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Commercial Vessel MV *Solstice* (BF 56)

Charter Cruise 0993H (EC project jointly funded by SOAFD and DIFTA)

**REPORT**

**Personnel**

Phase II, 19-25 July 1993 (Gairloch)

| | | |
|---|---|---|
| G I Sangster | HSO (in charge) | shore based with diving team |
| R J Kynoch | SO | shore based with diving team |
| M Breen | SO | shore based with diving team |
| D J Bova | SO | shore based with diving team |
| A O Coroon | Craftsman | shore based with diving team |
| K Lehmann | (DIFTA) | on board |
| N Madsen | (DIFTA) | on board |

Phase III, 26 July-13 August 1993 (Gairloch)

| | | |
|---|---|---|
| G I Sangster | HSO (in charge) | shore based with diving team |
| K Lehmann | (DIFTA) | on board |
| N Madsen | (DIFTA) | on board |
| U J Hansen | (DIFTA) | on board |
| F B O'Neill | SO | on board |
| M J Burns | ASO | on board |
| P J Barkel | PTO | part time on board |
| R J Kynoch | SO | shore based with diving team |
| M Breen | SO | shore based with diving team |
| D J Bova | SO | part time shore based with diving team |
| I M Gibb | SO | part time shore based with diving team |
| A O Coroon | Craftsman | part time shore based with diving team |

**Objectives**

Phase II

To continue the 1992 trials to assess the survival of commercial species of fish escaping from a typical 500/600 hp bottom trawl fitted with 70, 90, 100 and 100 mm diamond mesh cod-ends.

Phase III

To measure the selectivity characteristics of each "test" cod-end using hooped covers and to assess the scale damage sustained by escaping fish.

**Narrative**

MV *Solstice* arrived at Gairloch (from Lochinver) at noon on 19 July. SOAFD and DIFTA staff prepared and loaded all equipment on board. The "towed underwater fish transportation container" was lifted on board and transferred to the Longa Island cage site. The first day was used to conduct a dummy run of the fish escape collection techniques to familiarise all staff in the new methods. Fish escaping from the trawl during towing were collected in a soft nylon hoop cod-end cover. When sufficient numbers of escapees had been collected, divers disconnected the cover from the cod-end during towing. The whole cover and its fish contents were then transferred at depth into the fish transport container. The hooped cover was tensioned fore and aft, inside the container, so that it maintained its cylindrical form. The door was closed allowing the fish to swim in still water. MV *Salar* then towed the container at a constant 20 m depth to the cage site. Divers transferred the fish into a cage using zipped openings fitted to one end of the cage. Triplicated groups of escapees from each cod-end mesh size category were collected and transferred to the cage site by this method. Monitoring of their survival, including the triplicated groups of hand-line caught "controls" were carried out each day by divers to remove dead fish and to offer all fish food in the form of chopped sandeels and sprats. The experiment continued to be monitored by the laboratory diving team after the conclusion of the fishing vessel charter. Phase II and III of this project ran concurrently as time permitted, allowing the shipboard staff to conduct the cod-end selectivity work. MV *Stella* was used for the work to assess the scale damage sustained by the escaping fish.

The results of this joint SOAFD/DIFTA project will be analysed by both institutes.

Preliminary results will be presented in a "Field Work" report on the termination of the cage survival experiment in October.

G I Sangster

16 November 1993