

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

1977 RESEARCH VESSEL PROGRAMME

REPORT: R V CLIONE: CRUISE 9/77

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

STAFF: R B Mitson 4-7, 10-12 July
E G Shreeve
P G Griffiths 4-5, 7-12 July
N D Pearson
T J Storeton West
F J Ridley
J C Cook (ARL) 5-7 July

DURATION: 1030 h 4 July to 0700 h 12 July
All times GMT

LOCALITY: North Sea

AIMS:

- 1 Sector Scanner transducer measurements.
- 2 Trials of a multichannel acoustic tag.

NARRATIVE:

The vessel left Lowestoft at 1030 h 4 July and anchored to the south of the town to begin transducer measurements. These continued until 0930 h 5 July when CLIONE moved north toward Gorleston in thick fog. At 1200 h Dr Cook joined and Mr Griffiths left the ship which then anchored off Hopton to start trials with multichannel acoustic tags. This work continued through several tide changes with a DRCM being used as a calibration reference. During this time Dr Cook was recording target strength of any suitable signals. At 1230 on 7 July Mr Griffiths rejoined the ship and Dr Cook and Mr Mitson left via small boat to Gorleston. A direction sensing tag in a non-magnetic cage was lowered to the seabed and interrogated for 4 h before the ship moved off towards Flamborough Head. At 0800 h 8 July JONSIS 1 was inspected by sector scanner and search commenced for missing current meter arrays. A leakage of hydraulic oil from the scanner stabiliser occurred at 1430 h and CLIONE set a course for Grimsby arriving just after midnight. The transducer was returned to a vertical position by a diver after which the leakage was found to be due to a broken pipe coupling. Repairs were carried out and CLIONE left Grimsby at 2100 h. At 0800 h 10 July the vessel anchored briefly off Lowestoft South pier whilst Mr Mitson was collected.

On the way south the wreck of the recently sunk vessel EVA WITTE was examined by scanner and found to be lying on its side: records were made for the Wreck Officer MOD (Navy). CLIONE then anchored off Southwold to continue measurements on a direction sensing and fish heart rate monitoring acoustic tag. This work continued until 1700 h 11 July, after which preparations were made to dock at 0700 h on 12 July in Lowestoft.

RESULTS:

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Aim 1. Measurements in the far field of the transmit transducer showed that, although the main lobe of the beam is still well formed, there is an increase of about 3dB in the sidelobe level after allowing for the extra power being generated.

Aim 2. This was divided into three parts.

- 2.1. The compass system clearly showed changes in direction of the tide and slack water periods but an electronic failure in the fully calibrated model prevented detailed comparison with a DRCM.
- 2.2. Fish heart rate was simulated by means of an electronic circuit. The fish prepared at the laboratory prior to the cruise had lost its electrode and could not be used for the purpose.
- 2.3 The system for counting heart rate on the scanner whilst interrogating the acoustic tag for range and its direction of orientation worked well under most conditions. Readout of the information could be made via a digital display, the Alden recorder, a printer or a recording milliampere meter.

R B Mitson
21 July 1977

SEEN IN DRAFT: J R F (Master)
G F L (Fishing skipper)

INITIALLED: A J L

DISTRIBUTION:

BASIC LIST

Mr Mitson
Mr Shreeve
Mr Griffiths
Mr Pearson
Mr Storeton West
Mr Ridley
Dr Cook