

R1/3

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MFV Seagull

Cruise 0308H

Report

16 April - 26 April 2008

Ports

Loading: Kinlochbervie, 16 April

Unloading: Kinlochbervie, 26 April

Personnel

- | | | |
|---|--------------|-------------|
| 1 | F Burns | (In Charge) |
| 2 | J Drewery | |
| 3 | K Summerbell | |

Out –turn Days per Project: 10 days to MF01TA

Fishing Gear: Anglerfish Trawl BT 195

Objectives

1. To undertake a nationally co-ordinated demersal trawling survey of anglerfish on the western continental shelf/slope using the BT195 monktrawl.
2. To obtain a temperature profile at each trawling station.
3. To obtain catch weights and length frequency data for both megrim (*L. whiffiagonis*) and four spot megrim (*L. boscii*). In addition Norway lobster (*N. norvegicus*) numbers and weights were also recorded on selected hauls.

Narrative

The Seagull arrived in Kinlochbervie mid morning on the 16 April and proceeded to offload the catch from the previous fishing trip as well as her own fishing gear in readiness for the forthcoming charter. The survey net (BT195) and associated gear had arrived first thing and were already on the pier awaiting the vessels arrival. FRS personnel arrived at midday and commenced loading of the scientific equipment. All scientific gear was loaded onto the vessel by early evening. Seagull departed Kinlochbervie at 2030 on the 16 April and proceeded across the Minch with a following moderate easterly wind to the first station, 10nm NNE of the Butt of Lewis. Seagull arrived at around midnight and proceeded to shoot the gear at a depth of around 100m. (See figure 1 for haul positions) The tow was successful and although no anglerfish were found, the net, all Scanmar sensors and the bottom contact sensor performed well throughout the tow. Seagull then headed 30nm ESE to the second station, the vessel slowing during the passage to allow a 6 hour break to be taken. Seagull arrived on station at 1000 on the 17 April and proceeded to shoot away the

gear at a depth of approx. 90m. The gear and sensors generally performed well although the wing sensor readings were intermittent throughout the tow. Again no anglers were found in the catch. Unfortunately the vessel managed to hook a door round one end of a leader line from the crabber, *Heather K* who was working in the area. During the tow there was no evidence of any static gear in the vicinity however, towards the end of the tow the skipper of the *Heather K* informed Seagull that she had indeed towed across one of her lines. Thankfully, the skipper was able to report that there had been no loss of gear and that both ends of the line had been retrieved.

During the next three days and aided by calm weather Seagull proceeded in a southerly direction covering the shallower stations west of the Hebrides. Station 5 had to be abandoned due to the ground being unfishable although an additional station located 20nm NNE provided a suitable replacement. Similarly station 14, located 15nm SSW of Barra Head also proved unfishable and although towable ground was located 7nm to the SSE conditions continued to be very stiff with the gear coming fast on a number of occasions. Consequently, the tow was hauled early due to concerns over the fate of the fishing gear. Fortunately, despite the doors being mudded up and the removal of a boulder from the codend, the net was largely undamaged. After successfully completing three stations along the southern boundary of the survey area (56°N), Seagull headed west onto the shelf edge.

Excellent progress had been made up to this point in the survey. So much so in fact that by the time Seagull arrived at station 19 on the evening of the 20 April she was more than a day ahead of schedule. As a consequence Seagull continued up the shelf edge supplementing the core stations with additional sample positions. As the survey progressed north the fishing gear continued to perform well in the deeper strata as did the scanmar sensors although at times the wings sensors were intermittent. Haul 37 on the 24 April saw the only real gear damage of the survey when the starboard upper wing was damaged. This was deemed not to have compromised the catchability of the gear and the haul was accepted as valid. Repairs were effected to the torn wing and within two hours the net was once again ready to deploy. Seastate throughout the trip did not increase above a force 4 and this was the scenario right up until the morning of the 26 April when Seagull arrived at the last station (haul 45) located just a couple of miles north of the Butt of Lewis. Static gear in the area forced Seagull to head away south from the sample position in order to find clear water. Visibility was poor and although there was no evidence of static gear on shooting, twenty minutes into the haul all the signs were there that we had hooked leader lines. On hauling it became clear that a couple of leader lines had become hooked round the starboard trawl door. The crew attempted unsuccessfully to clear the lines but in the end these had to be cut to clear the trawl door. With no vessels in the area to notify, Seagull headed for Kinlochbervie and was alongside by midday on Saturday 26 April. Upon returning to FRS the scientist in charge made enquiries regarding any potential damage to static gear by the charter vessel. These enquiries are still ongoing.

Results

Of the 36 core stations allocated, 35 were fished successfully with only station 5 being abandoned due to unsuitable ground. In that situation the vessel was diverted to the nearest additional station which was completed without incident. In contrast to previous years when the survey has been undertaken in November the weather remained settled throughout and the sea state never reached beyond force 4. As already mentioned this allowed a number of additional stations to be completed during the course of the survey. Previous years western area surveys had shown that in November the highest densities of monkfish were located in the shallow (0 – 200m) stratum. However, with the temporal shift in 2008 to an April survey, the evidence during the survey suggested that the distribution had changed with the highest densities now located in the deeper strata with only low numbers being present in the shallow stratum. In an attempt to address this during the survey, proportionately more additional stations were completed within the two deeper strata than within the shallow (0 - 200m) stratum. In the end 10 additional stations were completed bringing the total numbers of valid stations for the survey up to 45. A record of the number of sample stations completed by depth stratum is recorded in the paragraph below.

Where possible in accordance with the survey protocols all tows undertaken were of approximately one hour duration, however, as previously mentioned both hauls 14 and 45 were hauled early due to concerns over the safety of the fishing gear. With the exception of haul 14 – where the ground was unfishable - all the hauls were completed within 5nm of the sample position. As in previous years the survey design was depth stratified with sample positions distributed randomly within each stratum. The depth strata are unchanged from the previous 3 years i.e. 0 – 200m, 200 – 500m and 500 – 1000m. Seagull successfully completed 26 hauls in the 0 – 200m stratum, 10 hauls in the 200 – 500m stratum and 9 hauls in the 500 – 1000m stratum.

Scanmar sensors were placed on the net (wings and headline) as well as on the doors to monitor net geometry and performance. The readings for each sensor as well as navigational information from the GPS were collected at 10 second intervals and saved to a haulfile on a laptop PC via hyperterminal. In addition to this a bottom contact sensor was deployed on the groundgear to monitor ground contact. This unfortunately stopped recording data after the fifth haul and so was not used for the remainder of the survey. A data storage tag (DST) was also attached to the headline and left for the duration of the trip to provide a temperature profile at depth for every haul. During some of the deeper hauls the readings from some of the scanmar sensors notably the wing and depth units became rather intermittent, however, when fully charged the sensors generally performed well throughout.

A total of 483 anglerfish were caught from the 45 valid hauls undertaken in depths ranging from 55m to 956m (See Figures 2 and 3 for plots of anglerfish catch rates). Each was sampled for length, sex, maturity stage as well as whole and gutted weight. In addition the illicia and sagittal otolith were retained for ageing. Of these, 446 were *Lophius piscatorius* and 37 were *Lophius budegassa*. The total live weight of anglerfish caught during the survey was 1052kg. Length frequency and live weight information was also collected for all megrim and four spot megrim encountered during the survey. In total 741 megrim were measured for a total weight of 218kg with a total of 80 four spot megrim measured for a total weight of 11.1kg. (See Figures 4 and 5 for plots of megrim catch rates). In addition morphometric measurements were collected from 13 large *Nephrops norvegicus* that were encountered at some of the deeper stations typically between 300 – 500m depth. All marketable fish caught during the survey were processed and landed for sale at Kinlochbervie fish market on Monday 28 April. In total around 100 boxes of mixed fish were landed with blue ling, haddock, ling, angler and hake being the most abundant species. Proceeds from the sale of the catch will be used by FRS to offset the charter cost.

Conclusions

The survey proceeded extremely well right up until the very end with settled weather conditions a feature throughout. As with previous years the fishing gear performed extremely well. In contrast to previous years the largest catches of anglerfish were encountered in the two deeper strata on the continental slope (200 – 1000m) with fewer smaller anglers being observed in the shallower waters of the continental shelf (0 – 200m). The size distribution followed a fairly predictable pattern with the larger anglers being found deeper whilst the smaller fish were found in the shallower tows. Figure 3 displays liveweight of angler /hour.

With the exception of the very deep hauls megrim were found throughout the survey area, the largest catches being encountered in the intermediate stratum (200 – 500m). Four spot megrim were restricted almost exclusively to this stratum also.

A big thank you must go to the skipper George Smith as well as to the whole crew of the Seagull, whose help, advice and patience were invaluable in ensuring the success of the survey.

Finlay Burns 04/08/08

Figure1: Seagull 0308H - cruise track and trawl positions.

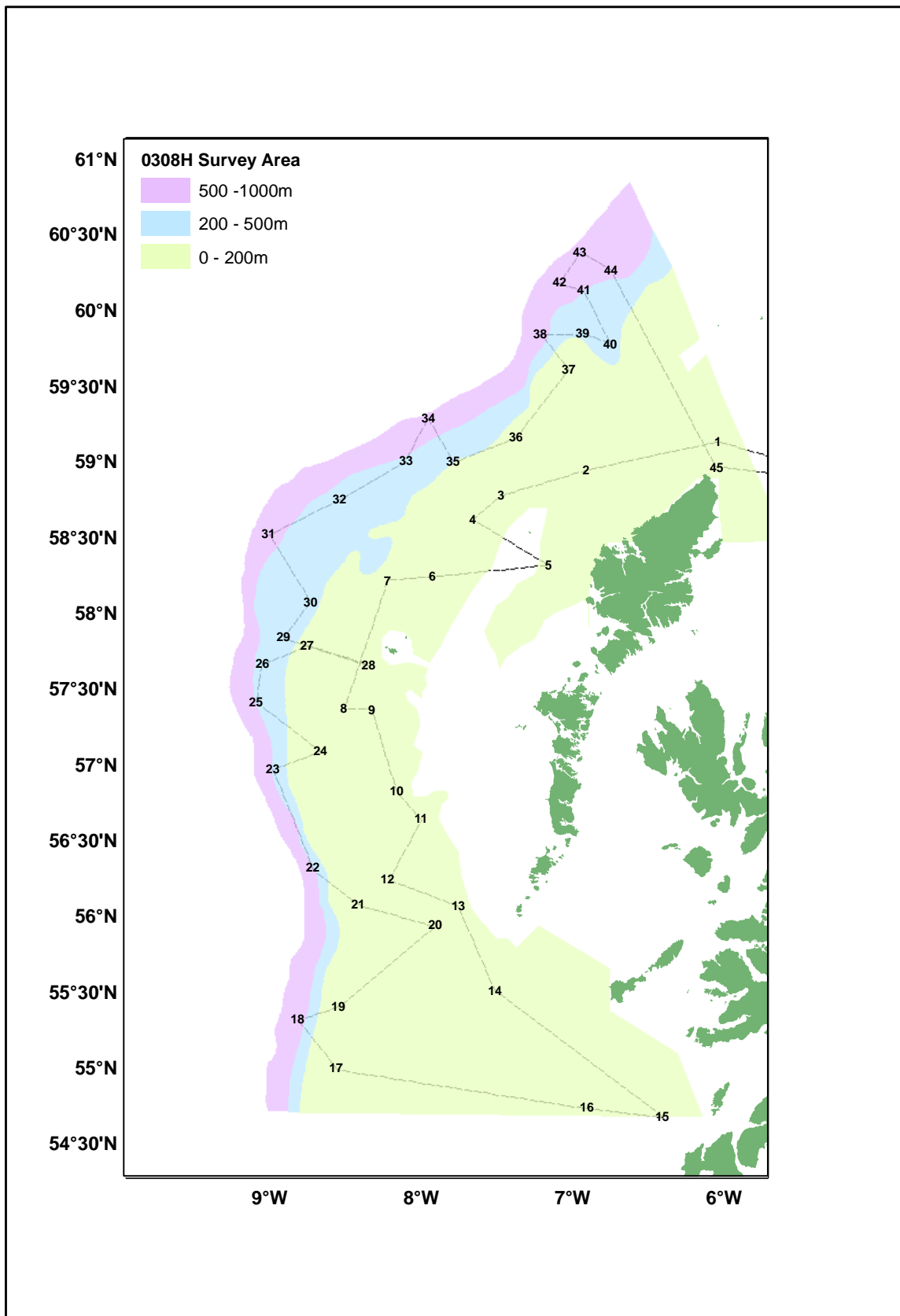


Figure 2: Haul catchrates / hr for anglerfish - Seagull 0308H.

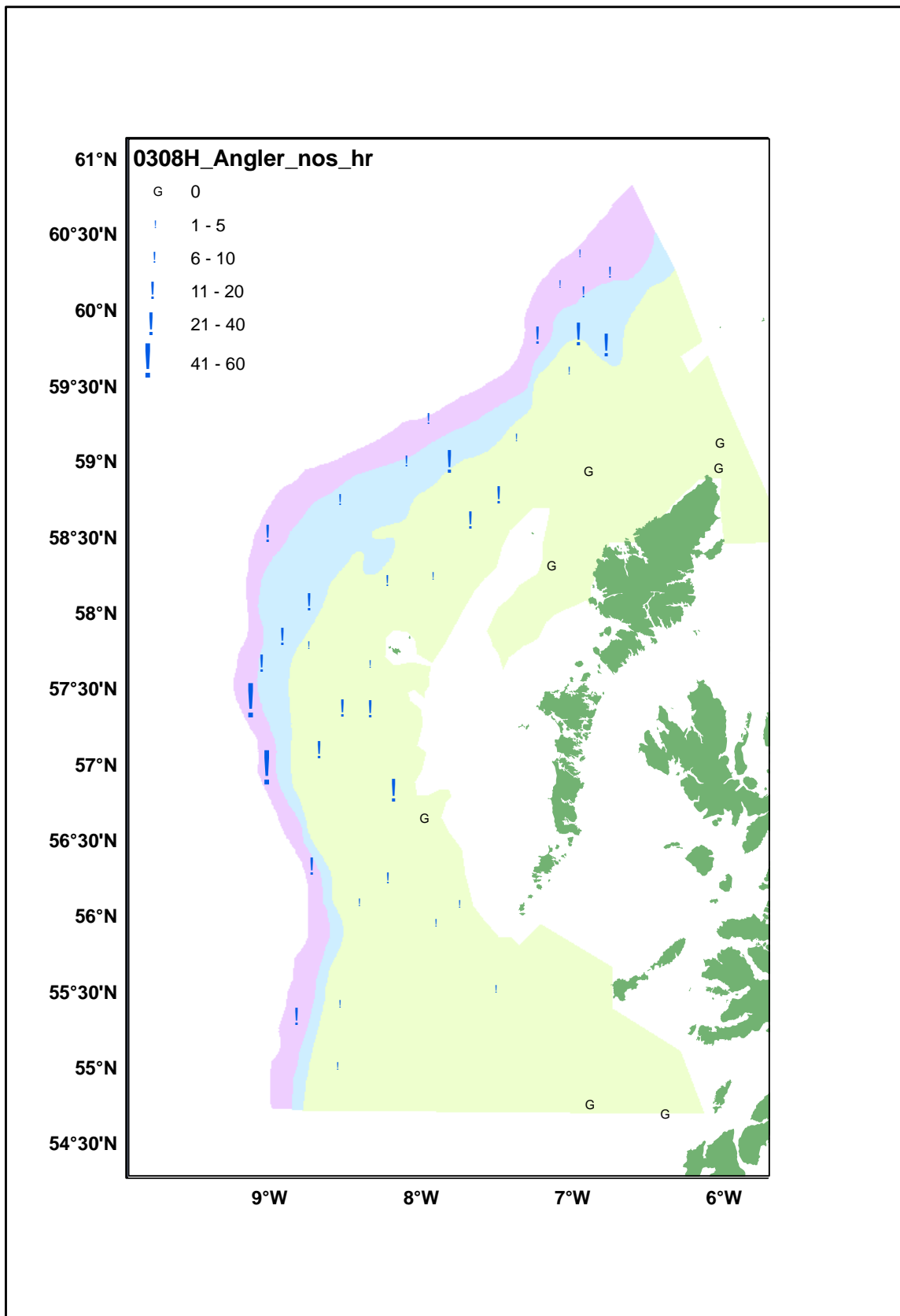


Figure 3: Angler liveweight / hr - Seagull 0308H.

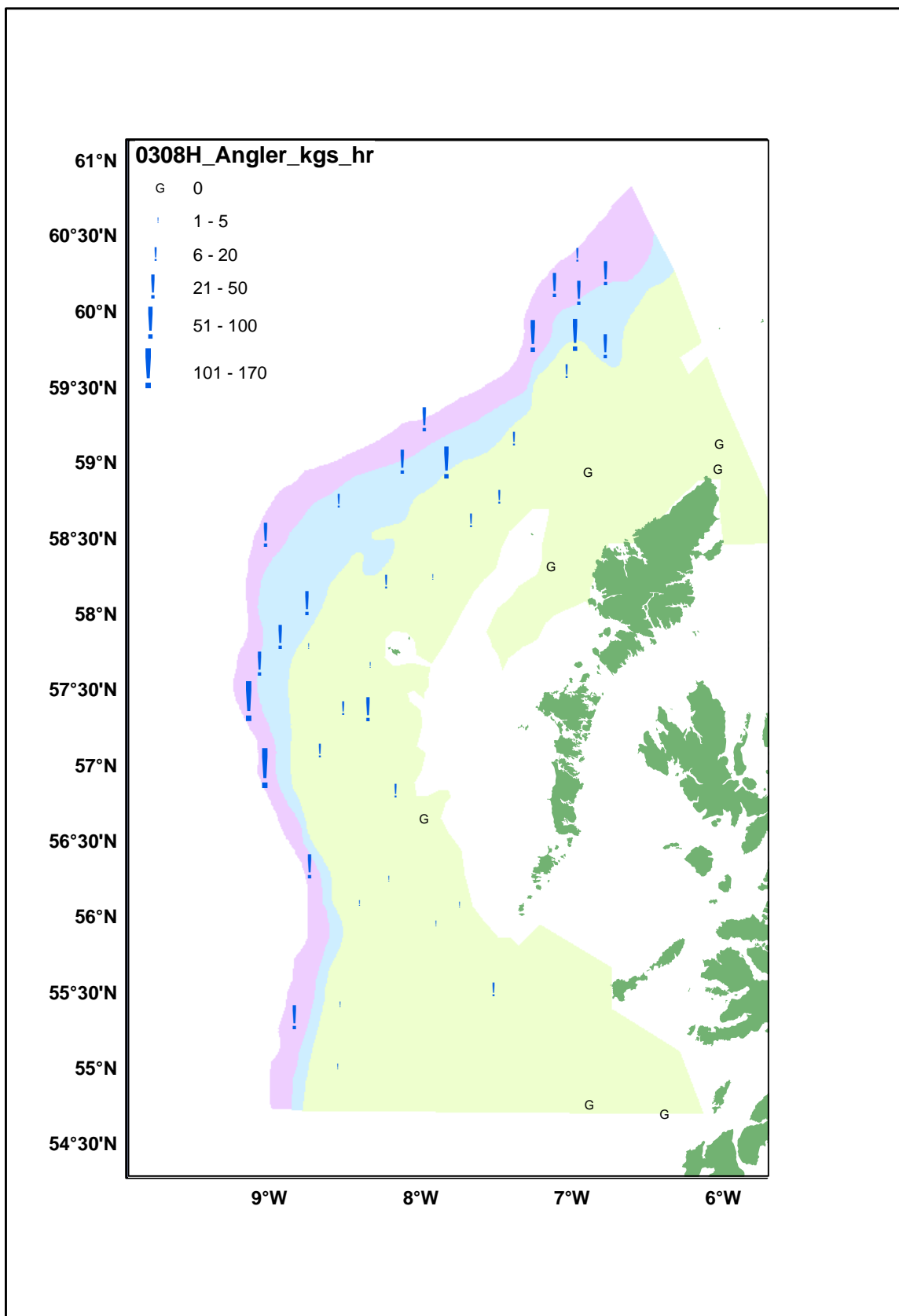


Figure 4: Haul catch rates / hr - megrim - Seagull 0308H.

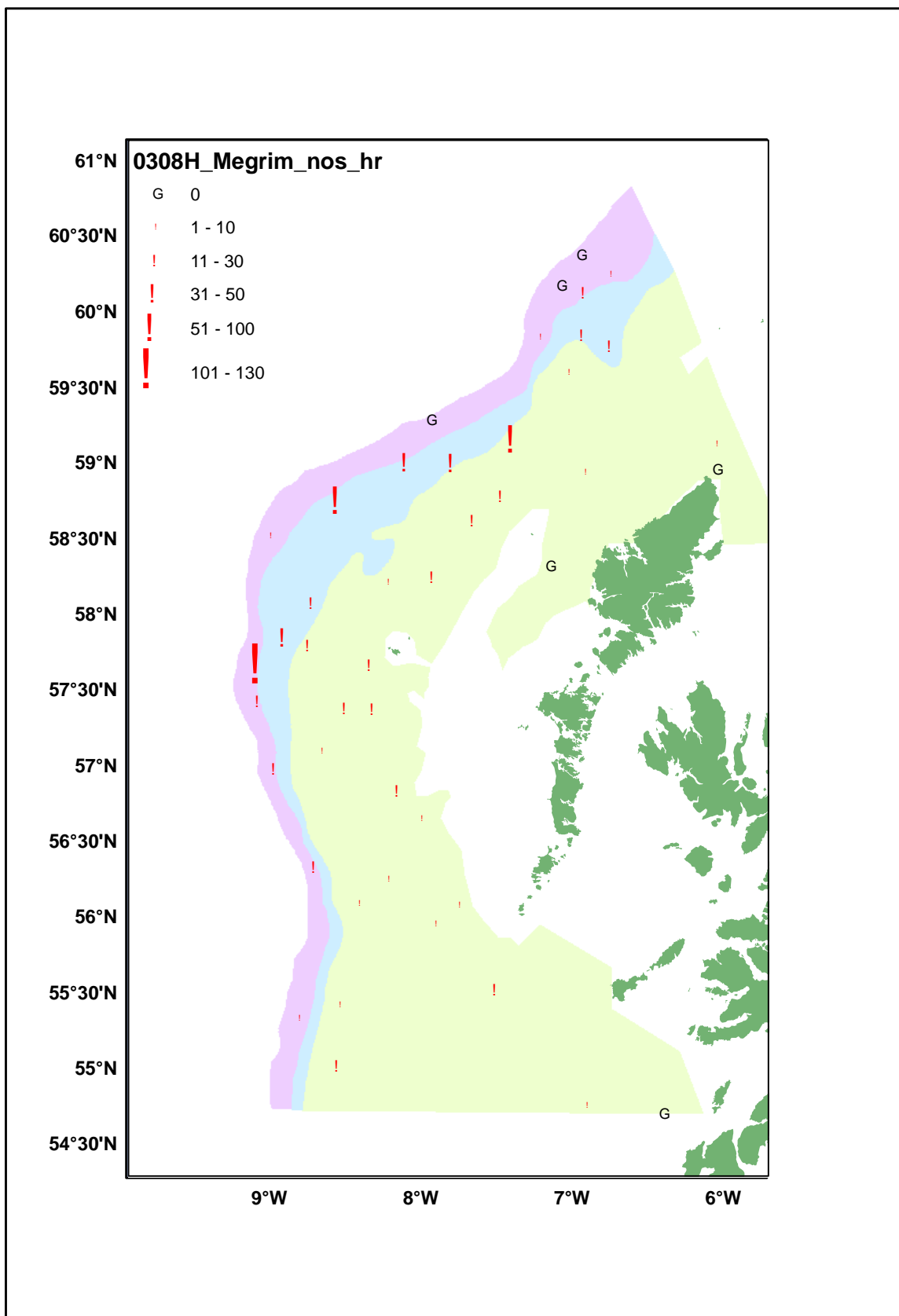


Figure 5: Haul catch rates / hr – four spot megrim - Seagull 0308H

