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4GR87.

FRV "Goldseeker"

Cruise 4/87

PB.

## REPORT

16 March - 4 April 1987

## Personnel

C D Hall	HSO (in charge)
W R Mojsiewicz	SO (16-25 March)
C W Glass	SO (25 March - 4 April)

## Objectives

- 1 Commissioning of combined bioluminescence/light intensity instrumentation carried by the RCV in the vicinity of a net.
- 2 To obtain recordings of different types of bioluminescent activity for identification and quantification purposes. Water samples will also be taken for analysis.
- 3 To calibrate the Transmissometer by relating turbidity measurements with direct observation of underwater visibility and visible range.
- 4 If conditions permit, an attempt will be made to obtain video recordings of the bioluminescence stimulated by netting being towed through the water after dark.

## Narrative and Results

"Goldseeker" was loaded with TV and computer equipment at Muirtown on 16 March before sailing to Fort Augustus, to pick up the RCV. On 17 March she sailed to Corpach, then to Dunstaffnage on 18 March, where she was forced to stop due to bad weather, and Ardrishaig on 19 March. The equipment was set-up during these journeys when conditions permitted.

On 20 March "Goldseeker" left the Crinan Canal and we started work in Loch Fyne. During the next 7 days a total of 30 tows were made with the RCV in four different sea areas to make relative measurements of visibility, contrast and transmissibility.

On 29 March, tows were carried out off Garroch Head to assess levels of bioluminescent material in the area of the dumping ground. These were found to be higher than those measured in the first half of the trip so it was decided to carry out night-time tows in this area to obtain film of bioluminescence stimulated by netting. Six tows were made over two evenings during which different types and levels of activity were measured and recorded on video and FM audio tape. Unique film was made of the bioluminescence created, emphasising its important effect on underwater visibility at night.

A combined bioluminescence and light intensity instrument was tested. While the light meter worked satisfactorily, its range was very limited. No activity was detected by the bioluminescence sensor in areas of known high concentration, so it was concluded that this instrument is not yet a substitute for photomultiplier-based equipment.

Finally, a small trawl was towed to enable preliminary measurements of light-intensity and transmissibility in its vicinity.

25 and 31 March were half landings in Tarbert, and severe gales forced "Goldseeker" to remain in harbour on 27 and 28 March.

Equipment was packed and off-loaded on 3 April at Troon, and staff returned to Aberdeen the following day.

C D Hall  
29 April 1987

Seen in draft: A Mair