CENTRE FOR ENVIRONMENT, FISHERIES & AQUACULTURE SCIENCE LOWESTOFT LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

2005 RESEARCH VESSEL PROGRAMME

REPORT: RV CEFAS ENDEAVOUR: CRUISE 15/05

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DURATION: Left Lowestoft 2200h 5 October.
Arrived North Shields 1030h 12 October.

LOCALITY: North Sea (English NE Coast)

AIMS:

1. To conduct a standard underwater TV survey of Nephrops burrow densities on the Farn Deeps grounds, 55^{o} 35' - 54^{o} 45' N and 1^{o} 30' - 0 ^{o} 40' W, to evaluate Nephrops abundance for comparison with previous years.

NARRATIVE:

CEFAS ENDEAVOUR sailed from Lowestoft at around high tide at 2200h local time on 5 October and steamed for the first station at the southern end of the Farn Deeps.

ENDEAVOUR arrived on station at 1340h and the first tow was completed satisfactorily with the sledge back on deck by 1415h. ENDEAVOUR continued working around the clock zigzagging northwards up the survey grid.

At 0100h 10 October a SSW gale stopped work as the resulting swell caused the sledge to pitch and the ship was unable to maintain a consistent speed or course despite the use of the dynamic positioning system. By 1300h the wind strength had dropped and the swell had fined away enough to enable work to continue.

By 0800h 11 October all of the stations had been completed, with some positions being repeated where the original tow had exhibited poor visibility. Generally good under-water visibility enabled the survey to be completed ahead of schedule so at 1915h 11 October the camera was repositioned in a forward location on the sledge and 11 stations that had high burrow densities were repeated with the aim of improving visibility. Work stopped at 0500h 12 October and ENDEAVOUR steamed to North Shields to facilitate an exchange of staff by small boat at 1030h.

RESULTS:

1. The TV sledge was successfully deployed at 80 priority stations and 25 lower priority stations. At each site video was obtained showing the substrate, *Nephrops* burrows and emergent *Nephrops*. Provisional counts of burrows were obtained for a minimum of 10 minutes at each site, with video images being recorded for further laboratory analysis. Preliminary results are consistent with those from last

years survey and suggest that the highest burrow counts are generally found at the western edge of the survey area, (Fig. 1).

2. A HIPAP acoustic beacon on the sledge was used with Tower survey software to record ship and sledge position at regular intervals throughout the TV tow.
3. The Dynamic Positioning system was used throughout the survey to provide a controlled towing speed of <1 knot.
4. A remote acoustic seabed discrimination system (QTC) was logged transects between and during each station.
5. Timely completion of the survey allowed time to test the potential of moving the camera to a forward position on the sledge. This positioning would give results more comparable to those from the Scottish TV surveys. Preliminary results suggest this new camera position may significantly reduce peripheral sediment clouds caused by the sledge runners under marginal conditions. Additional lighting at the front of the sledge will be required to take advantage of this camera relocation.

ANDY LAWLER

(Scientist-in-Charge)

13 October 2005

INITIALLED: AR (Master)

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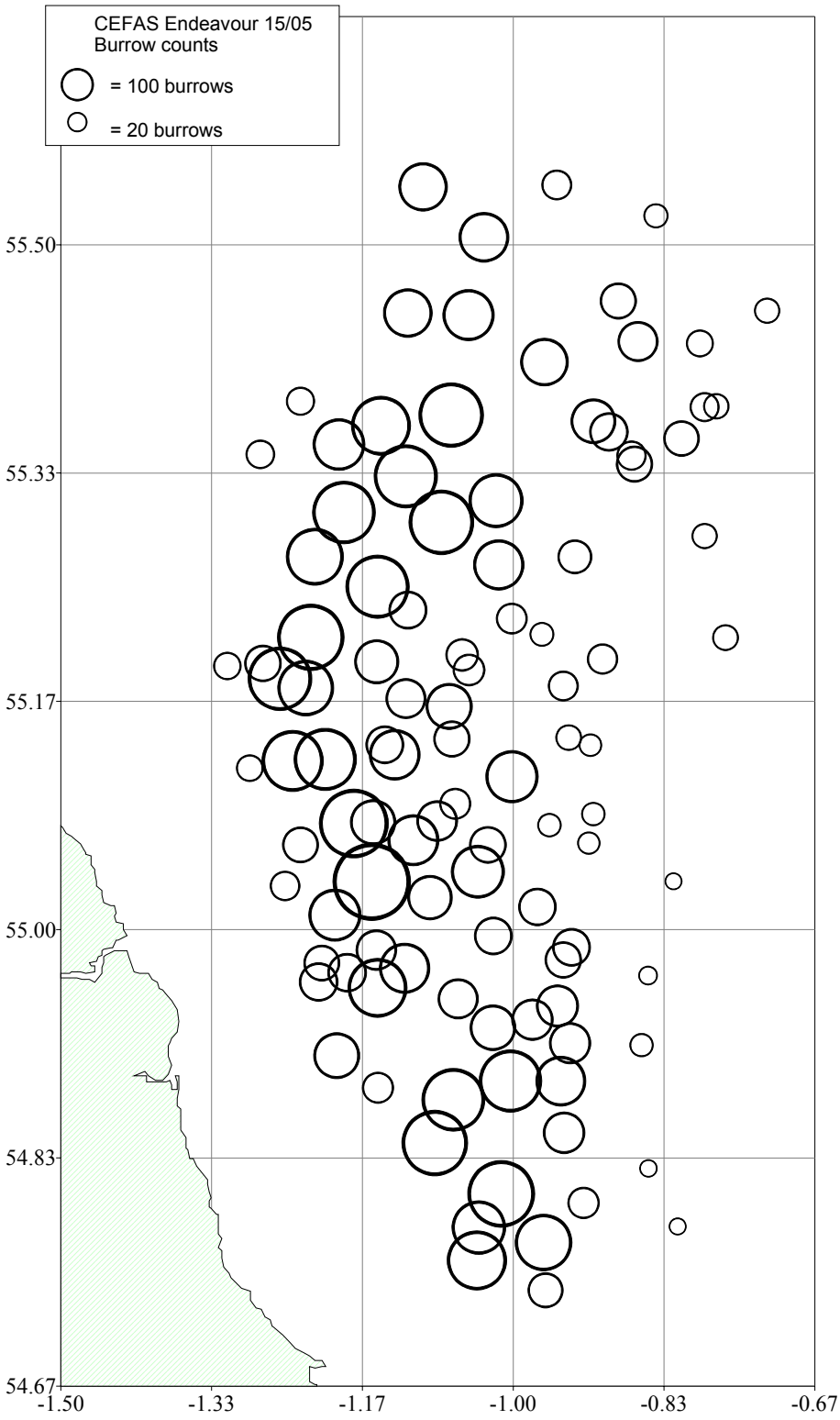

Figure 1

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