

CRUISE REPORT

FRV "GOLDSEEKER"

3-19 November 1970

OBJECTIVES

1. To use diving techniques to study the operation of scallop and queen gear under varying conditions.
2. To undertake such trawling as is compatible with the first objective.
3. To take plankton samples and surface temperature readings.

NARRATIVE

On the 3 November "Goldseeker" proceeded through the Crinan Canal to Crinan, where she was joined by the scientific staff.

During the period 3-13 November "Goldseeker" was based on Crinan and worked on grounds in the Sound of Jura. Throughout the period winds were largely gale force SW to NW, three complete days being lost and work, especially diving, being restricted on other days.

Dr Mason left "Goldseeker" on 13 November and was replaced by Mr Drinkwater. "Goldseeker" proceeded through the canal to Tarbert where she was based for the remainder of the cruise. Winds again restricted work in the Loch Fyne area. The scientific staff left the ship at Tarbert on the evening of the 18th and on the morning of the 19th "Goldseeker" sailed to Troon for inspection in connection with the annual refit.

RESULTS

Scallop and queen catches

Good hauls of scallops were made by standard 4 ft scallop dredge in the Sound of Jura, up to 39 in a 15 minute haul off Ardlussa and 33 in 15 minutes off Carsaig. Overall 73% of the scallops had seven or more growth rings. Most were spent.

Owing to gales it was not possible to work on commercial queen grounds, and the best haul was 116 in Kilfinan Bay.

Scallop and queen gear

In all, eleven dives were made to observe various gears in action. Divers observed the working of the 4 ft standard scallop dredge, first with a wire warp and then with a polypropylene fibre warp. The ground in 10-16 fm in Keills Bay, was rougher, with more stones and boulders, than in previous studies. An amount of warp was used equal to $2\frac{1}{2}$ to 3 times the depth.

Using wire, the warp was on the sea bed some distance ahead of the dredge, the dredge shackle was therefore on the sea bed also and tended to knock scallops out of the way of the dredge. On smooth parts of the sea bed (sandy gravel with shell fragments) the teeth projected only about one inch into the bottom. As before bottom deposit and weed accumulated at the mouth of the dredge, so preventing entry of further scallops and other bodies. On the rougher parts, when the dredge struck a boulder, the warp tightened, catapulted the dredge forwards and upwards, so clearing the dredge mouth and enabling effective fishing to be resumed until the mouth again became blocked.

The $2\frac{1}{2}$ in Polypropylene rope warp being buoyant, raised the dredge shackle some 2-3 ft off the sea bed and the rope formed an angle of as much as 50° with the sea bed. Owing to the lift imparted by the rope, the teeth touched the bottom lightly and sometimes even left the bottom.

Observations on the beam trawl in Loch Fyne, using a length of warp equal to six times the depth, and towing at $1\frac{1}{2}$ -2 knots showed that the wire warp again tended to lie along the sea bed and caused some queens to swim away and escape the trawl. The lighter polypropylene warp did not have this effect.

Preliminary observations suggest that the heavier Manx queen dredge can be towed faster (at least up to 4 knots) than the beam trawl without the gear leaving the sea bed.

Trawling

No trawling was possible owing to gales.

Plankton and Hydrography

An oblique haul with a 1 m (26 mesh) net was made in the Sound of Jura and the surface temperature was noted.

J Mason
J Drinkwater
21 December 1970