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West of Orkney Wind Farm - Section 36 and Marine Licences Application

Marine Directorate advisers have reviewed the request from MD-LOT and provide the following advice.

Diadromous fish

Marine Directorate – Science, Evidence, Data and Digital (MD-SEDD) reviewed the Environmental Impact Assessment Report (EIAR) and have outlined comments below. MD-SEDD note that NatureScot and Marine Directorate - Licensing Operations Team previously advised the applicant that Atlantic salmon should only be addressed by the EIA process. MD-SEDD response is provided only in relation to the EIAR.

The EIAR correctly identifies that the Pentland Firth and nearby waters are likely to be used by salmon migrating to and from their natal rivers and marine feeding grounds. The developer acknowledges that there is potential for connectivity for salmon populations from the 17 Special Areas of Conservation (SAC) listed in the EIAR.

MD-SEDD are content that diadromous fish have been considered correctly and that all the relevant potential impact pathways have also been considered.

The EIA identifies Crosskirk and Greeny Geo as the landfall location for the export cable. The Forss Water which drains into Crosskirk Bay supports salmon and trout populations. Juvenile salmon populations in the Forss Water are undergoing a decline related to summer droughts, and low recruitment as a result of adults infected with Red Skin Disease/Saprolegnia (Youngson 2023). Salmon populations in the Forss Water have been assessed as a category 3 (less than 60% probability of salmon stocks meeting the conservation limit) for 2023 and 2024 (https://www.gov.scot/publications/salmon-fishing-proposed-river-gradings-for-2024-season/pages/gradings-fincastle-to-glenelg/). The proposed piling strategy will provide details regarding the underwater noise mitigation measures specific for salmon and trout populations. The developer discusses the potential impact on salmonid populations associated with noise arising from drilling and dredging activities for the Horizontal Directional Drilling at the Forss Water. The developer gives consideration to the smolt migration period (April and May in the Forss Water) and MD-SEDD advise that the emigration times of salmon smolts for Scotland (Malcolm et al 2015) and salmonid diurnal patterns (Lilly et al 2023) should be considered in relation to all potential sources of underwater noise.

There is considerable uncertainty around the potential for impacts of offshore wind farms on Atlantic salmon, with limited evidence to support impacts or the lack of impacts. Despite this, the EIA contains numerous statements regarding the limited impact of the proposal on Atlantic salmon, without evidence provided to support these statements e.g. section 11.6.2.3.4 in chapter 11 of the EIAR report "…areas of increased predation are expected to be highly localised."

It should also be noted that recently published information highlights the significant decline in wild Atlantic salmon over recent years, suggesting that a precautionary approach to assessments might be necessary.

Provisional catch statistics published by MD-SEDD indicate a reduction in 25% of the annual catch of Atlantic Salmon between 2022 and 2023. The 2023 catch was the lowest ever recorded for returning adult Atlantic salmon (https://www.gov.scot/publications/scottish-salmon-and-sea-trout-fisheries-provisional-statistics-2023/).

The SAC's in Scotland have not had a site assessment since 2011 when numbers of returning adult salmon were significantly higher than they are now. The National

Electrofishing Programme Scotland (NEPS) was developed in response to the declining salmon numbers to provide a more detailed understanding of the salmon populations and the pressures acting on them. Although NEPS was not designed to assess the status of the SACs, an assessment was possible of the larger SACs that were surveyed in the 2021 sampling programme. Only half of those SACs were considered to be in favourable condition (Malcolm et al 2023).

In December 2023 the International Union for the Conservation of Nature (IUCN) downgraded global populations of Atlantic salmon from Least Concern to Near Threatened (https://www.iucn.org/press-release/202312/freshwater-fish-highlight-escalating-climate-impacts-species-iucn-red-list). Nunn et al 2023 used the IUCN Red List of Threatened Species Categories and Criteria to assess the extinction risks and threats to sub populations of salmon, classifying them as Endangered in Britain as well as at a Scottish level.

MD-SEDD advise that a strategic approach to addressing key questions around diadromous fish distribution and migration through the marine environment and potential impact mechanisms is required to increase the evidence base available for planning and consenting decisions.

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Yours sincerely,

Renewables and Ecology Team

Marine Directorate – Science, Evidence, Data and Digital