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CRUACH CLENAMACRIE WIND FARM

APPENDIX 10.6 DEER MANAGEMENT PLAN

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1 INTRODUCTION

1.1.1 WSP UK Ltd. was commissioned by the Applicant (Voltalia) to produce a Deer Management Plan (DMP) in support of the proposed Cruach Clenamacrie Wind Farm (hereafter the 'Site'). The Site is located to the east of Oban, within the Argyll and Bute Council Area and is located at approximate central Ordnance Survey grid reference NM 94187 29995.

1.1.2 The indicative layout of Cruach Clenamacrie Wind Farm comprises six turbines, shown in **Figure 10.1.1 Appendix A**, hereafter the 'Proposed Development'.

1.1.3 The Proposed Development has potential connectivity with Loch Etive Woods Special Area of Conservation (SAC), specifically the Site of Special Scientific Interest (SSSI) component (Clais Dhearg SSSI). Whilst impacts could involve the temporary displacement of red deer (*Cervus elephus*) from the Proposed Development during the construction phase into these designated nature conservation sites, the focus of this Deer Management Plan (DMP) is to contribute to ongoing deer management efforts in the area, to ensure that the condition of broadleaf woodland features of these sites is improved and maintained over the plan period. In addition to which, proposed habitat management units (HMUs) (both on and off-site) as outlined in **Appendix 10.5** are also likely to be subject to deer presence and associated impacts and the implementation of this DMP will reduce this grazing pressure.

1.1.4 This DMP includes measures to mitigate against existing adverse impacts on the Clais Dhearg SSSI, as well as ensuring that proposed habitat management units are not subject to similar impacts, whilst taking into account deer management on neighbouring land to ensure the objectives are complementary, particularly with respect to the adjacent Fearnoch Forest, within the Taynuilt Land Management Plan[1] (LMP). The implementation of this plan should ultimately provide biodiversity enhancements within both designated and non-designated habitats, as a result of the reduction of grazing pressure, cognisant of the requirement of National Planning Framework 4 (NPF4), Policy 3 that "*development proposals will contribute to the enhancement of biodiversity, including where relevant, restoring degraded habitats*".

1.2 SCOPE AND OBJECTIVES

1.2.1 This deer management plan has been completed following best practice guidance from NatureScot (SNH, 2019[2]; and SNH, 2016[3]). The purpose of the plan is:

- to summarise the existing impacts upon the broadleaf woodland features of the Loch Etive Woodlands SAC and Clais Dhearg SSSI from local deer populations, as well as addressing potential deer related impacts to habitat management units associated with the Proposed Development;

[1] Forestry & Land Scotland (2020). Taynuilt Land Management Plan 2020 – 2029.
[2] SNH (2019). Managing Deer. Available at: https://www.nature.scot/professional-advice/land-and-sea-management/managing-wildlife/managing-scotlands-wild-deer [Accessed on: 18 August 2024]
[3] SNH (2016). Planning for development: What to consider and include in deer assessments and management at development sites. Guidance. Version 2 March 2016 [Accessed on: 18 August 2024]

- to reduce and maintain lower deer densities across landholding that include the Planning Application Boundary, Loch Etive SAC/Clais Dhearg SSSI and the proposed habitat management units, in order to allow for the restoration and ongoing maintenance of native broadleaf woodland in good condition and blanket bog recovery within proposed habitat management units.

2 BASELINE INFORMATION

2.1.1 EVIDENCE BASE

2.1.2 The plan has been informed by the collation of baseline information from the following sources:

- Loch Etive Woods SAC Conservation Advice Package[4];
- Airds Park and Coille Nathais SSSI Site Management Statement[5];
- Clais Dhearg Site Management Statement[6];
- FLS Wildlife Ranger Manager;
- Taynuilt LMP;
- Managing Deer on The National Forest Estate[7];
- NatureScot Officer (site condition and deer figures); and
- Local estates (cull figures from Achnacloich/Kilmaronaig Estate, Muckairn Estate and FLS Fearnoch Forest)

2.1.3 LOCAL DEER MANAGEMENT

2.1.4 According to the Loch Etive Woods SAC Conservation Advice Package, high deer numbers are an ongoing issue at the component sites that make up the SAC and have a strong influence over the woodland condition, which are currently unfavourable due to targets for regeneration and browse pressure not being met. The geographic spread of the component SSSIs means deer management varies across the units and stock levels also vary greatly across the sites.

2.1.5 According to the Airds Park and Coille Nathais SSSI Site Management Statement, until recently, deer stalking was carried out within Airds Park and Coille Nathais SSSI. A gamekeeper is now employed to control both red and roe deer.

2.1.6 According to the Clais Dhearg Site Management Statement, the woods and open ground within Clais Dhearg SSSI are currently grazed by cattle, sheep and deer. The oak woodland habitat was assessed as unfavourable due to targets for regeneration and browse pressure failing. Roe and red deer occur throughout the woods and are controlled.

2.2 TAYNUILT LMP AREA

2.2.1 Deer control within the Tynuilt LMP Area is undertaken by contract in accordance with the Taynuilt LMP Deer Management Plan (**Appendix 4**) and Managing Deer on The National Forest Estate. It is understood that neighbouring landowners undertake deer management themselves.

2.2.2 Deer activity within the LMP area is negatively correlated with human activity. Many areas on the lower slopes show medium deer impacts with significant regeneration of vulnerable species. On the upper

[4] https://sitelink.nature.scot/site/8295 [Accessed 13th July, 2024]
[5] https://sitelink.nature.scot/site/1672 [Accessed 13th July, 2024]
[6] https://sitelink.nature.scot/site/357 [Accessed 13th July, 2024]
[7] https://consult.gov.scot/forestry/deer-management-on-the-national-forest-estate-cons/supporting_documents/deermanagementonscotlandsnationalforestestate.pdf

slopes evidence suggest that deer (and feral sheep) grazing have a significant impact on regeneration and biodiversity.

2.2.3 Within the Fearnoch Forest Estate it is proposed to create a semi-strategic deer fenced area that will facilitate the long-term effective restoration of these areas and reduce the impacts of selective grazing pressure on native broadleaf regeneration. It will also facilitate the growth of planted productive broadleaves and reduce the adverse quality impacts associated with deer activity. Additional non-PAWS (Planting on Ancient Woodland Sites) areas within the above fenced area in Fearnoch are also planned to be restocked with native broadleaves, either by planting or natural regeneration.

2.2.4 Land adjacent to Fearnoch on the northern margin is managed with different deer control objectives to those detailed within the LMP in light of the presence of Loch Etive Woods SAC and Clais Dhearg Site of SSSI. Deer fencing has the potential to affect deer movement along the boundaries with adjacent designated sites, however by effectively removing areas of dense conifer deer cover and actively culling deer within the enclosures adverse impacts are considered to be limited.

2.3 DEER SPECIES AND NUMBERS

2.3.1 The deer species present within Achnacloich/Kilmaronaig Estate, Muckairn Estate and Fearnoch Forest Estate include primarily red and roe deer, whilst smaller numbers of sika are present in the enclosed woodlands.

2.3.2 It is understood that Forestry & Land Scotland (FLS) has a plan for managing the Fearnoch Foreast population. According to the FLS Widlife Ranger Manager[8], the population estimate is difficult for red deer as they tend to move between private and FLS land, however the following estimate was provided: red deer population estimate - 150; roe deer population estimate 120. Whilst deer densities are not available, it is recognised by FLS (within the LMP) that Fearnoch deer numbers are too high to secure native broadleaf establishment and deer numbers are potentially increasing north of Fearnoch Forest (within adjacent SAC/SSSI).

2.3.3 No deer population estimates are currently available for Achnacloich/Kilmaronaig Estate or Muckairn Estate, although annual culls are undertaken.

2.4 ANNUAL CULLS

2.4.1 Annual culls are undertaken within each of the estates adjacent to the Site. It is not known whether cull counts are re-assessed annually based on deer counts/observations and/or habitat monitoring.

- Table 2.1 shows the culls taken from 2018/19 to 2022/23 inclusive at Fearnoch Forest;
- Table 2.2 shows the culls taken from 2018/19 to 2022/23 inclusive at the two estates - Achnacloich/Kilmaronaig and Muckairn (where deer management is undertaken across the combined landholdings).

[8] FLS 5 year deer cull figures were provided by the FLS Wildlife Ranger Manager by email on 1st November 2023.

Table 2-1 – Fearnoch Forest [FLS] Annual Deer Cull

Deer species	Cull season				
	18/19	19/20	20/21	21/22	22/23
Red	47	14	19	36	60
Roe	44	7	22	39	38
Sika		1	/	/	

Table 2-2 – Achnacloich/Kilmaronaig and Muckairn Annual Deer Cull

Deer species		Cull season				
		18/19	19/20	20/21	21/22	22/23
Red	Stag	10	14	18	17	15
	Hind	26	18	21	28	28
Roe	-	31	13	14	13	17

3 EXISTING DEER PRESSURES

3.1.1 Any potential issues that could arise due to changes in deer numbers and movement as a consequence of the Proposed Development are outlined below, as well as any potential effects on the deer themselves.

3.2 DEER POPULATIONS

3.2.1 In a review of threshold densities for impacts to habitats, Putnam *et. al (*2011) stated that unfenced woodlands will not regenerate naturally above a density of 4 to 5 red deer per km^2. And according to Edwards (2019)[9], evidence suggests that impacts on open habitats (heaths, blanket bogs) can become moderate or high on at least some habitats above densities of above 8 deer per km^2. Where red deer densities exceed 8 per km2 across large areas, there is likely to be ongoing damage to some peatlands within that area, and the success of peatland restoration work may be compromised by deer impacts if deer densities remain above that level. Deer densities within this study were categorised as low <5 per km^2; moderate 5-10 per km^2; high 10-15 per km^2 and very high >15 per km^2.

3.2.2 Subsequent to these studies, the Report of the Scottish Government's Deer Working Group (Scottish Government, 2021)[10], recommended that NatureScot "*should adopt 10 red deer per square kilometre as an upper limit for acceptable densities of red deer over large areas of open range in the Highlands, and review that figure from time to time in the light of developments in public policies, including climate change*". The Report also stated that "*many habitats such as native woodlands and peatlands [require] densities well below 10 deer per square kilometre*".

3.2.3 The Scottish Government accepted this recommendation, but clarified that, while a limit for red deer on open range in the Highlands is beneficial to measure progress, alongside other indicators such as deer impacts and damage, adopting a blanket density limit across Scotland would not be appropriate, as areas vary so much.

3.2.4 In addition to which, when considering what is a sustainable number of deer in a given location, NatureScot[11] state that "*impacts from deer occur at different densities throughout the country depending on habitat, location and time of year. It is important to note, therefore, that it is the impacts of deer that remain the primary criteria for NatureScot when deciding where to specifically target efforts and where regulatory action may be necessary, rather than the numbers alone*."

[9] Edwards, T. (2019). Herbivore Impacts, Upland Red Deer Densities, Carbon Sequestration and Storage in the Upland Red Deer Range – a Report for Scottish Environment Link's Deer Task Force. https://www.scotlink.org/wp-content/uploads/2020/01/Herbivore-Impacts-Upland-Red-Deer-Densities-Carbon-Sequestration-and-Storage-in-the-Upland-Red-Deer-Range-%E2%80%93-a-Report-for-Scottish-Environment-Link%E2%80%99s-Deer-Task-Force-.pdf

[10] Scottish Government (2021). Scottish Government Response to the Report from the Deer Working Group on 'The management of wild deer in Scotland'. Published by The Scottish Government, March 2021.

[11] https://www.nature.scot/doc/deer-management-scotland-frequently-asked-questions-faqs#:~:text=The%20Deer%20Working%20Group%20recommended,open%20range%20in%20the%20Highlands.

3.2.5 In the context of this plan therefore, densities should be monitored against the significance and geographic extent of deer impacts and damage in order to set an appropriate site-specific density.

3.3 HABITAT MODIFICATION

LOCH ETIVE SAC/CLAIS DHEARG SSSI

3.3.1 As there are potentially high densities of deer within the vicinity of the Site, adjacent estates and Fearnoch Forest Estate, there is a chance that displaced deer (that could occur during the construction phase) could move into adjacent Atlantic oak woodland associated with Loch Etive SAC/Clais Dhearg SSSI which borders the southern side of the Site boundary.

3.3.2 However, the Proposed Development will not prevent deer gaining access to favoured sources of food or shelter present within the oak woodland found within the SAC/SSSI to the northwest and the conifer plantation to the south and east. Consequently, there is no evidence to suggest that deer behaviour will change in the long-term if the Proposed Development is built.

3.3.3 In addition to which, the working areas of the Proposed Development are localised rather than occupying a broad geographical range, further limiting the potential for wider dispersal. There is no evidence that large scale construction projects in the uplands affect deer movements and behaviour in the short, medium or long-term. Therefore, there is no evidence to suggest the Proposed Development is likely to cause any substantial or significant changes in deer movements and behaviour within the Site or adjacent estates during the construction period.

3.3.4 Management and maintenance of the operational wind farm in the medium-term is also unlikely to lead to significant deer displacement as personnel activity would be low and vehicle speed limits would be controlled. Deer quickly adapt to activities that pose no threat and are likely to within the Site and wider area during operation. In the longer-term, decommissioning of the Proposed Development, through dismantling and removal of turbines and other infrastructure and habitat reinstatement, is likely to lead to a similar displacement effect as that experienced during construction activities, and thus again is unlikely to cause any substantial or significant changes in deer movements and behaviour within the Site or adjacent estates.

CANDIDATE MANAGEMENT UNITS

3.3.5 In light of the presence of deer within Fearnoch Forest estate and adjacent designated sites, the success of proposed peatland restoration work within the Site could be adversely affected by increased deer trampling pressures.

3.3.6 Fencing of the proposed management units (as detailed in **Technical Appendix 10.5** and illustrated on **Figure 10.6.1**) has not been considered a suitable measure given the potential knock-on effects to the unfenced habitats of the adjacent Loch Etive SAC/Clais Dhearg SSSI. Consequently, the approach to deer management will focus on a reduction in deer density.

DEER WELFARE

3.3.7 As discussed, there is the possibility that the construction phase of the Proposed Development could have an adverse impact on the deer populations through disturbance to deer or fragmentation of their grazing habitat. However, it is likely that this impact will be low and displacement impacts are unlikely to continue into the operational phase. Nevertheless, construction activities could cause localised displacement of deer and there are potential collision risks with construction vehicles, machinery and equipment during construction.

4 MITIGATION AND ENHANCEMENT MEASURES

4.1 CRUACH DEER MANAGEMENT AREA

4.1.1 Specific measures to reduce the potential damage from deer to designated and non-designated habitats considered in this document and the oHMP will be addressed through the development of a newly defined Cruach Deer Management Area (CDMA), which will combine the Achnacloich/Kilmaronaig Estate and Muckairn Estate landholdings, including the Loch Etive SAC and Clais Dhearg SSSI (See **Figure 10.6.1**).

4.1.2 The starting point will then be to agree a suite of ongoing monitoring surveys and collation of data, which will provide the basis for evidence-based decision-making necessary to determine appropriate deer densities required to meet management objectives, and the cull targets necessary to achieve those densities. This evidence will also allow for informed discussion with neighbouring landowners and wider stakeholders including NatureScot.

4.1.3 Long term aspirations should be to initiate a strategic and collaborative approach to deer management across a wider landscape scale that could result in the development of a new Upland Deer Management Group, which is currently absent from the wider area.

4.2 MONITORING

4.3 DEER COUNTS

4.3.1 A clear picture of the density and distribution of deer across the CDMA is not fully understood. A count is therefore considered necessary to help establish a baseline and determine better resolution deer densities within and around SAC/SSSIs and proposed HMUs, which will inform requirements for any additional targeted measures, such as additional cull, or further strategic fencing, which may be required above and beyond the current annual cull plan.

4.3.2 Up to date deer population density should be obtained for the proposed Cruach Deer Management Area through a combination of open range counts[12] covering open areas of bog/moorland and other open ground, with dung counts[13] preferable for estimating deer populations in woodland.

4.3.3 Nearest Neighbour (NN) impact assessment surveys are undertaken by FLS within the Taynuilt LMP area alongside ongoing internal restock surveying which inform deer culling throughout the year. These should be obtained in order to best coordinate management proposals in a more targeted manner.

[12] https://bestpracticeguides.org.uk/planning/open-range-counting/
[13] https://bestpracticeguides.org.uk/planning/dung-counting/

4.4 HERBIVORE IMPACT ASSESSMENT SURVEYS (WOODLAND)

4.4.1 Woodland herbivore impact assessment surveys which will be undertaken following NatureScot methodology (2023)[14], will be undertaken within the CDMA by an independent third party. This information alongside NN data from FLS and deer counts within the CDMA will enable the Management Plan to set an evidence-based cull through population modelling alongside impact assessments.

4.4.2 The scope and method, including the timing, identification of assessment areas and approach to recording observations will be agreed with NatureScot.

4.5 HABITAT CONDITION MONITORING (BLANKET BOG)

4.5.1 Pre-construction vegetation surveys will be undertaken within blanket bog restoration areas within the CDMA in order to establish a baseline that will be monitored following construction of the Proposed Development. These surveys are detailed in **Technical Appendix 10.5 - OHMP**).

4.5.2 Baseline habitat condition would be established at sampling points within the peatland restoration areas and the condition of the sampling points would continue to be monitored annually by independent ecological professionals during construction of the Proposed Development and every five years following the completion of construction. Survey methodologies would be agreed with NatureScot. Should a deterioration in condition of the vegetation from deer dispersal in the habitat management area be identified during these monitoring surveys, further actions would be agreed between the Applicant, landowners within the CDMA and NatureScot, which may result in action being taken, such as an increase in culling activities to reduce deer numbers further.

4.6 CONSERVATION STALKER ROLE AND CULL PLAN

4.6.1 Potentially the most important intervention to reduce deer densities and help both restore and maintain upland oak woodland and blanket bog communities in good condition will be the creation of a new dedicated conservation stalker role that would also offer wider conservation benefits. This role would offer scope for collaboration with adjacent landowners and NatureScot on a more strategic basis, helping to feedback on habitat condition monitoring etc.

4.6.2 The monitoring of deer movements and counts would be used to set annual cull targets within the Cruach DMA, which should be set to maintain the designated sites in favourable condition and allow for low level maintenance of sporting activities. Engagement with neighbours on the surrounding estates (notably Fearnoch Forest Estate) would also ensure deer management measures are complementary and collaborative. Final annual cull targets would need to be agreed between The Applicant, Achnacloich/Kilmaronaig Estate, Muckairn Estate and NatureScot.

[14] NatureScot (2023). The Woodland Herbivore Impact Assessment Method User Guide. Version 5th April, 2023.

4.7 DEER WELFARE

4.7.1 Measures to reduce the disturbance and potential mortality of deer would also be undertaken during construction of the Proposed Development. Deer welfare would be ensured at individual and population level and would include the following measures:

- Deer managers will have achieved a Deer Stalking Certificate (DSC) Level 2 and are on the NatureScot Fit and Competent register and follow Best Practise in all deer management activities.
- Deer managers carry out visual inspections of the deer population at every opportunity and individual estates retain larder weight records which may be brought into this plan at a later date to look at individual culled weights over time.
- All deer managers are aware of the dangers and issues surrounding Chronic Wasting Disease (CWD) and guests arriving from areas where CWD is prevalent are made aware of the need to disinfect clothing and equipment – especially boots.
- Restrict construction traffic to the construction Site boundary; and
- Minimise deer vehicle collisions and disturbance by restricting speed limits to 15mph within the

4.8 AMENDMENTS

4.8.1 This deer management plan is a live document and would be updated following monitoring results, unexpected events or changes in guidance. Approval by Argyll and Bute Council, NatureScot and neighbouring landowners (e.g. FLS) should be sought for any amendments before revised measures are implemented.

APPENDIX A: FIGURES

Figure 10.6.1 Deer Management Plan

APPENDIX TITLE

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