UK Offshore Energy SEA (UKOESEA2)

Department of Energy and Climate Change

Scoping Report Consultation

Response by

The Royal Society for the Protection of Birds

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About the RSPB

The Royal Society for the Protection of Birds (the RSPB) is the charity that takes action for wild birds and the environment. We are the largest wildlife conservation organisation in Europe, with over one million members. We own or manage approximately 142,000 hectares of land for nature conservation on 206 reserves throughout the UK.

Faced with the threats of climate change to the natural world the RSPB believes that a low-carbon energy revolution is essential to safeguard biodiversity. However, inappropriately designed and/or sited developments can also cause serious and irreparable harm to biodiversity, and damage the public acceptability of the necessary low-carbon transition. Such damage is avoidable, and it is therefore essential that decisions about deployment of energy infrastructure take account of environmental impacts - and seek to avoid, minimise or offset them wherever possible. The RSPB therefore strongly advocates the use of rigorous, participative environmental assessments to inform the development of policies, plans, programmes and projects.

Section 1: Summary and recommendations

Major issues with the Scoping Report (SR) are set out in Section 2 of our response below, and in Section 3 the RSPB provides answers the consultation questions.

Summary of major issues of concern for the RSPB

The environmental baseline is uncertain, due to data gaps relating to birds and other wildlife, and because the legal status of many areas will change when protected areas are designated during the 5-year 'period of currency' for this SEA.

The proposed *five year 'period of currency'* for this SEA is unrealistic because the environmental baseline is changing rapidly due to initiatives with respect to both the marine environment and to activities that take place at sea.

The *draft plan* (and second alternative) is unrealistic. It could not be implemented in practice in view of various 'hard constraints' that apply within its geographical scope. Therefore, the third alternative – to apply spatial (and temporal) constraints – is, in effect, the draft plan under consideration. However it is an extremely poorly specified plan, providing no target capacities and/or alternative locations against which reasonable (i.e. realistic) alternatives can be compared.

The *breadth of this SEA* in terms of technologies and locations is a potential concern. Such breadth is potentially beneficial, if it means more environmentally beneficial or less damaging combinations of technologies and locations can be identified at a strategic level through assessment of well-specified alternatives. However the breadth of this SEA is a concern if it is to proceed with the three alternatives set out in the scoping report. In particular tidal range technologies have the potential to result in major losses of habitat for birds in UK estuaries, and the RSPB is concerned that inclusion of tidal range in OESEA2 will not enable DECC to identify the least environmentally damaging ways to harness the UK's tidal energy resources.

No reference is made here to the need to undertake an *Appropriate Assessment* of the plan/programme. The scoping document identifies that the draft plan/programme will affect areas already identified as, and likely to be identified as Natura 2000 sites, and identifies sources of potential significant effects on features including those for which these sites are/will be designated. We are therefore of the opinion that the proposals may have a likely significant effect on Special Protection Areas and their bird populations, and on Special Areas of Conservation, and that a strategic Appropriate Assessment is required.

Key recommendations

Systematic surveys of the marine environment are needed to fill known data gaps and for ongoing monitoring of seabird populations in UK waters. Such information is urgently required, would have multiple applications, and there are potential economies of scale to be gained through better coordination of existing survey work at sea. This work should be

coordinated and funded by central Government, but the RSPB is keen to be proactively engaged.

The UK Government should set target capacity objectives for the SEA as a whole and for each technology, with reference to reasonable timeframes given the relative maturities of the technologies under consideration. The SEA should then assess reasonable alternatives defined in terms of technology mixes and locations. Otherwise there are no actual 'plans' to assess.

DECC should consider removing tidal range and stream technologies for application in estuaries from the scope here, and assessing these in a separate SEA. This could enable all UK estuaries with tidal power potential (including the Severn) and all technologies (including those considered in the Severn Embryonic Technologies Scheme) to be assessed on a level playing field. However a better solution might be to redefine the SEA alternatives to enable comparison of the relative impacts of the various candidate technologies.

Commitment should be made to undertaking a strategic Appropriate Assessment of the draft plan.

Section 2: Major issues

2.1 Uncertain baseline and 'period of currency'

There is an urgent need for an integrated gap analysis of all seabirds at sea data to identify those areas for which no current data exists, and for which survey is required, and development of a monitoring programme to facilitate the ongoing monitoring of seabird populations in UK waters. The RSPB has consistently raised the lack of a coordinated programme of seabird survey and monitoring as an issue, with both the statutory agencies and a range of Government Departments, in relation not only to the identification and monitoring of Special Protection Areas and other marine protected areas, but also in relation to the need for a robust evidence base for the development of marine planning and the roll out of offshore renewables to meet the UK's energy and $C0_2$ reduction targets.

Given that such information is urgently required and would have multiple applications (and that there are potential economies of scale to be had through better coordination of existing survey work at sea), we have called for the development of a single, integrated seabird monitoring programme. However, little real progress has been made in this area. The RSPB are very keen to engage proactively in the development of an integrated UK seabird monitoring programme that is fit for purpose, and would suggest that this needs to be urgently progressed, perhaps beginning with a scoping workshop for relevant ornithological experts, commercial and conservation interests.

The Scoping Report (SR) states an intention to update the environmental baseline information used for the OESEA1 2009 Environmental Report. The 2009 ER contains a useful collation of existing data on biodiversity, habitats, flora and fauna. However large gaps remain, particularly relating to up to date information on seabirds. The RSPB is aware of a range of initiatives aiming to fill data gaps, including some funded by DECC. However these initiatives are not coordinated with one another, and there is a lack of overall long-term and strategic oversight. There does not appear to be any systematic rationale for data collection efforts, and no clear provisions for long-term monitoring of the marine natural environment. We would urge Government to take on this challenge and devise and fund systematic surveys for UK waters. Such an approach would have additional benefits for other Government initiatives, such as marine planning and the designation of marine protected areas as well as reducing one of the barriers to the deployment of renewables offshore.

The RSPB is concerned at the current heavy reliance on old, incomplete information contained in the European Seabirds at Sea (ESAS) datasets for SEA and designation purposes. This gives rise to the current situation where developers are granted licenses in locations where their detailed surveys subsequently reveal internationally important seabird aggregations. This has already occurred in Liverpool Bay (Shell Flat), the Thames Estuary (London Array), at the Round 3 area off the Bristol Channel, and is likely to prove to be the case at Dogger Bank. More concerted data collection efforts, supporting a scientifically robust process of designating protected areas, are needed as matters of urgency.

Recommendation 8 of the June 2009 Post-Public Consultation Report (accepted in DECC's 'A Prevailing Wind', June 2009, p. 23) states that a precautionary approach should be taken

with offshore wind developments: "unless suitable evidence indicates otherwise, avoidance (for the present) of areas *known to be* of key importance to waterbird and marine mammal populations, including breeding colonies, foraging areas and other areas essential to the survival of populations" (emphasis added). The RSPB considers that a precautionary approach should be taken with all offshore energy technologies, and that this means avoiding areas for which there is evidence of likely importance until adequate data are available to confirm their importance.

The RSPB is concerned that the processes of undertaking Appropriate Assessments under the Habitats Regulations and designating offshore SPAs, MCZs and MPAs are lagging behind the SEA and licensing process. The current Scoping Report (Section 2.1.2) says that the SEA will need to draw attention to the current location of European and national conservation sites. However, the marine SAC network remains incomplete, the marine SPA network is substantially incomplete (including a failure to identify any offshore sites to date) and the process for identification of MCZs is in the very early stages. It will be essential therefore that the SEA draws attention to this fact. It should also draw attention to the need to recognise potential qualification of areas, and to treat these as potential SPAs.

Furthermore, the indicative time horizon or proposed *'period of currency'* for this SEA is five years. We understand that DECC has received legal advice that this SEA can cover a period of five years provided there is not significant environmental or activity based changes which would alter the basis upon which the SEA was carried out. In our view the wealth of marine initiatives that are going to take place within the next five years, or sooner, will significantly alter the basis for the SEA. For example the following initiatives will all impact on the baseline within the period of currency:

- in England (and offshore) the Government is committed to having a network of MPAs including Natura 2000 sites and MCZs designated by the end of 2012, and is implementing a new marine planning system with the intention of producing the first two plans between 2011-2013, with other plans to follow; and
- the roll out of Round 3 offshore wind is now underway; and
- in Wales, Scotland and Northern Ireland similar policies and activities are planned, (e.g. recent announcement in Scotland for new wave and tidal projects and SEA for marine renewables in Northern Ireland's Territorial Waters).

2.2 Specification of the draft plan

The SR states on p. 69 that the ODPM 2005 guidance on developing reasonable alternatives has been followed. However the three proposed alternatives do not adequately address the questions posed in the figure relating to the 'hierarchy of options' in that guidance (and reproduced on p. 69 of the SR). As no target capacities are set for overall energy capacity to be delivered, nor for specific wave, tidal stream, tidal range, CCS or gas storage technologies, it is impossible to judge whether the 'need or demand can be met without implementing the plan or programme'. The rationale for not setting target capacities is unclear. For example the proposal for CCS is 4 demonstration projects; therefore this should be set as the target for CSS within the 3-5 year timeframe.

Similarly, in the absence of alternatives that set out different target capacities for the various technologies, the assessment cannot address the question of 'technologies or methods that can meet the need with less environmental damage'. Lastly, the question of 'where should it go' should be addressed in the alternatives under consideration according to the 2005 ODPM guidance, rather than emerging as the SEA progresses. In the 2009 OESEA1 process (where the same alternatives as those proposed here were used), the answer to the question 'where should it go' was answered by the Crown Estate rather than being informed by the SEA alternatives. In our view, the Crown Estate areas should have been treated as one of the alternatives, and we would query whether the Crown Estate is planning a similar approach in the future. If so, we would encourage them to make their leasing areas known soon so that location-specific impacts can be assessed and compared within the SEA.

The lack of spatial information in the draft plan is not helpful or necessary. For example s2.9.1 of the SR (p.41) provides an indication of the main location choices for the CCS demonstration projects. Again this information should be included in the plan, and the various alternative locations assessed against each other. Furthermore, s1.2 sets out some of the physical constraints on marine renewable technologies that should be used to exclude certain areas from that element of the SEA. This should be expressed in spatial terms within the draft plan. There are also resource maps that should be used to set a more realistic spatial coverage for each technology type. We also note that the 'plan' does not include any reference to the expansion of the offshore grid that is also to be covered by this SEA (see s1.4, p. 7).

2.3 Specification of 'reasonable alternatives'

The very poorly specified draft plan makes comparison of reasonable alternatives very difficult, and thereby undermines the purpose of the SEA Directive. The intention in SEA is that there should be a proposed draft plan, and that this is assessed for likely significant environmental effects alongside an equivalent assessment for reasonable alternative plans and a 'do nothing' scenario. Under the current proposals there is no real plan to assess, merely an ambition to progress to a stage where licensing is possible for various technologies. Thus the alternatives are (i) not to proceed to licensing, (ii) to do so without any spatial restrictions, or (iii) to restrict licensing temporally or spatially.

Analysis of the likely evolution of the baseline in the absence of the plan or programme is a requirement of the SEA Directive, so the 'do nothing' option should be assessed but it is not, in itself, a 'reasonable alternative'. The second – unrestricted licensing – is presented as the proposed plan, but it is not a realistic alternative in that there are existing spatial constraints at sea and so it could never be accepted on legal grounds due to conflicts with other users (such as shipping). This is admitted in the 2009 OESEA1 ER: 'there are areas of the UKCS in which 'hard' constraints currently preclude feasible development' (p. 164). Thus the third 'alternative' is, in effect, the proposed plan – but a very poorly specified one, and one that is not assessed against any realistic alternatives.

It appears that a similar error has been made in the offshore energy SEA to that made in DECC's Appraisals of Sustainability (AoS) for the non-nuclear energy National Policy

Statements (EN1-5), and in DfT's AoS for the ports NPS. In all these cases, the SEAs have set out to assess the environmental impacts of various approaches to consenting whatever projects come forward. The intention in SEA, however, is to assess the likely environmental impacts of the various types and locations of projects envisaged under alternative plans or programmes. For further information, please see Collingwood Environmental Planning's report[1] to the RSPB and WWF-UK, 'Appraisals of Sustainability and the New National Policy Statements: Opportunities Missed and Challenges to Come?' and the associated RSPB briefing[2].

The stated objectives in the draft plan (p. 4 in the SR) are 'to enable future leasing' of various technologies, in unspecified quantities or locations. One way of defining reasonable alternatives is with reference to the plan's objectives, and strictly speaking the alternatives proposed here do follow from this objective. However the spirit, if not the letter, of the SEA Directive has not been followed in that the proposed plan (unrestricted licensing) is not realistic, and the alternative that will (almost certainly) be selected - spatial restrictions - is so poorly specified that likely significant environmental effects of implementation cannot be assessed in relation to other genuinely reasonable alternatives.

The RSPB recommends a re-formulation of the plan objectives to specify ambitious target capacities for each technology, and for overall energy supply and gas storage. The 'reasonable alternatives' and assessment process should then defined so as to ascertain what share of those ambitious targets can be achieved in an environmentally acceptable way, given the environmental baseline conditions. This broad approach has been taken by Northern Ireland's SEA for offshore energy in its territorial waters, and could also be applied here.

2.4 Breadth of the SEA and estuarine impacts

In principle, considering multiple technologies within one SEA, including some at relatively early stages of technological development, is advantageous. It could enable identification of a least environmentally damaging mix of technologies and locations to achieve a specific overall target for low carbon energy production. However, given that no such target is set for overall capacity to be delivered by this SEA, nor for individual technologies other than offshore wind, the RSPB is concerned at the wide range of technologies covered.

In view of the exceptional importance of the UK's estuaries for birds and other wildlife, and the high potential for conflicts with other users, we consider it may be more appropriate for a separate SEA process to be conducted for technologies for application in estuarine locations. This could also encompass near-shore wave and tidal stream technologies, following the model of the SEAs for wave and tidal energy conducted for Scottish and Northern Ireland Territorial waters. We note that the SEA for the nuclear National Policy

[1]http://www.rspb.org.uk/Images/RSPB_%20WWF%20SEA%20paper%20final%20report6Jan2010%20FINAL%20FINAL%20v2_tcm9-241229.pdf

[2] http://www.rspb.org.uk/Images/Briefing%20Collingwood%2026Jan2010%20_2__tcm9-241227.pdf

Statement was conducted in a more detailed and site specific way than the SEAs for other NPSs, because the technology is considered controversial.

A separate SEA would enable a detailed focus on the environmental baseline relevant to the UK's estuaries and inshore waters, and comparative assessment of the environmental impacts associated with alternative technologies (barrages, reefs, fences, lagoons and so on) and alternative locations. We are very concerned that such a detailed assessment will not be undertaken within the very broad scope of this SEA. We are concerned that, as a result, it will be difficult to extend our support to specific proposals when they come forward, as we will be unable to judge whether genuine efforts have been made to identify ways to harness the UK's estuarine energy resources in an environmentally acceptable way.

A great deal has been learned through the Severn Tidal Power Feasibility Study (STPFS) SEA process and the Severn Embryonic Technologies Scheme (SETS). The RSPB understands that DECC has chosen not to include the SETS schemes in the formal SEA process because they are not sufficiently technologically advanced. However we note that this SEA (OESEA2) does include various technologies that are at an early stage of technological development - this is the stated reason for not defining target capacities for tidal and wave technologies. We do not consider that technological immaturity in these cases is a major obstacle to assessing likely significant environmental effects, nor to setting target capacities. The issue of longer lead times to delivery of capacity can be addressed through the specification of alternatives.

The RSPB considers that DECC should recommend to Ministers that a decision on one or more tidal energy scheme on the Severn should be postponed. This would enable the various technologies investigated in the STPFS and SETS, and locations on the various tidal estuaries in the UK, to be assessed on a level playing field. In this way the UK could lead internationally in developing the technology needed to harness the energy in tidal ranges in the least environmentally damaging way possible.

While we consider there is a case for separating out estuarine and perhaps other inshore technologies, this would not be necessary in our view if the above recommendations regarding specification of the draft plan and reasonable alternatives are followed. Indeed consideration of multiple technologies and locations (allowing for relevant timeframes and the depth of analysis that can be applied to the environmental impacts of technologies at different stages of maturity) would then be preferable.

Section 3: Answers to consultation questions

1. Do you have any comments on the proposed approach to consultation?

The RSPB is grateful for the opportunity to comment on the scope of this SEA. Public consultation on the scope of SEAs is an important element of good practice, and we consider that the 2004 SEA Regulations should be amended to make it obligatory.

We have covered our main concerns regarding the approach above. In summary:

- The environmental baseline is uncertain, due to data gaps.
- The proposed five year 'period of currency' for this SEA is unrealistic, because there are a large number of marine-related initiatives that will significantly alter the baseline.
- The draft plan and proposed alternatives are poorly specified, and do not constitute an assessment of reasonable alternatives that would satisfy the purposes of the SEA Directive.
- With the draft plan and alternatives as specified, the range of technologies and locations covered by this SEA is a concern. There may be a case for a separate SEA process that would enable identification of the least environmentally damaging ways to harness energy resources in estuaries and inshore waters.

The five-week consultation period for this SR is short, given the breadth of the SEA. We would also question the merits of a closing date during election purdah.

We welcome the commitment in s1.5.1 (pg.9) to publishing a post adoption statement which will set out "how environmental considerations have been integrated into the plan or programme and how the Environmental Report and opinions expressed in response to the consultation has been taken into account in line with the requirements of the SEA Regulations".

We also welcome the approach taken in s3.2.2 (pg.48) to divide the UKCS into the biogeographic marine regions determined by JNCC (2004), and would support the assessments being undertaken at the same scale.

2. Consultees are invited to highlight additional initiatives which they consider relevant to the draft plan/programme.

The Renewable Energy Strategy should be included as a relevant initiative.

We do not consider that any of the Draft National Policy Statements should be included as relevant initiatives. They have been widely criticised, notably by the Energy and Climate Change Committee, and should therefore be expected to change substantially before designation. Moreover they have not, in our view, been subject to adequate environmental assessment and are unacceptable as planning documents.

Section 1.6.5 (p. 13) erroneously states that the licensing of smaller marine renewables in the territorial waters of Wales is carried out by the MMO, when in fact it is the MMO and Welsh Ministers.

Section 2.1 (p. 23) omits the following:

- The WSSD commitment to representative networks of MPAs by 2012;
- The OSPAR list of threatened and declining species;
- Relevant EIA legislation (EIA Directive, UK EIA offshore/marine regulations). We note the Offshore Energy SEA Post Public Consultation response Report (Recommendation 23) requests clarification of which EIA regulations apply to offshore gas storage projects;
- The WFD with respect to achieving good ecological status in transitional waters;
- The recommendations of the Review of Marine Nature Conservation.

The Birds Directive has just been consolidated so now is 'EC Birds Directive 2009/147/EC' instead of '79/409/EEC'

Section 2.1.2 (p. 25) says that the SEA will need to draw attention to the current location of European and national conservation sites. However, many sites have not been identified yet, so the SEA should also draw attention to this fact, and should as a minimum collate all available information which highlights likely future designated sites (for example the recent JNCC analysis of offshore ESAS data[3] which is currently being updated following peer review) in addition to all existing designated and proposed sites.

S2.2 (p. 26) omits reference to the EU Marine Strategy Framework Directive (MSFD) descriptor 7 ('permanent alterations of hydrographic conditions does not adversely affect marine ecosystems'). Under 'Local' the CRoW Act 2000 is also relevant here.

S2.6 (p. 33) should include reference to MEHRAs (marine environmental high risk areas) which have been designated to highlight coastal areas that are of high environmental sensitivity and also at risk from shipping, especially with respect to accidents and oil spills.

S2.6.2 (p. 35) will need to consider the implications of the location choices of oil platforms with respect to the outcomes of oil spill modelling scenarios and the regional response capabilities to oil spills.

S2.7 (pg. 36) should also include a reference to the high level marine objectives (HLMOs) as they cover societal issues as well as the environment and industry. In s2.7.2 there should be some specific recognition of the health and well-being benefits that are generated by a healthy, functioning marine environment.

Section 2.9 (pp. 39-40) omits the following:

- The WSSD commitment to maintaining or restoring fish stocks to levels that can produce the maximum sustainable yield by 2015;
- The correct reference is the EU Integrated Maritime Policy;
- The UK Sustainable Development Strategy and the HLMOS cover a sustainable economy;
- The Marine (Scotland) Act 2010.

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[3] Kober *et al*. 2009. *An analysis of the numbers and distributions of seabirds within the British Fishery Limit aimed at identifying areas that qualify as possible marine SPAs*. JNCC Report No. 431, May 2009. JNCC, Peterborough.

The implications for the SEA covered in s2.9.2 (p. 42) should include references to conflicts between activities at sea and the effects of cumulative impacts.

Recommendation 8 of the June 2009 Post-Public Consultation report (following an 2009 SEA for Offshore energy), accepted in DECC's 'A Prevailing Wind' (June 2009, p. 23, para. 3.62) states a precautionary approach should be taken with offshore wind developments : "unless suitable evidence indicates otherwise, avoidance (for the present) of areas known to be of key importance to waterbird and marine mammal populations, including breeding colonies, foraging areas and other areas essential to the survival of populations." This underlines importance of surveys, and the need for urgent action towards the completion of the marine protected areas network – otherwise areas cannot be 'known to be of key importance'. Moreover the 'precautionary approach' means acting with precaution where knowledge is lacking, not only where there are known reasons to proceed with precaution.

As the SEA covers carbon dioxide in the whole of UK waters, the Carbon Capture and Storage Roadmap[4] produced by the Scottish Government/Scottish Enterprise (March 2010) is a relevant additional initiative.

WAG's recently published energy policy statement, 'A low carbon revolution'[5], is also relevant. This looks at a range of technologies (both offshore and onshore) and estimates potential capacities for the various sectors.

WAG has also commissioned a Marine Renewable Energy Strategic Framework looking at wave and tidal technologies.

3. Consultees are invited draw attention to and provide (where possible) additional information and data sets which they consider of potential relevance to this SEA.

NB. Detailed comments on Tables 3.1 and 3.2 are provided under Question 6 below.

The 2009 OESEA1 ER Recommendation 8 notes 'the lack of modern data on waterbirds in offshore areas' (p. 214). Recommendation 9 notes gaps on 'detail of bird migration patterns, and variability in space and time including flight heights in different weather conditions' and 'understanding of the marine areas routinely used by breeding birds for foraging, in particular those adjacent to SPAs'. As far as we are aware, little has been done to remedy these deficiencies, and there is a real and ongoing risk that developers will fail to do adequate surveys, or find that when detailed surveys *are* done their proposals are not acceptable.

S3.2.1 (p. 43) covers the current environmental baseline, including that for marine plankton. However, it would be useful to highlight the recent planktonic regime shifts that have taken

[4] http://www.scotland.gov.uk/Resource/Doc/917/0096101.doc

[5] http://wales.gov.uk/topics/environmentcountryside/energy/renewable/policy/lowcarbonrevolution/;jsessionid=xhyPLpMdtJ7TT1gcXtkhq87y4tyk9f9y2QBvDh8Rjj9bGn0ghhqy!-1820637139?lang=en

place in the waters around the UK and the implications for the marine food chain in this section.

On p.44 the section on birds should also refer to passage and migratory birds as there are implications for this SEA, particularly for offshore wind farms, with respect to migratory pathways and flyways.

'Flooding and loss of intertidal habitat…' are noted as existing environmental problems on p. 55 of the SR (Table 3.1). In relation to tidal range technologies the RSPB would like to draw attention to the substantially increased flood risk and loss of intertidal habitat experienced on the Eastern Scheldte estuary in the Netherlands, as a result of the construction of a storm surge barrier (as described van Zanten and Adriaanse, 2010)[6]. It is likely that tidal power barrages on sediment-heavy estuaries would have similar impacts, and we recommend that these impacts should be assessed at a strategic level for all UK estuaries with tidal power potential.

Section 3.4 describes likely evolution of the baseline. Clearly, an understanding of the likely evolution of baseline conditions in the absence of the plan/programme will be valuable in identifying those features which are likely to become increasingly vulnerable in the medium- to long-term, and which should therefore be given additional consideration in development of the plan/programme so as to maximize their resilience to future change. However, it should be noted that the effects of non-plan/programme related changes over time on Natura 2000 sites and the features of those sites cannot be used to discount the effects of a plan/programme, as there is a separate obligation (under Article 6(2) of the Habitats Directive) to address those.

Additional surveys are essential to cover all those SEA areas that may attract interest from offshore wind developers (within suitable depth parameters), and that have not already been covered in Rounds 1, 2 and 3 surveys. Extension of coordinated data collection is to be advocated to provide data over a minimum of two to three years before planning applications are submitted in order to address gaps in knowledge about the distribution and abundance of birds at sea

Boat surveys are necessary, at least, to enable collection of behavioural observations, e.g. flight height and foraging behaviour, and environmental variables (also marine mammal survey techniques). Boat surveys are more suitable for identifying some species of seabirds, and therefore should be integrated into data collection programmes alongside aerial surveys.

There is scope for expanding current tracking studies (using the most suitable from a range of tracking options suited to different species) to other species and other colonies with funding input from government and industry to assist with information provision for the deployment of offshore renewables (wind, wave and tidal stream), notably to determine SPA connectivity, foraging areas and ranges, and diving depths (e.g. using time depth recorders). Current research to develop Bluetooth technology to enable remote data

[6] Van Zanten, E. & Adriaanse, L. A. 2010. Sand demand Oosterschelde: An analysis of the erosion of the tidal flats of the Oosterschelde after construction of the storm surge barrier and its effect on flood safety, nature, shipping and fisheries. Available from: http://www.rspb.org.uk/Images/RSPBbriefEasterScheldtreportfinal_tcm9-240984.pdf

download without the need to recapture birds will be a great advance for the application of data loggers.

The development of habitat suitability models for focal species of seabirds will be a valuable adjunct to increasing our understanding of seabird distributions and the extent to which these are predictable, providing useful outputs for both site designation and risk assessment for offshore renewables.

A GIS atlas of bird distribution and abundance, pulling together all existing data, would be an extremely useful component of a constraints assessment for offshore energy, whilst also enabling information gaps to be identified. If such an atlas is to be relevant to future offshore rounds, it needs to be progressed as soon as possible.

It is recommended that a minimum of two years' data collection precede a planning application, but that data collection should continue during the pre-construction period. Existing data are temporally and spatially patchy, so data are available for some areas, but many are data deficient requiring new data collection. Two years represents a compromise between obtaining data for inherently variable systems whilst minimising delays to the planning process for marine renewables.

There is a need to develop and improve information gathering both a long way offshore and during hours of twilight/darkness, notably migration movement. Radar offers the most suitable approach, but the currently used avian radar labs require a stable platform and have a relatively short operational range, so limiting their utility offshore. Exploration of ways of providing a stable offshore platform, e.g. via initiatives such as OceanPod (Natural Power), and/or application of military or other more powerful radar systems would be valuable.

4. Are there any objectives that you feel should be included or removed?

The RSPB considers that the SEA objectives are too generic to cover the range of technologies included in this SEA. For example in relation to tidal range technologies, specific objectives should include:

- to minimise the loss of intertidal area resulting from changes in tidal propagation, and
- to minimise erosion of the foreshore and associated flood risks resulting from wave action.

The objectives do not address the need to ensure a healthy marine ecosystem that maintains it structure and functioning. There will be marine indicators under the MSFD (the GES descriptors) that will look at the marine ecosystem as a whole and need to be included in the objectives, as do the ecological objectives of the WFD. It would be useful to link the objectives to the HLMOs to ensure that the SEA is at least contributing to the delivery of sustainable development in the marine area.

Table 4.1, P. 67: Row 2 – uses SAC terminology (SPA terminology is different) and should include all sites which meet the UK SPA selection guidelines. There are currently no

draft/potential SPAs offshore, but there is data to show some areas meet the guidelines, and developers are likely to find more during their survey work. We suggest a rewording as follows: *'...*conservation sites, including draft, possible and candidate *SACs, draft and potential SPAs, and other areas which have been shown to meet UK SPA selection guidelines,* along with consideration of future Marine Conservation Zones'.

5. Are the indicators for each objective suitable? If not please suggest alternatives.

Table 4.1, p. 67, row 1: We suggest changing the indicator to 'promotion of recovery *and enhancement* wherever possible'

We also seek clarification on the meaning of 'valued ecosystem components' and how these will be 'selected'. This is a very important point as there appears to be no objective for components not identified as such.

6. Do you have any comments on the sources of potentially significant effect for each of the activities covered by the draft plan/programme, including whether they should be scoped in or out of assessment in the Environmental Report?

With respect to the potential significant impacts from the plan, the following are comments on Table 3.1, 'Relevant existing environmental problems' (p. 54-60):

- This table only covers oil and gas and offshore wind and does not cover the implications of the other technologies.
- Title (p. 54) – it is not clear whether this table is meant to cover the impacts of the plan on the marine environment or *vice versa*, as the table seems to contain a mixture of both.
- Climate change (p. 55) – the implications section should also ensure that the plan does not impact on natural climate change mitigation and resilience processes.
- Contamination (p. 55) – the implications should require oil spill risk assessments to be carried out, covering time to shore and vulnerability, etc.
- Climate change induced changes to plankton communities (p. 56) – an additional implication should be an aim of no net additional pressures on plankton communities.
- Damage to benthic habitats (p. 56) – cumulative effects needs to be added; there is no mention of the localised but significant impacts from salt/halite expulsion through CCS or gas storage activities (which are also likely to affect plankton, fish and shellfish locally).
- Fish and changes to fish communities (p. 56) – the impact of overfishing on seabirds and other predators, as well as on marine mammals, should be included; the plan should aim to not exacerbate the impacts from other activities.
- Fish sensitivity (p. 57) – there should be a requirement to carry out an oil spill risk assessment; the issues of noise and vibration have not been covered in this section.
- Vulnerability of birds to pollution and shipping disturbance (p. 57) – this section focuses on shipping and pollution impacts; however there are additional impacts which need to be included, such as loss of or exclusion from important areas for

feeding, resting and moulting, and collision risks. The full range of activities (not just shipping) should be covered.
- Marine mammal sensitivity (p. 57) – this section should also include noise.
- Effects of marine litter and boat strikes (p. 58) – these impacts affect other species in addition to marine turtles, such as seabirds, basking sharks, marine mammals and fish.
- Unfavourable condition of conservation features and sites (p. 58) – this section should ensure that where possible protected sites and important/sensitive features are avoided, and if not, mitigation is put in place. The aim should be to avoid impacts, avoid further degradation and not to hamper the achievement of the conservation objectives.

With respect to the potential significant impacts from the plan, the following comments relate to Table 3.2, 'Likely evolution of the baseline' (pp. 60-66):

- While this table is based on a qualitative approach (p. 60) it should be borne in mind that there are some semi-quantitative assessments underway, e.g. the second Charting Progress report and the OSPAR 2010 Quality Status Report. In addition, under the MSFD there will need to be an initial assessment of the state of our seas carried out by 2012, and the MSFD's good environmental status (GES) descriptors and associated indicators are under development.
- There should be a section on marine flora, particularly following the recent IUCN, NE, UNEP *et al* report[7] that identifies the importance of natural marine and coastal habitats, including saltmarshes, seagrass beds and seaweeds, as critical carbon sinks.
- Plankton (p. 60) – the information about the regime shift in the North Sea should be covered in this section rather than under the Benthos section.
- Fish (p. 61) – it would be useful to clarify that the changes in fish stocks in the North Sea are the result of a mixture of effects, but primarily the effects of climate change and of unsustainable fishing practices. It would also be useful to note that shellfish are susceptible to increased seawater acidification which is another effect of climate change.
- Birds (p. 62) – use the most up to date data on the status of seabirds, e.g. JNCC's (2009) UK Seabirds in 2008[8].
- Sites and species of conservation interest (p. 63) – it would be a truer reflection of the current situation to say that new fully marine sites will be designated for both nationally and internationally important species and habitats, rather than the 'potential exists'. This section should also refer to the OSPAR MPAs.
- Geology and sediments (p. 63) – it would be useful to make reference to the localised impacts of marine aggregate extraction and dredging for navigation.
- Water environment (p. 64) – this section should provide information on the localised CCS impacts from salt/halite extrusion on the local environment.

[7] (Laffoley, D.d'A. & Grimsditch, G. (eds). 2009. The management of natural costal carbon sinks. IUCN, Gland, Switzerland. 53 pp)

[8] http://www.jncc.gov.uk/default.aspx?page=4555

- Onshore (p. 66) – are there impacts from improvements to the onshore grid and grid connections that would influence the location choices of offshore energy generating installations?

In Box 4.1 (p. 71) on 'potential sources of effect' all the bird related impacts should be scoped in. In addition to turbines, tidal and wave technologies may also potentially pose a collision risk to (diving) birds and underwater mammals. Furthermore, it is not clear whether disturbance from physical presence of infrastructure includes the impacts on seabirds from habitat damage, and loss of or exclusion from a habitat, e.g. resting or foraging areas (displacement or barrier effects). The SEA seems to be the logical place to investigate this further. HM Government has stated[9]: "Tidal and wave technology is in its early growth stages and as such there is some uncertainty around environmental impacts. It is thought that such impacts could include: alteration in seabed habitat area through hydrodynamic changes; noise disturbance; and collisions between devices and fish, diving birds or marine mammals although such collisions will tend to be device and site specific." Also the table does not include the impacts of CCS-related salt/halite extrusion on localised habitats.

The January 2009 OESEA concludes 'Besides a minor contribution to climate change and ocean acidification, no secondary or synergistic effects were identified that were considered to be potentially significant' (p. xix). However there are indirect effects of tidal range technologies in terms of foreshore erosion leading to flood risk, and this is synergistic with contributions to climate change. Also issues of sediment build-up, changes in sediment quality or reduced tidal power or range should be assessed. The SEA should also consider that hydrodynamic changes may result from technologies such as wind, wave and tidal stream as well as tidal range.

7. Do you have any additional information or comments relevant to the SEA?

On p. 70 the SR states: "at a strategic level, a distinction will be drawn for various effect mechanisms between impacts which may be significant in terms of conservation status of a species or population… and impacts which may be significant to individual animals… ...it is appropriate that strategic considerations are made at a **biogeographic population or species level** as is done for example, in the selection of qualifying features for Natura 2000 sites" (emphasis added).

This seems to stem from the perceived NGO opposition to any additive increase in mortality, however small. It fails to recognise the legal imperative to protect the integrity of individual Natura 2000 sites and their features, and also fails to note that, while in some cases losses of small numbers of individuals may be shown to have no effect on population integrity at either the site or the biogeographic/species population scale, in others, where there is not reasonable confidence in the figures presented, the precautionary approach must be adopted.

In the draft report section contents (pp. 74-5) we welcome the commitment to consideration of cumulative and transboundary effects in Section 5. The RSPB was highly critical of the failure to undertake a strategic-level cumulative impact assessment (CIA) of OESEA1, as

[9] Pre-consultation on the draft UK Marine Policy Statement: A paper for discussion, March 2010, HM Government.

CIA at the project level is unlikely to adequately predict likely cumulative effects. Note that a strategic CIA does not need to be entirely quantitative, and can be based on a straightforward evaluation of whether additive effects are likely or not.

We are deeply concerned that no reference is made here to the need to undertake an Appropriate Assessment of the Plan/Programme. The scoping document identifies that the draft plan/programme will effect areas already identified as, and likely to be identified as Natura 2000 sites, and identifies sources of potential significant effect on features including those for which these sites are/will be designated. We are therefore of the opinion that the proposals may have a likely significant effect on Special Protection Areas and their bird populations, and on Special Areas of Conservation, and that a strategic Appropriate Assessment is required. This could be based largely on the data compiled for the SEA, and a strategic level CIA would of course underpin the assessment of 'in-combination' and cumulative effects within the Appropriate Assessment. Without the completion of a strategic AA, the RSPB finds it difficult to see how DECC could proceed to leasing and licensing decisions and comply with the legal requirements of the Habitats Directive.

Appendix 1, recommendations 4 and 5 are inconsistent with the precautionary approach. Recommendation 5 needs to make it explicit that in some cases, Natura 2000 sites (and other MPAs) will not be leased at all. Recommendation 4 should be rephrased to state: "*Where offshore wind developments do not impact on the conservation objectives of MCZs, wind farms may be located in such areas.*" While offshore wind farms and Marine Conservation Zone objectives can be compatible, MCZs should not be put forward as the easy route to avoid conflict with other users. As currently drafted, these recommendations seem to indicate priority to reducing economic/industry conflicts over meeting environmental objectives.