

Glenmoriston Deer Management Group
Deer Management Plan 2016 – 2026
(with mid-term review 2021)



DMG Website: <http://glenmoristondmg.deer-management.co.uk/>

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PRIORITY ACTIONS FOR 2017-2019

1. Following adoption of this Deer Management Plan, a summary executive will be prepared in the first half of 2017 as a 'working document' to manage short-medium term actions; review and update sections of the plan (as stated in Section 1); and document changes, developments, and annual achievements. Data and maps will be collated for benchmarking.
2. As a key national site reported in 'unfavourable condition', the Levishie Site of Special Scientific Interest (SSSI) will be a priority area within the DMG and regeneration will be planned in small plots under Scottish Forestry Grant Scheme (FGS) support during 2017 by Glenmoriston Estate.
3. An assessment will be made for the River Moriston SAC for any key action that can be taken during 2017 regarding deer management.
4. Continued and targeted communication with west / north neighbours for the management benefit of Glen Affric SAC.
5. Herbivore Impact Assessments will be initiated across member's estates during 2017 (dependent upon an Environmental Cooperation Action Fund application or alternative funding) to assess and update habitat plots monitored in 2014. This will follow previous methodology undertaken by a consultant and/or estate staff (with SNH training), with any annual observations included.
6. Woodlands across the DMG area will be viewed as a priority to further assess, enhance, open and extend where possible. 4,897ha of existing enclosed woodland exists across all estates, with 187ha of new woodlands planned within the Glenmoriston DMG area.
 - a. Addition woodland expansion will continue to be assessed using FCS/SNH/Highland Council data on expansion potential with areas encouraged and documented as and when confirmed.
 - b. The condition of existing woodlands will be evaluated from 2017/18 using the Native Woodland Survey of Scotland to ground truth (as part of the ECAF/HIA or other support noted above) with modest targets and encouragement for areas to be opened and enhanced where suitable.
7. Opportunities to use the SNH Peatland Action project and SRDP will be identified during 2017-2018 to quantify carbon and habitat gains.
8. Population modelling will be reviewed on an annual basis, based on annual counts, recruitment information and cull data basis.
9. All the members of the Glenmoriston Deer Management Group will remind themselves of, and adhere to the Code of practice on Deer Management as laid down in the Wildlife and Natural Environment (Scotland) Act 2011.

10. Non-Native Species (to be assessed under each estate) are not significant, but if left unchecked, increases and/or expansion in range will cause habitat and native species problems. These will be monitored with action and targets implemented from 2017 including potential impact.
11. Deer Vehicle Collisions will be monitored where known and referenced in future reviews from 2017. Where hotspots identified, actions should be considered on signage/fencing/etc.
12. Historical and Cultural Features will be noted from recognised sources for all current and forward fencing proposals and groundworks. The Joint Agency Guidance on fencing is available at <http://www.snh.gov.uk/land-and-sea/managing-wildlife/managing-deer/sites/fencing>.
13. Public Access will be mapped across the DMG area at or before the first annual review for reference to all management.
14. Public Interest will be further considered at meetings and through engagement with Community Council. In particular, how the DMG can contribute to education on deer management and benefits to local schools/community.
15. Attempt to quantify existing carbon sequestration from both woodland management and renewable energy projects across the DMG area and assess options for increased action.
16. Review and update the economic importance of deer management in the area, with options for cost-saving collaboration and increased sales and tourism using the PACEC report / model to assess the contribution of all deer management to the Scottish economy. Circulate the Contribution of Deer Management to the Scottish Economy Report /Executive Summary
17. Consider and quantify through a group member questionnaire the impact of deer management and deer management changes on other land uses and sporting income of group businesses and assess and agree a strategy to minimise impact/s.
18. A fire response plan will be developed for the Group and a Capital Investment Survey could be completed during the first year of implementation.
19. All policies and strategies noted within the DMP or new policies to be adopted will be assessed and updated/included as required, with any milestones reached.

1. Introduction

This Deer Management Plan (DMP) and its subsequent delivery aims to demonstrate how the Deer Management Group (DMG) is currently contributing to Scotland's sustainable deer management, and identify further opportunities for the DMG to deliver both member and public interest.

As the second DMP for Glenmoriston DMG, (the first being 2011-2015) this plan updates information and gives a ten-year vision as a useful, longer-term overview document to work from with sufficient detail to be delivered, monitored and reviewed within its timescale, however the plan will be reviewed annually (see below) and will receive a major review in 2021. A summary assessment of achievements will also be undertaken in advance of SNH review (anticipated 2019).

A short summary/executive paper will be produced to serve as an annual 'working document' for review and update as situations arise. This summary document will contain brief updates, as relevant, on:

- 1) Boundaries, Membership and Estate Developments
- 2) Deer Counts, Cull Targets and Actuals
- 3) Priority Habitat Assessments and Priorities
- 4) Relevant ADMG issues, Regulation and National/Regional Policy
- 5) Collaborative Proposals and Approaches
- 6) Community Actions and Public Benefits
- 7) Training and Development
- 8) Road Collision Records
- 9) Local Issues and Other Matters as relevant

2. Aims and objectives

The aims of the Deer Management Plan are to provide:

- An agreed framework for the management of wild deer and habitat improvement in the area covered by the Group;
- An agreed set of actions to deliver the public interest associated with sustainable deer management; and
- An agreed pattern of arrangements to ensure that the actions are implemented and their effectiveness monitored.

While some common objectives exist within the group members, for example, 'to maintain deer at levels which are conducive to 'good' moorland and woodland habitat condition while supporting local economics and employment', some fundamental differences also exist. The bulk of the member estates have sporting and conservation objectives, while two estates have nature conservation as their primary objective. This leads to inevitable difference in defining the term 'sustainable deer management' with the majority wishing to see deer numbers maintained at approximately the current level (to balance both economic and ecological sustainability) and others aiming for a population balanced with habitat (tree and heath) optimisation (ecological sustainability/priority).

All group estate owners have nature conservation objectives within their approaches; including native woodland expansion but also through renewable energy projects and protected species management (notably black grouse) managed through extensive, mixed farming operations or forestry/agri-environment operations.

Due to the fact that up to eight thousand ewes have left the ground in the last twenty years and habitat assessments in 2001, 2003 and 2009 have recorded progressively lower grazing levels and recovering habitats, most the group consider a maintained population to be a sustainable aim, at least until renewed herbivore impact monitoring proves otherwise but this is not agreed by all members.

The DMG however respects individual differences, and has adopted a conciliatory approach within its constitution (see statements in the "Membership" section below) resolving to address conflicts through constructive dialogue.

The objectives of the plan are to:

- i. Develop the group's economic and ecological sustainability through dialogue, development, information exchange and monitoring to bring together and protect individual objectives of its members while not disadvantaging any estate;
- ii. Adopt individual management and targets to maintain deer numbers for respective estates' needs while consulting and agreeing targets (largely achieved through cull targets from population counts or in some cases from habitat monitoring, and may include feeding in an attempt to hold deer within the group range);
- iii. Instigate habitat monitoring and management measures to inform management and enhance the general conditions for both the area and deer in the longer term.

3. Methodology

This plan builds on the previous 2011-2015 Deer Management Plan, which in turn was in part built from a previous plan for component sub-groups of the whole South Ross Deer Management Group, written in 2005 by Professor Rory Putman. Background and habitat information given here relies heavily on Professor Putman's work. Further survey work was done only for new members and for routine habitat assessment, while the most recently joining members (Glenmoriston, Balmacaan and Corrimony [Girvan]) were least assessed due to time restrictions with preliminary habitat descriptions only given from single visits in early 2016. This is noted against each of these estates and further work is required to enable correct benchmarking.

Baseline information has been gleaned from the 2011-2016 counts, with a focus on the 2016 (helicopter) results.

4. Boundaries and Membership

The group currently consists of eleven contiguous estates lying north of the A87 from Coire Lair in the west to Balmacaan in the East (see Fig 1 and Table 1) plus several areas within the boundaries managed by Forest Enterprise Scotland (FES).

The group was formed initially with six members as a sub-group of the larger South Ross Group which included the Affric & Kintail DMG to the immediate north and with whom there is frequent communication. Other members of South Ross cluster (Lochalsh DMG, Glen Strathfarrar DMG and Strathconon DMG) are not immediate neighbours, however communication is also in place with Glenelg DMG to the south-

west to ensure active engagement with all neighbouring DMGs in the area, to enable a landscape, collaborative approach to deer management.

Boundaries shown may change if additional properties join the DMG and will be accounted for in annual and 3 & 5 year reviews. Where a population of deer is considered continuous with the Glenmoriston DMG the land owner will be approached and offered membership.

The group has a constitution signed by the six founding members in December 2010 with the aim "to facilitate collaborative and sustainable deer management in the area covered by the deer management group." A further mission statement added in September 2013 widened the aim to add "a shared commitment to a sustainable and economically viable Scottish countryside." The statement also highlighted the diversity of objectives within the group and its neighbours and included a commitment to communicate openly and to negotiate compromise "in order to accommodate the reasonable land management requirements of our neighbours." The constitution has a further proposed update to include the ADMG Principles of Collaboration, Wild Deer Best Practice Guidance, and Deer Management Code of Practice to be adopted in early 2017. This is found on the Glenmoriston DMG website.

The group meets regularly to discuss plans and culls and conduct other business as required. The office bearers of the group at spring 2016 are:

Chair: Martin Girvan (Ceannacroc Estate)

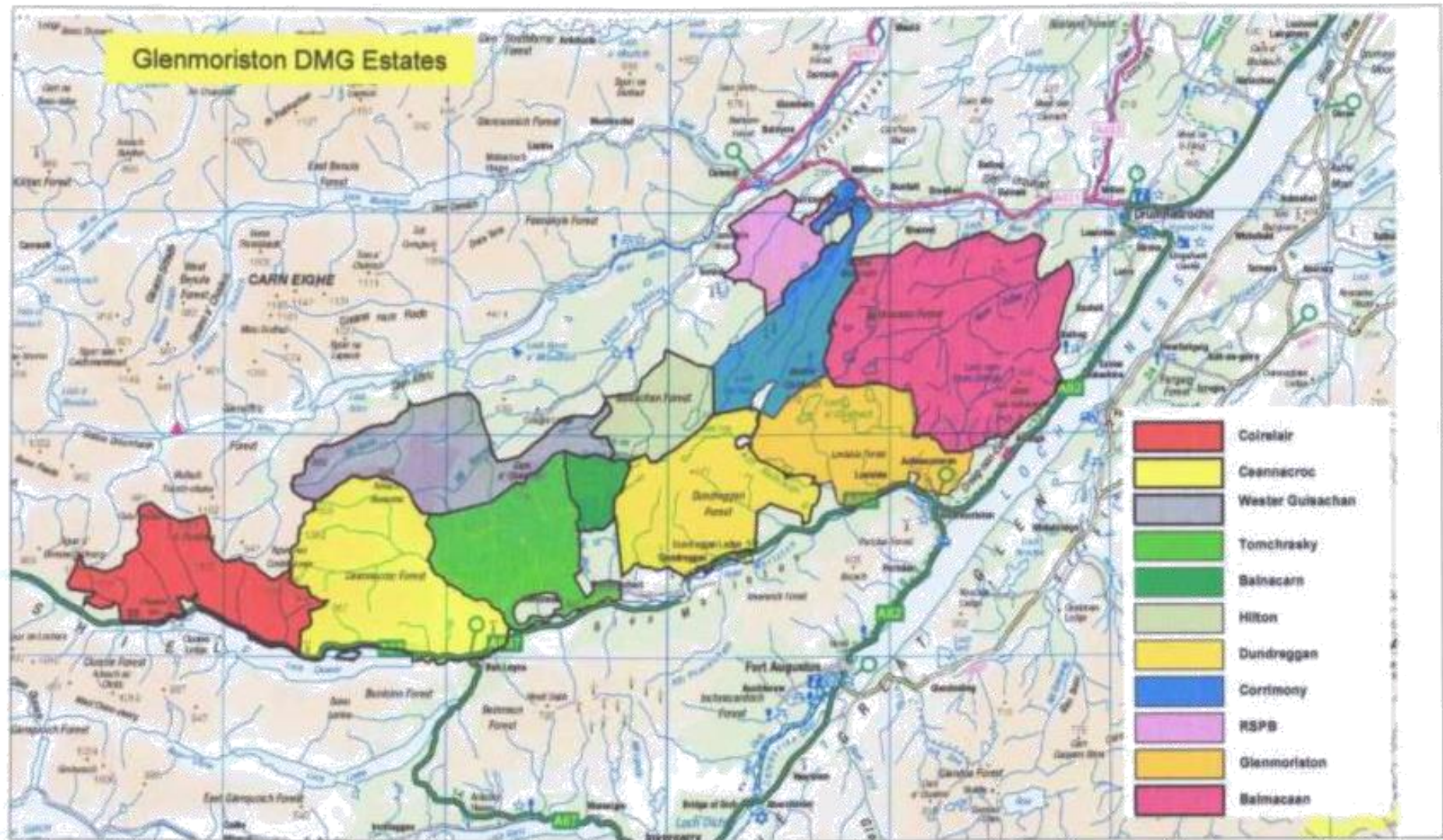
Secretary: Linzi Sievwright (Independent)

Treasurer: Lynda Campbell (Coirelair)

Table 1: Group Members

Property	Total Area (ha)
1. Coirelair Estate	3,350
2. Ceannacroc Estate	5,187
3. Tomchrasky Estate	3,488
4. Balnacarn Estate	726
5. Wester Guisachan Estate	4,100
6. Guisachan (Hilton) Estate	1,690
7. Dundreggan Estate	4,026
8. Corrimony (RSPB) Reserve	1,862
9. Corrimony (Girvan) Estate	2,750
10. Balmacaan Estate	7,695
11. Glenmoriston Estate	3,508
12. Forest Enterprise (recently added)	

Fig 1: Glenmoriston Deer Management Member Estates



5. Meetings, Policies and Strategies

5.1. Meetings

The group meets at least twice a year and more often as required. The meetings are chaired by the Chairman with the Secretary and Treasurer present. All members are invited including Forestry Commission Scotland (FCS)/Forest Enterprise Scotland(FES), and a representative from Scottish Natural Heritage (SNH), the Local Community Council and Police Scotland (where vehicle collision or poaching are an Issue).

Anyone with an interest in deer management is welcome to attend.

5.2. ADMG Principles of Collaboration

The member of this DMG – as written into the 2017 constitution – will follow the ADMG Principles of Collaboration:

1. Acknowledge what they have in common – namely a shared commitment to a sustainable and economically viable Scottish countryside;
2. Make a commitment to work together to achieve common goals;
3. Accept that they have a diversity of management objectives and that respect each other's objectives;
4. Undertake to communicate openly with all relevant parties;
5. Commit to negotiate and where necessary compromise to accommodate the reasonable land management requirements of our neighbours;
6. Undertake that where there are areas of disagreement, they will work to resolve these.

Management decisions are achieved by consensus, however when necessary dispute resolution within the Glenmoriston DMG is covered under the Group Constitution. All Group members are encouraged to deal with disputes in the first instance with those parties concerned, whether Group members, external parties or Government Agencies. Failing that, the Chairman of the Group will seek to facilitate an agreement. This may involve the opportunity to air relevant issues at a meeting of the Group. A request to do so requires to be made in writing at least two weeks prior to any such meeting. Representatives from ADMG are available to assist with disputes, should it prove impossible to resolve issues within the Group. Should this arise, the Group accepts that the findings of ADMG will be implemented.

Targeted Action:

- Historical and Cultural Features will be noted from recognised sources for all current and forward fencing proposals and groundworks. The Joint Agency Guidance on fencing is available at <http://www.snh.gov.uk/land-and-sea/managing-wildlife/managing-deer/sites/fencing>.
- Public Access will be mapped across the DMG area at or before the first annual review for reference to all management.
- Public Interest will be further considered at meetings and through engagement with Community Council.

6. Deer Numbers and Movements

Total DMG Population	Deer Range (ha)	Stags	Hinds	Calves	Totals	Density km2
2016		737	2,241	689	3,667	
Estate	Deer Range (ha)	Stags	Hinds	Calves	Total	Density km2
Coirelair	3,350	32	359	91	482	14
Ceannacroc	5,172	67	264	98	429	8
Tomchrasky	3,446	88	316	100	504	15
Balnacarn	726	2	13	4	19	3
Wester Guisachan	3,662	71	160	44	275	8
Guisachan (Hilton)	1,691	13	34	9	56	3
Dundreggan*	4,026	65	247	74	386	10
Corimony (RSPB)	1,862	0	0	0	0	0
Corimony(Girvan)	2,750	16	198	54	268	10
Glenmoriston	3,508	91	313	100	504	14
Balmacaan	12,940	292	371	115	778	10

The deer population is geographically constrained by the River Moriston and Loch Cluanie to the south and by Forestry Commission fences to the north and east.

The group's neighbours are West and South Affric to the west; the large Glen Affric National Nature Reserve (NNR) managed by Forestry Commission Scotland to the north; to the east and south there is a complex mix of Forestry Commission (FCS)/Forest Enterprise (FES) and agricultural land holdings. At the very western extent, Coirelair Estate has a short stretch across the A87 where there is an exchange of deer between it and Cluanie Estate to the south.

Deer move from north to south between Coirelair and its northern neighbours and to a lesser extent from Ceannacroc and Wester Guisachan into South Affric to the west/north-west. At the eastern extent, there is some movement through porous deer fences from FCS/FE ground. Within the group there is a seasonal movement from east to west which in the case of Stags may take place all the way from Ceannacroc to Balmacaan.

Deer numbers have been counted regularly by helicopter on the western estates around the NNR and on these estates numbers peaked in 2009 and have been declining slightly since.

7. Native Woodland

Native woodland exists on most estates and is described in the estate sections. An overview survey has been undertaken and the results are shown on the Native Woodland Survey map.

Many of the members have created considerable areas of native woodland. In some cases, this has been undertaken for conservation reasons to preserve ancient woodlands and in others for deer shelter. Some of the more mature plots are now open to deer (shown on individual Maps) however as can be seen by comparing the two woodland maps (Figs 2 and 3) significant areas of native woodland has been enclosed to protect it from deer.

Table 3: Woodland enclosures on each estate

Estate	Area enclosed (ha)	Planned Woodland (ha)
Coirelair	0	
Ceannacroc	970	
Wester Guisachan	665	37
Tomchrasky	258	
Balnacarn	85	
Dundreggan	696	150
Corrimony (RSPB)	825*	87
Corrimony	132	
Glenmoriston	146	107
Balmacaan	1128	
Hilton	0	
Total	4,897	187
<i>*with stock and electric fencing</i>		

Targeted Action:

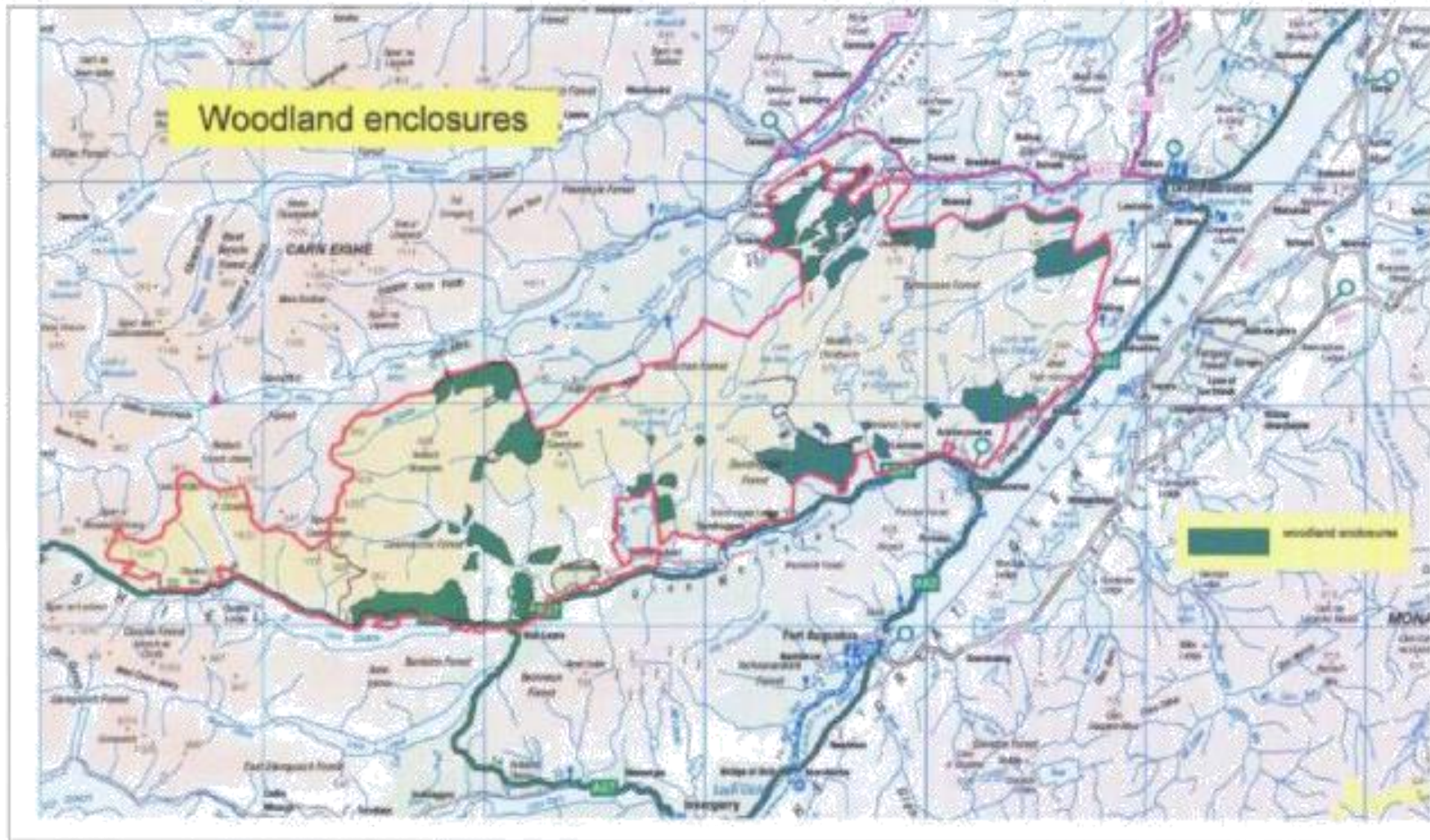
- Woodlands across the DMG area will be viewed as a priority to further assess, enhance, open and extend where possible. 4,897ha of existing enclosed woodland exists across all estates, with 187ha of new woodlands planned within the Glenmoriston DMG area.
- Addition woodland expansion will continue to be assessed using FCS/SNH/Highland Council data on expansion potential with areas encouraged and documented as and when confirmed.
- The condition of existing woodlands will be evaluated from 2017/18 using the Native Woodland Survey of Scotland to ground truth (as part of the ECAF/HIA or other support noted above) with modest targets and encouragement for areas to be opened and enhanced where suitable.

Native Woodland Survey Information

The map displays the Carn Eige area, highlighting native woodlands in green and DMG boundaries in red. Key locations and features include:

- Native Woodlands (Green areas):** Carn Eige Forest, Fannyle Forest, Ben Bulbin Forest, and various smaller woodlands like Ben Bulbin Forest, Ben Bulbin Forest, and Ben Bulbin Forest.
- DMG Boundaries (Red outlines):** The DMG boundary follows the coastline and extends inland through the Carn Eige area.
- Geographical Features:** Carn Eige, Ben Bulbin, Fannyle, and various rivers and streams.
- Infrastructure:** Roads (A1, A10, A11, A12, A13, A14, A15, A16, A17, A18, A19, A20, A21, A22, A23, A24, A25, A26, A27, A28, A29, A30, A31, A32, A33, A34, A35, A36, A37, A38, A39, A40, A41, A42, A43, A44, A45, A46, A47, A48, A49, A50, A51, A52, A53, A54, A55, A56, A57, A58, A59, A60, A61, A62, A63, A64, A65, A66, A67, A68, A69, A70, A71, A72, A73, A74, A75, A76, A77, A78, A79, A80, A81, A82, A83, A84, A85, A86, A87, A88, A89, A90, A91, A92, A93, A94, A95, A96, A97, A98, A99, A100) and the A100 road.

Fig 3: Woodland Enclosures

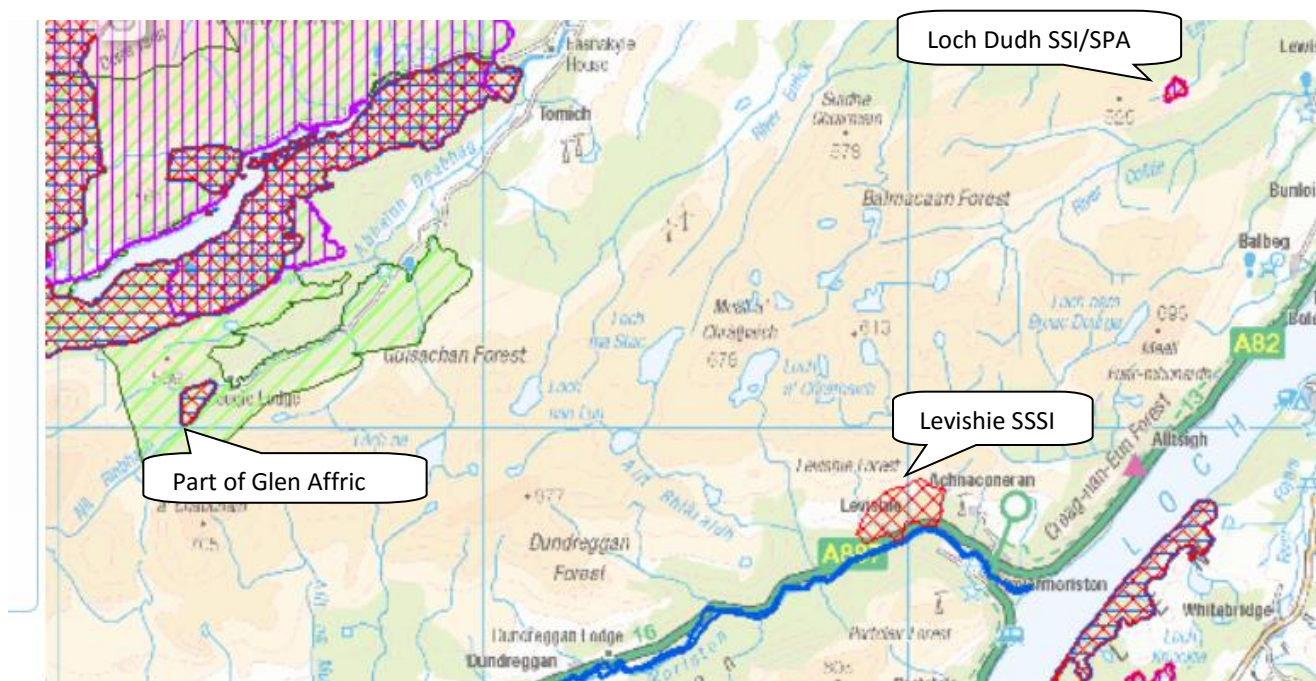


8. Designated sites

There are three designated sites within or across the boundary of the DMG area shown in Fig 4 and the details of which can be found on SNH sitelink website <https://gateway.snh.gov.uk/sitelink/> plus two that lie outwith but are potentially influenced by the DMG area, alongside a National Nature Reserve.

1. A hill loch on Balmacaan is designated as a Dubh Lochs Site of Special Scientific Interest (SSSI) and North Inverness Lochs Special Protected Area (SPA) due to its importance as a breeding site for Slavonian Grebe. The site is in "Favourable maintained" condition and deer have little or no effect on the site.
2. The Levishie wood Site of Special Scientific Interest (SSSI) lies on Glenmoriston Estate and is designated for its juniper rich birch woodlands. The site is currently in "Unfavourable no change" condition. Glenmoriston estate is working with SNH to achieve appropriate management to return the site to favourable condition. Details of the management is covered in the Glenmoriston section.
3. Wester Guisachan has a small area that falls within the Glen Affric SSSI and Strathglass Complex SAC for bird assemblages, dragonfly assemblages, lichen assemblages and native pinewood and borders the larger part of the SSSI and Strathglass Complex SAC, which is designated for a variety of upland habitat features including blanket bog, montane acid grasslands.

Fig 4: Designated Sites within Glenmoriston DMG



4. The River Moriston SAC lies to the south of the A887 and while outwith the DMG area is influenced by the DMG catchment. Deer will have little or no effect on the Salmon and Freshwater Pearl Mussel key features however any groundworks for woodland creation should be carefully planned to ensure no sedimentation. The DMG will cooperate as required with the river basin management process.
5. Loch Cluanie to the southwest of the DMG area, south of the A987 is designated as part of the West Inverness-shire Lochs SSSI/SPA for Black throated diver and

Common Scoter which are in "favourable Maintained" condition. Deer are unlikely to have any effect on this site/bird habitat.

6. Ceannacroc, Coirelair, and Hilton all border the Glen Affric National Nature Reserve (NNR). Transient deer will influence this site but the estates are working to make their ground more attractive for wintering deer and thus reduce the impact on the NNR (see individual sections).

Targeted Action:

- As a key national site reported in 'unfavourable condition', the Levishie Site of Special Scientific Interest (SSSI) will be a priority area within the DMG and regeneration will be planned in small plots under Scottish Forestry Grant Scheme (FGS) support during 2017 by Glenmoriston Estate.
- An assessment will be made for the River Moriston SAC for any key action that can be taken during 2017 regarding deer management.
- Continued and targeted communication with west / north neighbours for the management benefit of Glen Affric SAC.

9. DMG Socio-Economics

Within the group there are 7 paid full time stalkers and 3 others working part-time on various agreements/projects. On two of the estates the stalking is done by the owners and family.

The total stag cull of 227 has the potentially annual worth of £68,000 as let shooting although in practice stalking is a mix of let days and that undertaken by family and friends. Two estates do not actively let stalking but culls are undertaken this by staff as annual management only.

Venison revenue from 623 carcasses brings in a further £62,000.

On estates where the stalking is let, further income accrues to the local economy through shops, filling stations and accommodation.

All estates have and continue to make capital investments in vehicles, ladders and equipment associated with deer management.

Due to the mixed objectives outlined in Section 2, understanding the economic impacts of current and changing deer management on other land uses and on existing sporting management/estate economics is important to discussion and to adapt and adopt any changes.

Targeted Action:

- Review and update the economic importance of deer management in the area, with options for cost-saving collaboration and increased sales and tourism using the PACEC report / model to assess the contribution of all deer management to the Scottish economy. Circulate the Contribution of Deer Management to the Scottish Economy Report /Executive Summary.
- Consider and quantify through a group member questionnaire the impact of current deer management and deer management changes on other land uses and sporting income of group businesses and assess and agree a strategy to minimise impact/s.

10. Policies and Strategies

10.1. Internal Communication Policy

The group communicates largely by email. Minutes are taken at meetings and circulated to all members and meeting invitees. Any news or request for information such as cull figures, counts or mortality figures can be obtained through this medium.

Financial information is kept by the treasurer and reported on at each meeting.

10.2. External Communication Policy

The Chair and Secretary will maintain contact with the Association of Deer Management Groups (ADMG) and will monitor its website. Information gathered from this source will be conveyed to members at meetings or by email if urgent.

Habitat monitoring information, cull data, foot count data, mortality data and any other relevant information is shared with SNH.

The Deer Management Plan (DMG) will be placed on the Glenmoriston Deer Management Groups own website which is to be set up and hosted with initial assistance from the ADMG and placed on the ADMG's own website and updated as required.

A copy of the DMG will be given to the local Community Council and the contractors writing the plan, will if required, make a presentation of the plan to a council meeting.

Access takers are encouraged to visit the "Heading for the Scottish Hills" website www.outdooraccess-scotland.com/hftsh and Group members are asked to put their details on this site where appropriate. No-one within the group considers access as an issue constraining deer management and all welcome the public.

Members of the Deer Management Group will promote and encourage effective communication on deer management issues both within the DMG and throughout the wider community to promote better awareness and education of deer and deer management through the following actions:

- Deer management planning will be open, inclusive and seek local consultation;
- The DMG web-site will be regularly updated to include the Deer Management Plan, Minutes and Agendas for meetings as well as any other relevant information which seeks to promote openness and transparency;
- The DMG will ensure that contact details are available for anyone seeking information or wishing to raise concerns; and
- The DMG will actively seek opportunities to promote deer management through training, educational or awareness raising events.

Targeted Action:

- Pubic Interest will be further considered at meetings and through engagement with Community Council. In particular, how the DMG can contribute to education on deer management and benefits to local schools/community.

11. Welfare Policy

Members of the Deer Management Group will promote and encourage the safeguarding of deer welfare both at the scale of the individual animal and at a population scale through the following actions:

- Carrying out all deer management activity to Wild Deer Best Practice Guidance industry standards;
- Promoting / undertaking deer management training, Continual Professional Development (CPD) and industry recognised qualifications (e.g. Deer Stalking Certificate Levels 1 & 2);
- Discouraging/reporting all unregulated stalking activity;
- Ensuring that the natural habitat supports good welfare through the provision of adequate habitat and shelter;
- Ensuring that any land management operations take into consideration possible effects on deer movements or the availability of shelter; and
- Ensuring that the necessary precautions and checks are undertaken to prevent the spread of diseases.

Targeted Action:

- A fire response plan will be developed for the Group and a Capital Investment Survey could be completed during the first year of implementation.
- All policies and strategies noted within the DMP or new policies to be adopted will be assessed and updated/included as required, with any milestones reached.

12. Setting cull targets

The estates involved have previously set targets based on historic numbers and availability.

Individual estate culling targets for 2011-2015 were:

Estate	Stags	Hinds & Calves (Total)
Coirelair	20	50
Ceannacroc	40	60
Tomchrasky	25	50
Balnacarn	7	1
Wester Guisachan	15	60
Guisachan (Hilton)	5	5
Dundreggan	25	50*
Corrimony	Not fixed	Not fixed
Corrimony (Girvan)	10	3
Glenmoriston Estate	30	50
Balmacaan	40	50
		*raised to 90 in 2015/16

For the duration of this plan the targets will be set where possible based on a **population model** and a **desired target population**. As the populations are to an extent mobile this is a method which needs to be reviewed regularly and adjusted in light of new count figures, mortality and recruitment

Assumptions made

- That recruitment rate is as at the 2016 count with a 50/50 sex ratio; and mortality is 2% stags and 2% hinds;
- That there is some movement from east to west throughout the whole group with the possible exception of Coirelair so there may be some merit in considering the whole group as one population;
- That Dundreggan will set cull levels based on vegetation response to deer browsing pressure and using available data on deer numbers based on frequent foot counts and occasional helicopter counts along with data on productivity rates.

To define the populations the plan separates the group into three areas.

1. **Coirelair:** This population is shared with South and West Affric and for this reason is not included /modelled here with other members of this group. The estate has long been regarded as a hind forest and carries a fairly large population of hinds (295 in March 2015) but only a modest number of wintering stags (26 in March 2015). For a cull of sporting stags it relies on an influx of stags from its northern neighbours.

2. **Ceannacroc Group** (Ceannacroc, Wester Guisachan, Tomchrasky, Balnacarn): These estates have a population which moves slightly east to west but has boundaries north and south. This group was counted in the baseline year of 2016 and the numbers can be added together to use in a population model (see overleaf).

Ceannacroc Group Model

Starting population is 2016 deer count.

	Stags	Hinds	Calves	Totals
Spring 2016 Count	226	740	242	1208
2016 Mortality	5	15		19
2016 Spring Population	221	725	242	1189
2016 Summer Population	342	846	254	1443
2016/17 Cull	100	100	30	230
2017 Mortality	7	17	0	24
2017 Spring Population	236	729	224	1189
2017 Summer Population	348	841	255	1444
2017/18 Cull	100	100	30	230
2018 Mortality	7	17		24
2018 Spring Population	241	724	225	1190
Spring 2018 population	250	742	262	1254
2018 Mortality	5	15		20
2018 Spring Population	245	727	262	1234
2018 Summer Population	376	858	300	1535
2018/19 Cull	100	100	30	230
2019 Mortality	8	17	0	25
2019 Spring Population	268	741	270	1280
2019 Summer Population	404	876	307	1586
2019/20 Cull	100	100	30	230
20120 Mortality	8	18		26
2020 Spring Population	296	759	277	1331

Cull targets from 2016 model will therefore be:

Estate	Stags	Hinds + calves
Ceannacroc	31	50
Wester Guisachan	31	50
Tomchrasky	31	30
Balnacarn	7	1
Total	100	131

3. **Glenmoriston Group** (Dundreggan, Hilton, Corrimony RSPB, Corrimony Girvan, Glenmoriston, Balmacaan): These estates also have a largely east - west movement of deer. This group was counted in the baseline year of 2016 and the numbers can be added together to use in a population model (see below).

Glenmoriston Group

Starting population is 2016 deer count.

	Stags	Hinds	Calves	Totals
Spring 2016 Count	479	818	347	1644
2016 Mortality	10	16		26
2016 Spring Population	469	802	347	1618
2016 Summer Population	643	975	321	1939
2016/17 Cull	120	120	30	270
2017 Mortality	13	20	0	32
2017 Spring Population	510	836	291	1636
2017 Summer Population	655	981	334	1971
2017/18 Cull	120	120	30	270
2018 Mortality	13	20		33
2018 Spring Population	522	841	304	1668
Spring 2018 population	469	822	262	1553
2018 Mortality	9	16		26
2018 Spring Population	460	806	262	1527
2018 Summer Population	591	937	375	1902
2018/19 Cull	120	120	30	270
2019 Mortality	12	19	0	31
2019 Spring Population	459	798	345	1601
2019 Summer Population	631	970	388	1989
2019/20 Cull	120	130	30	280
2020 Mortality	13	19		32
2020 Spring Population	498	821	358	1677

Cull targets from 2016 model will therefore be

Estate	Stags	Hinds + calves
Dundreggan*	25	50
Hilton	5	5
Corimony*	10	5
Corimony (Girvan)	10	10
Glenmoriston	35	45
Balmacaan	35	45
Total	120	160

Targeted Action:

- Population modelling will be reviewed on an annual basis, based on annual counts, recruitment information and cull data basis.

13. Seasons

All members of the DMG will endeavour to achieve their red deer culls within regulation seasons (excepting intruders into enclosed vulnerable woodlands). Where members are contemplating an application for an out of season licence, they will inform the DMG and take note of their advice before making the application. Information on the numbers of deer shot out of season will be supplied to the DMG and members of the public as soon as is practicable.

14. Other Species**14.1. Roe deer**

Some members see Roe as an asset to be managed and none see them as a problem. Some shooting of Roe will take place where they threaten woodlands.

14.2. Sika

Sika exist to some extent on all estates and are routinely shot in season. Sika are prevalent on neighbouring FC land and their high recruitment rates make them a constant threat to woodland. Efforts will be made to control the population if it reaches higher levels than at present.

While recognising that sika and fallow deer are viewed as an additional sporting interest by some members, their spread within the DMG area should be minimised and their population kept under control as far as possible.

14.3. Feral Pigs

Feral Pigs are spreading to most Estates within the group. With the exception of Dundreggan, members will shoot Feral Pigs because of the threat that they pose to fencing.

14.4. Fallow

Fallow deer are known to have escaped from deer parks around fort Augustus. There is mixed reaction within the group to the possibility of Fallow establishment. Some members would shoot them in season others would leave them.

14.5. Muntjac

None reported at present. Any sightings will be reported to SNH.

Targeted Action:

- Non-Native Species (to be assessed under each estate) are not significant, but if left unchecked, increases and/or expansion in range will cause habitat and native species problems. These will be monitored with action and targets implemented from 2017 and should include potential impact of species.

15. Monitoring and Evaluation

15.1. Habitat assessment

Habitat assessments of the whole area were carried out by the Macaulay Land Research Institute (MLURI) in 2001 (Stolte et al 2001). Further assessments of the whole area were carried out by Rory Putman in 2003 prior to the writing of the deer management plan in 2005.

Habitat assessments on Corrielaire, Ceannacroc, Tomchrasky, and Balnacarn were undertaken by Alan Boulton in July 2009, and revisited in 2014. This will be expanded to cover more members and will follow the methodology of returning to GPS points to record diversity, sward height and grazing impact as well as documenting overall impressions of habitat condition. The assessment will also be expanded to cover a wider range of habitats including high altitude communities. A record of the GPS points is held by the secretary.

Future and existing points will be established at random within dry heath and blanket bog habitats and be monitored following the method outlined in The Best Practice Website <http://www.bestpracticeguides.org.uk/guides/impacts-intro>. A total of 66 points will be established (approximately 30 per sub population). The monitoring of these points will be undertaken where possible by the individual estate. Where training is required this will be coordinated with SNH.

Targeted Action:

- Herbivore Impact Assessments will be initiated across member's estates during 2017 (dependent upon an Environmental Cooperation Action Fund application or alternative funding) to assess and update habitat plots monitored in 2014. This will follow previous methodology using the herbivore impact assessment methods from MacDonald et al (1998) and detailed in Best Practice Guidance <http://www.bestpracticeguides.org.uk/impacts/principles-practice> to ensure accurate comparisons are achieved but may also introduce additional (simpler) techniques where appropriate (including fixed point photography). This may be done by consultant and/or estate staff (with SNH training) and any annual observations should also be included.
- Opportunities to use the SNH Peatland Action project and SRDP will be identified during 2017-2018 to quantify carbon and habitat gains.

15.2. Counting

The last whole group count took place in March 2012. A helicopter count in 2015 stopped short of counting the whole group. Another helicopter count is scheduled to count the whole group in late winter 2016 which should form the baseline for this plan

Group members will collaborate to undertake winter counts on foot and will use this count information to inform and update this plan. The dates of counts will be discussed with the Affric and Kintail group to achieve wider collaboration where possible.

In addition estates will record mortality and recruitment rates so that these can be used in population modelling.

An application will be made in 2016/17 to the Environmental Cooperation Action Fund (ECAAF) to support a helicopter count in 2019 and regular habitat monitoring. In addition, information on the Agri-Environment and Climate Change Scheme (AECS) will be sought for the group to highlight individual opportunities.

16. Carbon

Many estates contribute to carbon sequestration through their woodland creation and the protection of native woodland as well as renewable energy projects. There is little or no hill drainage which would damage the blanket bogs.

Dundreggan has undertaken some peatland restoration work where drainage for previous forestry work has caused some drying out and subsequent oxidisation of the peat.

Targeted Action:

- Attempt to quantify existing carbon sequestration from both woodland management and renewable energy projects across the DMG area and assess options for increased action.

17. Qualifications and Training

The group encourages all its members to attain the deer management qualification level one and work towards level two. Where any training is required the group through its chair and secretary will seek to facilitate training in an efficient manner by organising group sessions. This may require liaising with other deer management groups.

Training will be an agenda item at routine meetings when members will be encouraged to discuss training requirements such as; Habitat monitoring, larder work, butchering and Deer Management Qualifications.

Estate	Deer management Qualifications
Coirelair	1x DMQ 1
Ceannacroc	1x DMQ 1, one also in progress
Wester Guisachan	2x DMQ 2
Tomchrasky	1x DMQ 2
Balnacarn	
Hilton	
Dundreggan	1x DMQ 2
Corrimony (RSPB)	1x DMQ 1
Corrimony	

Glenmoriston	1x DMQ 2; 1DMQ 1
Balmacaan	1x DMQ 2

Game dealers will be routinely asked for reports on carcase quality with particular reference to public health.

The group will discuss bio security measures to implement if visitors come from areas with Chronic Wasting Disease (CWD).

All members will be made aware of the risks of Lymes Disease and be able to identify its early stages.

See also note under Habitat Monitoring re: SNH training for estate owners/staff on Herbivore Impact Assessment.

18. Best Practice

All the members of the Glenmoriston Deer Management Group are encouraged to be familiar with, and adhere to the Code of practice on Deer Management as laid down in the Wildlife and Natural Environment (Scotland) Act 2011.

Members are also encouraged to be familiar with and follow Best Practice Guidance <http://www.bestpracticeguides.org.uk/guides>

Membership of the Scottish Quality Wild Venison Scheme is recommended by the Association of Deer Management Groups and is promoted to members of this group. All members have access to good larders and chilling facilities and are happy to market venison individually but will discuss collective marketing at meetings.

19. Deer Vehicle Collisions (DVC)

The A87 runs along the southern boundary of the DMG and has proved to be a hot spot for collisions particularly at the western end.

The latest maps (2008 – 2010) http://www.deercollisions.co.uk/web-content/ftp/moreclips/DVC_SNHJuly2011_AppendixI_JL.pdf show relatively low collisions (1-3 hits per km² with one exception at Invermoriston which shows an incidence of 3-6/km²), increasing to higher casualties (3-6/km² and 6-12/km²) to the west on the A87.

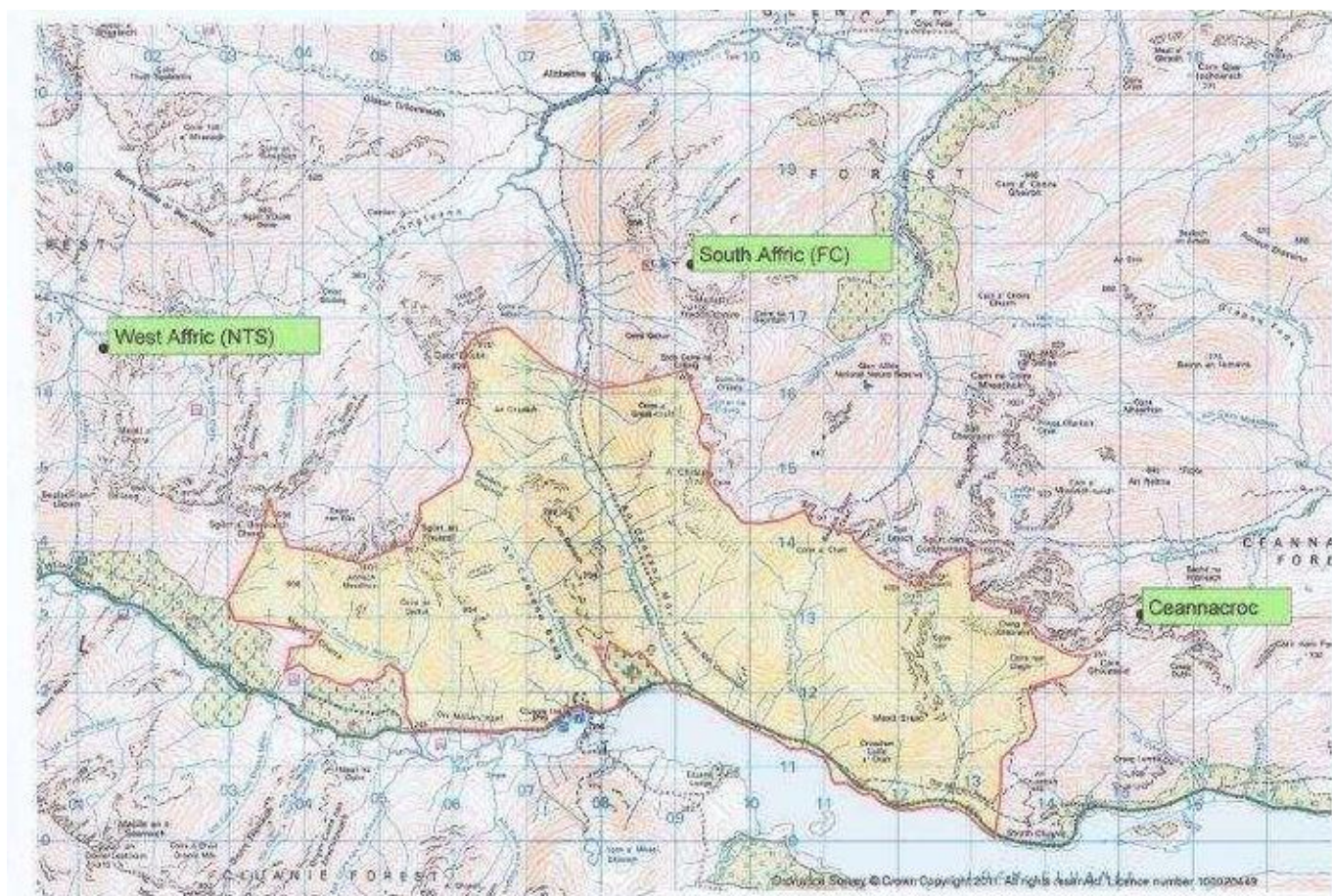
Group members are encouraged to remove carcasses from the roadside and report the collisions to the website www.deercollisions.co.uk. The situation on the A87 will be monitored by obtaining an annual update from SNH and discussed at meetings.

Targeted Action:

- Deer Vehicle Collisions will be monitored where known and referenced in future reviews from 2017. Where hotspots identified, actions should be considered on signage/fencing/etc.

20. Individual Estates:

20.1. Corrielaire



20.1.1. Description:

Corrielaire Estate lies on the western boundary of the DMG area, immediately to the west of Ceannacroc, purchased by the current owner in 1991. The Estate is bordered to the north to the north by South and West Affric, and to the west by Kintail. The southern boundary is formed by the A87 Bunloinne to Shiel Bridge road west of, and by the shores of Loch Cluanie.

Corrielaire extends to some 3,327 hectares and has a strong north-south orientation. There are two main glens running north to south through the central part of the property (An Caorann Mor and An Caorann Beag [Corrie Mor and Corrie Beag]) and two rather steeper corries to the east (Choire a Chait and the eponymous Coire Lair); an additional corrie in the west of the Estate (Coire Thoil Bhruach) runs northwest behind two blocks of Forestry Commission planting.

20.1.2. Woodland

There are several pockets of native broadleaved woodland in the deeper and more inaccessible gullies and ravines of the main streams (Allt a Chaorainn Mhoir and Allt a Chaorainn Bhig) and also associated with the mouth of the Allt Coire Lair at the roadside. Otherwise there remains relatively little native woodland. There are however

two major Forestry Commission plantations to the west (adjacent to the roadside below Meall a Charra), which have recently been re-fenced. A further plantation between Corrie Mor and Corrie Beag, has recently been sold to a new owner who has subsequently felled it. This plantation had been open to deer and the loss of this shelter will be significant.

The estate is currently exploring the possibility of creating some woodland enclosures with a view to provide shelter in the longer term to reduce the transience of the deer population and to hold more wintering stags. Two key aspects of this planning are that any new woodlands will not use up the best grazing and secondly that the woodlands are positioned in such a way that they could be linked in the future to fence off the A87.

20.1.3. Vegetation condition

Due to the fact that it straddles the 'tailrace' of a band of lime-rich mudstones running southwest from Guisachan and Ceannacroc, the ground is noticeably grassy, especially on the higher slopes, with excellent grazing offered on the slopes higher up the main corries and a series of classic *Agrostis-Festuca* 'greens' on the alluvial fans of the many lateral watercourses feeding into Allt a Chaorainn Mhoir and Allt a Chaorainn Bhig. Some alluvial fans and flushes also support a high abundance of Grass of Parnassus (*Parnassia palustris*).

On the lower ground the vegetation tends more towards grass-heath, dominated by courser grasses, *Scirpus* and mosses, but with very little inclusion of heather. On the south-facing slopes above the road, between Fuaran Mor Chluainidh and Meall Breac and the boundary with Ceannacroc there are large areas of *Molinia* dominated vegetation.

While this predominance of fine and coarse grasses is in part function of the underlying geology, the vegetation has also been greatly affected by a long history of heavy grazing. Corrielaire was run as a sheep farm until 1983 and supported up to c. 4000 sheep until that time.

Assessments of grazing/trampling impact (Stole *et al*; MLURI Habitat Assessment 2001) suggested that the impacts over Corrielaire as a whole were generally light or light-moderate, and moderate on the lower slopes of the five main corries at this time.

Subsequent ground survey by Rory Putman (Oct 2003) supported this assessment. Whilst it was apparent from the amount of dung present that there was considerable deer activity, assessment of actual grazing pressure was again light-moderate, or moderate (in the main corries) with no obvious erosion in peat areas, or (where often at its most apparent) on regularly used tracks over the high bealachs connecting the heads of neighbouring glens.

An assessment of two areas in An Caorann Mor by Alan Boulton in July 2009 found the alluvial fans of the lateral burns mentioned above to be lightly grazed and species-rich while the *Molinia* dominated areas to be virtually ungrazed at that time of year.

20.1.4. Deer Populations:

Corrielaire is considered as, traditionally, largely a hind forest, dependent on an influx of stags after the breakout, although some stags may come onto the ground earlier in the summer, notably at the western end (at the head of Coire Thoil Bhruach). John Mathieson, the stalker estimates that an average of c. 80 stags and 200 hinds may be counted on the ground in late autumn early winter, but notes numbers may rise to between 700 and 800 in the rut. There is a significant summer influx of hinds as well as

stags. Most movements appear to be across the march with South and West Affric to the north, and indeed there is a regular movement of animals between the Estates on an almost daily basis, dependant on weather conditions and disturbance. The main glen of Corrie Mor continues north between Ciste Dubh and Mullach Fraoch-choire, through to the Youth Hostel in West Affric at more or less the same elevation. This provides an easy corridor for movement and we may consider the hind populations of the three Estates as largely continuous.

It is considered that relatively little movement east to west (to and from Ceannacroc) occurs, but regular movement is noted across the A87 in exchange of animals with Cluanie Estate (at the head of Loch Cluanie and between the two FCS blocks of Meall a Charra).

Formal counts of the Estate are:

	1984	1995	2003	2009	2012	2015	2016
Stags	95	69	174	143	88	26	32
Hinds	201	342	424	390	301	295	359
Calves	60	83	127	116	100	88	91
Total	356	494	725	69	489	409	482

20.1.5. Past and current management

Corriellair is run primarily as a sporting Estate. Stalking is a mix of in hand and let days.

Overall, culls taken over recent years may be summarised as:

	2011/12	2012/13	2013/14	2014/15	2015/16
Stags	19	17 +1 Sika	21+2 Sika	17	20
Hinds	42	41	42	44	29
Calves	17	10	28	24	7

No detail is available on carcase weights, but the stalker estimates average clean weight of hinds at around 100lbs.

There is no formal programme of winter feeding. Some Rumevite blocks have been offered over the years, both to enhance the animals' ability to make better use of the coarser natural forage that does remain available over the winter, and as a diversionary tactic to try and hold animals away from the A87 and reduce the risk of traffic accidents. There is currently no feeding.

The stalker at Coirellair has achieved DMQ level 1.

20.1.6. Current / Proposed Culls

During the life of this plan Coirellair aims to cull 20 stags and [50 hinds and calves, tbc] annually. The estate will target the cull along the march with South Affric where possible.

Further, if confident that it can maintain its desired sporting quota of stags then there may be some flexibility/ability to raise the hind cull in consultation with this group.

20.1.7. Issues and concerns:

The essential 'continuity' of the hind population of Corriellair with South and West Affric, and a heavy dependence on the influx of stags for stalking from the two neighbouring estates during the rut raises key concerns. South Affric is owned and managed by the Forestry Commission, while West Affric is owned by the National Trust for Scotland and both estates have objectives to maintain deer populations at relatively low densities in support of their primary conservation targets in managing heathland communities and the regenerating native woodland. Thus, a heavy culling programme is maintained on both properties designed to keep deer populations at between 5-7 deer/km².

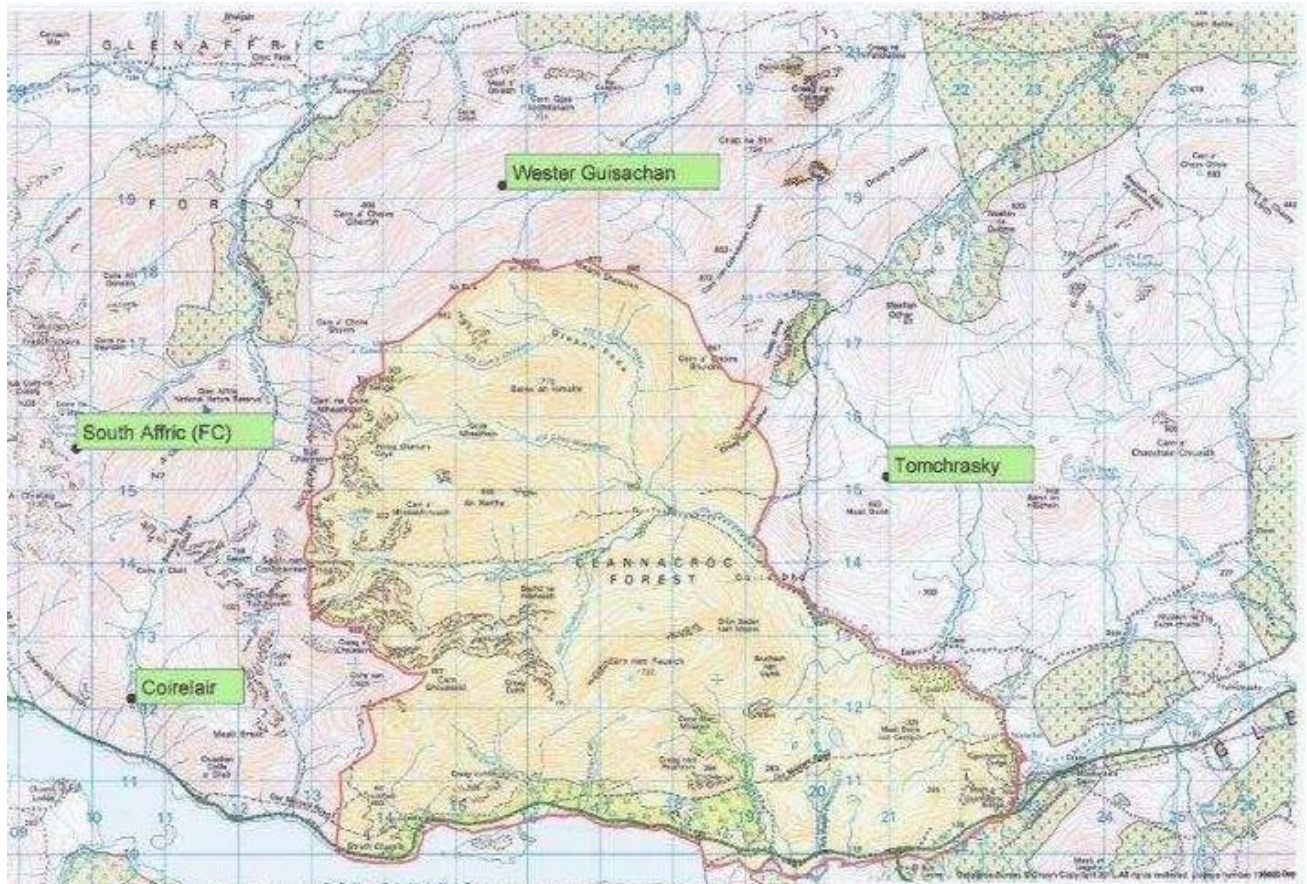
This culling of stags and hinds and a reduction of deer densities overall to low levels may potentially have a damaging effect on the sporting interest of Corriellair by reducing deer populations overall, and specifically by reducing the number of stags overwintering on South and West Affric.

Current hind populations on Corriellair are in practice higher than required by the estate's own current quotas, suggesting that they are now in excess of what is required to 'replace' stag harvests. However due to the policy of reduction and culling in excess of replacement levels by the two neighbouring estates to the north and west, Coirellair feels that it must maintain the current hind population to balance the effects.

As a predominantly hind forest largely dependent on an influx of stags for stalking, the estate is exposed to high vulnerability to any changes in management of neighbours, therefore it is considered appropriate that Corriellair should explore options of holding stags for longer and aiming to increase numbers over-wintering.

The felling and re-fencing of the conifer plantations at Cluanie will deny deer access to the only woodland shelter they had in this area possibly resulting in movement of deer to other shelter further afield.

20.2. Ceannacroc Estate



20.2.1. Description:

Ceannacroc Estate is a sizeable and very varied estate, extending to 5187 hectares on land rising from 400 feet to 3600 ft. It is bounded to the south by Loch Cluanie and the River Moriston and to the west (along the high ground of Sail Chaorain and Sgurr na Conbhairean, Carn Ghlusaid and the Corie nan Clach) with South Affric and Corriclair. To the north, Ceannacroc marches with Wester Guisachan between An Eiric, along the ridge of Aonach Shasuinn to Carn a Choire Buidhe, while the eastern march with Tomchrasky drops down from the Carn a Choire Buidhe to follow the line of the River Doe. The upper part of the property is dissected by three main glens (Gleann Fada, the glen of Coire Meadhoin, and the glen of Allt Coire Sgreumh), as well as the wider strath associated with the River Doe itself. This ground has in the past supported a flock of around 2500 sheep as well as populations of red and roe deer.

The vegetation is extremely varied: tending to be somewhat acid on deeper peats on the lower slopes and in the bottom glens, with, acid grass-heaths and deer grass (*Scirpus*) on the main ridge of hills to the south (Carn Ghlusaid, Creag Dubh, Carn Nam Feuaich). By sharp contrast, to the north of Coire Sgreumh, the underlying geology is more basic, with the ridges of An Reithe, Beinn an Iomaire and Aonach Shasuinn/Carn a Choire Buidhe, predominantly mudstone rather than sandstone schists with significant inclusions of lime-rich materials; in consequence, the vegetation of this northern part of the state is much grassier and the species mixture in general more characteristic of base-rich soils.

Despite the long history of sheep grazing, there is a significant inclusion of heather in the sward. Towards the southern parts of the Estate, this is predominantly of *Erica* species on the wetter peatier ground to the south, with *Erica* and *Calluna* more equally but rather thinly represented on the south facing slopes of the main ridge (Carn Ghusaid, Creag Dubh/Bachd na Fribheach, Carn nam Feuaich, in effect right along to Cul Dubh). By contrast, on the north-facing slopes of this same ridge, the percentage cover of heather is dramatically increased, and with a much higher representation of ling heather (*Calluna*) in the overall mix.

This same tendency towards high, even complete, heather cover on north-facing slopes, with increased inclusion of *Calluna* is also apparent on the more northerly, and more lime-rich ridges, as those of An Reithe (in Coire Mheadhoin). On the south-facing slopes of these ridges however there is extensive cover of *Agrostis-Festuca* 'greens'.

20.2.2. Past and Current management

The family undertakes management of the deer themselves including, with friends, most the culling. By developing their own venison outlets, the Girvan's see venison as an important economic resource and a significant part of the deer 'operation'.

Prior to 2005 the estate ran a significant sheep farm with 2500 blackface ewes. These have subsequently been removed.

Some burning of heather has been undertaken in large areas, on an irregular basis.

Deer are offered supplementary food overwinter – and such feeding is deliberately targeted. Mineral blocks are provided and the deer are fed significant quantities of hay/haylage and sugar beet.

Provision of feed has been directed in part at helping to maintain condition and to compensate for the loss of low ground foraging resulting from the fencing of the woodland restoration enclosures. However, it is also directed, at least in equal measure, as a diversionary tactic, to keep deer back from running the woodland fences. The largest of the woodland enclosures alongside the A87 is opened to deer.

The provision of feed will continue through the life of this plan and will be increasingly targeted at deer from the higher glens to encourage them to winter on Ceannacroc rather than move across the march onto South Affric.

One stalkers on Ceannacroc has DMQ1, and one is currently working towards DMQ1.

20.2.3. Vegetation condition:

The Habitat Assessments carried out by of Stolte *et al.* (2001) and Rory Putman in 2003 recorded heavy impacts associated with the southern faces of Carn Ghlusaid, Creag Dubh and Carn nam Feuaich, and the lower slopes and valley bottoms of Gleann Fada, Corie Meadhoin and Coire Sgreumh (coinciding for the most part with those areas primarily favoured at that time by the Estate sheep).

The habitat assessment carried out by Alan Boulton in 2009, four years after the last of the sheep had gone, found these areas to contain moorland and grassland habitats in good condition having recovered strongly as a result of the relaxation in grazing pressure. The heather condition was found to be unsuppressed and developing and the grasslands diverse, with tall swards. There was also evidence of young vigorous heather regaining territory where it had been removed in favour of grassland habitats by heavy sheep grazing.

Further habitat assessment in 2012 showed further heather development and conversion of grassland to heather as a result of lighter grazing.

20.2.4. Deer Population and Movements

The Estate supports a significant population of red deer, with some sika and roe, particularly within more wooded areas.

	2012	2015	2016
Stags	145	40	67
Hinds	286	247	264
Calves	96	77	98
Total	527	364	429

Previous counts did not differentiate between Ceannacroc and Tomchrasky. This combined count is in many ways not inappropriate from a deer management point of view, since, as noted above, the deer populations of Ceannacroc, Tomchrasky and Balnacarn behave to some respects as a single unit, ranging freely between the three estates over the course of a year. The population model used to set the cull figures recognises this.

This is largely due to the differences in elevation between the three estates, such as that neither Balnacarn nor Tomchrasky have any very high ground (with little over 2000 feet). In summer, when the deer, and particularly the hinds, seek the better grazings – and comparative freedom from insect attack – on the higher ground, animals from all three Estates tend to move west to Ceannacroc and Wester Guisachan higher slopes.

During winter, when poor weather drives animals to lower ground, the hinds of Glean Fada, Coire Mheadhoin and Corie Sgreumh, move to the east onto the comparatively lower ground of Tomchrasky and Balnacarn (although a proportion overwinter on the low ground of Ceannacroc itself to the south of the Hydro road around Meall Doire nan Caorach). As noted above the enclosure for woodland establishment of 175 ha north of the River Doe may change this pattern slightly resulting in more deer wintering on Balnacarn and Ceannacroc

Wintering stags move more widely; some, as already mentioned, move to the south-facing slopes above the A87 and to the lowest ground to the west of Cnoc nan Ceann. The opening of the woodland above the A87 may increase the number of stags wintering here. Some of the animals from the higher corries to the northwest move across the march into South Affric, by Carn a Choire Ghairbh and Gleann na Ciche.

Culls, from 2011 - 2015, for Ceannacroc are summarised below:

	11/12	012/13	13/14	14/15	15/16
Stags	37	40	40	40	40
Hinds	51	49	47	43	47
Calves	9	11	13	17	13

20.2.5. Cull

During the life of this plan Ceannacroc will aim to cull 31 stags and 50 hinds and calves annually.

20.2.6. Woodland

There are two major woodland exclosures on the property, established to restore native broadleaved woodland and Caledonian pine (see map) but there are in addition numerous unfenced areas where birch, alder, oak and Caledonian pine are well-established. There is for example an excellent area of birch woodland around the River Doe and at the boundary with Tomchrasky, which is showing vigorous regeneration, despite being unfenced (Cul Dubh), and there are various patches of riverine woodland, now enclosed, along much of the length of the main river.

Elsewhere within the Estate there are many other small patches of broadleaves established in gullies and below steeper slopes, notably along the north facing slopes between Bruthach nan Uamh and Sron Badan, and well up into Coire Mheadhoin; one particular large area is noted at Coille Dho.

There are also numerous clumps of Caledonian Pine, particularly along the southern side of the Hydro road following the River Doe. While formally unprotected, the owner has used redundant cattle feed rings to protect areas where he has found pine seedlings establishing. Several small enclosures along the river Doe and one larger one (25ha) were established in 2010 under the SRDP for the establishment of native pine.

Other formal woodland restoration schemes have been established by enclosure, notably to the east of Meall Doire nan Caorach (continuous with the established area of native birchwood at Cul Dubh, to the north) and in a broad swathe along the roadside between the estate entrance and the march with Corriclair to the west. In total an area of approximately 794 hectares has been enclosed in this area. The original closure, established under Woodland Grant Schemes was planted with birch, and with Caledonian pine in both cases using seed of local origin; some of the planted birch failed, but these losses are more than compensated by the subsequent establishment of birch and further pine by natural regeneration.

The roadside enclosure was established more recently with grant-aid from Millennium Forest Scotland. As noted, this extends along the roadside between the Estate entrance and the boundary with Corriclair; the enclosure embraces both sides of the road (so that in effect this section of the main A87 actually passes through the enclosure) and towards the east takes a significant dog-leg back from the roadside to embrace Creag nam Peathrain and Creag Lundie. This woodland 804 ha in total is now open to deer. Access is made possible by opening the gates and not removing the fence; to minimise the influx of deer onto the roadside of the A87.

Further woodland enclosures have been planted along the south side of the river Doe in between the existing ancient remnant woodlands. The intention is to wait till the new woodlands are sufficiently established to open to deer before enclosing the remnants to allow for regeneration.

20.2.7. Deer park

Ceannacroc has taken the opportunity to connect several of the woodland enclosures to create a deer park of approximately 700 ha enclosing the deer that were in it at the time of fencing (see woodland map). As these deer are now enclosed and can be managed separately they will no longer be counted and will not appear in the 2016

count or be used in future population modelling. The cull targets set for Ceannacroc in the future will only relate to the mobile population on the open hill

20.2.8. Issues and concerns

Problems have been experienced in the past in regard to a significant problem of road traffic accidents involving deer on the A87 (indeed this whole stretch of road between the Bunloinne Junction and Sheil Bridge has suffered an extremely high frequency of such accidents over the past years). The Millennium Forest woodland restoration scheme, along the roadside has done much to resolve this problem, at least along the Ceannacroc stretch since, while it remains, the back fence effectively deters deer from the Estate from coming down to the roadside.

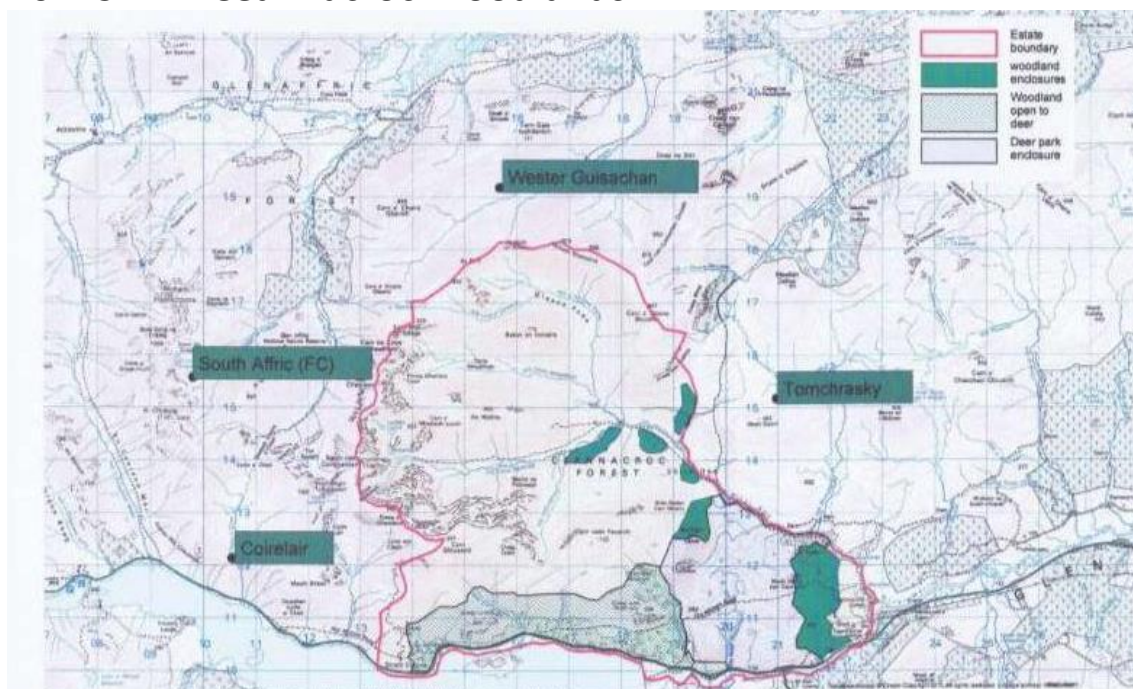
The other main issue facing the Estate's management – within the wider context of the Kintail and Affric Group – is the extent of movement of summer stags, away to the northwest during winter (into South Affric and Cougie). Such stags ultimately may draw down into the main Affric Glen, where they contribute to the winter increase in grazing/browsing impact on FC ground, potentially interfering with the Forestry Commission's own objectives for management of the grazing pressure on open hill communities and their objectives in encouraging expansion of native woodland.

The extent to which such seasonal movement may be reduced becomes an issue for the Estates management, simply within the context of 'good neighbourliness'; however, in viewing that seasonal movement the other way around, Ceannacroc's interests are also better served in the longer term by the degree to which the Estate may become more independent in overwintering a greater proportion of its own stag population.

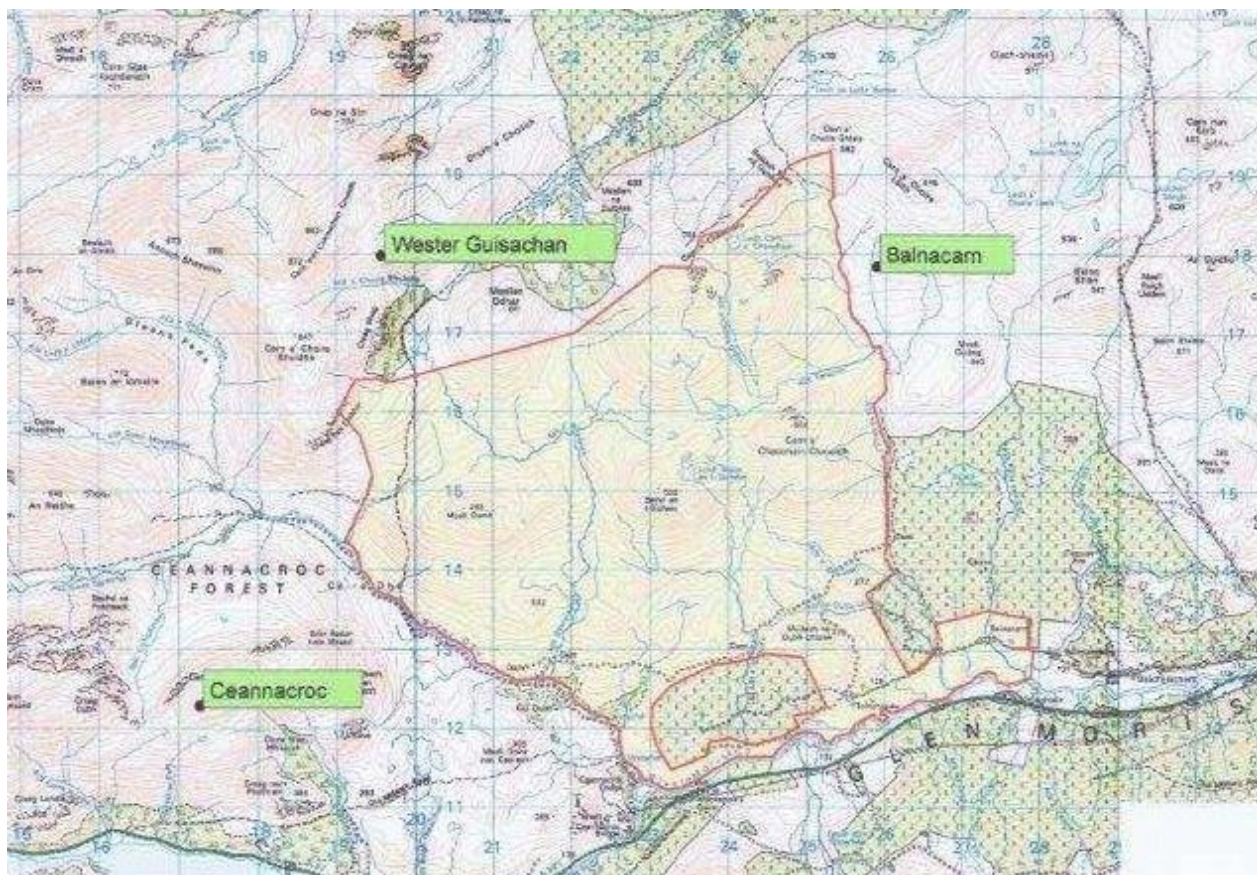
Some action has already been taken by the Estate in both regards, by encouraging wintering concentrations of stags to the south of the Estate, with the provision of supplementary feed as a diversionary tactic, and in establishing significant areas of native woodland, the largest of which is now open to deer, which when in due course well-enough established to be opened to the deer will help further to establish alternative winter concentrations of stags on Ceannacroc's own ground, reducing their dependence on stags from Glenn Affric.

Additional benefits in this context have also resulted from the decision to remove all sheep from the estate with a continuing improvement in heather condition.

20.2.9. Ceannacroc Woodlands



20.3. Tomchrasky



20.3.1. Description:

Tomchrasky, owned and managed by Mr Tom Girvan, extends to 3488 hectares. It is bordered to the west by Ceannacroc (with the boundary along the line of the River Doe, and thence to the scarp of Carn a Choire Buidhe). To the north Tomchrasky marches with Wester Guisachan and to the east with Balnacarn and the Forestry Commission enclosures above the metalled road. There is a further Forestry Commission plantation, itself surrounded by Tomchrasky land, to the west of the main house which is currently for sale.

In topography and vegetation, the land is in many ways similar to Balnacarn to the east, (with much of the lowest ground here as well, though not all, lost to a forestry plantation). The highest ground (at about 2500 feet) is on the ridge of Carn a Choire Buidhe, at the boundary with Ceannacroc, so that the bulk of the property is between 1000 and 2000 feet.

The ground rises above the metalled road to the Hydro road running east to west on a relatively broad plateau. The ground rises again to the north in two distinct east-west ridges (a first low ridge comprising Meall Damh, Beinn a t-Sidheinn and Carn a Chaochain Chruaidh, and a higher ridge beyond, of Creag nan Gobhair, the slopes of Meallan Odhair and Carn a Cheochain and the boundary with Wester Guisachan). Between these ridges are extensive flat areas of deep peat and bog pools.

20.3.2. Past and Current Management

Tomchrasky has been managed as a livestock farm and on an economic basis. The deer were undoubtedly very much a secondary part of the overall enterprise. However, deer and deer management remain an important element in terms of personal interest of the current owner.

A herd of 140 cattle are maintained on the farm utilising both the hill and low ground. The cattle spend most of their time on the hill around and above the hydro road.

A flock of 450 blackface ewes is maintained, grazing between the farm fields and the hill. Approximately 250 of these ewes graze the hill.

One stalker on Tomchrasky has attained DMG level 2

20.3.3. Vegetation condition

The unplanted low ground immediately behind the house (and either side of the main access track up to the Hydro road is noticeably heathery and dominated by ling (*Calluna vulgaris*); the soils here are stony and very well drained. There is also extensive heather cover on the first low ridge to the north of the Hydro road itself, once again dominated by *Calluna*, and reflecting the stony well-drained soils of the emergent ridge.

Beyond this first ridge (and at a similar elevation to Balnacarn) the pattern shifts to a wider mosaic of hummocky flats, with extensive blanket bog on the deep peat of the flatter ground, broken by patches of wet heath which develop throughout this matrix, on the emergent hummocks, and on the south facing slopes of the furthest ridge. These areas of wet heath support a mixed community of heathers, *Molinia* and deer grass (*Scirpus cespitosus*), Towards the east, the heather cover of these hummocks is once more – and perhaps surprisingly, *Calluna*-dominated; towards the west, the heather, at least of the south facing slopes, tends to become increasingly sparse, and dominated by *Erica*, but is notably stronger and with greater inclusion of *Calluna* on north facing aspects.

Impacts of grazing and trampling on the vegetation were assessed by Rory Putman in 2003 as light or light moderate over the major part of the estate, towards moderate, in those areas where sheep grazing tends to be concentrated. Such assessments accord with the more formal analysis of Stolte, A. *et al* (2001; MALURI *Rapid Assessment of Grazing and Trampling Impacts*.)

In 2009 Alan Boulton found the habitats to be in a good “grazed condition” with concentrations of grazing, particularly by cattle, around the hydro road. The heather shoots were moderately grazed but there was no sign that this was at a level sufficient to suppress the habitat or trigger a trend towards heather loss. There were also areas where the heather had been damaged by heather beetle but was recovering well. These areas were grass dominated in 2009 but by 2012 had returned to heather indicating a low grazing pressure

20.3.4. Deer Populations:

As noted above deer counts for Tomchrasky were previously (until 2009) combined with those of Ceannacroc (and are included in the figures cited above for that estate). A separate return was made from the DCS count of 2009 of 109 stags and 485 unclassified. As already noted (for Ceannacroc) while the (comparatively) low ground of Tomchrasky harbours significant numbers of hinds over the winter period, numbers decline over the summer as the hinds shift to higher ground. While in this seasonal shift

onto higher ground, some animals indubitably move north and across the march into Wester Guisachan, the bulk of the movement does appear to be east to west, with a significant movement westwards onto the high ground of Ceannacroc. A smaller number of hinds remain year-round and Tomchrasky also sees a seasonal immigration of summer stags. Once again, we may presume these stags are travelling from wintering areas in Wester Guisachan and Hilton to the north east as well as from Ceannacroc. The porous fences around the FC land bordering Tomchrasky are likely to be a contributory factor in the number of wintering deer

Counts

	2009	2012	2015	2016
Stags	109	199	83	32
Hinds	485*	296	279	359
Calves		75	89	91

*Counted as unclassified but likely to be approximately 350 hinds plus calves and knobbers

Culls, from 2011 - 2016, for Tomchrasky are summarised below;

	11/12	12/13	13/14	14/15	15/16
Stags	25	25	25	14	25
Hinds & Calves	60	60	60	60	37

20.3.5. Cull

During the life of this plan Tomchrasky will aim to cull 25 stags and 40 hinds annually, recognising the drop in numbers recorded by the 2015 count. If counts indicate a rising or falling population this cull may be raised or lowered in consultation with the group.

20.3.6. Woodlands

There is an extensive area of native broadleaved woodland below the Hydro road and towards the boundary with Ceannacroc (NH218127 to NH230128). Although unfenced, and browsed by both cattle and sheep, this seems extraordinarily vigorous and is showing signs of active regeneration. There is clearly a diverse age structure of trees within the main block of woodland itself, suggesting regular recruitment of saplings within the existing woodland area; however, in addition there has clearly been some considerable recent expansion of the woodland area, with successful establishment of new trees beyond the original woodland margin and out into the surrounding heath. (This expansion of woodland is at its most successful where trees have become established in the disturbed mineral soils of the verges of the Hydro road itself, but it is in fact apparent throughout the surrounding heathland). Such regeneration is obviously patchy – and there are areas where seedling trees have clearly been browsed back again, but this helps contribute to some spatial heterogeneity in vegetational diversity, and overall, it is apparent that this particular area of woodland is showing significant expansion.

A large enclosure (167ha) has been established under the SRDP in 2011 and a further 87 ha in 2013 above the hydro road and running along the north side of the River Doe from the hydro road to the Ceannacroc march.

An older small enclosure established under a Woodland Grant Scheme and in association with Trees for Life, lies at the eastern edge of the Estate, to the west of the Allt na Muic and adjoining the forest block of Balnacarn. Deer are excluded from these three blocks and will remain so for the duration of this plan.

20.3.7. Issues and concerns

Perhaps the most important consideration to emphasise again is the intimate link of deer populations – and their management – with Ceannacroc and Balnacarn. Because Tomchrasky lacks much high ground of its own, and thus loses much of its winter hind population to Wester Guisachan and Ceannacroc during the regular summer movement to higher ground does stress the importance for all three estates (Ceannacroc, Tomchrasky and Balnacarn) of recognising that they share a single effective population (certainly in regards to hinds).

Potential problems may once again arise from the proximity of unfenced FCS plantation woodlands to the Tomchrasky “hill”. One such woodland block is present as an island right in to middle of Tomchrasky ground; fences are down and population is totally continuous with that of the open hill. Further, the eastern boundary of Tomchrasky adjoins the FCS plantation on the lower ground below Balnacarn. Here too, fences are not maintained and there is regular movement of animals between the forestry and Tomchrasky

There are in consequence potential problems which may arise in the future, if and when the Forestry Commission decides that it is appropriate to reinstate fences (as discussed for Balnacarn; the implications are perhaps even more serious for Tomchrasky).

Similar potential problems may also arise in the longer term in relation to possible reinstatement of fences around the island plantation within Tomchrasky itself (particularly in relation to this last consideration of loss of winter cover for stags *and* hinds). This block is currently for sale and may be felled and refenced by a new owner

The fencing of 245 ha described above for woodland establishment along the north bank of the River Doe will have an impact on deer wintering.

20.3.8. Tomchrasky Woodlands



20.4. Balnacarn



20.4.1. Description

The Balnacarn estate is a small slice of moor of approximately 726 ha lying between 1,200 and 2,200 feet. It is bordered to the north by Hilton and Wester Guisachan, on the east by Dundreggan, and on the west by Tomchrasky. The low ground to the south is owned by the Forestry Commission and consists of an established conifer plantation, planted in the first half of the 1980s. Fences are no longer maintained and are porous on the western side.

With the low ground now occupied by Forestry plantations of Scots pine, lodgepole pine and larch, Balnacarn is purely a moorland estate. The ground offers a mosaic of largely wet and dry heath and blanket bog. The lowest and uppermost parts of the hill are wet heath (*Molinia caerulea*, *Scirpus (Trichophorum) cespitosus* and some heather, largely *Erica cinerea* or *E. tetralix*); within this matrix, there are small patches of grass and dry heathland (*Calluna vulgaris*, with *Erica cinerea*), on better-drained areas of knolls emerging from the wetter ground.

Dwarf birch (*Betula nana*) is abundant on the upper wet heaths. On the highest ground there are some small areas of wind-clipped heath/moss heath with strong inclusion of lichens and clubmosses (alpine clubmoss, *Diphasiatrum alpinum*, as well as Stag's horn Clubmoss, *Lycopodium clavatum*, and *L. selago*). There is significant inclusion of alpine bearberry (*Arctostaphylos alpine*). Most of the centre ground between the upper and lower lateral ridges is deep peat with extensive *Spagnum-Eriophorum* mires.

There are two exclosures on the site. The lower of these (72 ha on the south facing slope of Meall Cuileag) adjoins the Forestry Commission plantations and was established under WGS as a native woodland regeneration scheme. In addition, an enclosed 20 ha on higher ground has been established to study the response of upland vegetation (particularly *Betula nana* and *Arctostaphylos uva-ursi*) when free from browsing.

20.4.2. Past and Current Management

The main objectives in management are the maintenance of the unenclosed hill land of open moorland and bog in favourable condition and to contribute to the appropriate management of the deer population on this and neighbouring Estates. One small woodland restoration scheme has been established, and as noted, a further enclosed for scientific study of the response of dwarf birch to the removal of grazing pressure from deer and sheep.

20.4.3. Vegetation condition

Grazing impact on unenclosed ground, recorded by Rory Putman in 2005 and Alan Boulton in 2009 was light; even the tracking evident east to west across the Estate (through very peaty ground) appeared moderate, and there were no signs of heavily eroded tracks or significant haggings due to animal presence. In general, the vegetation appears in good condition.

20.4.4. Deer Populations

It is difficult to say whether or not there is a significant resident deer population. The Estate is intimately linked, both geographically and in terms of the movements of its deer population, with Tomchrasky and Ceannacroc to the west (see Ceannacroc below). There are strongly marked east-west deer tracks and the deer of all three estates may be considered in large part as a single population. There may be a significant exchange of animals with Dundreggan to the east, but movements to and from Hilton and Wester Guisachan would appear less significant. There is however some considerable movement of deer to and from the Forestry Commission plantation to the south, mainly of red deer but occasionally of sika or roe.

As noted, it does not appear that Balnacarn maintains a significant resident population of deer, year-round, but is used "in passage", as it were, by deer from Ceannacroc and Tomchrasky, particularly as deer move to lower ground over the winter, this impression has been reinforced during field visits to all three Estates. Thus, counts returned from Balnacarn ground as single day 'snapshots' are probably not particularly meaningful and are more useful when added to the larger population model.

Stalking is managed in-hand, undertaken by a private stalker by agreement with the owners. Animals shot in the last 5 years are 5-7 stags and 1 hind per annum.

20.4.5. Cull

The cull level proposed during the life of this plan is 7 stags and 1 hind.

20.4.6. Issues and Concerns

To the east of Balnacarn, Dundreggan Estate desires to reduce their deer population to encourage tree regeneration. There is some concern that this may have an impact on Balnacarn's ability to achieve its usual quota of stags.

To the west on Tomchrasky and Ceannacroc the establishment of several fenced woodland enclosures on the north side of the River Doe totalling around 175ha in 2010 may influence the wintering pattern of deer in this area. This may result in larger numbers of deer wintering on Balnacarn.

20.5. Wester Guisachan



20.5.1. Description:

Wester Guisachan Estate lies west of Hilton, and tucks around the southern boundary of the FCS Caledonian Pine Reserve, and the old plantations of Cougie and Glen Affric. Its neighbour to the west is South Affric, so that it is in effect surrounded on two sides (to north and west) by FCS property. It lies out with the NNR and the Affric-Cannich Scenic Area (NSA).

The southern march with Ceannacroc, Tomchrasky and Balnacarn is complex and runs from the bealach between Carn a'Choire Ghuirm and Tigh-Mor Seilge, over An Eirec, Bealach and Arnais, along the top of the Aonach Shasuinn to Carn a Choire Buidhe and the flats between Creag Bhog and Meallan Odar (Creannacroc), across Meallan Odar, to the Carn a Chaochain and to the Bealach Feith na Gamhna (Tomchrasky), thence to Carn a Choire Leith and the Loch a Choire Leith (Balnacarn). The whole Estate (some 4100 hectares) is thus long and relatively narrow, north to south, but with a wider section more centrally, between Meallan Odhar and Aonach Shasuinn, where the FCS boundary doglegs north at the confluence of Allt a Chomhlain and Allt Riabhach.

As elsewhere within the Management Area, the geology is characteristic of the Moine series and the ground consists mostly of hummocky moraines covered with peaty podzols or peaty gleys, with accumulations of deeper peat in basins between the hummocks. A detailed description of soils and vegetation is presented in the Environmental Statement prepared on behalf of the Estate by Baxter Cooper (1996 for Tilhill Economic Forestry), as part of a planning application for a series of woodland planting programmes.

Predominantly, the vegetation across the Estate consists of blanket or mire communities, with wet heath of drier, *Calluna* heath on better drained slopes and hummocks. As elsewhere within the Management Area, these communities grade into each other in an intimate mosaic, with the small-scale topography of the ground supporting heath vegetation on morainic or rocky knolls with a matrix of mires on areas

of deepest peat. On drier hummocks and at higher altitudes the *Erica* and *Calluna* heathland communities include significant patches of common and alpine bearberry (*Arctostaphylos uva-ursi*, *A. alpine*), dwarf birch (*Betula nana*) and cloudberry (*Rubus chamaemorus*); cf. vegetation descriptions of neighbouring Balnacarn

Agrostis-Festuca grasslands are largely restricted, to the upper slopes, as elsewhere within the Management area, and tend to include a high proportion of mat grass (*Nardus stricta*) and rush (*Juncus squarrosus*), possibly as the result of heavy grazing over the past.

20.5.2. Past and Current Management

Wester Guisachan is maintained as a sporting Estate, but wishes to retain a balance between stalking interests and a continuing programme of woodland restoration. Some of the earlier plantations are now open to deer and a further block will be opened during this plan.

Some younger blocks will remain enclosed and two further area are earmarked for planting during this plan (see woodland map)

The Estate is also trying to increase numbers of both red and black grouse.

Recent culls of stags have been somewhat higher than historically taken, in part in response to the perceived need to take action to reduce pressure of overwintering in FCS ground in South Affric. In practice however, culls are taken based on what the current numbers seem to support. Stalking of stags is by the owner and his family, friends and business associates; none is let.

Actual numbers culled are summarised:

	10/11	11/12	12/14	14/15	15/16
Stags	15	17	24	23	tbc
Hinds	59	43	49	51	tbc

Most stalking is concentrated in the central part of the Estate. The eastern end does not as a rule hold many deer – except perhaps a few stags after the breakout.

A limited amount of muirburn has been carried out in the past, in small patches only, and primarily for grouse, although clearly it may 'freshen up' the grazing for the deer as well. However, controlled burning is extremely difficult given the nature of the ground and more recently, increased emphasis has been given to mechanical swiping of heather rather than burning, using a dedicated flail on the back of an All-Terrain Vehicle. Recent efforts have been made to increase the amount of muirburn particularly on the lower slopes of Cnap na Stri, Fraoch coire and at the south east end of the estate. A programme of muirburn adhering to the Muirburn Code (www.gov.scot/Publications/2011/08/09125203/0) will continue during the course of this plan

The number of stags overwintering on the Estate rather than moving to the lower ground is encouraged. Some feeding blocks and a series of salt licks/mineral licks are provided, mounted on posts beside the ATV tracks in various parts of the Estate. It is believed that this has helped to hold the stags on the Estate particularly as this can now be combined with the opening of some woodland.

Two stalkers on Wester Guisachan have attained DMQ level 2

20.5.3. Vegetation condition

Grazing impacts recorded in the MLURI survey of Grazing and Trampling Impacts throughout the South Ross Management Area (Stolte *et al*, 2001) were of uniformly light of light-moderate impacts, recorded at most as moderate, and this only on the streamside grazings of the Allt a'Choire Buidhe, around the northeast face of Aonach Shasuinn and on the northwest slopes above South Affric between Carn a'Choire Ghairm and Carn Glas Iochdarah. Subsequent survey by Rory Putman in November 2003 suggested grazing pressures were for the most part moderate: heather growth was quite thick on drier ground and with a 'clumped' growth form, Blaeberry whilst dominated by this strong heather growth is growing well as the "pioneer" vegetation after the fires.

20.5.4. Deer Populations:

Both red and roe deer are seen on the Estate. Post winter counts of red deer over the past years suggest:

	2009	2012	2015	2016
Stags	93	142	170	71
Hinds	151	345	118	160
Calves	45	97	35	44
Totals	289	584	323	275

Most of the hinds are concentrated in the (wider) central part of the Estate and to the southwest, around Cnap na Stri, Carn nan Coireachan and the slopes of Aonach Shasuinn. The eastern end of the Estate is apparently relatively little used by hinds.

Hinds are considered to be well hefted and largely resident. Summer stags tend to be concentrated towards the southern marches of the Estate, east to west. In winter, a proportion now move to lower ground on Hilton, while others travel down into South Affric around Athnamulloch or down onto the lower slopes of the Allt Garbh.

20.5.5. Cull

During the life of this plan Wester Guisachan will aim to cull 31 stags and 50 hinds and calves annually

20.5.6. Woodland

There are fragments of native woodland persisting in small pockets on gullies or where less accessible to grazers, below steeper crags. The most significant of these are an area of mixed woodland within the ravine of Allt Garbh, and a patch of mature birch at Doire Damh was formerly enclosed within a woodland restoration programme initiated by a previous owner –and that at that time approximately half the woodland (on the lower part of the slope) was fenced. The woodland was subsequently reopened to deer (apart from a small section now enclosed in more recent WGS;); while trees already above browse height continue to do well, there is evidence of extensive browsing damage to any new regeneration out with the fences, and to any of the smaller saplings surviving from previous enclosure which had not yet grown about browse height before the fences were removed.

While the woodland area at Allt Garbh and Doire Damh for the most part remains unfenced a number of areas of formerly open hill ground have been more recently enclosed in a significant programme of establishment of woodland within the Estate. Three of these enclosures were fenced and planted in 1997/8; a further two areas were established in 2000/01. The initial 1997/8 enclosures were established

- a) To the west of Allt Garbh (70ha. Not including the gorge, or the existing native woodland remnant, but commencing, deliberately, to the west of the gorge itself);
- b) At Loch nan Gilleann (234ha; a large area around the east and south eastern flank of Creag nan Calman; including the Allt an Laghair and the lower part of Allt Fraoch-choire. This enclosure links directly to the forest fence of FCS ground at Glen Affric and Cogie) This enclosure has now been opened to compensate for the loss of stag wintering due to the new Forest Enterprise fence crossing the Allt Garbh Burn on the estates northern march.
- c) Between Meallan Odar and Drum a Choilich at the southeastern corner of the FCS ground at Cogie, embracing much of the lower part of the Allt Riabhaich and Allt Chomhlain (296ha.)
- d) Subsequently, further enclosure and planting has been undertaken in two additional small additional areas
- e) on the eastern flank of Creag Bhog (further up the Allt Riabach, where it is joined by the Allt a'Coire Buidhe (centred NH198171) towards the eastern march, against the FCS fence at the Allt Cas a'Chuirn (NH265212)

These areas enclose in total an area of 665 ha. Throughout, planting has been of Caledonian Pine and native broadleaves (predominantly birch *Betula pubescens*, but also rowan, alder and willow in smaller proportion). Unfenced ground open to deer thus extends to approximately 3435 ha.

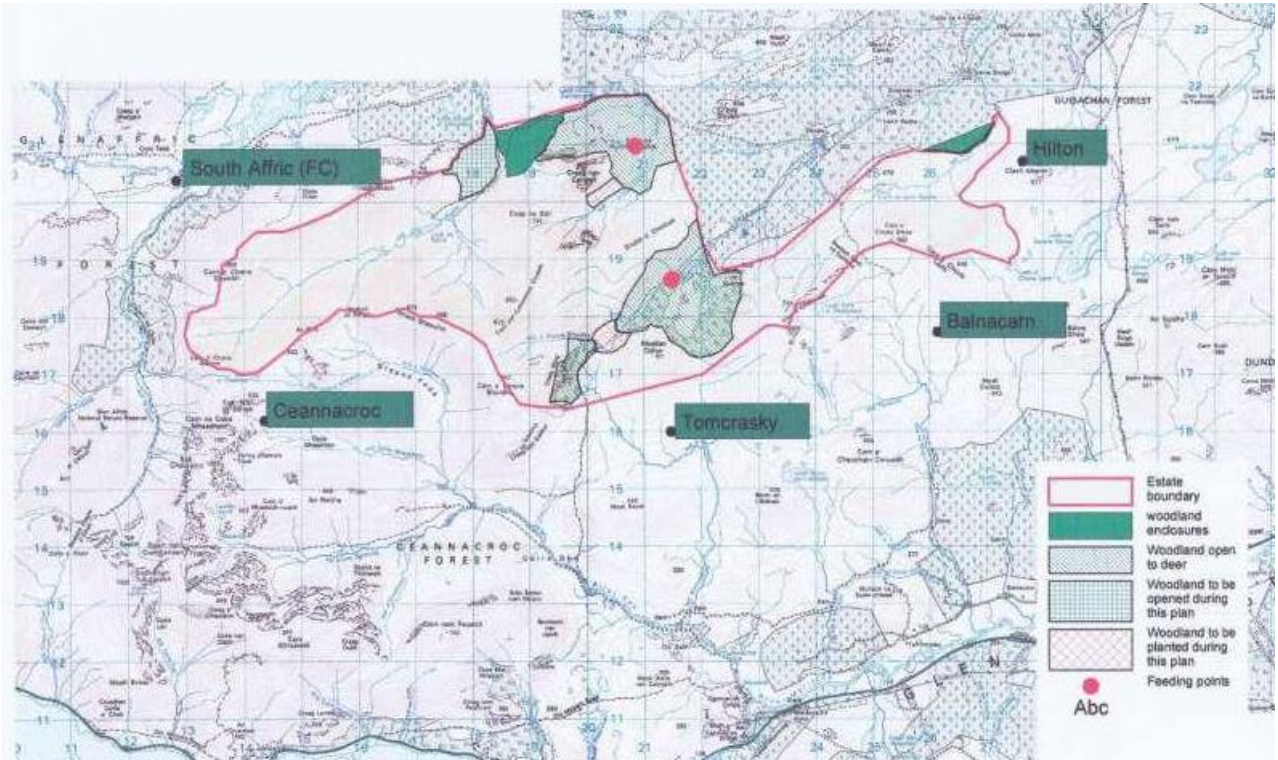
The estate has now opened considerable areas of woodland and proposes to open more during the duration of this plan (see map)

Up until 1994 – 5 the Estate was grazed in partnership with two local crofter-farmers and supported around 1000 ewes plus followers. Given the economic climate, numbers gradually reduced over the following years until all stock were removed from the open hill in November 1999.

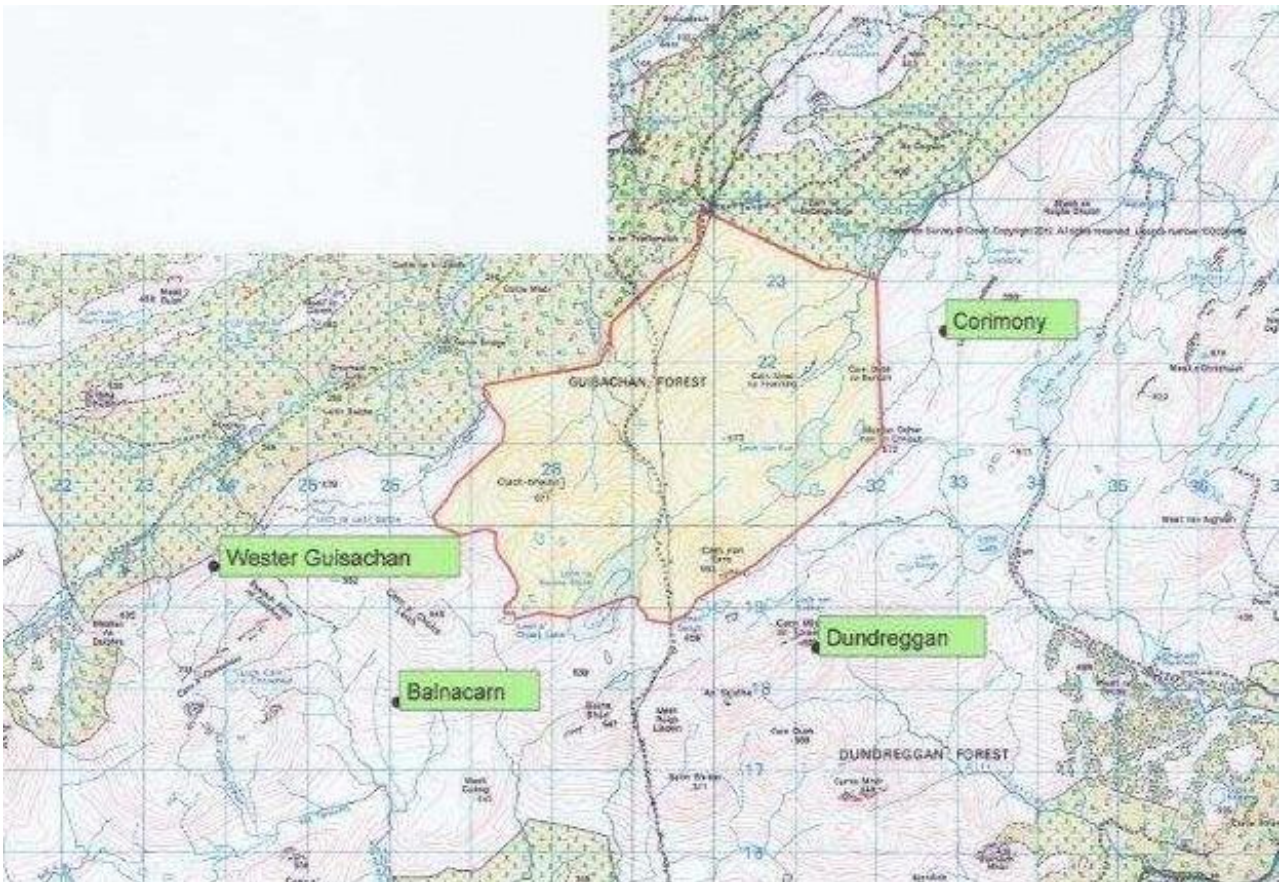
20.5.7. Issues and concerns

The most pressing issue for the Estate is the current heavy culling policy of Forest Enterprise in South Affric. The Estate has done a lot to make itself more attractive to wintering stags but is still worried that on any given day some of the wintering population could be in South Affric and be culled.

Wester Guisachan Woodlands



20.6. Hilton Estate



20.6.1. Description:

Hilton Estate (c1690 ha) is a part of the former Guisachan Forest and lies on the eastern boundary of the Management Area. It consists of a broad plateau just above Glen Affric and Loch Beinn a' Mheadhion, immediately to the south of the Forest Reserve and the FCS plantations of Cougie. Indeed, it is accessed through the FCS property and their boundary fence forms the northern boundary for Hilton itself. [This fence line has been recently renewed, from the western march right across to the eastern access gate (from Tomich) and has effectively prevented any movement of animals across the boundary between Hilton and the FCS ground.]

Hilton's neighbours to the west and south are respectively Wester Guisachan and Dundreggan. The march to the west follows the line of the Allt Cas a' Chuirn to Loch a' Choire Leith coincide) and then along the high ground of Carn nan Eard towards Meallan Odhar nan Tri Chrioch. Its neighbours to the east are Corrimony and Glen Moriston.

Although above the main Glen Affric, Hilton itself is still relatively low ground, with the bulk lying between 325 and 500 metres; it rises gently towards its southern boundary, with the highest point at about 600 metres on the slopes of Carn nan Earb.

The more freely draining slopes of Clach-bheinn to the west, and of the southern ridge from Carn na Earb eastwards towards Loch nan Eun, are heathery (with a dense cover

of *Calluna* and *Erica*, and strongly dominated by *Calluna*); towards the east, this 'hill' vegetation becomes somewhat grassier and provides some improved grazing. The lower ground to the north (towards FCS Cougie) and true east, is less well-drained, and offered in effect a series of hummocky 'flats' and a mosaic of *Erica/Scirpus*-dominated wet heath or *Eriophorum* mire.

20.6.2. Vegetation condition

Despite the strong growth of the *Calluna* on better drained (north-facing slopes), it is apparent that there is no active regeneration in any of the fragments of native woodland already mentioned. It is further noticeable that, despite the abundant inclusion of blaeberry amongst the heather immediately over the march fence into FCS ground (showing the potential for good growth of these species in the general areas), there was little or no blaeberry apparent within the heather on unfenced Hilton; this relatively palatable species has clearly been subjected to sufficient browsing pressure to keep it suppressed. We should note however that this may be a legacy of heavier grazing pressures in the past when the Estate carried sheep as well as deer, and there may be a significant time lag in recovery. Overall impact levels on the estate were assessed by Rory Putnam in 2003 and Alan Boulton in 2011 as 'moderate', although as noted: vegetation indicators may carry a legacy from the period of heavier grazing. Current grazing pressures are probably light-moderate.

20.6.3. Deer Populations

Because of the tendency of animals to move to higher ground in the summer months (and because Hilton itself lacks such high ground) deer populations are rather mobile (as those of the Balnacarn, Tomchrasky/Ceannacroc complex above). Hilton has relatively few summer stags before the onset of the rut but receives a significant influx of stags heading for the shelter of lower ground overwinter. In the past, these animals might have continued down into the woodlands of Glen Affric itself; the boundary fence and Hilton now prevent such movement is increasingly becoming established as a significant alternative wintering area for stags from this western end of the Management Area. Hind numbers also increase over winter, but the estate retains a small number of hinds year-round, particularly towards its southern march. It is believed hind numbers may have increased slightly, since the removal of sheep from the Estate.

Recent end of winter counts for the Estate offered estimates of numbers;

	1995	1999	2003	2009	2012	2015	2016
Stags	20	163	34*	53	12	13	13
Hinds	11	12			40	54	34
Calves	3	4			14	20	9
Hinds & Calves	14	16	115	169	54	74	
Total	34	179	146	222	66	87	56

*The 2003 count was not considered a good count of stags, and it believed to have 'missed' a significant number.

From 2003 onwards hinds and calves were counted together as "unclassified".

Based on a recruitment percentage of 35 the hind numbers in 2003 and 2009 are likely to have been 108 and 125.

As noted, most wintering stags leave the Estate in early summer, moving into higher ground. Following the breakout, stags are through the come onto Hilton to rut, from Wester Guisachan, from Ceannacroc and from Dundreggan.

20.6.4. Current and past management

Stalking on Hilton is limited by the lack of early season stags, and the estate never takes more than 10 stags a year. A proportion of these are let (through the last two weeks of September onwards), but lets are not tied to a given quota and there is no pressure to produce numbers. Hind culls are generally also low, with on average about 10 hinds culled per season.

Some burning of heather was carried out in the past (in small patches only), when there were sheep grazed on the ground, with the most recent burn on the slopes below the Hydro track at c. NH298217, but generally very thick heather coverage over the sloping ground would make any extensive future muirburn extremely difficult to control. While there is no formal programme of winter feeding, mineral licks are provided for the stags.

20.6.5. Cull

During the life of this plan Hilton will aim to cull 5 stags and 5 hinds. Recently the disturbance of the construction work on the Beaulay- Denny power line has made stalking difficult; however, the estate does wish to return to regular culling when this is finished

20.6.6. Woodlands

The lower ground is well dissected with a number of deep gorges and gullies, particularly at the western end, with the gorges of Eas Socach and its various tributaries. The banks of these river gullies support a good growth of *Calluna*, and also shelter a number of small patches of native woodland. These have a significant inclusion of Caledonian pine towards the north (and the boundary with FCS; e.g. At NH283218 or 293232) with birch further into the Estate itself (e.g. at NH284218, and further east at 230233).

An extensive woodland restoration programme was initiated to take in much of the lower ground on the Estate from Eas Socach right across to the Forest fence in the east (c NH235236), but this was abandoned because mechanical planting methods proposed were felt to be too damaging, and the overall area rather more extensive than perhaps appropriate. However, the idea of some scheme of woodland restoration remains attractive, both for its amenity/conservation benefits and for the longer-term value of improving shelter and foraging resources for overwintering stags. The position of Hilton, right up against the boundary of the Glen Affric NNR, where primary objectives again are the re-established of native woodland cover, would suggest that extension of this programme to embrace some part of Hilton would have some considerable merit.

20.6.7. Issues and concerns

The increasing use of Hilton made by overwintering stags from the western end of the Management Area makes the Estate of some considerable strategic significance within

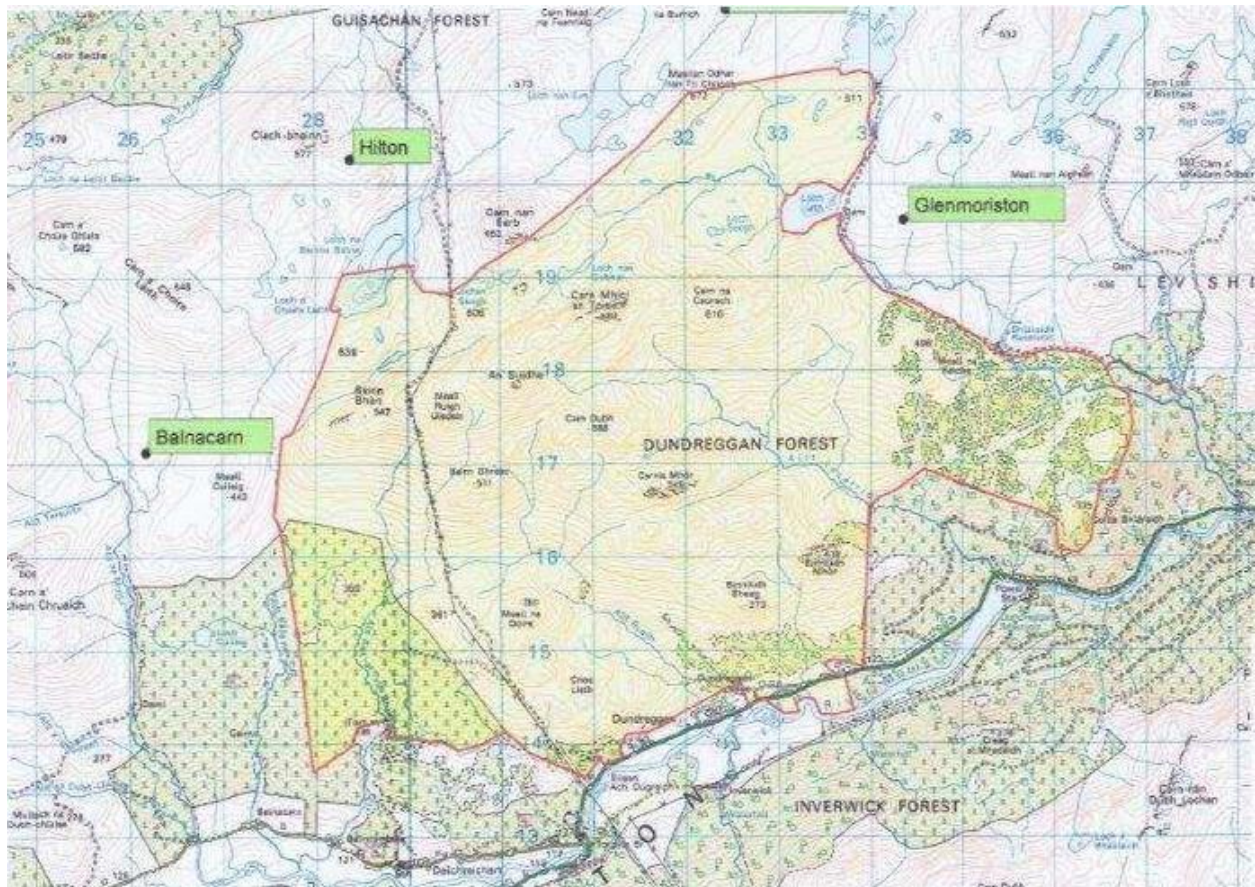
management plans for the entire subgroup Area. The Estate attracts significant numbers of animals which have summered on Dundreggan, Guisachan and possibly as far afield as Ceannacroc – yet this winter population is quite distinct and separate from that of South Affric, and animals from Hilton do not appear to travel to use the foraging areas around Athnamulloch.

This area thus provides a genuine alternative to South Affric for at least some of the stags from Dundreggan, Ceannacroc and Wester Guisachan. It is notable that some animals from Wester Guisachan do winter in Glen Affric, while others winter on Hilton; this emphasises both the fact that these sites are distinctive alternatives – and that if wintering use on Hilton might be increased, this could have a significant influence in helping to reduce pressures on South Affric overwinter (whether attracting more of the existing stag population to transfer allegiance, or by providing an alternative reservoir of stags, if numbers on South Affric were in due course to be reduced by culling).

This increase in overwintering of stags on Hilton is accepted by the estate, despite their own lack of summer stags.

For the same reason, the estate would clearly like to increase the number of stags on Hilton earlier in the summer, thus extending their own stalking season.

20.7. Dundreggan



N.B. Dundreggan has its own deer management plan which was independently drawn up and widely consulted upon. Members of the Glenmoriston group were consulted during its preparation. The plan is currently being updated.

20.7.1. Description:

Dundreggan Estate is located on the north side of Glen Moriston, 9.5 km west of Invermoriston.

The estate extends to 4,026 ha and is bounded to the west by Balnacarn and Forestry Commission Scotland (FCS) plantations, to the north by Hilton and to the east by Glenmoriston Estate. The southern boundary in the west runs above the houses that are just north of the A887 road. In the centre, it is formed by the River Moriston and towards the east, the Estate march is set back from the road and river, running behind the FCS Bhlairaidh plantation. The eastern march with Glenmoriston follows the line of the Hydro road to Loch Liath and to Loch ma Stac.

In the north of the estate, towards the boundary with Hilton, the open hill ground consists of a long crossways ridge towards the northern march from Meall Ruigh Uisdein, An Suidhe and Carn Mhic an Toisich to Carn na Caorach; this higher ground is separated from Hilton by an area of flatter peaty ground with numerous small lochans (Lochan Seogh, Loch nan Gobhar, Loch Seogh towards Loch Liath and Loch ma Stac). From this 'back' ridge, a series of longitudinal ridges run effectively northwest-southeast towards the A887 - formed by Beinn Bhreac-Meall na Doire and Cnoc Liath to the west, An Suidhe-Carn Dubh-Carnis Mhor-Binnilidh Bheag in the centre and Carn na Caorach

and Meall na Faiche to the east. These provide two main glens (oriented roughly north-south) around the Allt Ruadh and the Allt iarairidh, with a series of intermediate blind corries (east-west) behind the separate summits of the main ridges.

This topography provides a mixture of tops and flats, especially in the north of the estate. The higher slopes and summits tend to be rather stony and well-drained, while the flats have accumulated deeper depositions of peats. To the north and east these generally provide extensive mires and blanket bogs, with numerous lochans and bog pools, but to the west, the ground is more hummocky and the mires are interspersed with frequent hummocky moraines or rocky knolls.

20.7.2. Past and current management

Prior to its acquisition by Trees for Life, the Estate was maintained primarily as a sporting Estate. In the latter years of sporting ownership, up to 20 stags per year were taken from the Estate ground. Hind culls were historically rather low, but were increased from 1998 to between 25-30 hinds annually. Actual cull figures for red deer from 2010 are summarised below.

	10/11	11/12	12/13	13/14	14/15	15/16
Stags	25	25	26	25	25	20
Hinds + calves	51	51	53	51	77	90
Total	76	76	79	76	102	110

Sika are also culled on the estate and the cull has been increased since Trees for Life (TFL) took ownership of Dundreggan in 2008.

About 750 ha of the estate is common grazing held under crofting tenure, and there is one active crofter who grazes 350-400 ewes. The common grazing is unfenced and the sheep can range over the majority of the property, but in practice the sheep tend to be mostly hefted to the lower ground of the common grazing. Sheep are fed silage and there are possible conflicts here with stags competing for feeding. To mitigate against this TFL have put out some diversionary feeding blocks in the woodlands towards the western boundary. Some investigation will also take place into other methods of excluding stags from sheep feeding stations

To further limit tree browsing during the spring, deer are regularly disturbed in the native woodland areas during March and April to encourage a preference for the conifer woodlands when shelter is sought.

TFL attracts up to 300 volunteers per year through Dundreggan to work on environmental projects. Many volunteers show an interest in deer management and are encouraged to more through regular indoor presentations from the stalker, Mr Common, and through demonstrations of larder work. Volunteers occasionally accompany Mr Common on stalks.

The Dundreggan Stalker has attained DMQ level 2.

20.7.3. Vegetation condition

Strath Caulaidh carried out a detailed assessment of deer impacts in 2010. The results are summarised below:

Impacts on vegetation – Patches of bare soil were recorded on 35% of transects south of the Beinn Bhan – Carn Mhic an Toisich – Carn na Caorach ridge compared with 62% to the north. This coincides with an increased proportion of blanket bog in the north of the estate. Trampling impacts of large grazing animals can create micro-sites for seedling germination, particularly around the margins of woodland. High levels of trampling on blanket bog and wet heaths would normally be viewed less positively, and it is important to consider the implications for these habitats of any changes in deer populations. The impact of deer browsing on heather and bog myrtle were assessed, and the effects on heather were considered to be “not so high or widespread as to cause anything other than a very gradual localised change over decades in most places”. Bog myrtle was heavily browsed except where protected inside fenced areas. Bog myrtle is a very good proxy for seedling grazing pressure. Heavily browsed bog myrtle almost certainly means heavily grazed seedlings.

Impacts on tree regeneration – The presence of tree seedlings was recorded in significant numbers, predominantly on the lower slopes with better-drained soils. Virtually all the seedlings were less than 50 cm tall. A significant proportion were above the field layer but were often deformed and showing marked signs of browsing, with indications that Scots pine and rowan were preferentially browsed compared with birch. The Strath Caulaidh report states: “It was felt that deer browsing was having a marked impact on woodland structure, particularly because of the almost complete absence of trees of 0.5 – 2.0 m recorded on most sites where advance regeneration was otherwise present.”

“Strath Caulaidh also carried out some browsing monitoring in spring 2015 and found that 67% of tree seedlings had been browsed and that approximately 80% of all seedlings were at or below field layer height. In other words, the intensity of browsing on tree seedlings was virtually unchanged between 2010 and 2015 at Dundreggan.”

Many ecological surveyors contracted by Trees for Life advocate a reduction but not exclusion of grazing, particularly within and around the margins of the woodland, to encourage natural regeneration. In the conservation plan, the Averis' state: “There is clear agreement among the specialist surveyors that an increase in tree and shrub cover, greater structural diversity and a concomitant decrease in grazing would improve the value of Dundreggan Estate for nature conservation. It is evident from the findings and recommendations of the surveys that some grazing will be necessary to maintain the structural diversity of the vegetation and maintain some habitats as open unwooded ground. It is also important to remember that natural woodlands are grazed; they have developed in the presence of herbivores, and completely ungrazed woodlands are as unnatural as the grazed and burned dwarf-shrub heaths and grasslands that currently cover the ground below the potential tree-line. The conservation plan also highlighted the benefits of deer carcasses for beetles and fungi, as well adding fertility of the soil.

20.7.4. Deer Populations:

Dundreggan has traditionally been regarded as predominantly hind ground with movement of stags from the west during the rut. There is regular movement of red deer between Dundreggan and Balnacarn/Tomchrasky, and some drift of animals to and from across the eastern and northern march with Glenmoriston and Hilton respectively. There is significant seasonal movement, however, of stags; a number of stags which summer

on Dundreggan cross into Wester Guisachan, Hilton and Corrimony for the rut and a number also move onto these same Estates to overwinter.

Deer found in the native woodland fragments are thought to be less liable to move larger distances and may not contribute too much to population exchange with neighbouring estates.

Fencing is in good condition around the new Allt Fearna enclosure, the 2002 WGS area, the 2010 NW Plantation enclosure and a small (12ha) enclosure within the mature birch woodland above Dundreggan, where a captive group of wild boar are held. Fences to the east and along the A877 are in good condition. During the term of the previous deer plan, the fence along the south and south-west boundaries of the conifer plantation were tightened to prevent deer movement through Dalchreichart Plantation from FCS ground to the west. The deer fence along the eastern and northern side of the plantation were reduced to stock height in an attempt to draw deer away from native woodland further east. Proposals for a 170ha enclosure for native woodland planting are in hand at the time of writing. The total range available to deer is therefore around 3000ha including 260ha of the Dalchreichart Plantation."

A helicopter count carried out on behalf of the South Ross Deer Management group in 2003 gave a population total of 367 for Dundreggan, consisting of 55 stags and 312 unclassified animals (presumed to be largely hinds and calves). A repeat count in February 2009 gave a count of 478 animals, all of which were located on the lower slopes south of Carnis Mhor. There was heavy snow on the hills at the time pushing deer onto the lower ground, which gives an indication of the number of overwintering animals on the estate. Population figures across the group were considered to have peaked in 2009 and a helicopter count in 2012 returned figures of 36 stags and 171 hinds and calves. A helicopter count in 2015 ran out of time and failed to count Dundeggan, however there will be a helicopter count in early 2016.

Summary from Helicopter counts

YEAR	Stags	Unclass'd	Hinds	Calves	Totals	TOTAL
2003	55	312			367	367
2009	116	362			478	505
2012	36		133	38	207	
2016	65		247	74	386	

The figures from the 2003 count were not considered to be particularly reliable.

It is clear also that a number of animals using Dundreggan, both in winter and summer, may be considered largely transients. Dung plot survey carried out by Strath Caulaidh between November 2009 and May 2010 states: "The extent to which resident deer as opposed to transient deer contributed to the level of accumulation measured on the open range in 2009-10 or indeed to the DCS count of 2009 is a key consideration."

As recommended in the previous deer management plan, ground counts have been carried out in April each year since 2010. The result are shown overleaf:

Year	Total
2012	308
2013	231
2014	122
2015	120

Finally, it is recognised that the Dundreggan red deer population is transient in nature, not only in terms of movement on and off the estate, but also in and out of the woodland. The important thing to consider therefore in terms of future management is not simply the total number of deer, but where they are at different times of year and the actual impacts recorded.

20.7.5. Cull

The cull will not be set based on a population model but as a reaction to the monitoring of the tree regeneration in the target area (see woodland map). The raising of the hind cull from 50 to 75 and subsequently to 90 in 2016 has been intended to reduce the browsing in this area to an extent which will enable the existing regeneration and further seedlings to become established woodland. This process is likely to take several growing seasons of reduced deer browsing pressure.

There is a possibility that the large reduction in hind numbers may be replaced in part by wintering stags which could take up residence in the target area in the absence of hinds. There are a number of ways the estate could react to this. There could be increased disturbance during the wintering months, or there could be an increased in-season cull of stags but if these fail to keep the browsing in check then an out of season license alternative may be sought to cull wintering stags.

We will do as much as we possibly can to reduce the chances of having to go down the route of out-of-season licencing, in the interests of good neighbourliness.

20.7.6. Sika Deer Shot

Year	Stags	Hinds & Calves	Total
2008-2009	2	1	3
2009-2010	3	3	6
2010-2011	3	9	12
2011-2012	1	7	8
2012-2013	0	7	7
2013-2014	3	7	10
2014-2015	7	14	21

20.7.7. Woodland

Between the hill ground and the A887 are some extensive areas of native woodland – essentially covering the south-facing slopes of Cnoc Liath and Binnilidh Bheag immediately above the road itself. This is mostly of birch, with some Caledonian pine towards the west (and around the croft ground at NH310140), but there is increasing inclusion of pine in the central block below Binnilidh Bheag, moving east from the Allt Ruadh, and a significant inclusion of oak. Hazel, aspen, alder, holly, bird cherry, blackthorn, hawthorn, wych elm and ash are all present in the lower part of the woodland as mature trees in relatively low numbers. This is an extensive area of unfenced native woodland, which shows evidence of active current regeneration. While there is no obvious regeneration under areas with closed canopy within the woodland itself, there are apparent discrete, thickety clumps of birch establishing in more open areas, and active recruitment is apparent right the way along the northern margin, east of Allt Ruadh, although in most cases it appears to be held in check by browsing pressure at present.

Indeed it is clear that the woodland would, with reduced browsing pressure, gradually extend to the north, with new seedlings/saplings becoming established quite a long way out beyond the current woodland margin into the open heathland (as, for example, at NH333153 and an east-west belt of recent regeneration established on either side of the burn, further out at c. NH333155).

It is the estates intention to see the expansion of this woodland, facilitated by a substantial cull of browsing deer.

There are plans for a further plantation of native woodland in the centre of the estate (see map) alongside the boundary of the common grazings.

Strikingly, the 'roadside' woodlands have within them a remarkably high proportion of juniper (*Juniperus communis*) once again increasing towards the east. In places this is extremely dense and vigorous and creates a mixed community within the woodlands with the birch and Caledonian pine. The juniper itself is clearly expanding and has (within living memory) established itself right out onto the open ground at the east of the Estate between the lower margin of the woodland and the road (NH333147-336148). There is widespread juniper regeneration in many parts of the estate, such as along the Allt Ruadh, but this is held in check by browsing.

There is one further sizeable area of unfenced native woodland on the Estate, consisting of a crescent of birch wrapped around the northeast and eastern slopes of Binnilidh Mhor. This has characteristics of ancient woodland, but shows less evidence of current regeneration.

In addition to these unfenced woodlands, the previous owner established (in 2002) a large enclosure contiguous with the Forestry Commission plantation of Bhlaraidh to the east and extending up on the west side of the Hydro road just beyond Meall na Faiche and back towards the Allt iarairidh. An area of approximately 400 ha has been planted with Caledonian pine, birch and other native broadleaves.

There is also an area of commercial conifer plantation between the western Hydro road (Eve's Road) and the Forestry Commission plantations below Balnacarn. Planted largely with Sitka spruce/ lodgepole pine/Scots pine, but with larch margins, this is a relatively open plantation area. In addition to a number of checked areas, hill tops were deliberately left unplanted and there are wide areas unplanted around watercourses. Fences to Dundreggan on the eastern side have been reduced to stock height so there is some deer movement back and forth. Within this plantation Dundreggan is undertaking some peatland restoration.

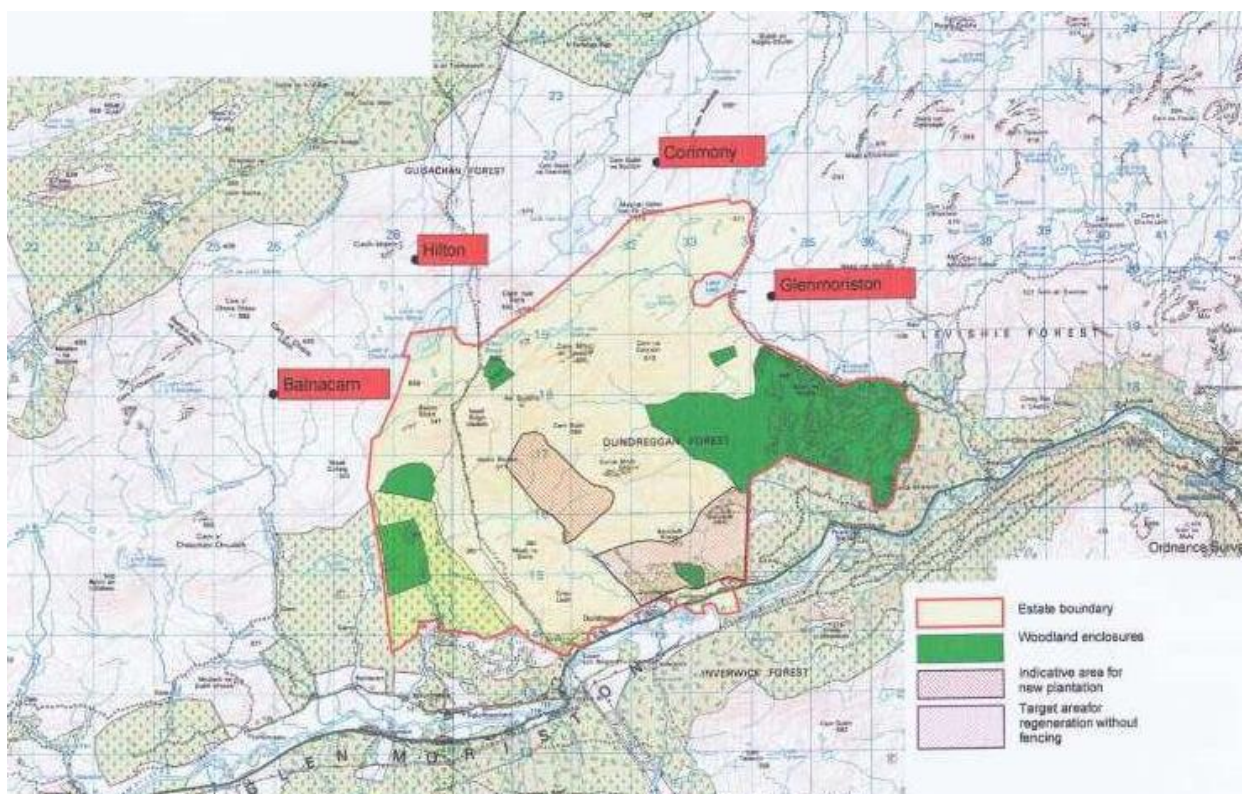
Trees for Life has added a further 150ha enclosure contiguous with the last mentioned scheme and centred on the Allt Iarairidh and Allt Fearn catchments. There is also a

smaller 40ha enclosure to the north of the Dalchriechart plantation, both of which have been planted with native broadleaves. In addition, three small (~3-5ha) enclosures at higher elevations exist protecting good patches of dwarf birch. An area of 66ha, "The Heart of the Plantation" was also fenced within the Dalchreichart forest in 2015. A 7ha area was planted with native broadleaves within this."

20.7.8. Issues and concerns:

Concerns from neighbouring estates have been raised about cull levels and possible economic impacts and equally opposite concerns from Dundreggan have been raised about the sustainability of the overall population at current levels. This is being addressed through dialogue at meetings.

20.7.9. Dundreggan Woodlands



20.8. Corrimony



20.8.1. Description

The estate extends to 1530 hectares owned by the Royal Society for the Protection of Birds (RSPB). The land consists of 85 hectares of semi natural woodland, 573 hectares of conifer plantations and 863 hectares of moorland. The RSPB's main priority on the estate is to encourage the population of Black Grouse.

20.8.2. Past and current management

700 hectares of the estate is now seasonally grazed. Much of the management has surrounded woodland management including 150 hectares of new native woodland currently being created while 60 hectares of Scots pine plantation has been restructured to create blaeberry rich ground flora and deadwood for bird nesting. 45 hectares of woodland has been restructured by the removal of non-native conifers.

10 kilometres of deer fence has been removed to avoid bird strikes and a further 8 kilometres reduced to stock height.

70 small plots of field layer vegetation have been cut as a research project to determine the benefit of this management to Black Grouse.

There is an annual stalking lease in favour of Mr. Chisholme Wallace over 800 hectares of the estate and a stalking contract over the whole 1530 hectares operated by Mr Grahame Young.

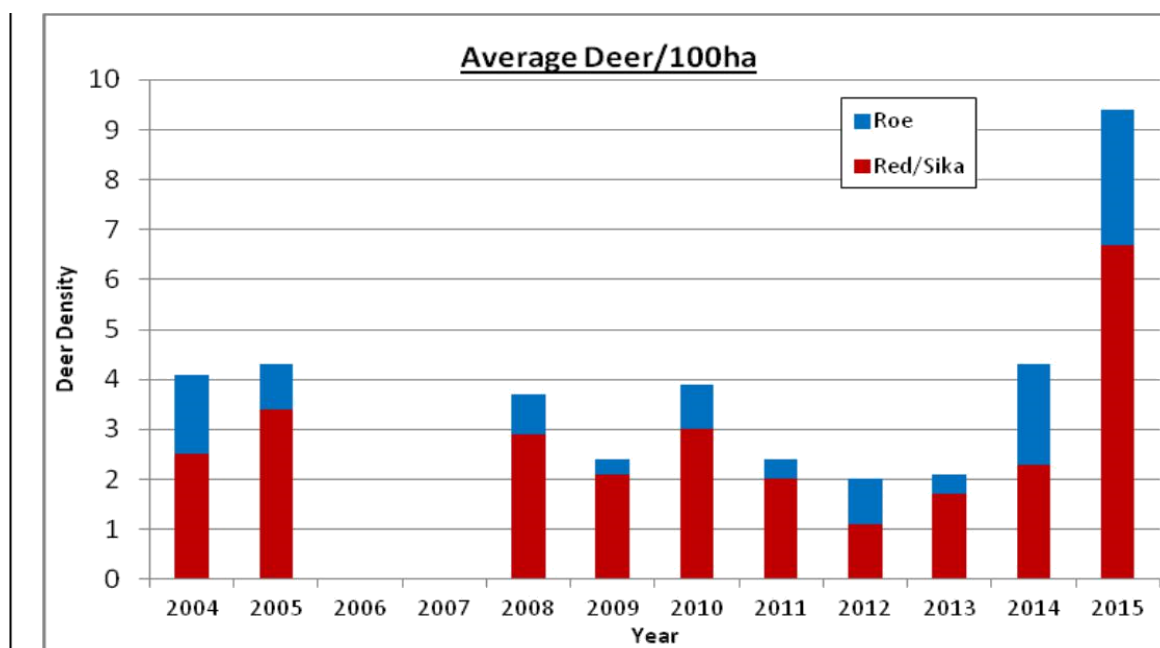
20.8.3. Vegetation condition

With reduced grazing levels the ground vegetation is in good condition and management is now focused on grazing and cutting to maintain favourable breeding and feeding conditions for bird species.

20.8.4. Deer populations

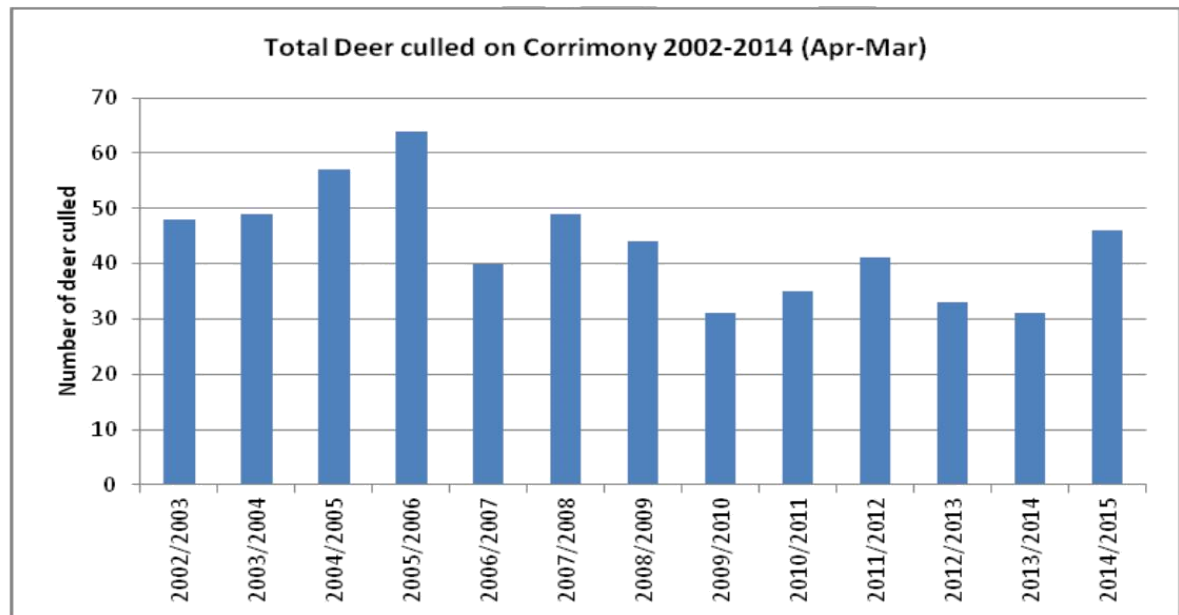
The deer population has been reduced from c. 12-15 head per 100ha to 1-3 head per 100ha. Corrimony was not counted as part of the 2009 or 2012 count of the South Ross Deer Management Group. However RSPB's own count in 2009 indicated that there were 65 head on the estate. This count did not differentiate between sex and age or between red and sika.

As can be seen from the fencing map, although not completely deer proof there are considerable deterrents to deer approaching from Corrimony Estate. The estate is crossed at 3 strategic places by stock fences with an electric wire offset. Whilst not absolutely deer proof these fences are a significant deterrent particularly to hinds. Deer which pose a threat to trees and habitat are more likely to come from resident stock in Breckys Wood and Torr an Lochan to the North and FC land to the South West.



20.8.5. Cull

A cull number is not set and RSPB relies on dung counts to give an indication of population trends. The aim is to maintain a population of between 3 – 5 deer per 100ha.



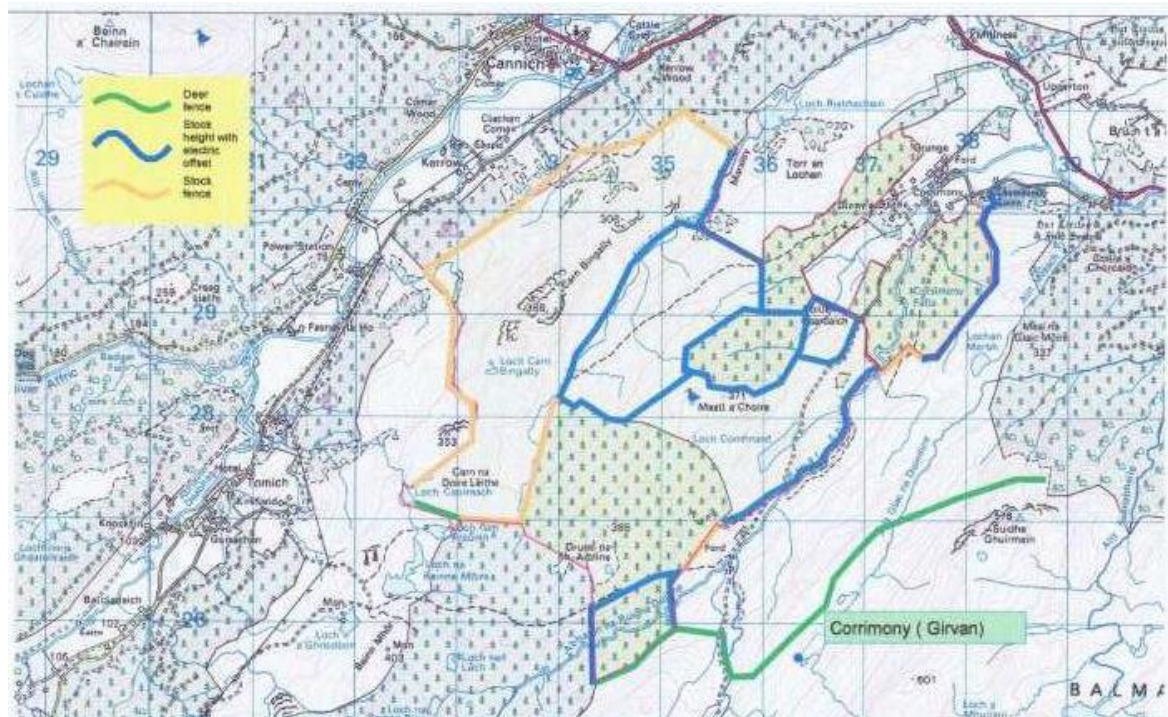
20.8.6. Woodland

RSPB's vision for the estate over the next 25 years is to increase the woodland cover to 1000 hectares. Half of this would be as open woodland with a canopy of 4 – 40% and half as closed canopy woodland. RSPB will also seek to restore the woodland to its former Caledonian type with a blaeberry rich ground flora.

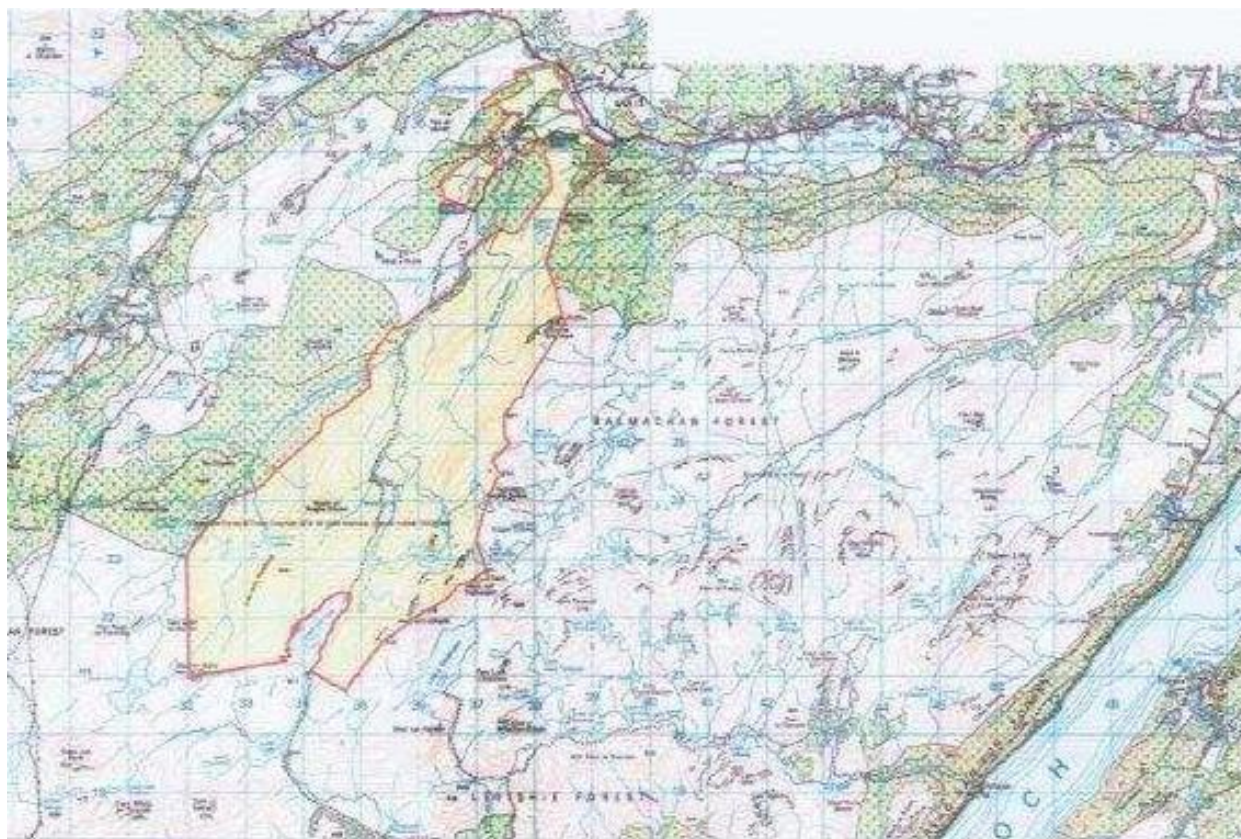
150 ha of new woodland has been created and a further 105 ha of existing pine woodland has been restructured to remove non-native conifers.

RSPB has plans to create a further 87ha of Native woodland along Strath Marsley using stock fences with an electric offset wire as protection.

20.8.7. Corrimony (RSPB) Fencing



20.9. Corrimony (Mr Girvan)



20.9.1. Description

Corrimony estate comprises 1,916 ha of hill ground (including open water) lying between 250 to 680m. It is bordered to the north and west by three Forestry Commission for Scotland (FCS) properties and Corrimony RSPB reserve, to the east by Balmacrae Deer Forest and Glenurquhart FCS Deer Forest, and to the south by Glenmoriston, Dundreggan North and Hilton Estates. Thus, Corrimony has a relatively high proportion of its boundary (approx. 35%) adjacent to established conifer plantations. Deer fences are generally maintained to the forestry blocks, and a secure fence is in place to Corrimony RSPB.

The hill is split into 3 areas, with the majority holding open range deer. The lower ground is deer fenced across 2 lengths, which includes areas for higher agricultural use and a large Woodland Grant Scheme (WGS) noted under 15.10.2.

The lower enclosed hill ground supports higher sheep numbers and out-wintered cattle therefore it is only the upper and largest section of the hill ground that features under this deer management plan.

Old croft sites are present across the hill.

Several hill lochs are present, with Loch ma Stac being the largest, modified to supply Levishie Hydro Power Station, Invermoriston. A key access route exists across the hill to the loch.

A windfarm was constructed in 2012 with five turbines on the western end of the hill ground north of Sliabh an Rughe Dhubh with a main access track.

20.9.2. Woodland

Just over 120 ha of mixed natural woodland regeneration and planted Scot's pine established under a WGS in 2000 with mixed native pine, birch and rowan is slowly establishing. Future deer shelter was one of the objectives of establishment. A small stand of aspen is also contained within this area. Regeneration is successful. This has been deer fenced on the top side with L-shaped deer fencing used on the bottom side due to the presence/proximity of black grouse.

A further plot of 121ha is currently being prepared for fencing and planting in 2016 having been accepted in 2015, of largely native, with a modest strip of commercial content along the eastern march on the lower hill. This however will none-the-less add shelter value to the open hill and will provide long-term future deer shelter. Several other small (2-10ha) plots are also being proposed for native woodland planting in 2017, along the lower hill.

Additionally, a modest amount of scattered woodland exists towards the west/south-west march of native origin.

No active public access / footpaths exist however due to the good access track leading to Loch ma Stac, which has an uninhabited dwelling on the island, some walkers and cyclists take this route, generally sticking to the track. Vehicular access for maintenance to both the wind farm and the dam at Loch ma Stac is also relatively common.

20.9.3. Vegetation condition

The ground comprises a mix of dry heath moorland *Calluna-Erica* on the higher ground, with broad areas of heath grasses and *Erica cinerea* on well drained ground, modest areas of blanket bog and wet heath on lower ground where the land scoops in a northwest direction towards the farmstead. This comprises *Molinia caerulea*, *Scirpus (Trichophorum) cespitosus* and *sphagnum spp* and *Eriophorum*). The driest ground tends to be on the highest ground to the eastern march, where a long ridge runs a south-west to north-east direction and also to the higher western march ground. The ridge supports areas of wind-clipped heath/moss heath, lichens and clubmosses.

In general, the vegetation appears in good condition. Heather cover is moderate and grazing impact on hill ground is generally light with modest tracking evident across the Estate. No signs of erosion/eroded tracks or significant haggling due to animal presence are known with only localised trampling around occasional feed blocks laid out close to the hill track.

The area of WGS has been identified as displaying high herbivore pressure to the middle of the estate.

20.9.4. Past and current management

The main objectives for the estate are the maintenance of the unenclosed hill land of open moorland and bog in favourable condition and to contribute to the appropriate management of the deer population with neighbouring Estates, along with enhancement of the woodland regeneration area, and the provision of grazing and shelter for livestock on the lower hill.

Relatively modest numbers of sheep are present across the hill during the summer, which has dropped in recent years rather significantly from a flock of up to 700 breeding ewes which were grazed year-round.

Stalking is managed by a sporting tenant and undertaken by an employed stalker. The estimated numbers of animals shot in each (tbc) of the last 10 years are summarised:

	06	07	08	09	10	11	12	13	14	15
Stags	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12	10-12
Hinds	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	0	0

Corrimony has an on-site larder, and carcasses remain with the owner, handled through Simpsen's Game. The stalker is experienced but certification is currently unknown. Some consideration will be made to both levels of DMQ. The estate is not SQWV certified and throughput is insufficient to merit this at present.

No current signage is used for public access, nor to inform of sporting activities.

20.9.5. Deer Populations

Deer counts produced are given as approximately 300 hinds for Corrimony however in practice around 150 hinds are the maximum number to be seen at any one time. Key movements of the deer population take place to and from Glenmoriston, Balmacaan and Dundreggan to the south and east, occasionally Hilton to the west. The deer of Corrimony with the east estates may be considered in large part as a single population.

Deer are generally present on the higher ground where the better grazing /drier ground exists either side of the River. Hinds are generally found in sheltered areas adjacent to FCS land or on the higher ridges particularly during the summer. Some wintering stags are held. Prior to the renewed deer fence, higher numbers would have found winter shelter in Corrimony.

Sika are present in modest numbers on the lower ground, however none have been shot on Corrimony. Roe deer are largely confined to the low ground/woodland areas. No Feral Pigs are known to frequent the estate areas.

20.9.6. Cull

The cull level proposed during the life of this plan is up to 10 stags and 10 hinds. This figure will be confirmed following the 2016 count, and will be determined by weather, mortality and any additional effect that may be felt from higher culling on Dundreggan.

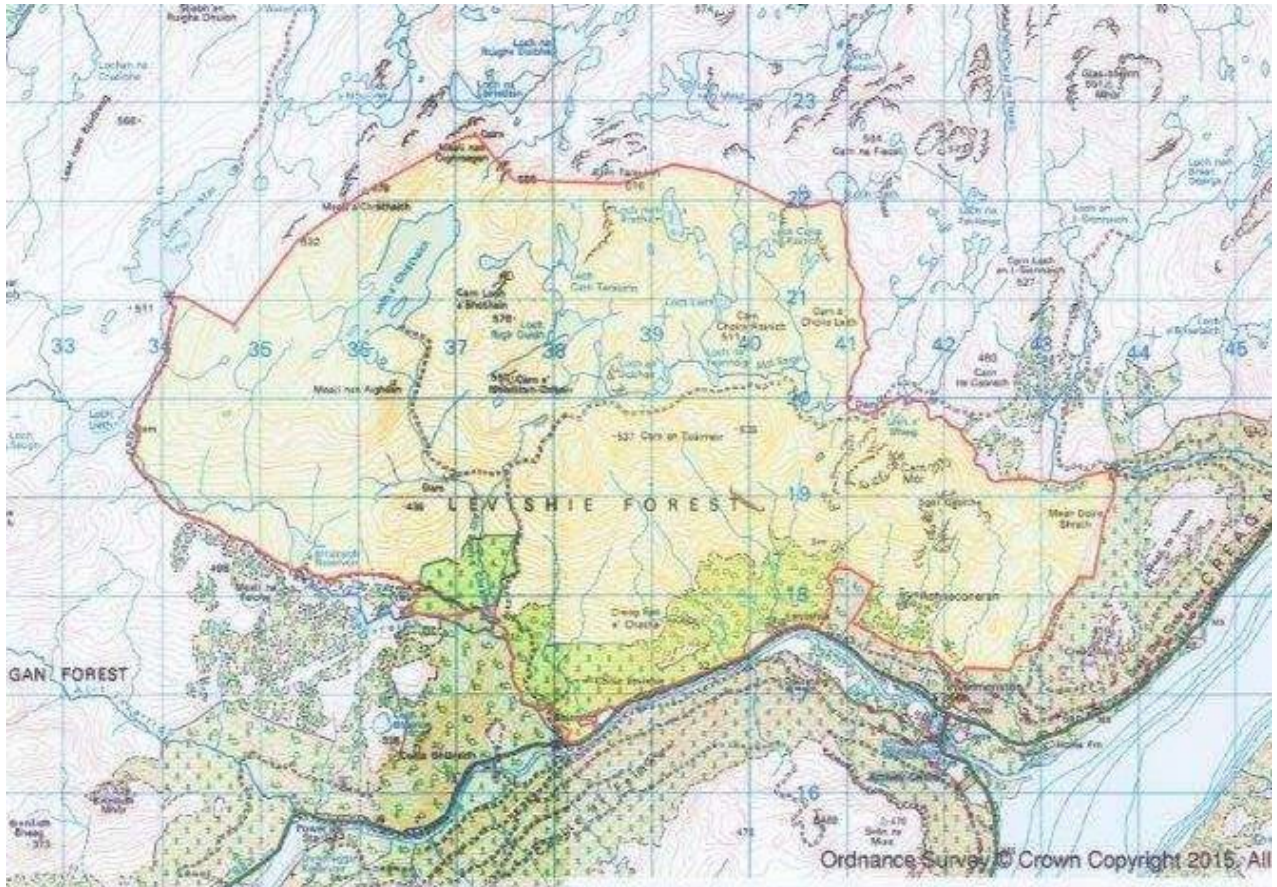
20.9.7. Issues and Concerns

Some concerns are held on Dundreggan Estate's desire to reduce their deer population to encourage tree regeneration and the impact it may have on Corrimony's stag numbers and potentially hind numbers.

Fencing is currently adequate with FCS but repairs are periodically required.

An additional hydro scheme is pending on the main river running through Corrimony with the power house to be stationed below the main deer fence and the head tank above. This however will have no impact on deer management.

20.10. Glenmoriston Estate



20.10.1. Description:

Glenmoriston estate lies towards the east of the group and consists of predominantly south facing hill ground rising northwards from the River Moriston, through a band of native and clear-fell commercial woodland to broad swathes of wet grass-heath, modest areas of blanket bog, plateaus, ridges and sheltered higher corries holding numerous water bodies. The estate covers an area of 4,095 ha and hill ground ranges from approximately 160 feet at the base of the woodland up to the ridge of Meall a' Chrithain to the north-west at 2,235 feet. A high number of hill lochs are found across the northern half of the estate, Loch a Chrathaich being the largest with the main access route across the hill running to the loch.

The estate marches with Corrimony Estate on the north-northwest along the Meall a' Chrithain ridge; Balmacaan Deer Forest to the north-northeast; Dundreggan North Estate to the west and south-west; and two smaller Forestry Commission for Scotland (FCS) properties to the south on lower ground.

A wind farm of 32 turbines is under construction on Glenmoriston hill ground to the north and west (Bhlairaidh Wind Farm), with a footprint across approximately 200 ha. Construction started during 2015 and at the time of writing has created significant access improvements to the hill ground. An impact assessment was carried out in 2013 concluding that no significant adverse impacts would take place. The footprint extends into the lower conifer plantations that were felled in 2012.

Several old croft sites are present across the hill ground and woodland edges.

20.10.2. Woodland

The lower slopes are a mix of open, native woodland recognised for their extent and value by Site of Special Scientific Interest (SSSI) designation, an area of cattle grazed birch woodland to the east (falling within crofting ground), a small pocket of mature Scots pine to the west and felled commercial plantations, with one small area of commercial cover remaining. Additional blocks of native woodland have been established on the lower and mid slopes over the last 5 to 6 years, providing the start of around 100ha of additional cover.

The designated native woodland across the southern flank of the estate reaching down towards grass fields and the River Moriston, is Levishie Wood SSSI, notable for the ancient semi-natural birch-juniper woodland interests and extent. This is considered to be one of the largest birch-juniper woodland areas in Inverness-shire. The ground displays blaeberry-heather vegetation understory with chickweed wintergreen *Trientalis europaea* on the upper slopes and a rich woodland flora including primrose and wood anemone, Dog's mercury *Mercurialis perennis*, false brome *Brachypodium sylvaticum* and pale sedge *Carex pallescens* along the lower reaches. Bracken dominates most glades and clearings. The woodland has also recently been bolstered in its importance for holding a rare northern population of yellow meadow ants.

Five exclosures (noted above) were planted, fenced and marked in 2010 with mixed native trees covering around 100 ha specifically for black grouse habitat management and are successfully establishing. These have surrounded riparian native birch and alder and an area of Scots pine. A number of ditches have also been blocked adjacent to these to improve conditions for young birds. These improve connectivity to Dundreggan Estate woodlands and plantations are now regularly being used by the resident black game and are assisting in forming new sub leks in the area.

Several new areas of woodland creation are currently approved and being put in place including a 107ha block on the south western march, where at least 50% of the planting to the north-west will be native pine, birch, rowan and open ground (surrounding an existing black grouse lek) and the remainder (less than 50%) adjacent to existing Forestry Commission Scotland forestry will have a commercial element. This will be fenced (marked) in 2016 and planted in 2017. Additional areas proposed (under the Wind Farm Habitat Management Plan) for native planting include approximately a 10ha block adjacent to the SSSI (extending the habitat to the east to meet the grazed 'croftland' woodland), and numerous small native blocks (1-4 ha) fringing clear-fell/commercial forestry along the access to the wind farm, and on open ground on the western march with Dundreggan, adjacent to a 2010 native planting. These smaller blocks are specifically aimed at enhancing habitat for black grouse and will all be marked appropriately.

Several knoll areas within the Levishie SSSI (approx. 10-12%) are currently being assessed for deer exclusion under a management agreement (SFGS or SNH) within the next few years.

Much of the felled area surrounding the wind turbines is to be replanted once the new roads are formed to re-landscape the lower parts of the estate.

20.10.3. Vegetation condition

The open hill vegetation character is largely *Erica-Sphagnum* wet heath with acid flushes, areas of blanket bog on mid-upper flatter areas, drier heath moorland displaying *Erica cinerea* on the higher, stony ground and ridges, and undulating areas of grass-heath (*Calluna vulgaris*, *E. cinerea*). Higher ground displays pockets of [dwarf birch](#) (*Betula nana*) found to the eastern march.

Heather cover is in variable condition with low to moderate grazing impacts on the hill ground, largely historical. Some light trampling is evident across some of the lower parts where feeding of deer takes place but this is localised. No significant blanket bog / peat erosion is present and hags are limited. Burning has recently been reintroduced into the management after many years of absence in order to break up the cover and improve the regeneration of heather.

The enhancement described in the Habitat Management Plan of the Bhlairaidh Wind Farm, including peatland restoration has in part been implemented with ditch blocking adjacent to tree planting.

The wooded area however has greater signs of impact (with high impact recorded for the SSSI which is currently in 'unfavourable condition'). As the only open woodland on the estate deer are attracted to the woodland in poor weather and at night. Despite high bracken control efforts undertaken by the estate, the woodland has a spreading and dominant cover of bracken in most of the open areas reducing regeneration potential and reducing overall grazing value which in turn has created higher pressure from browsing deer on the visible regeneration.

The knoll enclosure/s noted above will give an opportunity for intensive bracken management and regeneration to occur, however continued bracken control throughout – with a balanced cover remaining for butterfly habitat - will aid the overall health of the site and move it towards favourable condition.

20.10.4. Deer Populations

Deer counts produced are given as approximately 350 in winter and 300 in summer (with the majority being hinds and calves). Small numbers (20-30) of wintering stags are held, mostly on the central and south parts of the estate, while hinds are largely hefted to the south. Key movements of the deer population take place to and from Corrimony, Balmacaaan and Dundreggan to the north and west. There is also some movement of deer to and from the FCS plantations to the west, largely of Red, but also of Sika.

Deer are generally present on the higher ground where the better grazing /drier ground exists and up to 100 can be present within the woodlands in winter. Sika are present in modest numbers on the lower ground, however few are shot. Roe deer are largely confined to the low ground/woodland and river corridor areas.

Small numbers of feral pigs are present with 3-4 shot and several breeding sows seen.

20.10.5. Past and current management

The main objectives for the estate are the maintenance of the unenclosed hill land of open moorland and bog in favourable condition and to contribute to the appropriate management of the deer population with neighbouring Estates, along with enhancement of native woodland regeneration, and the provision of grazing and shelter for deer on the lower hill with a view to improve the current deer population. Habitat management is taking place across the estate to improve the black and red grouse populations which in turn will improve the habitat for a wider range of birds, insects and the mountain hare.

No agricultural management is undertaken by the estate however a 250 acre croft (Achnaconeran) and common grazing exist, supporting around 10 cattle.

The croft is stock fenced only. During the 1960's and through to the 1980's there was around 3000 to 4000 sheep present across the whole hill and the grazing pressure reduced heather cover. Recovery is still taking place however careful muirburn in these areas is now beginning to regenerate heather. Pheasants and partridge are also managed by the estate in modest numbers.

Stalking is managed by Glenmoriston Estate, and 2 game keepers are employed to undertake deer and habitat management. Feeding of deer takes place on lower hill ground.

The estimated numbers of animals shot in each of the last 10 years are summarised:

	07	08	09	10	11	12	13	14	15	16
Stags	25- 30	25- 30	25- 30	25- 30	52	20	32	30	27	
Hinds and calves	40- 50	40- 50	40- 50	40- 50	40- 50	40- 50	40	41	45- 50	

DSCI and II is held by the head stalker/keeper, who is also on the SNH Fit and Competent Register. The underkeeper (currently being recruited) is also expected to hold DSC I and II. While the estate does not hold SQWV certification, this may be considered ahead as everything is at qualifying standard.

No active public access / footpaths exist. Signage is put in place for the public to show access points onto the estate during stalking periods, but currently is not in place for other sporting activities i.e. pheasant shooting during the winter months.

20.10.6. Cull

The cull level proposed during the life of this plan is 35 stags and 45 hinds and calves, determined by both weather conditions and potential effect from Dundreggan culls.

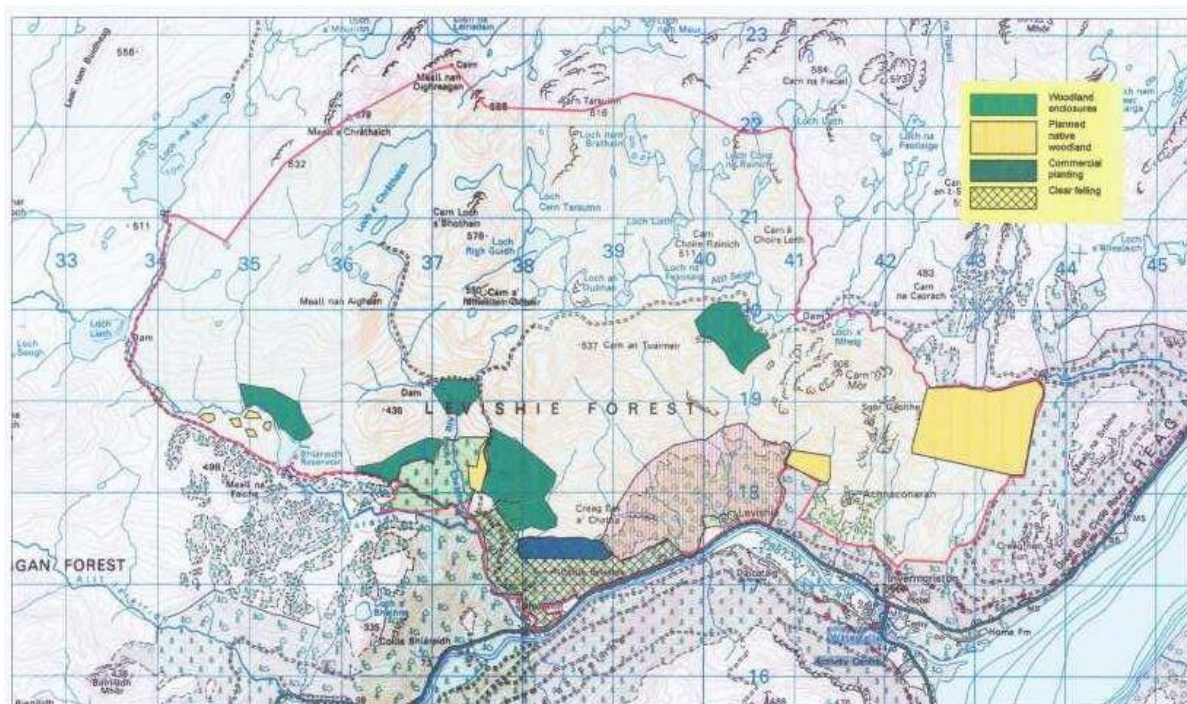
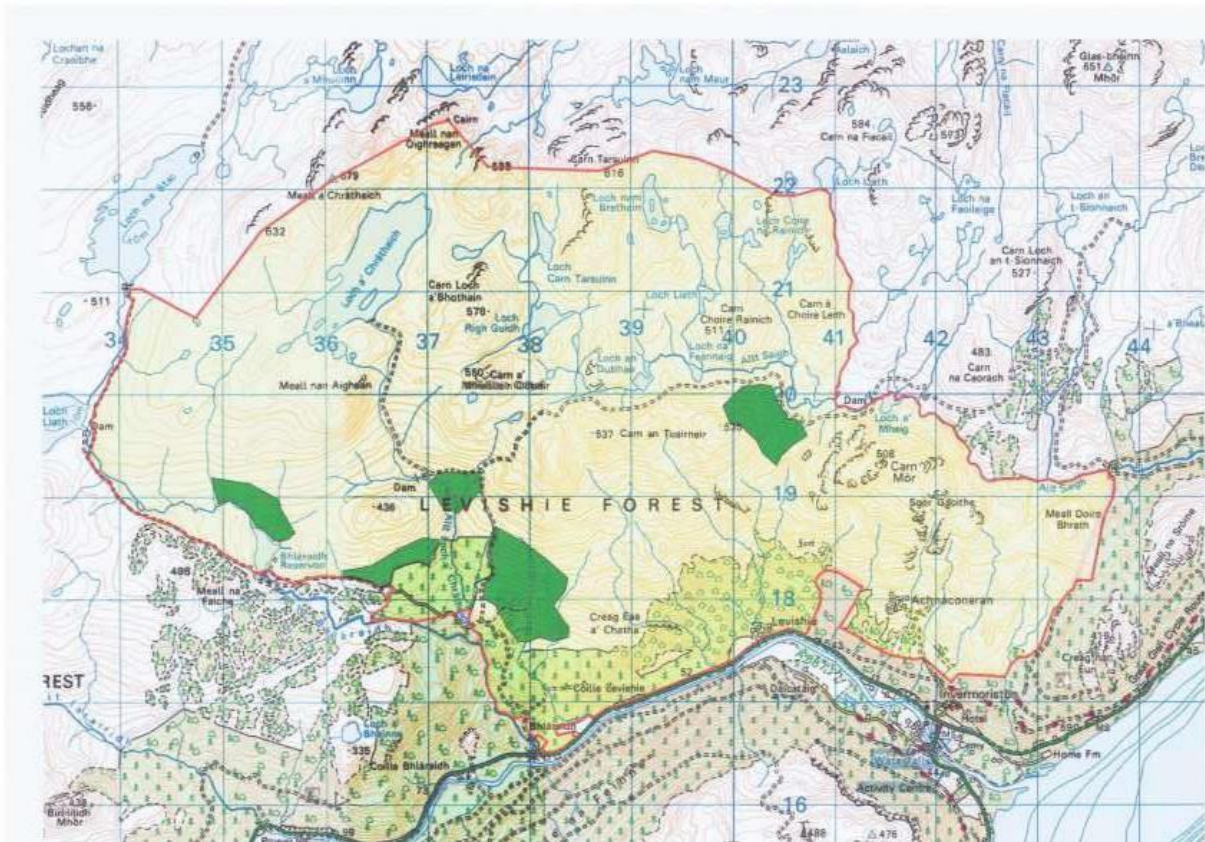
20.10.7. Issues and Concerns

Concerns have been expressed at the ambitions of Dundreggan Estate to the west, who wish to reduce their deer population sufficiently to encourage tree regeneration in the absence of fencing, and how this may affect Glenmoriston

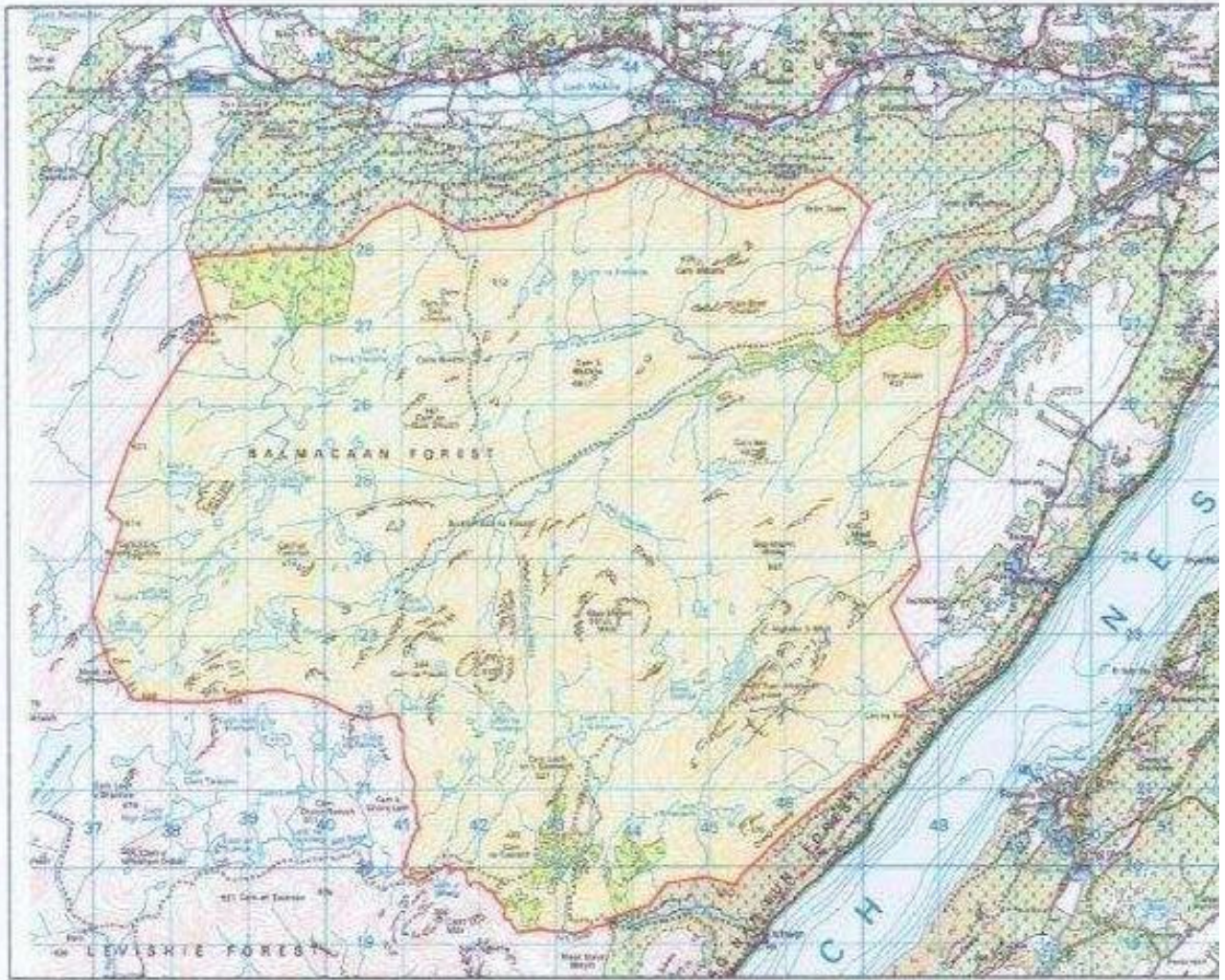
Estate's ability to maintain its sporting stags. Higher culls were understood to have been undertaken at Dundreggan of up to 90 hinds and calves and 25 stags.

To the west fencing issues with FCS woodland enclosures exist with several gaps leading to deer movements and potential loss of deer due to FCS management.

20.10.8. Glenmoriston Woodland



20.11. Balmacaan Estate



20.11.1. Description:

Balmacaan Estate is both the most westerly of the deer management group and the largest estate in the group covering an area of just over 8,000 ha. The Estate lies approximately 4km to the west of Loch Ness between Drumnadrochit and Invermoriston. The ground ranges from around 170 feet up to the 2,270 feet at Meall a Chrathaich towards the western boundary. On the north side, the estate rises from a band of commercial forestry that runs the full march, east to west. The ground rises sharply and extends southwards over a broad plateau with dramatic southwest-northeast orientated peaks, crags and corries.

The estate marches with Corrimony Estate to the west, Glenmoriston Estate to the south, and several smaller Forestry Commission for Scotland (FCS) properties to the north and east as well as several farms.

A wind farm scoping study was carried out on 2011 and the proposals are currently ongoing.

20.11.2. Woodland

Five large native woodland regeneration (non-commercial) schemes have been in place for over 15 years, three along the northern boundary one to the north-east end one on the southern march which sits high above commercial forestry. These have been supplementary planted with natives (Scots pine, birch, willow, and rowan) with the plan to open these for deer shelter once sufficiently established. The Coiltie regeneration plot (to the north-east) included approximately one third to one half of the area being on deeper peat, which at the time was not considered as poor practice. This area has regenerated badly and is currently under discussion for remedial action. The remainder of the plot has variable patches of dense birch regeneration and existing cover. The other four plots have all been successful.

No more plots are anticipated at this stage, although potential exists for interconnecting areas to be fenced as and when current plantations are opened back up to deer. As these are recently out of contract and successful this is a logical step.

20.11.3. Vegetation condition

The ground is made up of mostly wet heath (*Scirpus cespitosus*, *Eriophorum* spp., *Racomitrium* spp) with a few modest areas of deeper peat/blanket bog highlighted south of Loch a Chrathaich in the west of the site, and between Loch ma Stac and Loch Liath. Much of the higher ground is relatively rocky/stony with scattered small lochans and dissecting burns. Areas of dry heath (*Calluna vulgaris*, with *Erica cinerea* are present across higher ground and ridges.

Few hags or exposed areas of peat exist on the estate, however relatively low quantities of blanket bog are present. Some areas are displayed as having high herbivore pressure, largely due to the failed plantation on the eastern side.

Some bracken encroachment is taking place adjacent to watercourses (50-100 acres). Burning was carried out previously on a more intensive scale with large beds being burned to bring back leggy ground however this is now broken into smaller parcels and managed under an average 12-15 year rotation. Small red grouse and black grouse populations exist.

20.11.4. Deer Populations

No official deer counts have been produced on Balmacaan with ground counts generally difficult. Hinds are considered resident and stags are fed to bring in. A high mortality of mostly calves, but also hinds was noted during the spring of 2015 (estimated at over 100). An aerial count in 2016 is awaited.

Key movements of the deer population take place to and from Corrimony, Glenmoriston south and west, there is also some movement of deer to and from the FCS plantations.

Forestry Commission Scotland (FCS) land to the north has a deer proof fence recently rectified and smaller FCS properties are also generally deer proof. Movement is therefore restricted with deer fencing around the north march of the estate, known to be a natural historical shelter area for deer in the recent past (60-80 yrs ago) before the birch was purchased and under-planted with commercial confiners. The north end tends to be an area where deer mortality is particularly high in poor weather, potentially as a result of not being able to access areas that deer appear to be gravitating towards.

Modest feeding of deer takes place on the lower hill. Small numbers of sika are present on lower ground but these do not tend to range to the hill area.

Most of the stalking takes place centrally in the estate, with smaller mobile populations to the east and the west.

20.11.5. Past and current management

The main objectives for the estate are to maintain hill land in appropriate condition, to open up regenerated areas for deer shelter and to contribute to the management of the deer population with neighbouring Estates.

Some agricultural interests are present with approximately 50 hill breeding cattle summered for around 6-8 weeks on the hill. No sheep are currently put to the hill ground.

Basic access to the hill is generally good via existing hydroelectric tracks and other inroads, and most of the estate is accessible by argocat. Routes through Sheuglie, Coiltie (main central route), Divach, Bunloite (farm access) and Allt Sigh all enable relative ease of carcass removal.

No active public access / footpaths exist and access tends to be low. No current signage is used for public access, nor to inform of sporting activities however SNH has been contacted for this previously to assist the estate with public access safety.

Around 60-80 immature stags come in for feeding from the west side. As a rule few stags are considered to be present on Balmacaan and neighbouring estates, therefore it is assumed stags are coming from further west.

Fifteen stags are let, with the estate family and stalker managing the remainder. Culls to date have been highly selective, none more so than during 2015 following high mortality when only 205-27 hinds and calves were taken. The estimated numbers of animals shot over the last 5 years are summarised:

	2011	2012	2013	2014	2015
Stags	40	40	40	40	40
Hinds	0	30	30	42	30
Calves	10-15	10-15	10-15	17	10-15

Reductions of approx. one fifth were made post the Affric cull.

Larder and chiller facilities are modern and fit for purpose and the stalker has DSC I and II. Sales are made through Simpsons Game, non-certified by SQWV however outputs are relatively small. As a hind forest, stag sales tend to be from early September.

20.11.6. Cull

The cull level proposed during the life of this plan is 35 stags and 45 hinds and calves.

20.11.7. Issues and Concerns

A hydro scheme is being planned on the main river anticipated to be put to planning during 2016. No current impact on deer management is likely however.

Feral Pigs are seen from the Glenmoriston side, and from Loch Ness side where they are thought to be breeding and are suspected within the FSC blocks to the north. Concerns on fencing damage result from Pig presence.

20.11.8. Balmacaan Woodlands

