

Pat Gowen, MARINET & NSAG  
17 Heath Crescent,  
Hellesdon,  
Norwich,  
Norfolk  
NR6 6XD  
UK

23rd January 2009

Tel/Fax/Answerphone: 01603-402554  
Mobile Telephone: 07767-041443  
Skype: patgowen1932  
e-mail: pat.gowen@ntlworld.com  
Website: www.marinet.org.uk

Your Ref: J/1/06/1302/0828

Dear Doctor Bruce Tomlinson,

Further to my evidence sent to you on 17th January 2009 containing our concern on the limitations of the AODA Marine Aggregates Regional Environmental Assessment (MAREA) Scoping Report, I would wish to bring to your attention that evidence on the erosive impact of Marine Aggregate Dredging that has been known for just on 100 years.

It emanates from the 'Coastal Zone 07' conference which was held at Portland, Oregon, from July 22nd to July 26th 2007 to discuss a wide range of coastal concerns. 920 delegates representing 16 countries attended. To see the full content and links to all the papers please refer to [www.csc.noaa.gov/cz/](http://www.csc.noaa.gov/cz/) and 'At a glance' at [www.csc.noaa.gov/cz/2007/CZ\\_07\\_at\\_a\\_glance.pdf](http://www.csc.noaa.gov/cz/2007/CZ_07_at_a_glance.pdf)

One session of this conference was devoted to the topic '*Why are our beaches eroding?*' For this Vincent May, Professor Emeritus of Coastal Geomorphology and Conservation of Bournemouth University submitted a paper entitled "IMPACTS ON BEACH AND CLIFF STABILITY ASSOCIATED WITH EXTRACTION OF SEDIMENTS FROM BEACHES AND OFFSHORE: UNDERSTANDING THE COMMUNITIES' RESPONSES TO PERCEIVED RISK" that may be viewed at:

[http://www.csc.noaa.gov/cz/2007/Coastal\\_Zone\\_07\\_Proceedings/PDFs/Monday\\_Abstracts/3107.May.pdf](http://www.csc.noaa.gov/cz/2007/Coastal_Zone_07_Proceedings/PDFs/Monday_Abstracts/3107.May.pdf)

It is now over one hundred years ago that the British Government set up a Royal Commission on Coast Erosion "*...to reach some conclusion with regard to the amount of land which has been lost in recent years by the encroachment of the sea on the coasts of the United Kingdom...*". The Minutes that evolved in 1908 and 1909 plus the Final Report that came out in 1911 clearly and succinctly expressed their concern that the removal of sand and gravel caused or accelerated coastal land loss.

Yet despite later papers backing these findings, the same issues and arguments as to the damaging coastal impact of sand and gravel exploitation still exist today although we have further evolved technology and methodology that would further support these earlier findings were it employed. Surely it is not that our knowledge has not improved, but is it that such awareness is censored in favour of that supportive of the continuation of the industry ?

Here follows that content relative to our concern:

The British Association for the Advancement of Science established a Committee in 1883 *"for the purpose of inquiring into the rate of erosion of the Sea-Coasts of England and Wales, and the influence of the artificial abstraction of shingle and other materials in that action"*: a strong indication of public and scientific concern. It reported (in 1885) that shingle extraction was causing loss of land and property. Extensive landsliding and shore retreat accompanying the 1897 North Sea storm surge increased public pressure for action.

Local communities could not afford to pay for adequate defences and pressure grew on the Government to provide central funding for coast protection. There were also bitter arguments about the effects of extraction and how Government and the dredging contractors responded to fears of land and property losses. The Government responded by setting up the Royal Commission on Coast Erosion (RCCE) following the practice that Royal Commissions are established to inquire publicly about very important, often controversial, issues of national concern.

The RCCE commenced their work in 1907. Their brief was to inquire and report:

*"As to the encroachment of the sea on various parts of the Coast of the United Kingdom and the damage which has been or is likely to be caused thereby; and what measures are desirable for the prevention of such damage"*.

It also considered what powers were needed for protection and if changes to the law were needed, with the result that the RCCE's Final Report (1911 p.158) said:

*"The removal of materials from many parts of the shores of the Kingdom and the dredging of material from below low water mark, have resulted in much erosion on neighbouring parts of the coast,"... **"Removal of sediments from the shore should be illegal** (Para. 7(a) p.160).*

It recommended *"systematic observations"* (of) change below low water, deep water sediment travel and sandbanks movements for which *"information at present is scanty and vague"*. Little subsequent action was taken. The Final Report (RCCE 1911, Part II) said that on the basis of foreshore losses:

*"The gradient of the foreshore must be becoming steeper." (p.45).*

Yet there was no recognition by the authorities of the implications, no more than today.

More recently, Taylor et al (2004) reported that 61% of the coastline was steepening and 33% had flattened. This is critical to the debate about coastal changes, especially in discussion of sand-mining impacts, as it indicates a progressive exposure of beaches to serious damage. Despite extensive damage to the English North Sea Coast and the loss of 300 lives following a major North Sea Surge in 1953, the Waverley Committee on Coastal Flooding (1954) did not comment on this, but noted an increasing frequency of severe storms and stressed that research into the movements of beach material, offshore sand banks and related coastal problems was urgent (Summary of Recommendations Para. 114 -(3), p.28).

Analysis of the RCCE Minutes of Evidence reveals the causes of coast erosion reported by engineers and geologists, the professional groups commonly advising the coast protection authorities, to be wave action and the removal of beach material for road-making and construction. Directly affected groups such as Parish Councils and individual landowners added a third cause: the effects of engineering works, such as groynes and jetties reducing longshore sediment transport. Although extraction in some locations directly affected beach-loss, the links with offshore extraction were poorly described. By the 1960s extraction of sand and gravel directly from beaches had been stopped but offshore extraction of aggregates increased. Although extraction from beaches for commercial reasons is not now allowed, in practice such removal does occur when downdrift beaches are used as sources for rebuilding updrift beaches (Thorn 1960; May and Hansom 2003).

We hold the same to be true to extraction even at considerable distances offshore, and that if the earlier findings are not found acceptable to the dredging lobby and others that benefit from the industry, further or rep[repeated research to back up the earlier findings is essential rather than to rely upon assumptions.

To repeat the recommendation of the RCCE Final Report of 1911:

*"Systematic observations" (of) change below low water, deep water sediment travel and sandbanks movements for which "information at present is scanty and vague".*

Little subsequent action was taken then, and needs to be now.

Yours Sincerely,

Pat Gowen

MARINET & NSAG

Dear Dr. Bruce Tomlinson,

Following on to our 17th and 23rd January 2009 responses to the Scoping Study and the points that we have made to you of our concern with the limitations of the AODA Marine Aggregates Regional Environmental Assessment Scoping Report, we would wish to pose one further question to you.

This is to ask you of the nature of the appeal process should, after your scrutiny and response to our concerns, we still believe that the Scoping Report has either failed to adequately incorporate all the recommendations we have made, or, where our recommendations have been omitted, the Scoping Report has failed to supply satisfactory reasoning for their exclusion.

Your considered reply to this point would be appreciated when you have had the opportunity for consideration.

With best wishes,

Pat Gowen

MARINET & NSAG

25th January '09