

R1/10

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FRV "Goldseeker"

Cruise 4/89

4GR89

REPORT

20 March-4 April 1989

Personnel

G Urquhart	PSO	
R Mitchell	SSO	
A Naha	HSO	
B Ritchie	PTO	(20-23 March)
M Burns	ASO	(20-23 March)

Objectives

1. To calibrate surface towed logs, deep towed logs and net mounting logs using Decca Trisponder.
2. To implement and calibrate an "on-line" net speed log using the Leibnitz-Lann acoustic link.
3. To carry out development trials on the "110" plankton sampler.
4. To carry out development trials on the long range spreadmeter system.

Narrative

"Goldseeker" was loaded in Buckie on 20 March and proceeded to Inverness. Due to delays in re-opening the Caledonian Canal after repair work, she did not arrive at Fort Augustus until after noon on 22 March. Trials on the "110" sampler were started immediately and continued throughout the next day.

Most of the rest of the cruise was devoted to speed log calibration using Decca Trisponder for position fixing and averaging the results of reciprocal tows in the normal manner. It was possible to tow satisfactorily, and calibrate simultaneously 3 logs of various types. In 10 full calibration runs a number of units were examined and compared. On 2 occasions a drogue was deployed at approximately the mean depth of the net mounting log and tracked using the trisponder to give a measure of the local water velocity.

Before "Goldseeker" arrived in Loch Ness and during repairs to "Goldseeker's" engine exhaust on 29 March, tests were carried out from "Shuna" on the long range spreadmeter system.

As all the work that could be done was completed, the cruise finished early at the end of the day's work on 30 March. "Goldseeker" returned to Buckie where she docked at 1830 on 1 April.

## Results

1. Three separate net mounting logger units were tested and no variation in the calibration between units could be found. A worn, but still serviceable, impellor was compared with a new one and again this did not measurably affect the calibration. The net log system was calibrated both on the net (PT 162) and mounted on the towing frame used for the "110" sampler. Again, the calibration was not affected. The towing frame proved to be a good, stable platform and allowed a much greater range of speeds than could be achieved towing the gear.

The Valeport series 1000 log was calibrated in memory mode. It consistently gave low readings (about 10%) particularly when used in intermittent operating mode. Previous calibrations in real time using a cable connection had given a near "true" indication. Some retrospective correction of data may be necessary where this log has been used in memory mode.

Two "surface" towed logs were examined and both the LCD readout and the analogue outputs were calibrated.

2. Objective 2 could not be achieved due to flooding of the hydrophone and a fault with the surface equipment which could not be repaired in the field on time.
3. The "110" sampler was deployed on the modified "Longhurst-Hardy" frame, towed satisfactorily, and worked well mechanically. Bench tests showed that the electronics and the controlling software were operating as designed but in the water, at depth, a problem was identified with the optical sensor which detects the net position.
4. The output source level of the master transmitter was measured using a calibrated hydrophone and the signal received by the transponder was measured at various ranges. These tests were reasonably satisfactory and indicated that most of the problems lie in the digital circuitry.

Don Urquhart

4 May 1989

Seen in draft: A Mair for D Findlay