Morecambe Offshore Windfarm: Generation Assets

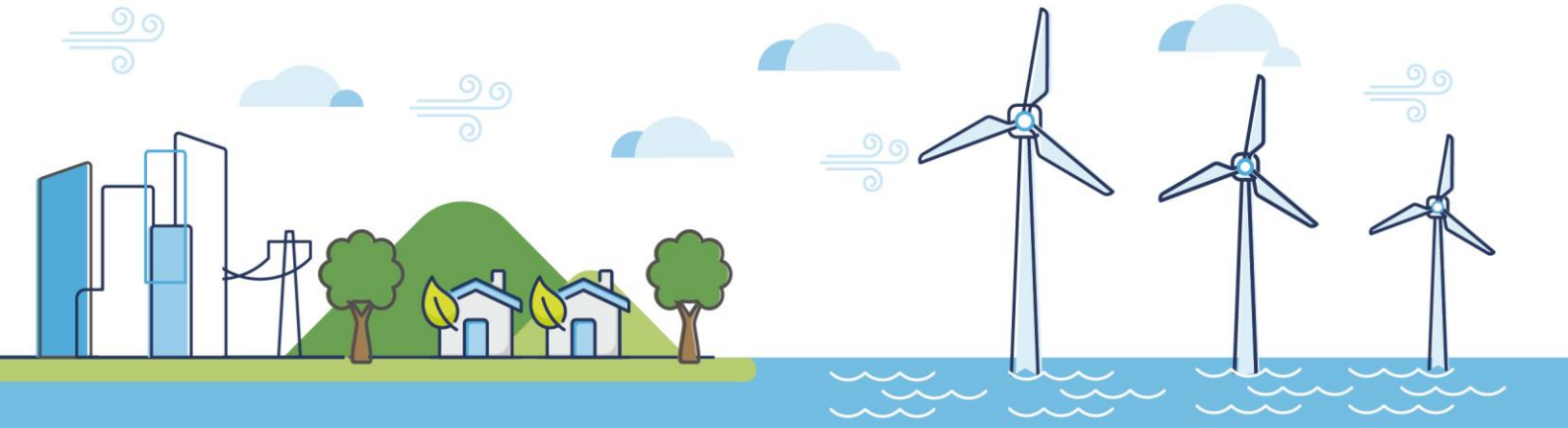
Procedural Deadline A

Volume 8

The Applicant's Errata Sheet

Document Reference: 8.4

Rev 01



Document History

Doc No	MOR001-FLO-CON-ENV-NOT-0001	**Rev**	01
Alt Doc No	PC1165-RHD-EX-XX-TN-Z-0003		
Document Status	Approved for Use	**Doc Date**	15 October 2024
PINS Doc Ref	8.4	**APFP Ref**	n/a

Rev	Date	Doc Status	Originator	Reviewer	Approver	Modifications
01	15 October 2024	Approved for Use	Royal HaskoningDHV	Morecambe Offshore Windfarm Ltd	Morecambe Offshore Windfarm Ltd	n/a

Contents

Tables

Glossary of Acronyms

ADD	Acoustic Deterrent Device
CEA	Cumulative Effects Assessment
CGNS	Celtic and Greater North Seas
CIS	Celtic and Irish Sea
DCO	Development Consent Order
EDRs	Effective Deterrence Radius
ES	Environmental Statement
ExA	Examining Authority
LSE	Likely Significant Effects
MMMP	Marine Mammal Mitigation Protocol
MMO	Marine Management Organisation
MU	Management Units
OSP	Offshore Substation Platform
PEIR	Preliminary Environmental Information Report
PEMP	Project Environmental Management Plan
PINS	Planning Inspectorate
PTS	Permanent Threshold Shift
RR	Relevant Representation
SAC	Special Area of Conservation
SEL	Sound Exposure Level
SNCB	Statutory Nature Conservation Bodies
SW	South West
TTS	Temporary Threshold Shift
UK	United Kingdom
UXO	Unexploded Ordnance
WTG	Wind Turbine Generator

Glossary of Unit Terms

km	Kilometre
Km^2	Square kilometre
m	Metre
m^2	Square metre
m^3	Cubic metre
rpm	Rotations per minute

Glossary of Terminology

Applicant	Morecambe Offshore Windfarm Ltd
Generation Assets (the Project)	Generation assets associated with the Morecambe Offshore Windfarm. This is infrastructure in connection with electricity production, namely the fixed foundation wind turbine generators (WTGs), inter-array cables, offshore substation platform(s) (OSP(s)) and possible platform link cables to connect OSP(s).
Offshore substation platform(s)	A fixed structure located within the windfarm site, containing electrical equipment to aggregate the power from the WTGs and convert it into a more suitable form for export to shore.
Wind turbine generator (WTG)	A fixed structure located within the windfarm site that converts the kinetic energy of wind into electrical energy.

MORECAMBE

The future of renewable energy

A leading developer in Offshore Wind Projects

1 Introduction

1. This document has been prepared to support a Development Consent Order (DCO) application made by Morecambe Offshore Windfarm Ltd (hereafter 'the Applicant'). The DCO application for the Morecambe Offshore Windfarm Generation Assets was accepted on 27 June 2024 for examination by the Planning Inspectorate (PINS).

2. Relevant Representations (RRs) were provided to PINS by interested parties on or before the 19 August 2024. The Applicant's response to RRs (8.3 The Applicant's Response to Relevant Representations) have been provided for the Procedural Deadline A (15 October 2024) as set out in the Rule 6 Letter (PD-007).

3. In response to points highlighted by interested parties in RRs, the Applicant has reviewed the application documentation for any associated errors or inconsistencies. **Table 1.1** outlines any errors or areas where further clarification was considered necessary, and how these have been corrected/clarified.

2 Errata

Table 1.1 Errata Sheet (Procedural Deadline A) (updates/clarifications in green, with removal of text ~~crossed-out~~)

<table>
<tr><th>Relevant ID</th><th>Interested Party</th><th>Doc. ID</th><th>Volume & Chapter</th><th>Paragraph/ Table/ Figure</th><th>Error</th><th>Correction</th></tr>
<tr><td colspan="7">General comments</td></tr>
<tr><td>Matter 2 (Rule 6 Appendix F(i))
(PD-007)</td><td>Examining Authority (ExA)</td><td colspan="3">DCO Application documents</td><td>The interpretation of ‘km^{2}’ is incorrect in the documents submitted for the DCO Application</td><td>Where ‘kilometre squared’, ‘metre squared’, ‘metre cubed’ or ‘kilometre cubed’ has been used within the Glossary of Units throughout the DCO Application documents, this should be ‘square kilometre’, ‘square metre’, ‘cubic metre’ or ‘cubic kilometre’, respectively.</td></tr>
<tr><td colspan="7">Marine Geology, Oceanography and Physical Processes</td></tr>
<tr><td>RR-061-244 (Ref. E8)</td><td>Natural England</td><td>APP-042</td><td>5.1.5 Chapter 5 Project Description</td><td>Table 5.13</td><td>Information pertaining to cable protection volumes for cable/ pipeline crossings is unclear</td><td>The parameters in Chapter 5 Project Description (APP-042), Table 5.13 are updated as follows:

Table 5.13 Cable/pipeline crossings design envelope
<table>
<tr><th>Parameter</th><th>Value</th></tr>
<tr><td>Maximum number of cable/pipeline crossings</td><td>15
(9 for inter-array cables, 6 for platform
link cables)</td></tr>
<tr><td>Maximum cable/pipeline ~~crossing~~ protection height per crossing (m)</td><td>2.8</td></tr>
<tr><td>Maximum side slope</td><td>3:1</td></tr>
</table></td></tr>
</table>

Relevant ID	Interested Party	Doc. ID	Volume & Chapter	Paragraph/ Table/ Figure	Error	Correction	
						Maximum cable/pipeline ~~crossing~~ protection top width (m)	1
						Maximum cable/pipeline ~~crossing~~ protection bottom width per crossing (m)	17.8
						Maximum cable/pipeline ~~crossing~~ protection length per crossing (m)	250
						Maximum cable/pipeline ~~crossing~~ protection seabed footprint per crossing (m^2)	4,450
						Maximum cable/pipeline ~~crossing~~ protection seabed footprint for all crossings (m^2)	66,750
						Maximum cable/pipeline ~~crossing~~ protection volume per crossing (m^3)	6,580
						Maximum cable/pipeline ~~crossing~~ protection volume for all crossings (m^3)	98,700
Fish and Shellfish Ecology							
RR-061-154 (Ref. C4)	Natural England	APP-047	5.1.10 Chapter 10 Fish and Shellfish Ecology	Paragraph 10.98	Missing reference	Reference provided for Paragraph 10.98 Chapter 10 Fish and Shellfish Ecology (APP-047): Environment Agency (2023) Salmonid and freshwater fisheries statistics: 2022. Available at: Salmonid and freshwater fisheries statistics: 2022 - GOV.UK (www.gov.uk)	

Relevant ID	Interested Party	Doc. ID	Volume & Chapter	Paragraph/ Table/ Figure	Error	Correction
RR-061-155 (Ref. C5)	Natural England	APP-047	5.1.10 Chapter 10 Fish and Shellfish Ecology	Paragraph 10.99	Missing references	References provided for Paragraph 10.99, Chapter 10 Fish and Shellfish Ecology (APP-047): Barnes, M. K. S. (2008) *Alosa fallax* Twaite shad. In Tyler-Walters H. and Hiscock K. Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 22-08-2024]. Available from: https://www.marlin.ac.uk/species/detail/48 Barnes, M. K. S. (2008) *Lampetra fluviatilis* European river lamprey. In Tyler-Walters H. and Hiscock K. Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 22-08-2024]. Available from: https://www.marlin.ac.uk/species/detail/49 Barnes, M.K.S. 2008. Petromyzon marinus Sea lamprey. In Tyler-Walters H. and Hiscock K. Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 22-08-2024]. Available from: https://www.marlin.ac.uk/species/detail/50 Maitland, P.S. and Hatton-Ellis, T. W. (2003) Ecology of the Allis and Twaite Shad. Conserving Natura 2000 Rivers Ecology Series No. 3. English Nature, Peterborough. Reeve, A. (2005). *Alosa alosa* Allis shad. In Tyler-Walters H. and Hiscock K. Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 22-08-2024]. Available from: https://www.marlin.ac.uk/species/detail/2120

Relevant ID	Interested Party	Doc. ID	Volume & Chapter	Paragraph/ Table/ Figure	Error	Correction
R9-19	ExA	APP-047	5.1.10 Chapter 10 Fish and Shellfish Ecology	Table 10.8	Errata in Table 10.8 low criteria, confirm whether text should read temporary* 'change'.	The Applicant confirms that in Table 10.8, within the low criteria row, text should read 'temporary* change'.
Marine Mammals						
RR-061-182 (Ref. D18)	Natural England	APP-066	5.2.11.2 Appendix 11.2 Marine Mammal Information and Survey Data	Paragraph 86	Missing reference	Reference provided for Paragraph 86 of Appendix 11.2 Marine Mammal Information and Survey Data (APP-066): Lepple, L. (2021). Environmental Drivers of Harbour Porpoise (*Phocoena phocoena*) Distribution in the Irish Sea. Master's thesis. Bangor University. Available at: https://www.seawatchfoundation.org.uk/wp-content/uploads/2022/02/Leonie-Lepple-MSc-thesis_2021.pdf. (Accessed August 2024)
RR-061-188 (Ref. D24)	Natural England	APP-048	5.1.11 Chapter 11 Marine Mammals	Paragraph 11.454	Lack of acknowledgement of potential for barrier effects to extend to the coast during piling in Paragraph 11.454.	Paragraph 11.454 of Chapter 11 Marine Mammals (APP-048) is updated as follows: 'The most recent advice from the SNCBs was that the potential disturbance range (EDR) for harbour porpoise was 26km for monopiles (without noise abatement) and 15km for pin piles (with and without noise abatement) for designated SACs in England, Wales and NI (JNCC *et al*., 2020). The potential for barrier effects is acknowledged, however it should be noted, that the minimum TTS range was modelled to be 15km, and the maximum 34 km range does not extend uniformly in all directions from the SW modelling station. The noise contours (Figure 6.1 in Appendix 11.2 Marine Mammal Information and Survey Data)) show that the noise extends further westward from the SW corner of the Project, leaving a buffer zone between the coast and the Project on the eastern side.'

Relevant ID	Interested Party	Doc. ID	Volume & Chapter	Paragraph/ Table/ Figure	Error	Correction
RR-061-198 (Ref. D34)	Natural England	APP-068	5.2.11.4 Appendix 11.4 Marine Mammal Cumulative Effects Assessment (CEA) Project Screening	Paragraph 21	Acknowledgment that CEA area used for species in the Celtic and Greater North Seas (CGNS) Management Unit (MU) may downplay the significance level of impacts.	Paragraph 21 of Appendix 11.4 Marine Mammal CEA Project Screening (APP-068) is updated to: 'For the marine mammal assessment, the area used for the CEA project screening was based on that of the CIS MU […] due to the extensive swimming ranges and transboundary connectivity causing a temporal overlap. The entire population from the CGNS MU has been considered in the assessment, there is no accurate way to apportion the population. As such, there is the potential for the assessment to underestimate the significance level of the impacts.'
RR-061-199 (Ref. D35)	Natural England	APP-068	5.2.11.4 Appendix 11.4 Marine Mammal CEA Project Screening	Paragraph 60	CEA projects were not considered on the basis other than them contributing to disturbance from underwater noise.	Paragraph 60 of Appendix 11.4 Marine Mammal CEA Project Screening (APP-068) is updated to: 'Both UK and European marine renewable energy (D) projects (e.g. wave and tidal) have been considered in the CEA screening in regard to both underwater noise and collision risk.'
				Heading 3.3	Clarify existing shipping.	The following addition is made to Heading 3.3 of Appendix 11.4 Marine Mammal CEA Project Screening (APP-068): 'Underwater noise and increase of collision risk due to existing shipping'.
RR-061-203 (Ref. D39)	Natural England	APP-048 APP-068	5.1.11 Chapter 11 Marine Mammals Appendix 11.4 Marine	Section 11.7.3.2, Paragraph 11.750	Discrepancy between activity types listed in Chapter 11 Marine Mammals (APP-048), Paragraph 11.750 and that listed in	Paragraph 11.750 of Chapter 11 Marine Mammals (APP-048) is updated to: 'The potential sources of cumulative underwater noise, which could disturb marine mammals, and which were screened into the CEA were: ▪ Piling activities at OWFs, including the Project

<table>
<tr><th>Relevant ID</th><th>Interested Party</th><th>Doc. ID</th><th>Volume & Chapter</th><th>Paragraph/ Table/ Figure</th><th>Error</th><th>Correction</th></tr>
<tr><td></td><td></td><td></td><td>Mammal CEA Project Screening</td><td></td><td>Table 5.1 of Appendix 11.4 Marine Mammal CEA Project Screening (APP-068). Specifically, Chapter 11 Marine Mammals omitted disturbance from operational windfarms, but included licenced disposal sites</td><td>▪ Other construction activities at OWFs and subsea interconnector cables including at the Project (vessels, cable installation works, dredging, seabed preparation and rock placement)
▪ ~~Licensed disposal sites~~
▪ Disturbance from operational windfarms (after the baseline survey in 2021)
▪ Geophysical and seismic surveys (other than for the Project)
▪ Aggregate extraction and dredging
▪ UXO clearance (other than for the Project)‘

This omission does not affect outputs or assessment conclusions presented in Chapter 11 Marine Mammals (APP-048).</td></tr>
<tr><td>RR-061-205 (Ref. D41)</td><td>Natural England</td><td>APP-066</td><td>5.2.11.2 Appendix 11.2 Marine Mammal Information and Survey Data</td><td>Table 7.6</td><td>The number of animals affected by Permanent Threshold Shift (PTS) during each piling event and the number of animals disturbed during each piling event</td><td>The following amendments are noted on Table 7.6 of Appendix 11.2 Marine Mammal Information and Survey Data (APP-066), this error does not affect outputs or assessment conclusions.

Table 7.6 Estimated number of marine mammals to have PTS or be disturbed from piling at the CEA screened in projects
<table>
<tr><th colspan="2">Number of animals affected by PTS during each piling event</th></tr>
<tr><th>Projects</th><th>Harbour porpoise</th></tr>
<tr><td>Awel y Môr OWF</td><td>~~2,112~~ 83</td></tr>
<tr><th colspan="2">Number of animals disturbed during each piling event</th></tr>
<tr><td>Awel y Môr OWF</td><td>~~83~~ 2,112</td></tr>
</table></td></tr>
</table>

Relevant ID	Interested Party	Doc. ID	Volume & Chapter	Paragraph/ Table/ Figure	Error	Correction
RR-061-212 (Ref. D48)	Natural England	APP-048 APP-146	5.1.11 Chapter 11 Marine Mammals 6.2 Outline Project Environmental Management Plan	Paragraph 11.553 (Chapter 11 Marine Mammals) Paragraph 41 (Outline Project Environmental Management Plan (PEMP))	Inclusion of the 1km buffer between Project related vessels transiting to and from the port and the coast in the Outline PEMP	Paragraph 41 of the Outline PEMP is updated, as follows: 'These measures include that vessel movements, where possible, would follow set vessel routes and hence, areas where marine mammals are accustomed to vessels, in order to reduce any increased collision risk. All vessel movements would be kept to the minimum number that is required, to reduce any potential collision risk. In the instance of Project related vessels transiting to and from the port, the vessels would use main shipping channels and endeavour to stay at least 1km from the coast, where possible. However, it is noted that this distance could not be committed to within existing shipping channels/entrance into ports.'
RR-047-29	Marine Management Organisation (MMO)	APP-067	5.2.11.3 Appendix 11.3 Marine Mammal Unexploded Ordnance Assessment	Table 4.8 and 4.9	Table 4.8 and Table 4.9, the PTS (permanent threshold shift) and TTS (temporary threshold shift) metric should be Sound Exposure Level $(SPL)_{peak}$ and SEL_{ss}, not SEL_{cum}	The column header in Table 4.8 Appendix 11.3 Marine Mammal Unexploded Ordnance Assessment (APP-067) is corrected as follows: 'PTS Sound Exposure Level from Single Strike ($SEL_{~~cum~~peak}$)' The column header in Table 4.9 is corrected as follows: 'TTS $SEL_{~~cum~~ss}$' This error does not affect outputs or assessment conclusions.
R9-14	N/A	APP-066	5.2.11.2 Appendix 11.2 Marine Mammal Information and Survey Data	Paragraph 294 Table 7.6	Arisen indirectly from NE Ref. D28 and also Rule 9 letter (PD-006)	Paragraph 294 is updated as follows: For cumulative effects assessments (CEA), the number of animals predicted to experience PTS and/or disturbance during piling was based on the density values that were published in the respective PEIR or ES chapters for the projects screened into the CEA. Where animals were not assessed, the estimated number of animals to

<table>
<tr><th>Relevant ID</th><th>Interested Party</th><th>Doc. ID</th><th>Volume & Chapter</th><th>Paragraph/ Table/ Figure</th><th>Error</th><th>Correction</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>
experience PTS or disturbance were taken from the Projects assessment.

Table 7.6 is updated as follows:
Table 7.6 Estimated number of marine mammals to have PTS or be disturbed from piling at the CEA screened in projects
<table>
<tr><th colspan="6">Number of animals affected by PTS during each piling event</th></tr>
<tr><th>Projects</th><th>Harbour porpoise</th><th>Bottlenose dolphin</th><th>Minke whale</th><th>Grey seal</th><th>Harbour Seal</th></tr>
<tr><td>Awel y Môr OWF</td><td><s>2,112</s>83</td><td><1</td><td>3</td><td><1</td><td>Not assessed*</td></tr>
<tr><td>Erebus OWF</td><td><1</td><td><1</td><td><1</td><td><1</td><td>Not assessed*</td></tr>
<tr><td>Morgan Offshore Wind Project Generation Assets</td><td>0</td><td>0</td><td><1</td><td>0</td><td><s><1</s>Not assessed*</td></tr>
<tr><td>Mona Offshore Wind Project</td><td>0</td><td>0</td><td><1</td><td>0</td><td><s><1</s>Not assessed*</td></tr>
<tr><td>Transmission Assets</td><td>Not assessed*</td><td>Not assessed*</td><td>Not assessed*</td><td>Not assessed*</td><td>Not assessed*</td></tr>
<tr><td>White Cross OWF</td><td>0.92</td><td>0.0006</td><td>3.5</td><td>0.00005</td><td>Not assessed*</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Relevant ID</th><th>Interested Party</th><th>Doc. ID</th><th>Volume & Chapter</th><th>Paragraph/ Table/ Figure</th><th>Error</th><th>Correction</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>
<table>
<tr><th colspan="6">Number of animals disturbed during each piling event</th></tr>
<tr><td>Awel y Môr OWF</td><td>~~83~~2,112</td><td>23</td><td>35</td><td>81</td><td>Not assessed*</td></tr>
<tr><td>Erebus OWF</td><td>1,967</td><td>310</td><td>55</td><td>18</td><td>Not assessed*</td></tr>
<tr><td>Morgan Offshore Wind Project Generation Assets</td><td>979</td><td>11</td><td>69</td><td>45</td><td><1~~Not assessed~~</td></tr>
<tr><td>Mona Offshore Wind Project</td><td>429</td><td>13</td><td>69</td><td>45</td><td><1~~Not assessed~~</td></tr>
<tr><td>Transmission Assets</td><td>1,793</td><td>4</td><td>69</td><td>28</td><td><1~~Not assessed~~</td></tr>
<tr><td>White Cross OWF</td><td>649</td><td>0.0005</td><td>60.5</td><td>9.5</td><td>Not assessed*</td></tr>
</table>
*Not assessed in the other OWF ES/PEIR, so used the Projects estimated values
</td></tr>
<tr><td colspan="7">Offshore Ornithology</td></tr>
<tr><td>RR-061-69 (Ref. B7)</td><td>Natural England</td><td>APP-049</td><td>5.1.12 Chapter 12 Offshore Ornithology</td><td>Table 12.2</td><td>Average rotation speed at mean predicted wind speed (Rotations Per Minute (rpm)) is quoted as 7.74</td><td>Typographic error correction in Chapter 12 Offshore Ornithology (APP-049), Table 12.2; correct value for rotation speed is 7.64. The correction is as follows: “Sep-Feb ~~07.74~~ 7.64”.
The correct value has been used in all modelling, and this error does not affect outputs or assessment conclusions.</td></tr>
</table>

Relevant ID	Interested Party	Doc. ID	Volume & Chapter	Paragraph/ Table/ Figure	Error	Correction
RR-061-75	Natural England	APP-049	5.1.12 Chapter 12 Offshore Ornithology	Table 12.47	Incorrect value for non-breeding season great-black backed gull mortality (quoted value 0.45)	Typographic error correction in Chapter 12 Offshore Ornithology (APP-049), Table 12.47. The non-breeding season mortality had omitted the value for December (0.65); the correct seasonal value should therefore be 1.10. The correction is as follows: "Sep-Feb ~~0.45~~ 1.10". The total annual value in Table 12.47 (1.75) is correct, so the error does not affect assessment conclusions.
Report to Inform Appropriate Assessment						
RR-061-222	Natural England	APP-027	4.9 Report to Inform Appropriate Assessment	Section 9.4.2.7, Paragraph 3400	'[…] there would be no LSE on the harbour porpoise CIS MU population […]'	Paragraph 3400 of the Report to Inform Appropriate Assessment is amended to: '[…] there would be no LSE on the ~~harbour porpoise CIS MU population~~ harbour porpoise associated with the Bristol Channel Approaches SAC […]'

3 References

Barnes, M. K. S. (2008). *Alosa fallax* Twaite shad. In Tyler-Walters H. and Hiscock K. Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. Available at: https://www.marlin.ac.uk/species/detail/48 (Accessed 20th August 2024).

Barnes, M. K. S. (2008). *Lampetra fluviatilis* European river lamprey. In Tyler-Walters H. and Hiscock K. Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. Available at: https://www.marlin.ac.uk/species/detail/49 (Accessed 22nd August 2024).

Barnes, M.K.S. (2008). *Petromyzon marinus* Sea lamprey. In Tyler-Walters H. and Hiscock K. Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. Available from: https://www.marlin.ac.uk/species/detail/50 (Accessed 23rd August 2024).

Environment Agency (2023). Salmonid and freshwater fisheries statistics: 2022. Available at: Salmonid and freshwater fisheries statistics: 2022 - GOV.UK (www.gov.uk) (Accessed 10th September 2024).

Lepple, L. (2021). Environmental Drivers of Harbour Porpoise (*Phocoena phocoena*) Distribution in the Irish Sea. Master's thesis. Bangor University. Available at: https://www.seawatchfoundation.org.uk/wp-content/uploads/2022/02/Leonie-Lepple-MSc-thesis_2021.pdf. (Accessed 30th August 2024).

Maitland, P.S. and Hatton-Ellis, T. W. (2003). Ecology of the Allis and Twaite Shad. Conserving Natura 2000 Rivers Ecology Series No. 3. English Nature, Peterborough.

Reeve, A. (2005). Alosa alosa Allis shad. In Tyler-Walters H. and Hiscock K. Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. Available from: https://www.marlin.ac.uk/species/detail/2120 (Accessed 24th August 2023).