

1. Cloiche Wind Farm Deer Management Plan

1.1 Introduction

Background

- 1.1.1 This report presents a Deer Management Plan to support the 29 Turbine Proposed Development at Cloiche Wind Farm. This report, is therefore, provided as Additional Information (AI) comprising a technical appendix to **Chapter 4 – Ecology (Volume 1)**.
- 1.1.2 The Proposed Development has potential connectivity with the Monadhliath Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI). Impacts could involve the temporary displacement of red deer (*Cervus elephus*) from the Proposed Development into this designated nature conservation site. In addition to which, candidate Habitat Management Units (HMUs) (both on and off-site) as outlined in the Cloiche Wind Farm Outline Habitat Management Plan (oHMP) are also likely to be subject to deer presence and associated impacts.
- 1.1.3 This Deer Management Plan (DMP) has been prepared to support the objectives of the oHMP and provides measures to mitigate adverse impacts on the Monadhliath SAC/SSSI, as well as proposed HMUs and takes into account deer management on neighbouring land to ensure the objectives are cognisant of the Stronelairg Deer Management Plan and Monadhliath Strategic Deer Management Plan¹.

Proposed Development

- 1.1.4 The Proposed Development covers an area of approximately 1,629ha 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.

Objectives

- 1.1.5 This DMP has been completed following best practice guidance from Scottish Natural Heritage (now NatureScot) (SNH, 2019; and SNH, 2016). The purpose of the plan is:
- to summarise the potential impacts upon the blanket bog feature of the Monadhliath SAC/SSSI from the temporary displacement of deer, as well as potential impacts to HMUs associated with the Proposed Development;

¹ Monadhliath Deer Management Group Strategic Deer Management Plan for 2015 – 2024.

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- to outline the mitigation measures proposed to manage the potential impacts of the Proposed Development on the blanket bog feature of the Monadhliath SAC/SSSI and proposed HMUs would be avoided or reduced to non-significant levels; and
- to monitor and where necessary lower deer densities across both Estates in order to allow for blanket bog recovery and recolonisation of bare peatland within the proposed habitat management units and the maintenance of open moorland and blanket bog in good condition.

1.2 Baseline Information

Monadhliath SAC and SSSI

- 1.2.1 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, based on poor species composition, too much bare ground and many patches of eroding peat. There is almost no artificial drainage on this site, and the blanket bog is not burnt. Key management issues affecting this habitat include peat erosion, impacts from red deer (grazing/browsing and trampling), grazing by domestic stock, abiotic natural change, and climate change.
- 1.2.2 The SAC/SSSI follows 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. The northern section of the SAC/SSSI also sits within a proposed Habitat Management Unit (HMU) further to the east of the Proposed Development (See Figure 4.3.3, Outline Habitat Management Plan).

Existing Deer Management Plans

Monadhliath Strategic Deer Management Plan

- 1.2.3 The Monadhliath Deer Management Group (MDMG) consists mainly of deer stalking and grouse shooting estates and covers 175,733ha, between Spean Bridge, Aviemore, Loch Ness and Inverness. The DMG's Strategic Deer Management Plan (SDMP), adopted in 2015 and with delivery overseen by an Executive Committee.
- 1.2.4 The Proposed Development and candidate HMUs are covered by the Stratherrick Sub-Group of the wider MDMG DMP (See Figure 4.6.1), comprising the Garrogie Estate and Glendoe Estate, which cover an open hill area of 9,600 ha.
- 1.2.5 It is proposed that a key objective of the SDMP in the period 2015-2024 should be to ensure that local winter hind densities do not rise above the levels recorded in the winter count of 2013. The rationale for adopting this approach, as the backbone of the SDMP, is that almost all estates in the MDMG confirmed they wished to hold their deer densities steady and otherwise most wished to induce a local decline.

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- 1.2.1 It is acknowledged within the MDMP that the condition of high-altitude blanket bogs in parts of the MDMG area is clearly poor. Areas of heavy erosion or heavily grazed peatland are particularly evident around the peripheries of the Monadhliath SAC which is recognised for the character of its high-altitude peatlands.
- 1.2.2 A landscape scale peatland restoration project is currently being delivered across thirteen estates in the Monadhliath Deer Management Group (MDMG) area (further details are provided in the OHMP).

Stronelairst Deer Management Plan

- 1.2.3 A Deer Management Plan was prepared as part of the planning condition requirements for the Stronelairst Wind Farm, which was intended to cover the potential impacts of the Development, which is situated adjacent to the Proposed Development. As well as seeking to maintain open moorland and bog in good condition, one of the objectives was to address the concerns of SNH that the wind farm development would not cause adverse effects on the Monadhliath SAC through displacement of deer.
- 1.2.4 According to the Stronelairst DMP, hinds and calves within the Stronelairst area are considered to be hefted stock and do not range widely and red stags generally move between Stronelairst and Glenshero as 'shared' territory

Deer Species, Numbers and Distribution

- 1.2.5 The deer species and number present within the Garrogie and Glendoe Estates (and the wider SDMP area) (See Figure 4.6.2) are based on the data provided within the MDMG SDMP, which covers the period 2015-2024. This plan is primarily concerned with the open hill red deer population; however, there is a long-standing population of fallow deer as well as sika and roe deer, which present in the lower ground and the SDMP also outlines plans for managing these populations.
- 1.2.1 Aerial count data collected by the MDMG provides evidence for the way in which red deer use the wider Monadhliath area seasonally, suggesting the majority of deer (>95%) are likely to be found utilising habitats below 600m for long periods of the winter, but in the summer, a considerable proportion of the red deer herd are likely to be found utilising the montane habitats above 600m. This change in activity is likely due to poor weather conditions at higher altitudes during the winter and a lack of woodland for shelter across the study area. There is also regular movement within and between estates due to the weather (e.g. wind direction) and disturbance (e.g. culling, recreation etc).
- 1.2.2 Aerial surveys, which give a more accurate count of deer numbers than ground counts, were organised by MDMG during the winter of 2004, 2013 and most recently in April 2019 over the Red Deer Management Area (RDMA) which includes these estates.
- 1.2.3 According to the SDMP, the precise local distribution of deer at the time of each count is highly influenced by the antecedent and prevailing weather as well as by ground conditions (e.g. extent and distribution of snow cover). The DMG's approach is to treat the overall and the regional counts (and densities) as informative, whereas local count and density data are treated with a high degree of caution.

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- 1.2.4 Regional deer densities at the time of the last count in April 2019 suggest that most of the individual estate counts have shown a downward trend, whilst a few estates showed higher local densities. This was mainly due to the local distribution of deer at the time, when conditions were atypical (count undertaken in very warm April weather, rather than in snowy weather as normal).



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Table 1.1 Annual Deer Counts – Monadhliath DMG Overall

Zone	Area (km ²)	Total count – winter 2004	Total count – winter 2013	Total count – late spring	Deer density per km ² - 2004	Deer density per km ² - 2013	Deer density per km ² - 2019
Spean Bridge	283.2	2,928	3,013	2,752	10.3	10.6	9.7
Stratherrick	324.3	4,646	4,784	3,253	14.3	14.8	10.0
Strathnairn	178.3	2,696	1,576	667	15.1	8.8	3.7
Strathspey	706.4	11,214	9,611	7,169	15.9	13.6	10.1
MDMG - ALL	2,984.3	42,968	37,968	27,682	14.4	12.7	9.3

Table 1.2 Annual Deer Counts - Estates within or surrounding Proposed Development and Candidate HMUs

Zone	Estate	Area (km ²)	Total count – Winter 2004	Total count – Winter 2013	Total count – Spring 2019	2004: Deer/km ²	2013: Deer/km ²	2019: Deer/km ²	% Change 2013-2019	% Change 2004-2019
Stratherrick	Garrogie	118	1,155	1,191	743	9.8	10.1	6.3	-38%	-36%
	Glendoe	78	1,545	1,114	1,011	19.8	14.3	13.0	-9%	-35%
	Dell	10	69	120	107	6.9	11.9	10.6	-11%	-55%
Speyside	Coignafearn	159	1,347	873	2,574	8.5	5.5	16.2	195%	91%
	Coull and Blaragie	31	513	423	122	16.4	13.5	3.9	-71%	-76%
Spean Bridge	Glenshero	138	2,867	2,264	1,628	20.7	16.4	11.8	-28%	-43%



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- 1.2.1 From the aerial survey counts over Garrogie Estate, a total of 1,155 deer were recorded in 2004 (247 stags, 673 hinds and 235 calves), with similar numbers recorded in 2013 with 1,191 recorded (397 stags, 563 hinds and 231 calves); and a reduction in 2019 with 743 recorded (233 stags, 411 hinds and 99 calves). From the aerial survey counts over Glendoe Estate, a total of 2,867 deer were recorded in 2004 (1,279 stags, 1,176 hinds and 412 calves) and this had reduced to 2,264 in 2013 (1,163 stags, 815 hinds and 286 calves).
- 1.2.2 In general, deer numbers have decreased within the two estates where proposed Cloiche Wind Farm or candidate HMAs are proposed, with a reduction of 35-55% compared to the initial 2004 count.
- 1.2.3 Deer densities based on the 2019 count for Garrogie and Glendoe respectively were 6.3 deer/km² and 13.0 deer/km²; however, according to the SDMP, it is acknowledged that average deer densities in the peak of summer on the montane habitats are likely to be 'fairly high' from an ecological perspective. This was confirmed by an analysis which allocated the overall winter deer counts of 2004 and 2013, plus recruitment, into the area of the predicted summer range [although group-wide summer counts were not undertaken]. This analysis predicted a density in the RDMA of c. over 30 deer per km² in this 'peak summer' range.
- 1.2.4 However, it is also recognised that the distribution of deer in the summer is likely to be somewhat uneven and localised densities would be expected to range from being low to being very high depending on the location. A clear picture of the density and distribution of deer in the RDMA in summer is not fully understood as a group-wide count during the summer months has not been undertaken.

Deer density across the RDMA

- 1.2.5 Based on the summer count organised by SNH in 2013, the SDMP identified strong evidence that the density of deer using the Monadhliath SAC and surrounding area during summer is relatively high.
- 1.2.6 Also, the summer count data from 2003-2013 suggest that the number of deer using the SAC might have risen markedly in the past 10 years (2003 count was 1,772 and 2013 count was 3,252).
- 1.2.7 It is considered that the local rise in deer use of the SAC, if real, could conceivably be related in part to rising hind densities on select estates in the wider region, given that a high percentage (85-90%) of the deer using the SAC in summer appear to be hinds and their followers.
- 1.2.8 The SDMP provides the following estimated deer densities (See Table 1.3):
- A winter density of c.15-20 per km² across the entire RDMA is apparent up until the last 5 years when densities (as planned) have fallen.
 - However, if the deer density is calculated only for the range in which deer tend to spend most of their time in winter within the RDMA (<600m altitude) a density of 25-35 per km² was more typical up until recently with the April 2019 count at which point a winter range density of 15-20 per km² is now apparent.

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- It is considered that if all deer counted in winter 2004 or 2013 had moved into the summer range in spring then an effective density of 35-40 per km² would have been present; the results of the April 2019 count suggest summer range densities will now be closer to ~ 20 per km². It is acknowledged that such an extreme distribution is unlikely to occur for long periods each summer, however according to the SDMP, most Estate owners agreed during the formulation of the plan that the majority of their deer moved to high ground.

Table 1.3 Deer density (km²) pre-cull across RDMA, winter grounds and summer range

Zone	Area	2004	2013	2019
Entire RDMA	149,217 ha	~18	~15	~10
White ground range	83,001 ha	~31	~28	~18
Predicted summer range ²	66,216 ha	~39	~33	~20

Planned Cull

- 1.2.9 A key aim of the SDMP has been to reduce deer densities regionally over the course of the first 5 years of the plan. This aim was achieved by 2019, with all estates collaborating on the culls. Densities were successfully reduced to approximately 10 per km² across the Eastern Monadhliath. In the Western Monadhliath the plan had been to keep densities somewhat higher, but estates culled more heavily and the regional densities declined there also. A 'maintenance cull' is now taken to keep densities stable regionally; however, some estates are still reducing densities locally.
- 1.2.10 Table 1.4 shows the culls taken from 2017/18 to 2020/21 inclusive by the following estates: Garrogie, Glendoe, Dell, Coignafearn, Blaragie and Glenshero.

² According to Strath Caulaidh (2021), the summer range density might be overestimated because it is unlikely all deer would be present in the predicted summer range even at peak times. However, it is acknowledged that the summer density is calculated without taking account any new recruitment, which would add further to the densities. It is considered that the two effects may balance each other out but it is difficult to know for sure because of uncertainty in the precise summer range.



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Table 1.4 Annual Deer Culls³

Estate	2017/18				2018/19				2019/20				2020/21			
	Stags	Hinds	Calves	Total	Stags	Hinds	Calves	Total	Stags	Hinds	Calves	Total	Stags	Hinds	Calves	Total
Garrogie	76	163	45	284	50	51	4	105	42	40	-	82	35	40	5	80
Glendoe	45	101	26	172	44	48	11	103	46	52	8	106	42	15	19	76
Dell	16	32	15	63	13	7	3	23	11	9	2	22	8	6	1	15
Coignafearn	199	199	81	479	201	113	31	344	251	141	34	426	250	140	50	440
Blaragie	42	86	31	159	27	21	8	56	15	10	2	27	39	15	7	61
Glenshero	105	177	71	353	92	65	9	166	83	59	13	155	52	40	18	110

³ Data on the annual deer culls is provided within the Monadhliath DMG Annual Deer Management Report (Strath Caulaidh, 2021)..



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1.3 Potential Impacts

- 1.3.1 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.

Deer Populations

- 1.3.2 According to Edwards (2019), evidence suggests that impacts on open habitats (heaths and blanket bogs) can become moderate or high on at least some habitats above densities of above 8 per km². 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 in this report are categorised as low <5 per km²; moderate 5-10 per km²; high 10-15 per km² and very high >15 per km².
- 1.3.3 However, the actual number of deer a particular site can sustain without damage will depend on a range of factors including habitats, topography, soils, altitude, climate and other land uses in the area.
- 1.3.4 Aerial count data provide very strong evidence for the way in which red deer use the wider deer management area seasonally, suggesting the majority of deer (> 95%) are likely to be found utilising habitats below 600m for long periods of the winter. In the summer, a considerable proportion of the red deer herd are likely to be found utilising the montane habitats above 600m based on available summer count data.
- 1.3.5 The fact that the Proposed Development and proposed HMUs are located on a large high-altitude plateau means that a considerable proportion of the red deer population will always be expected to migrate seasonally from low to high ground.
- 1.3.1 As previously noted, the deer density within the Garrogie and Glendoe Estates was 10.1 and 14.3 deer/ km² respectively in 2013, reduced to 6.3 and 13.0 deer/ km² in 2019. However, a broad deer density across the summer range (>600m) is predicted to be ~20 deer/ km² would mean that the deer density is considered very high, particularly when considering appropriate densities for blanket bog sites.

Habitat Modification

Monadhliath SAC/SSSI

- 1.3.2 There is some evidence from NatureScot summer and winter deer counts that the number of deer using the RDMA has risen in recent years. There is also evidence that from an ecological perspective the current deer densities in summer are already generally high given the potentially fragile nature of the SAC. It is acknowledged within the SDMP that due to the presence of several SAC's in the MDMG area means that NatureScot and estate owners ideally need to adopt a conservative stance until such times as more research can be undertaken to ascertain the implications of high summering densities.

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- 1.3.3 As there are potentially high densities of deer within both the Glendoe and Garrogie Estates (including within the Proposed Development site), there is a chance that displaced deer could move into adjacent blanket bog associated with Monadhliath SAC/SSSI, which borders the eastern site boundary, which could be adversely impacted by increased deer trampling pressures.
- 1.3.4 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. Importantly however, the Proposed Development would not prevent deer gaining access to favoured sources of food or shelter on low-lying areas within Glen Brein and Glen Tarrf within the Glendoe Estate and Killin Glen and Glen Markie within the Garrogie Estate. Consequently, there is no evidence to suggest that deer behaviour would change in the long-term if the Proposed Development is built.
- 1.3.5 Based on the proposed phased approach to construction, where working areas would be localised rather than comprising the entirety of the Proposed Development area, this would further limit 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 on Garrogie and Glendoe or adjacent estates during the construction period.
- 1.3.6 Displacement impacts are unlikely to continue into the operational phase of the Proposed Development, as maintenance activities, and therefore disturbance, would be greatly reduced. Studies in Norway (Reksten, 2016) have suggested that red deer may avoid wind farm areas during construction but show no apparent avoidance during operation. 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 and vehicle speed limits would be controlled. Deer quickly adapt to activities that pose no threat and are likely to remain in the study 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.

Candidate Management Units

- 1.3.7 As there are potentially high densities of deer within the candidate HMUs, the success of proposed peatland restoration work could be adversely impacted by increased deer trampling pressures. The impacts of deer pressure were found to be widespread across the HMUs (B and C) during a ground-truthing site visit by Wood in September 2021 (See Habitat Restoration Opportunities Site Visit Report (**AI Technical Appendix 4.4**)). Deer were regularly seen during the visit (including the presence of a large dispersed herd of >350 head of red deer on the lower slopes of Carn Odhar na Criche. Hoof prints were found to be common across the bare peat areas and were demonstrably causing and exacerbating erosion (alongside wind erosion, runs/gullies of water within the bare peat pans). Success of any peatland restoration primarily within HMUs B and C is therefore considered likely to be entirely reliant on the close monitoring of deer numbers.

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Deer Welfare

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

1.4 Mitigation and Enhancement Measures

- 1.4.1 Specific measures to reduce the potential damage to habitats within and around the Estate and the potential disturbance and mortality of the deer are provided below.

Deer Monitoring

- 1.4.2 A clear picture of the density and distribution of deer across the two estates during the summer months is not fully understood. It is recognised that the distribution of deer in the summer is likely to be somewhat uneven and localised densities would be expected to range from being low to being very high depending on the location. A summer count is therefore considered necessary prior to commencement of the peatland restoration works to help establish a summer baseline and determine better resolution deer densities within and around proposed HMUs, which will inform requirements for any additional targeted measures, such as a HMP specific cull, or fencing, which may be required above and beyond the ongoing regional cull plan.

Habitat Condition Monitoring

- 1.4.3 Pre-construction vegetation surveys will be required in order to establish a baseline from which the condition of the bog habitats within the candidate HMUs could be monitored following construction of the Proposed Development. Ongoing vegetation monitoring will also be required to establish the trajectory of change following gully-blocking and erosion control within the HMUs (See Outline Habitat Management Plan (**AI Technical Appendix 4.5**)).
- 1.4.4 The methodology for all monitoring surveys will be informed by evolving survey techniques and future guidance and would be agreed with THC and NatureScot; however, it is anticipated that monitoring approaches will broadly align with approaches adopted by the Monadhliath Peatland Restoration Project.
- 1.4.5 Vegetation monitoring will be undertaken by suitably qualified ecological professionals who would monitor the success of peatland/bog restoration and highlight the need for any further management measures.
- 1.4.6 Baseline habitat condition would be established at sampling points within each of the proposed management units and the condition of the sampling points would then continue to be monitored annually during construction of the Proposed Development. The

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requirement for further monitoring outside the construction period would be subject to survey findings. Survey methodologies would be agreed with NatureScot. Reports would be produced at the end of each monitoring year and provided to The Highland Council (THC) and NatureScot.

- 1.4.7 Should deer be clearly implicated in the failure of restoration work at a significant scale within the HMUs following monitoring surveys, further actions would be agreed between the Applicant, Garrogie and Glendoe Estate and NatureScot. For instance, this could involve taking more of the planned cull from this area.

Cull Plan

- 1.4.1 Should deer be clearly implicated in the failure of restoration work at a significant scale on these sites following monitoring surveys, further actions would be agreed between the Applicant, Garrogie and Glendoe Estate and NatureScot. This could involve estates taking a more targeted cull from in and around these restoration sites. In the first instance this should simply involve taking more of the planned cull from this area. In due course, should this not have the desired effect, the estate should consider culling additional animals from these areas. A complementary option could also be the installation of fencing around HMUs, which would need to consider the potential for damage and necessary maintenance required as a result of exposure at high altitude and heavy snow.
- 1.4.2 The monitoring of deer movement and counts would continue to be undertaken by Glendoe and Garrogie 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 (notably Coignafearn, Glenshero and Coul and Blaragie Estates) through the MDMG DMP would also continue to ensure deer management measures are complementary and collaborative.

Deer Welfare

- 1.4.3 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:
- Restrict construction traffic to the construction Site boundary; and
 - Minimise deer vehicle collisions and disturbance by maintaining speed limits to 15mph within the Proposed Development.
- 1.4.4 General guidance and agreed actions within the MDMG would be followed;
- Agree, collate and review data available within the DMG which might be used as a proxy for deer health/welfare i.e recruitment, winter mortality, larder weights etc;
 - Take reasonable actions to ensure that deer culling operations safeguard welfare; for culled and surviving animals (e.g. for example by following best practice guidance);
 - Take reasonable actions to ensure that the welfare of surviving populations is safeguarded (e.g. provision and access to food and shelter);

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- Periodically review information on actions to safeguard welfare, identify and implement changes as required
- 1.4.5 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;
- 1.4.6 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.

Amendments

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

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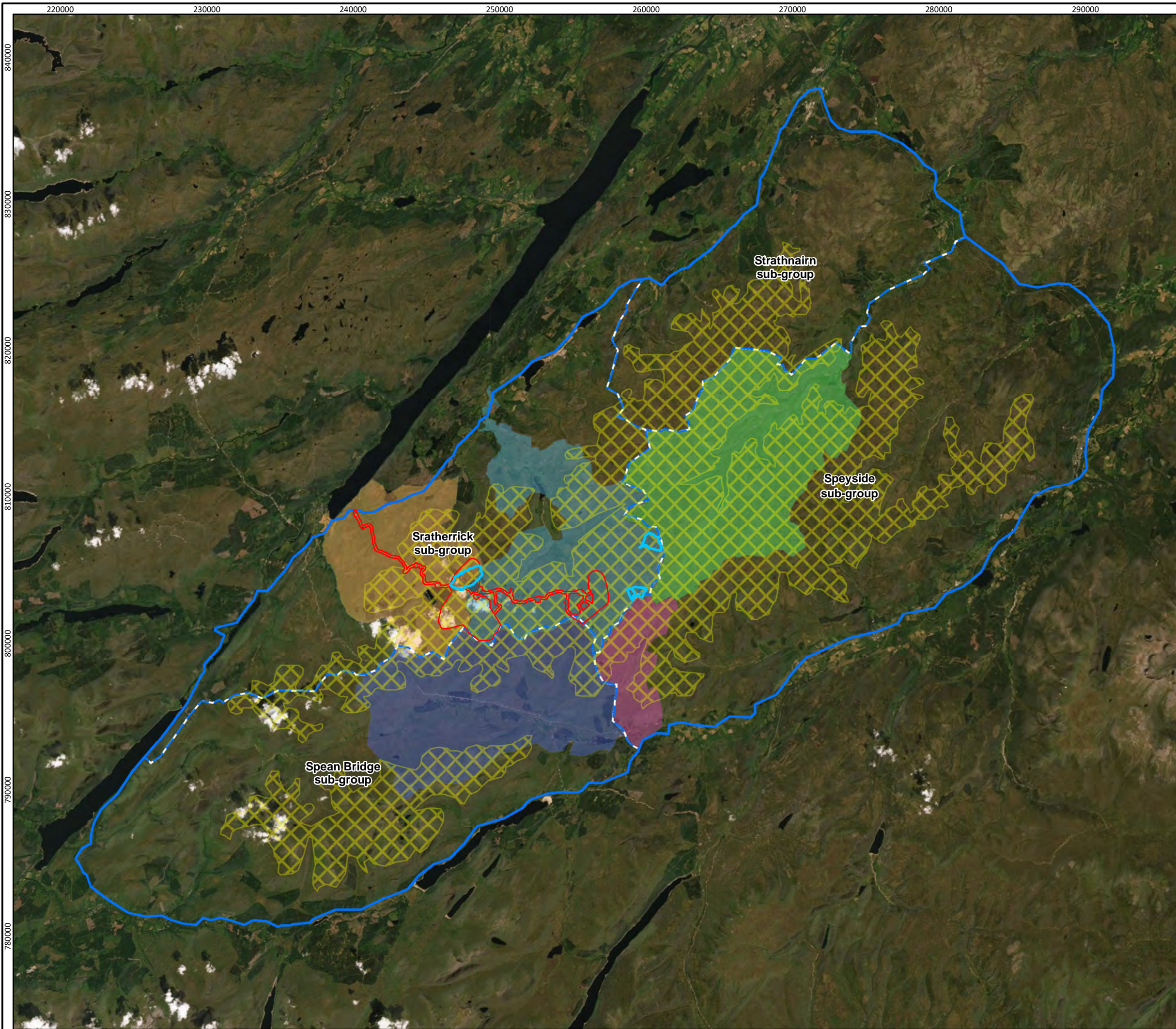
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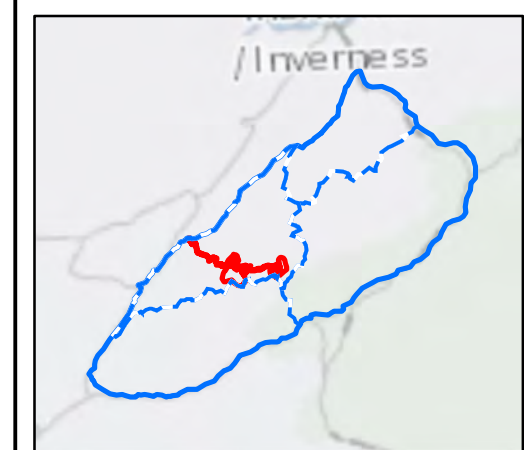
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Key

- Cloiche Wind Farm site boundary
- Candidate HMUs
- Monadhliath Deer Management Group boundary
- Deer management sub-group boundary
- Coignafearn Estate
- Coul and Blaragie
- Garrogie Estate
- Glendoe Estate
- Glenshero Estate
- Land >600m



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Figure 4.6.1
Peatland Restoration Search Areas

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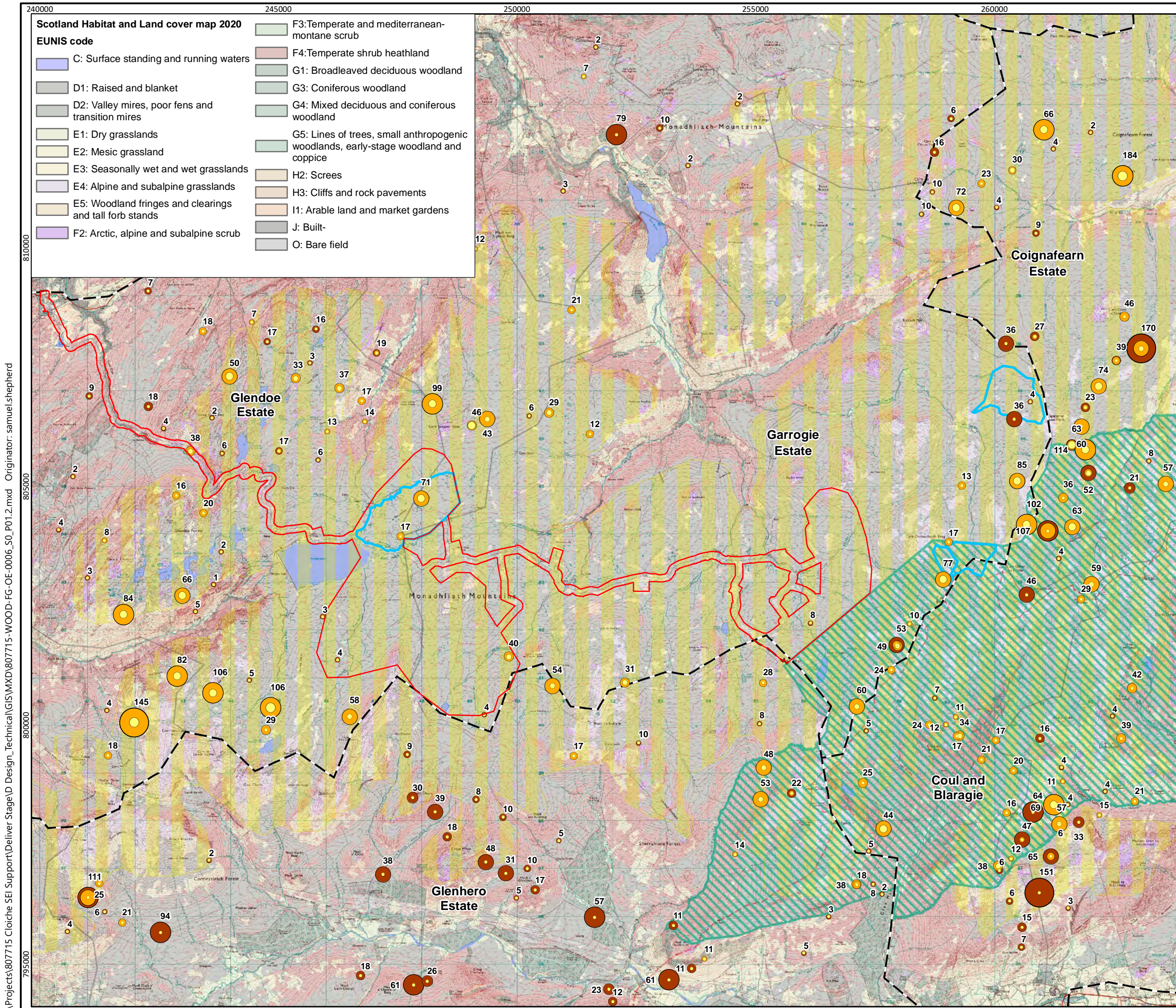


Figure 4.6.2
Deer Count Data and Constraints Plan

Cloiche Wind Farm
Additional Information
Deer Management Plan

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Scale 1:75,000 @ A3

0 2 4 Km

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