

Provisional: not to be quoted without reference to the writer

R. V. ERNEST HOLT

Report of Cruise 8/1967

Staff

Duration

A. C. Burd	Part I : 2100 hours 22 September-
J. G. Cattley	2030 hours 4 October
D. S. Tungate	Part II: 0700 hours 5 October-
B. Holford	1710 hours 19 October
S. Flatman	(All times G.M.T.)
B. Meggett (Grimsby)	

Aims

1. To make an echo survey from Flamborough to the Norfolk Banks.
2. To trawl for horse mackerel in the Southern Bight and eastern English Channel.
3. To investigate pelagic fish traces off Cornwall.
4. To make a detailed survey of the Bristol Channel for sprats.
5. To examine the Jones Bank, Labadie Bank area for fish suitable for meal reduction.

Narrative

PART I

ERNEST HOLT sailed at 2100 hours GMT on 22 September. Course was made to commence the echo survey from a position south of Flamborough Head. Extensive echo traces were recorded south of the Outer Silver Pit. Dense traces were also seen over the Norfolk Banks and in the Inner Silver Pit. A trawl haul here indicated a mixture of sprats and small herring.

A survey of the Wash was made on the 24th and the echo grid of the Norfolk Banks was completed early on the 26th. An attempt to sample bottom echo traces near Smiths Knoll failed when the gear was split.

The echo record on the course south of the Outer Gabbard and Galloper was notable for the absence of fish echoes. This was in marked contrast to their abundance to the north. Pelagic fish traces in the vicinity of Bligh Bank were sampled with the Engels trawl. The catch consisted of a mixture of mackerel, anchovies and small horse mackerel. Little trace was seen in the Sandettie area while the area south of the Varne was surveyed.

In the English Channel an area of dense fish trace was detected in Baie de la Seine. Another area was located centred 30 miles E x S of Start Point. This echo patch extended into Lyme Bay. Engels trawl hauls suggested that the offshore patch was mainly horse mackerel, whereas the inshore area had more sprats. Work in this area was concluded on 30 September and the survey continued to cover the Lizard-Eddystone area. This was completed in deteriorating weather on 1 October.

Survey commenced in the Bristol Channel on 2 October and had to be abandoned on the 3rd with gale force winds of 40 knots. The ship dodged during the night of the 3rd and entered Cardiff Dock at 2020 hours and berthed at 2030 hours on the 4th. That part of the survey which was completed revealed dense echo traces on the northern side of the Bristol Channel,

extending well beyond Lundy Island. It was not possible to sample the shoals, owing to the poor working conditions.

A. C. Burd

4 November 1967

PART II

After disembarking Mr. Burd, ERNEST HOLT sailed at 0700 hours on 5 October, but at 0900 hours, when off Barry Dock, she had to anchor to put off a deckhand for treatment in hospital. In consequence ERNEST HOLT was delayed until 1315 hours, when the echo survey of the Bristol Channel was recommenced so as to cover and fish in the deeps where echo traces had been found to be densest.

Between 0005 hours on 6 October and 1253 hours on 12 October the nine eastern lines of the echo grid in the south-western approaches to the southern Irish Sea were completed. ERNEST HOLT put into Cork at 0830 hours on 7 October for fuel and water, sailing again at 0822 hours on 8 October; she also anchored off Cobh for a short period on the 10th, to despatch a document to the laboratory, and again on the 13th, to pick up a bathythermograph.

One-hour hauls with the 800 Engels trawl in the entrance to the Bristol Channel produced a basket of sprats and small whiting in the central part, and up to $5\frac{1}{2}$ baskets of whiting and a small assortment of sprats in the northern part.

Over the Irish area of the echo grid the water was extremely clear, and during the hours from dusk to dawn over most of the area a continuous and very dense trace was recorded, occupying the entire top 35 metres and bounded below by a narrow and extremely dense layer. Below this the intermediate water to near the bottom was perfectly clear, but traces appeared again close to the bottom. Some diurnal movements were recorded. Various attempts were made to fish in this area, both with the 800 Engels trawl and the French trawl, but without success, despite the fact that, when we were using the French trawl at position $51^{\circ}24.9'N$ $7^{\circ}58.8'W$ on 10 October, four Dutch luggers were seen to be trawling in the same area.

Later in the cruise, while proceeding to the north-west of the Smalls ground, a half-hour tow with the 20" high-speed plankton sampler at 5 knots in the dense echo trace yielded numerous Calanus, small copepods and euphausiids (Thysanoessa inermis). Examined in the dark, this catch was highly bioluminescent. It is probable that a combination of this plankton with the clear water was the cause of the lack of trawling success.

At 1615 hours on 10 October a haul with the 800 Engels trawl was attempted at position $51^{\circ}25'N$ $07^{\circ}58.5'W$. Directly the doors were run out and towing had commenced, the three after door combination bridles and one fore door bridle parted, with the consequent total loss of the trawl, the remaining two bridles of the fore door tearing away with a small portion of the net. Examination of the remains of the torn bridles showed immediately that these were in a bad state of deterioration. The position of the loss was accurately plotted for an attempt at recovery later that day but the weather subsequently deteriorated, so that attempts to locate the net by echo survey and trawling had to be postponed and the echo survey was resumed.

A further attempt to recover the trawl was made on 13 October, ERNEST HOLT leaving Cobh at 1505 hours for the vicinity of the loss. By the time we approached the area, however, the weather had deteriorated again, to such an extent that trawling was impossible. ERNEST HOLT therefore abandoned the attempt and, since time did not allow a continuation of the echo survey, proceeded to Milford Haven in order to pick up a new set of combination bridles. By 1812 hours, however, speed had to be reduced to half, and by

2200 hours the vessel had to begin dodging in winds of 45 knots until 0850 hours on 14 October. Conditions had now eased sufficiently to proceed at reduced speed, Milford Haven being reached at 1800 hours under severe swell conditions.

By 1600 hours on 15 October, the weather having moderated sufficiently, ERNEST HOLT sailed with the new set of bridles to fish in the area of the Smalls ground and in the mouth of the Irish Sea, where dense echo traces had been encountered before. Catches on 15 and 16 October were, however, negligible. Results of tows with the 20" high-speed sampler have already been recorded above.

Course was now set for the English Channel, but first gale and then severe gale conditions forced ERNEST HOLT to dodge in the open sea to the south-west of Land's End, from the evening of 16 October until 0600 hours on the next day. The area of heavy traces encountered in the Lizard area on the outward voyage was located and fished with the Engels trawl in the afternoon of 17 October. Results were nil and, since the water was very clear, it was presumed that conditions were similar to those off Ireland. Weather conditions, however, were too rough to sample the water with the high-speed sampler.

ERNEST HOLT proceeded to the Baie de la Seine. Here the heavy traces encountered on the outward voyage appeared to have moved slightly up channel, but a haul with the Engels trawl early on 18 October at 49°45.5'N 00°24.0'W yielded only a small number of pilchards with a few mackerel and a couple of horse mackerel, besides three porbeagle sharks 5-7 feet long.

Course was now set for Grimsby. The Simrad echo sounder was run continuously until the approach to the Humber and recorded dense traces off the Thames Estuary besides many others elsewhere. ERNEST HOLT berthed at 1710 hours on 19 October.

The Mufex weather recorder was run each day to record most useful forecasts.

J. G. Cattley

18 December 1967

Initialled: AJL

Seen in draft: EAB
GWA

Distribution

Dr. Cole	Mr. Wood	Dr. Burgess
Mr. Lee	Mr. Adams	Mr. Baird, D.A.F.S.
Captain Aldiss	Mr. Mills	Prin. Inf. Officer, D.A.F.S.
Dr. Cushing	Mr. Kay	Mr. Glover
Mr. Burd	General Lab.	Dr. Grant
Mr. Garrod	Lab. Registry	Hydrographic Department
Mr. Hill	Library (2)	Dr. Lovern
Mr. Bolster	Mr. Whiting	Dr. Lucas
Mr. Cattley	ERNEST HOLT file	Director, N.I.O.
Dr. Harden Jones	(N.I.C. next cruise)	Dr. Peachey
Mr. Margetts	Mr. Simpson	Mr. Shelbourne
Mr. Trout	Dr. Reynolds	Mr. Steele
Mr. Iles	Chief Inspector	W.F.A.
Mr. Holden	All D.Is	Director, Bergen
Dr. Jamieson	Fisheries Registry	Mr. Joensen
Dr. Purdom	Captain Binnington	Director, Reykjavik
Mr. Bridger	Mr. Harrison	
Mr. Mitson	Skipper Argumont	Mr. Holford
Mr. Tungate	The British Trawlers'	Mr. Flatman
Mr. Williams	Federation Ltd.	Mr. Meggett