate of total catch - all spp (stones)	Skipper's estimate of retained catch (stones) (main spps in descending order of abundance by weight)	Estimate of discard (stones)
Dab Hole & NW of Brucey's Garden	{ 1	130+	150 {mackerel}	12 {cod}
	{ 2	180	{cod}	{haddock}
	{ 3	325	252 {mackerel}	12 {cod}
	{ 4	130	{cod}	{haddock}
	{ 5	55	300 {haddock}	*25 {haddock}
	{ 6	150	{cod}	{whiting}
	{ 7	240	107 {haddock}	*23 {haddock}
	{ 8	130	{cod}	{whiting}
W & SW of Brucey's Garden	{ 9	50	48½ {haddock}	15 {haddock}
	{ 10	60	{cod}	{whiting}
	{ 11		128 {haddock}	*22 {haddock}
	{ 12		{cod}	{whiting}
	{ 13		202 {haddock}	*38 {whiting}
	{ 14		{cod}	{haddock}
	{ 15		90 {haddock}	*40 {haddock}
	{ 16		{cod}	{cod}
Dab Hole & NW of Brucey's Garden	{ 17		45 {cod}	10 {haddock}
	{ 18		{haddock}	{cod}
	{ 19		59 {cod}	17 {cod}
	{ 20		{lemon soles}	{haddock}

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1381 st.(approx)

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Note: \*denotes that the weight of discards has been obtained by subtraction using the skipper's estimate of total and retained catch.  
All other discard estimates have been obtained by basketing.