



Built with marine aggregates – the QE2 bridge and the emerging Channel Tunnel Rail Link

2002 review

an update from the British Marine Aggregate Producers Association

A critical stage

Britain's marine aggregate industry is at a critical stage in its development. Activity during 2002 may well prove fundamental to its long-term success.

THE marine aggregate industry faced a series of significant hurdles during the past year. But, through the work of the British Marine Aggregate Producers Association, it made real progress on several important fronts.

The quest to identify secure new long-term reserves from which to help satisfy the nation's needs brought with it a need to demonstrate careful management of a finite resource and to address a number of environmental issues.

BMAPA has gone about the process with genuine commitment and energy. It has contributed towards substantial new research, notably involving marine biology, coastal erosion and archaeology.

It has also made commitments to action and has worked with bodies such as DEFRA and the Wildlife Trusts (on marine stewardship) and with the Standing Conference on Problems Associated with the Coastline (SCOPAC) in setting up a coastal forum for the south coast.

Highlights

Consultation continued on the Government's pivotal aggregate policy MPG6 with BMAPA emphasising the importance of marine in the supply scenario.

The industry maintained its essential supply role in London and the south east in particular, where more than a third of all sand and gravel used now comes from the seabed.

BMAPA members pursued applications for dredging licences in the eastern English Channel and worked with other applicants to produce a regional environmental assessment.

BMAPA committed to DEFRA's Marine Stewardship initiative, held discussions with other stakeholders and supported applications for funds from the Aggregates Levy Sustainability Fund.

An intensive study of the impact of dredging on marine biology in the North Sea was finalised and concluded that re-colonisation was largely achieved within 12 months.

An ongoing joint initiative between BMAPA and the Crown Estate reported a decrease in the area of seabed licensed and in the area actually dredged. It also announced a new initiative to publish regional zoning information.



The Channel challenge

Of all the issues facing the marine aggregate industry during 2002, none was more important than the need for new reserves.

MANY of the licensed areas which currently satisfy Britain's marine aggregate needs are now nearing exhaustion. High quality gravel – as opposed to sand – is in seriously short supply in the south east.

The shortage is particularly serious in the Thames and North Sea licences which satisfy much of London's needs, with the result that an increasing proportion is coming much longer distances from the south coast. That depletes reserves needed for the markets there.

The problem is now being addressed with a series of applications for licences in the deeper waters of the eastern English Channel some 20 miles off the Sussex coastline.

A total of 10 applications have been submitted to the Office of the Deputy Prime Minister (ODPM) seeking permission to extract marine aggregate from the important new region in the Channel. Of the six companies involved, four are BMAPA members.

Through early discussions with industry regulators and the Crown Estate, applicants recognised that a regional environmental assessment (REA) would be needed in order to consider the cumulative impacts of the applications. The companies involved have, therefore, formed the East Channel Association specifically to fund the REA. A non-technical summary has also been produced and can be viewed at www.eastchannel.info.

The REA was prepared by leading environmental consultancy Posford Haskoning and draws together reports from a team of other independent consultants, all of whom are recognised as experts in their fields. The rigorous exercise has also involved pooling of information from individual applications.

Members have committed to a charter which will ensure that each would implement the REA's provisions and the ensuing studies and research that it recommends. There is also a pledge to liaise with other stakeholders and to make data available publicly.

"The regional environmental assessment has thoroughly explored the cumulative effects of all the dredging applications in the region," says Richard Pearson, who has coordinated activity. "Where potential effects have been identified, a comprehensive set of mitigation, monitoring and management measures have been proposed.

"The need for these reserves is critical. Without them, we will be facing shortages in the south east in the near future."





Let's make an issue of it

BMAPA has produced a series of four *Ask The Experts* videos designed to make the industry's case on key issues.

Ranging from eight to 13 minutes in length, the programmes are based around interviews with independent experts on the impacts of dredging:

- Dr Alan Brampton of HR Wallingford on coastal erosion
- Dr Richard Newell of Marine Ecological Surveys on marine biology
- Dr Antony Firth of Wessex Archaeology on marine archaeology.

The fourth video concentrates on responsible resource management and includes assessments from BMAPA's Dr Andrew Bellamy and Dr Ian Selby.

The programmes are to be used by BMAPA members when meeting stakeholders and other interested parties.

New marine policy

A document defining Government policy for the extraction of marine sand and gravel from the English seabed was issued in 2002. Marine Minerals Guidance 1 (MMG1) provides guidance for regulators, developers and wider stakeholders when considering marine aggregate dredging proposals and includes advice on environmental impact assessment, mitigation and monitoring.

The anticipated statutory regulations for marine aggregate dredging, and the associated procedural guidelines (Marine Minerals Guidance 2) should hopefully be introduced during 2003.

Meanwhile, in Wales, the development of a parallel marine aggregate dredging policy continues.

"Statutory regulations and clear policy guidance are vital to ensure a long-term future for the marine aggregate industry," commented BMAPA vice-chairman Martin Drury. "In combination, their introduction will provide added confidence to those operators with resources and markets in England and Wales."



welcome to this second issue of the BMAPA Review, which summarises some of the key activities from a particularly active year.

We have made progress on a number of fronts – not least in making our case for critical new reserves in the eastern English Channel. But we have also put great effort into the research that is needed to demonstrate that our industry can operate without unacceptable impact on the marine environment and on others who work in it.

It is in this context that we are giving our full support to DEFRA's Marine Stewardship initiative. Applying good practice across the industry is fundamental but, beyond that, we are taking every opportunity to talk to other marine stakeholders and so achieve understanding of our respective standpoints.

I am confident that we can add impetus to this important initiative, not just through ideas, action and advice but also by supporting applications for financial support from the Aggregates Levy Sustainability Fund. Please contact us if you would like further information on this or any other aspect of BMAPA's work.

Barry Dennett
Chairman



Channel Tunnel Rail Link – rapid route to Paris



Thames Gateway – development will need marine aggregate

Marine meets supply challenge

Marine aggregate satisfies more than a third of the sand and gravel needs of the south east – and nowhere is its contribution greater than in London and along the Thames corridor.

WHILE Kent retains its reputation as the garden of England, is also a county which is enjoying real progress in terms of its public services and infrastructure, much of which would not be possible without marine aggregate.

The more high profile recent projects include Europe's largest shopping complex at Bluewater with its 25 million shoppers a year, and the rapidly emerging Channel Tunnel Rail Link offering the prospect of London to Paris journey times of 2 hours 20 minutes.

Similarly dependent on marine aggregate has been the £60 million redevelopment of the Medway Maritime Hospital at Gillingham which has doubled in size and now provides for the acute care needs of 360,000 local people. The region is equally dependent upon marine aggregates for its homes, schools, offices and roads.

Time was when the concrete for such schemes was made using sand and gravel from a string of local quarries. Today, however, much of it comes from the seabed.

Kent is one of eight counties which make up the south east planning region (Berks, Bucks, E and W Sussex, Hants, Kent, Oxon, Surrey), within which locally quarried sand and gravel declined from nearly 13 million tonnes to 12.4 million tonnes between 1997 and 2001. In contrast, marine aggregate landings into the Thames rose from 4.9 million tonnes to 7 million tonnes – equivalent to 900 20-tonne lorry movements every day.

Marine aggregate was responsible for an estimated 90 per cent of the 200,000 cubic metres of concrete that went into Bluewater and is playing the lead role in supplying the Channel Tunnel Rail Link – notably the new Ebbsfleet international station and the tunnels beneath the Thames.

One man who should know is Andy Bourne of Brett Concrete, which satisfies nearly all its Kent aggregate needs from company wharves at Northfleet, Cliffe and Dover. "There are a limited number of land-based quarries in Kent and they would not touch the demand without the contribution from marine," he says. "It really is critical."

Richard Pearson of BMAPA says that without new reserves the marine aggregate industry cannot maintain its current level of supplies to the construction industry in London and the south east and to coastal protection projects. The choice ultimately would be to substantially increase land-based quarrying or to import more from other regions.

"Presently, the vast majority of supplies to the Thames and Medway are dredged from licences off Great Yarmouth with delivery cycles of 30 to 36 hours. Many of the reserves there are nearing exhaustion, which means



Bluewater – 25 million shoppers a year

that we are having to supplement that from the Humber and Isle of Wight areas. That involves cycles of 48 hours and makes the product much less economic as well as increasing the pressure on more distant reserves.”

The government’s regeneration priorities include the Thames Gateway as well as parts of the south coast stretching from Kent through to Portsmouth and Southampton. Given a new source of reserves, the marine aggregate industry is well placed to play a crucial role – and can do so with minimal lorry traffic.

One body that is particularly concerned that it does so is the South East England Regional Aggregates Working Party which advises government on how future demand should be met. SEERAWP points out that because the south east has few reserves of crushed rock, it is heavily reliant on sand and gravel. “We have to import six times as much crushed rock as we produce by drawing from other areas,” says secretary Chris Waite.”

“It is, therefore, doubly important for us to continue to be self-sufficient in sand and gravel. We can only achieve that in the medium and long-term if marine aggregates not only maintain their share but have the capacity to compensate for any further decline in land-won sand and gravel.”

European role

Members of BMAPA are sharing expertise across Europe following admission to the OSPAR Convention for the Protection of the Marine Environment of the North East Atlantic. The association has been admitted as a specialised non-governmental observer organisation representing the European aggregates association. Aggregate dredging is one of a number of marine environmental protection issues covered by OSPAR.

Watch on wildlife

Crews on dredgers operated by BMAPA members are to participate in a marine wildlife sightings programme. By logging sightings of marine mammals such as whales, dolphins and seals, they will be adding to often sparse information on the distribution of marine wildlife in UK waters. “We are keen to encourage industry involvement in sightings schemes,” says English Nature’s marine operations advisor Victoria Copley. “The involvement of the marine aggregate sector is an excellent example of how this can be done.”

Safety first

Large vessels and heavy machinery put the marine aggregate industry in the front line in terms of ensuring the safety of its employees. One of several important new initiatives involves the establishment of a safety forum under which members circulate alerts on accidents and near “hits”. “Sharing such information means that we can all learn from each other’s experiences – it could easily save a life,” says BMAPA chairman Barry Dennett.

Play safe

“Marine aggregate wharves are places for work, not play” – that’s the message operators have been taking to schools around the coastline. In 2002, BMAPA members continued to support the Quarry Products Association’s “Play Safe ... Stay Safe” scheme, putting particular emphasis on the hazards posed at a typical wharf by heavy machinery and deep water.

The Area Involved

Latest statistics reported by BMAPA and The Crown Estate highlight the joint commitment of both organisations to continual improvement.

MORE than 90 per cent of dredging activity undertaken by Britain’s marine aggregate industry comes from an area of just over 13 square kilometres – about two thirds the size of a modest town like Andover.

The statistic emerges from the latest “Area Involved” report produced annually by BMAPA and by The Crown Estate. At a time when the industry needs new licences to sustain its contribution, the two bodies regard transparency as essential.

“Openness is absolutely fundamental,” says BMAPA chairman Barry Dennett. “We need to be able to demonstrate that our calls on the marine environment are reasonable and responsible. We have to show that as we seek new licences, so we are prepared to surrender those in other regions that are exhausted of reserves.”

An important new move in the direction of accountability comes with the introduction by The Crown Estate of more sophisticated analysis through a computer-based Geographic Information System (GIS). The use of variable grid cell analysis will provide a four-fold increase in resolution and enable much more detailed information to be presented in subsequent reports.

As well as information for the areas of seabed licensed and dredged throughout the year, the 2001 report presents additional information on the area available to be dredged. Many licences minimise this “active dredge” area through zoning schemes which reduce the extent of the environmental impact of dredging operations. As a result, the total active dredge area can be significantly less than the total area licensed – 70 per cent of the area licensed nationally for 2001.

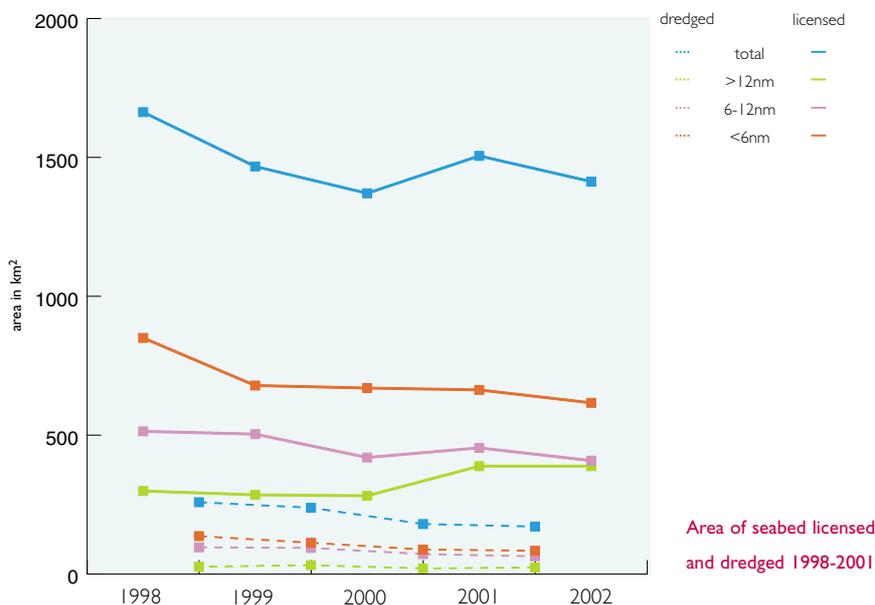
Charting ahead

WORKING with other marine stakeholders is of prime importance to BMAPA members.

Another move in that direction comes with the news that from 2003, BMAPA and the Crown Estate will produce twice-yearly regional charts showing clear and up-to-date information on zoning plans for marine aggregate licence areas. These “active dredge” briefs will be widely circulated and will be made available on both the BMAPA and Crown Estate websites.

“While operating companies will still be responsible for notification of site-specific changes, there is great benefit in providing a regular snap-shot of the current extent of the active dredge area by region,” said BMAPA development manager Mark Russell.

“Stakeholders have been encountering some difficulties in obtaining current information, and this initiative will improve the accuracy and transparency of the extent of dredging activity around England and Wales.”





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Rapid re-colonisation

A VALUABLE new insight into the impact of aggregate dredging on marine life has emerged with the publication of a comprehensive study from a North Sea licence area.

The study was based on licence area 408, some 75 miles off the Humber estuary, and covered both active dredge zones and ones which had been abandoned for up to a year. The aim was to assess not just the direct impact of the dredge head on the organisms that support marine food webs but also the wider effect outside the borders of the dredge site from screened sand returned to the sea.

The work was undertaken by Marine Ecological Surveys Ltd, which took a total of 194 samples in the summer of 2000. Conclusions include:

Within the active dredge area

- Variety and number of species was similar to those in adjacent non-dredged areas
- The size of organisms was suppressed by up to 83 per cent
- Re-colonisation by larvae and juveniles evidently occurred rapidly.

Within adjoining areas

- Species variety and population density remained largely unchanged
- The size of organisms was suppressed by up to 32 per cent
- Further afield, there was evidence of biomass enhancement due to enrichment of organic matter released by the dredging process.

In areas previously dredged

- Restoration of species diversity and biomass was largely achieved within 12 months of cessation of dredging
- After that, the communities of seabed organisms were indistinguishable from those in neighbouring areas
- Restoration of community composition corresponded to the time taken for dredger tracks to be largely obscured by natural sediment movement.

The research was led by Dr Richard Newell who says: "The evidence from our studies suggests that restoration of species composition and population density is accomplished rapidly even within the boundaries of the dredged area, although restoration of biomass following growth of the colonising species takes longer. It must be stressed though that these findings relate to relatively shallow marine environments and that further research is needed in relation to deeper waters."

Copies of the final report are available at www.bmapa.org.

Not so prejudiced

The Marine Aggregate Technical Panel has played a valuable role over the years in helping to overcome early prejudice against marine aggregate. Such bias is now isolated but the panel continues to maintain a watching brief on any problems associated with the end-use of marine aggregates. During 2002, it contributed to a Building Research Establishment digest entitled "Marine Aggregates in Concrete".

Coastal co-operation

BMAPA joined forces with the Standing Conference on Problems Associated with the Coastline (SCOPAC) to initiate a coastal issues forum for the south coast. The forum follows a jointly-funded research project on coastal processes produced by University College, London and was chaired by its author Dr Richard Simons. The first meeting included representatives from both the South Downs and South East coastal groups plus DEFRA, the Environment Agency and English Nature.



Replenishing beaches is an important south coast issue.

Delivering **the message**

Key decision-makers took the time to listen to the BMAPA's case in 2002 as the marine aggregate industry came increasingly into the spotlight.

THE wide group of ministers, MPs and civil servants briefed on industry issues during the past year include DEFRA secretary of state Margaret Beckett.

Meanwhile, environment minister Michael Meacher was one of the guests at the Wildlife Trusts fringe group meeting during the Labour Party Conference, which was addressed by Dr Andrew Bellamy. He told guests that BMAPA members were putting the principles of marine stewardship into practice.

"We accept that there are environmental impacts associated with dredging and we are acting to mitigate them on existing sites and through research in advance of new licences," said Dr Bellamy. "We embrace the important principles of marine stewardship and we take very seriously the responsibility of working in a sustainable way."

BMAPA colleague Dr Ian Selby addressed the All-Party Parliamentary Group For Earth Sciences On Coastal Erosion. "Accusations of dredging-related impact off Wales, Devon and East Anglia are unfounded and contradict evidence," he said. "The precautionary principle is applied through extensive modelling of our

potential impacts before any dredging permission is given."

BMAPA members also addressed audiences ranging from fishermen to university students. Their work was widely featured in the media.

A dredger on its way to the Hastings licence area



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policy sub-committee – Barry Dennett
environment and planning sub-committee – Richard Pearson
communications sub-committee – Kevin Seaman
operations sub-committee – Brian White
marine aggregate technical panel – Mike Master



BMAPA is one of the constituent bodies of the Quarry Products Association, the trade association for the aggregates, asphalt and ready-mixed concrete industries.