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MONA OFFSHORE WIND PROJECT

Offshore ornithology apportioning clarification note

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Image of an offshore wind farm

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Prepared by:

RPS

Prepared for:

Mona Offshore Wind Ltd.

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Glossary

Term	Meaning
Applicant	Mona Offshore Wind Limited.
Evidence Plan Process	The Evidence Plan process is a mechanism to agree upfront what information the Applicant needs to supply to the Planning Inspectorate as part of the Development Consent Order (DCO) applications for the Mona Offshore Wind Project.
Expert Working Group (EWG)	Expert working groups set up with relevant stakeholders as part of the Evidence Plan process.
Mona Array Area	The area within which the wind turbines, foundations, inter-array cables, interconnector cables, offshore export cables and offshore substation platforms (OSPs) forming part of the Mona Offshore Wind Project will be located.
Mona Offshore Wind Project	The Mona Offshore Wind Project is comprised of both the generation assets, offshore and onshore transmission assets, and associated activities.

Acronyms

Acronym	Description
BDMPS	Biologically defined minimum population scale
EWG	Expert Working Group
JNCC	Joint Nature Conservation Committee
NRW	Natural Resources Wales
NRW (A)	Natural Resources Wales (Advisory)
OWF	Offshore Wind Farm
SPA	Special Protection Area
SNCB	Statutory Nature Conservation Body

1 Offshore ornithology apportioning clarification note

1.1 Introduction

1.1.1.1 As part of Natural Resources Wales (Advisory) (NRW (A)) and the Joint Nature Conservation Committee (JNCC) Deadline 3 submissions (REP3-090 and REP3-086, respectively), uncertainty was expressed about the process by which the age-class proportions have been included within the non-breeding season apportioning by the Applicant.

1.1.1.2 For the purpose of this note, the proportion of adults (and immatures) within a specific geographic area (e.g. the Mona Offshore Wind Project) is referred to as 'age-class proportions' and the method by which the proportion of birds within a certain geographic area are presumed to originate from a specific colony is referred to as 'apportioning'.

1.1.1.3 Age-class proportions do not directly impact the apportioning values during the breeding season and the standard NatureScot approach is used to apportion during the breeding season (NatureScot, 2023). However within the non-breeding season the age-class proportions directly impact the apportioning values, hence there can often be confusion between the two terms. The use of 'age-class proportions' and 'apportioning' within this note, should hopefully aid the understanding.

1.1.1.4 This technical note clarifies how the Applicant has followed what it understood to be the Statutory Nature Conservation Bodies' (SNCBs) pre-application advice to include site-specific age-class proportions in the non-breeding (and breeding) season apportioning assessment rather than assuming a stable-age structure for the Mona Offshore Wind Project. This note also clarifies how the non-breeding season apportioning has been undertaken in the in-combination assessment, which differs slightly from the approach undertaken by the Applicant for the project alone.

1.1.1.5 To enable site-specific age class proportions to be used in the non-breeding season apportioning assessment, the Applicant adopted a mathematically robust and appropriately precautionary approach in the Mona Offshore Wind Project alone assessments at application. Furthermore, this aligns with the SNCBs advice with respect to the in-combination assessment and utilise the proportions of immatures and adults from Furness (2015) but requires additional mathematical steps to get to the same impact.

1.1.1.6 This note compares the two non-breeding season apportioning approaches (the Applicant's versus the approach advised by the SNCBs). With respect to the Mona Offshore Wind Project alone assessment, the comparison shows that the impacts predicted using the Applicant's approach are marginally higher than those predicted using the SNCB's approach but are nonetheless considered to be robust and appropriately precautionary. With respect to the in-combination assessments, the comparison shows that the impacts predicted are the same irrespective of whether the Applicant's approach or the SNCB's approach is used. In either case, there is no change to the conclusions presented in HRA Stage 1 Screening Report (REP2-012) and HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010).

1.1.1.7 Thus, this note serves to clarify the Applicant's approach to non-breeding season apportioning for the project alone and in-combination assessment and demonstrate that irrespective of the approach taken (the Applicant's or SNCB's), the predicted impacts are either very similar or the same. Therefore, it should give comfort to NRW

(A) and the JNCC that the Applicant has undertaken an accurate and appropriate precautionary assessment.

1.1.1.8 In light of this, the Applicant is not proposing to alter its approach to non-breeding season apportioning.

1.1.1.9 The Applicant notes that during engagement with NRW and the JNCC since Deadline 3, a concern has been raised in relation to the age class proportions used in the breeding season within the in-combination assessments. This matter is considered in section 1.3.4 of the Offshore Ornithology Supporting Information in line with SNCB Advice (S_D3_19 F02) submitted at Deadline 4.

1.2 Pre- and post- application engagement regarding age-class proportions

1.2.1.1 During the Evidence Plan Process and the Offshore Ornithology Expert Working Groups (EWG), as detailed in the Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042), the SNCBs provided advice on how to account for the age-class proportions within the apportioning assessment. Specifically, the SNCBs advised that site-specific age-class proportions should be used and, where this was not possible (e.g. for species which do not have a different immature and adult plumage like auk species) it should be presumed that 100% of birds are adults. The detailed requests were as follows;

- Following Offshore Ornithology EWG03 (as detailed in D.4.3 of Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042)), NRW (A) stated:
  - *NRW (A) do not agree with the use of the population viability analysis stable age structures, as it is very difficult to state that this is what it is at the specific offshore site in a specific season. NRW (A) currently advise that proportions of adults and immatures are based on age-class information from site-specific surveys. NRW (A) note the difficulties associated with ageing some species from digital aerial data and currently recommend that in the absence of site-specific information on age classes, a precautionary approach assuming all adult-type birds are adults, is adopted.*
- Following Offshore Ornithology EWG03 (as detailed in D.4.2 of Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042)), Natural England stated:
  - *Natural England advise that where site-specific information on age classes is not available a precautionary approach should be adopted, and all adult-type birds should be treated as adults. The use of stable age structures is not appropriate over the spatial scale of an OWF survey area.*
- Following Offshore Ornithology EWG03 (as detailed in D.4.4 of Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042)), the JNCC stated:
  - *We do not agree with the use of the population viability analysis stable age structures, as it is very difficult to say that this is what it is at the specific offshore site in a specific season. We currently advise that proportions of adults and immatures are based on age-class information from site-specific surveys. We note the difficulties associated with ageing some species from digital aerial data and currently recommend that in the absence of site-specific information on age classes, a precautionary approach assuming all adult-type birds are adults is adopted.*

1.2.1.2 SNCBs advised the Applicant not to use the stable age structure as part of the age-class proportions was also mentioned during Offshore Ornithology EWG06 (D.7.1 of Technical Engagement Plan Appendices - Part 1 (A to E) (APP-042)).

1.2.1.3 Following submission of the Mona Offshore Wind Project Development Consent Order application, additional advice was provided via Relevant Representations and Written Representations of the JNCC and NRW (A) (RR-033 and RR-011 and REP1-066 and REP1-056, respectively) to not use the stable age structure for age-class proportions. Specifically in section 2.1.4.2 of NRW's Relevant Representation (RR-011) and within section 2.1.2.3.3 of NRW's Written Representation (REP1-056). There is no specific reference number within JNCC's Relevant Representation (RR-033), but not using stable age structures is referenced a number of times between paragraphs 18 and 50 of the JNCC's Written Representation (REP1-066).

1.2.1.4 The Applicant took on board NRW (A) and the JNCC advice and subsequently resubmitted several of the application documents at Deadline 2 to clarify that the site-specific age-class proportions had been used for both the breeding and non-breeding season Mona Offshore Wind Project alone assessment. The updated application documents presented at Deadline 2 included changes to Volume 6, Annex 5.5: Offshore Ornithology Apportioning Technical Report (REP2-022) made clear that only the site-specific age-class proportions had been used (see Table 1.4 of Volume 6, Annex 5.5: Offshore Ornithology Apportioning Technical Report (REP2-022)) during both the breeding and non-breeding seasons for the project alone assessment (or where age-class proportions could not be identified from imagery, 100% of birds were assumed to be adults).

1.3 The Applicant's approach for non-breeding season apportioning

1.3.1 SNCB's advised approach for non-breeding season apportioning for the project alone assessment and in-combination assessments

1.3.1.1 Both NRW (A) and JNCC recommend that during the non-breeding season, the apportioning calculations utilise the Appendix tables of Furness (2015) and divide the adults from a given colony by the total birds within the biologically defined minimum population scale (BDMPS) population. This inherently uses the stable-age structure from Furness (2015) as the populations within the non-breeding season are derived from the breeding populations which were calculated by using the stable-age structure.

1.3.1.2 The JNCC within their Relevant Representations (RR-033) stated: '*we recommend that to calculate apportion impacts to colonies in the non-breeding season, this should be based on the proportion of the Special Protection Area (SPA) adult birds, across the BDMPS total of birds of all ages, for each relevant non-breeding BDMPS season, as has been advised'*.

1.3.1.3 NRW (A) within their Written Representations (REP1-056) and repeated within the Deadline 3 submission (REP3-090) stated '*that we recommend that no apportionment of impacts to age classes in the non-breeding season is undertaken as the non-breeding season BDMPS proportions in the tables in Appendix A of Furness (2015) already takes account of the number of adults likely to be present in the BDMPS. We again recommend that the approach we have previously suggested of apportioning to colonies in the non-breeding season(s) is undertaken based on the proportion of the SPA adult birds across the BDMPS total of birds of all ages for each relevant non-breeding BDMPS season using the information in the tables in Appendix A of Furness (2015)*'.

1.3.1.4 The Applicant provided a detailed response within REP1-056.80 of Appendix to Response to WRs: NRW (REP2-080) which demonstrated that when using the NRW (A) and JNCC's method, it is not possible to use site-specific age-class proportions.

1.3.1.5 Multiple worked examples are provided within section 1.4, which compare the SNCBs and the Applicant's approach to apportioning during the non-breeding season.

1.3.2 The project alone assessment

1.3.2.1 As the Applicant has a high degree of confidence in the age-class proportions recorded during the site-specific digital aerial surveys, it was considered appropriate to use the site-specific age-class proportions within the apportioning method for the non-breeding season as part of the Mona Offshore Wind Project alone assessment. The Applicant has used an alternative method (compared to the SNCB advice) for apportioning during the non-breeding season which allows the site-specific age-class proportions to be utilised. In short, the Applicant has divided the adult population of a single site by the adult population of the BDMPS, therefore not presuming the proportions of adults to immatures within the population. The age-class proportions can then be applied to the predicted impact. Multiple worked examples are provided within section 1.4, which compares the SNCB's and the Applicant's approach.

1.3.2.2 The Applicant has used the site-specific age class proportions, with the detailed seasonal breakdown provided within Table 1.4 of Volume 6, Annex 5.5: Offshore Ornithology Apportioning Technical Report (REP2-022) and summarised here for the non-breeding season only within Table 1.1. Where birds are not readily identified to a specific age where the plumage of juvenile and adult birds is the same or very similar (e.g. auks and shearwaters) it was considered that 100% of birds are adults, for precaution. Adults form the breeding part of the population, so their loss would have the greatest impact on a population long term.

1.3.2.3 The Applicant has considered 'adult type' birds and therefore will include some birds which have gained adult type plumage but will not be part of the breeding population due to its's age. This will inherently mean an additional level of precaution within the assessment and apportioning to specific designated sites.

Table 1.1: Number of birds assigned to different age class categories during site-specific surveys of the Mona Offshore Ornithology Array Area study area during the non-breeding season.

Species	Season (months)	Number of adult-type birds	Number of immature birds	Proportion of adult-type birds (%)
Black legged kittiwake	Non-breeding (September to February	1,807	157	92.01%
Northern gannet	Non-breeding (October to February)	135	5	96.43%
Herring gull	Non-breeding (September to February)	31	10	75.61%
Great black-backed gull	Non-breeding (September to February)	43	18	70.49%

Species	Season (months)	Number of adult-type birds	Number of immature birds	Proportion of adult-type birds (%)
Lesser black-backed gull	Non-breeding (September to March)	20	3	86.96%

1.3.2.4 As the sample size was similar between the breeding and non-breeding season for most species and the quality of the imagery allowed a high proportion of the overall sightings to have an age-class associated with them, it was deemed best practise to use the site-specific age-class for the Mona Offshore Wind Project impacts during both the breeding and non-breeding seasons.

1.3.2.5 The Applicant agrees with the SNCBs that using this method for the Mona Offshore Wind Project alone assessment in the non-breeding season results in greater impacts being apportioned to each designated site and is therefore more precautionary.

1.3.3 In-combination assessments

1.3.3.1 The Applicant has used the same approach to generating the apportioning value for each site (i.e. the total number of adults from a given site divided by the total number of adults in the BDMPS) so that each site has the same apportioning value within the project alone and in-combination assessments. However instead of using the site-specific age class data (which is unavailable for vast majority of the sites included in the assessment), the ratios of adults to immatures have been used from the Appendix tables of Furness (2015).

1.3.3.2 Correcting the impact to account for adult birds only by using the ratios of adults to immatures from the Appendix tables of Furness (2015) results in the same impact value being assigned to each site using both the Applicant's and the SNCBs approaches. There are additional steps required for the Applicant's approach (as set out in Table 1.3), but the predicted impact is the same. Within Table 1.3 there are seven steps presented by the Applicant, the SNCB advise using four of the steps (Step A, B, C and D), however the Applicant's approach requires five steps (A, B, C, E and F). Step D and Step G are the values taken forward for the impact calculations, these are equal in value.

1.4 Comparison of the two methods for non-breeding season apportioning

1.4.1 Project alone assessment

1.4.1.1 Using the example of northern gannet from Grassholm Special Protection Area (SPA) as used by NRW (A) in their submissions (e.g. paragraph 118 of NRW (A)'s Written Representation (REP1-056) and paragraph 47 of NRW (A)'s Deadline 3 submission (REP3-080). Paragraph 118 of NRW (A)'s Written Representation (REP1-056) states:

1.4.1.2 *That the apportionment to designated sites for the non-breeding season(s) is undertaken based on the proportion of the SPA adult birds across the BDMPS total of birds of all ages for each relevant non-breeding BDMPS season. So, for example for gannet at Grassholm SPA in the Western Waters BDMPS in the post-breeding/autumn migration season:*

- *From Table 15 of Appendix A of Furness (2015) the number of Grassholm SPA adult birds in the BDMPS is 78,584 birds, whilst the total number of gannets of all ages across the BDMPS is 545,954 birds. Therefore, the proportion of Grassholm SPA adult birds across the BDMPS during autumn can be calculated as 0.1439 (14.39%).*

1.4.1.3 Using the same example of Grassholm SPA the steps the Applicant has taken are:

- From Table 15 of Appendix A of Furness (2015) the number of Grassholm SPA adult birds in the autumn BDMPS is 78,584 birds, whilst the total number of adult gannet across the BDMPS is 318,001 birds. Therefore, the proportion of Grassholm SPA adult birds across the adult BDMPS during autumn can be calculated as 0.2471 (24.71%).
- Now the adult age-class apportioning from the site-specific surveys can be utilised within the impact calculation by multiplying the site apportioning value (0.2471* 0.9643 = 23.83%) (see Table 1.1Table 1.1 for the age-class proportions used).

1.4.1.4 Comparing results of the calculations above; 14.39% (SNCB advised approach)) is less than 23.83% (Applicant's approach), so the Applicant has apportioned more birds to Grassholm SPA by utilising a higher percentage figure. Therefore, the conclusions of the HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010) are valid and there is no potential for adverse effects on site integrity.

1.4.1.5 To reiterate the point, the Applicant has provided a correction for the table below Paragraph 47 of NRW's Deadline 3 submission (REP3-090), which missed the age-class apportionment step of the calculations (Table 1.2).

Table 1.2: Replication of NRW's table under paragraph 47 of NRW's Deadline 3 submission (REP3-090) with a correction for what was used by the Applicant within the Mona Offshore Wind Project alone assessment by using the site-specific data.

Species, site & nonbreeding season	Apportionment rate – Applicant's approach (as presented in NRW's Deadline 3 submission (REP3-090))	Apportionment rate – NRW (A) approach (as presented in NRW's Deadline 3 submission (REP3-090))	Clarification on Applicant's Apportionment rate
Gannet: Grassholm, spring	20.07%	11.87%	19.35% (20.07 * 0.9643)
Gannet: Grassholm, autumn	24.71%	14.39%	23.83% (24.71 * 0.9643)
Guillemot: SSSP, non-breeding season	4.47%	2.58%	4.47% (4.47 * 1)
Manx shearwater SSSP, migration seasons	70.54%	44.28%	70.54% (70.54 * 1)
Great black-backed gull; Isles of Scilly, non-breeding season	28.85%	9.14%	20.34% (28.85 * 0.7049)

1.4.1.6 It should be noted that the statement from NRW (A) within Paragraph 47 of NRW's Deadline 3 submission (REP3-090) '*However, we note that the Applicant's approach of calculating the proportion of adults at the colony as a proportion of the total adults in the BDMPS does mean that a higher apportionment value for a designated site is calculated (as shown in the table below), which can be considered precautionary*' still remains valid.

1.4.2 In-combination assessments

1.4.2.1 When undertaking the cumulative and in-combination assessment, the Applicant has maintained the use of the apportioning values for each designated site (as used within the Mona Offshore Wind Project alone assessment), which divides the adults from a specific site with the adult population of the BDMPS. However, the Applicant has used the proportion of adults/immatures as presented within the Appendix tables of Furness (2015) to correct for the age-class proportions. Therefore, for the in-combination assessments, the Applicant's and the SNCB's approach results in the same apportioning percentage just using different calculations to get to the same point.

1.4.2.2 Table 1.3Table 1.3 provides the breakdown of the two methods and how they reach the same impact calculation using the Applicants (**see Step G**) and the SNCB's advised approach (**see Step D**), the two rows for comparisons have been highlighted in blue and bold. Using the two different impact calculations would provide the same predicted apportioned impact to the specific site. The examples from NRW's Deadline 3 submission (REP3-090) have been used for the purpose of comparison.

Table 1.3: Calculation of the non-breeding season apportioning value using two different methods

Step	Gannet: Grassholm, spring	Guillemot: SSSP, non-breeding season	Manx shearwater SSSP, migration seasons	Great black-backed gull; Isles of Scilly, non-breeding season
A: Adults within the BDMPS from the site	78,584	29,340	700,000	1,622
B: Adults within the BDMPS	391,540	656,156	992,300	5,622
C: Total population of the BDMPS	661,888	1,139,220	1,580,895	17,742
D: SNCBS Advice approach of adults from site divided by total population (A/C)	**0.119 (78,584/661,888)**	**0.026 (29,340/1,139,220)**	**0.443 (700,000/1,1580,895)**	**0.091 (1,622/17,742)**
E: Applicant's approach of adults from site divided by adults within BDMPS (A/B)	0.201 (78,584/391,540)	0.045 (29,340/1,139,220)	0.705 (700,000/992,300)	0.289 (1,622/5,622)
F: Percentage of adults within the BDMPS (B/C)	59.16% (391,540/661,888)	57.60% (656,156/1,139,220)	62.77% (992,300/1,580,895)	31.69% (5,622/17,742)

Step	Gannet: Grassholm, spring	Guillemot: SSSP, non-breeding season	Manx shearwater SSSP, migration seasons	Great black-backed gull; Isles of Scilly, non-breeding season
G: Applicant's approach to apportioning (Step E) multiplied by the % of adults within the BDMPS (Step F)	**0.119** **(0.201*59.16%)**	**0.026** **(0.045*57.60%)**	**0.443** **(0.705*62.77%)**	**0.091** **(0.289*31.69%)**

1.5 Conclusions

1.5.1.1 This note clarifies that the Applicant's approach to age-class apportions during the non-breeding season which was adopted based on what it understood to be the SNCBs pre-application advice with respect to this. The Applicant acknowledges that as outlined in paragraph 1.3.1.3, the SNCBs have since clarified their advice with respect to age class apportioning during the non-breeding season and that their advised approach differs from that adopted by the Applicant.

1.5.1.2 The comparison between the Applicant's and the SNCB's advised approach has shown that using the Applicant's approach during the non-breeding season apportioning for the Mona Offshore Wind Project alone assessment results in a precautionary impact being presented. Furthermore, for the in-combination assessments, the SNCBs advised approach and the Applicant's approach (which is the same as the SNCBs albeit slightly modified) results in the same impacts being presented during the non-breeding season .

1.5.1.3 Thus, the non-breeding season apportioning approach used (Applicant's versus SNCBs) is not considered to alter the conclusions of no adverse effect on site integrity as presented within HRA Stage 2 Information to Support an Appropriate Assessment Part Three: Special Protection Areas and Ramsar sites Assessments (REP2-010) and the Offshore Ornithology Supporting Information in line with SNCB Advice (S_D3_19 F02).

1.5.1.4 In light of this, the Applicant is not proposing to alter its approach to non-breeding season apportioning.

1.5.1.5 As part of the update to Offshore Ornithology Supporting Information in line with SNCB Advice (S_D3_19 F02) submitted at Deadline 4, that Applicant has provided additional clarity as to the methods of apportioning and the considering of the age-class proportions in all bioseasons (see section 1.3.3 and 1.3.4 of Offshore Ornithology Supporting Information in line with SNCB Advice note (S_D3_19 F02)).