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Dear Mr Robertson,

LINK warmly welcomes the opportunity to comment on The Crown Estate's discussion document identifying cumulative and in-combination impacts of Pentland Firth and Orkney waters wave and tidal projects.

As identified in Scotland's Marine Atlas, LINK recognises that along with fishing, climate change is the most widespread pressure on our marine environment, and we support the deployment of renewable energy technology as a vital part of the transition to a low carbon Scotland. However, given the novelty of many of these technologies, and the limited understanding of impacts and baseline conditions, we believe a precautionary approach must be adopted in order to ensure the development of the sector is sustainable.

Given the scale of development currently envisaged in the marine environment we believe thorough in-combination and cumulative impacts research and assessment is vital. We are very supportive of the collaborative approach being proposed by the Crown Estate. The sharing of data between developers is important and we are pleased to see the recommendation repeated throughout the document. Consistency approaches to monitoring and assessment is crucial to ensure data can be compared effectively. We would welcome further information on the detail of data sharing recommendations or requirements. We also strongly welcome a regional approach to assessment of potential impacts, in addition to more localised efforts. This is particularly important in relation to the assessment of potential impacts on wide ranging species

Please find our comments below to the questions raised in the Discussion Document.

We would welcome the opportunity to remain involved as the project develops and would be happy to meet to discuss any of these comments further.

Yours sincerely

Lindsay Roberts
LINK Marine Policy and Advocacy Officer on behalf of the SE LINK Marine Taskforce

Scottish Environment LINK is the forum for Scotland's voluntary environment organisations, with over 30 member bodies representing a broad spectrum of environmental interests with the common goal of contributing to a more environmentally sustainable society.

Pentland Firth and Orkney waters wave and tidal projects: Cumulative Impacts Discussion Document

Question 1. Do you agree with our definition of cumulative and in-combination effects? If not, what would you propose?

We welcome the definition of cumulative and in-combination effects. However, in line with those highlighted in paragraph 2.2, the definition should also make clear that these can be direct or indirect effects and may be short, medium or long lasting. In addition, these effects could take place on a small (local), medium (national) or large (international) scale.

Question 2. Are there any other receptors, activities or issues relevant to cumulative or in-combination effects that should be included in this document?

Aquaculture and carbon capture and storage developments should also be considered as activities within cumulative effects assessment (CEA).

In addition to the aim/objectives included in Table 2.1 '*Proposed Cumulative Effects Assessment Process*', residual impacts (those impacts which remain after mitigation measures) should be recognised.

We strongly support the identification and assessment of proposed projects and activities, in addition to existing projects, in any CEA.

We understand that detail on device type and installation methodologies may not be established for some developments and accept that on occasion it will not be possible to assess the projects and plans in detail. Whilst noting knowledge gaps in baseline data and our rudimentary understanding of impacts from these novel technologies, we would however, be concerned if proposed activities and projects which did not have "sufficient information" were excluded due to lack of data on receptor information. In such situations, we believe information gaps must be acknowledged and listed, so that assessments can be undertaken or revised as soon as relevant information becomes available. A similar approach was adopted in relation to Marine Scotland's Offshore Wind Energy Plan and its Habitats Regulations appraisal.

In section 5.1, Designated Sites, the Marine Protected Areas designation process required under the Marine (Scotland) Act 2010 and the UK Marine Act 2009 for inshore and offshore waters respectively, should be acknowledged. Any potential developments will need to consider the conservation objectives of these sites. An additional data source to reference would be the management guidance for Marine Protected Areas, which we understand will be published by Marine Scotland in due course.

Section 5.1.1 would be improved by correct references to Special Protection Areas (SPAs) and the EU Birds Directive (now 2009/147/EC). In addition to the possibility of new potential

marine SACs, identified in section 5.1.1, it is likely that there will be further additions to the SPA network to protect important feeding areas for birds in the marine environment. The possibility of additional European site designation for marine birds, within the Pentland Firth and Orkney waters area, and within the likely period of development, should be recognised. Direct contact with JNCC, SNH and Marine Scotland would help clarify detail of the designation process and its relevance to CEA.

Under the Marine Benthic Ecology section, we suggest that the reference in paragraph 5.2.2 should be to Table 5.1. It should also be noted that benthic habitats are a qualifying feature at Sanday SAC (intertidal mudflats and sandflats, reeds and subtidal sandbanks). As such, we would support the key issues paragraph being revised accordingly and elaborate the effects on benthic habitats from wave and tidal development, e.g. smothering. This is a particularly important consideration when bearing in mind that Scotland's Marine Atlas identified the vast majority of the North Scotland coast region's habitats to have many concerns or be in a declining state¹. It should also be noted that the Scottish Government's Marine Nature Conservation Strategy adopts a three pillar approach to nature conservation in the marine environment². Under pillar three 'wider seas measures', planning and licensing decisions should also contribute to conservation objectives. A focus solely on protected species or habitats is therefore not appropriate.

We believe the assessment of cumulative and in-combination impacts of underwater noise on cetaceans is very important. Assessment should take account of both short-term acute effects and those that are longer term, throughout both construction and operation phases. Page 26 includes a summary of disturbance guidance in relation to marine mammals. Legislation in relation to disturbance, is different in Scottish territorial as opposed to UK waters. The relevant legislation in Scottish territorial waters is the Conservation (Natural Habitats &c) Regulations 1994 (as amended). The JNCC Guidance does not adequately reflect the relevant Scottish legislation, which includes an offence of "reckless" disturbance, in addition to that of "deliberate" disturbance. We understand Marine Scotland is in the process of developing Scottish specific guidance, which will be available by the end of 2011.

We welcome the recognition of harbour seal population declines in Pentland Firth and Orkney waters, and the statement that monitoring of this species will form an essential part of the cumulative impacts assessment within the PFOWSA. Anecdotal evidence also points towards a decline in harbour porpoise numbers around Orkney in recent decades, and we believe this should also be considered in CEA. Further, basking shark numbers are still below historical levels and we strongly believe should also be a priority for monitoring.

Page 29 notes that elevated noise during construction may act as a barrier to some fin fish species. If sandeels are also able to detect the noise of a pile driving operation at a distance of up to 30km, to an extent that it causes behavioural change, it could have major implications for feeding seabirds many of which are largely dependent on this species. It could also have prey impacts for other species dependant on sandeel, including cetaceans such as minke whale and harbour porpoise.

The importance of Orkney waters for wintering seaduck and divers should also be mentioned, regardless of progress in relation to JNCC areas of search for possible marine SPAs for inshore wintering marine bird species.

We welcome the recommendation on page 29 for further monitoring of electromagnetic field (EMF) effects at offshore renewable sites. However, it should be noted that SNH Commissioned Report 401 'Literature review on the potential affects of EMF and subsea noise from marine renewable energy developments on Atlantic salmon, sea trout and European eel' states that

¹ <http://www.scotland.gov.uk/Publications/2011/03/16182005/0>

² <http://www.scotland.gov.uk/Topics/marine/marine-environment/Conservationstrategy/marineconstrategy>

'the current assumptions of limited effects are built on an incomplete understanding of how the three species move around their environment and interact with natural and anthropogenic EMF and subsea noise'.³

Where possible, assessments of the environmental impact of displaced activity should be made.

While we note the document states that the 35km boundary has been applied to this exercise only, we do not believe it is appropriate for wide ranging, mobile species e.g. seabirds, marine mammals, basking sharks and other fish species. Assessment of impacts on more distant SPAs or SACs may be required as a matter of law.

In setting temporal boundaries it should be recognised that impacts may last beyond 2020 when installation may be complete. Many seabirds are long-lived and population impacts may continue even beyond the 50-year project lifetimes.

Question 3. Do you agree with the classification of devices? If not, what alternative would you propose?

No comment

Question 4. Are developers content with consideration of cumulative and in combination effects for both on and offshore elements of the assessment up to the substation connection.

No comment

Question 5. Do you agree that the issues listed in the table above should be 'scoped out'? If not, please provide comments

We are concerned that marine benthic ecology has been identified as a receptor unlikely to be subject to cumulative or in-combination effects. Further, we do not believe scoping marine benthic ecology out due to an apparent lack in presence of habitats or species of conservation importance is consistent with Marine Strategy Framework Directive (MSFD) obligations or the corresponding national objective contained in the pre-consultation draft of the Scottish Government's National Marine Plan. Good Environmental Status indicator 6 states - "*Sea-floor integrity is at a level that ensure that the structure and functions of the ecosystem are safeguarded and the benthic ecosystem, in particular, are not adversely affected.*"⁴ If impacts on marine benthic ecology are scoped out due to the absence of a limited subset of species and habitats of conservation importance, without due consideration given to broadscale benthic habitats that have a role to play in wider marine ecosystem function, in combination with the impacts from other human activities, we risk our seabed dieing a death of a thousand cuts and a failure to meet Good Environmental Status under MSFD. The Pentland Firth has been subject to very limited diving survey and this may explain the failure to identify important benthic habitats.

Further, and as mentioned above, Scotland's Marine Atlas highlights many habitats to have many concerns or/and be in a declining state. The North Scotland coast region which incorporates the Pentland Firth and Orkney Waters shows subtidal sediments with many concerns and intertidal rock and intertidal sediments showing a declining state⁵.

³ Gill, AB & Bartlett M (2010). Literature review on the potential effects of electromagnetic fields and subsea noise from marine renewable energy developments on Atlantic salmon, sea trout and European eel. *SNH Commissioned Report No. 401*

⁴ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32008L0056:EN:NOT>

⁵ <http://www.scotland.gov.uk/Publications/2011/03/16182005/0>

Scottish Environment LINK's Marine Task Force is supported by:

Hebridean Whale and Dolphin Trust
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