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Safeguarding options for marine mineral resources

Minerals and Waste Programme

Open Report OR/11/056



BRITISH GEOLOGICAL SURVEY

MINERALS AND WASTE PROGRAMME

INTERNAL REPORT OR/11/056

Safeguarding options for marine mineral resources

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Foreword

The marine environment is rich in natural resources and marine life. It also supports a range of economic activities including marine fisheries, aggregates extraction and increasingly large scale renewable energy projects. The Marine and Coastal Access Act 2009 and the Marine (Scotland) Act 2010 introduced a new system for marine planning and licensing in the UK with the aim of reducing user conflict and encouraging the maintenance of ecosystems. In accordance with this, the UK-wide Marine Policy Statement (March, 2011) set the framework for the preparation of Marine Plans which will provide detailed policy and spatial guidance for marine activities (POST, 2011). During the preparation of these Marine Plans, it is essential that marine aggregates are considered.

In 2011, The Crown Estate commissioned the British Geological Survey (BGS) to begin a two year research project to undertake a *Mineral Resource Assessment of the UK Continental Shelf* with the results being depicted as a series of maps. The first area to be assessed encompasses the East Coast Inshore and East Coast Offshore Marine Plan Areas and the results have been published as a 1:500 000 scale map (Bide *et al.*, 2011a) with an accompanying descriptive report (Bide *et al.*, 2011b).

The marine mineral resource maps will provide a comprehensive, relevant and accessible information base. This information is essential in allowing all stakeholders (planners, industry and members of the public) to visualise the distribution of offshore minerals to a common standard and at a common scale. With increased pressure for marine space, there is a need to ensure that these natural resources are not needlessly sterilised by other forms of development, leaving insufficient supplies for future generations. Mineral safeguarding is the term that is used for the process that ensures this outcome. This report provides an outline of two possible options for minerals safeguarding in the marine environment.

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1 Introduction

Minerals are naturally occurring raw materials essential for the development of a modern economy. However mineral resources are finite and can only be worked where they occur. As their extraction is subject to many constraints, it is essential that society uses minerals in the most efficient and sustainable manner.

The UK Continental Shelf (UKCS) contains a wide range of minerals. The most important of these in terms of revenue generated and employment, is sand and gravel for aggregate use. The UK is well endowed with marine aggregate resources and has one of the largest marine aggregate dredging industries in the world. These minerals make an important contribution to the supply of raw materials for both the construction sector and for coastal protection and reclamation. To date 900 million tonnes of marine sand and gravel have been extracted from the UKCS (Selby, 2011) and annually marine aggregates (15.25 million tonnes extracted from UK waters in 2009) account for almost a third of the UK's production of sand and gravel (Bide *et al.*, 2011c). Regionally, the industry is even more important, making a crucial contribution to sand and gravel supply in London, the South East, North East, North West and South Wales (Highley *et al.*, 2007).

Mineral extraction is just one of a number of economic activities that take place in the marine environment. Other activities, including marine fisheries and increasingly large scale renewable energy projects also compete for marine space. The UK Governments vision of improving the way in which the marine environment is planned, managed, regulated and protected is set out in the Marine and Coastal Access Act 2009, and the Marine (Scotland) Act 2010. These established a new system of marine planning that is considered essential for sustainable use of the seas and to deliver an effective and coherent approach to the management of the marine environment. The framework for preparing Marine Plans, ensuring consistency across the UK, and providing direction for new marine licensing and other authorisation systems in each UK Administration has been established via the UK Marine Policy Statement (HM Government, 2011). The importance of marine aggregates is recognised in the policy document with the need to ensure appropriate levels of future supply of marine sand and gravel being outlined in policy 3.5.5 and the requirement to safeguard reserves for future extraction in policy 3.5.6:

'3.5.5 Marine plan authorities should as a minimum make provision within Marine Plans for a level of supply of marine sand and gravel that ensures that marine aggregates (along with other sources of aggregates, including recyclates) contribute to the overarching Government objective of securing an adequate and continuing supply to the UK market for various uses. In doing so, marine plan authorities should consider the potential long-term requirement for marine-won sand and gravel, taking into account trends in construction activity, likely climate change adaptation strategies and major project development.

3.5.6 Marine plan authorities and decision makers should base decisions on sustainability criteria and should take into account the existing sea bed within the marine plan area that is currently being dredged; offshore movement of aggregates; the importance of meeting regional and national needs, beach replenishment and contract fill; and the need to safeguard reserves for future extraction' (UK Marine Policy Statement, 2011).

The policy statement recognises that minerals can only be worked where they occur. Further, in order to secure the adequate and continuing supply of marine sand and gravel there is a need to ensure sterilisation of mineral resources (as opposed to reserves) is adequately considered during

the determination of applications for offshore developments, such as energy developments, ports, pipelines and the laying of cables. Mineral safeguarding is the term that is used for the process that ensures this outcome. It involves recognising that a mineral resource is present and appropriate management of any planning application for development to ensure that the mineral resource is not needlessly sterilised. This report summarises two options available to achieve this objective. The first comprises the identification of Mineral Safeguarding Areas and formulation of appropriate accompanying policies as discussed in Section 2. The second option is a process based on Environmental Impact Assessment and is discussed in Section 3.

2 Option 1: mineral safeguarding through Mineral Safeguarding Areas and associated policies

The aim of minerals safeguarding is to ensure that the ability of future generations to meet their need for minerals is not unnecessarily compromised by current development decisions. The essence of any safeguarding process is that it should introduce the consideration of the restricted distribution of minerals into the planning process. This ensures that access to mineral resources for future generations is preserved as far as is possible and unnecessary sterilisation does not occur.

The onshore land use planning system in England sets out a requirement for Mineral Planning Authorities to define Mineral Safeguarding Areas (MSAs) (Minerals Policy Statement 1: *Planning and Minerals*). Further information regarding implementation of MSAs is set out in the British Geological Survey's Mineral safeguarding in England: good practice advice (Wrighton *et al.*, 2011).

There are two stages to the onshore safeguarding process: (i) the identification of mineral resources and the definition of MSAs; and (ii) the development of a suite of associated policies that guide the management of development proposals that are submitted in these areas. Development management policies should prescribe the circumstances in which incompatible development may be permitted within an MSA. Such policies might include a requirement for assessing the impact of the proposed development on any mineral resource present so that informed decisions can be made.

Critically the presence of MSAs **neither** precludes other forms of development being permitted **nor** conveys any presumption that the mineral will be worked. MSAs simply provide a policy tool which alerts stakeholders to the fact that minerals may be sterilised by the proposed non-mineral development and that this should be taken into account by the planning process. A similar mechanism could be introduced offshore to ensure adequate consideration of mineral resources in the development planning process and to align with national mineral safeguarding policy onshore. This option is set out below.

2.1 STAGE 1 – DEFINING MINERAL SAFEGUARDING AREAS

The definition of MSA boundaries requires up-to-date factual information on the physical location of mineral resources and should be based principally on the best available mineral resource information at the time MSAs are defined. As such, the identification of offshore mineral resources currently being undertaken by BGS for The Crown Estate will facilitate this.

2.1.1 Identification of mineral resources

The first area to be assessed by the BGS encompasses the East Coast Inshore and East Coast Offshore Marine Plan Areas and the results have been published as a 1:500 000 scale map (Bide

et al., 2011a). A copy of the marine sand and gravel resources map is included in Appendix 1, and could be used as a basis for defining MSAs.

Resource areas have been inferred from geological mapping data depicting the thickness of Holocene and Pleistocene geological units. Where significant deposits (more than one metre thick) of granular unlithified sedimentary material are shown on the geological maps, the BGS's sea bed sample and core dataset was used to ascribe aggregate properties to these deposits. Further interpretation was then undertaken using additional data, where available, including bathymetry, vibrocores, sediment cores, rock cores and geophysical information and the resultant distribution of sand and gravel resources defined.

For the East Coast Inshore and East Coast Offshore Marine Plan Areas, sand and gravel resources have been categorised into resources considered to be of national importance and those that are of regional importance as well as defining a hierarchy of quality (Bide *et al.*, 2011b). The process followed for categorising mineral resources on the basis of quality is summarised in Figure 1.

Nationally important aggregate resources encompass material that is suitable for construction aggregate and beach recharge applications. They have been defined based on the geological suitability of sediments for aggregate applications, with reference to the relevant European standards (principally BS EN 12620L:2002, Aggregates for concrete). Nationally important resources are based on the following criteria: deposits must be over one metre thick, have a mud content of less than 10 per cent and a median grain size (D50) of over 0.25 millimetres. These have been further classified into fine aggregate and coarse aggregate using the lithic gravel content (lithic gravel is used so as not to incorporate biogenic carbonate). A D50 of 0.35 millimetres has been used as a cut-off to further differentiate the fine aggregate fraction into coarse and fine sand. Areas of sea bed likely to contain coarse aggregate and the coarse sand component of fine aggregate are the most valuable resources because they are an important component in concrete manufacture (which consumes the vast majority of aggregate minerals).

An additional category of nationally important minerals, areas prospective for coarse aggregate and coarse sand are also shown on the map. These areas relate to geological features (such as palaeochannels or glacial deposits) that may be prospective for sand and gravel but are unresolvable with the current levels of data available to this study (see Bide *et al.*, 2011b). These areas are based on the presence of regional geological formations and features that have been proved to contain economic deposits of sand and gravel in specific localities (i.e. aggregate licence areas).

Regionally important aggregate resources have been defined as material suitable for contract fill and land reclamation applications. As for nationally important resources this definition is based on both geology and the relevant European standards. Regionally important resources are based on the following criteria: deposits must be over one metre thick with mud content of less than 10 per cent and a median grain size of less than 0.25 millimetres.

The comprehensive and reliable data that has informed the mineral resource assessment means that areas within which potentially workable minerals may occur have been identified. In the interests of sustainable development, these areas of mineral resource require appropriate safeguarding.

Aggregate resource categorisation flow sheet

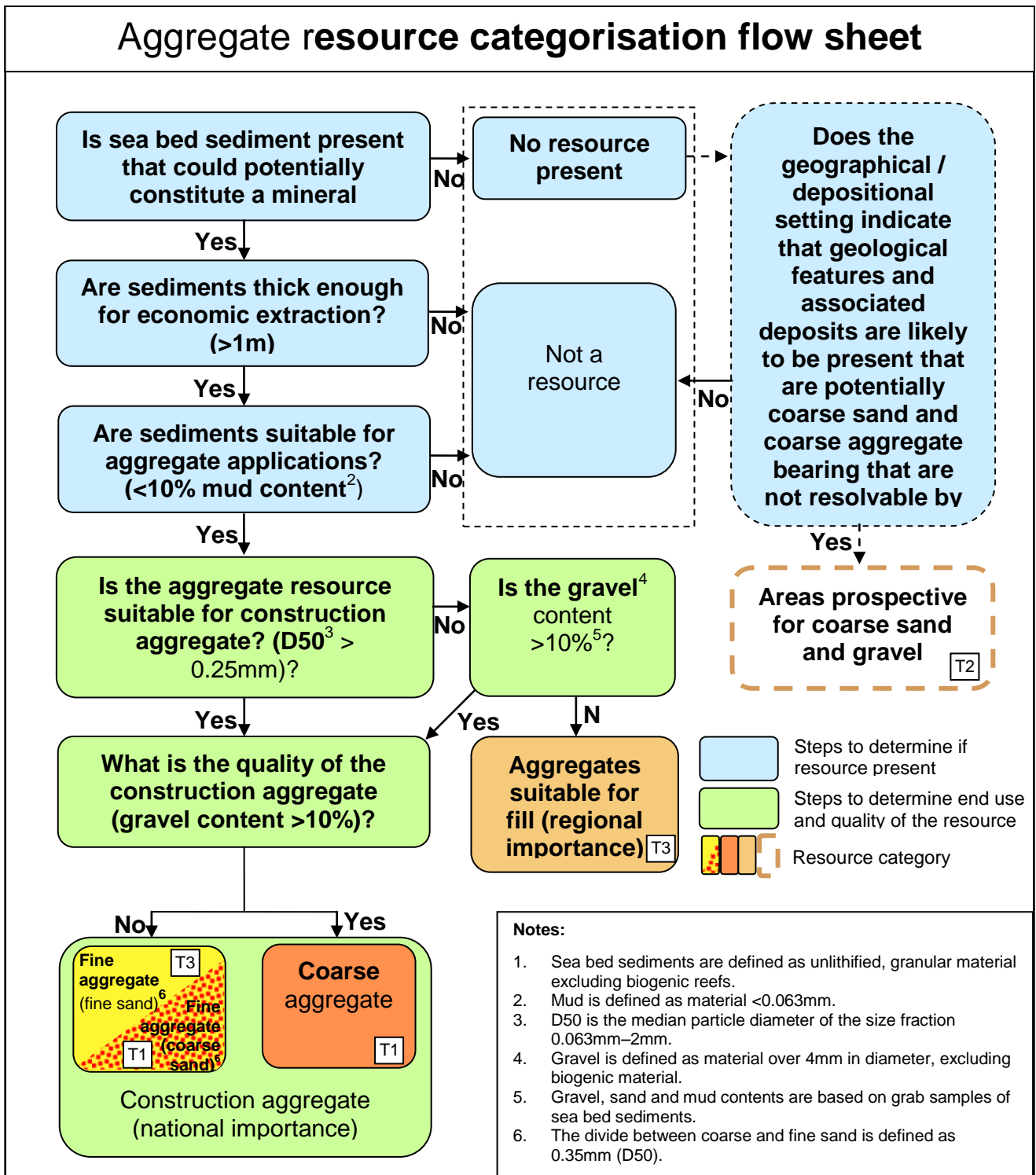


Figure 1 Definition of marine aggregate resources (T1 = tier 1, T2 = tier 2, T3 = tier 3)

2.1.2 Definition of Mineral Safeguarding Areas

The boundaries of MSAs should be defined using identified mineral resources as a starting point, and shown on a map. One possible approach to defining MSAs from the resource categories identified above, is to allocate them to different tiers and then apply appropriate methodologies for each tier. The refinement of any resource boundaries for inclusion as an MSA in a Marine Plan would need to be fully justified (Table 1). Using this approach, coarse aggregate and coarse sand resources (tier 1) and areas prospective for coarse sand and gravel (tier 2) would be safeguarded and fine sand and regional resources (tier 3) would only be safeguarded by exception. An exception for tier 3 could be, for example, based on economic criteria (such as

where thicker successions of sand and gravel form better sources of aggregates than extensive sheet-type deposits).

Allocating each of the resource types to one of three tiers for safeguarding has the benefit of providing an indication of the importance and potential end-use of the mineral resource to both the developer and marine planner in order to inform their decision making process. The policies associated with the MSAs would then identify the planning process to be followed.

Tier	Resource type (see figure 1)	Safeguarding
Tier 1	Coarse aggregate and coarse sand - aggregates (mineral) development most likely.	Safeguarded in its entirety with a presumption against non-mineral development. Non mineral development allowed only in exceptional circumstances or if minimal impact to mineral resources can be proven.
Tier 2	Areas prospective for coarse sand and gravel.	Safeguarded but with modifications to MSAs possible based on consistent and justified criteria such as specified economic parameters or if resources are proved to be absent or if suitable local alternatives are present.
Tier 3	Fine aggregate (fine sand) - aggregates (mineral) development possible. Aggregates suitable for fill - aggregates (mineral) development less likely.	Only safeguarded in specific cases with justification based on economic and physical characteristics of the resource.

Table 1 How mineral resources could be tiered to aid safeguarding

2.2 STAGE 2 – DEVELOPMENT OF MINERAL SAFEGUARDING POLICIES TO MANAGE DEVELOPMENT WITHIN MINERAL SAFEGUARDING AREAS

The definition of Mineral Safeguarding Areas will not in itself safeguard mineral resources. Effective safeguarding will only be achieved by formulating associated policies against which planning applications for development in MSAs will be considered. Such policies will make it clear what an application for development in an MSA should include and how an application that is submitted in an MSA will be determined.

2.2.1 Criteria-based policies

Under the mineral safeguarding process development can still proceed under specified circumstances. This might be where, for example, an overriding need for the proposed development is demonstrated, it is temporary development that can be removed before the mineral is likely to be needed, or there are other factors that are overriding. These circumstances may be specified in a policy which helps to guide developers and decision makers who are considering development applications.

2.2.2 Mineral Resource Impact Assessment policies

A method for ensuring that mineral resources are not unnecessarily sterilised is to draft a policy that requires all development applications submitted in an MSA to include an assessment of the effect of the proposed development on the mineral resource beneath or adjacent to the site of the development. This could be termed a Mineral Resource Impact Assessment (MRIA). Provision of an MRIA by the applicant would inform the decision maker about the significance of the impact of the development on the mineral resource and allow the impact to be weighed against other planning factors.

A Mineral Resource Impact Assessment should identify:

- the quantity and quality of mineral that is likely to be sterilised;
- the relative abundance of that mineral elsewhere, the areas of the resource that are within economic range in the short term (e.g. proximity to markets / current dredging areas);
- any mitigation measures that have been taken into account (e.g. diversion of a pipeline route to cross shortest distance over resource area); and
- justification as to why alternative sites located outside of a Mineral Safeguarding Area are not suitable

Even where development is temporary or of overriding need, an MRIA would help to ensure minimal possible impact on the mineral resource. Figure 2 demonstrates this process.

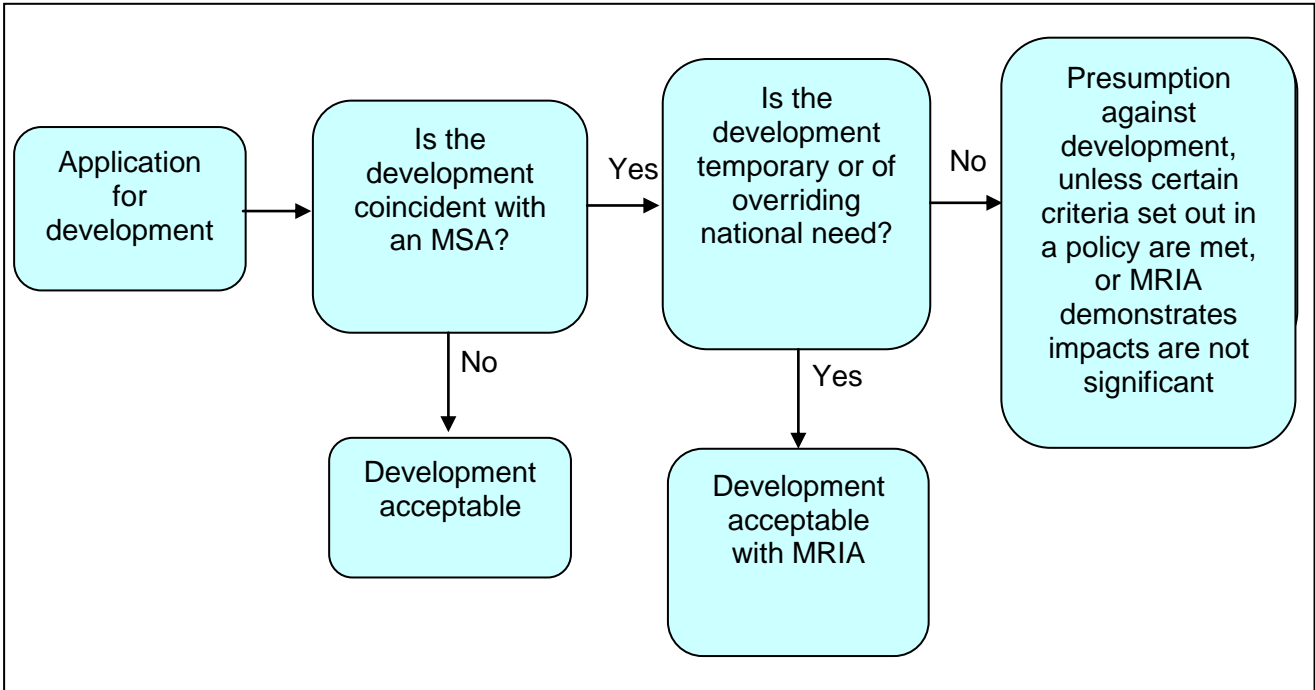


Figure 2 Flow chart demonstrating when Mineral Resource Impact Assessment would be required

2.2.3 Prior extraction policies

In some cases, it may be necessary for non-mineral development to take place in MSAs. In these instances, the mineral will be *necessarily* sterilised.

In relation to policies onshore, it is recommended that due consideration is given to the feasibility of prior extraction of a mineral resource prior to any necessary non-mineral development taking place in an MSA. Where prior extraction is feasible some of the mineral resource would be utilised and so, in the interests of sustainability, less mineral would be sterilised.

Offshore, systems in place to date do not support the effective delivery of dredging prior to development taking place. The Crown Estate assesses tenders for applications to dredge, and successful bidders are able to undertake further investigations of potential sites whilst benefitting from a five year option to obtain a dredging licence. Development of a system that would allow prior dredging of mineral to take place would require invitations to tender to be put in for the specific area of non-mineral development in question. It may also require the extraction of the mineral in a short timescale. If such a system is established, applications for development would need to consider the viability of prior extraction. This might include whether extraction is achievable within an acceptable timescale, the availability of a market for the material and whether extraction is achievable without unacceptable economic or environmental impacts. All of these criteria could be stated in a prior extraction policy.

2.2.4 Example of mineral safeguarding policies

Following the approach outlined above, only a small number of policies would be required to ensure adequate mineral safeguarding. As an example, such policies may be:

1. No incompatible development in an MSA will be permitted unless:
 - the incompatible development is of a temporary nature and can be completed, and any infrastructure removed, within the timescale that the mineral is likely to be needed; or
 - it constitutes exempt development [which might include development that has already been allocated (prior to identification of MSAs and adoption of safeguarding policies) through other mechanisms such as the wind farm zones until such point as safeguarding areas are taken into consideration in this process too]; or
 - there is an overriding need for the development, and there is no alternative, suitable location that would have less impact on the mineral resource.
2. For regionally important resource areas or lower value nationally important aggregates such as fine sand, the applicant can demonstrate to the satisfaction of the responsible authority (Marine Management Organisation / the Infrastructure Planning Commission (or its future replacement, the major infrastructure team within the Planning Inspectorate)) that the impact of the loss of mineral from that area is not significant.

Requirements for meeting these criteria should be discussed with the decision maker before the application is submitted and the need for a mineral resource impact assessment decided. Where development is proposed in a Mineral Safeguarding Area, the option of prior extraction should be considered. Once formulated, mineral safeguarding policies should be included in each marine plan.

2.3 DISCUSSION

The application of mineral safeguarding processes similar to those used onshore for offshore planning would involve: (i) the identification of Mineral Safeguarding Areas and (ii) the adoption of associated policies to guide the management of development proposed within these areas. The benefit of this approach is that applications for all types of development which are

submitted within a Mineral Safeguarding Area (MSA) would be considered against appropriate mineral safeguarding policies. If implemented, a policy requirement for a Mineral Resource Impact Assessment (MRIA) to be submitted with any application for development in an MSA will ensure the potential for mineral sterilisation is assessed and mitigated as far as is practicable. Likewise consideration should be given to formulating a policy which requires, where feasible, the prior extraction of mineral if offshore development is permitted within an MSA. The presence of such a policy would provide a mechanism by which mineral resource underlying the development could be extracted thus avoiding sterilisation.

3 Option 2: mineral safeguarding through the Environmental Impact Assessment process

The process described in Section 2 includes consideration of introducing the requirement for a Mineral Resource Impact Assessment (MRIA) to be undertaken when an application within an MSA is submitted. Impact Assessments are already undertaken for many other resources and assets through the Environmental Impact Assessment (EIA) process, both onshore and offshore. This is already an accepted method of assessing impacts of particular types of development proposals.

3.1 LEGISLATIVE BACKGROUND

The European Commission Council Directive 85/337/EEC, as amended, requires the environmental assessment of the effects of certain major development projects prior to the grant of development consent. Annex I to the Directive lists the projects for which EIA is mandatory, and Annex II lists those projects for which Member States may request EIA if the characteristics of the project so require. Annex III lists the considerations that should be taken into account by the decision maker when deciding whether EIA should be requested for Annex II projects. Since the introduction of the Directive, the UK has transposed this European legislation into UK law through various regulations for different activities. The Annexes from the Directive are included as Schedules to the UK regulations.

3.2 INCLUSION OF MINERALS IN THE EIA PROCESS

The main types of application for development that are likely to be submitted in the marine environment are listed in Table 2. As can be seen, most applications in the marine environment will be for significant infrastructure and, therefore, subject to the EIA process as they classify as ‘Annex I’ or ‘Annex II’ development. As such, one way of ensuring minerals are considered when an application is submitted on an area of mineral resource, is to require the production of a Mineral Resource Impact Assessment as part of the EIA process. The planning process will seek to balance the need for the development in that particular location, with all of the other planning considerations that must be taken into account and provision of an MRIA will assist with this.

The Directive, as transposed by UK legislation, specifies that the direct and indirect effects of a project on the following factors should be identified:

- human beings, fauna and flora;
- soil, water, air, climate and the landscape;
- material assets and the cultural heritage;
- the interaction between the factors mentioned in the first, second and third indents.

It is outside of the scope of this report to assess whether mineral resources can be interpreted (in the legal sense) as ‘material assets’. If, however, mineral resources can be interpreted as ‘material assets’ it is possible that no change to current EIA legislation would be necessary to implement a process that requires a Mineral Resource Impact Assessment to be undertaken as part of the application for development.

For Annex II development, the characteristics of the proposed development that must be taken into account when deciding whether EIA should be undertaken are listed in Annex III. With regard to the location of the proposed development, Annex III of the Directive states that *the*

environmental sensitivity of geographical areas likely to be affected by projects must be considered, having regard, in particular, to:

- *the existing land use,*
- *the relative abundance, quality and regenerative capacity of natural resources in the area,*
- *the absorption capacity of the natural environment, paying particular attention to the following areas:*
 - (a) wetlands;*
 - (b) coastal zones;*
 - (c) mountain and forest areas;*
 - (d) nature reserves and parks;*
 - (e) areas classified or protected under Member States' legislation; special protection areas designated by Member States pursuant to Directive 79/409/EEC and 92/43/EEC;*
 - (f) areas in which the environmental quality standards laid down in Community legislation have already been exceeded;*
 - (g) densely populated areas; and*
 - (h) landscapes of historical, cultural or archaeological significance.'*

As is the case for 'material assets', if mineral resources are recognised in the legal sense as 'natural resources', the wording in the Directive, as quoted above, may allow for assessment of impact on them to be included as part of the EIA.

3.3 ROLE OF MRIA IN SAFEGAURDING

As the geological information is already available that demonstrates there is a mineral resource present, an MRIA should instead focus on the area and quality of a mineral resource that would be sterilised and relevant economic factors as were described under Mineral Safeguarding Areas (Section 2.2.2). Provision of economic information and justification alongside the information relating to other environmental factors would allow a balanced argument to be made about the necessity of the development in that location and the perceived impacts. Although mineral resources have the potential to be sterilised through the EIA approach, the responsibility for appropriately weighing the decision would be with the responsible authority (Marine Management Organisation / the Infrastructure Planning Commission (or its future replacement, the major infrastructure team within the Planning Inspectorate)).

Table 2 Main types of development in the marine environment

Development	Is EIA required?	Other information	Comments on sterilisation potential
Wind Farms and other renewable energy developments	At the discretion of the responsible authority.	Installations for the harnessing of wind power for energy production (wind farms) may require EIA (Annex II to the EIA Directive).	Renewable energy developments have the potential to sterilise the entirety of the development area and cause operational sterilisation around the perimeter of any development.
Oil and Gas (incl. associated pipelines)	Yes. At the discretion of the responsible authority.	<p>Extraction of petroleum and natural gas for commercial purposes <u>where the amount extracted exceeds 500 tonnes/day</u> in the case of petroleum and 500 000 m³/day in the case of gas.</p> <p>Pipelines with a diameter of <u>more than 800 mm</u> and a length of <u>more than 40 km</u>:</p> <ul style="list-style-type: none"> — for the transport of gas, oil, chemicals, and, — for the transport of carbon dioxide (CO₂) streams for the purposes of geological storage, including associated booster stations. <p>Extraction of petroleum and natural gas for commercial purposes <u>where the amount extracted is up to 500 tonnes/day</u> in the case of petroleum and 500 000 m³/day in the case of gas.</p> <p>Oil and gas pipeline installations and pipelines for the transport of CO₂ streams for the purposes of geological storage (projects not included in Annex I).</p>	In the case of pipelines, it may be possible to divert the infrastructure around the most significant mineral resources.
Cables	No (not listed in Annex I or Annex II of the Directive).	<p>The laying of cables within UK territorial waters (up to 12 nautical miles) requires a marine licence.</p> <p>If the cable is an international cable the MMO must grant</p>	A no dredging zone of 250 metres either side of the centre line (as laid position of the cable) is part of the Crown Estate's licence agreement for telecommunications cables. Therefore

		<p>the marine licence but can include conditions.</p> <p>The laying of cables outside UK territorial waters (beyond 12 nautical miles) does not require a marine licence unless it is constructed for or used in connection with:</p> <ul style="list-style-type: none"> • the exploration of the UK sector of the continental shelf ; • the exploitation of the natural resources of that sector • the operations of artificial islands, installations and structures under the jurisdiction of the UK; or • the prevention, reduction or control of pollution from pipelines. <p>There are additional requirements for applications for a marine licence connected with electronic communications apparatus, including for telecommunications cables. (http://marinemanagement.org.uk/licensing/marine/activities/cables.htm).</p>	<p>potential for sterilising a 500 metre wide corridor along the length of the cable.</p> <p>[A works restriction zone is also stated in the licence agreement, of 250 metres either side of the cable centre line in water depths up to 55 metres below chart datum, and 500 metres either side of the cable centre line in water depths greater than 55 metres below chart datum, but the term ‘works’ does not apply to the dredging or removal of minerals] (http://www.thecrownestate.co.uk/telecoms_master_license.pdf). [Following communication with The Crown Estate, this can be applied to all cable development].</p> <p>Cables that are no longer in use are not always removed if the environmental impacts would be greater to remove them than the impact of leaving them in the ground. Therefore, sterilisation may be permanent (http://www.thecrownestate.co.uk/cables_pipelines).</p>
Other energy projects	At the discretion of the responsible authority.	Industrial installations for the production of electricity, steam and hot water (projects not included in Annex I) may require EIA (Annex II to the EIA Directive).	Any sterilisation will depend on the footprint of any infrastructure and associated exclusion zones put in place.
Ports	Yes. At the discretion of the responsible authority.	Trading ports, piers for loading and unloading connected to land and outside ports (excluding ferry piers) which can take vessels of over 1 350 tonnes, require EIA. Construction of roads, harbours and port installations, including fishing harbours (projects not included in Annex I), may require EIA (Annex II to the EIA Directive).	Unlikely to impact on aggregates resource due to location. It is, however, important to avoid any adverse impact on facilities (e.g. wharves etc) which may limit unloading and access to markets for marine aggregates. Safeguarding of such facilities is a requirement under existing onshore mineral planning policy.

Navigation routes	No (not listed in Annex I or Annex II of the Directive).	Regulations relating to navigation are covered by the international Maritime Organisation (http://www.imo.org/)	
Fisheries	No (not listed in Annex I or Annex II of the Directive).		Would sterilise mineral resource whilst in operation

3.4 DISCUSSION

Depending on appropriate legal interpretation of the EIA legislation, it may be that Mineral Resource Impact Assessments could be included as part of the EIA process. Such inclusion would enable minerals to be assessed in a comparable way to other ‘material assets’ and ‘natural resources’. Developments that are not listed in Annex I or II of the EIA Directive or the UK regulations which transpose this directive would, however, have to be considered by a separate mechanism.

If mineral safeguarding is undertaken through the EIA process, the Marine Management Organisation and the Infrastructure Planning Commission (or its future replacement, the major infrastructure team within the Planning Inspectorate) would have a role to play in the active promotion of mineral resources as material assets when providing advice to developers about the contents of the Environmental Statement. Further discussions on the feasibility of this approach would be needed with these bodies.

The process for assessing development applications that do not require Environmental Impact Assessment, but which have the potential to sterilise mineral resources would, however, need to be considered. This would apply to development such as the laying of cables. Due to licensing agreements, these developments have the potential to sterilise 250 metres either side of the centre line of the cable (a corridor 500 metres wide in total), but may sterilise a wider area if, as a consequence of the development, the mineral resource becomes segmented to the point where it affects the viability of extraction. An appropriate policy in a marine plan could serve the purpose of ensuring that these developments adequately consider mineral resources (i.e. a routing that would ensure that mineral sterilisation, where unavoidable, is kept to a minimum).

4 Conclusions

Two possible options for ensuring that, for most planning applications, mineral sterilisation is considered in the determination process have been presented.

The first of these options, which is consistent with that utilised onshore, is via the definition of Mineral Safeguarding Areas (MSAs) and associated policies that outline criteria against which planning applications for development in MSAs will be considered. Such policies may also include a requirement for the submission of a Mineral Resource Impact Assessment for development applications in MSAs. Through an MRIA the developer would show that mineral sterilisation has been considered, the significance of the impact assessed and mitigation, where feasible, has been incorporated in their planning application. Another policy may outline the need for consideration of the feasibility of prior extraction where a development is necessary on a mineral resource. The benefit of having an MSA based approach is that it would apply to all development applications and implementation would be consistent.

The second option for safeguarding minerals is to require the production of a Mineral Resource Impact Assessment as part of the EIA process where an application is submitted on an area identified as a mineral resource. The majority of planning applications in the marine environment may be subject to the EIA process as they classify as ‘Annex I’ development or ‘Annex II’ development according to Directive 85/337/EEC. If legally recognised as ‘material assets’ and ‘natural resources’ under the terms of the directive, the Marine Management Organisation and Infrastructure Planning Commission (or equivalent) would have a role to play in the active recognition and promotion of mineral resources when implementing the wording of the Directive (as transposed into UK legislation) in development advice and decisions. Further discussions on the feasibility of this approach would be needed with these bodies. Developments that are not listed in Annex I or II of the EIA Directive or the UK regulations which transpose

this directive would, however, have to be considered using a separate mechanism. This may be via a policy within the marine plan which requires the consideration of the sterilisation of minerals for non-EIA development. The benefit of incorporating mineral safeguarding via Mineral Resource Impact Assessment within the EIA approach is that many developers are familiar with the concept of impact assessments and it would be incorporated within the overall EIA for a site.

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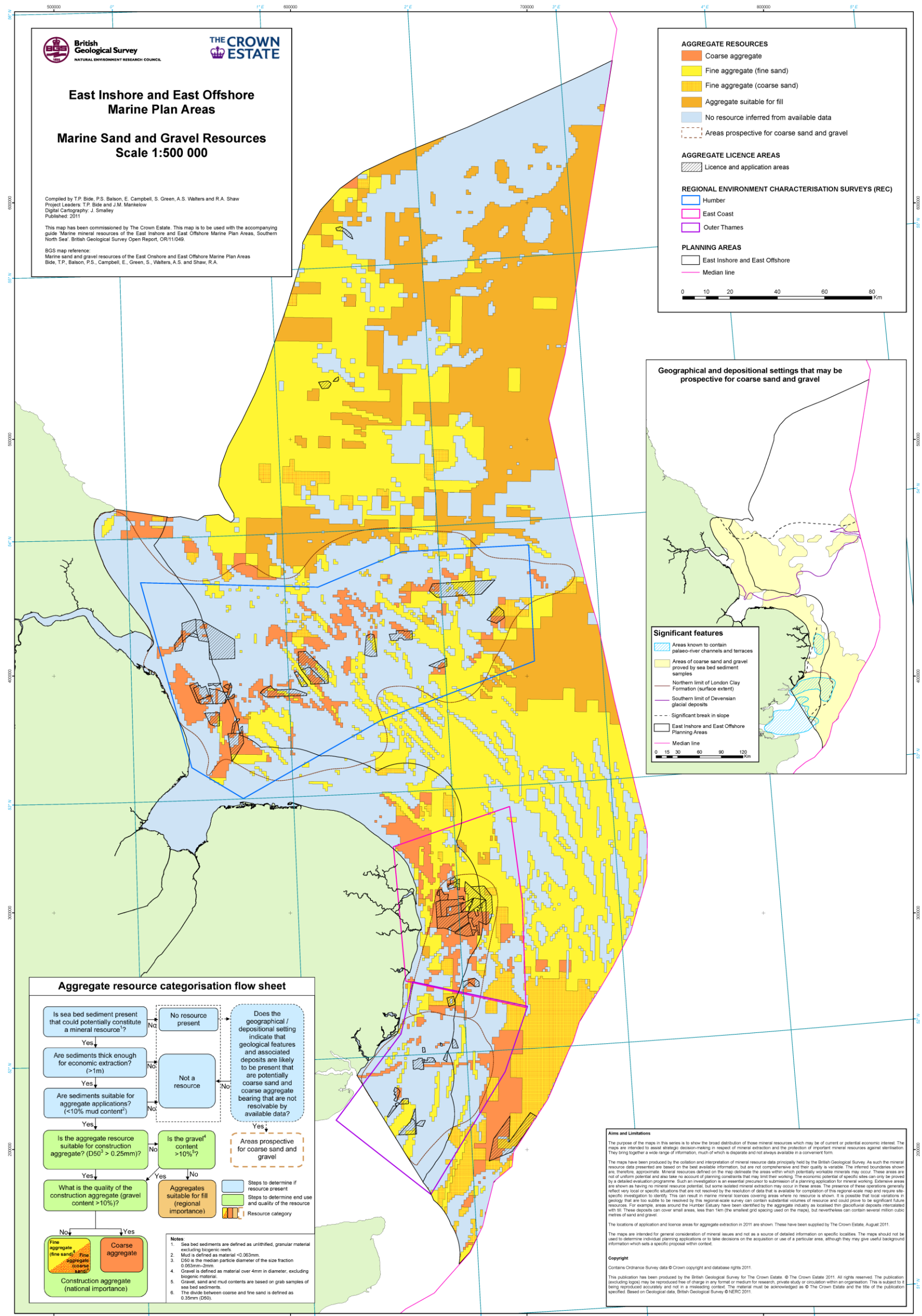
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Appendix 1. Marine sand and gravel resources of the East Inshore and East Offshore Marine Plan Areas.



Note: Not at original scale.