West Sutherland Deer Management Group
North Sub Group

Appendix 1: Deer Management Plan Information

West Sutherland DMG & North Sub Group
Chairman: David Allison, Chairman. Email: **david.allison@grosvenor.com**
Treasurer & Secretary: Kirsty Mcleod. Email: **wsuthdmg@btinternet.com**
Website: http://wsutherlanddmg.deer-management.co.uk

Prepared by:
Dr Linzi Seivwright BSc Phd
Caorann
Tel. 07547 676509
Email: linzi@caorann.com

Foreword

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1. Introduction

1.1 West Sutherland North Sub Group

North Sub Group (**NSG**) is one of four Sub Groups that make up the wider West Sutherland Deer Management Group (**WSDMG**).

Located in the North West of Scotland, the North Sub Group area extends to **29,458 ha** and lies largely between the A894 and the A838 to the north of Inchnadamph.

Whilst recognised as a Sub Group in its own right, NSG still maintains on-going communication with the all three other Sub Groups of West Sutherland DMG.

Immediate neighbours to the south and east include the West Sutherland Sub Groups of Assynt and West Sutherland East. To the north, two of the properties Reay Forest and Merkland also fall within the North West Sutherland DMG.

With active engagement with all neighbouring Sub Groups and DMGs in the area, this ensures a landscape collaborative approach to deer management.

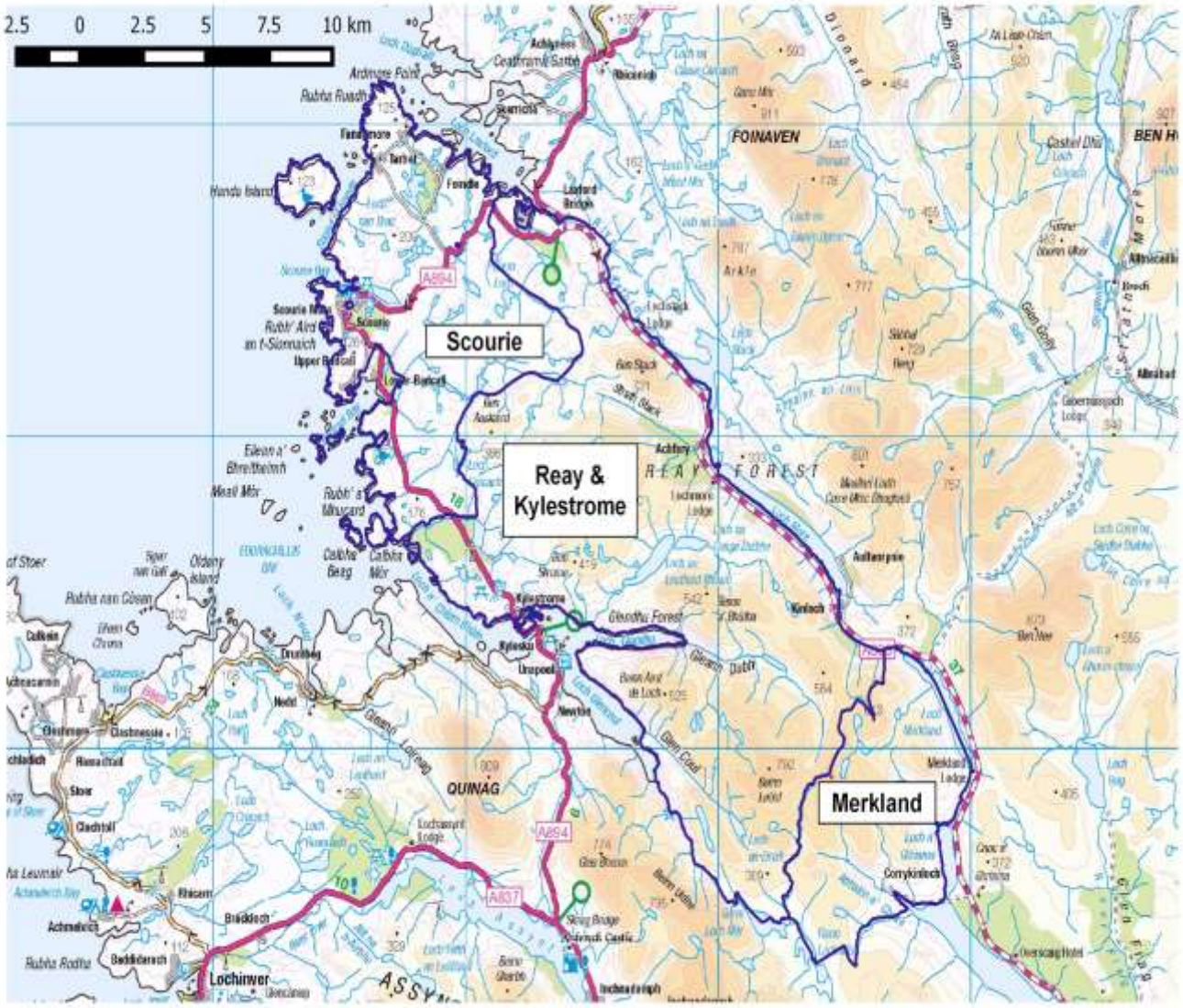
1.2 Management Units

The Sub Group is made up of 3 main management units (see Figure 1).

- Merkland Estate is split between this Sub Group (**4386 ha**) and North West Sutherland DMG, the boundary roughly being Loch Merkland.
- Reay Forest Estate is also split by the A838 between this Sub Group (**17772 ha**) to the south and North West Sutherland DMG.
- Scourie Estate (**7300 ha**) lies entirely within the Sub Group. The property neighbours Reay to the east and is bounded by coastline to the west. A deer fence essentially separates the property of Reay and Kylestrome from Scourie to the west - largely preventing deer movement between properties although deer do move around the ends of the deer fence.

Whilst combinations of land use objectives and priorities vary from property to property, all have a common shared interest in Conservation and in maintaining a resource element from deer management. Further information on individual management units is contained in Appendix 1 of the Plan.

Figure 1: Deer Management Units



1.3 Sustainable Deer Management and the Public Interest

The management of deer at a landscape population level as set out in the Code of Practice on Deer Management (The Deer Code) requires a collaborative approach. Deer are regarded as a natural resource and as such all those who manage them have a 'responsibility' to:

- manage deer as a resource sustainably;
- minimise negative deer impacts on public interest;
- safeguard deer welfare.

The deer management objectives of members of the Group currently contribute to delivering a wide range of public benefits as set out in The Deer Code. This plan will demonstrate how the DMG is currently contributing to sustainable deer management and will identify further opportunities for the DMG to deliver the Public Interest.

1.4 The purpose of the Deer Management Plan

The overall purpose of this Deer Management Plan (DMP) is to provide:

- An agreed framework for the management of wild deer in the area covered by the Group;
- An agreed set of actions;
- An agreed pattern of arrangements to ensure that the actions are implemented and their effectiveness monitored.

1.5 Deer Management Plan Structure

The DMP consists of three key elements:

- ***The Working Plan*****:** The Working Plan sets out the most up to date information on culls, counts and population targets as well as specific actions the Deer Management Group will undertake throughout the life of the plan. The Working Plan will be reviewed at least annually, with a systematic review of the whole plan taking place at the end of the five year period.

- ***Appendix 1*****:** ***Deer Management Plan Information*****.** This sets out background information and details the Public Interest relating to Deer Management in the local area. Information on individual management units is also contained here.

- ***Appendix 2: Group Operation*****.** Contains information relating to the Operation and Functioning of WSDMG.

1.6 Deer Management Plan Implementation

The DMP will identify specific actions for the Group and targets to be delivered by 2021. These will be reviewed on an annual basis in the Working Plan.

The Sub Group will use information gathered from habitat monitoring, population census and cull reporting, in consultation as appropriate with other sub groups, to set culls.

The Group are committed to working collaboratively to achieve deliver the objectives of the plan and will meet regularly to discuss deer management and issues that arise in the local and wider area. This Plan will therefore take account all land management interests as well as those of other Statutory Organisations and the wider public interest.

1.7 Deer Management Adoption and Consultation

This Deer Management Plan has been formally adopted by all the Members of the Group and will run from 2016 to 2021. It has been through a consultation process and a copy of the current DMP has been given to the local Community Councils.

2. Deer Populations, Movements and Management

2.1 Deer Species

- Red deer (*Cervus elaphus*) are the main deer species found throughout the DMG area.
- Roe deer (*Capreolus capreolus*): Roe Deer provide impacts on woodland, particularly within Loch a'Mhuilinn SSSI and NNR.
- There are no Fallow Deer (*Dama dama*) currently resident within the area.
- Sika deer (*Cervus nippon*) have been regularly reported over recent years and there are likely pockets of establishment within forestry blocks on Reay Forest.

2.2 Deer Populations

The available range for Red Deer throughout the Sub Group area amounts to approximately **22,158 ha**. Although a deer fence largely prevents movement of deer from Reay Forest to Scourie Estate, deer swim round the north end to reach the northern part of Scourie Estate.

Up until 40-60 years ago, both Reay Forest and Merkland held large numbers of sheep but these have since been removed entirely. Although some sheep remain on Scourie, red deer provide the main grazing impact over much of the hill ground across the DMG.

In order that culls can be set to achieve a target density that enables all objectives of the Group to be met, it is essential to be able to estimate the current deer population. The most recent helicopter count of the Sub group was conducted in March 2016. Since the last full count in 2006, the deer population has remained fairly stable. Between 2006 and 2016, there have been 4 helicopter deer counts over Reay Forest Estate alone which provide an accurate estimate of the open-range deer population on **17772 ha** which is over half the Sub Group area and represents **80%** of the Sub Group main deer range (Scourie is effectively deer-fenced off from the other two properties except for limited sea access).

Table 1: Deer Count Information

	Property	Stags	Hinds	Calves	Total	Density (Deer per Km2)
2006	Reay & Kylestrome	716	961	393	2070	11.65
	Merkland	133	263	108	504	11.49
	Total (Reay & Kylestrome and Merkland)	***849***	***1224***	***501***	***2574***	***11.62***
	Scourie	5	4	1	10	0.13
	Scourie (Glebe)	4	0	0	4	2.78
2008	Reay & Kylestrome	702	1089	477	2268	16.67
2010	Reay & Kylestrome	533	759	225	1517	8.54
2012	Reay & Kylestrome	612	926	287	1825	10.26
2014	Reay & Kylestrome	586	951	410	1947	10.94
2016	Reay & Kylestrome	704	1076	347	2163	12.15
	Merkland	169	229	74	472	10.76
	Total (Reay & Kylestrome and Merkland)	***873***	***1305***	***421***	***2635***	***11.89***
	Scourie	20	30	10	60	0.77

2.3 Deer Movements

One of the main considerations for the Sub Group is to determine changes in deer movements that may have occurred noticeably over the last few years. There is still uncertainty within the wider WSDMG as a whole, as to appropriate boundaries for the Sub Groups.

Putman (2013) noted that numbers of both stags and hinds counted in 2010 for Reay Forest Estate were significantly lower than should have been expected on the basis of earlier counts (2006 and 2008). In 2012 the helicopter count stags showed a modest increase in the numbers of stags. Stag numbers decreased slightly again in 2014 but are still lower than the model would have predicted using 2012 count data.

Standard population modelling consistently over-estimates the predicted number of stags (see Table 2 below). This would tend to suggest that there could be greater stag movement between neighbouring properties than expected but as a result, makes population modelling for stag numbers inaccurate without additional count data from neighbouring properties.

Table 2: Actual and predicted population estimates for Reay Forest

Reay & Kylestrome	Stags	Hinds	Calves	Total	Density
Actual 2008	702	1089	477	2268	12.8
Predicted 2008	907	1070	358	2335	13.1
Actual 2010	533	759	225	1517	8.5
Predicted 2010	1039	965	319	2324	13.1
Actual 2012	612	926	287	1825	10.3
Predicted 2012	1157	1107	403	2667	15.0
Actual 2014	586	951	410	1947	11.0
Predicted 2014 (using 2012 data)	787	1141	406	2334	13.1
Actual 2016	704	1076	347	2127	12.0
Predicted 2016 (using 2014 data)	725	956	305	1986	11.2

2.4 Deer Culls

Following the count in 2006, the overall Sub Group cull increased from 2007/8 to 2019/10 (see Figure 2 & Table 3 below). Following this, culls relaxed on Reay likely as a result of high winter mortality reported in 2009/10 and 2010/11 (Putman 2013). Historic culls for each property are shown in Table 3 and the total annual Roe Deer cull for the DMG is shown in Figure 3. The 2016 helicopter count of the whole West Sutherland DMG will be used to inform future culls for this plan.

Figure 2: Total Annual Sub Group Deer Culls

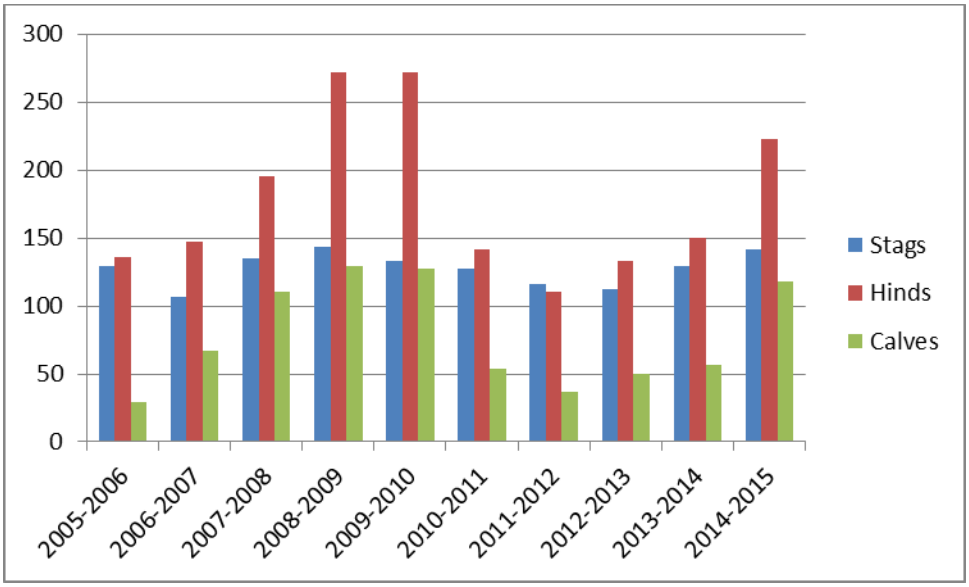
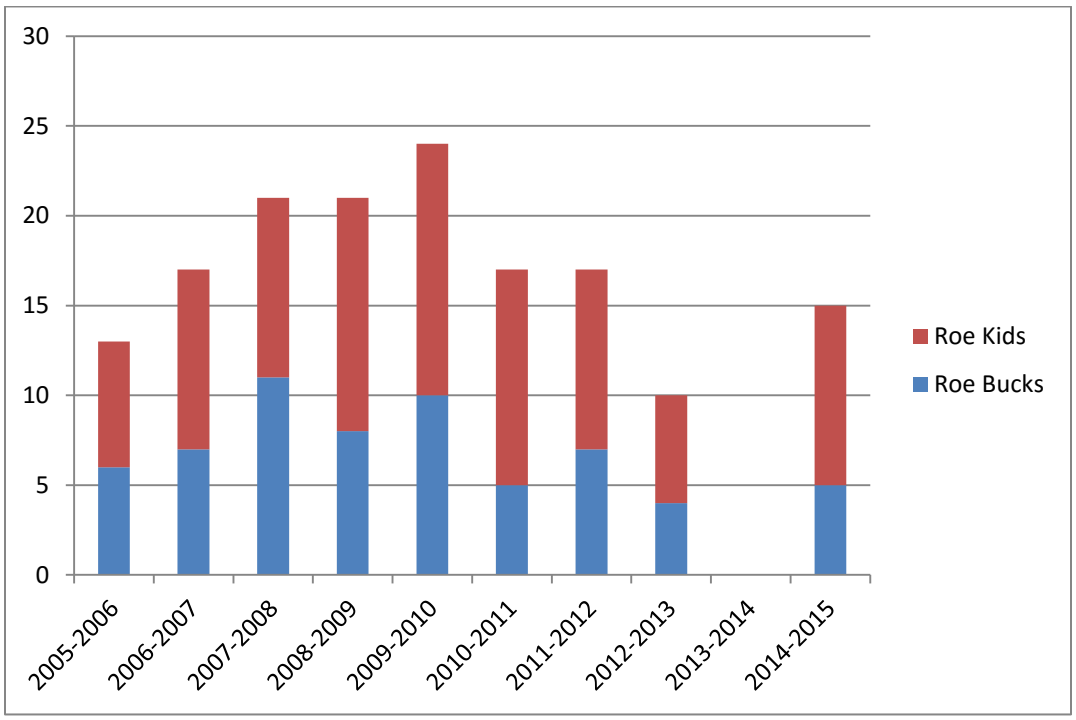


Table 3: Culls by DMG Property

	Sub-group				Merkland				Reay				Scourie			
Year	**S**	**H**	**C**	**T**	**S**	**H**	**C**	**T**	**S**	**H**	**C**	**T**	**S**	**H**	**C**	**T**
2005-2006	129	136	29	**294**	35	0	0	35	94	136	29	259	0	0	0	0
2006-2007	107	147	67	**321**	37	55	16	108	70	92	51	213	0	0	0	0
2007-2008	135	195	110	**440**	35	55	20	110	89	140	83	312	11	0	7	18
2008-2009	143	272	129	**544**	28	53	30	111	111	219	99	429	4	0	0	4
2009-2010	133	272	127	**532**	30	49	15	94	94	218	112	424	9	5	0	14
2010-2011	127	142	54	**323**	26	42	19	87	95	93	35	223	6	7	0	13
2011-2012	116	110	37	**263**	30	48	14	92	81	62	23	166	5	0	0	5
2012-2013	112	133	50	**295**	30	52	18	100	77	75	32	184	5	6	0	11
2013-2014	129	150	57	**336**	28	48	13	89	95	93	44	232	6	9	0	15
2014-2015	142	223	118	**483**	33	49	16	98	100	169	102	371	9	5	0	14

Figure 3: Annual Roe Deer Culls



3. Mechanisms to manage deer

3.1 Background

- To manage deer populations at a landscape scale a collaborative approach is required and the need to negotiate and compromise may be necessary.
- This requires a Deer Management Group to be functioning effectively, to be inclusive and to operate in the spirit of openness and transparency. The Association of Deer Management Groups (ADMG) has provided some guiding principles through the ADMG Benchmark.

3.2 Plan Objectives

- The Deer Management Plan (DMP) should ensure that representation and Membership of the Deer Management Group enables greater integration of different land-uses at a local level.
- The planning process should also be consultative, transparent and open.

3.3 Current Delivery

- 3 main management units are regularly represented at bi-annual meetings of both the Sub Group and the wider West Sutherland DMG.
- Scourie representatives include the Chairman of the Scourie and Badcall Common Grazings.
- An agreed DMP (Putman 2008 & 2013) is currently in place for Reay Forest Estate.
- Information about the Sub Group and wider West Sutherland DMG available on both West Sutherland DMG website and the ADMG web site.
- WGNSG works in Partnership with Government Agencies (SNH & FCS) and the Local Community.
- David Allison from Reay Forest Estate currently Chairs the West Sutherland DMG and is an Area Representative on the ADMG Executive Committee).
- Merkland and Reay Forest also attend meetings of the neighbouring North West Sutherland DMG.
- Cull targets are set and reported on annually.

3.4 Targets to be delivered by 2021

Proposed Group Targets and Actions are set out in Section 8 of the Working Plan

4. Delivery of designated features into Favourable Condition

4.1 Background

- The aim is that the NSG will contribute to the Scottish Government target of achieving 80% of designated features in Favourable or Unfavourable Recovering condition by 2016 by facilitating the reduction of herbivore impacts where this is contributing to the unfavourable condition.

- The Sub Group area has a number of designations, including sites of national importance. Deer management is potentially relevant to many of these.

- The deer management area within the NSG landholding has 4 Sites of Special Scientific interest (Figure 4) within it. It also contains part of 2 Special Areas of Conservation (Figure 5) and one National Nature Reserve which could be influenced by land management. Parts of two National Scenic Areas also cover nearly 50% of the land area:
    - Loch a'Mhuilinn SSSI (75.97ha) - situated on Scourie Estate, this site has designated features for woodland, lichens, mosses and dragonflies. The SSSI is also part of the National Nature Reserve. It contributes to the larger Ardvar & Loch a'Mhuilinn Woodlands SAC for its woodland and otter features.
    - Loch Glencoul SSSI – designated for woodland and geology. Approximately 396ha of this 894.59ha site is on the Reay Forest Estate ground. The majority of this is for it's geological features, but a small area is woodland habitat.
    - Stack Woods SSSI (44.54ha) – designated for it's woodland and bryophytes. This is part of the Reay Forest Estate.
    - Scourie Coast SSSI (218.9ha) – this geological SSSI is part of the Scourie Estate
    - River Oykel SAC – designated for salmon and freshwater pearl mussel, the Fionn Allt forms part of this 960ha SAC, and forms the boundary between Merkland and Reay Forest Estates
    - Assynt-Coigach National Scenic Area – approximately 9500ha of the 90,200ha NSA is on the southern edge of the NSG, and is partly on all 3 estates
    - North West Sutherland National Scenic Area – approximately 4780ha of the 20500ha is on the northern side of the NSG on the Scourie and Reay Forest Estates.
    - The whole of the sub-group is also within the North West Highlands Geopark. (This is not a designated site but an accolade).

4.2 Plan Objectives

The Deer Management Plan (DMP) will incorporate agreed management actions (including the management of deer impacts) to deliver and maintain favourable condition on designated sites in the area. The Sub Group will monitor and review progress.

4.3 Current Delivery.

There are 12 designated features within the DMG area. Of these there are 5 where herbivore impacts are considered to be a contributing factor to the site condition. Of these, only one feature within the Sub Group area is considered to be in Unfavourable condition (Table 4).

- Loch a'Mhuilinn SSSI. A larger area extending to 337ha is completely deer fenced under the terms of a Nature Reserve Agreement between SNH and Scourie Estate. Part of these terms include controlling roe deer and red deer within the fenced area. The SSSI is in favourable condition, and contributes to

the overall condition of the Ardvar & Loch a'Mhuilinn SAC.

- Loch Glencoul SSSI – the small area of SSSI woodlands on the Reay Forest Estate ground is scheduled for fencing through the estates Long Term forest Plan (Figure 6). The remainder of the woodland is outwith this sub-plan area.
- Stack Woods SSSI – two small woodland blocks had been fenced since 1991 as part of an agreement with SNH that has now been terminated; these are now to be opened up to deer access to provide a level of browsing. These are within a newly fenced 161ha that includes all of the SSSI and is part of the larger LTFP and included as a Rural Priorities Contract.
- River Oykel SAC – Although deer management does not directly affect this site, deer management would be important in delivering potential future riparian habitat enhancement.

4.4 Targets to be delivered by 2021

Proposed Group Actions are set out in Section 9 of the Working Plan

Figure 4: Sites of Special Scientific Interest

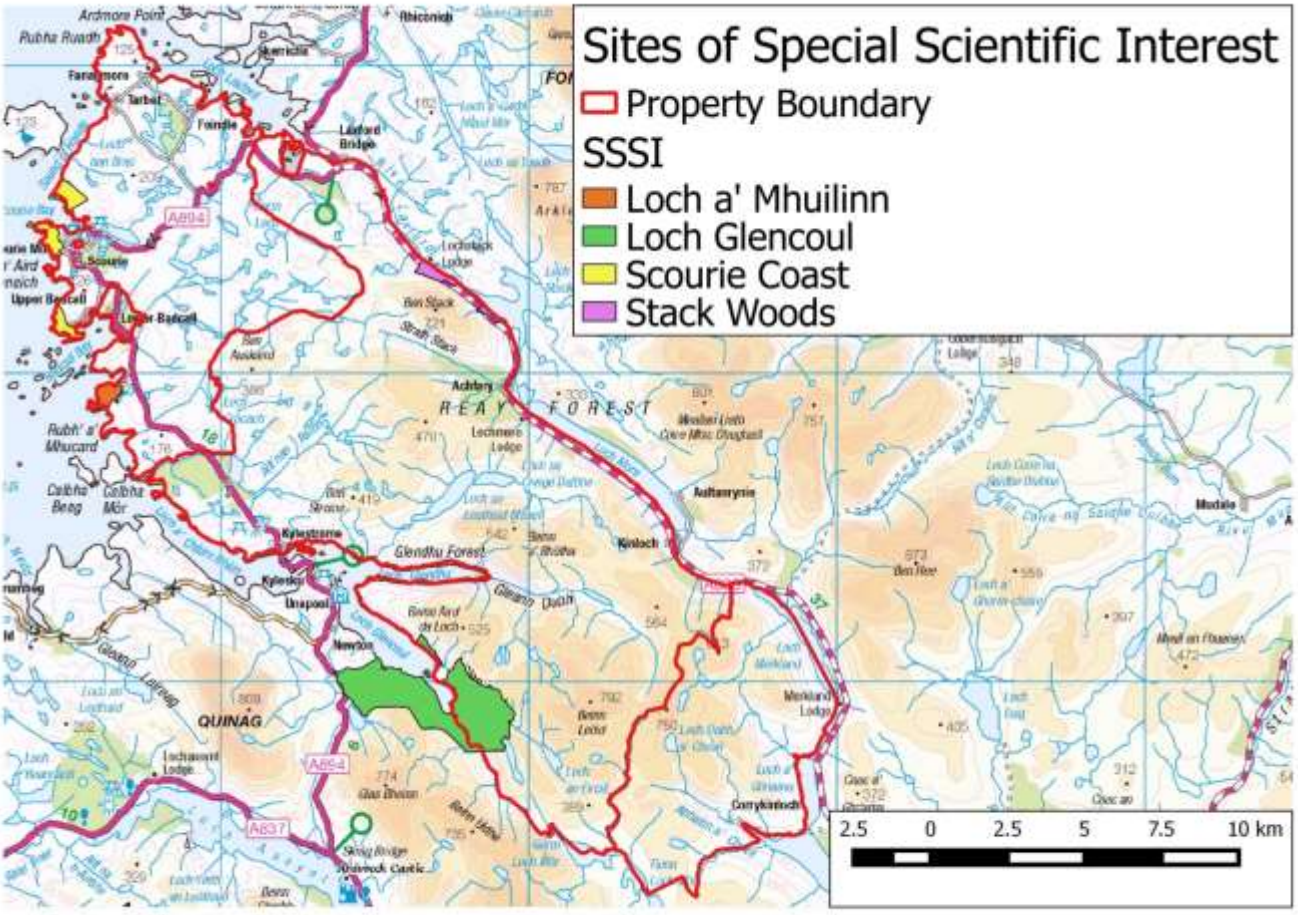


Figure 5: Special Areas of Conservation and National Scenic Areas

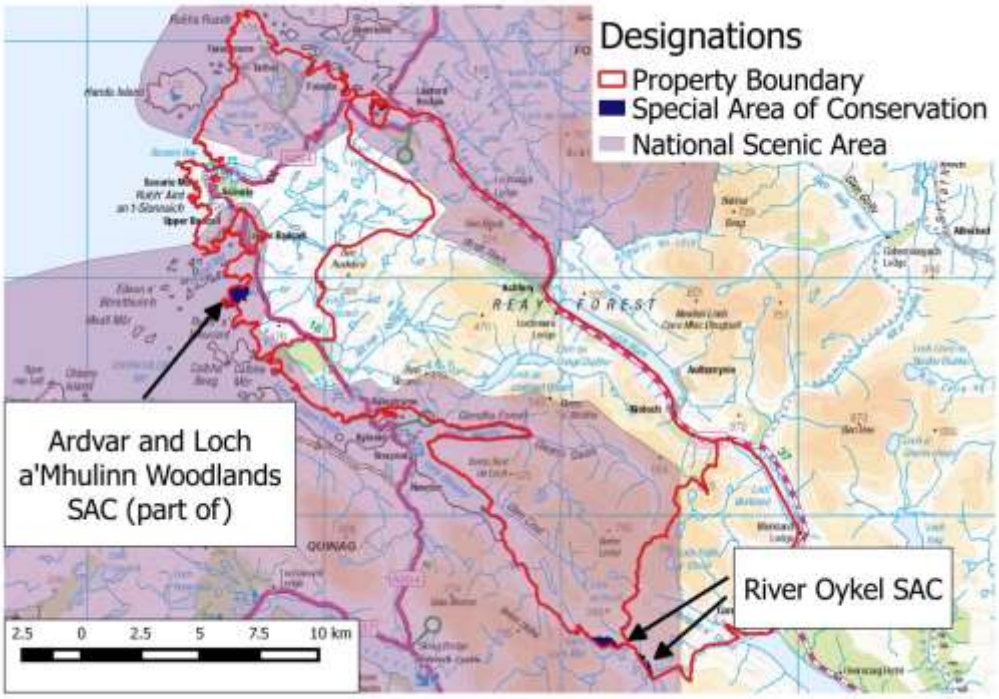


Figure 6: Proposed Loch Glencoull SSSI exclosure

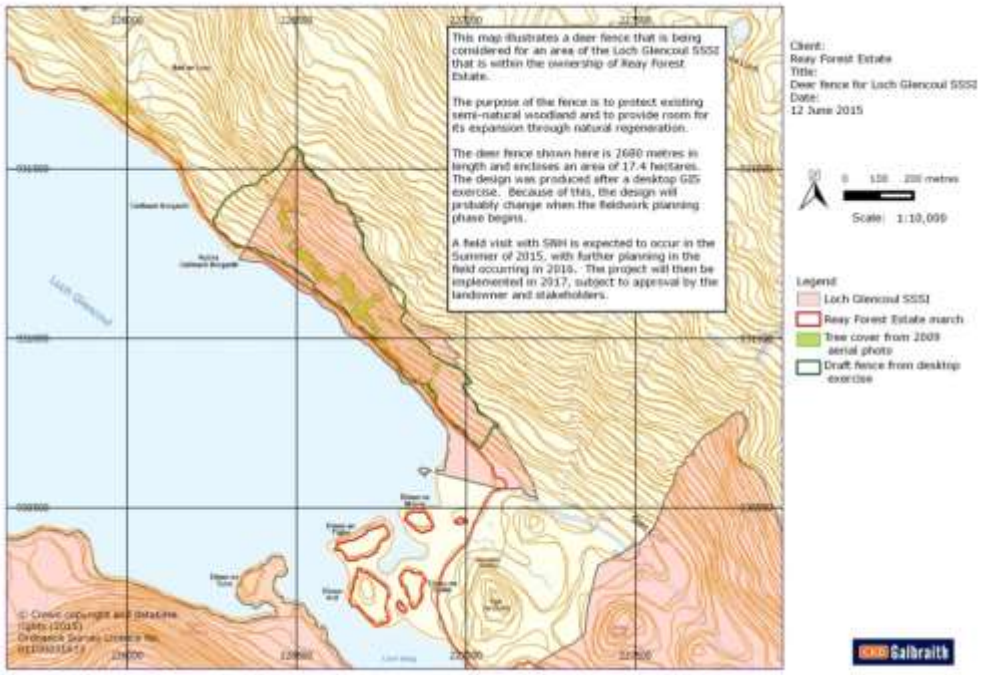


Table 4: Designated Features

Designation	Feature	Area (ha)	Condition	Agreements/Notes
Ardvar and Loch a'Mhuilinn Woodlands SAC	Western acidic oak woodland	805.99	Unfavourable	Loch a' Mhuillin is considered to be in favourable condition.
Ardvar and Loch a'Mhuilinn Woodlands SAC	Otters (Lutra lutra)	805.99	Favourable	
Ardvar and Loch a'Mhuilinn Woodlands SAC	Freshwater pearl mussel (Margaritifera margaritifera)	805.99	Unfavourable	Not present in Loch a' Mhuilinn SSSI
Loch a'Mhuilinn SSSI	Upland oak woodland	75.97	Favourable	
Loch a'Mhuilinn SSSI	Dragonfly assemblage	75.97	Favourable	
Loch a'Mhuilinn SSSI	Lichen assemblage	75.97	Favourable	
Loch Glencoul SSSI	Upland birch woodland	894.59	Unfavourable	Deer fence to be erected around the section on Reay Forest as part of LTFP
Loch Glencoul SSSI	Moine	894.59	Favourable	
Scourie Coast SSSI	Lewisian	218.9	Favourable	
Scourie Coast SSSI	Mineralogy	218.9	Favourable	
Stack Woods SSSI	Upland birch woodland	44.54	Unfavourable Recovering due to management	
Stack Woods SSSI	Bryophyte Assemblage	44.54	Unfavourable Recovering due to management	

5. Retaining existing native woodland cover and improving woodland condition in the medium to long term

5.1 Background

- Total area of native woodland in Scotland is 311,153 ha. The Native Woodland Survey of Scotland (NWSS) was published in 2014. This maps non-designated native woodland cover, reports condition and highlights herbivore impacts which threaten medium to long term condition of these important woodlands.
- Wild Deer- A National Approach (WDNA) has set a national target that 60% of native woodlands should be considered to be in "satisfactory condition" by 2020.
- The NWSS has identified **450.6 ha** of native woodland within the NSG area. This represents **0.14%** of the total area of native woodland in Scotland.
- According to the survey, **65.5%** percent of the herbivore impacts from NWSS were considered to fall in the Low to Medium impact category within the Sub Group area.

5.2 Plan Objectives

- The DMP will identify all existing woodland and its condition and will consider actions for the next 5 years to ensure that the long-term woodland objectives can be met.
- It is recognised that much of West Sutherland consists of poor exposed land unsuitable for woodlands.

5.3 Current Delivery.

- All three estates have all been involved for nearly 40 years in various programmes of fenced exclosures to encourage natural regeneration of native woodland with significant success.
- Scourie Estate – Loch a'Mhuilinn (SSSI & NNR) has been fenced since 1975.

- There is currently a Long Term Forest Plan in place for Reay Forest Estate.
    - A further 109.1 ha of fenced exclosures to protect 8.52 ha of existing native woodland is being proposed for Reay Forest between 2016 and 2019 (Figures 4a and 4b):
    - Badnabay Farm (2016) – 4.3 ha exclosure to protect existing riparian woodland.
    - Greenhill (2017) – 28.4 ha exclosure to protect 1.92 ha native woodland and 17 ha of planting for woodland expansion
    - Air da Loch (2019) – 76.4 ha exclosure to protect 2.3 ha of existing native woodland with 35 ha of planting for woodland expansion.
- It is recognised that the presence of bracken and whim may cause considerable problems for natural regeneration.

5.4 Targets to be delivered by 2021

Proposed Group Actions are set out in Section 10 of the Working Plan.

6. Contribution to the Scottish Government woodland expansion target of 25% woodland cover.

6.1 Background

- Woodland and forest covers over 1.3 million ha in Scotland (around 16% of Scotland).
- The Scottish Government woodland expansion target of 25% woodland cover will require 10,000 ha of woodland per year to be created.
- The Plan assumes that the state of deer fences remains constant. Members are encouraged to report any changes in fencing policies, particularly those which will affect the free movement of deer between estates.

6.2 Plan Objectives

- Plan will identify all new woodland in last 5 years and beyond (WGS) and any new proposals likely to be adopted during the life of the plan.
- Plan will consider future impact of woodland expansion and timetable for removal/erection of fences and possible expansion/reduction of deer range, where there may be changes in deer densities or movements as a result.

6.3 Current Delivery.

- Woodland represents around **5%** (1453 ha) of the total land area of NSG (National Forest Inventory Data). This includes both native woodland and commercial woodland. The extent of boundaries of woodland schemes (**1019.23 ha** - Table 5) represents **3%** of the total land area of NSG.
- There is currently a Long Term Forest Plan (2012 – 2031) in place for Reay Forest Estate. The LTFP recognises that the semi-natural woodlands and coniferous plantations of Reay Forest Estate provide important shelter for the deer herd. A comprehensive deer management plan has been prepared as part of the LTFP. In order to protect the welfare of the herd, the plan's objective of restructuring stands of rotation age conifers will be implemented in a manner that ensures the continuity of an adequate quantity of shelter. To this effect, the timing of timber harvesting operations and subsequent coupe restructuring activities recognises this sensitivity and proposes a plan of operation that provides for the welfare of the deer herd in a reasonable fashion.
- A further 223.6ha of fenced exclosures to protect 131.6 ha of new planting for woodland expansion is being proposed for Reay Forest between 2016 and 2019 (Figures 7a and 7b):

    - Loch Yukal (2016) - 28.8 ha exclosure with 9.6 ha planting for woodland expansion
    - Greenhill (2017) – 28.4 ha exclosure to protect 1.92 ha native woodland and 17 ha of planting for woodland expansion
    - Galascaig (2018) – 90 ha exclosure with 70 ha of planting for woodland expansion
    - Air da Loch (2019) – 76.4 ha exclosure to protect 2.3 ha of existing native woodland with 35 ha of planting for woodland expansion.

6.4 Targets to be delivered by 2021

Proposed Group Actions are set out in Section 10 of the Working Plan.

Table 5: Summary of Woodland Management Schemes

Woodland/Forestry Grant Scheme for Woodland Expansion			
Property	**Name**	**Type**	**Boundary Area (ha)**
Merkland	Unknown	SFGS	38.1
	Unknown	RDC	48.7
Reay Forest	Kinloch North	WGS 2	8.90
	Kinloch Braes	WGS 2	83.40
	Badnabaighie	WGS 3	73.20
	Stack Woods	2012	161.00
	Duartmore	WGS3	227.00
	Kylestrome Policy	2015	3.19
	Lochmoreside South	WGS 2	58.10
Scourie	Main	Crofter Forestry	111.99
	Glen	Crofter Forestry	50.85
	Peat Road	Crofter Forestry	54.80
	Fiondle	Crofter Forestry	100.00
Total			**1,019.23**

Figure 7a: Proposed woodland expansion on Reay Forest

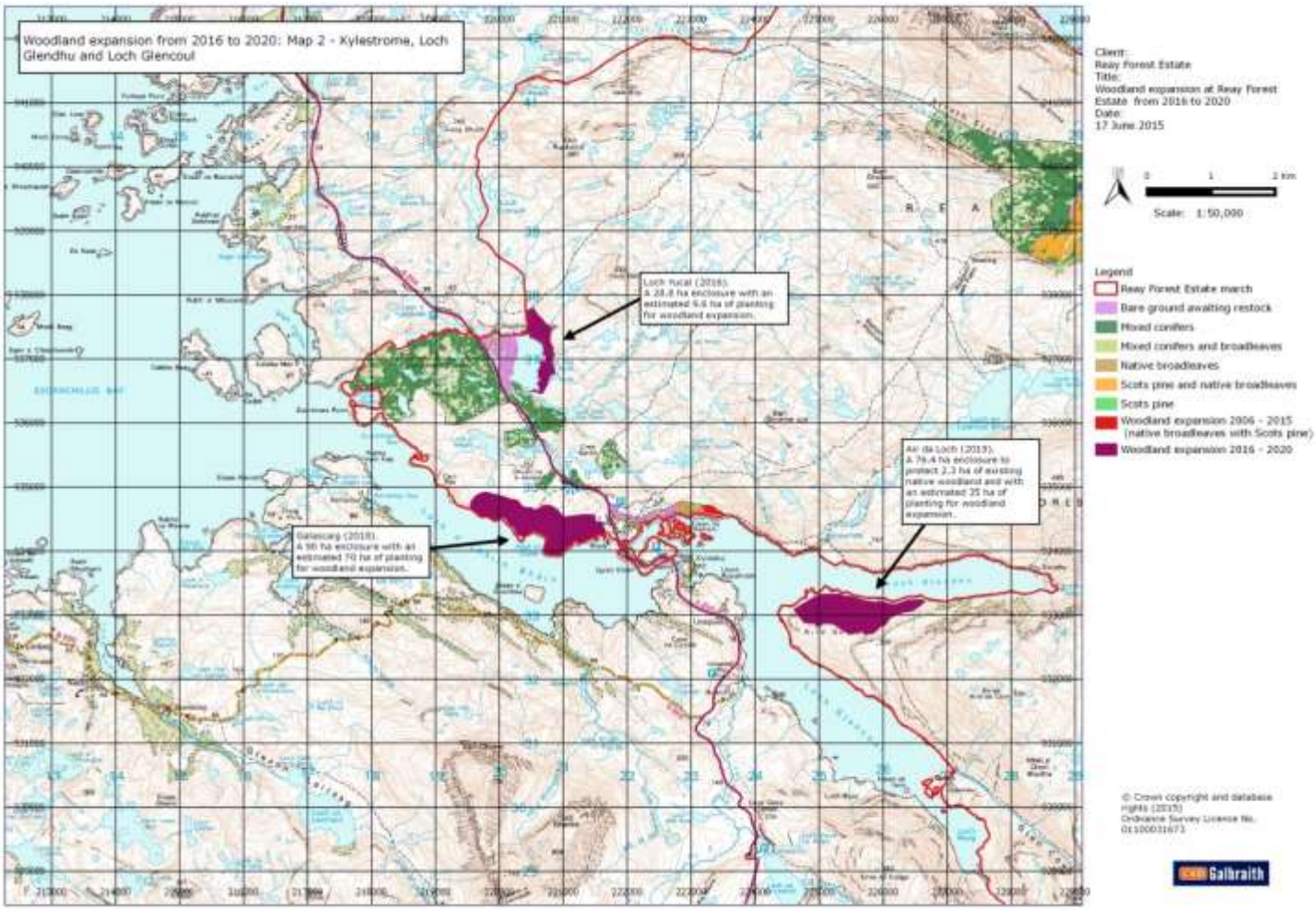
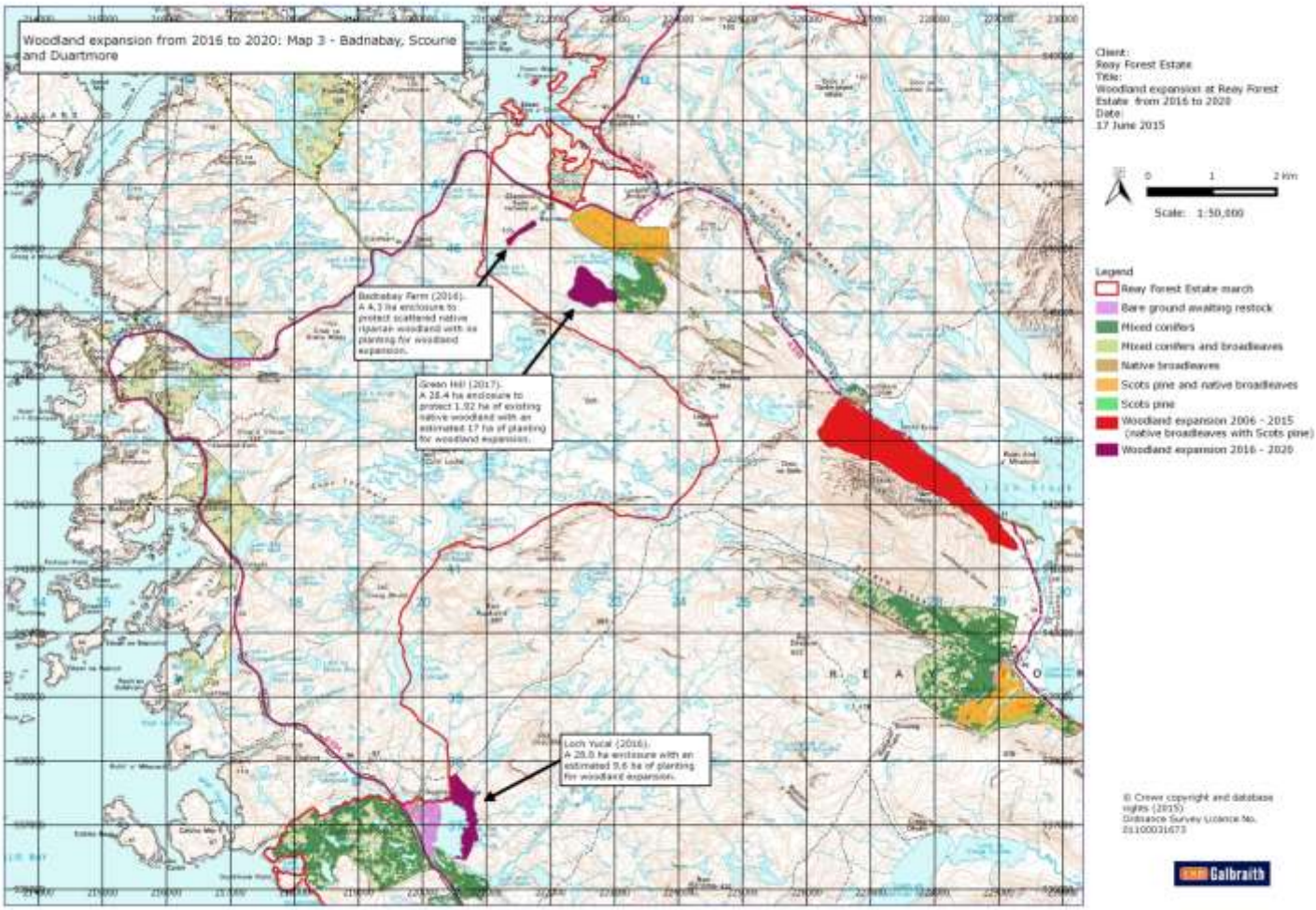


Figure 7b: Proposed woodland expansion on Reay Forest



7. Monitoring and managing deer impacts in the wider countryside.

7.1. Background

- The most widespread vegetational communities are of wet heath and mire, or blanket bog. Drier heaths (dominated by *Calluna vulgaris*) or grass heaths (*Calluna*, with *Molinia caerulea*) occur on the better-drained slopes, while on screes and stonier summits, the ground supports wind-clipped heath or summit heath vegetation (largely of *Calluna* with *Racomitrium lanuginosum*).
- Throughout the Sub Group Area, much the open hill vegetation is markedly affected by past and current management through sheep grazing, and in particular a history of regular periodic muirburn (for sheep and deer).This has clearly modified the heathland vegetation in particular, with grazing leading to a suppression of heather in general and an increase in grass inclusion within the sward overall creating a mosaic pattern of alternating grass and heather patches within the overall matrix.
- Blanket bog and peatland (which covers approximately **3352 ha**) and heather moorland (dwarf shrub heath methodology) (covering approximately **20,395 ha**) are two of the habitats that Scottish Natural Heritage have recommended upland deer managers monitor for herbivore grazing and trampling impacts.
- The DMGs will take responsibility for the monitoring of herbivore impacts on across the deer range and seek to manage these to contribute to wider ecosystem health.

7.2 Plan Objectives

- Plan will seek to implement a programme of monitoring to assess herbivore impacts and manage those impacts within acceptable ranges (MacDonald et al 1998 [1]).
- As a guideline, on designated sites the targets set by SNH are for 90% of survey samples (overall impacts: grazing/browsing and trampling) to be in the range of Low to Moderate/Low. For woodland, a minimum of 60% of herbivore impacts to be in the Low, Moderate category.

7.3 Current Delivery.

- Reay Forest has implemented a programme of Habitat Impact Assessment. Results are being analysed and data will be available spring 2016.

7.4 Targets to be delivered by 2021

Proposed Group Actions are set out in Section 11 of the Working Plan.

8. Improving Scotland's ability to store carbon by maintaining or improving ecosystem health.

8.1 Background

- Carbon rich soils and peatland areas provide multiple benefits, e.g. good water quality, biodiversity and climate change mitigation as soil carbon stores and through carbon sequestration. Soils are the main terrestrial store of carbon in Scotland and Peatlands hold most of our carbon store (53%).
- Blanket bog is a type of peatland found in the uplands covering some 1.8 million hectares, 23 % of our land area. Although Blanket bog is a rare habitat globally and is restricted to cool, wet, typically oceanic climates, Scotland holds a significant proportion of the European and world resource.
- Growing trees is another way to increase the natural carbon reservoir. Woodland and forest currently covers over 1.3 million ha in Scotland (around 16% of Scotland).
- In partnership with Government agencies, DMGs are expected to contribute to research and implement and deliver actions to deliver optimum habitat condition for carbon capture and storage.

8.2 Plan Objectives

The plan will aim to acknowledge all contributions to carbon storage through woodland and peatlands within Sub Group area and detail actions to address any negative herbivore impacts.

8.3 Current Delivery.

- DMG members manage around **1453 ha of woodland** and an area of around **3352 ha of blanket bog**
- DMG has undergone Habitat Monitoring Training and Blanket bog is one of the habitats that the DMG will be including in the monitoring programme.
- Reay Forest has implemented a programme of Habitat Impact Assessment.
- The actions currently being undertaken by the DMG to retain existing native woodland and encourage woodland expansion have been detailed in Sections 5 and 6. The DMG has not been asked to contribute to River Basin Management Planning to date. Given possible riparian woodland development schemes on Reay Forest, the DMG wish to consult with West Sutherland Fisheries Trust and Sutherland Fisheries Trust in the development of the DMP.

8.4 Targets to be delivered by 2021

Proposed Group Actions are set out in Section 11 of the Working Plan.

9. Reducing or mitigating the risk of establishment of invasive non-native and native species

9.1 Background

- Sika are established in Badnabay and Achfary woodlands on Reay Forest Estate and every effort is being made to halt the spread.
- Sika are established relatively locally to the DMG (particularly in the East Sub Group).
- Feral pigs or feral goats have not so far been sighted within the DMG area.

9.2 Plan Objectives

- The plan will aim to reduce or mitigate the risk of establishment of invasive non-native species of deer (Sika and Muntjac).
- Plan to detail an agreed policy and actions required by WSDMG to monitor.

9.3 Current Delivery.

- The DMG currently reports on any sightings and numbers of Sika culled.
- For INNS (invasive non-native species) in general, rhododendron is being dealt with by Sub Group members, as is Japanese Knotweed. Himalayan Balsam is being dealt with by Fisheries Trusts.
- Other species such as Bracken, Whin and ponticum are also a problem and are being controlled by Sub Group members.

9.4 Targets to be delivered by 2021

Proposed Group Actions are set out in Section 12 of the Working Plan.

10. Protecting designated historic and cultural features from being damaged by deer e.g. by trampling.

10.1 Background

- Certain types of historic or culturally significant features may be impacted positively from deer and deer management activity through for example, grazing to keep sites exposed. Impacts may also be negative however, where deer may cause damage through trampling or by jumping over stone-work for example.
- MGs should contribute to conserving and enhancing the cultural and historic landscape e.g. ensure that trampling of sites is avoided particularly in the case of protected designated historic features.
- There are a range of archaeological features some of which appear on the CANMORE website. These include the likes of Shielings.

10.2 Plan Objective

Plan to consider deer management actions which contribute or impact on delivery of conserving and enhancing the local cultural and historic landscape.

10.3 Current Delivery.

- The DMG is currently unaware of any cultural or historic features that are being impacted on by deer
- Any woodland creation projects are currently required by Forestry Commission Scotland to carry out this assessment.

- The DMG falls within two National Scenic Areas (Figure 5). Current deer fences will have been assessed for landscape impacts according to Joint Agency Guidance (http://www.snh.gov.uk/land-and-sea/managing-wildlife/managing-deer/sites/fencing/).

10.4 Targets to be delivered by 2021

Proposed Group Actions are set out in Section 13 of the Working Plan.

11. Contributing to delivering higher standards of competence in deer management.

11.1. Background

The DMG recognises the importance of delivering higher standards of competence in deer management through:

- promoting and offering opportunities for Members to take up formal training opportunities;
- facilitating continuous professional development activities;
- and ensuring Wild Deer Best Practice guidance is adopted in deer management activities throughout the DMG.

11.2. Plan Objectives

DMP to ascertain training levels among Group Members and to develop and agree a training policy and programme.

11.3 Current Delivery.

- Of the 5 full-time deer managers employed, all have DSC Level 1 and 4 have Level 2.
- All have some form of quad/argo and first aid training.

11.4 Targets to be delivered by 2021

Proposed Group Actions are set out in Section 14 of the Working Plan.

12. Identifying and promoting opportunities contributing to public health and wellbeing.

12.1 Background

As one of Scotland's top iconic species, Deer are of great social and cultural value to Scotland and provide a range of benefits. Deer can, however, also lead to health and safety risks e.g. road traffic accidents and deer related disease such a Lyme disease.

There are no Munros within the Sub Group area, although access to Ben Stack and Ben Dreavie is popular with walkers. Responsible access is encouraged and welcomed by all properties within the Sub Group area.

12.2 Plan Objectives

- To identify and agree to promote opportunities contributing to public health and wellbeing benefits associated with deer and deer management;
- To identify and agree to raise awareness and where possible minimise the local health and safety risks;
- DMG should raise awareness of road safety issues associated with deer to reduce the risks of road traffic accidents (covered in Section 14);
- Co-ordinate action to minimise deer-related human disease risks;
- Promote responsible Access and the following of the Scottish Outdoor Access Code.

Current Delivery.

- Community and educational events are run by Reay Forest Estate e.g. 'From the land to the table' events.
- Merkland Estate have a policy of High School involvement and provide scholarships to pupils.
- Possible opportunities to involve the Ranger Service in and around Scourie.
- Tick awareness already discussed with estates and staff on all estates. Tick information provided for holiday cottage visitors.
- WSDMG collectively signed up to principles of Best Practice which provides guidance on safeguarding public safety and food safety.
- Good information on access is available on http://www.stevenfallon.co.uk/merkland.html and information is also available on the Heading For The Scottish Hills (HFTSH) Website. Reay Forest use the HFTSH website to update and inform walkers on access during the stalking season.
- WSDMG currently actively promotes positive deer management throughout the area through the likes of the Coigach-Assynt Living Landscapes initiative.

12.4 Targets to be delivered by 2021

Proposed Group Actions are set out in Section 15 of the Working Plan.

13. Maximising economic benefits associated with deer

13.1 Background

Wild deer are considered a resource and can play an important role in promoting and sustaining economic activity, especially in rural areas where they can contribute to businesses, particularly tourism and food production. The properties within WSNSG have a range of land management objectives (see Sections 17, 18, & 19). Common to all, is the need to balance strong conservation objectives whilst maximising the potential value of deer as a resource - through sport shooting and venison production.

13.2 Plan Objectives

DMP to identify the economic interests of DMG ownership and identify opportunities to maximise these including employment, sporting stalking, tourism, venison.

13.3 Current Delivery

- In order to achieve a sustainable harvest of 120 stags, a total population on Merkland and Reay Forest approximately 900 stags and 900 hinds is required (which equates to a density of approximately **6.9 deer per km2**). Scourie is fenced off from the main deer population and has a much lower deer density **(0.77 deer per km2).**
- The income generated from letting of stag and hind stalking on Merkland and Reay Forest provides an income in excess of around £49,000 annually.
- The average sale of venison carcasses annually is likely to provide an additional further income of around £30, 000
- There are 5 full-time deer management employees with an additional 6 part-time employees associated with deer management activities on Reay Forest and Merkland.
- There are 5 holiday let properties let seasonally on Reay Forest and Merkland.
- All properties use local services in the local surrounding area - such as shops, fuel, hotels and B&Bs, local tradesmen.
- Merkland and Reay Forest have access to larders with chills. Reay Forest are currently members of Scottish Quality Assured Wild Venison.
- Scourie crofters have been using the Chillier facilities on Reay Forest for a number of seasons.

13.4 Targets to be delivered by 2021

Proposed Group Actions are set out in Section 16 of the Working Plan.

14. Minimising the economic costs of deer, and ensuring deer management is cost-effective

14.1 Background

- Wild deer are considered a resource and can play an important role in promoting and sustaining economic activity. However they can also create costs to other land-use objectives and have a negative impact on other economic activities including agriculture and forestry. Deer Vehicle Collisions may also incur an economic as well as social cost. Although relatively infrequent, these occur predominantly

14.2 Plan Objectives

- The DMP will seek to minimise the economic cost of deer through identifying issues and implementing management to reduce or mitigate deer impacts where this results in an economic cost.
- The plan will aim to identify where deer are having an economic cost particularly with regard to forestry and agricultural impacts.
- Incidents of Deer Vehicle Collisions (DVCs) will be monitored. Opportunities to work collaboratively to reduce these costs will be identified and actioned.

14.3 Current Delivery

- DVCs have been recorded along the A838 road but monitoring is difficult and reporting rate is low.
- Night shooting authorisations have been applied for in the past by the DMG, but this is to control deer within enclosed woodlands and is unlikely to have any impact on the open range population.

14.4 Targets to be delivered by 2021

Proposed Group Actions are set out in Section 16 of the Working Plan.

15. Ensuring effective communication on deer management issues

15.1 Background

- Effective collaborative deer management requires effective communication on deer management issues both within the Sub Group, the DMG and throughout the wider community in order to promote better awareness and education of deer and deer management.

15.2 Plan Objectives

- To ensure that the DMG is inclusive, open, transparent and that local issues have been addressed the DMP will include a Communications policy to encourage participation and collaboration and to communicate the public benefits being delivered through local deer management activity.
- DMG Constitution will set out methods for conflict resolution.

15.3 Current Delivery.

- DMG has a web site.
- The DMG works in partnership with SNH, FCS, Coigach-Assynt Living Landscapes project and the Local Community.

15.4 Targets to be delivered by 2021

Proposed Group Actions are set out in Section 17 of the Working Plan.

16. Ensuring deer welfare is taken fully into account at individual animal and population level

16.1 Background.

- The definition of welfare in relation to wild deer is 'concern for their physical and psychological well being'. This definition can be applied to both the individual animal and population level. Wild Deer Best Practice Guidance states that with increasing intervention (e.g. fencing, feeding, culling) comes increasing responsibility for their welfare.
- *Fencing:* This is a management tool that is used throughout the Sub Group area. In some situations, fencing is needed permanently. The effects of fencing should be considered before erection. The exclusion or prevention of deer movements to areas of natural areas of shelter in winter through the use of fencing may pose a threat to welfare. Similarly, areas where fencing is no longer required and can be removed, can open up areas of natural shelter which will be attractive to deer.
- *Supplementary Feeding:* Within the Sub Group, Merkland and Reay Forest provide some level of supplementary/diversionary winter feeding specifically for deer, and mainly for stags. This is mainly in the form of hay, roots and enriched feedblocks.
- *Winter Mortality:* Members of WSDMG already monitor and report any significant levels of winter mortality to the Group, as well as any significant health issues encountered. It is considered that mortality within the group is approx 6% for calves, and 2% hinds for hinds and stags These figures are used in the current population models for WSNSG, but will be varied depending on the location and practical experience. It should be noted that particularly heavy mortality was noted in 2009/10 and 2010/11 on Reay Forest.

16.2. Plan Objectives

DMP will promote and safeguard deer welfare through effective planning and the undertaking of training for deer managers and the carrying out of deer management activity to Wild Deer Best Practice Guidance industry standards.

16.3 Current Delivery.

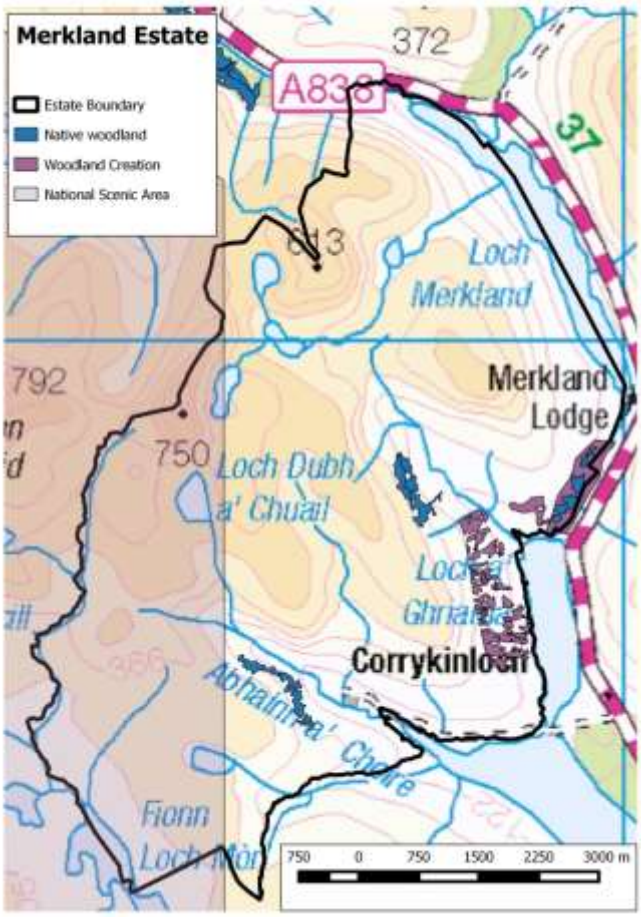
- Reay Forest have considered welfare as an integral part of the Long Term Forest Plan, ensuring that adequate shelter is available for deer as part of the rotational programme of fencing.
- On Reay Forest, feedsites have been moved away from designated areas as far as possible and feeding (especially provision of blocks) spread over a wider area. The grazing parks at Maldie (Kylestrome) were drained in 2010/11 and calcified seaweed has been applied to bring them back into active management.
- Members of WSDMG currently monitor and report on levels of winter mortality as well as any other significant health issues encountered.

16.4 Targets to be delivered by 2021

Proposed Group Actions are set out in Section 18 of the Working Plan.

17. Management Units: Merkland Estate

Property	Merkland Estate
Area	4386 ha
Owner	Merkland Trustees (Robert & George Woods)
Manager	None
Estate Personnel	Roddy Watt



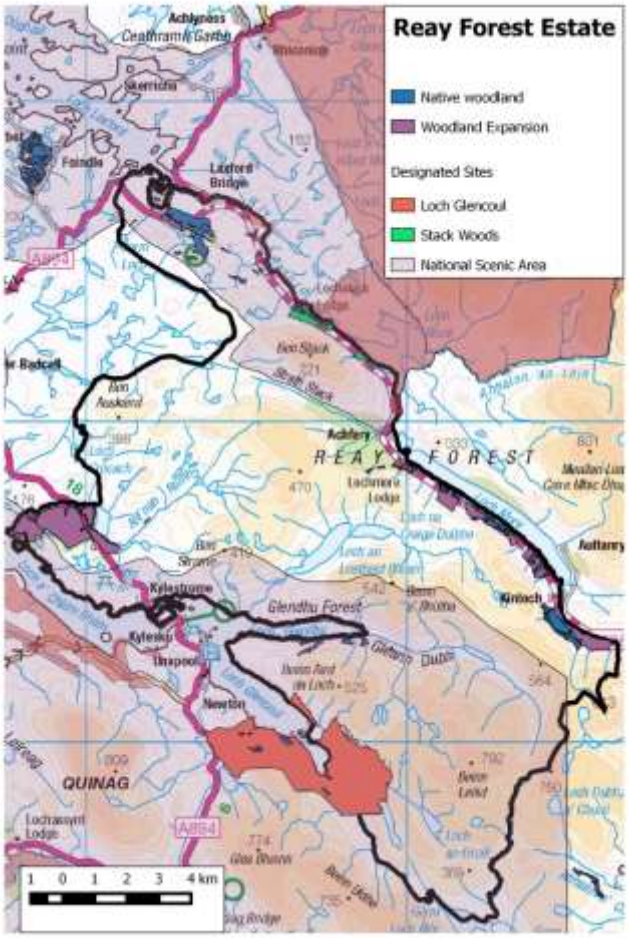
Deer Counts					
Year	Stags	Hinds	Calves	Total	Density
2006	133	263	108	504	11.49

Deer Culls				
Year	Stags	Hinds	Calves	Total
2005 -2006	35	0	0	35
2006 -2007	37	55	16	108
2007 -2008	35	55	20	110
2008 -2009	28	53	30	111
2009 -2010	30	49	15	94
2010 -2011	26	42	19	87
2011 - 2012	30	48	14	92
2012 -2013	30	52	18	100
2013 -2014	28	48	13	89
2014 -2015	33	49	16	98
2015- 2016				

Background	• Merkland Estate lies to the east of the Sub Group. • The area of the Estate south of the A838 lies with the North Sub Group of West Sutherland DMG. The area to the north lies within North West Sutherland DMG. • The property neighbours Reay to the west and neighbours Sallachy and Invercassley Estates to the east. • The Estate relies on an influx of stags during the rut from neighbouring properties.
Designated sites	• Part of the Estate falls within the Assynt-Coigach National Scenic Area.
Deer Management Objectives	• The Estate objectives are to balance conservation with the sustainable management of deer as a resource.
Future Management Objectives	• To continue to manage the resident hind population sustainably • Opportunities for greater collaboration with Reay Forest and other neighbours to be investigated particularly with regards to impacts from new fencing and windfarm developments. • Recruitment counts to be carried out annually.
Woodland	• 2 Woodland Schemes – both native woodland (38.1 ha and 48.7ha). Deer fenced. • No plans for further woodland schemes – opportunities limited.
Land management	• 2 Hydro-schemes (1 shared with Reay Forest). • No crofting or agricultural interests. • Some muirburn carried out.
Deer Impacts	• Historically there were 1000+ sheep but these were removed 60 years ago. • On lower ground tussock grassland possibly undergrazed – estate will put monitoring in place.
Deer Distribution and Movements	• Resident hind population but movement of stags between neighbouring estates.
Supplementary Feeding	• Long history of supplementary feeding turnips.
Access	• There are no Munroes or Corbetts on the Estate • Estate operates an open access policy.
Socio-Economics	• Hydro Scheme provides University Bursary for local school pupils. • Local trades and businesses used for lodge renovations. • Estate uses ponies for extraction and will look at further marketing potential. • One full time and one part time position associated with deer management. • One let house on estate for fish farm employees. • One let house for holiday accommodation.

18. Management Units: Reay Forest Estate

Property	**Reay Forest Estate**
Area	17772 ha
Owner	The Grosvenor Estate
Manager	CKD Galbraith
Estate Personnel	David Allison (Deer Manager and overall responsibility for delivery of the deer plan), Colin Ross, Peter Allen & Sandy Morrison



Deer Counts					
Year	**Stags**	**Hinds**	**Calves**	**Total**	**Density**
2006	716	961	393	2070	11.65
2008	702	1089	477	2268	16.67
2010	533	759	225	1517	8.54
2012	612	926	287	1825	12.76
2014	586	951	410	1947	10.94

Deer Culls				
Year	**Stags**	**Hinds**	**Calves**	**Total**
2005 -2006	94	136	29	259
2006 -2007	70	92	51	213
2007 -2008	89	140	83	312
2008 -2009	111	219	99	429
2009 -2010	94	218	112	424
2010 -2011	95	93	35	223
2011 - 2012	81	62	23	166
2012 -2013	77	75	32	184
2013 -2014	95	93	44	232
2014 -2015	100	169	102	371
2015- 2016	98	102	36	236

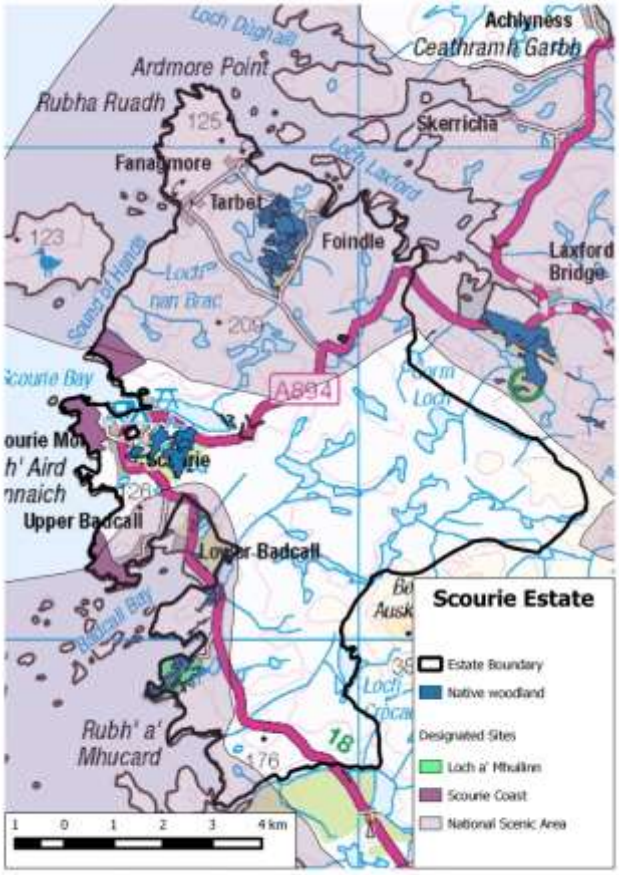
Background	• The Reay Forest Estate currently covers 39085 ha with 8 main sporting beats • Strath Stack. Glendhu, Glencoul and Kylestrome lie to the south of the A838 and lie within West Sutherland DMG. • Arkle, Lone, Aultanrhynie and Gobernuisgach all lie north of the A838 and lie within the boundary of North West Sutherland DMG. • Reay Forest neighbours Scourie to the west and Merkland Estate lies to the east.
Designated sites	• **Loch Glencoul SSSI** • **Stack Woods SSSI** • The Estate falls within both the **North West Sutherland** and **Assynt-Coigach NSAs**
Deer Management Objectives	*'The Reay Forest is primarily a sporting estate providing sustainable sporting opportunities for the family and visitors. The family aims are to manage and enhance the nationally important ecological and environmental value of Reay Forest as well as managing and improving a sustainable deer population by the implementation of professional and humane management techniques for the benefit of the community and the family.'*
Future Management Objectives	• To safeguard and enhance nature conservation values on the Estate, by appropriate vegetational management, and by adjustment of overall grazing pressure, so far as this is compatible with maintenance of sporting interests, above. • To maintain and secure the sustainability of current sporting and stalking interests of the Estate, while recognising the need to manage in a way consistent with good stewardship and concern for the natural heritage. • The Estate currently has a specific Management Agreement with Scottish Natural Heritage covering the Stack Woods SSSI

Woodland	• Reay Forest has a Long Term Forest Plan (2015) underpinned by a comprehensive Estate Deer Management Plan (Putman 2008). • Numerous fragments of native broadleaved woodland are present particularly in the areas within the Stack Woods SSSI, but there are other areas at Badnabay, behind Alltnasuileig and below Cnoc Bad an h-Achlaise. • There are extensive areas of coniferous plantation on the Kinloch face above the A838, particularly towards the eastern end of Loch More and towards the eastern end of the beat. Also on Lochmore Side (above the A838) and a number of other conifer plantations in the west, at Kylestrome, and on either side of the road from Kylestrome to Duartmore Bridge. • A recent woodland restoration programme has been enclosed on Eilean na Rainich and there is an area of birch and hazel established within the steep ravine at the mouth of the Allt na Ramh, protected by the steepness, and comparative inaccessibility, of this gorge. • Some natural birch woodland is established in patches between, and above these plantations (especially around Kinloch itself and above the plantations opposite Creag an Sgriodain) • Native birch wood also survives, in patches, along the southern shore of Loch Glendhu on the steeper slopes of the south side of Gleann Dubh (below the Taobh Granda crags). • Patches of birch-rowan woodland are scattered along the shores of both Loch Glendhu and Loch Glencoul.
Wider Habitats	• Much of the habitat is wet heath interspersed with patches of coarse grass (chiefly *Molinia*) on steeper slopes and where mineral soils are closer to the surface; wet heath grading to mire or blanket bog on areas of deeper peat. • Almost the entire Estate falls within the newly designated North West Highlands Geopark • Geological features are detailed in Putman (2008). Loch Glencoul SSSI contains a superb section of the Moine Thrust Belt and to the west of the Thrust is an area of un-deformed ancient Lewisian gneiss overlain by younger sedimentary rocks
Biodiversity	• Stack woods are largely recognised for extensive bryophyte carpets (particularly in the vicinity of the ravine of the Allt Beal nan Cadhachan). • Red, Sika and Roe deer all present
Land management	• Hydro Schemes • Sheep were largely removed in the 1970s other than a small hirsel (of perhaps 80 ewes and followers) retained on Glendhu until about 2001. • Some muirburn is carried out on the estate. • Estate may consider Peatland Restoration schemes in future
Deer Impacts	• Putman (2008) reported that through assessments of grazing (and trampling) impacts, the bulk of the beat impacts are generally light or light-moderate on open hill ground. • Results of recent Habitat Impact Assessment are currently being analysed and results will be available spring 2016.

Deer Distribution and Movements	• While in the past there was some considerable movement of stags from the Reay Forest onto Scourie in season, and also a shift off the Estate in winter in a general move to lower ground, a fence has been erected along the whole western boundary largely preventing all movement. • There is significant movement of deer from Glencoul across all its marches. It winters a lot of stags but these tend to draw away south and east over the summer months, drawing out to higher ground onto neighbouring Glendhu, or across onto Merkland and Glencassley, with some (wintering at the head of the narrow glen of the Abhainn an Loch Bhig) moving out to the Inchnadamph/Achmore or even Ben More beats of Assynt Estate. • Mature plantation areas are used by open hill deer extensively for shelter over winter, and during bad weather at other times of year. The woodlands also harbour more-resident populations of sika. • The LTFP and Deer Management Plan will consider deer management implications of any plans to clear fell and re-fence these areas. • Restructuring proposals in the LTFP will be developed in such a way as actively to enhance the distribution and availability of resources for deer. It will incorporate measures to increase attractiveness of woodland areas in particular strategic locations as part of an overall package of diversionary measures designed to effect an appropriate redistribution of deer over the area as a whole and to focus main concentrations away from the SAC.
Supplementary Feeding	• Some vegetation management is undertaken with winter feeding provided at various locations across the Estate, although mostly feed blocks are provided within established wintering grounds as a diversionary tool. • These are moved regularly to fresh areas both to avoid localised impacts on the surrounding vegetation.
Access	• There are no Munroes on the Estate • Beinn Leod is a Corbett at 792 mts & both Ben Stack and Meall a Chuail are Grahams which are regularly accessed. • Good information also available on http://www.stevenfallon.co.uk/merkland.html • Estate operates an open access policy and information is available on the HFTSH Website.
Socio-Economics	• 4 full time and one part time position associated with deer management • The estate employs 30 full time staff and 10 part time during the peak of the season. • Significant redevelopment in recent years of estate infrastructure particularly housing for estate staff. • Highland ponies are used for the extraction of carcases in the stag season. • Four holiday properties let June to January. • Local trades and businesses used particularly with Hydro development. • Donations in kind from Estate to various organisations (list available by request from the Estate Office).

19. Management Units: Scourie Estate

Property	**Scourie**
Area	7300 ha
Owner	Dr Jean Balfour & A.J. Balfour



Deer Counts					
Year	**Stags**	**Hinds**	**Calves**	**Total**	**Density**
2006	5	4	1	10	0.13

Deer Culls				
Year	**Stags**	**Hinds**	**Calves**	**Total**
2005 -2006	0	0	0	0
2006 -2007	0	0	0	0
2007 -2008	11	0	7	18
2008 -2009	4	0	0	4
2009 -2010	9	5	0	14
2010 -2011	6	7	0	13
2011 - 2012	5	0	0	5
2012 -2013	5	6	0	11
2013 -2014	6	9	0	15
2014 -2015	9	5	0	14
2015- 16				

Background	• Scourie Estate lies entirely within the Sub Group. The property neighbours Reay to the east and is bounded by coastline to west. • Approximately half the estate (3842 ha) is subject to crofting tenure, with the main centre Scourie village. • The Estate seeks to work in partnership with local crofting interests, supporting local employment and conservation of the countryside.
Designated sites	• Loch a'Mhuilinn NNR & SSSI 75.97ha (Native woodland plus open area with wetland and heathland areas – 337 ha area deer fenced). Birchwood with Oak and Hazel. • Badcall NSA (Scourie to north of Loch Laxford) • Scourie Coast SSSI (214.9 ha)
Deer Management Objectives	• To manage the roe deer population in the NNR
Future Management Objectives	• Increase deer numbers on Scourie to be discussed • Opportunities for further woodland expansion are very limited

Woodland	• Scourie Crofter Forestry Schemes (all deer fenced)
	  ○ Main Scheme (111.9 ha)
	  ○ Glen (50.85 ha)
	  ○ Peat Rd (54.80 ha)
	  ○ Fiondle (100 ha)
	• Bhadiach Dariach Wood (4 ha) – 4 ha unfenced mixed planting (Pine and Larch) (1980's) birch regeneration on lochside. Someoriginal oak at west end.

Wider Habitats	• Ground largely dominated by Trichoforum and Mollinia and some heather providing poor grazing. • Issue of bracken (*Pteridum*) and whin (*Ulex*) spreading. The former in Loch a'Mhuilinn. Also the issue of *Pinus Contorta* spreading from Reay Forest.
Biodiversity	• Important for invertebrates, lichens and bryophytes. Geology is also important.
Land management	• Half the Estate is subject to Crofting tenure including crofter forestry schemes. There is one tenant farm (Scouriebeag). The other farm is unoccupied and includes Loch a'Mhuilinn SSSI & NNR with very northerly oak. • Scouriebeag (let farm) ±12 ha 'grassland' • Common grazings 3293.5 ha • Crofter Forestry Scheme (all fenced) • Scourie & Badcall 217.22 ha • Foindle 100 ha • Duartbeg (unoccupied farm)
Deer Impacts	• 2 transects within NNR monitored in 2001 and 10/12. Birch ok but hazel and oak impacted by roe deer • With very little deer or sheep on the open hill it is possible some of the habitats at Duartbeg may be undergrazed.
Deer Distribution and Movements	• Scourie Estate has been fenced off by Reay Forest thus changing the movement of deer on Scourie Estate (fence wrongly sited at Duartmore). • Duartbeg used to be wintering ground for stags but since the erection of the fence, few deer can access Scourie.
Supplementary Feeding	• None undertaken. No problems with winter mortality.
Access	• Main attractions are Handa Island (ferry access) and the coast. • Countryside ranger takes guided walks in summer

Socio-Economics	• Resident deer numbers on Scourie are low therefore the economic opportunities associated with deer are limited. • Currently average of 6 stags shot annually but no sporting value – venison only • No larder but in the context of co-operation Scourie Estate and crofters would like Reay Forest to consider allowing Scourie crofters space in cold stores. • Salmon farm (Loch Duart Ltd) and mussel farm (Loch Laxford Shellfish) employs 60+ people. • Local contactors do work on the estate.