

Regional Environmental Assessment: A Framework for the Marine Minerals Sector



Supported by:



March 2008

Regional Environmental Assessment: A Framework for the Marine Minerals Sector

	Contents	Page
1	Introduction	3
2	Aims and Objectives of REA for Marine Minerals	4
3	The REA Process	6
4	Specific Guidance to address Nature Conservation, the Marine and Historic Environments	7
5	Further Information, Presentation and Data Management	19

1. Introduction

This purpose of this document is to provide guidance / recommendations on a framework for Regional Environmental Assessment's (REA) for the Marine Minerals sector from nature conservation and marine and historic environment perspectives. This guidance recognises the industry led and non-statutory nature of the REA process, hence offering recommendations rather than binding requirements for REA.

This formulation of this guidance takes account of significant input from a Regulatory Advisors Group (RAG)¹, consisting of Cefas, Natural England, the Joint Nature Conservation Committee and English Heritage, in addition to input from the marine aggregate industry and their consultants engaged in undertaking REA's and targeted stakeholder engagement.

¹ Members of RAG are routinely tasked with providing scientific / technical advice on industry applications to extract Marine Minerals to Government regulators.

2. Aims and Objectives of REA for Marine Minerals

Specifically relating to Marine Minerals, the key questions an REA should address is:

“should existing dredging continue and new areas be dredged within the REA areas? (i.e. are the current levels of dredging activity environmentally acceptable and if so can they be increased without causing significant environmental impact?)”

To address this, the broad aims of the REA process should be:

1. to provide objective, evidence-based assessments of the distribution and importance of regional resources (living and non-living) and the potential impacts from the proposed activities on these resources, at a regional level;
2. to provide a context for site-specific Environmental Impact Assessments (EIA's) within the relevant REA area² and to identify site-specific issues that individual EIA's may need to focus on more specifically;
3. to provide an assessment of the impacts of different development scenarios of the aggregate extraction industry, based on industry projections, and in relation to those due to other human activities and natural variability;
4. to provide a robust assessment of cumulative and in-combination impacts at the regional level using consistent definitions and interpretations of such impacts, and thus contribute towards assessments of the magnitude and scale of such impacts in individual EIA's;
5. to make recommendations for monitoring to be addressed at the REA or individual EIA level and for R&D to address gaps in knowledge, understanding or assessment tools.

Key to the REA process is the ability to address cumulative and in-combination impacts in a regional context (Aim 3). Whilst there is a lack of consensus within the wider scientific and regulatory community as to how to address these issues, it is essential the REA adopt consistent definitions and interpretations of such terms.

To address the aims of REA, the key objectives should be:

- i. to assess key issues of risk to the marine environment;
- ii. to make best use of resources, specifically data collection, evaluation and assessment both now and into the future in the context of existing and future Government policy (for example Marine Spatial Planning / Ecosystem Approach);
- iii. to provide an objective, evidence-based assessment of potential impacts deriving from particular dredging scenarios. These scenarios should be realistic and cover the full range (max and min) of dredging options within licence areas and summed across the REA region;
- iv. to act as a reference source on the distribution and importance of regional resources (living and non-living) and the potential impacts from the proposed activities on these resources, at a regional level. These will be based on desk-

² REAs cannot substitute for site-specific EIAs. While some information in the REA outputs may be used directly in project-specific EIAs, other information may have a limited lifespan or need to be determined at a higher resolution than in the REA outputs.

based assessments using all relevant existing information with important gaps filled by targeted cross-disciplinary desk studies and fieldwork as necessary. The outputs of the REA reports will provide a basis (where appropriate) for site specific EIAs within the relevant REA area;

- v. to have a geographic and temporal scale which reflect the scale of the key issues involved as outlined by a preliminary scoping study;
- vi. to aim to provide a robust assessment of cumulative and in-combination impacts at the regional level based on consistent definitions and interpretations, and thus will be able to contribute towards assessments of the magnitude and scale of such impacts at specific licence areas;
- vii. to provide updated assessments as part of the ongoing REA process where new evidence or approaches are developed with the potential to offer an improved assessment;
- viii. to identify where data collected during the REA for the purpose of understanding potential regional impacts from site renewals and new applications needs to be supplemented by targeted data collection programmes specific to individual EIA's;
- ix. to provide consistency and a standardised approach to assessments of resources, activities, and impacts to ensure that outcomes are directly comparable within and across regions. Standardised approaches need to be developed for every aspect of the assessment process from survey design (including co-ordination of survey missions) and data collection to data analysis, presentation, and interpretation. Non-standard or ad-hoc approaches may dramatically reduce the effectiveness of the REAs and have knock-on consequences to the efficiency of the advisory process;
- x. to provide a legacy of data for industry and regulators but placed within the public domain.

3. The REA Process

Whilst the REA process is something, which industry and their consultants control in the light of specific regional issues, it is logical that the REA process should have two main parts:

1. Initially the REA will provide an objective characterisation of a region based on a desk-based assessment using all relevant existing information (to be determined by a detailed scoping study) with gaps filled by targeted cross-discipline data mining and fieldwork as necessary. This work would be presented as a separate section of the initial document delivered as part of the REA process and have no element of 'assessment' associated with it. This will serve the purpose of providing a clear objective baseline of information relevant to the REA.
2. The second stage of the process will be to perform analyses on the data collected during the first stage to determine levels of environmental impact, which can be assessed on a regional basis, but also to identify site-specific issues which individual EIA's may need to focus on more specifically. At this stage, the consideration of future regional monitoring programmes may be pertinent.

Each part of the REA process carries equal weight and is essential to meet the aims and objectives of REA and provide a context into which site specific EIA's can be placed.

4. Specific Guidance to address Nature Conservation, the Marine and Historic Environments

The following sections of this document provide a framework to address the aims and objectives of REA from the perspective of Nature Conservation, the Marine and Historic Environments. This information is based on contemporary levels of scientific / technical understanding. The areas covered are:

- Nature Conservation
- Marine Environment
 - Fish and Fisheries resources
 - Benthic Ecology
 - Coastal / Physical processes and sediment transport
- Historic Environment

4.1 Nature Conservation

The key issue to address is an initial identification of the extent (or lack of) and distributions of Habitats and Species of Conservation Importance within the REA area taking particular account of those likely to be impacted by marine mineral extraction. The information provided below highlights the key and generic nature conservation topics but it should be noted that depending on the particular REA area other nature conservation issues may arise.

Useful generic reference sources for Nature Conservation include:

<http://www.naturalengland.org.uk/>

<http://www.jncc.gov.uk/>

<http://www.magic.gov.uk/website/magic/>

Birds including the EU Birds Directive

The REA should provide a description or baseline report of birds using the REA areas. Recommended references include European Seabirds at Sea (ESAS) database, Seabird Nesting Counts information, Seabird Monitoring Programme, nearby designated areas including Special Protection Area (SPA), Ramsar sites, Sites of Special Scientific Interest and any areas that may have potential for designation in the future along with any other available information sources. Information on Important Bird sites can be found here: <http://www.jncc.gov.uk/page-2141> and information on seabirds here: <http://www.jncc.gov.uk/page-2143>.

Any data used in describing bird populations or distribution should be critically assessed in terms of age of the data and coverage / quality – a gap analysis. The REA should aim to fill any significant gaps by fieldwork as necessary. This is of particular importance in areas, which may be suitable for designation as SPAs.

An assessment should be made of what activities birds are using an area for. For instance, is the area used for feeding or breeding, an area used by moulting seabirds or a migration route? The information on feeding should be crossed links with the benthos and fisheries section and others if appropriate. The use of the area will need to be further considered during the impact assessment stage of the REA.

EU Birds Directive – It is important that the REA considers areas which are either already designated or may be designated in the future as SPAs. Information on marine SPAs can be found here: <http://www.jncc.gov.uk/page-1414>. Various types of marine SPAs are being considered for UK territorial and offshore waters:

- Seaward extensions to existing seabird breeding colony SPAs. Current work aims to identify those areas of the sea adjacent to breeding colonies that are important to seabirds for essential activities. Spatial analysis of at-sea survey data allows formulation of guidance on appropriate boundary extensions that may be applied generically for certain species. To date, extensions into the sea

- of 1 km for those SPAs at which common guillemot, razorbill and Atlantic puffin breed, and 2 km for breeding gannet SPAs, have been recommended;
- Inshore aggregations of non-breeding waterbirds. An initial trawl through various survey data has resulted in a list of inshore sites for seaduck, divers and grebes that might be considered for SPA status. Spatial analyses of aerial survey data from such sites allow assessment of whether a site qualifies as an SPA (using existing criteria formulated by JNCC for application to the terrestrial environment) and if so, where the seaward boundaries of the site might be defined.
 - Offshore aggregations of seabirds. The European Seabirds at Sea database hosts year-round data on the at-sea distributions of all birds that occur in the waters of the north-west European continental shelf. These data will be analysed in order to identify possible hotspots for seabirds with a view to possible SPA classification;
 - Other types of SPA. Some important aggregations of seabirds may not be captured by the above categories and are being considered individually. For example, diurnal concentrations of Manx shearwaters during the breeding season, which occur at varying distances and locations from the breeding colonies, are being studied using radio-tracking. Similarly, the feeding locations of red-throated divers are being investigated using the same technology. Feeding concentrations of terns in the breeding season are also the focus of specific study.

EU Habitats Directive

Under the terms of the EU Habitats Directive, the United Kingdom is required to put in place a network of marine Special Areas of Conservation (SACs). Together, the set of SACs and SPAs are intended to form a coherent ecological network of protected sites across Europe, referred to as the Natura 2000 network. SACs may be selected for Habitats of Conservation Importance (listed in Annex I of the Habitats Directive) or for Species of Conservation Importance (listed in Annex II of the Habitats Directive) which in UK waters include:

Marine Habitats listed on Annex I of the EU Habitats Directive

- Estuaries
- Lagoons
- Large shallow inlets and bays
- Submerged or partly submerged sea caves
- Sandbanks which are slightly covered by sea water all the time
 - Sublittoral sandbanks permanently submerged.
 - Non-vegetated sandbanks or sandbanks with vegetation belonging to the
 - *Zostera marinae* (seagrass) and *Cymodoceion nodosae* (benthic algae).'
- Mudflats and sandflats not covered by sea water at low tide
- Reefs
 - Bedrock Reef – pinnacles / offshore banks
 - Stony reefs – cobble and boulder reefs, iceberg plough marks
 - Biogenic reefs – for example made by cold water coral (*Lophelia pertusa*) and Ross Worm (*Sabellaria spinulosa*)
- Submarine structures made by leaking gases

Marine Species listed on Annex II of the EU Habitats Directive

- Grey seal - *Halichoerus grypus*
- Common (or harbour) seal - *Phoca vitulina*
- Harbour porpoise – *Phocoena phocoena*
- Bottlenose dolphin - *Tursiops truncatus*
- Otter - *Lutra lutra*
- Loggerhead turtle – *Caretta caretta*
- Sea Lamprey – *Petromyzon marinus*
- River Lamprey – *Lampetra fluviatilis*
- Sturgeon – *Acipenser sturio*
- Shad – *Alosa* spp.

To satisfy the terms of the EU Habitats Directive site specific survey evidence may be required for individual applications to assess the presence or absence of Annex I Habitat and Annex II Species. The REA should therefore aim to provide an overview of the habitats and species within the REA area and direct further EIA studies. JNCC and NE are currently working on the designation of marine SACs but it is unlikely that within the timings of the initial REAs, the Natura 2000 Network will be in place. Therefore, until such a time that the Natura 2000 Network is agreed and all sites designated, any identified Annex I Habitats may be considered as worthy of submission as a qualifying feature and afforded the level of protection as if they were designated.

It is not expected that the whole of the REA area will be surveyed at a resolution suitable to determine where Annex I features are located but features of conservation interest should be described in the context of a regional area.

For information on the distribution of seabed habitats and landscapes, reference should be made to:

MESH (<http://www.searchmesh.net/>)

UKSeaMap (<http://www.jncc.gov.uk/page-2117>)

Marine Mammals

The Habitats Directive also provides protection to European Protected Species (EPS) (listed in Annex IVa of the Directive) and their breeding sites and resting places whether or not they are within a Natura 2000 site. Marine EPS include all species of cetaceans, all species of marine turtles, the sturgeon (*Acipenser sturio*) and the otter (*Lutra lutra*). Amendments to the Habitat Regulations for England and Wales and the new Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 revised the definition of disturbance of EPS. It is now an offence to deliberately disturb wild animals of an EPS in such a way as to be likely significantly to affect: a) the ability of any significant group of animals of that species to survive, breed, or rear or nurture their young; or b) the local distribution or abundance of that species.

There is also a potential for the designation of SACs for Marine Mammals listed on Annex II of the EU Habitats Directive as discussed above in Section 5.2.3.

The REA should provide a description / baseline report of marine mammals using the REA and surrounding areas. This may be taken from the Atlas of Cetacean distribution in north-west European waters (2003) (see: <http://www.jncc.gov.uk/page-2713>) and any other sources available (e.g. Sea Watch Foundation, Whale and Dolphin Conservation

Society (WDCS), Sea Mammal Research Unit (SMRU), SCANS I & II, SEA data – www.offshore-sea.org.uk). An assessment should be provided of any evidence that marine mammals use the area for a particular activity (feeding, breeding). As with birds, any data used in describing marine mammal populations or distribution should be critically assessed in terms of age of the data and coverage / quality – a gap analysis. The REA should aim to fill any significant gaps by fieldwork if possible.

The REA should also consider what the potential impacts of dredging activities are for marine mammals including noise generation, impact to food sources and general disturbance at a regional scale with particular consideration of the disturbance offence. For information on the disturbance offence and guidance how to assess the likelihood of disturbing marine EPS please refer to <http://www.jncc.gov.uk/page-4227> (and potential amendments).

Nationally Important Marine Features

Nationally Important Marine Features are intended to be marine species and habitats that are outside of the Natura 2000 Network but that are considered to be of Nature Conservation value. This conservation initiative is being driven by the UK BAP Habitats and Species Review with plans to link in with the proposed Marine Bill. Habitats may include features associated with the seabed such as interesting or unusual conservation features (e.g. Brittlestar Beds). NE and JNCC will endeavour to ensure the aggregate industry and those undertaking REAs are kept updated with progress of identifying Nationally Important Marine Features.

OSPAR Marine Protected Areas (MPA)

Part of OSPAR's (The Convention for the Protection of the Marine Environment of the North-East Atlantic) biodiversity strategy is to establish a system of marine protected areas known as the OSPAR MPA Programme. To achieve this, OSPAR undertook an initial review of existing marine protected areas (MPAs) in the OSPAR maritime area. Guidelines for the selection and management of MPAs were then developed and adopted in 2003 before developing the scope and aims for a network of marine protected areas. These are intended to contribute both to protection of threatened species and habitats and to the conservation of areas which best represent the range of species, habitats and ecological processes in the OSPAR area. The OSPAR commission agreed in 2003 that a network of MPAs, according to the criteria and guidelines it adopted should be developed by 2010 and has written recommendations for how to go about this. Contracting parties are currently in the process of identifying and submitting initial sets of sites to the Commission.

For further information on OSPAR please refer to <http://www.jncc.gov.uk/page-3370>. The Initial OSPAR List of Threatened and/or Declining Species and Habitats may be found here - http://www.ospar.org/documents/dbase/decrecs/agreements/04-06E_List%20of%20threatened-declining%20species-habitats.doc

Biodiversity, Habitat and Species Action Plans

In 1993, the UK government consulted organisations throughout the UK to discuss the key issues raised at the Convention of Biological Diversity. The product of this was the launch of Biodiversity: the UK Action Plan in 1994 which outlined the UK Biodiversity Action Plan for dealing with biodiversity conservation in response to the Rio Convention.

Within the REA the individual or group Biodiversity Action Plans for priority habitats and species should be reviewed and any listed actions from Local Biodiversity Action Plans addressed within the REA.

Actions Plan include but are not limited to: *Atrina fragilis*, *Cetorhinus maximus*, Inshore sublittoral sediment, *Lophopus crystallinus*, Maerl Beds, *Modiolus modiolus* beds, oceanic seas, offshore shelf sediment, *Sabellaria alvelota* reefs, *Sabellaria spinulosa* reefs, sublittoral sands and gravels and the grouped plan for toothed whales and baleen whales.

For a complete list of plans see: <http://www.ukbap.org.uk/>

4.2 Marine Environment

All aspects of the Marine Environment should be considered through REA in a multidisciplinary way. To aid clarity, the following section is broken down to cover the three key areas of the natural Marine Environment, which are likely to be impacted by Marine Mineral extraction.

Fish and Fisheries Resources

The key issues to consider are potential impact of marine mineral extraction on fish and fisheries resources (including spawning grounds and nursery grounds), adult distributions throughout the year and fishing operations (commercial and recreational).

In order to address these concerns, the following is recommended for inclusion in the REA process:

- Fish and fisheries resource issues should be defined after consultation with local and regional fisheries stakeholders.
- REA should contain a comprehensive review of fisheries resources in the region (spawning activity, nursery grounds, and adult distribution at other times of year), and a description of the fisheries that exploit them for commercial or recreational purposes. Such a review would be developed from two primary sources of information: consultation with local and regional fisheries stakeholders, and quantitative data describing the distribution of fisheries and biological resources.
- The consultation exercise needs to be thorough, based on a standardised and consistent methodology, and be capable of defining the overall scope and key issues to be addressed by the REA, whether site specific or regional.
- Available data from primary sources (e.g. Cefas, ICES, SFCs, MFA) should be acquired and used to complement the assessment of biological resources and fishing activity derived from the consultation exercise. These data will then be used to prioritise the issues that are reported in the REA, and will provide a scoping report for the future site-specific EIA's. Having gathered the available data and identified and prioritised the issues to address, the aggregate industry will be in a stronger position to develop targeted data collection programmes capable of filling gaps in knowledge at a regional and/or site specific level. If needs for licence-specific data to address site specific issues are identified, these should be addressed by applicants when preparing EIA's for licence applications or renewals and not within the framework of the REA.
- The REA should provide an assessment of how fish and fisheries might be affected as a result of increased or decreased activity throughout the Region resulting from licence renewals and new applications, compared to the status quo. Here the status quo for fish and fisheries, and for aggregate extraction activity, should cover a period of up to 5-years previous to the year in which the REA is being conducted. Covering a 5-year period allows for inter-annual variability and increases the chance of suitable data being available for the assessment. By comparing potential future

scenarios of impact by the aggregate industry with the status quo assumes that current level of environmental impact and conflict with other human uses are acceptable. As licences have been provided for all extraction activities, many supported by EIA's, this is not an unreasonable assumption.

- When available, longer time series extending back further than 5 years should be assembled for components of the fish community and for commercial and recreational fishing. For example, time series overviews might be developed for catches of selected young fish from the Cefas young fish survey, and from ICES coordinated fish larval surveys. These time series can be compared against time series for the same components in the wider geographic region (where practicable), and also against levels of fishing activity and aggregate dredging, in order to assess whether broad trends have occurred.
- Estimates of fisheries value need to be derived using standard methods agreed in advance by advisors and local/regional fisheries stakeholders.
- The industry should where possible make use of relevant assessments from other sectors, such as the recent assessment of interactions between Round 2 wind farms and fisheries, covering the outer Thames and the Wash.

Benthic Ecology

The key issues associated with the potential impact of marine mineral extraction on benthic ecology stem from the direct removal of sediment and the resident fauna, increased turbidity and redistribution of fine particulates and changes to the nature and stability of sediments.

In order to address these concerns, the following is recommended for inclusion in the REA process:

- A broad-scale description of the physical environment (e.g. sediment particle characteristics, tide and wave climate, sediment mobility, marine landscape etc).
- An assessment of the distribution of species/assemblages and habitats, particularly those of particular sensitivity or importance.
- Information on the temporal stability of the physical and biological environment, so as to aid understanding of the patterns/responses of benthic species. An understanding of natural variability will be important in order to differentiate between natural and anthropogenic disturbance.
- An assessment of the likely impact of activities to-date on the benthic environment (including cumulative and in-combination effects). In addition, an assessment of the likely impacts which may result from the proposed future activities.
- A consideration of the broad-scale patterns identified (spatially and temporally) in terms of any implications for survey designs at a more localised level. In addition, attention should also be given to the level of sampling effort required in order to detect change.
- The continued use of existing guidance, where appropriate, including the 'Guidelines for the conduct of benthic surveys at aggregate dredging sites' (<http://www.cefas.co.uk/publications/files/02dpl001.pdf>), for the collection of any new data.

Coastal / Physical Processes

The key issues associated with Coastal / Physical Processes are to be able to quantify the physical extent, magnitude and rate of extraction-induced change in changed bed types, to be able to distinguish such change from natural change (especially packets of mobile sand moving through a specific area) and to be able to assess the significance of such change, over time.

In order to address these issues, the following is recommended for inclusion in the REA process:

- A broad scale assessment of the physical environment including waves, currents, temperature, salinity, turbidity and geology from which a regional baseline can be created within which site specific EIA's can be placed.
- An assessment of how this baseline has changed though time, specifically how the texture, mineralogy and spatial gradients have changed. This assessment will need to cover an area, which at maximum would be defined by that area which could conceivably be influenced by or influence the licence areas over a 20-30 year period.
- Based on the preliminary assessment, a further assessment of the implications for wider ecosystem consequences, including climate change with regard to sediment mobility and composition of the seabed and the impacts of climate change on storm events and temperature.
- A consideration of the likely impacts to the coast based on the dredging scenarios outlined in the REA, which take account of local information including existing Coastal Impact Assessments and Shoreline Management Plans.

4.3 Historic Environment

The key aim of a REA associated with the Historic Environment is the provision of a comprehensive review of historic environment resources in the region inclusive of palaeo-environmental (e.g. prehistoric geomorphological features) and the record of wrecks, aircraft and other features.

In order to address these issues, the following is recommended for inclusion in the REA process:

- A comprehensive review of historic environment resources in the region inclusive of palaeo-environmental (e.g. prehistoric geomorphological features) and the record of wrecks, aircraft and other features taking account of:
 - consultation with national and local curatorial bodies including English Heritage and historic environment services within relevant local authorities;
 - data obtained from English Heritage’s National Monuments Record Centre and the Historic Environment Record maintained by local authorities; and
 - data describing the distribution and nature of the historic environment as revealed by geophysical and geotechnical survey.
- The use of a standardised methodology and defined overall scope and key issues derived from a desk-based assessment corroborated by marine survey where necessary. Specific attention should be given to applying in an REA the guidance as provided in the BMAPA and English Heritage “*Marine Aggregate Dredging and the Historic Environment Guidance Note*” (http://www.english-heritage.org.uk/upload/pdf/Marine_aggregate_dredging.pdf).
- Published reports generated by research supported by the Aggregates Levy Sustainability Fund (ALSF) are also to be directly referenced and appropriate methodologies adopted as and when appropriate (see following table). The REA should where possible make use of relevant assessments from other sectors, such as the recent assessment of Round 2 wind farms covering the outer Thames and the Wash and SEA reports produced by DTI.

ALSF projects

- England’s Shipping (digital Atlas)
- England’s Historic Seascapes
- Modelling Exclusion Zones for marine aggregate dredging
- On the Importance of Shipwrecks
- Enhancing our understanding: Shipwreck Importance
- Assessment of Archaeology with Marine Aggregate Environmental Assessments
- Re-assessment of the archaeological potential of continental shelves
- Submerged Palaeo-Arun River
- Artefacts from the seabed

ALSF projects

- Enhancing our understanding: Navigational Hazards
 - North Sea Palaeolandscapes
 - BMAPA-EH Protocol for the reporting of archaeological finds (Awareness programme)
 - Solent to Aggregates Outreach
 - Multibeam Sonar on Wrecks
 - Wrecks on the Seabed
 - Seabed in Prehistory
 - Innovative Approaches to Rapid Archaeological Site Surveying and Evaluation in the Marine Environment
 - High Resolution Sonar for the Archaeological Investigation of Marine Aggregate Deposits
 - Beach Replenishment and derived archaeological material
-
- Available data from primary sources (e.g. geophysical and geotechnical) will be acquired and used to complement the assessment of the historic environment record derived from the consultation exercise and desk based assessment (e.g. the National Monuments Record of English Heritage). These data will then be used to prioritise the issues that are reported in the REA, and will provide a scoping report for the future site-specific EIAs. Following the gathering of available data and the identification and prioritisation of the issues to be addressed, the REA should be able to propose targeted data collection programmes capable of filling gaps in knowledge at a regional and/or site specific level. The REA will also provide an assessment of how the historic environment might be affected as a result of increased or decreased activity throughout the Region resulting from licence renewals and new applications.

4.4 Other Issues to Consider

This guidance is written taking account of Nature Conservation, the Marine and Historic Environment interests and the framework above provides a suggested approach for each area in turn. However, REA clearly needs to take account of other sector interests principally the navigation and recreation sectors. As such, it is recommended that those seeking to undertake REA for the Marine Minerals sector engage with all relevant regulatory authorities and stakeholders, through a detailed consultation and scoping process, to ensure such interests are covered.

5. Further Information, Presentation and Data Management

Outputs from the significant number of projects funded through the Aggregate Levy Sustainability Fund (ALSF) and specifically its marine components (www.mepf-alsf.org.uk) should be considered when undertaking REA. In many cases, project data may be available to augment that gathered as part of REA for specific regions.

Relevant guidance documents already exist in a number of areas, and where relevant these are referenced. It should be emphasised that the most up to date and relevant guidance available from all sectors should be used to address specific components of REA in a consistent and comparable way. An example of existing guidance is available from (<http://www.cefas.co.uk/publications/files/windfarm-guidance.pdf>). Where necessary, those undertaking REA are encouraged to liaise directly with those relevant regulatory authorities.

Reporting of all aspects of the REA, and its general format should be undertaken in a consistent manner which allows for comparability, however this should be something those undertaking REA should choose. Consideration of a standardised reporting format for risk such as a “traffic light” or Red (High) / Amber (Medium) / Green (Low) reporting structure should be made.

Data generated by REA, together with REA outputs should routinely be available to industry and regulatory authorities for consideration in the Marine Minerals application process but also accessible within the public domain. Those undertaking REA should consider best available mechanisms for providing such access, such as availability through dedicated websites or data sharing initiatives.