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Commercial Vessel *M/V Solstice* (BF 56)

Charter Cruise 2195H (EC Study Contract jointly funded by SOAEFD and DIFTA)

REPORT

24 July - 12 August 1995

Personnel

G I Sangster	HSO (in charge)	shore based with diving team
M Burns	ASO	
H Ozbilgin	(SOAEFD Visitor)	(part time, commencing 31 July)
Dr Tokai	(SOAEFD Visitor)	(part time, commencing 31 July)
N Lowry	(DIFTA)	
M Andersen	(DIFTA)	
Rui Costa	(DIFTA)	(part time, commencing 31 July)

Objectives

To assess the body damage and survival rates of commercial species of fish with respect to length, age and mesh size after escaping from a typical 500/600 hp bottom trawl.

To measure the selectivity characteristics of each "test" cod-end using hoop-supported covers.

Out-turn days per project: 20 days ICD1

Narrative

M/V Solstice arrived at Gairloch (from Lochinver) on the morning of 24 July. The crew immediately prepared the SOAEFD fishing gear on the quayside and took it on board. SOAEFD and DIFTA staff set up the scientific equipment on board the vessel and the fish transport container was transferred to the Longa Island cage site. The first two days were then used for selectivity hauls to obtain data on fish species available in the Inner Sound. The SOAEFD diving team meanwhile transferred handline caught control fish into their designated cages on the seabed. *Solstice* and the chartered local vessel *Salar* worked uninterrupted, trawling, collecting and transferring fish for either "survival", "damage/physiology" or "selectivity" experiments, with periodic changeovers, of the 70 mm, 90 mm and 110 mm diamond mesh cod-ends until 12 August.

Fish escaping through the trawl cod-end during towing were collected in a soft nylon hooped cod-end cover. When sufficient numbers of escapees had been collected, the whole cover and its fish contents were 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. *M/V Salar* then towed the container at a constant 20 m depth to the cage site. Divers

transferred these fish into a single 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 who also removed dead fish and offered food to all fish. The survival experiment was monitored by the SOAEFD diving team for a total of 52 days.

The recently constructed SOAEFD raft provided an ideal spacious platform alongside the cage site during both the damage/physiology and survival experiments.

The results of this joint SOAEFD/DIFTA project will be analysed by both Institutes.

Preliminary results will be presented in a "Field Work" report after the termination of the cage survival and damage/physiology experiments.

G I Sangster
16 October 1995