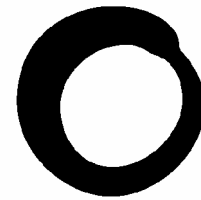




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14<sup>th</sup> January 2009

## **Anglian Offshore Dredging Association Marine Aggregate Regional Environmental Assessment Scoping Report**

Dear Mr Tomlinson,

Thank you for your above referenced letter dated 19 December 2008.

Further to my e-mail dated 26 December 2008 requesting a second CD of the above report Appendices because my copy was blank; this section of the report has now been copied to me by my colleague Pat Gowen, consequently I am now in a position to comment on the complete report.

### **Comments:**

There is too much reliance on H R Wallingford Reports:

The Scoping Study main report quotes from: H R Wallingford North Sea Sediment Transport Study (Phase 2) 2000 and HR Wallingford 2008 report on many occasions.

H R Wallingford also produced the Physical Process Scoping Study Technical Note Report DDM6151-1 in Appendix C.

The following H R Wallingford Reports are also referenced:

EX 2977, October 1994, EX 2976 June 1994, EX 3028 June 1994, EX 3039 September 1994, EX 3050 September 1994, EX 3102 November 1994, EX 3140 January 1995, EX 3280 September 1995, EX 3466 August 1996. EX 3280, EX 4570 May 2002, EX 4576 May 2002 and EX 5041 January 2005.

H R Wallingford has produced many reports and contributed to EIA's for a significant number of Offshore Dredging Companies and therefore will not contradict his previous opinions which are now questioned by other experts.

Data and quotes from more independent reports such as the Second Sandpit Report "Scientific Report of Sandpit Project April 2003 – April 2440 (year 2) May 2004 Sandpit EC Fifth Framework Project No EVK3-2001-000056" should be used.

The second Sandpit Report is a report from a large group of independent European Scientists concerned with the impact of Offshore Aggregate Dredging.

This report questions the validity and conclusions of HR Wallingford Southern North Sea Sediment Transfer Study.

The Sandpit Report also concludes that excavation of the seabed makes the seabed sands mobile and, as a consequence, influences the wave regime.

The report quotes: "large-scale mining pits will have a significant impact on the near-field and far-field (up to the coast) flow and wave patterns; the flow velocities inside the pit will be reduced and the wave heights may also be reduced, depending on the depth of the pit. As a consequence, the sand transport capacity inside the pit will decrease and sediments will settle in the pit area, resulting in deposition. Thus, the pit will act as a sink for sediments originating from the surrounding areas and depending on the local flow and wave patterns. Hence, erosion of the sea floor will take place in the (immediate) surrounding of the pit."

The full Sandpit Report can be viewed at: <http://sandpit.wldelft.nl/reportpage/reportpage.htm>

However:

Area 401/2 Dredging Licence Coastal Impact Study Report EX 5030 August 2004 carried out by HR Wallingford states: "A system of sandbanks between the dredged area and the coastline will prevent the direct interchange of material between the coast and the dredged area"

Thus in this report he is admitting in that material from these sand banks will be eroded by the offshore dredging to prevent beach draw down - but.

In Appendix C.(of this report) H R Wallingford Physical Process Scoping Study Technical Note Report DDM6151-1, he suggests that the seaward edges of our offshore sand banks be used as the shoreline reference point for the purposes of assessing any erosion damage caused by Offshore Dredging – MARINET are in full agreement with this suggestion.

These offshore sand banks are an important part of the sea defences for the Great Yarmouth coastline area as they reduce the energy of wave attack on the shoreline but continuous offshore dredging is rapidly diminishing them.

There is no mention of their demise or to execute detailed studies of their demise in your Scoping Study but:

Visible evidence of the loss of height and reduction in size of Scroby Sands (our main and largest Great Yarmouth Offshore Sandbank) since 1988 after commencement of Offshore Aggregate Dredging is very evident:

30 years ago the total length of Scroby Sands was visible at low tides and the 1966 Great Yarmouth Pictorial Souvenir Guide States " At low tide they (Scroby Sands) are three miles long and nearly a mile wide in places.

At high tide much of the bank is submerged but there is still a large area left high and dry".

This certainly is not the case today as none of the bank is visible at high tides and only small southern portions visible at some of the lowest low tides.

Also the bank does not have a three mile long above water section at low tide now.

Re Section 6.0 Scope of work for the MAREA and table on page 73.

There is too much reliance on desk based reviews and studies.

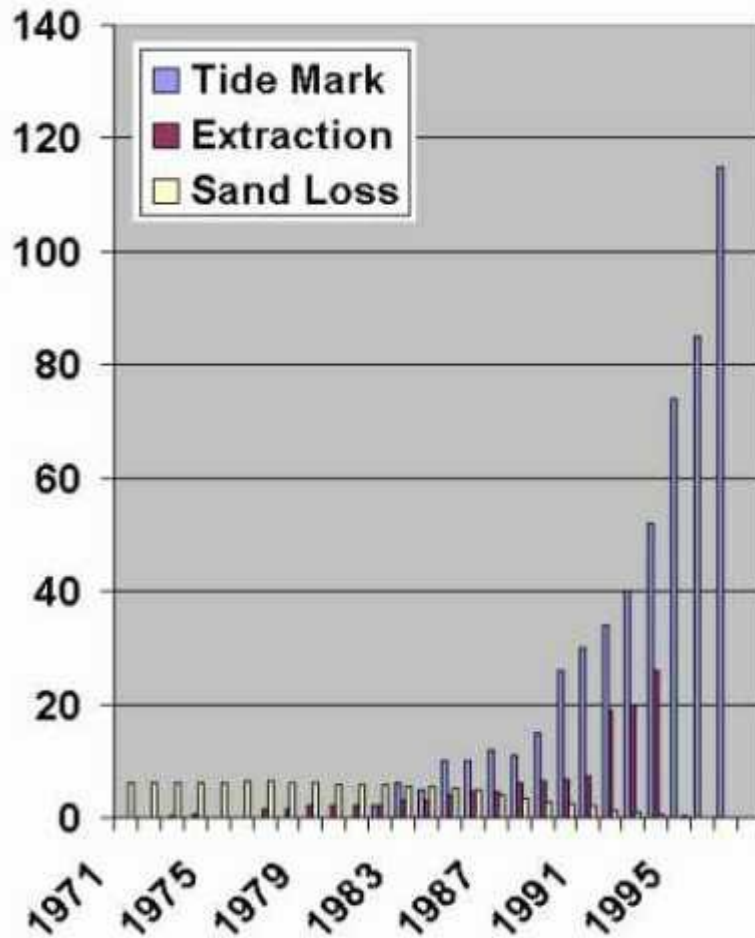
Scientific beach and offshore sand bank sand tracer tests should be carried out at your corridor points adjacent to Offshore Dredging operations to check if this mobile sand flow migrates to the dredged areas.

Marinet recommend that you also carry out historic comparison studies of the annual amounts of offshore aggregate removed and the corresponding annual rates of beach draw-down and coastal erosion to the areas of the Norfolk and Suffolk coastline not protected by hard sea defences, preferably from 1988 when the annual amounts of seabed aggregate removed significantly increased in the area of intense cumulative aggregate dredging off this coastline. We draw your attention to the study carried out by Pat Gowen of Marinet from 1972 to 1997 along the section of Norfolk coastline from California to Winterton Ness which is only protect by soft sand beaches and marram grass sand dune banks.

This study showed a correlation between the increased amounts of offshore aggregate removed and reduction of beach sand depth (beach draw-down) of the beaches along this section of coastline as illustrated by the graph extracted from this report on the next page - the full report can be viewed on Marinet web site via the link:

<http://www.marinet.org.uk/mad/madbrief.html>

**Correlations of Offshore Dredging Levels with Coastal Losses.**



The graph above shows the delayed correlation between the accumulated levels taken by offshore aggregate dredging as Extraction in millions of metric tonnes up to 1994 -purple-, the sea incursion by the mean of the tidal reach in metres as Tide Mark -blue- and the mean beach sand depth level stripped as Sand Loss up to 1997 -yellow- also in metres.

The survey took place over a 10Km shoreline between North Winterton-on-Sea and California, Norfolk, between 1972 and 1997, with the data taken four times per year in January, April, July and October. Over the period of the study the total offshore aggregate removed rose from close on zero up to 260 million metric tonnes.

Over the period of the study the mean tidemark encroached 115 metres whilst six metres of sand was stripped from the beach, producing undermining leading to the loss of three of the previously stable dune hills that had supported coastal bungalows. Prior to the commencement of offshore aggregate dredging these beaches were accreting, as indeed they had been for the previous eighty years.

Yours sincerely for and on behalf of MARINET (Marine Environmental Information Network)  
Great Yarmouth Norfolk

Mike King