

8. Technical Appendix 8.5: Deer Management Plan

8.1 Introduction

- 8.1.1 The Proposed Development has potential connectivity with the Monadhliath Special Area of Conservation (SAC) and Special Site of Scientific Interest (SSSI). Impacts could involve the temporary displacement of red deer (*Cervus elephus*) from the Proposed Development into the designated nature conservation sites. This deer management plan includes measures to mitigate adverse impacts on the Monadhliath SAC and SSSI and takes into account deer management on neighbouring land and wind farms to ensure the objectives are complimentary, particularly with the Stronelaig Deer Management Plan and the Strategic Deer Management Plan (SDMP) for the Monadhliath Deer Management Group (MDMG), which are included as Technical Appendix 8.7 and Technical Appendix 8.8, respectively.
- 8.1.2 The Stronelaig Deer Management Plan covers the area of Stronelaig Wind Farm, whereas the wider estate and neighbouring lands are covered by the MDMG's SDMP, which covers an area of approximately 150,000ha. The SDMP applies an integrated approach to managing deer that maintains population numbers for sporting activities while ensuring long-term sustainability.
- 8.1.3 The Proposed Development covers an area of approximately 1,685ha and sits within the larger land ownership of Garrogie Estate within the MDMG area. Access to the Proposed Development is also taken through Glendoe Estate. Garrogie is an active sporting estate with renewable energy interests in the form of hydroelectric and wind farm developments.
- 8.1.4 Construction of the Proposed Development is expected to start in 2023 and the wind farm is planned to become operational in 2026.

8.2 Objectives of Deer Management Plan

- 8.2.1 This deer management plan has been completed following best practice guidance from Scottish Natural Heritage (SNH, 2019f). The purpose of the plan is:
- to summarise the potential impacts upon the Monadhliath SAC and SSSI from the temporary displacement of deer;
 - to outline the mitigation measures proposed to manage the potential impacts of the Proposed Development by which significant adverse effects on the qualifying interest species of the Monadhliath SAC and SSSI would be avoided or reduced to non-significant levels; and
 - to maintain a healthy red deer population as part of the overall estate management in order to provide sporting opportunities, while maintaining open moorland and bog in good condition.

8.3 Baseline

Monadhliath SAC and SSSI

- 8.3.1 The qualifying interest of the Monadhliath SAC and SSSI is blanket bog and the site supports one of the most extensive areas of high-altitude blanket bog in the UK. However, the blanket bog is considered to be in an unfavourable condition based on

monitoring completed by Scottish Natural Heritage (SNH) in 2004. The main negative pressure on the habitat is considered to be trampling.

- 8.3.2 The SAC and SSSI follow the same boundary, which runs close to the site boundary of the Proposed Development. At the closest point, it occurs 50m to the south-east from a proposed LiDAR unit and associated access track.

Deer Species and Numbers

- 8.3.3 Red deer are the most dominant species in the study area and were recorded during surveys undertaken in 2019 to inform the Environmental Impact Assessment (EIA) of the Proposed Development. The deer population within the study area is monitored through annual deer counts by estate staff, as detailed in Table 8.5.1.

Table 8.5.1: Annual Deer Counts¹

Year	Estate									Totals
	Garrogie			Glendoe			Knockie			
	Stags	Hinds	Calves	Stags	Hinds	Calves	Stags	Hinds	Calves	
2014	65	576	641	161	517	678	43	374	417	2,377
2015	65	262	91	156	615	189	9	209	61	1,657
2016	180	329	166	268	530	222	53	158	75	1,801
2017	97	272	136	290	537	247	60	108	62	1,808
2018	79	207	66	156	417	158	17	69	12	1,181

¹ Data on the annual deer counts was provided by the Applicant.

- 8.3.4 In general, deer numbers have decreased, with a reduction of 50% compared to the initial 2014 count. Glendoe Estate has the highest deer numbers, followed by Garrogie then Knockie Estates.
- 8.3.5 Data collected by the MDMG, as described in Technical Appendix 8.8, suggests the majority of deer use habitats below 600m for long periods during the Winter and above 600m during the Summer, which would mean deer numbers would be high in the study area during the Summer. This change in activity is likely due to poor weather conditions at higher altitudes during the Winter and a lack of woodland for shelter in the study area. During the Summer, deer are likely to use the study area for feeding and shelter within the extensive gullies already present in the bog habitat.

8.4 Potential Impacts

Habitat Modification

- 8.4.1 Construction of the Proposed Development may lead to the localised, short-term and temporary displacement of red deer into the SAC and SSSI, which would cease following the completion of construction, with deer likely to move back into the displaced areas during operation. Deer are also likely to return to the study area when the workforce retires for the day. However, during the period of displacement, the blanket bog of the SAC and SSSI could be damaged by trampling and grazing. As the bog is already considered to be in an unfavourable condition due to trampling, the displacement of deer is considered likely to result in a **significant adverse effect**.
- 8.4.2 Management and maintenance of the operational wind farm in the medium-term is not considered to lead to significant deer displacement as personnel activity would be low, vehicle speed limits would be controlled and the deer in the study area are considered to have some habituation to operational wind farm levels of human activity due to the presence of Stronelaig Wind Farm. Deer quickly adapt to activities that pose no threat and are likely to remain in the study area during operation.
- 8.4.3 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.

8.5 Mitigation and Enhancement Measures

- 8.5.1 The monitoring of deer movement and counts would continue to be undertaken by estate staff as part of their overall duties and the information provided would be used to manage cull levels. Engagement with neighbours on the surrounding estates through the MDMG would also continue to ensure deer management measures are complementary and collaborative.

Minimising Deer Disturbance and Mortality

- 8.5.2 Measures to reduce the disturbance and potential mortality of deer would be undertaken during construction of the Proposed Development. These measures would occur during Summer, when deer are more likely to be present above 600m and are, therefore, more likely to be disturbed during construction of the Proposed Development. The following measures are proposed:
- follow general guidance and specific objectives for Garrogie, Glendoe and Knockie Estates in the SDMP, provided as Technical Appendix 8.8;

- restrict construction traffic to the construction site boundary; and
- minimise deer vehicle collisions and disturbance by restricting speed limits to 15mph within the Proposed Development.

Cull Plan

- 8.5.3 As detailed in Technical Appendix 8.7: Stronelairg Deer Management Plan and Technical Appendix 8.8: Monadhliath Deer Management Group Strategic Deer Management Plan, annual cull targets would be extended to include the area of the Proposed Development. Current annual cull targets for Stronelairg Wind Farm are 80 hinds, 45 stags and 40 calves. The MDMG has set a strategic objective towards reducing hind densities across the Monadhliath area. Final annual cull targets for the Proposed Development would be in line with the MDMG and agreed with relevant stakeholders, such as Garrogie Estate.

Monadhliath SAC and SSSI Condition Monitoring

- 8.5.4 As detailed in Technical Appendix 8.7: Stronelairg Deer Management Plan, a pre-construction vegetation survey was completed by Applied Ecology in September 2016 in order to establish a baseline from which the condition of the Monadhliath SAC and SSSI could be monitored during construction of Stronelairg Wind Farm. A total of 66 points were sampled (Applied Ecology Ltd, 2016). The expected range of National Vegetation Classification (NVC) communities were recorded, with a low to moderate level of deer activity. During construction of Stronelairg Wind Farm, surveys were completed annually in September by independent ecological professionals to monitor the condition of the 66 sampling points. Following completion of construction in 2019, it was envisaged that less frequent monitoring would be required, with the frequency of surveys reduced to every five years.
- 8.5.5 This monitoring protocol would be extended for the Proposed Development. All reports produced by Applied Ecology and the independent ecological professionals would be consulted to establish the baseline, any changes in condition and the most recent condition of the 66 sampling points. The condition of the sampling points would then 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 methodology, including the statistical tests, would remain consistent with the pre-construction survey previously undertaken (Applied Ecology Ltd, 2016). Reports would be produced at the end of each monitoring year and provided to The Highland Council (THC) and SNH. Should a deterioration in condition of the vegetation from deer dispersal in the Monadhliath SAC and SSSI be identified during these monitoring surveys, actions would be agreed between the Applicant, the Estates and other statutory parties, which may result in action being taken, such as an increase in culling activities to reduce deer numbers further.

8.6 Amendments

- 8.6.1 This deer management plan is a live document and would be updated following monitoring results, unexpected events or changes in guidance. Approval by THC, SNH and the MDMG should be sought for any amendments before revised measures are implemented.