

NATURAL RESOURCES WALES

DRAFT ADVICE ON SCOPING AN ENVIRONMENTAL IMPACT ASSESSMENT FOR MARINE RENEWABLE ENERGY DEVELOPMENTS

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1. INTRODUCTION

This document sets out NRW's advice on how to scope the assessment of offshore renewable energy projects in or near to Welsh waters. It describes matters that will need to be considered when undertaking an Environmental Impact Assessment (EIA).

This advice is not intended to substitute formal legal advice on the specific regulatory or EIA requirements of an individual project. Neither does this document constitute a formal scoping opinion for an assessment that may be needed prior to the issue of a Marine Licence. Although a scoping opinion is not compulsory NRW would recommend project proposers seek one from the Marine Licensing Team (MLT) in NRW (Permitting) ¹ at the earliest opportunity. If a formal scoping opinion is requested, the MLT will consult with NRW (Advisory), and other external consultees, before providing a written scoping opinion.

This document provides initial advice on matters relating to EIA and does not prejudice any subsequent advice that NRW might provide as part of a formal EIA scoping opinion.

Scoping is a critical phase in the project planning and EIA process for marine renewable energy developments. The objective of scoping is to identify the main issues of potential concern at as early a stage as possible so that they can be considered in appropriate detail in the EIA. It may also be possible to consider issues identified at scoping within the evolving project design, to avoid or reduce the likely environmental impacts. Scoping provides an opportunity for identification of:

- the key environmental impacts and issues of concern;
- relevant sources of existing information relating to the environment and data collection;
- development and agreement of survey and assessment methodology;
- elements of project design that could be changed to avoid or reduce negative environmental impacts (mitigation);
- potential positive environmental enhancements.

In Wales, a number of EIA Regulations can apply to marine renewable energy developments depending on, for example, their generating capacity, location and the consenting route chosen by the applicant (See Section 2). The Regulations set out in broad terms the information which should be included in Environmental Statements (ES); a key document in the EIA process. They also identify the statutory consultees whose views should be sought to inform the identification of key issues during the scoping process.

Early consultation with all interested parties, including NRW, is an essential part of scoping. This document aims to promote good practice in EIA scoping, outline key matters that NRW (Advisory) will expect to be taken into consideration as part of an EIA for a marine renewable energy application and provide a reference for further sources of relevant information.

¹ From 1 April 2013, NRW has held responsibility for administering Marine Licensing and European Protected Species licensing functions on behalf of the Welsh Government. NRW therefore has dual functions, as an advisor and as a regulator with respect to marine renewable energy projects. For clarity, in this document, these two functions are referred to as NRW NRW (Permitting) and NRW (Advisory).

However, each project must be considered on a case-by-case basis as the detailed characteristics of the proposal and the site will determine the potential impacts.

More information about Marine Licensing and the requirements of related EIA regulations can be found at can be found on the Marine Licensing pages of the NRW website².

2. POLICY, PLANNING AND ASSESSMENTS FOR MARINE RENEWABLE ENERGY DEVELOPMENTS

2.1 Energy and planning policy in the UK and Wales

Marine renewable energy developments can vary in location, scale and type from large commercial offshore wind farms, through to pre-commercial scale wave or tidal stream devices deployed in high energy coastal areas or tidal range generating stations located in estuaries or embayments. In Wales, the regulatory and planning framework that applies to marine renewable energy projects depends on a number of factors including their generating capacity, location and the consenting route chosen by the applicant. The policy framework that licensing authorities must take into account when making decisions for marine renewable energy projects in Wales is outlined below. **If the proposed development is likely to deviate from national and/or local policy, full justification should be provided for this deviation in the Environmental Statement.**

Although energy policy and regulation in Wales is largely the responsibility of UK government, the Welsh Government has also set out its ambitions to create a low carbon economy for Wales in 'Energy Wales: A Low Carbon Transition'³, which identifies marine energy as a reliable source of renewable energy that could provide a significant contribution towards a low carbon energy mix of the future and includes a commitment to "unlocking the energy in our seas". The Welsh Government also recognises the need to carefully plan and manage the relationship between energy development and the natural environment in line with their ambition of 'Sustaining a Living Wales'⁴

Under the Planning Act 2008⁵, the development of an offshore generating station of over 100MW is classified as a Nationally Significant Infrastructure Project (NSIP), and requires a Development Consent Order (DCO) issued by the the Secretary of State for Energy and Climate Change (DECC) following a recommendation from the Examining Authority, the Planning Inspectorate. A series of National Policy Statements⁶ (NPSs) have been developed to guide the decision making process for NSIPs, with the most relevant to marine renewable energy developments being:

- Overarching Energy National Policy Statement (EN-1);
- Renewable Energy Infrastructure National Policy Statement (EN-3); and

² <http://naturalresourceswales.gov.uk/apply-buy-report/apply-buy-grid/marine-licensing/?lang=en>

³ <http://wales.gov.uk/topics/environmentcountryside/energy/energywales/?lang=en>

⁴ www.wales.gov.uk/livingwales

⁵ <http://www.legislation.gov.uk/ukpga/2008/29/contents>

⁶ http://webarchive.nationalarchives.gov.uk/+http://www.decc.gov.uk/en/content/cms/meeting_energy/consents_planning/nps_en_infra/nps_en_infra.aspx

- Electricity Networks Infrastructure National Policy Statement (EN-5).

At the time of writing only offshore windfarms are considered to be within the scope of the NPS for energy, so for any other marine renewable energy projects over 100MW it is NRW's understanding that PINS will take account of 'Energy Wales: A Low Carbon Transition', 'Planning Policy Wales' and the relevant associated Technical Advice Notes⁷, the 'UK Marine Policy Statement (MPS)'⁸, and all other relevant Welsh policies in the consideration of these applications. These policies will also be taken into consideration by the licensing authority for those projects consented through an alternative route, e.g. generating stations under 100 MW consented under the Electricity Act 1989 (Section 36) and by those authorities responsible for other permissions, e.g. Marine Licence.

2.2 Strategic planning for marine renewable energy

Strategic planning ultimately aims to guide the development of the marine renewable energy sector to locations which maximise the use of the energy resource, whilst minimising adverse socio-economic and environmental impacts.

Formal development plans and programmes will typically be subject to Strategic Environmental Assessment and plan Level Habitats Regulations Assessments. Where relevant, the findings of these assessments should be taken into account when developing assessments of individual projects.

A number of strategic work programmes and groups have been developed to plan for, and support, the sustainable development of the marine renewable energy sector in Wales and the UK. These include:

- The Department for Energy and Climate Change (DECC) UK 2nd Strategic Environmental Assessment for Offshore Energy (OESEA2)⁹
- Offshore Renewables Joint Industry Programme (ORJIP)¹⁰
- Offshore Renewable Energy Licensing Group (ORELG)¹¹
- Offshore Renewables Research Steering Group (ORRSG)¹²
- Natural Environment Research Council (NERC) Marine Renewable Energy Knowledge Exchange Programme¹³
- The Crown Estate formal seabed leasing processes for marine renewable energy (e.g. 2013 / 14 UK Wave and Tidal Leasing Plan)¹⁴
- The Crown Estate Wave and Tidal Stream Enabling Actions Programme¹⁵
- Collaborative Offshore Wind Research into the Environment (COWRIE)¹⁶

⁷ <http://wales.gov.uk/topics/planning/policy/ppw/?lang=en>

⁸ <https://www.gov.uk/government/publications/uk-marine-policy-statement>

⁹ <https://www.gov.uk/offshore-energy-strategic-environmental-assessment-sea-an-overview-of-the-sea-process>

¹⁰ <http://www.carbontrust.com/client-services/technology/innovation/offshore-renewables-joint-industry-programme-orjip>

¹¹ <http://www.marinemanagement.org.uk/licensing/groups/orelg.htm>

¹² <http://www.defra.gov.uk/mscc/groups/offshore-renewables-research-steering-group/>

¹³ <https://ke.services.nerc.ac.uk/Marine/Pages/Home.aspx>

¹⁴ <http://www.thecrownestate.co.uk/energy-infrastructure/>

¹⁵ <http://www.thecrownestate.co.uk/energy-infrastructure/wave-and-tidal/pentland-firth-and-orkney-waters/enabling-actions/>

¹⁶ <http://www.thecrownestate.co.uk/energy-infrastructure/downloads/cowrie/>

- Marine Renewable Energy Strategic Framework (MRESF) for Wales¹⁷
- Severn Tidal Power Feasibility Study¹⁸
- Shoreline Management Plans¹⁹

These strategic programmes have drawn together a wide range of useful information on environmental baselines, key constraints, sensitive receptors, potential impacts and mitigation approaches and we would recommend that applicants maintain an overview of and utilise their findings as appropriate.

2.3 Environmental Impact Assessment of marine renewable energy projects

The EIA regulations listed below require developers of marine renewable energy projects that are likely to have a significant effect on the environment to undertake an assessment of the positive and negative environmental impacts of a development from the construction stage through to decommissioning. This assessment must be documented within an Environmental Statement (ES). The ES should include sufficient information to enable the licensing authority(ies) to determine the extent of any environmental impacts arising from the proposed scheme and should cover direct and indirect, secondary, cumulative, short, medium and long-term, permanent and temporary effects. The ES is submitted with the various licence / consent applications.

The installation and operation of marine renewable energy developments may require multiple consents the assessment of which may be covered by one of a range of environmental regulations, depending on their type, scale and location.

EIA regulations²⁰ that may be relevant to a marine renewable energy development include:

- *The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended)*
- *The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended)*
- *The Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000 (as amended)*
- *The Harbour Works (Environmental Impact Assessment) Regulations 1999 (as amended)*
- *The Environmental Impact Assessment and Natural Habitats (Extraction of Minerals by Marine Dredging) (Wales) Regulations 2007*
- *The Water Resources (Environmental Impact Assessment) (England and Wales) Regulations 2003 (as amended)*
- *The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended)*

The licensing authorities and consultees typically ask to be provided with a single ES addressing the assessment requirements of each of the relevant consents.

¹⁷ <http://mresf.rpsgroup.com/>

¹⁸ <https://www.gov.uk/government/collections/severn-tidal-power-feasibility-study-conclusions>

¹⁹ <https://www.gov.uk/government/publications/shoreline-management-plans-smpls/shoreline-management-plans-smpls>

²⁰ See: www.legislation.gov.uk

Other environmental assessments may also be required, depending on the nature and location of the project, including:

- Habitats Regulations Appraisal
- Water Framework Directive Compliance Assessment
- Flood Consequence Assessment

Whilst the above assessments are required under different legislation to the EIA Regulations, as good practice, the ES should include all the information necessary to undertake these assessments and appraisals. NRW recommends that applicants should consider these key requirements at the scoping stage.

Information contained within the ES should also be used to inform decisions on other relevant permissions, for example: assent / consent for works within a Site of Special Scientific Interest (SSSI) or a licence for activities likely to disturb or injure European Protected Species (EPS).

3. THE SCOPE OF THE ASSESSMENT OF ENVIRONMENTAL IMPACTS

Given the diverse range of predicted impacts and the potentially complex regulatory / environmental assessment framework for marine renewable energy projects, **early and fit for purpose scoping will be the key to streamlining the consenting and assessment process and reduce consenting risk.**

Scoping provides an opportunity for developers and their consultants to identify the key environmental impacts and issues of concern, facilitated by consultation with stakeholders, including NRW. Scoping should be carried out at a stage when alternatives are still being considered and measures to remove or reduce impacts (mitigation) can be incorporated into project design. Scoping also provides an opportunity to highlight the benefits of projects, and opportunities for environmental enhancement measures may also be identified.

In England and Wales, EIA legislation provides the applicant with an opportunity to formally request a **Scoping Opinion** from the licensing authority(ies). This opinion should identify the data to be included within the ES and, in particular the key concerns to be addressed. To facilitate this opinion, it is recommended that a **Scoping Report** be prepared and issued to the licensing authority.

The Scoping Report should provide the licensing authority(ies) with all the information necessary for the development of their scoping opinion and to facilitate discussion with statutory consultees during the initial information gathering stage of the EIA.

Although NRW recognises that it is not always possible or necessary to fully address issues at the scoping stage, provision of as much detailed information as possible on the topics outlined below will enable NRW to provide robust advice on the issues related to our duties and remit, thereby helping applicants to make best use of the remaining pre-application phase of the project. With this in mind, and for ease of cross referencing / production of future EIA reports, we would recommend that the Scoping Report should follow as closely as possible the outline of the final EIA / ES.

3.1 Project description

The entire project should be described in as much detail as possible to allow the licensing authority(ies) and stakeholders to understand the proposal. This description should cover construction, operation (including generation and maintenance activities) and decommissioning phases and include detailed, scaled maps and drawings as appropriate.

If possible, we recommend provision of spatial information, e.g. the location and proposed footprint of the development, in the form of GIS files, which would allow, for example, cross referencing with spatial data about potentially sensitive receptors.

We would expect the description to include all currently available information on the following:

- The purpose and physical characteristics of the proposal;
- Location, development size and configuration of the development including flexibility of the site layout and details of the connection to the National Grid network;
- Turbine / device support structures, foundations to be used and installation methods, the location and size of offshore platforms, the number, location and route of subsea cables, depth of cable burial, and details of scour protection and/or cable armouring to be used;
- Spatial 'footprint' and other physical features of the project;
- Procedures for good working practices;
- Resource use, including waste, minerals and energy;
- Identification of appropriate pollution contingency and emergency measures;
- Timing of all works and contingency plans, should slippage in the programme occur;
- Details of noise levels from all relevant activities involved in the construction, maintenance and decommissioning of the project;
- Details of construction works including methodology, location and extent of construction sites, construction access/working corridors and stock piling sites;
- Quantity and content of any discharges from the development site;
- Details of the disposal of any surplus dredged material e.g. material displaced from laying turbine foundations or cable trenching and burial;
- Maintenance requirements of structures;
- Maintenance of any habitats within the development site;
- Details of any activities related to the decommissioning phase of the project that will differ from those of the construction phase ie: removal and disposal / recycling of turbines or other structures

Information on any **ancillary development** associated with the project, which may be controlled by another developer, should also be obtained where possible at the scoping stage. This information will enable potential indirect and cumulative impacts and impact interactions arising from that development to be considered as early as possible in the EIA.

3.2 Characterisation of receptors and preliminary assessment of potential impacts

The scoping process provides an opportunity for stakeholders and applicants to reach agreement on the impacts and receptors to be assessed in the EIA. The scoping phase also allows for discussion about information requirements (including the way in which baseline information will be gathered), impact assessment methodologies, the timing and coverage of surveys and the criteria for predicting and evaluating the significance of the effects.

3.2.1 Potential sources of environmental effects

The OESEA2²¹ identified the key potential sources of environmental effects from both construction and operation of marine renewable energy projects as being:

- *Noise*: i.e. from seismic survey and piling during installation and decommissioning (impulsive); or from turbines, drilling rigs, production facilities or vessels (semi-continuous or continuous)
- *Physical damage*: i.e. to seabed features, biota and features of archaeological interest from anchoring, pipeline construction and cable laying (acute); or from particulate smothering (non-acute)
- *Physical presence of structures*: i.e. colonisation of structures by organisms, avoidance of areas where renewables are present e.g. by birds or mammals, animal collisions with structures and turbine blades and barriers to movement of birds, fish and marine mammals; interference with other users of the sea; visual intrusion, seascape effects, change to character, impact on setting of coastal historical sites, impacts on water, land and air quality
- *Post-decommissioning (legacy) effects*
- *Change to sedimentation and hydrography regime*
- *Energy removal downstream of wet renewable devices*
- *Chemical contamination*: from drilling and other discharges, antifouling coatings etc (routine) or from spills (accidental)
- *Atmospheric emissions from fuel combustion, venting*
- *Contribution or reduction in net greenhouse gas emissions*
- *Electromagnetic Fields*: possible effects on electrically or magnetically sensitive species from subsea power cables

From NRW's perspective, assessments of marine renewable energy developments should consider, but not be limited to, impacts upon the following receptor categories: **biodiversity and nature conservation; landscapes and seascapes; physical processes; flooding and coastal erosion; and water, land and air quality**. These are described in more detail in section 3.3 below.

3.2.2 Existing information and data sources

An overview of key datasets to aid baseline characterisation of natural heritage receptors to inform an assessment of likely impacts can be found in Smith *et al* (2011)²². In addition, a metadata catalogue of data previously held by the Countryside Council for Wales, but still available from NRW can be browsed online²³. Certain data sets such as those relating to protected sites, the HabMap seabed modelling project and the Phase 1 Intertidal survey of Wales can currently be downloaded directly from the CCW website. More specific datasets would need to be requested from NRW, by sending a data request form to:

²¹ OESEA2 Environmental Report: Future Leasing/Licensing for Offshore Renewable Energy, Offshore Oil & Gas, Hydrocarbon Gas and Carbon Dioxide Storage and Associated Infrastructure (DECC, February 2011)

²² Smith K, Briggs J, Hamer J, Hill A and Walker P (2011). Natural heritage evidence to support strategic planning for marine renewable energy. CCW Policy Research Report No. 11/3. <http://www.ccw.gov.uk/landscape--wildlife/managing-land-and-sea/marine-policies/planning--management/marine-renewable-energy.aspx?lang=en>

²³ <http://194.83.155.90/olibcqi/>.

acesstoinformationteam@naturalresourceswales.gov.uk. A copy of the data request form is provided in Annex 1 of this document.

In addition, it may also be necessary to access information about other receptors which may be affected by developments such water quality, flood risk, shoreline management. NRW possesses some of this information which is available upon request or can provide advice as about how this information can be obtained.

3.2.3 Additional information requirements

Developers may need to gather and collate additional data and information on key receptors with the potential to be affected by the proposed project to enable an evaluation of effects on these receptors. Scoping can help to identify those receptors for which additional data or information might be required, as well as determine approaches and methods to gather and collate any data. Advice from the licensing authority(ies) and their advisors about any additional data required will include an initial assessment of the following important factors;

- the sensitivity of receptors to impacts,
- suitability of proposed survey and assessment methodologies
- the scale of the proposed development (temporal and spatial); and
- the device/technology type

Draft guidance on survey and monitoring in relation to marine renewable energy deployments in Scotland, produced by Marine Scotland and Scottish Natural Heritage provides some useful information on options and approaches for survey methods for establishing the characterisation conditions for a variety of natural heritage receptors²⁴.

NRW strongly recommends that the principles and standards set out by the Marine Environmental Data Information Network (MEDIN) are applied to any new data collection programme and that new data is made available to the MEDIN Data Archiving Centres following collection.

3.2.4 Cumulative and in-combination effects

In assessing the potential impacts of the proposed development on ecological and landscape interests, the EIA must consider the potential cumulative and in-combination impacts of the development along with other developments and activities that already exist, or have planning permission, or are otherwise reasonably foreseeable.

It should be noted that it is not necessarily only 'major' projects that have significant impacts on the environment, and interaction between two or more activities/developments can have a multiplicative impact effect. It is also important to note that given the highly mobile, wide ranging nature of many marine mammal and seabird species, and the wide geographical area over which certain ecological and physical processes operate, activities and

²⁴ www.snh.gov.uk/docs/B925810.pdf

developments located some distance away may have the potential to interact with the proposed development.

Scoping is an opportunity for developers to reach agreement with stakeholders and statutory bodies on the projects which need to be considered within the cumulative impact assessment.

3.3 Information about key receptors

Below NRW has provided additional information about the assessment of groups of receptors that are of particular relevance to NRW's advisory role and responsibilities. The information provided is necessarily generic and NRW recognises that more detailed advice will be needed to define assessment procedures for individual technologies and projects depending on the receptors likely to be affected.

NB. For wave and tidal stream projects, NRW has produced 'Checklists' of the key natural heritage and environmental issues and impacts which might need to be taken into account within EIA for projects within wave and tidal stream energy resource areas in Welsh waters identified within The Crown Estate's 2013/2014 leasing round. These are available on request from NRW.

3.3.1 Biodiversity and nature conservation

The Welsh Government's policy on nature conservation and planning, as outlined in Planning Policy Wales (PPW) and TAN 5²⁵ is that planning and development control "should contribute to protecting and enhancing biodiversity and geological conservation". PPW states that: "with careful planning and design, not only can the potential for conflict be minimised, but new opportunities for sustainable development can also be created". In order to achieve this "it is essential that all potentially important nature conservation issues...are identified and fully addressed at the earliest stages of preparing a planning application" (TAN 5).

The scope of the baseline characterisation and risk assessment for biodiversity and nature conservation should include: identification of any rare, declining, protected or otherwise important flora, fauna or habitats within the site; the importance of the above features at a local, regional and national level; and assessment of the impacts of the scheme on those features.

Statutory Protected Nature Conservation Sites

The EIA should consider the likely impacts on European, national and local statutory protected sites with the potential to be affected by the proposed development. Consideration should be given to protected sites in the immediate vicinity of the development, as well as those further afield which might be affected by changes to environmental conditions that will affect the features for which those sites have been designated. Protected sites which may need to be considered include;

²⁵ <http://wales.gov.uk/topics/planning/policy/tans/tan5/?lang=en>

- Sites of Special Scientific Interest (SSSI): notified under the Wildlife and Countryside Act (1981), as amended by the Countryside and Rights of Way Act (2000);
- Special Protection Areas (SPA): designated under the Birds Directive (1989);
- Special Areas of Conservation (SAC): designated under the Habitats Directive (1992);
- Ramsar sites: Designated under the Ramsar Convention (1971);
- National Nature Reserves: designated under the under the Wildlife and Countryside Act (1981), as amended by the Countryside and Rights of Way Act (2000);
- Marine Nature Reserves: designated under the under the wildlife and Countryside Act (1981), as amended by the Countryside and Rights of Way Act (2000) and the Marine and Coastal Access Act (2009).

NRW are the statutory nature conservation body in Wales and as such are the principle advisor on designated and protected sites. Further information on designated and protected sites in Wales is available on request from NRW, or available to download from the Countryside Council for Wales website using the designated sites search facility, at: <http://www.ccw.gov.uk/landscape--wildlife/protecting-our-landscape/special-landscapes--sites/sites-search-results.aspx>²⁶

European sites (SAC and SPA and Ramsar sites): specific information about these internationally protected sites including maps, citations explaining the reasons for their designation (features), and their conservation objectives is available from CCW's website (see above). These will be need to be reviewed in order to assess the impacts of the development, and provide the licensing authority with the relevant information so that they may **assess the proposals in accordance with the requirements of Regulation 61 of the Conservation of Habitats and Species Regulations 2010 (as amended)** (see section 4.1). Applicants should be aware that it is Welsh Government policy that the additional sites and features identified in the '2001 UK SPA Review'²⁷ are to receive the same level of protection as fully designated sites, therefore these must also be considered in any Habitats Regulations Appraisals.

Sites of Special Scientific Interest (SSSI): are nationally important sites, notified under the Wildlife and Countryside Act (1981), as amended by the Countryside and Rights of Way Act (2000). SSSIs can have either biological or geological features, or both. Information about each SSSI including the following is available from CCW's website:

- Citation – which detail the reasons why the site has been notified;
- List of Potential Damaging Operations – listing the operations that could potentially damage the site and **will therefore require assent or consent from NRW**;
- Map – showing the extent of the notified site;
- Site Management Statement – setting out the management required to maintain the notified features of the site; and
- Favourable condition status information about the site.

²⁶ Note that this information was correct at the time of writing, but the intention is that CCW web content will be migrated to NRW's website <http://naturalresourceswales.gov.uk>

²⁷ Stroud, DA, Chambers, D, Cook, S, Buxton, N, Fraser, B, Clement, P, Lewis, P, McLean, I, Baker, H & Whitehead, S (eds). 2001. *The UK SPA network: its scope and content*. JNCC, Peterborough. <http://incc.defra.gov.uk/page-1412>

Full details should be provided in the EIA of the likely impacts of the proposals on the notified features of these sites and their significance, along with comprehensive information about the measures that will be put in place to, in priority order:

- avoid damage to SSSIs;
- mitigate for any unavoidable damage to SSSIs; and
- compensate for any unavoidable SSSI damage that cannot be mitigated for.

European Protected Species: certain species listed in Annex IV(a) of the Habitats Directive and whose natural range includes any area in Great Britain are legally protected under the Conservation of Habitats and Species Regulations 2010 (as amended) (the 'Habitats Regulations') and Offshore Marine Conservation (Natural Habitats &c) Regulations 2010 (Offshore Marine Regulations). The Regulations prohibit the deliberate capture, injury, killing or disturbance of any wild animal of a European Protected Species (EPS), which in UK waters consist of several species of cetaceans (whales, dolphins and porpoises), turtles, and Atlantic Sturgeon. **Developments that will disturb, injure or kill these species will require an EPS licence from the NRW Marine Licensing Team to do so lawfully, subject to certain criteria being complied with.** Further details about the legislation concerning EPS and the relevant licensing provisions can be found on the Marine Licensing pages of the NRW website²⁸. If EPS are likely to be disturbed, injured or killed by the proposed development, the ES will need to include comprehensive details of all the mitigation that will be put in place to remove or reduce these impacts to ensure that the Favourable Conservation Status (FCS) of the population(s) concerned is maintained.

Nationally Protected Species: certain species listed under Schedule 5 of the Wildlife and Countryside Act (1981), as amended by the Countryside and Rights of Way Act (2000) are legally protected under Section 9 of the Wildlife and Countryside Act 1981 (as amended), from 'reckless or intentional disturbance'. All cetacean species and various turtle species are listed under schedule 5.

Section 42 / UK BAP Habitats & Species: these are habitats and species identified by the National Assembly for Wales under section 42 of the Natural Environment and Rural Communities Act (2006) as being of 'principal importance for the purpose of conserving biodiversity' in Wales. The 'Section 42' list will be used to guide licensing authorities in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006 "to have regard" to the conservation of biodiversity. Information about habitats and species listed under Section 42 of the NERC Act may be found on the Wales Biodiversity Partnership website²⁹.

Habitats Directive Annex 1 habitats features outside SACs: The EIA should consider impacts on Annex 1 features outside protected sites to ensure compliance with Article 10 of the Habitats Directive³⁰. NRW considers that the aim of the Habitats Directive to achieve Favourable Conservation Status of Annex 1 habitat appears, through Article 10, to relate to the entire resource of the habitat type, at least in terms of extent, rather than applying only to

²⁸ <http://naturalresourceswales.gov.uk/apply-buy-report/apply-buy-grid/marine-licensing/european-protected-species/?lang=en#U4RANPuQPAo>

²⁹ www.biodiversitywales.org.uk

³⁰ Article 10 of the Habitats Directive states that... 'Member States shall endeavour, where they consider it necessary, in their land-use planning and development policies and, in particular, with a view to improving the ecological coherence of the Natura 2000 network, to encourage the management of features... which are of major importance for wild fauna and flora'. For sites to be ecologically 'coherent' they need to have links outside their designated area, in order to ensure that Annex I habitats and Annex II species can be maintained in favourable conservation status in the long term.

the occurrence within the SAC network. We therefore consider that the impacts of development or activities on undesignated Annex 1 habitat outside Sacs should be assessed and adverse effects minimised or mitigated as far as possible.

3.3.2 Landscape and seascape

The importance of landscape as part of the natural heritage of Wales is also recognised by Welsh Government in PPW (see chapter 5) and NRW are responsible for providing specific advice on landscape and seascape. When deciding whether this receptor should be scoped into the EIA for a marine renewable energy project, the assessment will need to consider all the existing landscape and seascape interests within the vicinity of the proposed development. These should include protected landscapes, historic landscapes, and assessments of the seascape character potentially impacted by the development.

The need for detailed visual assessment depends on the scale and visual prominence of the development, which in turn depends on the size, design, colour scale and layout of the development, along with distance and visibility from land and any associated lighting. A wholly underwater development with very few visual impacts unlikely to change the character of the seascape, may not require a seascape assessment, though onshore elements may still require a landscape assessment. For a highly visible development, the zone of visual influence would have to be defined and a **visual impact study** would be needed.

In conducting any required Seascape and Landscape Visual Impact Assessment (SLVIA), we would recommend the developer refer to the 2009 CCW policy research report on seascapes in Wales and their sensitivity to offshore developments in Wales³¹. In addition, in 2011 CCW built on this work and assessed the sensitivity of Wales' coastal landscapes and seascapes on a more local scale to surface piercing tidal stream devices. For further details see Smith *et al* (2011).

LANDMAP is the formally adopted approach for landscape assessments in Wales and is advocated by the Welsh Government. The LANDMAP website³² hosts information on the LANDMAP methodology, provides access to all quality assured LANDMAP Information either through the interactive on-line GIS or as a download of GIS maps and surveys.

3.3.3 Physical processes

Depending on the scale and nature of a marine renewable energy development, there is potential for direct impacts on the physical environment to result in alterations to the physical processes baseline. Changes to processes such as waves, tidal currents, sediment transport and suspended sediment concentrations can, in turn, result in a number of indirect impacts on other receptors which should be assessed for each application.

³¹ Briggs, J. and White, S. (2009). *Welsh seascapes and their sensitivity to offshore developments: CCW Policy Research Report No. 08/5*. <http://www.ccw.gov.uk/landscape--wildlife/protecting-our-landscape/assessing-the-landscape/assessingseascapes.aspx>

³² <http://www.ccw.gov.uk/landscape--wildlife/protecting-our-landscape/landmap.aspx>

The guidance provided within the National Policy Statement for Renewable Energy Infrastructure (EN-3; DECC, 2011) on the potential impacts of offshore windfarms on the physical environment specifically highlights the following potential issues, which could all also be applicable to other types of marine renewable energy developments:

- Water quality - disturbance of the seabed sediments or release of contaminants can result in indirect effects on habitats and biodiversity and fish stocks thus affecting the fishing industry;
- Waves and tides - the presence of the turbines can cause indirect effects on flood defences, marine ecology and biodiversity, marine archaeology and potentially, coastal recreation activities;
- Scour effect - the presence of wind turbines and other infrastructure can result in a change in the water movements within the immediate vicinity of the infrastructure, resulting in scour (localised seabed erosion) around the structures. This can indirectly affect navigation channels for marine vessels and marine archaeology;
- Sediment transport - the resultant movement of sediments, such as sand across the seabed or in the water column, can indirectly affect navigation channels for marine vessels; and
- Suspended solids - the release of sediment during construction and decommissioning can cause indirect effects on marine ecology and biodiversity.

In relation to a whole range of activities and developments on the coast, the UK Marine Policy Statement (UK MPS) highlights some of the potential impacts of indirect changes to the coastline and seabed including: localised or more widespread coastal erosion or accretion; changes to offshore features such as submerged banks and ridges and alteration of physical habitats along the coast or in estuaries.

The UK MPS also identifies the implications of climate change for activities and developments on the coast and states that: “authorities must therefore ensure that activities and developments will themselves be resilient to risks of coastal change and flooding and will not have an unacceptable impact on coastal change and should seek to minimise and mitigate any geomorphological changes that an activity or development will have on coastal processes, including sediment movement”.

NRW recommend that developers refer to the relevant shoreline management plan (SMP) for the relevant location for information on:

- the current baseline understanding of the coastal environment,
- the potential future evolution of the coastal environment
- the proposed policy options for the policy units located within the zone of influence of the proposed development

Developers are also advised to refer to the PPW Technical Advice Note 14: Coastal Planning³³.

In 2010 the Wales Coastal Monitoring Centre (WCMC) was formed and funded through Welsh Government. The WCMC has a coordinating role of the monitoring activities of public

³³ <http://wales.gov.uk/topics/planning/policy/tans/tan14/?lang=en>

bodies in Wales to identify where improvements can be made with regards to coastal data collection, storage and analysis. The guiding principle for the WCMC should be that any data collected is made widely available for multiple users in accordance with the ‘**collect once, use many times**’ principle. NRW recommend the WCMC is utilised through project data acquisition, the centre is still in its inception phase but is hoped to grow, with more varied marine and coastal data sources coming available in the future.

3.3.4 Flood and coastal erosion risk

NRW have a duty to advise planning authorities and other regulatory bodies on flood and coastal erosion risk. The most important part of our role is to evaluate **Flood Consequence Assessments (FCA)** and advise local planning authorities and developers / applicants on the assessment of flooding consequences, based on Welsh Government advice, as defined in Section 7 and Appendix 1 of TAN15³⁴.

Depending on the nature and location of a marine renewable energy development, an FCA may need to be carried out (see section 4.3). This is most likely to apply to tidal range projects that are attached to shore but may also be relevant to any marine energy development. We recommend that developers consider flood and coastal erosion risk during scoping and ensure sufficient information is provided at this stage to allow NRW to advise on the requirement for an FCA and if necessary to provide further advice on preparing the assessment.

3.3.5 Water, land and air quality

Depending on the type and location of a marine renewable energy project there may be a requirement for the EIA to include sections on water, land and / or air quality. Section 13.1.2 of PPW states Welsh Government’s key objectives in relation to minimising and managing environmental risks and pollution are to:

- maximise environmental protection for people, natural and cultural resources, property and infrastructure; and
- prevent or manage pollution and promote good environmental practice.

NRW have a number of roles and responsibilities in this area ranging from advising the applicant and the relevant planning authorities, to regulating relevant activities e.g. through the Environment Act 1995, Environmental Protection Act 1990, the Water Resources Act 1991 and the regulatory regimes introduced by the Pollution Prevention and Control Act 1999.

Land quality: The breadth of preliminary information required to scope the assessment of impacts on land quality can be found within the Environment Agency’s Guiding Principles on Land Contamination³⁵. On submission of this preliminary information, depending on site sensitivity and previous uses, it is possible that site investigations, risk assessments and remediation may be required. Some remediation technologies may take time to design, implement and verify their success within the planning regime. The timescales for these

³⁴ <http://wales.gov.uk/topics/planning/policy/tans/tan15/?lang=en>

³⁵ <https://publications.environment-agency.gov.uk/pdf/GEHO1109BRGY-e-e.pdf>

should be factored into the construction time line for the project. **Please note that under land contamination our comments are restricted to controlled waters only and the Local Authorities should be consulted for any associated human health impacts.**

Air quality: Authorities must also consider any relevant air quality objectives³⁶ set out under Part IV of the Environment Act 1995 and any local authority action plans for Air Quality Management Areas (AQMAs) if applicable³⁷. The scoping report should identify whether the proposed development has the potential to affect air quality, for instance due to increased traffic during the construction phase of the project, and if so outline how this issue will be addressed within the EIA.

Water quality: In the case of water, authorities must consider the relevant environmental objectives developed as part of the implementation of the European Union's Water Framework Directive (WFD)³⁸. **Any new development, scheme or activity needs to be assessed to determine if it will cause deterioration or lead to a change in ecological or quality element status under the WFD (see section 3.4.2) and mitigation provided where necessary.**

4. OTHER ASSESSMENTS

4.1 Habitats Regulations Appraisal

Proposed developments likely to significantly affect European sites (SAC, SPA), either alone or in combination with other plans or projects, require special consideration by the competent authority (typically the licensing authority) under Regulation 61 of the Habitats Regulations³⁹. As a matter of Government policy, the same applies to Ramsar sites. Competent authorities may only permit proposals where they will not adversely affect the integrity of European sites or Ramsar sites.

The process of the consideration of development proposals likely to affect European sites (and Ramsar sites) is known as Habitats Regulations Assessment (HRA) and it takes into account the conservation objectives⁴⁰ of the site(s) concerned. It is undertaken by the Competent Authority and is an additional requirement to Environmental Impact Assessment. However, the information contained within the Environment Statement may be of relevance and be used in the HRA. The HRA process is a two stage process, the first stage being a 'Test of Likely Significant Effect' to establish whether the proposals are likely to result in significant effects on European sites or Ramsar sites. If this establishes that significant effects are likely, or there is uncertainty whether significant effects are likely to result, then an appropriate assessment of the effects of the activity in view of the conservation objectives of the site(s) is required.

³⁶ See <http://uk-air.defra.gov.uk/air-pollution/uk-eu-limits>

³⁷ See <http://uk-air.defra.gov.uk/aqma/maps>

³⁸ [EC Water Framework Directive \(2000/60/EC\) implemented in river basin districts within England and Wales through the Water Environment \(Water Framework Directive\) \(England and Wales\) Regulations 2003](#)

³⁹ <http://www.legislation.gov.uk/uk/si/2010/490/contents/made>

⁴⁰ Currently available from: <http://www.ccw.gov.uk/landscape--wildlife/managing-land-and-sea/marine-policies/policy--legislation--guidance/regulation-35-advice.aspx?lang=en> for marine sites and from <http://www.ccg.gov.uk/landscape--wildlife/protecting-our-landscape/special-sites-project.aspx> for terrestrial sites.

For further information, applicants are currently advised to refer to guidance on 'Assessing projects under the Habitats Directive: Guidance for Competent Authorities'⁴¹, which explains the assessment of a project under the Habitats Regulations. However, please note that NRW will be producing new guidance on the Habitats Regulations and HRA in the near future and developers are advised to check the status of this guidance with NRW during pre-application discussions.

For NSIPs, the Planning Inspectorate has also published guidance as: 'Advice Note 10: Habitat Regulations Assessment'⁴², which explains the obligations placed on both the decision maker and developer under the Habitats Directive and the 2010 Habitats Regulations, clarifies the information to be provided with an application for a development consent order and highlights the relevant bodies that should be consulted throughout the Development Consent Order application process.

4.2 Water Framework Directive Compliance Assessment

The EU Water Framework Directive (WFD) requires Member States to aim to achieve good ecological and chemical status (or potential) in surface water bodies by 2015. A water body is a discrete unit of water of similar characteristics. NRW is the competent authority for implementation of the WFD in Wales in transitional (i.e. estuarine) and coastal waters to 1 nautical mile including bay enclosing lines. Determining if a water body has reached good ecological status requires the consideration of biological, hydromorphological and physico-chemical quality elements.

New activities and schemes in transitional and coastal waters may impact on these quality elements, and could lead to a non temporary deterioration of the water body. The WFD, however, has a strict requirement to prevent deterioration in status of the water body from one status class to a lower one, and to prevent the deterioration in status of any one quality element in that water body. As a result, a new development, scheme or activity needs to be assessed to determine if it will cause deterioration or lead to a change in ecological or quality element status under the WFD. If an activity is likely to lead to deterioration or prevent the achievement of ecological objectives, it may still go ahead if sufficient justification (an Article 4.7 defence) can be proven and all practicable mitigation put in place⁴³. Article 4.8 should also be considered if the development may cause deterioration in status of any water body other than the one where the development or activity will be located.

Guidance on the process of assessing whether or not an activity is compliant with the WFD objectives for a water body is available from the 'Clearing the Waters' website⁴⁴. It should be noted that this guidance currently only refers to marine dredging and dredge spoil disposal activities, however it still provides a useful guide to the assessment process for coastal and transitional waters.

⁴¹ <http://www.cccg.gov.uk/landscape--wildlife/managing-land-and-sea/environmental-assessment/habitats-regulations-assessmen.aspx>

⁴² <http://infrastructure.planningportal.gov.uk/wp-content/uploads/2013/09/Advice-note-10-HRA.pdf>

⁴³ CIS Guidance Document No. 20: Exemptions to the Environmental Objectives (EC, 2009)
https://circabc.europa.eu/sd/a/2a3ec00a-d0e6-405f-bf66-60e212555db1/Guidance_documentN%C2%B020_Mars09.pdf

⁴⁴ <https://www.gov.uk/government/publications/complying-with-the-water-framework-directive-marine-dredging>

Information on water body boundaries, current status class and 2015 objectives can be found via the Environment Agency 'What's in Your Backyard' web pages, which also has links to the relevant River Basin Management Plans for each area⁴⁵. Details of the standards which should be applied in any assessment of potential impact of a project or activity can be found on the UKTAG website⁴⁶

4.3 Flood Consequence Assessment

In Wales the requirements for a Flood Consequence Assessment (FCA) are set out in PPW Technical Advice Note 15 (TAN 15). Development Advice Maps⁴⁷ have also been produced by the Welsh Government to direct new development in respect to flood risk.

An FCA report is required for developments in flood zones C1 and C2. For flood zone B, site levels need to be checked against extreme flood outline levels, which can be provided by NRW. Where there is reason to believe that proposed developments in zones A or B would be prone to flooding, or that such developments could impact on other people or their property, we may also require an FCA.

The criteria for the FCA, which should normally be undertaken by a suitably qualified person carrying an appropriate professional indemnity, are given under Section 7 and Appendix 1 of TAN 15. Prior to undertaking a FCA, we would advise the developer to contact us so a Flood Risk Analysis Engineer can provide additional advice and information on preparing a FCA which is appropriate to the scale and nature of the development.

Where an FCA is necessary, the developer / applicant must demonstrate that the consequences of flooding can be managed to an acceptable level. We will, without prejudice to our subsequent advice to determining authorities, work with the developer / applicant to establish the consequences of a flood event and offer advice on the mitigation measures proposed by the developers.

Developers / applicants must also demonstrate that the development, including any proposed flood mitigation / alleviation measures, will not have significant flood risk implications on or off site.

5. MONITORING IMPACTS

An important consideration for developers at the scoping stage will be to decide whether and how to monitor impacts associated with the development, to validate predictions made in the EIA. This type of monitoring can help to address gaps in the evidence base to inform applications for development proposals in other locations or future expansions of interests at the same development site. Such monitoring will be particularly valuable in filling in gaps in the evidence base on the impacts of developments. Without undertaking such monitoring,

⁴⁵ <http://apps.environment-agency.gov.uk/wiyby/default.aspx>

⁴⁶ UKTAG Recommendations on Surface Water Classification Schemes for the purposes of the Water Framework Directive (December 2007)
http://www.wfduk.org/sites/default/files/Media/Characterisation%20of%20the%20water%20environment/Recommendations%20on%20surface%20water%20status%20classification_Final_010609.pdf

⁴⁷ <http://data.wales.gov.uk/apps/floodmapping/>

consenting risks will remain for those projects where there are uncertainties about possible impacts, such as in the case of wave and tidal technologies.

The design of surveys to characterise the environment and the types of surveys needed to establish a baseline against which to monitor impacts may be very different. It is therefore crucially important to consider the possible dual role of any pre-installation surveys as early as possible to ensure that they are fit for purpose, to avoid difficulties at later stages.

Draft guidance on survey and monitoring in relation to marine renewables deployments in Scotland, produced by Marine Scotland and Scottish Natural Heritage (see above) provides some useful information on options and approaches for monitoring methods for establishing the impacts of wave and tidal devices on a variety of natural heritage receptors.

6. MITIGATION AND ENHANCEMENT MEASURES

At the scoping stage of an EIA it is likely that only a general consideration of measures to reduce or remove likely impacts (mitigation measures) will be possible. However, where appropriate, consideration should be given at this early stage as to whether any mitigation measures can be incorporated into project design. Doing so can help to remove or reduce uncertainty about potential impacts and therefore reduce consenting risk. NRW welcomes the opportunity to discuss mitigation measures in greater detail as the project proposal progresses and when there is greater certainty about the size, nature and location of the development, the activities involved in construction/operation, and the timing of construction/operation phases.

ANNEX 1: NRW DATA REQUEST FORM

Thank you for your interest in NRW's data and information. To help us process your request please answer the questions below. This information will be used to help us determine whether releasing the requested information is appropriate as some information held by NRW has restrictions on its release. If we do release the data this will normally be through a licence which will detail the terms and conditions under which we agree to release the data/information to you. The information you provide will be held securely in an electronic format, and will be processed fairly under the Data Protection Act (1998) Code of Practice.

Personal Information		
Name	Title: Select one Click and First select name: ← Click and type Surname here here:	
Job Title		Please give your job title if it is relevant to your information request. If you are requesting the data as a private individual please ignore this field.
Organisation		Please detail your organisation or employer if the request is through an organisation. If you are requesting data as an individual please detail any organisations you are a member of which are relevant to your request or leave blank.
Address	Address line 1: Address line 2: Town or City: County: Post code:	Please give us your full address, or the address of your organisation, including the post code.
Website		If you or your organisation has a website please give the address here.



Your e-mail address		Personal and/or work
Telephone number	Number: (including area code) Direct (if relevant) ext: Mobile:	Please give us a number which we can normally contact you on during office hours.

The information you are requesting		
What information are you requesting?		Please be as specific and detailed as possible. If the request is too vague we may need to contact you for clarification which may delay your request.
What is the overall purpose of your data request?		Please tell us the overall purpose of your request e.g. to inform decision making or policy planning, to assess a development proposal, for an Environmental Impact Assessment, to support conservation planning or land management, commercial re-use, personal study etc.
How will the information be used and what outputs and/or products do you expect to create?		Please detail the specific use you have planned for the information e.g. what analyses are you going to perform, will the information be incorporated into a commercial product, will you produce maps, is it for a piece of academic work, will it be incorporated into an existing database etc?



<p>Will the information be published?</p>	<p>Select one Details:</p>	<p>Will the data, or any derived products or outputs, be published? If so please give details of what will be published, how it will be published (e.g. report or website), where it would be available and at what spatial resolution e.g. 10 km sq</p>
<p>What geographical location or region are you requesting data for?</p>	<p>Whole area covered: <input type="checkbox"/> OR Area of interest:</p>	<p>What is your area of interest i.e. do you need the whole area covered by a dataset or a sub-section? Examples would include; all Wales, North Wales, the Severn Estuary, a specific site like a SSSI etc If possible please provide the Lat' / Long or British National Grid coordinates.</p>
<p>What time period is covered by the information you are requesting?</p>	<p>All dates covered: <input type="checkbox"/> OR From: To:</p>	<p>Do you want information covering the whole time period covered by the dataset or are you only interested and a specific sub-set? Please use DD/MM/YYYY</p>
<p>Who will have access to the information other than yourself?</p>		<p>Please give names, job titles and department/organisation (if relevant) of others who will have access to the information. Include sub-contractors, clients, team members etc.</p>
<p>How / where will the information be stored?</p>		<p>Please note: If the information you are requesting contains sensitive data and/or data covered by the Data Protection Act (1998) it will need to be stored appropriately.</p>



**Cyfoeth
Naturiol
Cymru
Natural
Resources
Wales**

<p>How long will you require the data for?</p>	<p>From: To: OR Long-term/ unspecified: <input type="checkbox"/></p>	<p>Please tell us how long you will require the data for. This would normally be the expected period of the work which the data / information will feed into. If you require long term access the data you will need to renew the licence periodically.</p>
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