



Marine
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Organisation **marinescotland**



Department of
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and Rural Affairs**
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Llywodraeth Cymru
Welsh Government

A consultation on extending the Dogger Bank king scallop closure until 01 October 2020



...ambitious for our seas and coasts

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Summary

The Marine Management Organisation (MMO), acting on behalf of all four UK Fisheries Administrations (UKFAs), is seeking views on a proposal to extend the current closure of the Dogger Bank area king scallop fishery (which includes a Special Area of Conservation, SAC, please see Annex 1) until 01 October 2020. The closure covers ICES rectangles 39F1, 39F2, 39F3, 38F1, 38F2, 38F3, 37F1 and 37F2.

On 00.01h 12 July 2020, all four UKFAs implemented a variation to fishing vessel licences to reflect the temporary closure of the Dogger Bank king scallop fishery. This closure was initially put in place for four weeks and was extended on 07 August until 23.59h 29 August 2020 following preliminary advice from Cefas around the spawning condition of the stocks and to allow sufficient time for a detailed analysis of the research to be provided and considered by fishery managers and industry.

Between 02 and 05 August Cefas conducted sampling activity using the research vessel RV Endeavour to determine the spawning condition of scallops found on Dogger Bank. The survey fished at 14 locations chosen from an analysis of VMS activity of dredges in 2020 plus two in otter-trawl derived areas (which caught no scallops). The results of this survey identified that spawning is still taking place or about to begin, with spawning likely to continue until late September. Additional observations of spawning condition will be required as the year progresses to determine when a threshold of spawning completion has been met.

The purpose of this consultation is to seek your views on an extended closure from 23.59h 29 August 2020 to 01 October 2020 to provide increased protection for spawning scallop stocks in the Dogger Bank area.

This consultation will run from 18 August 2020 to 24 August 2020 and is on behalf of the four UKFAs.

Background

Cefas has conducted four days of sampling activity using the research vessel RV Endeavour to determine the spawning condition of king scallops found on Dogger Bank.

The surveyed was carried out in six rectangles: 39F1, 39F2, 38F1, 38F2, 37F1, and 37F2. Although the closure area includes 39F3 and 38F3, these lie in EU waters and there was not enough time available prior to the survey to obtain the necessary permissions. However, given the lack of dredge activity and low reports of bycatch in these rectangles it is estimated that most of the scallop biomass is likely to reside in the rectangles covered by the survey.

For each sample, scallops were counted, measured (to the nearest mm) and the gonad index scored using a standard visual key with the following 7 stages:

- Stages 1 and 2 represent animals which have yet to spawn for the first time.
- Stages 3 and 4 are where the gonads are starting to fill for spawning, but spawning activity is likely to be several months away.
- Stage 5 implies spawning activity is likely to start within the next few weeks.
- Stage 6 is either actively spawning or spawning is imminent.
- Stage 7 is where the gonad is empty (but has obviously spawned – in contrast to stages 1 and 2).

Over the whole survey 875 king scallops were caught, 36 of which were below the 100mm minimum landing size (MLS). Of those king scallops above MLS, 28% were found to be in peak spawning condition (stage 6). An additional 42% of king scallops above MLS were at stage 5 and may be preparing to spawn in the next few weeks. Only one scallop was observed at stage 7 (i.e. just finished spawning).

At the ICES rectangle scale the southernmost rectangles showed the lowest proportion of spawning condition animals although the proportion of stage 5 and 6 animals is still above 50% (please see table 1). Note that 37F2 only had one sample with very few individuals so the data is not considered reliable.

Table 1: King scallop spawning condition in ICES rectangles 39F1, 39F2, 38F1, 38F2, 37F1 and 37F2.

	King scallop stage: 6 only		King scallop stage: 5 and 6		
	F1	F2	F1	F2	
39	29%	21%	39	75%	74%
38	26%	48%	38	87%	84%
37	18%	33%	37	56%	0%

Some spatial variation was observed even within rectangles. One patch at the eastern end of 37F1 had very few stage 6 scallops (0% & 7% at the two stations, and comparatively few stage 5 (16% and 23%). In comparison the patch immediately to the west had much higher proportions in both stages. The extent of spatial variations in spawning times observed over the whole area suggests that a full area closure is appropriate to protect spawning rather than a partial closure of certain areas, given the likelihood that all areas will contain scallops that are still spawning.

The data derived from the Cefas survey indicates that most of the identified patches of scallop within the sampled Dogger Bank region are likely to see spawning activity throughout August and September, either immediately from the stage 6 scallops or into early autumn for the stage 5 scallops. The only patch where spawning may have been largely completed for this year is the area at the eastern edge of 37F1 but given the size of the area and its proximity to scallops which are still due to spawn it is not advisable or practical to open this small area to fishing.

Additional observations of spawning condition will be required as the year progresses to determine when a threshold of spawning completion has been met. Previous experience in the Channel suggests that spawning may continue to late September, please see Annex 2 for more information.

In addition to considering the king scallop spawning stock it is important for UKFAs to consider any potential impacts that fishing activity may have on the Dogger Bank SAC (please see Annex 1), and neighbouring marine protected areas (MPA). Further information on the Dogger Bank SAC can be found here:

<https://sac.jncc.gov.uk/site/UK0030352> . As detailed in the [Fisheries Bill](#), powers to manage MPAs outside of 12nm will fall to the MMO after the transition period rather than implementation via the Common Fisheries Policy.

Consultation Questions

Given the evidence above, the four UKFAs would like to seek your views on:

- 1) An extension of the Dogger Bank king scallop stock closure in ICES rectangles 39F1, 39F2, 39F3, 38F1, 38F2, 38F3, 37F1 and 37F2, until 01 October 2020.
- 2) How an extended closure would impact you and your business, and other fisheries?
- 3) Your thoughts on whether the features of the Dogger Bank SAC are being impacted by fishing activity.

Please email your responses to effort@marinemanagement.org.uk by 5pm on 24 August 2020.

In your response please state whether you are replying on behalf of an organisation or as a member of the public.

If you are replying on behalf of an organisation or organisations:

- Which organisation(s)?
- What is your name and position?
- What is your email address?

We may wish to contact you about your submission for further details. If you are happy for us to do this please let us know in your submission, setting out the best method (e.g. email, telephone, post) and time to do this. We will not contact you to follow up on this call for evidence unless you provide permission.

Annex 1: Chart of ICES rectangles currently closed and the area of Dogger Bank Special Area of Conservation (SAC)



Dogger Bank SAC



- Dogger Bank SAC
- ICES Rectangles: 39F1, 39F2, 39F3, 38F1, 38F2, 38F3, 37F1 and 37F2
- ICES Rectangles



Date of Publication: 01/07/2020
 Coordinate System: GCS ETRS 1989
 Datum: ETRS 1989
 Units: Degree

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Annex 2: Cefas report on Dogger Bank scallop maturity survey August 2020

Summary

This report details the findings of the 4 days sampling activity undertaken by the Cefas research vessel RV Endeavour to ascertain the spawning condition of scallops found on Dogger Bank. The survey fished at 14 locations derived from VMS activity of dredges in 2020 plus two in otter-trawl derived areas (which caught no scallops).

Over the whole survey, 28% of scallops above MLS were found to be in peak spawning condition (stage 6). An additional 42% of scallops above MLS were at stage 5 and may be preparing to spawn in the next few weeks. Only one scallop was observed at stage 7 (i.e. just finished spawning). 875 scallops were caught, 36 of which were below the 100mm MLS.

At the ICES rectangle scale, the southernmost rectangles showed the lowest proportion of spawning condition animals although the proportion of stage 5&6 animals is still above 50%. Note that 37F2 only had one sample with very few individuals so is not considered reliable.

Stage 6 only			Stages 5&6		
	F1	F2		F1	F2
39	29%	21%	39	75%	74%
38	26%	48%	38	87%	84%
37	18%	33%	37	56%	0%

Some spatial variation was observed even within rectangles. One patch at the eastern end of 37F1 had very few stage 6 scallops (0% & 7% at the two stations, Figure 1) and comparatively few stage 5 (16% and 23%, Figure 2). In comparison the patch immediately to the west had much higher proportions in both stages.

There is no scientific rationale for determining when spawning has finished as some scallops will be found in near spawning condition for much of the year. A threshold of greater than 0% of scallops above MLS in spawning condition is therefore considered appropriate. If a threshold of between 15-25% were to be used, then this allows for sampling uncertainty and the occurrence of rogue spawning individuals but would still imply that the majority of animals above MLS will have completed spawning. Determining the remaining spawning potential for the year on the proportion of scallops at stage 5 & 6 should encapsulate the majority of activity.

It would therefore seem that most of the identified patches of scallop in this region are likely to see spawning activity in the next few weeks, either immediately from the stage 6 scallops, or into early autumn from the stage 5 scallops. The only patch where spawning may have been largely completed for 2020 is the one at the eastern edge of 37F1. Additional observations of spawning condition would be required as the year progresses to determine when a particular threshold of spawning completion had been met. Previous experience in the Channel suggests that spawning may continue to late September.

Survey methodology

Fourteen sampling locations were chosen using the VMS activity of the dredge fleet during 2020, each sample site being placed in an obvious cluster of VMS records. An additional four sample locations were also selected based on trip locations of otter trawls in which scallop had been reported in the landings. Two of the otter-trawl derived sites were sampled but produced zero scallops despite repeat towing and therefore the remaining two otter trawl derived sites were dropped from the survey with the saved time devoted to towing on the dredge sites.

Each site saw the deployment of 8 dredges (4 per side), towed for ~20 minutes at 2.5 knots. Where fewer than 10 scallops were caught, a second tow was performed. Scallops were measured to the nearest 1mm and up to 6 per mm class (in each haul) were examined for gonad status.

For each sample, scallops were counted, measured (to the nearest mm) and the gonad index scored using a standard visual key with 7 stages. Stages 1&2 represent animals which have yet to spawn for the first time. Stages 3&4 are where the gonads are starting to fill for spawning, but spawning activity is likely to be several months away. Stage 5 implies spawning activity is likely to start within the next few weeks whilst stage 6 is either actively spawning or spawning is imminently. Stage 7 is where the gonad is empty (but has obviously spawned – in contrast to stages 1&2).

The survey caught 875 scallops, 36 of which were below the 100mm MLS. A total of 507 scallops were staged for gonad development.

Maturity at size

There is a suggestion in the data that the proportion of animals actively spawning is fairly constant for sizes above ~120mm and reduces below this level (figure 3). There is a much lower proportion of animals achieving stage 5 for sizes below around 110mm although the number of animals observed in these sizes is quite low suggesting that the MLS of 100mm only offers partial protection to animals which have yet to spawn for the first time. Further sampling would be advised, preferably across a full spawning season, before a more statistically robust conclusion can be drawn.

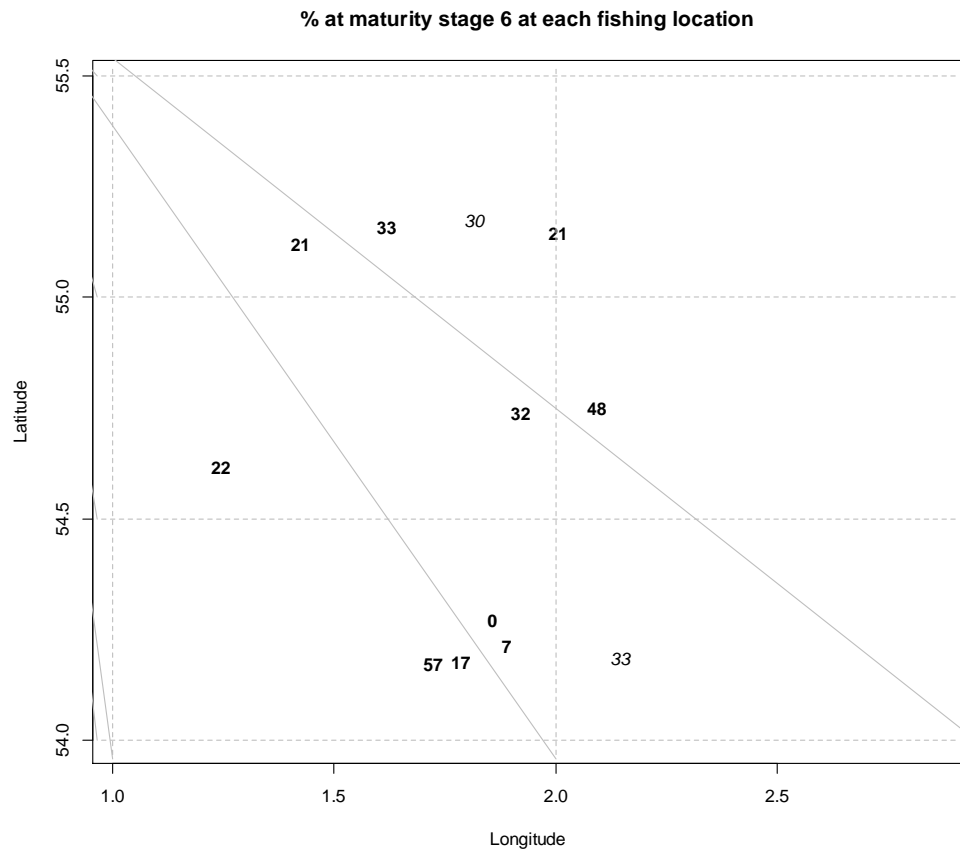


Figure 1. Percentage at maturity stages 6 (spawning imminently) by sample. Samples with less than 30 individuals in italics

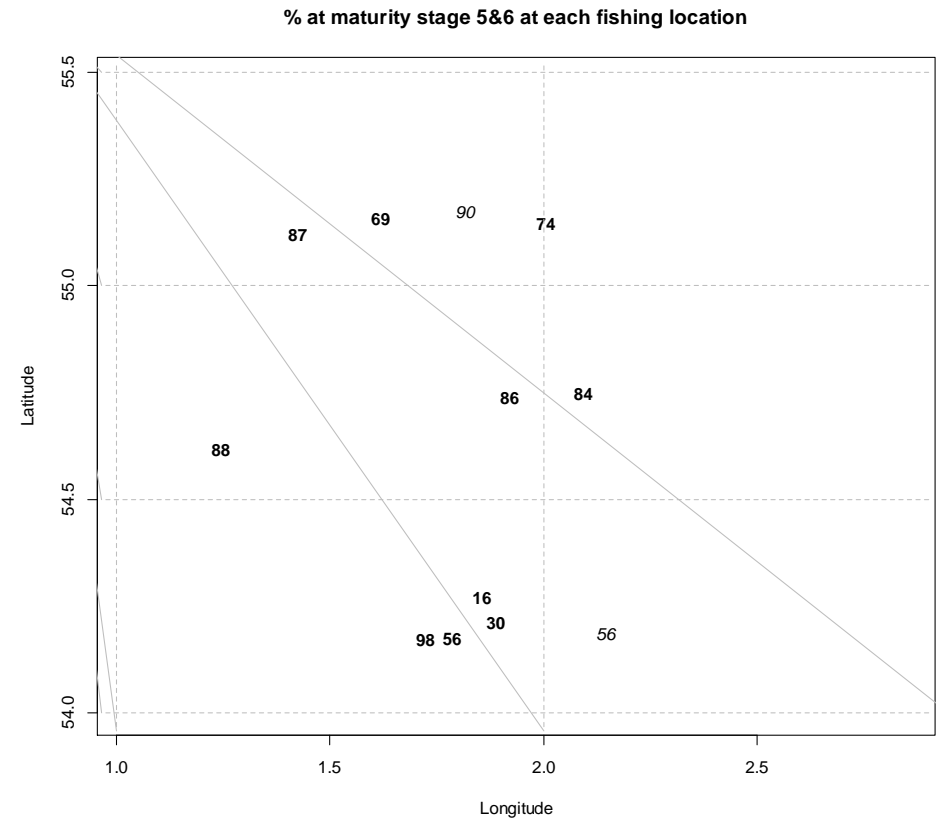


Figure 2. Percentage at maturity stages 5&6 (spawning activity expected in next few weeks) by sample. Samples with less than 30 individuals in italics

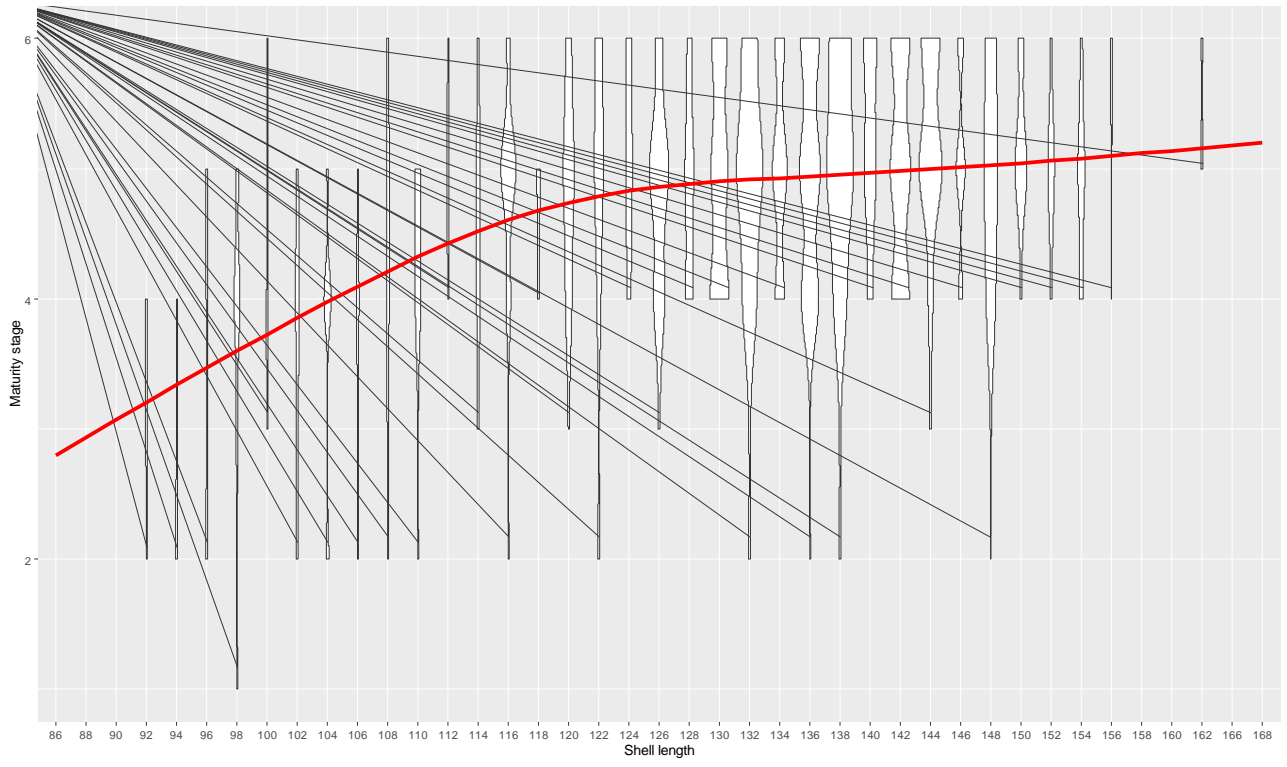


Figure 3. Distribution of maturity stage by length class. The red line follows median maturity stage at each length class

	Gonad Stage					
	2	3	4	5	6	7
39F1						
Dredge_13	0	0	14	66	21	0
Dredge_14	4	1	57	74	67	1
Dredge_15	0	0	1	6	3	0
Total	4	1	72	146	91	1

	Gonad Stage					
	2	3	4	5	6	7
39F2						
Dredge_16	0	0	14	28	11	0
Total	0	0	14	28	11	0

	Gonad Stage					
	2	3	4	5	6	7
38F1						
Dredge_7	1	1	5	37	12	0
Dredge_8	0	0	5	20	12	0
Total	1	1	10	57	25	0

	Gonad Stage					
	2	3	4	5	6	7
38F2						
Dredge_9	0	4	16	45	59	0
Total	0	4	16	45	59	0

	Gonad Stage					
	2	3	4	5	6	7
37F1						
Dredge_1	0	0	1	19	26	0
Dredge_2	6	0	25	27	12	0
Dredge_3	7	0	51	19	6	0
Dredge_4	1	8	27	7	0	0
Total	14	8	104	73	43	0

	Gonad Stage					
	2	3	4	5	6	7
37F2						
Dredge_5	1	1	2	2	3	0
Total	1	1	2	2	3	0

	Gonad Stage					
Survey total	20	15	218	351	232	1

Table 1. Raised numbers of scallops per gonad stage and survey area, grouped by ICES rectangles, plus survey total.

	Gonad Stage					
	2	3	4	5	6	7
39F1						
Dredge_13	0%	0%	13%	66%	21%	0%
Dredge_14	2%	0%	28%	36%	33%	0%
Dredge_15	0%	0%	10%	60%	30%	0%
Total	1%	0%	23%	46%	29%	0%

	Gonad Stage					
	2	3	4	5	6	7
39F2						
Dredge_16	0%	0%	26%	53%	21%	0%
Total	0%	0%	26%	53%	21%	0%

	Gonad Stage					
	2	3	4	5	6	7
38F1						
Dredge_7	2%	2%	9%	66%	22%	0%
Dredge_8	0%	0%	14%	54%	32%	0%
Total	1%	1%	11%	61%	26%	0%

	Gonad Stage					
	2	3	4	5	6	7
38F2						
Dredge_9	0%	3%	13%	36%	48%	0%
Total	0%	3%	13%	36%	48%	0%

	Gonad Stage					
	2	3	4	5	6	7
37F1						
Dredge_1	0%	0%	2%	41%	57%	0%
Dredge_2	9%	0%	36%	39%	17%	0%
Dredge_3	8%	0%	62%	23%	7%	0%
Dredge_4	2%	19%	63%	16%	0%	0%
Total	6%	3%	43%	30%	18%	0%

	Gonad Stage					
	2	3	4	5	6	7
37F2						
Dredge_5	11%	11%	22%	22%	33%	0%
Total	11%	11%	22%	22%	33%	0%

	Gonad Stage					
	2	3	4	5	6	7
Survey total	2%	2%	26%	42%	28%	0%

Table 2. Percentage of scallops per gonad stage and survey area, grouped by ICES rectangles, plus survey total.