Centre for Environment Fisheries & Aquaculture Science

Cefas

MARINE AND COASTAL ACCESS ACT (2009). CONSULTATION BY TEESPORT FOR MID-LICENCE SAMPLING FOR L/2015/00427 AT TEES AND HARTLEPOOL, TEESSIDE.
Reference Number: MLA/2015/00088/4

From: Cefas, Lowestoft Laboratory
Date: 7th November 2019
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To: Luella Williamson - MMO (by MCMS)

1. With reference to the above application and your request for comments, please find my advice below.

Description of the proposed works

2. This consultation is to discharge condition 5.2.3 of licence L/2015/00427, which stipulates that a regime of mid-licence sampling should be conducted in order to ensure that material is acceptable for disposal at sea. The licence permits the licence holder to dispose of 2,988,700 tonnes of material from dredge areas in the Tees and Hartlepool harbours. Previous Cefas advice has reviewed sample data provided for the Hartlepool area (MLA/2015/00088/2, 14th August 2019), and deemed that licensed disposal activities may continue, whilst this consultation pertains only to the Tees dredge area. The licensed disposal site is Tees Bay A (TY160).

3. Pre-application sampling advice was sought under SAM/2018/00069, which recommended a minimum of 37 sample stations to comply with both the mid-licence sampling condition of L/2015/00427, and to support an application for a capital dredge for the Northern Gateway Container Terminal project. The licence holder/applicant has previously provided data for the upstream section of the licensed Tees dredge area for consideration by Cefas (MLA/2015/00088/2, 14th August 2019), and has previously provided data for the further downstream section of the licensed dredge area, not including the polybrominated diphenyl ethers data (PBDEs) (16th October 2019). The licence holder/applicant has now provided the outstanding PBDE data, and so this consultation pertains only to the assessment of these results.

4. This consultation does not amend the need to exclude Billingham Reach dredge area from the licence as stated in previous advice (16th October 2019).

Sampling and representation

5. As stipulated under SAM/2018/00069, 16 of the 37 sample stations were tested for PBDEs, the analysis for which was conducted by Cefas, an MMO validated lab. The licence holder initially submitted a dataset with very high levels of PBDEs; levels that are not usually observed in environmental concentrations i.e. BDE209 was recorded at 400 ppm in one sample. The licence holder has now confirmed (6th November 2019) that these results were not correctly transcribed into the MMO Results Template, in that, they were not converted

from ppb to ppm as is the usual procedure. The licence holder has provided the original certificate of analysis to corroborate this, and I am satisfied that this is valid.

6. Table 1 details the number of samples that have now been recovered and analysed for each area, noting that these areas pertain largely to the areas of the NGCT dredge footprint, for which SAM/2018/00069 considered it along with L/2015/00427. As such, these areas are merely for consistency with the pre-application sampling plan, as they are not stipulated dredge areas on the licence.

Dredge Area	Samples forecast	Samples taken	Comment
A	A1-20	A1,2,4	A3 excluded due to PSA result "Area A" pertains to the NGCT dredge area and so, a reduced sampling effort is acceptable
B	B1-30	B1-6	"Area B" pertains to the NGCT dredge area and so, a reduced sampling effort is acceptable
C	C1-12	C1-12	As stipulated
D	D1-3	D1-3	As stipulated
E	E1-5	E1-5	As stipulated
F	F1	F1	As stipulated
G	G1-6	G1-6	As stipulated
Total	**77**	**36**	

7. Sample A3 was found, upon sampling, to comprise large stony material and so was not analysed for contaminant content. Cefas are content with this approach and this sample is thus excluded from the sampling requirements.

8. Figure 1 details the locations of all samples that have now been taken and analysed for this consultation in relation to the dredge area. I am content that the majority of the dredge area is now well represented by samples taken.

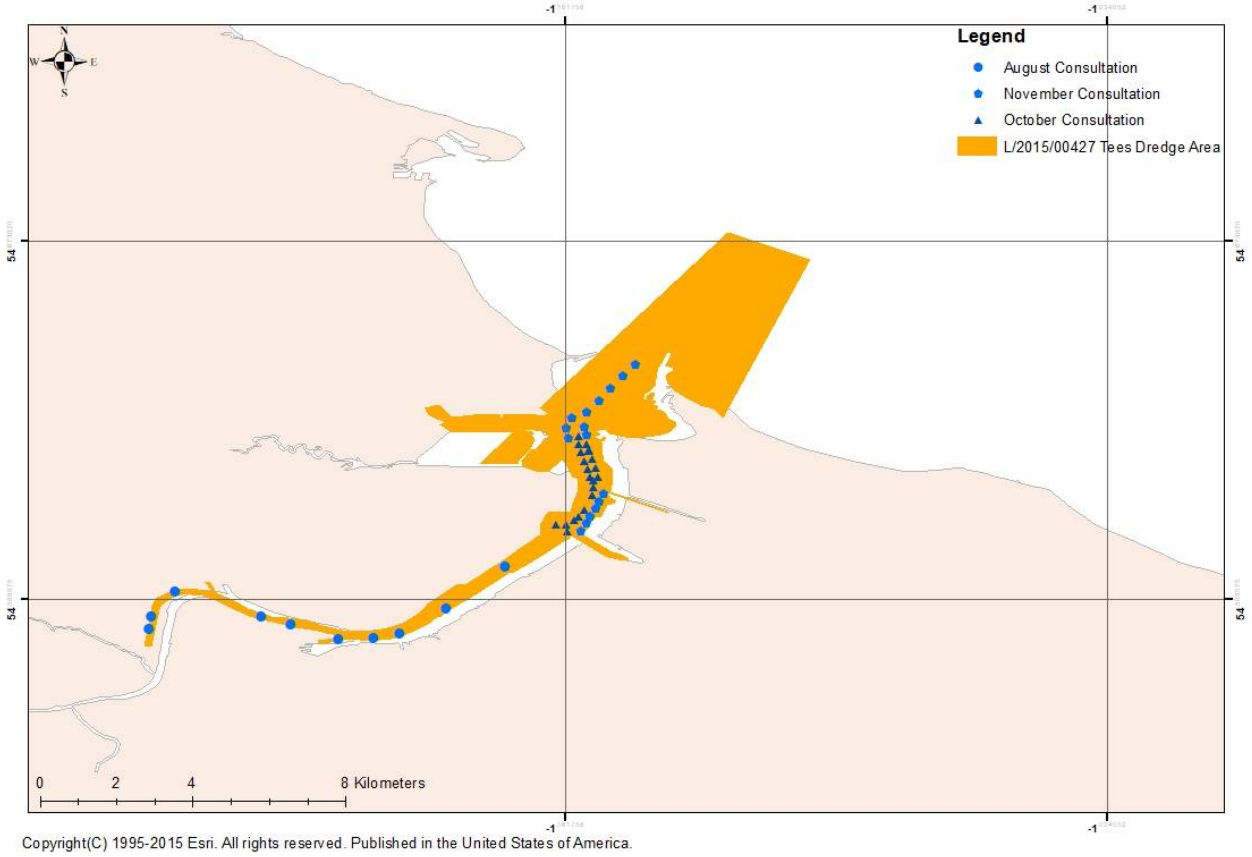

Figure 1. Map detailing the sample locations from each consultation in relation to the licensed dredge area.

9. In previous Cefas advice (16th October 2019), it was stated that: *"the sample data presented in this consultation pertain only to the most downstream section of the dredge area, before the river empties into the approach channel... I am content that the riverine section of the dredge area has been sufficiently spatially represented by sampling effort. However, I note that no data have yet been presented for the channel approach area… As such, I would request that the applicant presents surface sampling data from the channel approach area."*

10. The new data provided do not represent the channel approach section of the dredge area, as depicted in Fig 1. Therefore, I maintain my conclusions quoted in point 9, in that, the applicant must provide either data to represent the channel approach, or clarification as to why there are no data for the channel approach section of the dredge area. In SAM/2018/00069, the licence holder/applicant indicated that much of this area was anticipated to comprise inert glacial deposits, which Cefas deemed inappropriate to sample. However, this was in relation to subsurface sampling for the NGCT project, and did not preclude the requirement to conduct surface sampling.

11. Condition 5.2.5 permits the licence holder to dispose of 2,889,700 tonnes of material at Tees Bay A (TY160) per annum. The particle size analysis results indicate that the material across this dredge area is predominantly silt, most results showing 70 – 90% silt composition, or fine sand. Using a specific gravity of 1.2, an appropriate level for this particle size distribution, this calculates to 2,408,083 m³ of dredged material per annum. Using the OSPAR guidelines, this equates to approximately 30-35 samples required, as the guidelines stipulate that 16 – 30 samples should be taken for dredges between 500,000 m³ and 2,000,000 m³ and an

additional 10 samples for each 1,000,000 m³ beyond this amount. As such, the sampling effort, 37 samples including one exclusion, is acceptable.

Dredged material quality

12. This consultation pertains only to the PBDE analysis, as previous Cefas consultations have already considered the remaining data (14th August and 16th October). This advice does not absolve or amend previous conclusions.

13. Sample E2 exhibits relatively low concentrations of BDE congeners, as 8 out of 12 congeners were below the limits of detection (0.02 ppm). Samples E3 and E4 also recorded some congeners below the limits of detection. BDE138 was below the limit of detection in each sample. As there are no determined action levels for BDE congeners, it can be difficult to establish a “safe” threshold of BDE concentrations. Expert advice indicates that due to the anthropogenic nature of BDE sources, levels of BDEs should effectively be as low as possible. The results indicate that BDE concentrations are, at this time, generally acceptably low, noting that BDE209 has a higher LOD and is generally present in higher concentrations than other BDE congeners. Results generally varied between 0.002 and 0.07 ppm.

Summary

14. The results for PBDE analysis show acceptable levels for continued disposal of sediment offshore and this concludes the contaminant analysis for this mid-licence consultation. Whilst the sampling effort is acceptable, the spatial representation of these samples requires additional clarification before condition 5.2.9 can be discharged. As indicated in the consultation request, the exclusion of Billingham Reach still applies.

Joe Perry
Advisor (Sustainable Marine Management)

Quality Check	***Date***
Jemma-Anne Lonsdale	07/11/2019