

IN CONFIDENCE
FRV GOLDSEEKER
CRUISE 9/79
REPORT

7 August - 13 September

Liberty

Objectives

1. To tag mackerel in the Minch
2. To make preliminary estimates of tagging mortality

Narrative

GOLDSEEKER left Buckie on 7 August and reached Ullapool on the night of 10 August. On Monday 12 August handlining for mackerel was started and a variety of locations within the Greenstone - Loch Broom area were worked daily during the course of the week. Adverse weather conditions at the end of the week and the beginning of the following one hindered operations considerably and prevented access to areas of more extensive mackerel concentrations. Weather conditions were so bad that on 22 August GOLDSEEKER did not put to sea. On 23 August scientists and crew left Ullapool for the long weekend.

Scientists and crew rejoined GOLDSEEKER on Tuesday 28 August after the mid-cruise break and fishing and tagging operations recommenced the following day at Greenstone Point. On Thursday, after filling the deck holding tanks with live mackerel at Greenstone Point, GOLDSEEKER steamed to Thurnaig and a batch of 87 mackerel were liberated into a moored keep-net. Of these approximately equal proportions were liberated with internal and external tags and with no tags at all. Fishing was then continued in the vicinity of the keep-net and a further 56 mackerel, tagged in the same proportions as the first batch, were liberated into it. Normal fishing and tagging operations were continued for the rest of that day and for part of the following day in Thurnaig before GOLDSEEKER returned to Ullapool for the weekend.

On Monday and Tuesday of the following week tagging was continued in the Melvaig area and in addition a further 33 mackerel were transported from there and tagged into the keep-net. On Wednesday and early Thursday, when strong south winds prevailed, fishing and tagging was carried out in Loch Ewe and then, as weather conditions eased, the Melvaig grounds were worked for the rest of the week before GOLDSEEKER returned to Ullapool for the weekend.

During the last week strong westerly winds prevented GOLDSEEKER from reaching the more productive fishing grounds outside Loch Broom but fishing and tagging were carried out, on Monday and Tuesday, within the loch in the vicinity of Martin's Bank. On Wednesday morning the scientists left GOLDSEEKER which then made a passage for Stornoway.

During the course of the cruise all tagged and untagged mackerel were measured, and otoliths were taken from the latter to provide an age-length key. In addition commercial mackerel catches were sampled as and when possible in Ullapool. Mortality in the keep-net was monitored on a regular basis by Marine Laboratory staff at Thurnaig and by the scientists on board GOLDSEEKER. The keep-net experiment was terminated and the surviving fish liberated on the evening of the 11 September.

Results

A total of 2 324 mackerel were tagged, about half with internal and half with external flag tags.

For most of the cruise echosounder marks attributable to mackerel were scarce and catches were frequently made in their absence. The only location where large marks were observed was off Melvaig during the first week in September. The marks were from midwater to the bottom in about 20 fathoms of water and heavy catch rates of large mackerel were obtained when these were fished.

A preliminary analysis of the length distributions indicates that mackerel taken outside the sea lochs had a significantly greater mean length than those taken within the lochs. A cursory examination of the results from the keep-net experiment indicates a survival rate of over 70% after 13 days at liberty in the net.

Seen in draft W B Reid

J Morrison M Walsh
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