

West Sutherland Deer Management Group

East Sub Group Deer Management Plan

2016-2021

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# East Sub-group Deer Management Plan

## Part 1. Deer Management Planning Information

### 1. Introduction

East Sub Group (ESG) is one of four sub groups of the West Sutherland Deer Management Group (WSDMG). ESG is bounded on the east by Loch Shin and includes the Ben More Assynt massif and has two deer populations that predominately hefted within the sub group boundaries (see Map 5 and para 4.1.3) The purpose of this Deer Management Plan is to provide an agreement between all sub group members on the sustainable management of the open range red deer population and where relevant on the sustainable management of the woodland deer population.

### 2. Members

The ESG area comprises of 16 discrete properties under the management of 12 owners or agents (11 of which are private enterprises and 1, Forestry Enterprise Scotland is a public body). Of these properties 4 (5,765 ha representing 10.6% of the sub-group area) are not currently members of ESG or WSDMG but discussions are in progress with a view to bringing them in to the sub group. (**Map 1**). Each individual property operates as a separate deer management unit (MU).

The open hill deer range is owned and managed by 5 members Benmore Estate, Duchally/Invercassley Estate, Glencassley Estate, Inchnadamph Estate and Sallachy Estate.

**Table 1. ESG Members**

	Property Name	Location	Area (hectares)	Ownership type	Main Land use
1	Achany	NC/251410/905122	1,752	private	agriculture - sheep and cattle/renewable energy - onshore wind
2	Altnacealgach	NC/22722/911543	656	private	agriculture- sheep and cattle
3	Benmore	NC/232464/916164	7,383	private	sporting - open range red deer stalking
4	Inchnadamph	NC/227385/920833	8,642	private	sporting - open range red deer stalking
5	Caplich	NC/236528/904983	1,531	private	agriculture- sheep and cattle
6	Duchally/Invercassley	NC/238392/912457	9,979	private	sporting - open range red deer stalking and woodland sika stalking/native woodland
7	FCS Benmore	NC/231824/909337	3,623	public	Timber production
8	FCS Caplich	NC/237390/901815	193	public	Timber production
9	FCS Raemore	NC/254414/905564	804	public	Timber production
10	FCS Rosehall	NC/204847/902676	383	public	Timber production
11	Fountains Clais Mhor	NC/239882/902560	1,459	private	Timber production/sporting - woodland stalking
12	Fountains Rosehall	NC/251433/905028	805	private	Timber production/sporting - woodland stalking/renewable energy - onshore wind
13	Glencassley	NC/243143/912131	4,448	private	sporting - open range red deer stalking/agriculture cattle/native woodland
14	Glenrossal	NC/245914/905285	1,826	private	sporting - open range red deer stalking
15	Sallachy	NC/246985/914740	10,558	private	timber production/sporting - woodland sika stalking and open range red deer stalking
16	Tilhill Sallachy	NC/255183/906758	314	private	Timber production
		Total reporting area	48,591		
		Total area	54,356		
		Properties in red are not currently members of the sub group			

### 2.1 Group communication

The main form of communication will be email. It is proposed that the sub group meets once per year with additional meetings organised as required. All practising deer managers within the group are in regular contact regarding deer management and other land management issues.

### 3. Land

The land that is covered by ESG stretches from Loch Shin on the east to the A837 Lochinver /Ullapool and A894 Skiag Bridge to Kylestrome roads to the west. The A837 and A 839 Lairg/Ullapool roads make up the southern boundary and to the north the southern shore of Loch Glencoul forms the northern boundary.

#### 3.1. Area

Total area covered by the sub group is 54,356 hectares. The total area covered by the 8 reporting members of the group is 48,591 hectares.

#### 3.2. Land Use

**Table 2. ESG Land Use**

Property Name	Location	Area (hectares)	Open Hill		Commercial Forestry		Agriculture		Native Woodland		Renewable Energy			
			Red Deer Stalking	Deer stalking/habitat conservation	Timber production/ Woodland Stalking	Timber production	Grazing cattle	Grazing sheep	Fenced	unfenced	Onshore wind - within commercial forestry	Onshore wind - within open hill	Hydro	
Achany	NC/251410/905122	1,752											308	
Altnacealgach	NC/22722/911543	656					656							
Benmore	NC/232464/916164	7,383	7,383	3,612	0		0		0	0				
Inchnadamph	NC/227385/920833	8,642	8,642	3,791						40				
Caplich	NC/236528/904983	1,531					1,531							
Duchallynvercassly	NC/238392/912457	9,979	7,995		161				1,823					
FCS Benmore	NC/231824/909337	3,623				3,623								
FCS Caplich	NC/237390/901815	193				193								
FCS Raemore	NC/254414/905564	804				804								
FCS Rosehall	NC/204847/902676	383				383					263			
Fountains Clais Mhor	NC/239882/902560	1,459			1,459	1,459								
Fountains Rosehall	NC/251433/905028	805			1,157	1,157								
Glencassley	NC/243143/912131	4,448	3,917					161	330	40				
Glenrossal	NC/245914/905285	1,826	1,826											
Sallachy	NC/246985/914740	10,558	8,351	4,890	1,533	1,533		40	654	20				91
Tilhill Sallachy	NC/255183/906758	314			314	314								
	Total reporting area	48,591	36,157	12,293	4,624	9,466	161	40	2,807	100	263	0		91
	Total area	54,356	74.4%	25.3%	9.5%	19.5%	0.3%	0.1%	5.8%	0.2%	0.5%	0.0%		0.2%

Properties in red are not currently members of the sub group

#### 3.2.1 Description

The main land uses by area in the sub group are open hill deer range and commercial forestry. There are small areas of agriculture mainly used for sheep and cattle rearing, some fenced new native woodland and unfenced semi-natural woodland. At Achany and Rosehall an area of open hill and commercial forestry is used for onshore wind farms and there is large scale hydro activity in the Shin and Cassley catchments. (Map 2).

#### 3.2.2. Open Hill 36,157 hectares (74%)

All of the open hill area is used for red deer stalking, with 12,293 ha (34%) of this land also used for habitat conservation.

### 3.2.3 Woodland 12,373 hectares (25.5%)

The woodland comprises a mix of commercial forestry of varying age class, planted semi-natural woodland mostly at establishment and thicket stage and a very small area of mature native woodland (approximately 2% of the woodland area).

**Table 3. ESG Woodland Cover**

East Sub Group Woodland Cover			
Woodland Type	Area (ha)	Percentage of total reporting area	Percentage of total woodland cover
Commercial Woodland	9466	19.5%	76.5%
Native Woodland	2907	6.0%	23.5%
Total Woodland	12373	25.5%	
ESG members	48591		

The majority of the woodland, approximately 12,100 hectares is protected by 192,516m of deer fence. This figure only includes external or land use boundary fences i.e. fences that have been erected to stop deer moving in to a plantation. All external fences are checked on a regular basis.

**Table 4. ESG Perimeter Deer Fencing**

	Property	Length of Perimeter Deer Fence (m)
1	Duchally Invercassly	31,329
2	FCS Benmore	19,054
3	FCS Caplich	2,422
4	FCS Raemore	8,014
5	FCS Rosehall	10,106
6	Fountains Clais Mhor	19,018
7	Fountains Rosehall	14,235
8	Glencassley	10,576
9	Glenrossal	15,006
10	Sallachy	56,373
11	Tilhill Sallachy	6,383
	Total	192,516

#### 3.2.3.1 Commercial Forestry 9,466 hectares. (76.5% of total woodland area)

Sitka spruce and Lodgepole pine are the main species in the commercial plantations within East sub group. The crop is predominantly even aged semi-mature to mature with some areas of establishment, pre-thicket, thicket stage and mid-rotation. Restructuring harvesting and planned harvesting and restocking has taken place recently with either new productive crop planted or other habitat management. Harvesting and restructuring will increase over the next



5-10 years. All commercial forestry in the sub group is protected by deer fencing. All commercial forestry within the sub group is managed according to the United Kingdom Forestry Standard (UKFS) and the majority is certified under the United Kingdom Woodland Assurance Standard (UWAS). The majority of the recently harvested timber is certified under Forest Stewardship Council (FSC) certification scheme

### **3.2.3.2 Native Woodland 2,907 hectares (23.5% of total woodland cover)**

The native woodland area is a mix of new planting and existing semi- natural woodland. There are remnants of Caledonian pine forest and these have been protected by deer fencing and new planting over the past few years. Much of the unfenced semi-natural woodland (approx.. 210ha) is scrubby downy birch and grey willow, with rowan, alder and aspen surviving along some water courses and there are varying degrees of regeneration depending on grazing pressure from deer and domestic livestock. These unfenced woodlands cover such a small and fragmented area that in general there is no active management carried out. There has been no formal management ( other than deer management) of the semi-natural woodland apart from where it has been fenced off to encourage and protect regeneration often supplemented by planting e.g. as at Invercassley (NC/245137/901664), Glencassley (NC/244066/907709) and Sallachy (NC/237918/924321 and NC/251345/913382).

The main area of nationally important native woodland is at the Loch Glencoul Site of Special Scientific Interest. About 50ha (of which approximately 85% is in the sub-group area) of scattered birch woodland with rowan, aspen, hazel and some wych elm, holly and goat willow. The underlying geology give this an unusually diverse understory.

### **3.2.4 Agriculture 201 hectares (0.4%)**

Most of the land used for agriculture is in Payment region 3 and is classed as either improved grassland or rough grazing. Sheep and cattle rearing are the main activities.

### **3.2.5. Renewable Energy 662 hectares (0.7%)**

The natural watercourses and topography have been used for generating electricity from water since the late 1950s. More recently some of the open hill land and some commercial forestry has been used for on shore wind generation.

#### **3.2.5.1. Onshore wind 571 hectares (0.5%)**

There are two onshore windfarms one on the open hill at Achany covering 308ha and the other in commercial forestry at Fountains Rosehall. This site covers 263 ha.

#### **3.2.5.2. Hydro 91 hectares (0.2%)**

The main hydro system in the East sub group is the Duchally/Glencassley system which is part of the larger Invershin system. The infrastructure, including buildings and roads covers 91 hectares.

### **3.3. Land management objectives**

Research and develop sustainable revenue generating activities. Maintain existing designated sites and wider habitat in favourable condition. To maintain and where possible increase the deer population to sustain a viable sporting business. Protect establishment, restock and other vulnerable woodlands and plantations. Maintain and improve agricultural land. Maintain and expand tourism.

## **4. Deer**

Three species of deer are present within East sub group - red, roe and sika.

### **4.1 Red Deer**

The red deer population is found predominately in the open hill habitat. Although the soils and vegetation are very poor, leading to low fecundity, there is enough available habitat to support a viable sporting population.

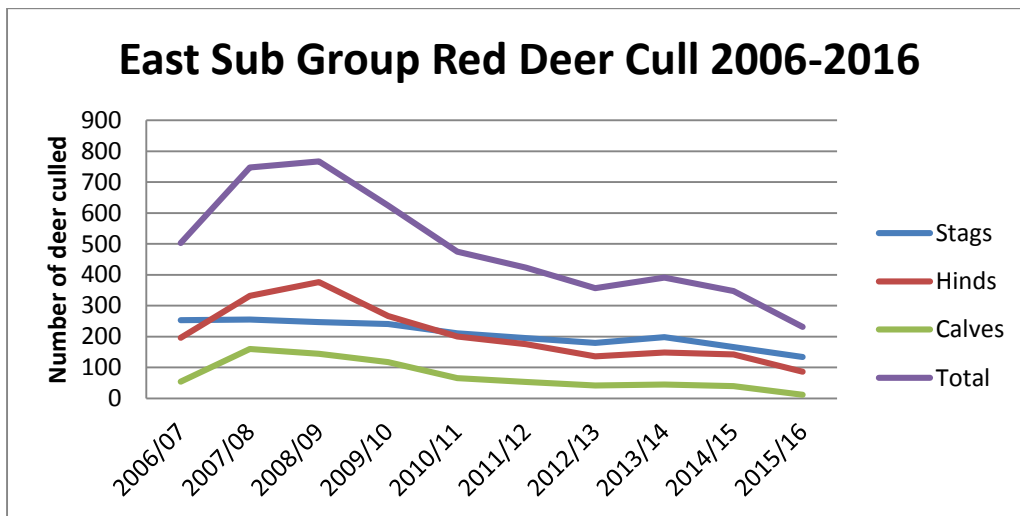
#### **4.1.1. Open Hill Count**

Regular counts are only carried out on the open hill red deer. Woodland deer density indicators are used to give an estimate of population density but this is only carried out by individual members according to their management requirements. The open hill count data is shown in **Table 5 in Part 2 of this Plan**. The latest count was carried out by helicopter in 2016 and the next, for the East sub group is scheduled for 2021. At present the estimate from the helicopter count of the 2016 spring open hill red deer population is 1286 stags, 2141 hinds and 634 calves. The total open hill area for the reporting members of the group is 36,157hectares giving a current red deer density of 10.6deer/100ha.

#### **4.1.2. Historic Cull**

The 10 year average cull for the sub group for the period 2006-2016 is 208 stags, 223 hinds and 81 calves. The 5 year average over the period 2006-2011 is 241 stags, 309 hinds and 124 calves but the 5 year average for the later part of this period – 2011-2016 is reduced to 174 stags 137 hinds and 38 calves. There are two main reasons for this difference. Firstly the cull in 2006/07 and 2007/08 included an increased cull at Inchnadamph as part of a Section 7 agreement and there were reduction culls at Sallachy and Duchally/Invercassley to compensate for land taken out of the deer range for afforestation. Secondly deer mangers from 2009/10 onwards were concerned that the reduction in deer numbers seen on the hill was partly due to the two severe winters experienced during this period and that a reduction in the cull was required to sustain a sporting population.

**Fig.1. East Sub Group Red Deer Cull 2006-2016**



#### **4.1.3. Deer Movement**

The deer movement across the sub group is shown in **Map 5**. There are two main populations in the sub group – to the west the Inchnadamph/Benmore population and to the east the Cassley/Shin population. There is some limited movement of stags between Benmore and Invercassley and to a lesser extent between Inchnadamph and Duchally. There is a seasonal immigration of stags from Merkland to Sallachy and to a lesser extent to Duchally. If forest fences are damaged especially at Achany, Raemore, Rosehall and Benmore red deer may move in to the forest during times of bad weather or prolonged southerly or south easterly winds. These deer are invariably culled by contractors carrying out deer control in the plantations and so are lost to the open range population.

#### **4.2. Sika**

Sika are an important resource with this sub group. They are present in most if not all of the fenced woodlands and at quite high densities in some of the commercial plantations. Visitors from Europe and the rest of Scotland and the UK are attracted by the quality of sika stalking in the area and this provides an important revenue to help to maintain jobs and infrastructure.

#### **4.3. Roe**

Roe deer are present throughout the wooded areas but not in large numbers mainly due the age of the woodlands and the larger sika population. Roe deer at these densities do not pose a threat to the crop or forest environment and do not provide a valuable sporting resource.

#### **5. Other Herbivores**

Over the past 20 years over 5000 sheep have been removed from the open hill habitat. Domestic livestock in greatly reduced numbers are now fenced in on the better and improved agricultural ground and are not free to graze on the open hill.

Hares and rabbits are present throughout the group but in very low numbers and do not pose a threat to the habitat.

## 6. Habitat

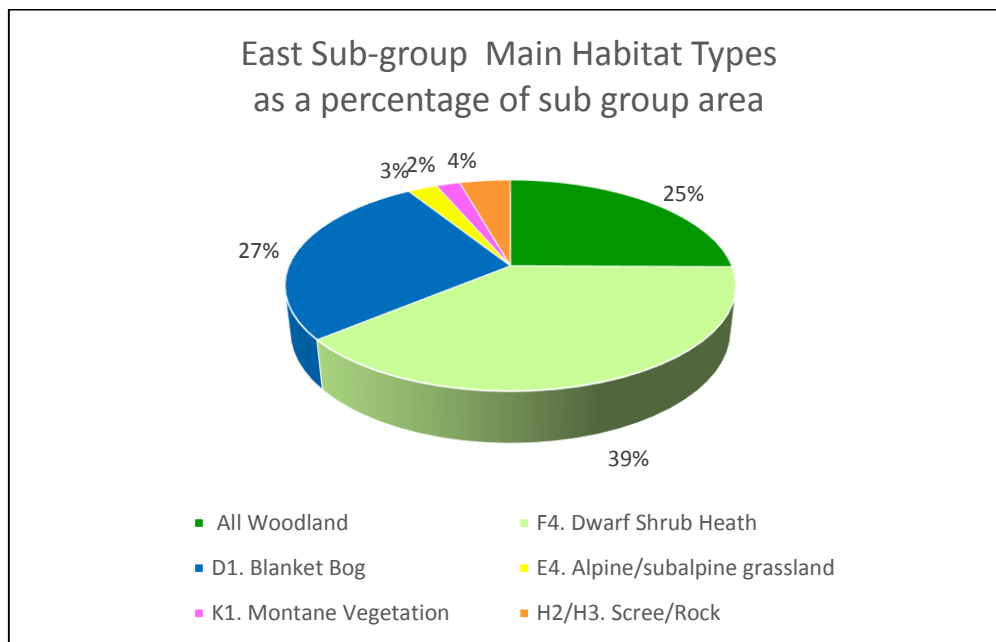
As red deer are excluded from most of the woodland habitat this plan currently only describes the open hill habitat found within the sub-group. The Loch Glencoul SSSI designated for its native woodland, is included within the section on Designated Sites. The EUNIS (European Nature Information System) was used to map the main habitat types found in East sub group. This information was entered in to our GIS so that the area of each habitat could be measured. (Map 3)

### 6.1. Open Hill Habitat

Blanket bog and dwarf shrub heath covers over half of the total area of the sub group.

The chart below shows the frequency of the main habitat types found across the whole sub group.

**Fig. 2 ESG Main Habitat Types**



### 6.2. Designated Sites

Areas of land within the sub-group are partly or wholly within four separate European Natura sites. These are Special Areas of Conservation (SAC) or Special Protection Areas (SPA) designated under the European Habitats & Birds Directives. Usually Natura sites are fully underpinned by Sites of Special Scientific interest, but the River Oykel SAC is mostly only designated as a Natura site. In addition, the areas included within the Caithness & Sutherland Peatlands SAC/SPA are also part of the Ramsar Site. Ramsar sites are wetlands of international importance, designated under the Ramsar Convention.

There are five Sites of Special Scientific Interest within the sub group area. SSSIs are designated under the Nature Conservation (Scotland) Act 2006. (Map 4).

The western part of the sub-group lies in the Assynt Coigach National Scenic Area (NSA).

### **6.3. Caithness and Sutherland Peatlands SAC/SPA**

The Caithness & Sutherland Peatlands SAC and SPA contains a large proportion of the Caithness and Sutherland peatlands which form the largest and most intact area of blanket bog in Britain. Blanket bog is rare in world terms and Britain has a significant proportion of the total world resource. These peatlands, and the surrounding moorland and open water, are of international importance for conservation because they support a diverse range habitats, plants and rare and unusual breeding birds.

The boundary of the SAC/SPA generally follows those of 39 peatland Sites of Special Scientific Interest (SSSIs) in Caithness and Sutherland of which Grudie Peatlands and Strath an Loin are located within east sub group.

The SAC qualifies by supporting inland water bodies, bogs, marshes, heaths, mires, otter and marsh saxifrage.

The SPA qualifies by supporting nationally important breeding populations of eight Annex I species identified by the EC as being of special priority for conservation: red throated diver (89 pairs, 10% of GB breeding population), black-throated diver (26 pairs, 15% of GB), hen harrier (14 pairs, 2% of GB), golden eagle (5 pairs, 1% of GB), merlin (54 pairs, 4% of GB), golden plover (1064 pairs, 5% of GB), wood sandpiper (1-5 pairs, 10-40% of GB), and short-eared owl (30 pairs, 2% of GB).

The SPA also qualifies by supporting an internationally important breeding population of the following migratory species: dunlin (1,860 pairs, 20% of GB), common scoter (27 pairs, 0.1% of Western Siberia/Western/Northern Europe/North-western Africa), greenshank (256 pairs, 0.4% of Europe/Western Africa), and wigeon (43 pairs, 0.1% Western Siberia /North-western/North-eastern Europe).

The internationally important assemblage of peatland breeding birds also includes an internationally important breeding population of North Scottish greylag geese and nationally important breeding populations of teal, curlew and arctic skua; and sporadic breeding attempts by scaup.

#### **6.3.1. Grudie Peatlands SSSI**

Grudie Peatlands SSSI is part of the Caithness and Sutherland Peatlands Special Area of Conservation (SAC) designated for the European habitats and species, mainly blanket bog and is also part of the Caithness and Sutherland Peatlands Special Protection Area (SPA) designated for birds – breeding populations of dunlin, golden plover and greenshank.

The site occupies the southern part of the extensive watershed between Glen Cassley and Loch Shin. The main peatland expanse occurs at 250-350m altitude. The site contains a number of

different blanket bog types, including valleyside, terrace and saddle mires. These various bog types have developed on summits, slopes and in hollows and combine to form an extensive peatland habitat. Bog pools and small lochans add to the diversity of the site. The dominant species throughout the blanket bog are deer sedge, heather, hare's-tail cotton grass and, more variably, cross-leaved heath. In the least disturbed areas, bog moss *Sphagnum* species are abundant whereas *Cladonia* lichens are more frequent in those areas most affected by burning and drainage. The site is notable for the relative abundance of the nationally scarce dwarf birch *Betula nana* and a diverse range of less common bog sphagnum species,

The peatland habitat supports a range of breeding moorland birds. Greenshank, golden plover and dunlin have all been recorded on Grudie Peatlands at breeding densities well above the average for the peatlands of Caithness & Sutherland. Each species is a notified feature in its own right.

### **6.3.2. Strath an Loin SSSI**

Strath an Loin SSSI is designated as part of the Caithness and Sutherland Peatlands Special Area of Conservation (SAC) for the European habitats species and as part of the Caithness and Sutherland Peatlands Special Protection Area (SPA) for birds.

Strath an Loin SSSI is located on the southwest side of Loch Shin. This site encompasses the entire catchment of the Allt Car which runs through Strath an Loin. From the loch shore at 98m altitude to the highest points of the watershed at over 450m altitude, the area is covered by a range of peatland communities, with deep peat blanket bog dominating all but the steeper slopes. The site lies at the western edge of the extensive area of peatlands that cover much of the interior of Caithness and Sutherland. Blanket bogs which have developed on the hillsides, known as valleyside mires, dominate this site. Terrace mires occur on more level ground adjacent to the Allt Car and local variations in the topography elsewhere result in a range of other bog types, such as spur and basin mire. Heather, deergrass and cottongrass species are widespread and common throughout these different mire types. Other species, for example purple moorgrass, are more abundant on gentle gradients. Bog moss occurs throughout the site, some species forming carpets and others hummocks.

### **6.4. Inchnadamph SAC**

Inchnadamph SAC is within the Ben More Assynt SSSI and has 8 qualifying interests including calcareous grasslands, fens, scree, limestone pavements, springs, dry heath, willow scrub and plants in crevices on base-rich rocks. Limestone pavements, is a priority habitat. Some of these habitats contribute to the Ben More Assynt SSSI features.

#### **6.4.2. River Oykel SAC**

The river Oykel SAC has two qualifying interests – freshwater pearl mussel and Atlantic salmon. Part of the SAC is within the Ben More Assynt and Loch Awe & Loch Ailsh SSSIs.

## **6.5. SSSI**

### **6.5.1. Ben More Assynt SSSI**

Ben More Assynt Site of Special Scientific Interest (SSSI) is located approximately 16km east of Lochinver. The site has been notified for its nationally important geology, upland plant communities and freshwater habitats. It encompasses the Inchnadamph SAC.

The geological features of this site are – Moine, Karst and Caves. The site also includes a range of upland habitats. The higher parts of the site have one of the most extensive areas in the northern highlands of Alpine moss heath and associated vegetation. Three types of calcareous grassland are found on base-rich rocks: Dry heath, subalpine calcareous grassland and Alpine calcareous grassland. These are especially rich in montane species. The montane willow scrub habitat near Inchnadamph has the largest colony of the nationally scarce whortle-leaved willow in Britain. Areas of Lewisian gneiss on Ben More Assynt have good examples of tall herb ledge plant communities. The spring-head rill and flush component of the upland assemblage includes petrifying springs, where tufa forms in moss-dominated vegetation. The best examples in Scotland are found near Inchnadamph. Alkaline fen, another base-rich vegetation type, is found here and elsewhere on the site. The site has one of the few extensive examples of limestone pavement in Scotland. This supports a diverse montane flora due to its relatively high altitude.

The River Traligill is an example of an oligotrophic river (a river with clear water that is low in nutrients). These are unusual in northwest Scotland because most rivers in this area flow through areas covered by peat, which stains the water brown. Typical species include the lichens *Verrucaria aquatilis* and *V. praetermissa* and mosses such as western brook-moss, rusty feather-moss, greater water-moss, long-beaked water feather-moss and river grimmia. Flowering plants such as water blinks and the nationally scarce alpine rush *Juncus* also grow in the stream. A diverse range of plants are found amongst the mosses on the banks of the stream including yellow mountain saxifrage, greater bird's-foot-trefoil and common pearlwort.

Loch Mhaolach-coire is small, shallow loch with a moderate level of nutrients and peat stained water. It supports plant species that are more typically found in nutrient-rich lochs such as delicate stonewort growing alongside species that are usually found in nutrient-poor water such as shoreweed. The nationally rare long-stalked pondweed grows here, together with perfoliate pondweed and broadleaved pondweed. Four nationally rare plants - Arctic sandwort, the eyebright, spring gentian and curved woodrush - and 22 nationally scarce plant species are found on this site.

Part of the Ben More Assynt SSSI overlaps the upper reaches of the the River Oykel SAC.

### **6.5.2 Loch Awe and Loch Ailsh SSSI**

Loch Awe and Loch Ailsh SSSI is part of Inverpolly, Loch Urigill and Nearby Lochs Special Protection Area (SPA) designated for black-throated diver.

Part of Loch Awe and Loch Ailsh SSSI overlaps part of the River Oykel Special Area of Conservation (SAC).

Loch Awe and Loch Ailsh Site of Special Scientific Interest (SSSI) comprises two lochs, located about 8km apart, near Ledmore junction in the south west of the sub group. Loch Awe is situated in open upland terrain and is a shallow loch with a relatively diverse range of aquatic vegetation. Loch Ailsh is a shallow, nutrient-poor loch, almost completely surrounded by commercial forestry which was planted in the 1980s.

Loch Awe and Loch Ailsh each regularly support a pair of nesting black-throated diver. These two pairs represent over 1% of the British breeding population and are therefore of national importance.

### **6.5.3 Loch Glencoul SSSI**

Loch Glencoul Site of Special Scientific Interest (SSSI) lies in the north of the sub group, 4km south-east of Kylestrome, at the head of Loch Glencoul. The site comprises rugged upland terrain, reaching 494m on the Stack of Glencoul. This SSSI has nationally important rock exposures throughout the site, providing one of the most informative sections across the Moine Thrust Belt. The site also contains nationally important birch woodlands.

There is scattered birch woodland on the south and north sides of Loch Glencoul. The entire woodland is part of the notified feature. Two areas of woodland which are particularly species-rich are found on Fucoïd bed crags. Fucoïd bed rocks are orange/brown in appearance, are potash-rich and are a type of the Cambrian rocks described above. This potash-rich environment allows plants to grow that would not normally be found in the more acidic, boggy environment that dominates the northwest Highlands. One of the woodlands found on the Fucoïd Bed crags in the northern part of the SSSI is in the North sub group. The other woodland lies on the crags of the southern part of the SSSI and within East sub group. The main species present are birch, rowan, aspen and hazel with some wych elm, holly, goat willow, bird cherry and gean. These trees grow mostly on steep banks and ledges undisturbed by herbivores. Honeysuckle and dog rose are found in the shrub layer. Due to the geology of the Fucoïd beds, the ground flora is well developed and so this is the best example of this type of woodland in northwest Sutherland.

The woodland on the southern side of the loch was monitored in July 2009 and some changes in condition from the previous survey were identified. These suggest that grazing pressure had increased from the previous survey and that it may be too high to allow the woodland to regenerate. Trampling had also occurred in breaks between the crags where deer had been moving through the SSSI. A small number of sheep were also on the site.

## **7. Archaeology**

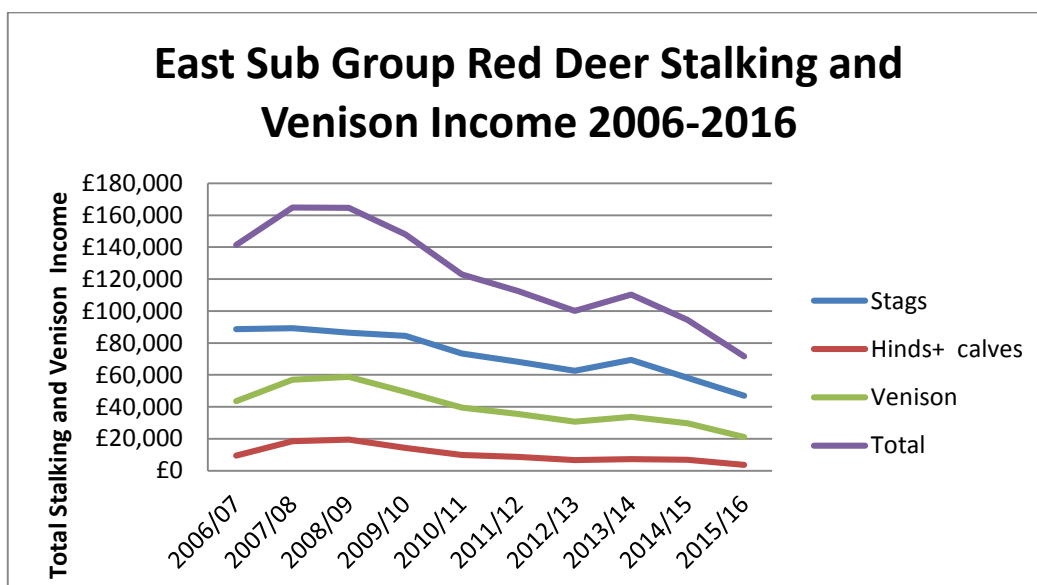
There are several archaeological features across the subgroup mostly relating to past farming activity e.g. hut circles, fanks and shielings. There is a broch at Sallachy at NC/254916/909224 and one in Glencassley at NC/241170/911215.



## 8. Socio-economic information

Red deer stalking in 205/16 generated an income of £71,694, (£50,538 directly from stalking £21,156 from venison sales). This figure has fallen in the past few years from a peak of £164,750 in 2007/08. Although it is unlikely that the deer population can support this peak figure again it is hoped that careful management will allow the group aspirational cull to be met and thereby increasing the income from its current low level to around £123,000 per annum. These figures do not include income from rental accommodation as this is quite often delivered by businesses not operating within the deer management group. This income helps to support 5 full time deer managers and 11 part time or seasonal staff. Many other businesses in the area rely on visiting stalking guests to provide income at times of the year when there are few other visitors. Also many business help to support the infrastructure required to conduct stalking businesses.

**Fig.3 ESG Red Deer Stalking and Venison Income 2006-2016**



## 9. Public Interest

### 9.1. Develop mechanisms to manage deer

All mechanisms to manage deer within each individual property in this sub group are already in place. The ESG Deer Management Plan sets out the mechanisms for the collaborative deer management within the sub-group as a whole.

### 9.2. Delivering designated features in to favourable condition

**Grudie Peatlands SSSI/SAC/SPA.** (Site condition – 3 of 4 features in favourable condition)

Site condition report in 2014 stated that the site was ‘partially destroyed’. This was due to work to reinstate a track that has affected some 0.05% of the site. The reinstatement work has been

carried out to the satisfaction of SNH and the site condition will be improving from now on. The latest site management statement shows only the Golden plover feature to be in unfavourable/declining condition. SNH do not know why this is happening. There are no current issues relating to deer management and none of the qualifying features of this site are being affected by deer activity.

- This site is monitored annually as part of Sallachy habitat monitoring programme. In 2015 herbivore impacts were low across the whole site.

**Strath an Loin SSSI.** (Site condition – 1 of 1 features in favourable condition)

Last site survey was carried out by SNH in 2004 and all qualifying features were found to be in ‘favourable, maintained’ condition.

- This site is monitored annually as part of Sallachy habitat monitoring programme. In 2015 herbivore impacts were low across the whole site.

**Inchnadamph SAC** (site condition – 6 of 8 features in favourable condition)

The SAC was part of a section 7 agreement for deer culling between 2003 and 2008. The new baseline for the habitats monitored was set in 2007 and since then annual monitoring has continued until 2013.

The priority habitat – Limestone pavements is in ‘favourable recovered’ condition. 6 of the 8 features are in ‘favourable condition’ and two are in unfavourable condition. The last monitoring of these two features Base-rich fens and dry heaths was carried out in an exceptionally late spring so it is not clear the actual cause of this condition although over grazing has been recorded by SNH. Site condition monitoring of dry heath recorded an improvement from previously higher deer browsing and trampling impacts, but there is also bracken encroachment into dry heath habitat. Base-rich fens have again shown improvement with reducing deer browsing compared with the previous site condition monitoring, but the trampling impacts have increased.

- This site is monitored annually as part of Inchnadamph habitat monitoring programme. The baseline established as agreed at the end of the S7 in 2007 will be used for ongoing monitoring.

**River Oykel SAC**

**Ben More Assynt SSSI** All of the 10 features in favourable condition

Site condition monitoring carried out by SNH between 2002 and 2014 have found all qualifying features of this site to be in ‘favourable’ condition.

**Loch Awe and Loch Ailsh SSSI** (site condition – 1 of 1 features in favourable condition)

Qualifying features are in 'favourable, maintained' condition

**Loch Glencoul SSSI (Site condition – 1 of 2 features in favourable condition)**

The last site condition survey in 2009, it was suggested that the level of deer browsing was too high for this site. As a result in 2011 a baseline survey was undertaken looking at the herbivore impacts on the woodland. There was also an assessment of woodland structure class. Currently a contractor is discussing management plan options for the woodland site with the land owners. This will identify practical options, and where appropriate, form part of a funding application to undertake the agreed options. This is due to report in early July 2016.

- On completion of the report, the recommendations will be considered and if appropriate taken forward. This could be some fencing of existing woodland areas, deer management, and ongoing monitoring.

Summary.

There are 26 qualifying features associated with the designated sites found within East sub group. Therefore 22 out of 24 (83%) of assessed features are in favourable condition.

- ESG members will monitor habitats to make sure that features remain in favourable condition and where possible return features to favourable condition.

**9.3. Manage deer to retain existing native woodland cover and improve woodland condition in the medium to long term.**

Over 90% of the native woodland cover within the sub group is protected by deer fencing. NWSS, although not accurate, shows that over 80% of the woodland within the sub group have low to medium herbivore impacts.

- Loch Glencoul woodland is currently being discussed with the landowners to identify management options to protect from deer grazing and browsing.
- No condition monitoring of other areas of native woodland has been scheduled for this plan.

**9.4. Demonstrate contribution to woodland expansion targets.**

Recent planting under WGS2, SFGS and SRDP-RP has brought the existing woodland cover within the sub group to over 25% of the reporting area.

- More new planting will be carried out when constraints to planting are removed and the application process becomes clearer and more reliable.

- Glencassley, Duchally/Invercassley and Sallachy have planted almost 4000 ha of new woodland over the past 20 years. There is limited scope for any further planting on these properties as the remaining ground is either unsuitable for planting or lies within designated sites where planting would not be permitted.
- There is some potential for new planting at Inchnadamph and Loch Glencoul wood and this is currently being investigated
- During the planning process for any new planting ESG should be consulted on any deer management issues including proposed reduction culls and once agreed by the whole sub group, the DMP will be amended to reflect this change in management.

#### **9.5. Monitor and manage deer impacts in the wider countryside**

- Two management units, Inchnadamph and Sallachy have agreed annual habitat monitoring to cover wider countryside as well as designated sites. For Sallachy there will be annual monitoring of blanket bog and dwarf shrub heath and for Inchnadamph different habitats will be monitored each year over the period of this plan
- There is additional wider countryside habitat monitoring of dwarf shrub heath and blanket bog scheduled for the remaining 3 MUs starting in 2016, when estate staff are available and this will be repeated at 3 year intervals.
- Annual breeding bird survey carried out over Strath an Loin and Grudie Peatlands SSSI's and wider habitat on Sallachy.
- Annual butterfly survey carried out over Strath an Loin and Grudie Peatlands SSSI's and wider habitat on Sallachy.
- 

#### **9.6. Improve Scotland's ability to store carbon.**

East sub group manages 12,333 ha of woodland and 16,187 ha of blanket bog. These are the main two habitats contributing to the ability to store carbon.

- The forests are sustainably managed to UKFS and the blanket bog habitat is monitored annually across all relevant ground to make sure that there are no negative deer impacts.
- Muirburn is no longer carried out within the group
- All domestic livestock have been removed from the blanket bog habitat.

#### **9.7. Reduce or mitigate the risk of invasive, non-native species**

Sika are present in the woodlands throughout the group and play an important role as part of the local economy.

- To the west of the group sika are shot on site on the open hill to try to contain the population to the east and south parts of the group.
- ESG support the WSDMG Operations Document

### **9.8. Protect historic and cultural features.**

There are brochs at Sallachy and Glencassley and several old agricultural features throughout the group but deer are not likely to cause damage to these sites.

- These sites are monitored during general estate duties.
- ESG members should consult Highland Councils Historic Environmental Record before any changes in land or deer management that could affect historic sites and monuments ([www.her.highland.gov.uk](http://www.her.highland.gov.uk))
- The Highland Council will be sent a copy of this plan and will be informed of changes in land or deer management practise that would be likely to have an effect on historic sites or monuments
- All sub group members will refer to the Joint Agency Guidance on Deer Fencing (appendix VI)
- Any issues including potential new fencing will be communicated via email and reported at the meeting of the sub group or the main group.

### **9.9. Deliver higher standards of competence in deer management.**

- All 5 employed deer managers and all contractors in East sub group are qualified to DSC Level 2
- All are on the SNH fit and competent register.
- All have relevant ATV and first aid certificates.
- All deer managers attend Best Practise events.
- Wild Deer Best Practise is adopted in all deer management activities.
- ESG support the WSDMG Operations Document

### **9.10. Contribute to public health and wellbeing.**

- Deer stalking and related management activities provides regular, strenuous exercise for the deer managers and other members of the public who take part in stalking, carried out in an environment that is free from pollution.
- Responsible Access is encouraged throughout the group and signs are used (where appropriate) to inform when and where stalking is taking place. There is signage used at Inchnadamph to inform the public when and where stalking operations are taking place.
- All employees and guests are made aware of the risk of contracting Lyme disease from tick bites and how to remove ticks and recognise a potentially infected bite and what action to take. This information is also made available to non-stalking guests.
- Deer vehicle collisions are monitored and communication with local CC and police to be maintained to try to mitigate local risk especially on the A837. Deer fencing helps to prevent red deer movement on to the A839 and much of the A837
- Grid reference of all deer culled is recorded

- Review of all issues at annual sub group meeting

### **9.11. Maximise economic benefits associated with deer management.**

There are 5 full time and 11 contract or seasonal employees who are directly involved with deer management in the sub group. There are another 4 full time and 8 part time employees who are indirectly employed in deer management e.g. cooks, cleaners, managers. The majority of these employees live locally and contribute to the local economy and infrastructure. There are also a large number of mainly local individuals and companies who are involved with supporting the stalking activities e.g. game dealer, machinery dealer and repairs, gun shop, general estate contractors, haulage contractors feed suppliers, vet, sporting agents local shops, local hotels and restaurants.

ESG members have looked at all possibilities to try to increase income and value associated with deer management. Given that sporting fees and lets within the group are at market value the only way to increase income is by increasing cull numbers which means an increase in deer density. In order to maintain environmental sustainability it is not possible to increase deer density across the sub group to any great extent. Each member of ESG has their own larder facilities.

- The aim of this plan is to create and maintain a sustainable sporting business that will continue to support the rural economy.

### **9.12. Minimise economic costs of deer management.**

- Vulnerable timber crops are protected by deer fencing and use of night shooting authorisations in plantations to increase efficacy in deer culling.
- No agricultural interests are effected by deer impacts in this sub group
- There is substantial capital investment required to be fully equipped to carry out deer management operation to Best Practise standards – probably in the region of £100-250,000 per member, depending on the quality and size of the larder. However all of the sub group members already have all the equipment required and have built this up over a number of years so other than maintenance and periodic replacement of large items i.e. vehicles no major capital expenditure is now required within the subgroup.

Deer are managed as an important asset to the rural businesses in ESG. Deer stalking provides an income to support jobs and infrastructure. Deer managers are employed to carry out stalking and to guide stalking guests but increasingly much of their time is spent on unproductive deer management activities e.g. deer management planning meetings, habitat assessments, training etc. This is an increasing burden on time and resources and can quickly render a deer stalking business unviable if there is not the numbers of deer present to sustain a high enough cull to cover these costs – as is currently the case at MU5 Sallachy. ESG have explored ways to share resources to minimise this cost but it is has proven to be not practical

### **9.13. Ensure effective communication on deer management issues.**

- All deer management contacts are provided in appendix in this plan.
- ESG deer managers communicate on an informal but regular basis on deer management issues.
- Annual meetings and emails will add some formality to this communication.
- Local Community Councils, Police Scotland Wildlife Liaison Officer and Countryside Rangers have been consulted in the planning process and have had the opportunity to comment on the draft plan.
- This plan will be available on the West Sutherland Deer management Group website.
- ESG supports WSDMG Operations Document

### **9.14. Ensure deer welfare at individual and population level.**

- All deer managers in East Sub group have achieved DSC Level 2 and are on the SNH Fit and Competent register and follow Best Practise in all deer management activities. This is regarded as the **minimum** requirement for anyone carrying out deer management activities within the sub group.
- Deer managers carry out visual inspections of the deer population at every opportunity. Individual estates retain larder weight records which may be brought in to this plan at a later date to look at individual culled weights over time.
- All deer managers are aware of the dangers and issues surrounding Chronic Wasting Disease (CWD) and guest arriving from areas where CWD is prevalent are made aware of the need to disinfect clothing and equipment – especially boots.
- ESG supports WSDMG Operations Document

# **East Sub Group Deer Management Plan**

## **Part 2. The Working Plan**

1. Introduction
2. Objectives
3. Deer Population
  - 3.1. Deer Count
  - 3.2. Population Model
  - 3.3. Target Population
4. Deer Cull
  - 4.1 Group Cull
5. Deer Management Units
6. Habitat Monitoring
7. Review



## **1. Introduction**

This the Working Plan of the East sub-group of the West Sutherland Deer Management Group. The plan covers the period 2016 until 2021. Details of the members and the properties in this sub group are set out in Part 1 of this plan. Contact details for members are available in Appendix I. The group members agree with and support the principles set out in:

- Scotland's Wild Deer – A National Approach
- Code of Practise on Deer Management
- Wild deer Best Practise Guidance
- ADMG Principles of Collaboration
- WSDMG Operations Document

Members agree that there should be a voluntary, collaborative approach to deer management. Each individual property operates and reports as one management unit.

## **2. Objectives**

- Manage the deer population to meet the minimum density required to sustain viable sporting businesses.
- Minimise conflict with other land uses.
- Protect timber crop.
- Protect vulnerable native woodland
- Maintain designated sights in favourable condition.

**ESG aspirational annual Red Stag Cull – 185**

**ESG minimum red deer population to sustain aspirational stag cull – 2312 stags, 2312 hinds, 463 calves**

**ESG minimum red deer density to support aspirational stag cull – 13.3deer/100ha**

## **3. Red Deer Population**

This plan is primarily concerned with the open range red deer population. Sika and roe deer are present in the enclosed woodlands and individual members have their own plans for

managing these populations. The current red deer density over the open range area of the sub group is 10.6 deer/100ha (2016 count). In this first five year period the plan aims to decrease density at Inchnadamph by increasing the historic cull and to increase density at Sallachy by reducing the cull there. Over all there should be an increase in density, mainly due to increases at Sallachy and Glencassley, to 11/100ha in 2021. The longer term aim is to increase the group density to 13.3/100ha which is our minimum population required for the group aspirational cull. As the information we input in to the population model is based on estimates it was decided that a gradual approach was better and adjustments to the cull can be made as more information is gathered from habitat monitoring and future counts.

### 3.1 Red Deer Count

As this is a newly formed sub-group and there have different counting regimes across the group it was decided to use the 2016 helicopter count carried out by SNH as the starting point for this plan.

The 2016 helicopter count figures are shown in table 5 below. There are higher than expected densities at Glencassley and Inchnadamph and lower at Benmore and Sallachy. The count was carried out when there was still snow on the hills and this has pushed deer down on to lower ground especially at Inchnadamph. Also it can be seen that deer within the two main populations –Inchnadamph/Benmore and Cassley/Shin have been found at the western extremities of their normal range. This is possibly due to prolonged periods of strong westerly winds and these areas are also south facing with snow moving away quicker than surrounding ground. It is expected that as the summer progresses hinds will return to their calving grounds and the population will move east thereby reducing density at Glencassley and Inchnadamph.

**Table 5. ESG 2016 Red Deer Count**

Management Unit	stags	hinds	calves	Total	Density (deer/100ha)
Benmore	168	471	153	792	10.7
Glencassley	77	483	158	718	17.6
Inchnadamph	745	779	209	1733	20.1
Invercassley/Duchally	269	297	90	656	6.6
Sallachy	27	111	29	167	2.0
Total	1286	2141	639	4066	10.6

**Next helicopter count for East Sub group will be in spring 2021.**

There is no counting by foot in ESG as the topography does not make foot counting practicable. Helicopter counting provides the best estimate of the deer population in the sub group and members have committed to helicopter counting every five years.

### 3.2. Red Deer Population Model

The count data was used as the start point for the population model for ESG. The model uses the following assumptions based on national average and observations within the sub group:

- Calf sex ratio: 50:50
- Mortality: Stags 4%, hinds 4%, calves 8%. This is based on experience across the group and from detailed discussions with retired stalkers and observations from current staff. It would be almost impossible to accurately measure mortality as the topography and scale of the subgroup do not provide good enough access to cover all the ground. Also there is neither the time nor personnel to be able to do this.
- Calving (% of hinds having calf surviving through to spring): 20%. This figure is based on observation carried out each spring by Glencassley, Inchnadamph and Benmore Estates. (See **Table 6** below). At this time estate staff are on the hill controlling foxes at known fox dens. This can involve several hours of siting still waiting for foxes to show at the dens. This provides an ideal opportunity to closely watch deer and accurately count hinds and calves. The deer are not disturbed by the observer and so there is plenty of time to make sure that the calves counted are calves and not small followers.

**Table 6. ESG Observed Red Deer Calving rates 2012-15**

Management Unit	Year				Average
	2012	2013	2014	2015	
Benmore	20%	20%	18%	18%	19%
Glencassley	16%	18%	16%	17%	17%
Inchnadamph	22%	24%	16%	17%	20%
Average annual calving rate	19%	21%	17%	17%	

Monitoring takes place in May each year. The average rate for this period is 19%. The table above and population model will be adjusted annually as new data is gathered. As such a large part of the sub-group is monitored by these three estates it was decided to use this average for the whole group. Given that the available habitat is poorer on Duchally/Invercassley and Sallachy it is not likely that the calving rate will be higher on these properties.

**Table. 7 ESG Open Hill Red Deer Population Model 2016-2021**

Starting population is 2016 Helicopter count

	Stags	Hinds	Calves	Totals	Density (deer/100h)
<b>2016 Spring Count</b>	1286	2141	639	4066	10.6
<b>2016 Summer Population</b>	1606	2461	492	4558	11.9
<b>2016/17 Cull</b>	155	140	40	335	
<b>2017 Mortality</b>	73	107	38	218	
<b>2017 Spring Population</b>	1378	2213	414	4005	10.4
<b>2017 Summer Population</b>	1585	2420	484	4489	11.7
<b>2017/18 Cull</b>	140	140	40	320	
<b>2018 Mortality</b>	72	105	38	215	
<b>2018 Spring Population</b>	1373	2175	406	3954	10.3
<b>2018 Summer Population</b>	1576	2378	476	4429	11.5
<b>2018/19 Cull</b>	140	140	40	320	
<b>2019 Mortality</b>	71	104	37	212	
<b>2019 Spring Population</b>	1365	2134	399	3898	10.2
<b>2019 Summer Population</b>	1564	2334	467	4364	11.4
<b>2019/20 Cull</b>	140	140	40	320	
<b>2020 Mortality</b>	70	102	36	208	
<b>2020 Spring Population</b>	1354	2092	390	3836	10.0
<b>2020 Summer Population</b>	1549	2287	457	4294	11.2
<b>2020/21 Cull</b>	140	140	40	320	
<b>2021 Mortality</b>	70	99	35	205	
<b>2021 Spring Population</b>	1339	2048	382	3769	9.8
<b>2021 Summer Population</b>	1530	2239	448	4217	11.0
<b>Minimum Sporting Population</b>	<b>2312</b>	<b>2312</b>	<b>463</b>	<b>5087</b>	<b>13.3</b>

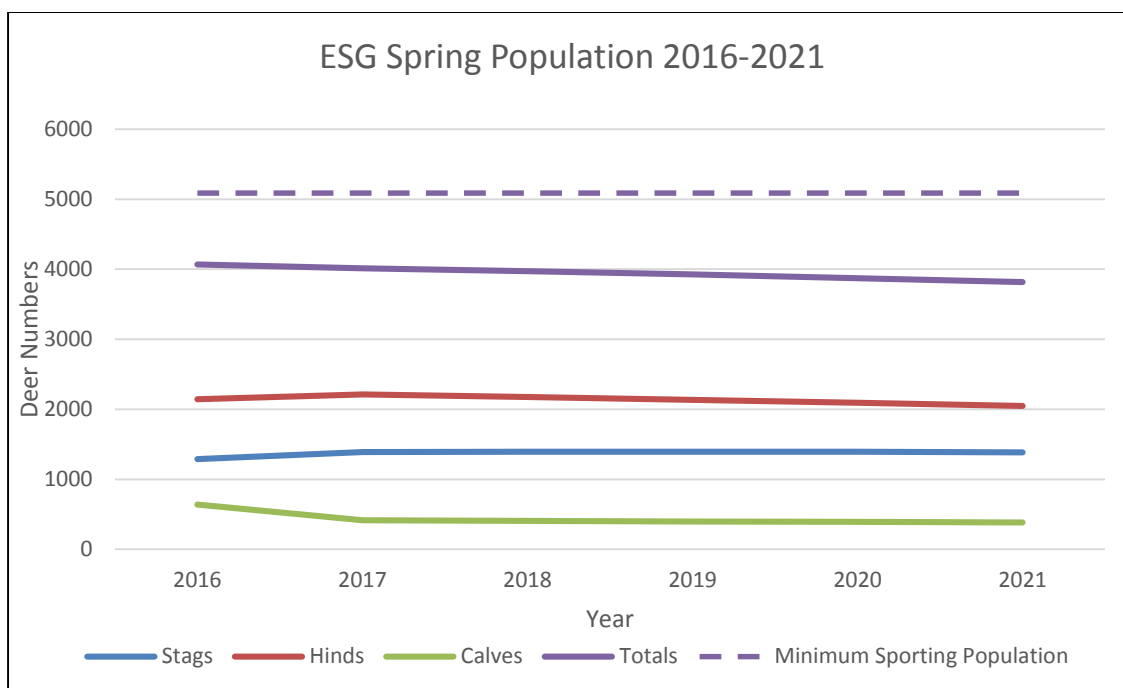
### 3.3. Red Deer Target Population

The SNH model, with ESG local adjustments, was used to determine the minimum sporting population to allow the aspirational cull for each MU and for the whole sub group. **Table 8** shows the target populations required. The aspirational cull is based on the number of stags required to support a viable sporting business.

**Table 8 ESG Target Population**

Management Unit	Target open hill red deer Population				
	stags	hinds	calves	total	Density (deer/100ha)
Benmore	500	500	100	1100	14.9
Glencassley	375	375	75	825	20.2
Inchnadamph	625	625	125	1375	15.9
Invercassley/Duchally	500	500	100	1100	11.0
Sallachy	312	312	63	687	8.3
<b>Total</b>	<b>2312</b>	<b>2312</b>	<b>463</b>	<b>5087</b>	<b>13.3</b>

**Fig.4 ESG Red Deer Population 2016-2021**



#### 4. Red Deer Cull

The cull is set for each management unit to help to achieve the aims of both the MU and the sub group. The sub group policy is to have a ratio of calves to stags culled of 2.5 as a minimum. As can be seen from the graph above the population over the period of the plan does not meet the minimum sporting population required however the population is relatively stable at around the 4000 mark. Individual management unit data in **section 5** shows the requirement for each MU to meet the group targets. Each MU has agreed the planned cull to meet the group targets and the sub group will re-assess the cull level annually and after the 2021 count. The annual cull will be assessed against the habitat monitoring results for that year, recruitment and

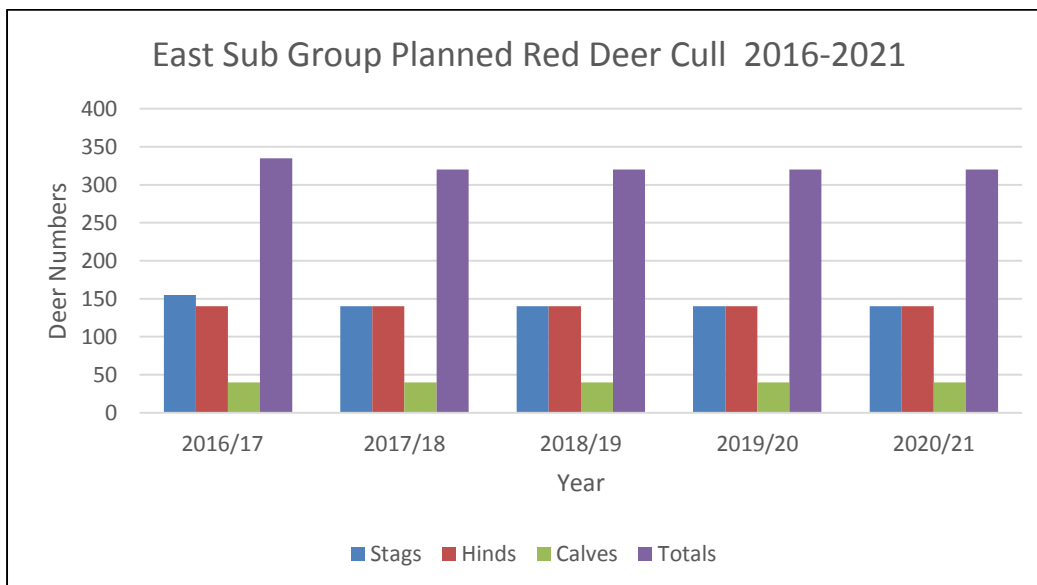
mortality estimates, individual management unit deer condition monitoring and stalker observations during the season.

#### 4.1. Group Cull

**Table 9. ESG Planned Red Deer Cull 2016-2021**

Year	Stags	Hinds	Calves	Total
2016/17	155	140	40	335
2017/18	140	140	40	320
2018/19	140	140	40	320
2019/20	140	140	40	320
2020/21	140	140	40	320

**Fig.5 ESG Planned Red Deer Cull 2016-2021**



## 5. Deer Management Units

### MU1 - Benmore

**Area:** 7383 ha

**Deer Management Contact:** Bruce Blackley

**Description:** open hill traditional sporting estate

**Designated Sites:** Ben More Assynt SSSI (part), River Oykel SAC (part)

**Habitat Monitoring:** Schedule for blanket bog and dwarf shrub heath monitoring in 2016 and thereafter once every three years.

**Deer:** Hefted red hind herd with resident stags and stags and hinds moving between Inchnadamph.

**Deer Management Objectives:** To have a red deer population to sustain a viable sporting cull and maintain designated sites and wider habitat in favourable condition.

### MU1 Red Deer population

Current open hill red deer density: 10.7/100ha

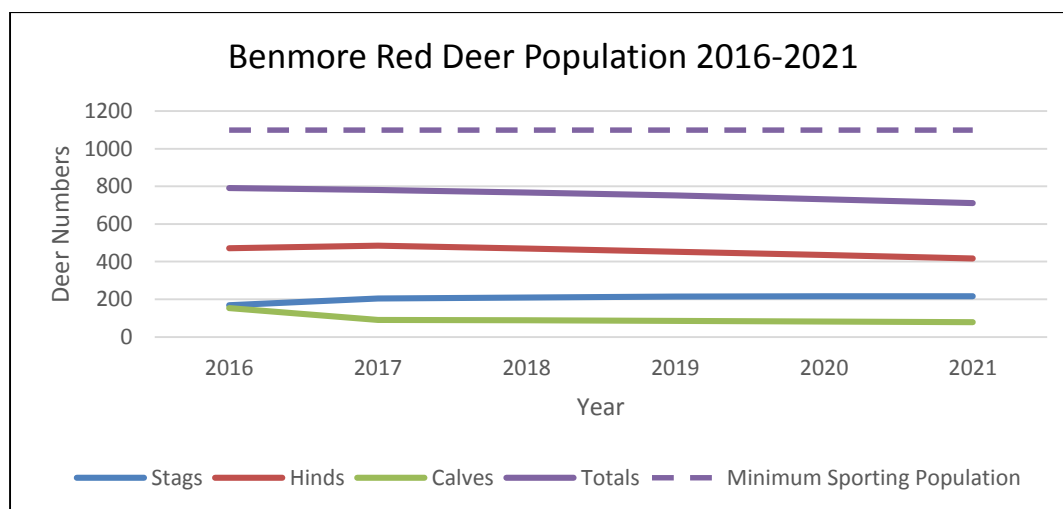
2021 open hill red deer density: 9.6/100ha

Target open hill red deer density: 14.6/100ha

**Table 10. MU1 2016 Red Deer count**

Benmore	stags	hinds	calves	Total	Density (deer/100ha)
2016 Count	168	471	153	792	10.7
Target Population	500	500	100	1100	14.9

**Fig. 6 MU1 Red Deer Population 2016-2021**



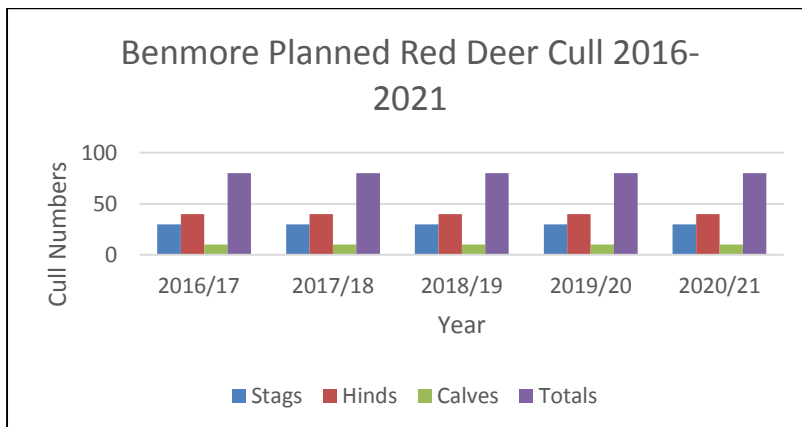
### MU1 Planned Red Deer Cull

The cull has been set to maintain the current sporting business and maintain designated sites in favourable condition. The graph above shows that with this cull there will be a slight reduction in deer numbers (mainly hinds) over the period of the plan but it is expected that the immigration of deer from MU3 – Inchnadamph should help to increase numbers and bring the population closer to the target. The cull will be re-assessed annually based on deer observations and habitat monitoring and after the scheduled helicopter count in 2021.

**Table 11. MU1 Planned Red Deer Cull 2016-2021**

Year	Stags	Hinds	Calves	Total
2016/17	30	40	10	80
2017/18	30	40	10	80
2018/19	30	40	10	80
2019/20	30	40	10	80
2020/21	30	40	10	80

**Fig. 7 MU1 Planned Red Deer Cull 2016-2021**





**Table 12. MU1 Population Model**

MU1-Benmore Population Model	Stags	Hinds	Calves	Totals	Density (deer/100ha)
2016 Spring Count	168	471	153	792	10.7
2016 Summer Population	245	548	110	902	12.2
2016/17 Cull	30	40	10	80	
2017 Mortality	10	22	9	40	
2017 Spring Population	205	486	91	781	10.6
2017 Summer Population	250	531	106	887	12.0
2017/18 Cull	30	40	10	80	
2018 Mortality	10	21	8	40	
2018 Spring Population	210	470	88	768	10.4
2018 Summer Population	254	514	103	870	11.8
2018/19 Cull	30	40	10	80	
2019 Mortality	10	21	8	39	
2019 Spring Population	214	453	84	751	10.2
2019 Summer Population	256	495	99	850	11.5
2019/20 Cull	30	40	10	80	
2020 Mortality	10	20	8	38	
2020 Spring Population	216	435	81	732	9.9
2020 Summer Population	256	476	95	828	11.2
2020/21 Cull	30	40	10	80	
2021 Mortality	10	19	8	37	
2021 Spring Population	216	417	78	711	9.6
2021 Summer Population	255	456	91	802	10.9
Minimum Sporting Population	500	500	100	1100	14.9

Assumptions:

Mortality – stags 4%, hinds 4% calves 8%

Calving – 20%

Calf sex ratio – 50:50

## MU2 – Glencassley

Area: 4448 ha

**Deer Management Contact:** Mark White

**Description:** open hill traditional mixed estate with recently planted areas of native woodland

**Designated Sites:** Grudie Peatlands SSSI (small part) River Oykel SAC (part)

**Habitat Monitoring:** Schedule for blanket bog and dwarf shrub heath monitoring in 2016 and thereafter once every three years.

**Deer:** Hefted red hind herd with resident stags. Sika present in woodlands

**Deer Management Objectives:** To have a red deer population to sustain a viable sporting cull and maintain designated sites and wider habitat in favourable condition. Gradual increase in herd to get to target density. To protect woodlands while maintaining a sika population to sustain woodland stalking business.

### MU2 Red Deer population

Current open hill red deer density: 17.6/100ha

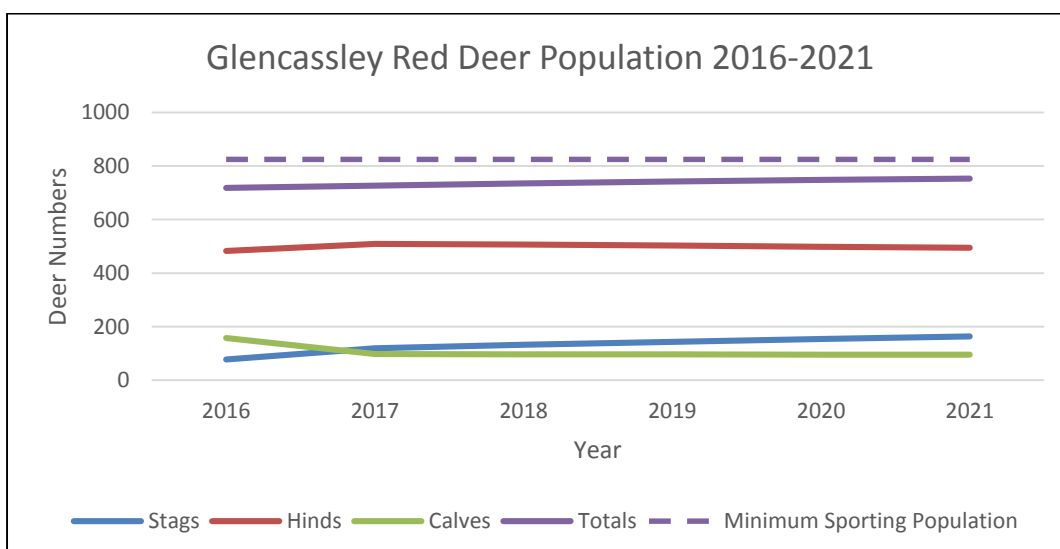
2021 open hill red deer density: 18.4/100ha

Target open hill red deer density: 20.2/100ha

**Table 13. MU2 2016 Red Deer Count**

Glencassley	stags	hinds	calves	Total	Density (deer/100ha)
2016 Count	77	483	158	718	17.6
Target Population	375	375	75	825	20.2

**Fig.8 MU2 Red Deer Population 2016-2021**



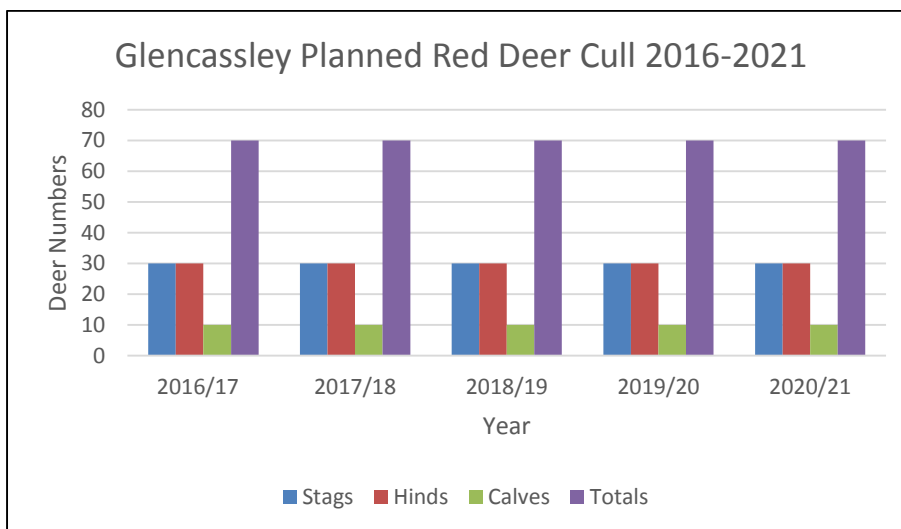
## MU2 Planned Cull

The cull has been set to maintain the current sporting business and help to maintain designated sites in favourable condition. The graph above shows that with this cull there will be a gradual increase in deer numbers (mainly stags) over the period of the plan to bring the population closer to the target level. The cull will be re-assessed annually based on deer observations and habitat monitoring and after the scheduled helicopter count in 2021.

**Table 14. MU2 Planned Red Deer Cull 2016-2021**

Year	Stags	Hinds	Calves	Total
2016/17	30	30	10	70
2017/18	30	30	10	70
2018/19	30	30	10	70
2019/20	30	30	10	70
2020/21	30	30	10	70

**Fig.9 MU2 Planned Red Deer Cull 2016-2021**



**Table 15. MU2 Population Model**

MU2-Glencassley Population model	Stags	Hinds	Calves	Totals	Density (deer/100ha)
<b>2016 Spring Count</b>	77	483	158	718	17.6
<b>2016 Summer Population</b>	156	562	112	830	20.3
<b>2016/17 Cull</b>	30	30	10	70	
<b>2017 Mortality</b>	6	22	4	33	
<b>2017 Spring Population</b>	120	510	98	727	17.8
<b>2017 Summer Population</b>	169	558	112	839	20.5
<b>2017/18 Cull</b>	30	30	10	70	
<b>2018 Mortality</b>	7	22	4	34	
<b>2018 Spring Population</b>	132	506	97	735	18.0
<b>2018 Summer Population</b>	181	555	111	846	20.7
<b>2018/19 Cull</b>	30	30	10	70	
<b>2019 Mortality</b>	7	22	4	34	
<b>2019 Spring Population</b>	143	503	97	742	18.2
<b>2019 Summer Population</b>	192	551	110	853	20.9
<b>2019/20 Cull</b>	30	30	10	70	
<b>2020 Mortality</b>	8	22	4	34	
<b>2020 Spring Population</b>	154	499	96	748	18.3
<b>2020 Summer Population</b>	202	547	109	858	21.0
<b>2020/21 Cull</b>	30	30	10	70	
<b>2021 Mortality</b>	8	22	4	34	
<b>2021 Spring Population</b>	164	495	95	753	18.4
<b>2021 Summer Population</b>	211	542	108	862	21.1
<b>Minimum Sporting Population</b>	<b>375</b>	<b>375</b>	<b>75</b>	<b>825</b>	<b>20.2</b>

Assumptions:

Mortality – stags 4%, hinds 4% calves 8%

Calving – 20%

Calf sex ratio – 50:50

## MU3-Inchnadamph

**Area:** 8642 ha

**Deer Management Contact:** Craig Ross

**Description:** open hill traditional sporting estate

**Designated Sites:** Ben More Assynt SSSI (part), Inchnadamph SAC, Loch Glencoul SSSI (part)

### Habitat Monitoring:

MU3 Habitat Monitoring Programme 2016-2020							
Habitat Type	Location	No of Plots	Year				
			2016	2017	2018	2019	2020
Dry heath	Inchnadamph SAC	30					
	rest of MU	15	√	√	√	√	√
Blanket bog	whole MU	45	√			√	
Willow	Inchnadamph SAC	30		√			√
Tufa springs	Inchnadamph SAC	30		√			√

Monitoring of Loch Glencoul woodlands (baseline 2011) will be agreed as per the final management plan for this site (currently in preparation).

**Deer:** Hefted red hind herd with resident stags and stags and hinds moving in and out from Benmore.

**Deer Management Objectives:** To have a red deer population to sustain a viable sporting cull and maintain designated sites and wider habitat in favourable condition. Gradual reduction of herd to get to target density; targeted culling in areas known to have deteriorating habitats. There is currently an application to SRDP-AECS for management of the moorland for deer, including a deer management plan which if approved will start in 2017. The target population may change depending on the outcomes of the current management discussions for Loch Glencoul Woodlands SSSI.

## MU3 Deer population

Current open hill red deer density: 20.1/100ha

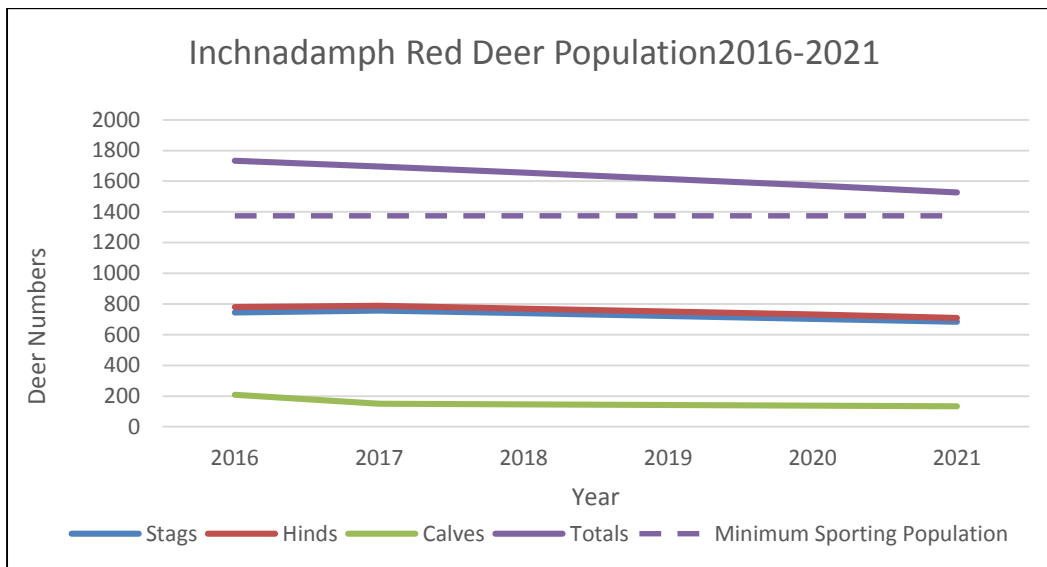
2021 open hill red deer density: 17.7/100ha

Target open hill red deer density: 15.9/100ha

**Table 16. MU3 2016 Red Deer Count**

Inchnadamph	stags	hinds	calves	Total	Density (deer/100ha)
2016 Count	745	779	209	1733	20.1
Target Population	625	625	125	1375	15.9

**Fig.10 MU3 Red Deer Population 2016-2021**



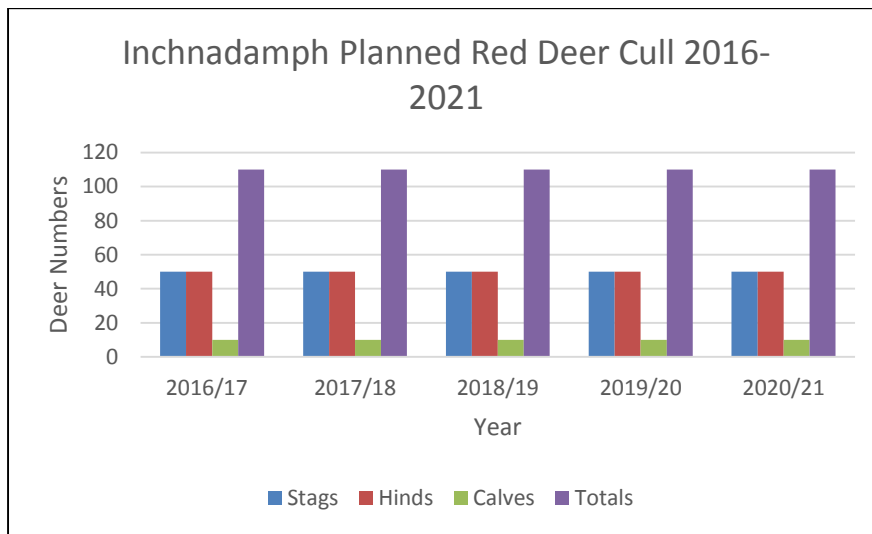
**MU3 Planned Red Deer Cull**

The cull has been set to maintain the current sporting business and help to maintain designated sites in favourable condition. The graph above shows that with this cull there will be a gradual decrease in deer numbers over the period of the plan to bring the population closer to the target level. It is expected that there may be some emigration to MU 1 – Benmore and this will help to reduce numbers further. The cull will be re-assessed annually based on deer observations and habitat monitoring and after the scheduled helicopter count in 2021.

**Table 17. MU3-Inchnadamph Red Deer Cull 2016-2021**

Year	Stags	Hinds	Calves	Total
2016/17	50	50	10	110
2017/18	50	50	10	110
2018/19	50	50	10	110
2019/20	50	50	10	110
2020/21	50	50	10	110

**Fig.11 MU3 Planned Red Deer Cull 2016-2021**



**Table 18. MU3 Population Model**

MU3-Inchnadaph Population Model	Stags	Hinds	Calves	Totals	Density (deer/100ha)
2016 Spring count	745	779	209	1733	20.1
2016 Summer Population	850	884	177	1910	22.1
2016/17 Cull	50	50	10	110	
2017 Mortality	42	44	18	104	
2017 Spring Population	757	789	149	1695	19.6
2017 Summer Population	832	864	173	1868	21.6
2017/18 Cull	50	50	10	110	
2018 Mortality	42	43	17	102	
2018 Spring Population	740	771	145	1656	19.2
2018 Summer Population	813	843	169	1825	21.1
2018/19 Cull	50	50	10	110	
2019 Mortality	41	42	17	100	
2019 Spring Population	722	751	142	1615	18.7
2019 Summer Population	793	822	164	1780	20.6
2019/20 Cull	50	50	10	110	
2020 Mortality	40	41	16	97	
2020 Spring Population	703	731	138	1572	18.2
2020 Summer Population	772	800	160	1732	20.0
2020/21 Cull	50	50	10	110	
2021 Mortality	39	40	16	95	
2021 Spring Population	684	710	134	1528	17.7
2021 Summer Population	751	777	155	1683	19.5
Minimum Sporting Population	625	625	125	1375	15.9

Assumptions:

Mortality – stags 4%, hinds 4% calves 8%

Calving – 20%

Calf sex ratio – 50:50



**MU4 - Invercassley/Duchally**

**Area:** 9979 ha

**Deer Management Contact:** Tom Chetwynd

**Description:** open hill traditional mixed estate with substantial new native woodland planting

**Designated Sites:** Ben More Assynt SSSI (part), River Oykel SAC (part)

**Habitat Monitoring:** Schedule for blanket bog and dwarf shrub heath monitoring in 2016 and thereafter once every 3years.

**Deer:** Hefted red hind herd with resident stags. Stags moving out to MU2 and MU3 at the beginning of the rut. Sika present in woodlands

**Deer Management Objectives:** To have a red deer population to sustain a viable sporting cull and maintain designated sites and wider habitat in favourable condition. Gradual increase in herd to get to target density. To protect woodlands while maintaining a sika population to sustain woodland stalking business.

**MU4 Deer population**

Current open hill red deer density: 6.6/100ha

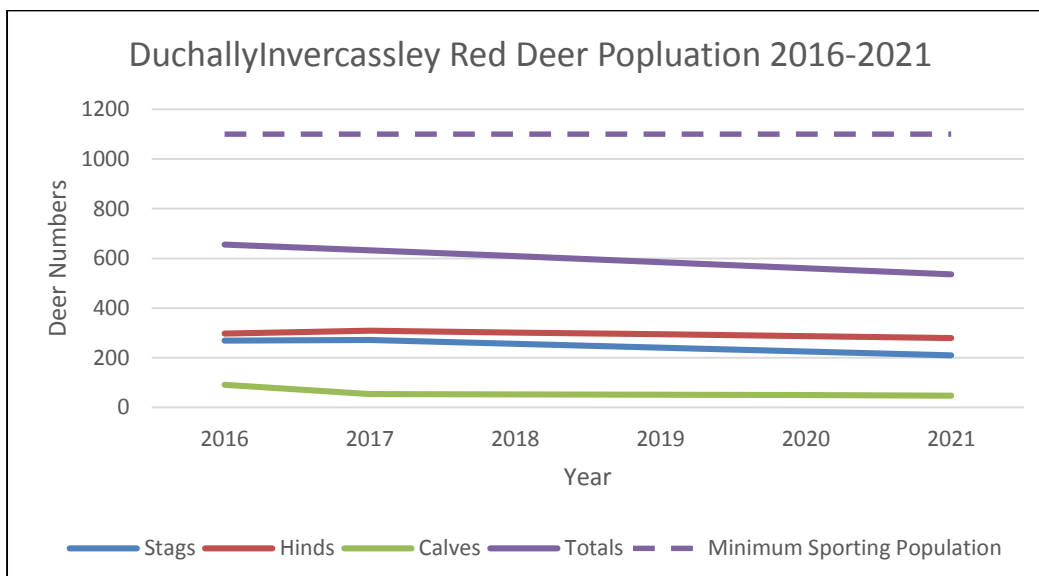
2021 open hill red deer density: 5.8/100ha

Target open hill red deer density: 11.0/100ha

**Table 19. MU4 2016 Red Deer Count**

Invercassley/Duchally	stags	hinds	calves	Total	Density (deer/100ha)
2016 Count	269	297	90	656	6.6
Target Population	500	500	100	1100	11.0

**Fig.12 MU4 Red Deer Population 2016-2021**



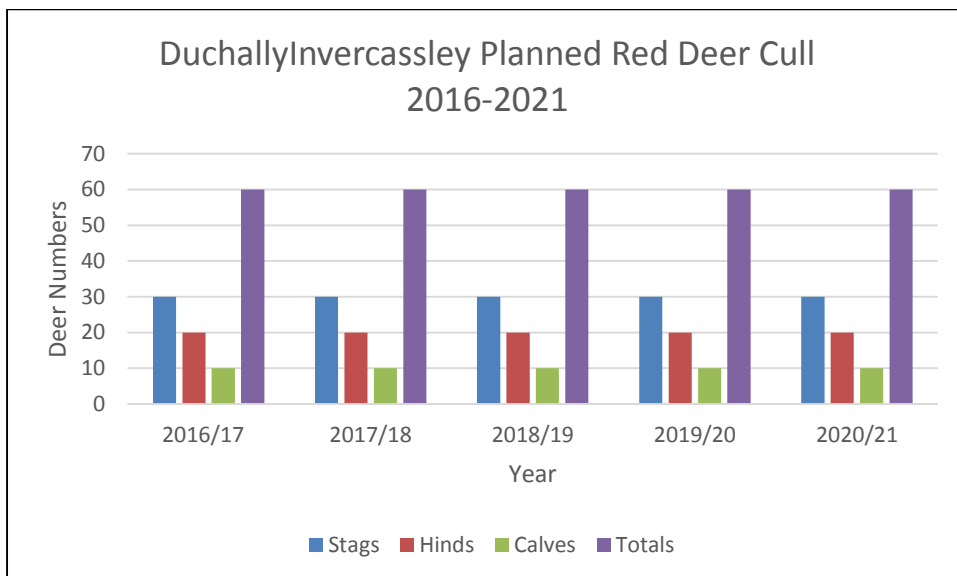
### MU4 Planned Red Deer Cull

The cull has been set to maintain the current sporting business and help to maintain designated sites in favourable condition. The graph above shows that with this cull there will be a gradual decrease in deer numbers over the period of the plan although the reduction is not thought to be significant and may be negated by higher recruitment in MU2. The cull will be re-assessed annually based on deer observations and habitat monitoring and after the scheduled helicopter count in 2021.

**Table 20. MU4 Red Deer Cull 2016-2021**

Year	Stags	Hinds	Calves	Total
2016/17	30	20	10	60
2017/18	30	20	10	60
2018/19	30	20	10	60
2019/20	30	20	10	60
2020/21	30	20	10	60

**Fig.13 MU4 Planned Red Deer Cull 2016-2021**



**Table 21. MU4 Population Model**

MU4-Invercassley/Ducahly population model	Stags	Hinds	Calves	Totals	Density (deer/100ha)
2016 Spring Count	269	297	90	656	6.6
2016 Summer Population	314	342	68	724	7.3
2016/17 Cull	30	20	10	60	
2017 Mortality	13	14	5	32	
2017 Spring Population	271	308	53	633	6.3
2017 Summer Population	298	335	67	700	7.0
2017/18 Cull	30	20	10	60	
2018 Mortality	12	13	5	31	
2018 Spring Population	256	301	52	609	6.1
2018 Summer Population	282	327	65	674	6.8
2018/19 Cull	30	20	10	60	
2019 Mortality	11	13	5	30	
2019 Spring Population	241	294	50	585	5.9
2019 Summer Population	266	319	64	649	6.5
2019/20 Cull	30	20	10	60	
2020 Mortality	11	13	5	29	
2020 Spring Population	225	286	49	560	5.6
2020 Summer Population	249	311	62	622	6.2
2020/21 Cull	30	20	10	60	
2021 Mortality	10	12	5	27	
2021 Spring Population	209	278	47	535	5.4
2021 Summer Population	233	302	60	595	6.0
Minimum Sporting Population	500	500	100	1100	11.0

Assumptions:

Mortality – stags 4%, hinds 4% calves 8%

Calving – 20%

Calf sex ratio – 50:50

## MU5-Sallachy

**Area:** 8258 ha

**Deer Management Contact:** Iain Thomson

**Description:** open hill traditional mixed estate with substantial commercial and native woodland planting.

**Designated Sites:** Grudie Peatlands SSSI, Strath an Loin SSSI

**Habitat Monitoring:** Annual monitoring of blanket bog and dwarf shrub heath.

**Deer:** Hefted red hind herd. Stag moving in from MU2 and MU4 and from North sub group at the beginning of the rut. Sika population in the woodlands.

**Deer Management Objectives:** To have a red deer population to sustain a viable sporting cull and maintain designated sites and wider habitat in favourable condition. Gradual increase in herd to get to target density. To protect woodlands while maintaining a sika population to sustain woodland stalking business.

### MU5 Deer population

Current open hill red deer density: 2.0/100ha

2021 open hill red deer density: 2.9/100ha

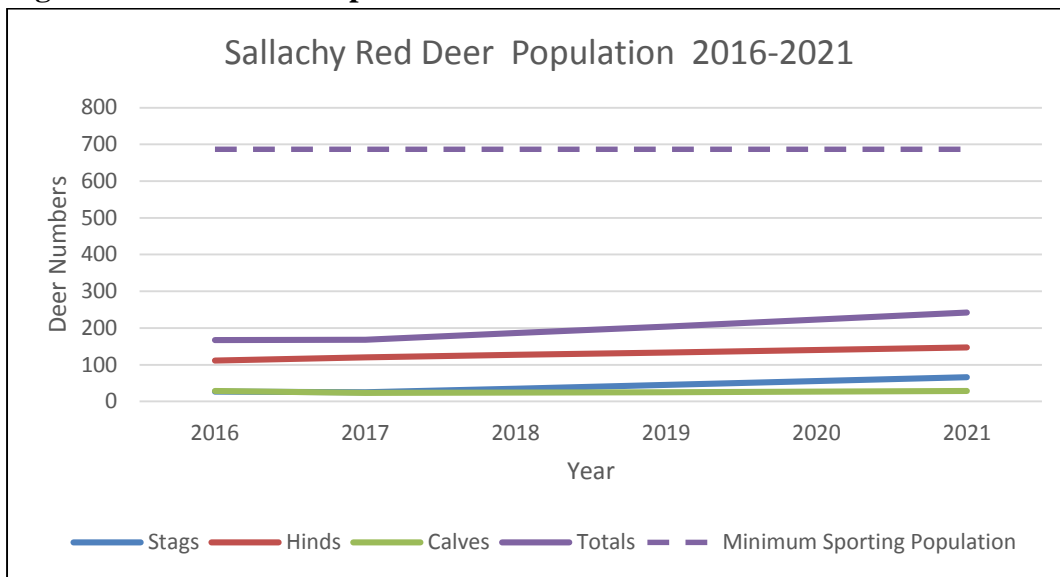
Target open hill red deer density: 8.3/100ha

**Table 22. MU5 2016 Red Deer Count**

Sallachy	stags	hinds	calves	Total	Density (deer/100ha)
1990	73	136	55	264	3.2
1999	203	267	64	534	6.5
2002	177	313	101	591	7.2
2006	129	245	54	428	5.2
2012	94	118	38	250	3.0
2016 Count	27	111	29	167	2.0
Target Population	312	312	62.5	686.5	8.3

During 1990 and 1999 there were as many as 1500 breeding ewes on Sallachy. These sheep had access across all of the open hill which is currently deer range only. All of the sheep were removed by 2004. There are now sheep at Sallachy again but only 12 ewes and 5 lambs and they are excluded from the open hill. In 2006 there was a reduction cull to compensate for new native woodland planting at Corriekinloch but it appears that this cull was probably too high. The current low density shows the continuing declining trend since 2006 despite greatly reduced culls. The current density is too low for a viable sporting cull. There has never been a problem with herbivore damage on the designated sites at Sallachy even when there was a higher density of herbivores on the ground.

**Fig.14 MU5 Red Deer Population 2016-2021**



**MU5 Planned Cull**

The cull has been set to try to build up a sustainable population to support the stalking business while maintaining the designated sites in favourable condition. The graph above shows that with this cull there will be a gradual increase in deer numbers over the period of the plan. The cull will be re-assessed annually based on deer observations and habitat monitoring and after the scheduled helicopter count in 2021.

**Table 23. MU5 Red Deer Cull 2016-2021**

Year	Stags	Hinds	Calves	Total
2016/17	15	0	0	15
2017/18	0	0	0	0
2018/19	0	0	0	0
2019/20	0	0	0	0
2020/21	0	0	0	0

**Table 24. MU 5 Population Model**

MU5-Sallachy Population Model	Stags	Hinds	Calves	Totals	Density (deer/100ha)
2016 Spring Count	27	111	29	167	2.0
2016 Summer Population	42	126	25	192	2.3
2016/17 Cull	15	0	0	15	
2017 Mortality	2	5	2	9	
2017 Spring Population	25	120	23	168	2.0
2017 Summer Population	36	132	26	195	2.4
2017/18 Cull	0	0	0	0	
2018 Mortality	1	5	2	9	
2018 Spring Population	35	127	24	186	2.3
2018 Summer Population	47	139	28	214	2.6
2018/19 Cull	0	0	0	0	
2019 Mortality	2	6	2	10	
2019 Spring Population	45	133	26	204	2.5
2019 Summer Population	58	146	29	233	2.8
2019/20 Cull	0	0	0	0	
2020 Mortality	2	6	2	11	
2020 Spring Population	56	140	27	223	2.7
2020 Summer Population	69	154	31	254	3.1
2020/21 Cull	0	0	0	0	
2021 Mortality	3	6	2	11	
2021 Spring Population	66	148	28	242	2.9
2021 Summer Population	80	162	32	275	3.3
Minimum Sporting Population	312	312	63	687	8.3

Assumptions:

Mortality – stags 4%, hinds 4% calves 8%

Calving – 20%

Calf sex ratio – 50:50

## **MU6 – FCS Benmore, FCS Caplich, FCS Raemore, FCS Rosehall**

Area: 6855ha

Deer Management Contact: Derick MacAskill

Description: Commercial forestry Plantation.

Designated Sites: Although FCS don't own Loch Ailsh the loch which is an SAC, SPA, and SSSI sits in the middle of Benmore forest.

Deer: Roe, Red and Sika are all present in the area with Sika being the dominant species.

Deer Management Objectives: To maintain a sustainable deer population in balance with the FCS forestry and habitat objectives (see FCS national deer strategy)

Deer population: 5 – 7 deer per 100ha

Planned Cull: Cull will be set at a level to meet FCS objectives i.e. browsing impacts of less than 10% on P1 restocks, establishment of riparian planting.

## **MU7- Fountains Clais Mhor & Rosehall**

Area: 2264ha

Deer Management Contact: Adam Spokes

Description: Commercial forestry plantation.

Designated Sites: none

Deer: Mainly sika with some roe and small resident red deer herd.

Deer Management Objectives: Currently changing our objectives for deer populations as we are entering a harvesting/re-stocking programme over 2016/17. Our new objective is to protect newly planted vulnerable crops from deer damage by reducing numbers.

Deer population: Population estimates are currently around 15-18 per 100ha.

Planned Cull:

<i>SIKA DEER</i>				
<i>Estate</i>	<i>Hinds</i>	<i>Calves</i>	<i>Stags</i>	<i>Total</i>
<i>Rosehall</i>	<i>12</i>	<i>6</i>	<i>10</i>	<i>28</i>
<i>Clais Mhor</i>	<i>28</i>	<i>12</i>	<i>21</i>	<i>61</i>



MU8- Tilhill Sallachy

Area: 314ha

Deer Management Contact: Duncan Scott, Tilhill

Description: Commercial and mixed forestry.

Designated Sites: Grudie Peatlands SSSI (part)

Deer: Roe and sika present, no resident red deer population but periodic immigration from Sallachy via red coming in through damaged march fences at FCS Raemore.

Deer Management Objectives:

Deer population

Planned Cull

Population Model

## 6. Habitat Monitoring

There is a current monitoring programme in MU3 and MU5. This is an annual programme and covers several habitats in designated sites and the wider habitat. This programme will continue annually over the period of this plan.

MU1, MU2 and MU4 will conduct habitat assessment on dwarf shrub heath and blanket bog starting in 2016 and will reassess every 3 years.

Habitat assessment is carried out according to Best Practise Guide to Habitat Assessment.

Results of habitat assessments are shown in **Appendix III**

## 7. Review

The table below sets out the review action that the sub group will take, when they occur and which members will take part.

**Table 25. ESG Review Actions**

	Year 1	Year 2	Year 3	Year 4	Year 5
Activity	2016/17	2017/18	2018/19	2019/20	2020/21
Habitat Monitoring	MU1-5	MU3 & MU5	MU3 & MU5	MU1-5	MU3 & MU5
Helicopter count	MU1-5				MU1-5
Recruitment Monitoring	MU1-3	MU1-3	MU1-3	MU1-3	MU1-3
Review Population Model	MU1-5	MU1-5	MU1-5	MU1-5	MU1-5
Set annual culls	MU1-5	MU1-5	MU1-5	MU1-5	MU1-5
Review DMP					ESG chair& All ESG Members
Report to DMG	ESG chair& All ESG Members	ESG chair& All ESG Members	ESG chair& All ESG Members	ESG chair& All ESG Members	ESG chair& All ESG Members

