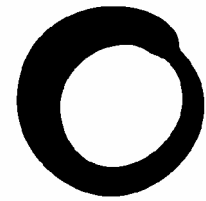




Marine Information Network
www.marinet.org.uk



**Friends of
the Earth**

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22nd October 2008.

For the attention of: Lindsay Jane Seiderer, Marine Ecological Surveys Ltd,
24a Monmouth Place, Bath BA1 2AY.

Dear Dr. Seiderer, Area 202, Cross Sands : Consultation Questionnaire.

Thank you for your letter dated 10th September which enclosed Background Information for a Scoping Package and a questionnaire in connection with the proposal of the licence holder , Hanson Marine Aggregates Ltd, to seek a renewal of the aggregate extraction licence for Area 202 in 2010 for a further 15 years. You have invited us to comment, ref. H202/EX/7.

Firstly, may I advise you that your listing of myself as representing Friends of the Earth rather than MARINET is incorrect. I represent MARINET, which a voluntary part of Friends of the Earth and MARINET is the voluntary marine network of Friends of the Earth Local Groups, and affiliated individuals and organisations. MARINET is an officially licensed Friends of the Earth Local Group Network.

You ask what are the interests of MARINET in the marine area off the East Anglian coast ?

MARINET members in East Anglia have a strong interest in the marine and coastal environment, in the preservation of its sound environmental and ecological condition, and in all activities that may affect this.

You ask if MARINET is aware of any existing aggregates dredging operations which we think may be affecting the marine and coastal environment ?

Yes, we believe that the block of licences offshore from Great Yarmouth, documented on page 12 of your Scoping Package, along with those licences in this block which have ceased operation and our now surrendered, are affecting the marine and coastal environment.

You ask what are the principal topics of interest to MARINET that the Environmental Assessment of the proposed dredging operations should consider, and why these topics are important ?

In reply, we itemise these topics as follows:

- When Area 202's sister area, Area 436, was surrendered in 2006 and Area 202 was granted an extension licence to extract the unused licensed tonnage (ref. ES Update 2006), we informed the licence holder (HAML) and its consultant (MES Ltd) and the licensing UK Government Department that the surrender of Area 436 was not being made in accordance with Marine Minerals Guidance Note 2 and, therefore, not in accordance with the then existing licence.

Specifically, the licence holder had undertaken no work to establish the physical condition of Area 436 at the time of surrender and, specifically, had not established whether at least 50 cms of the original seabed material was still in place.

Specifically, the licence holder had undertaken no work to establish the biological condition of Area 436 at the time of surrender, thus failing to provide a benchmark from which the biological recovery of Area 436 could be assessed.

The above matters are of importance because the licence for Areas 202 and 346 was held in a joint manner at that time, as well as the two sites being physically adjacent to one another. In other words, the physical and biological condition of Area 436 is and was linked to Area 202, and the condition of Area 436 has a direct relationship and bearing on Area 202. The current documentary record of the condition these two Areas is therefore incomplete and wholly inadequate. Such matters need to be addressed and remedied.

- The ES Update in 2006 reported that the depth of the seabed in Area 436 had been lowered, in places, by 5 metres and that only 20% of this lowering could be accounted for by the extraction of aggregate under the terms of the licence. The remaining 80% loss of seabed was attributed to natural morphological processes.

The natural morphological processes were never explained or quantified. The truth of this statement about natural morphological processes therefore remained, and still remains, unverified.

Moreover, as we pointed out at the time to HAML, MES Ltd and the Government, if these natural morphological processes were to operate elsewhere in the Great Yarmouth block of licences in the manner that it is claimed that they have operated in Area 436, then the deposits of sand and gravel on the seabed could disappear long before the aggregate companies have an opportunity to extract them. Therefore these natural morphological processes needed definition and evaluation in 2006, and this need remains equally essential now. Otherwise, the true nature of the morphological process in operation in this block of licences is unknown.

We are not aware that this requirement has been fulfilled. We are not aware from the Scoping Package for Area 202 of any evaluation having been done within this context.

We therefore believe that this evaluation of morphological processes is essential before any relicensing of Area 202 can be determined.

- We have noted from the Scoping Package, ref page 3, there is no intention to re-visit the calculations (H. R. Wallingford) of the wave conditions reaching the outer edge of the sandbank system off Great Yarmouth. Nor does there appear to be any intention (we can find no reference in the Scoping Package) to re-visit the nature of the wave regime arriving on the beaches of the Great Yarmouth and adjacent coastlines.

We believe that the nature of the wave regime needs to be re-visited. As far as we are aware, the work by H. R. Wallingford on the nature of the wave regime operational in the Area 202 context relies upon the wave regime model devised for Area 401/2. If this is so, then we must draw your attention to our perceived deficiencies in this Area 401/2 wave regime model. These deficiencies are summarised in our submission dated 24th March 2005 to HAML's consultant, Emu Ltd, at the time of the relicensing of Area 401/2. This full submission may be viewed at <http://www.marinet.org.uk/mad/objection/401-2stephen.pdf> . For present purposes, we cite briefly from this evidence:

“The applicant’s Coastal Impact Study asserts that wave conditions have not been affected by aggregate dredging activities, and that therefore neither the offshore sandbanks nor the coastline itself will have been adversely affected. The information above on the failure of the offshore sand banks to regenerate casts doubt on this assertion. [Note, see earlier section of 24th March 2005 submission for details about the impact on offshore sandbanks].

The question must therefore be asked as to what is the factual basis for the applicant’s assertion. In Appendix D, the applicant states the following with regard to the factual data for its wave model:

“Within the area of interest, there were only two sources of instrumentally measured offshore wave data. The first was from the wave rider buoy 7km offshore from Great Yarmouth, the data from which for commercial reasons was not available. The other source of wave data is Smith’s Knoll Light Vessel, some 35km offshore from Great Yarmouth, although no directional information had been collected at this site.” Reference: ES, Appendix D, section C 3.1.

As a result, the applicant used the following wind data for its wave model:

“The offshore wave conditions used as input to the wave transformation model are based on extremes derived from HINDWAVE predictions [the computer model] driven by 20 years of wind data measured at Gorleston 1970-1990.” Reference: ES, Appendix D, section 3.3.

Thus, it is clear that offshore wave data were not used in this model, and that the data took the form of wind speeds for a land based station (Gorleston), and for a twenty year period which is almost fifteen years distant from the present (i.e. not contemporaneous). In Appendix 1 to the Coastal Impact Study [Appendix D of the Environmental Statement] this matter of wind data in the calibration of the computer model is referred to:

“Suitable wind data is available from coastal stations only, which may not be representative of conditions over the sea. A speed-up function is necessary, which may be dependent upon both speed and direction. Calibration of the model usually takes the form of adjustment of this factor. Its magnitude may be determined by a general examination of the anemograph site, or by comparison with the offshore wind frequencies, or by a comparison between predicted and measured wave heights, if available.”

As has already been noted, a comparison with offshore wind frequencies and offshore wave heights was not available (Reference: ES, Appendix D, section C 3.1.). Therefore one must assume that the calibration of the computer model [HINDWAVE] for increased wind speed and variations of wind direction offshore (i.e. in the area of the sandbanks) must have been accomplished by a general examination of the anemograph site [Gorleston]. However, no details of this “general examination of the anemograph site” are provided, and therefore the accuracy of the calibration of this computer model is undetermined.

Also, Appendix 1 [Appendix D] notes:

“The model is dependent upon having a long sequence of high quality hourly wind velocities, which are assumed constant across the wave generation area. The calculations do not include an estimation of long period swell, which may render the model unsuitable for use in certain areas of application.”

As has already been noted, the Gorleston wind data is fifteen years out of date. This does not exactly square with the requirement for “a long sequence of high quality hourly wind data velocities, which are assumed constant across the wave generation area.” Indeed, the applicant provides no detail as to the nature of the Gorleston wind data.

Further, as has been noted earlier, the offshore sandbanks are most vulnerable during winter storm surges. This is when wave heights and velocities are at their greatest. In the applicant’s computer model “calculations do not include an estimation of long period swell.” This suggests that the computer model is incapable of assessing those precise offshore wave conditions (winter surges) which are most likely lead [sic] to erosion of the offshore sandbanks. Hence, as a direct consequence, this suggests that the computer model is incapable of assessing whether aggregate dredging is intensifying those wave conditions; and, as a further consequence, whether waves of increased height and velocity are arriving at the beaches.

There is, therefore, a large area of uncertainty as to the accuracy of the applicant’s Coastal Impact Study and wave model.”

Consequently, we must advise you that if the Environmental Impact Assessment for a relicensing of Area 202 in 2010 is to rely on the Area 401/2 wave regime model, we would regard this as unsatisfactory.

- Regarding the marine benthos and fisheries, a number of matters require careful consideration.

Firstly, we note that the species *Sabellaria spinulosa* (Ross sandworm) is recorded in the Scoping Package, as one would expect. This species is important for its reef creating potential which, in turn, creates an important biotope, recognised under Annex I of the EU Habitats Directive.

We note the record in the Scoping Package, ref. page 8, that there was a considerable increase in the numbers of this species at station 19 in the north of the survey area (outside of Area 202) compared to the numbers recorded in 2000, and we are concerned by the Scoping Package’s observation “*we consider it likely that the sample in 2003 was taken in a high-density patch of Sabellaria compared with 2000, rather than necessarily reflecting a uniform increase in the numbers of this species in the site as a whole.*”

We observe that we see no objective support for this statement by the consultant. Further, the statement suggests the fact that the current sampling procedure is a very random process which may or may not correctly record the presence of a species and the size of its population in the area. In the case of *Sabellaria spinulosa*, an EU Habitats Directive species/habitat, this is a serious matter. Accuracy of sampling is vital. We are further concerned, as we expressed at the time of the 2006 ES Update, that dredging may be destroying embryonic colonies of this species which, if allowed to mature, would create habitat meriting Annex I protection. We see no evidence in the consultant’s sampling procedures at the present time which evaluate this potential.

Secondly, the 2006 ES Update made mention of the possible presence (ref. English Nature, now Natural England) of *Modiolus modiolus* (Horse mussel), and we questioned in 2006 whether the benthic survey had adequately surveyed for this species (another “biogenic reef-forming” species whose habitat is protected under Annex I of the EU Habitats Directive). We have seen no

evidence in the current Scoping Package that the possible presence of this species has been addressed.

Thirdly, we have noted that the Scoping Package asserts, ref. page 14, that the recovery of species variety and population structure on a predominantly sandy seabed occurs within 2-4 years after the cessation of dredging. We observe that Area 436 could supply clear evidence as to the correctness or otherwise of this assertion. We would therefore like any forthcoming Environmental Assessment for the relicensing of Area 202 to use Area 436 as the test case for this assertion (given its immediate physical proximity), and we require to know whether any “recovery monitoring” of Area 436 has been undertaken since dredging ceased there in 2006. If so, the results need to be made evident.

Fourthly, the Scoping Package, ref. page 10, states that the fishery in Area 202 has a low economic value following a long period of decline in the strength of the fishery in overall offshore area. Whilst this may be true, the loss of the general fishery in the Great Yarmouth area is a serious matter, and actions are required to reverse this state of affairs.

Accordingly, we need to know in any forthcoming Environmental Impact Assessment whether aggregate extraction hinders or facilitates both the natural recovery of the overall fishery, and whether aggregate dredging would hinder or facilitate and man-made actions designed to regenerate the fishery e.g. via means of marine reserves and conservation zones which will be created via the forthcoming UK Marine Bill. In addition, we have seen no evidence in the Scoping Package that the Sea Fisheries Committee has been approached by HAML or its consultant to discuss this particular matter.

- Finally, in the section in the Scoping Package with regard to cumulative impact, we note the statement (ref. page 14) that the consultant considers that there is a mechanism for removal of excess sand mobilised during the dredging process, and that restoration of coarser surface deposits is likely to occur within the actively-dredged zones following cessation of dredging at this particular site.

Given our earlier comments above, we would like any forthcoming Environmental Assessment to, firstly, explain the exact nature of the “mechanism for removal of excess sand mobilised during the dredging process” and to advise whether this is in any way connected with the currently undefined and unverified “natural morphological processes” referred to in the 2006 ES Update; and, secondly, we would like any forthcoming Environmental Assessment to explain how the “restoration of coarser surface deposits is likely to occur within the actively-dredged zones” and to reference this explanation from evidence with regard to Area 436.

You ask in the questionnaire: Has MARINET experienced any effects (positive or negative) which may be attributed to other dredging activities in the area ? If so, please list and explain.

Apart from the above, we consider the main effect that needs to be assessed is the decline in the size and nature of the offshore sand bank at Scroby Sands. As will be noted from our submission to Emu Ltd on 24th March 2005, referenced above, we have documented a substantial alteration in the nature of this offshore sand bank since the commencement of aggregate dredging

in the Great Yarmouth area. Accordingly, we believe there is an imperative need for this change to be assessed in any forthcoming Environmental Assessment.

The other effect that has been observed during this period is the erosion of beaches and coastline in the East Anglian region. It is asserted by many that this is purely a natural phenomenon, and the aggregate dredging companies have consistently stated that their activities are in no way implicated in this process. In order to determine the truth, or otherwise, of a connection between aggregate dredging and coastal erosion in the East Anglian region, all that is required is to undertake a tracer study of material drawn down from the beaches in the region to see where this material ends up.

Accordingly, we believe that any forthcoming Environmental Impact Study for Area 202, perhaps in association with current Anglian Offshore Dredging Association study and the forthcoming East Coast Regional Environmental Assessment of marine aggregate extraction, should ensure that such a tracer study is undertaken. This tracer study will then be able to verify the facts of the matter, and settle a very controversial subject.

The questionnaire asks whether MARINET perceives that anything in particular is likely to happen should a continuation licence be issued for Area 202 ?

MARINET considers the likely effects referred to in this question have already been detailed above, along with the reasons for this.

We thank you for seeking our views, and we would be happy to enlarge on any matter should you so require.

Yours sincerely

S. D. Eades
On behalf of
MARINET.