

East Sub Group Deer Management Plan

Part 2. The Working Plan (last update April 2019)

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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. A deer count using helicopters was carried out on 18th March 2019. The current red deer density over the open range area of the sub group is 9.5 deer/100ha a decrease from 11.8/100ha from the 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. Although cull levels were actually reduced over the past two years the population has fallen mainly due to the mortalities in 2017/8 due to the bad weather and the subsequent low calf survival in 2018. The updated population model predicts that by the end of this current plan in 2012 the summer population density will be 10/100ha. 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.

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	11.8

Next helicopter count for East Sub group was scheduled for spring 2021 but due to the concern over mortalities due to the bad winter in 2017/18 the group decided to move the count forward to 2019

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.

ESG 2019 Red Deer Count

Sub Group Reporting members count 2019					Density (deer/100ha)		Change
Management Unit	Stags	Hinds	Calves	Total	2019	2016	
Benmore Assynt	201	506	76	783	10.6	10.7	-1.1%
DuchallyInvercassley	255	311	57	623	6.2	6.6	-5.0%
Sallachy	38	279	43	360	4.4	2.0	115.6%
Glencassley	84	467	54	605	14.8	17.6	-15.7%
Inchnadamph	459	609	196	1264	14.6	20.1	-27.1%
Total	1037	2172	426	3635	9.5	11.8	-19.9%

3.2. Red Deer Population Model

The 2016 count data was used as the start point for the population model for ESG. The model has then been updated with actual data recorded from culls, mortalities and recruitment counts. 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. (**Table** 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.

ESG Observed Red Deer Calving rates 2012-17

Updated Summer 2018

Estates	Year							Average
	2012	2013	2014	2015	2016	2017	2018	
Benmore	20%	20%	18%	18%	22%	22%	6%	18%
Glencassley	16%	18%	16%	17%	22%	22%	6%	17%
Inchnadamph	22%	24%	16%	17%	25%	22%	6%	19%
Duchally/Invercassley	19%	21%	17%	17%	23%	22%	6%	18%
Sallachy	19%	21%	17%	17%	23%	22%	6%	18%
Average annual calving rate	19%	21%	17%	17%	23%	22%	6%	18%

Notes: The monitoring takes place in May/June each year

Average Calving rate for period	18%
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NB. This is the number of calves born in the previous year that survive through to May/June of the current year.

Monitoring takes place in May each year. The average rate for this period is 18%. 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.

Calving Ratio observed at 2019 Helicopter Count

Property	Hinds	Calves	Ratio 2019
Benmore Assynt	506	76	15.0%
DuchallyInvercassley	311	57	18.3%
Sallachy	279	43	15.4%
Glencassley	467	54	11.6%
Inchnadamph	609	196	32.2%
Total	2172	426	19.6%

Although the general feeling after the helicopter count was that there were fewer calves than normal on the ground the overall average is around the same as previous years although 2018 exceptionally low rate bring the average over the period down. Glencassley calf survival was lower than usual and this was probably because of the length of time the snow was on the ground in the glen – the longest snow cover in 30 years.

ESG Open Hill Red Deer Population Model 2016-2021

Starting population is 2016 Helicopter count

Spring 2018 Update

	Stags	Hinds	Calves	Totals	Density (deer/100h)
2016 Spring Count	1286	2141	639	4066	10.6
2016 Summer Population	1606	2461	492	4558	11.9
2016/17 Cull	153	145	55	353	
2017 Mortality	73	107	38	218	
2017 Spring Population	1380	2208	399	3987	10.4
2017 Summer Population	1579	2408	482	4468	11.7
2017/18 Cull	158	171	56	385	
2018 Mortality	71	105	38	214	
2018 Spring Population	1350	2132	388	3869	10.1
2018 Summer Population	1544	2326	465	4334	11.3
2018/19 Cull	140	140	40	320	
2019 Mortality	70	101	36	208	
2019 Spring Population	1334	2084	389	3807	9.9
2019 Summer Population	1528	2279	456	4263	11.1
2019/20 Cull	140	140	40	320	
2020 Mortality	69	99	36	204	
2020 Spring Population	1319	2039	380	3739	9.7
2020 Summer Population	1509	2229	446	4185	10.9
2020/21 Cull	140	140	40	320	
2021 Mortality	68	97	35	200	
2021 Spring Population	1301	1992	371	3665	9.6
2021 Summer Population	1487	2178	436	4100	10.7
Minimum Sporting Population	2312	2312	463	5087	13.3

Spring 2019 - Updated model after Helicopter Count on 18/03/2019

	Stags	Hinds	Calves	Totals	Density (deer/100ha)
2016 Spring Count	1399	2407	733	4539	11.8
2016 Summer Population	1606	2461	504	4570	11.9
2016/17 Cull	216	211	114	541	
2017 Mortality	73	107	40	220	
2017 Spring Population	1380	2208	398	3986	10.4
2017 Summer Population	1579	2407	483	4469	11.7
2017/18 Cull	301	278	134	713	
2018 Mortality	127	143	144	414	
2018 Spring Population	1294	2093	283	3670	9.6
2018 Summer Population	1436	2235	355	4025	10.5
2018/19 Cull	140	140	40	320	
2019 Mortality	64	97	27	188	
2019 Count	1037	2172	426	3635	9.5
2019 Summer Population	1250	2385	426	4061	10.6
2019/20 Cull	155	140	40	335	
2020 Mortality	56	102	32	190	
2020 Spring Population	1039	2143	354	3536	9.2
2020 Summer Population	1216	2319	424	3960	10.3
2020/21 Cull	155	140	40	335	
2021 Mortality	54	99	32	186	
2021 Spring Population	1007	2080	352	3439	9.0
2021 Summer Population	1183	2256	413	3852	10.0
Minimum Sporting Population	2312	2312	463	5087	13.3

3.3. Red Deer Target Population

The population 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. The table below shows the target populations required. The aspirational cull is based on the number of stags required to support a viable sporting business.

ESG Target Population

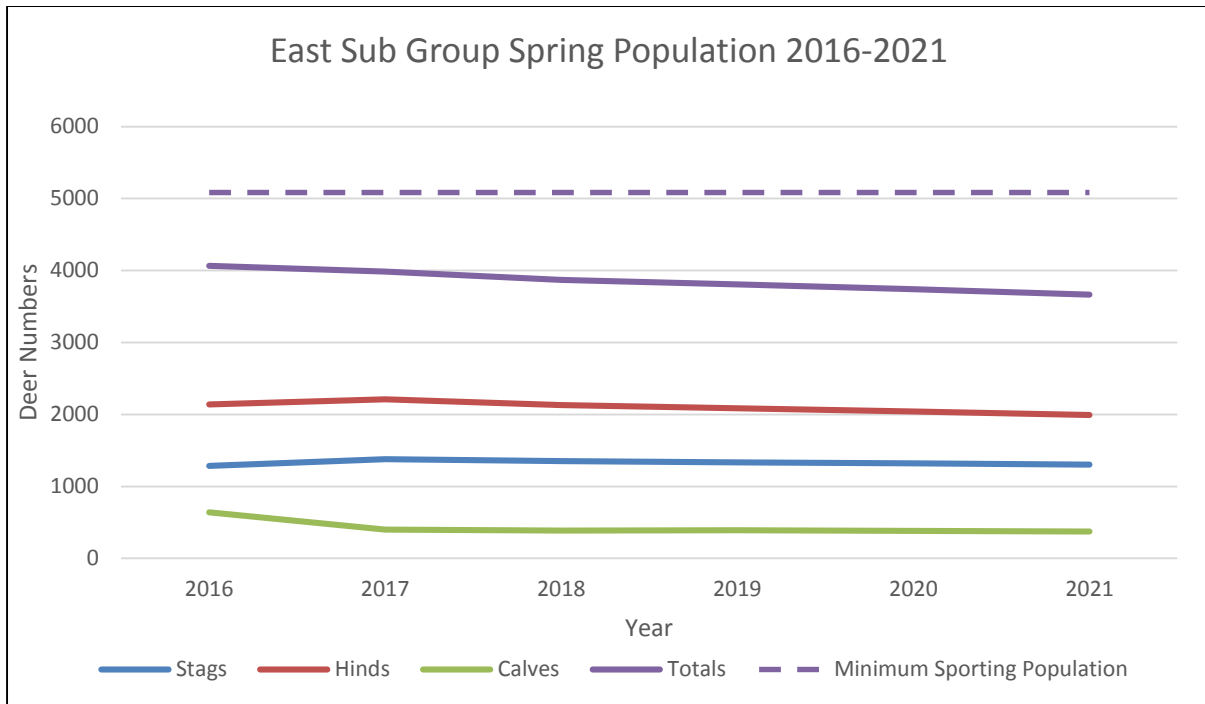
Management Unit	Target open hill red deer Population				
	stags	hinds	calves	total	Density (deer/100ha)
Benmore	500	500	100	1100	14.9
Glencassley	375	375	75	825	20.2
Inchnadamph	625	625	125	1375	15.9
Invercassley/Duchally	500	500	100	1100	11.0
Sallachy	312	312	63	687	8.3
Total	2312	2312	463	5087	13.3

Current population after 2019 Count

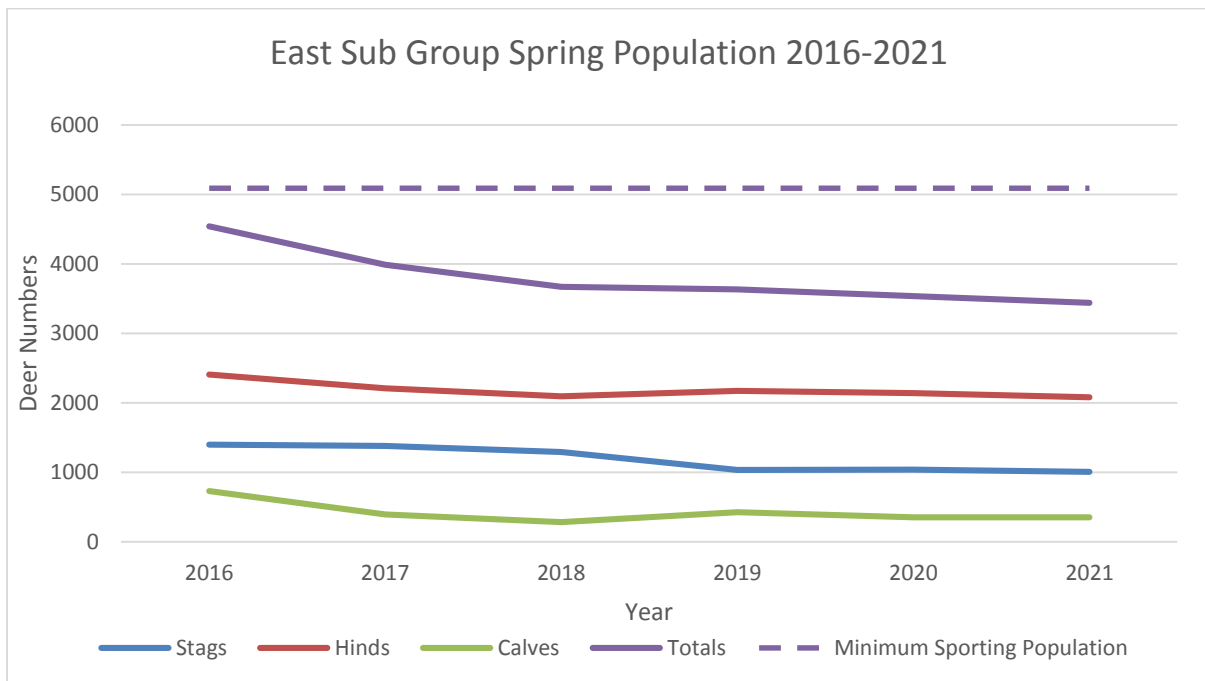
Management Unit	stags	hinds	calves	Total	Density (deer/100ha)
Benmore	201	506	76	783	10.6
Glencassley	84	467	54	605	14.8
Inchnadamph	459	609	196	1264	14.6
Invercassley/Duchally	255	311	57	623	6.2
Sallachy	38	279	43	360	4.4
Total	1037	2172	426	3635	9.5

ESG Red Deer Population 2016-2021

Spring 2018 Update (before mortalities added for this year)



Spring 2019 Update



4. Red Deer Cull

Setting the Cull.

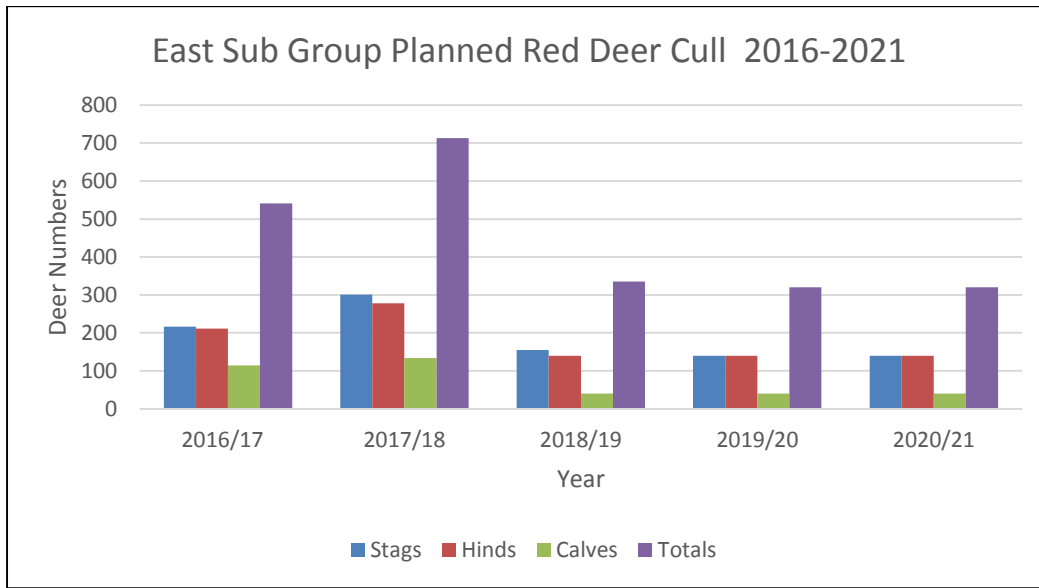
The medium term projected cull is set for each management unit to help to achieve the aims of both the MU and the sub group. As data is recorded from recruitment and mortality rates, culls deer counts and any other relevant information eg cull data from outside the subgroup that are likely to have an impact on the ESG population, these are entered in to the population model to make this as accurate as possible. The habitat monitoring results from the previous year (or most recent available data) is analysed and discussed at the June/July subgroup meeting. At this point the final stag cull for the coming season will be set and a provisional hind cull set. The final hind cull will be notified to the group by each participating member at the start of the hind season. This allows for any deer or weather observations gathered during the stag season to be factored in to the cull figures. 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 is slightly reducing to below the 4000 mark. Although this is below the target population for the sporting businesses it is the opinion within the group that there will be sufficient deer numbers to sustain close to historic culls and meet our public interest obligations. 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 each count.

4.1. Group Cull

ESG Planned Red Deer Cull 2016-2021

Year	Stags	Hinds	Calves	Total
2016/17	216	211	114	541
2017/18	301	278	134	713
2018/19	155	140	40	335
2019/20	140	140	40	320
2020/21	140	140	40	320

ESG Planned Red Deer Cull 2016-2021 Updated after 2019 Count



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: 10.6/100ha

2021 open hill red deer density: 9.6/100ha

Target open hill red deer density: 14.6/100ha

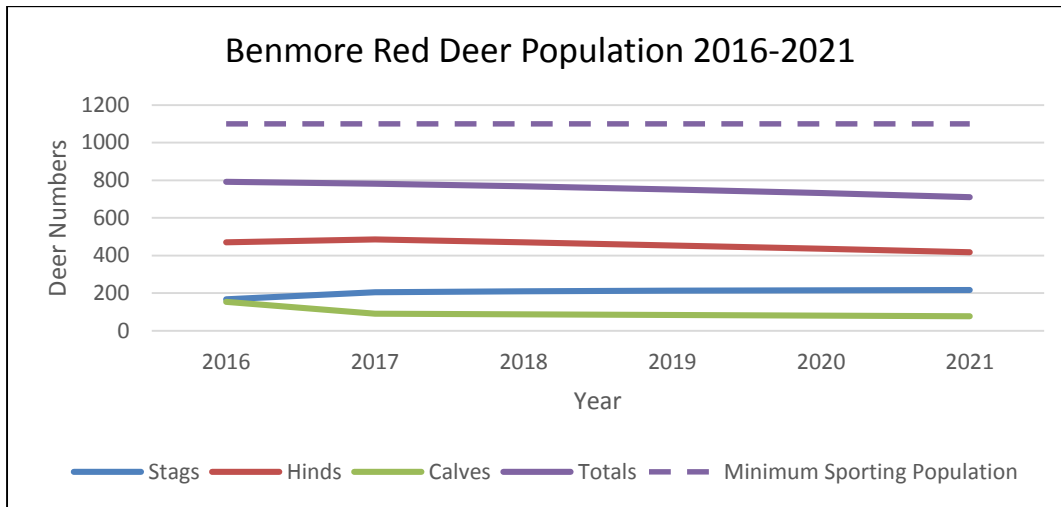
MU1 2016 Red Deer Count

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

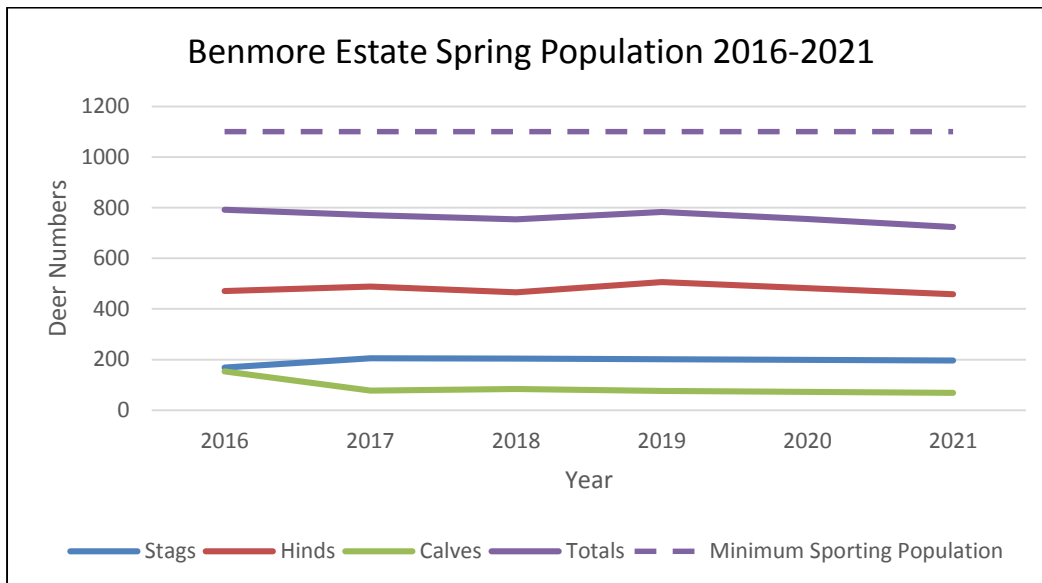
MU1 2019 Red Deer Count

Benmore	stags	hinds	calves	Total	Density (deer/100ha)
2019 Count	201	506	76	783	10.6
Target Population	500	500	100	1100	14.9

MU1 Red Deer Population 2016-2021



MU1 Red Deer Population 2016-2021 2019 Update



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. Due to the bad weather conditions in autumn/winter 2018/19 the Benmore cull was reduced to 13 stags 23 hinds and 4 calves. This was based on observations on the ground as the season progressed.

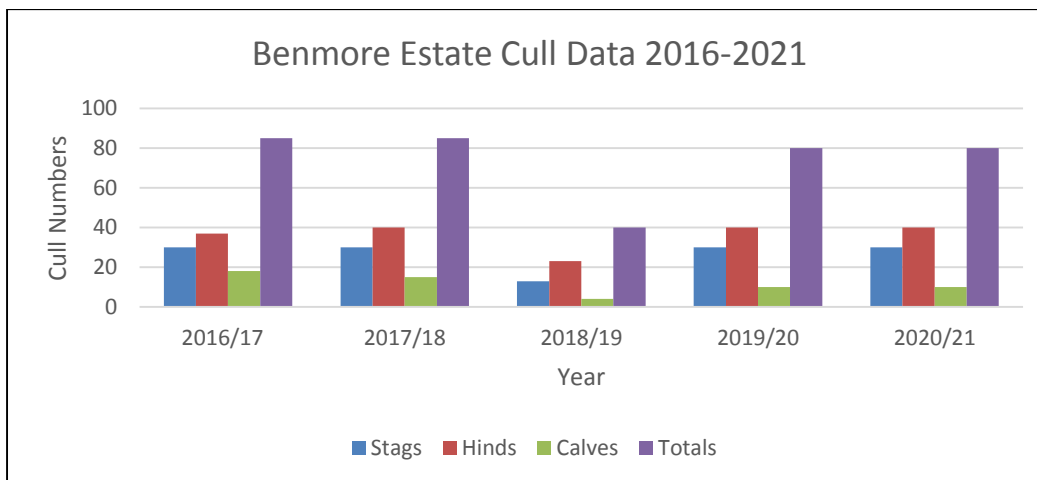
MU1 Planned Red Deer Cull 2016-2021

Spring 2018 update (updated 2019)

Year	Stags	Hinds	Calves	Total
2016/17 Planned	30	37	15	82
Actual	30	37	15	82
2017/18 Planned	30	40	15	85
Actual	30	40	15	85
2018/19 Planned	30	40	10	80
Actual	13	23	4	0
2019/20 Planned	30	40	10	80
Actual				0
2020/21 Planned	30	40	10	80
Actual				0

MU1 Planned Red Deer Cull 2016-2021

(updated 2019)



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	37	15	82	
2017 Mortality	10	22	9	40	
2017 Spring Population	205	489	86	779	10.6
2017 Summer Population	248	531	106	885	12.0
2017/18 Cull	30	40	15	85	
2018 Mortality	10	21	9	40	
2018 Spring Population	208	470	83	761	10.3
2018 Summer Population	249	512	102	863	11.7
2018/19 Cull	30	40	10	80	
2019 Mortality	10	20	8	39	
2019 Spring Population	209	451	84	744	10.1
2019 Summer Population	251	493	99	843	11.4
2019/20 Cull	30	40	10	80	
2020 Mortality	10	20	8	38	
2020 Spring Population	211	433	81	725	9.8
2020 Summer Population	252	474	95	820	11.1
2020/21 Cull	30	40	10	80	
2021 Mortality	10	19	8	37	
2021 Spring Population	211	415	77	704	9.5
2021 Summer Population	250	453	91	794	10.8
Minimum Sporting Population	500	500	100	1100	14.9

Assumptions:

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

Calving – 20%

Calf sex ratio – 50:50

Population Model updated after 2019 Count

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	104	896	12.1
2016/17 Cull	30	37	18	85	
2017 Mortality	10	22	8	40	
2017 Spring Population	205	489	77	771	10.4
2017 Summer Population	243	527	107	878	11.9
2017/18 Cull	30	40	15	85	
2018 Mortality	10	21	9	39	
2018 Spring Population	204	466	84	754	10.2
2018 Summer Population	246	508	28	782	10.6
2018/19 Cull	13	23	4	40	
2019 Mortality	10	20	2	32	
2019 Count	201	506	76	783	10.6
2019 Summer Population	239	544	90	873	11.8
2019/20 Cull	30	40	10	80	
2020 Mortality	10	22	7	39	
2020 Spring Population	199	482	73	755	10.2
2020 Summer Population	236	519	86	841	11.4
2020/21 Cull	30	40	10	80	
2021 Mortality	9	21	7	37	
2021 Spring Population	197	458	69	724	9.8
2021 Summer Population	231	493	82	806	10.9
Minimum Sporting Population	500	500	100	1100	14.9

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.

New Native Woodland Planting

Glencassley will complete new native planting in the late spring of 2019 at two locations – Badantagairt and Langwell Hill. The area planted will be 135 ha with 165ha fenced off and taken out of the deer range. As these are areas not regularly used by deer there was no need to further reduce deer numbers to allow for the reduction in available habitat.

MU2 Red Deer population

Current open hill red deer density: 14.8/100ha

2021 open hill red deer density: 18.4/100ha

Target open hill red deer density: 20.2/100ha

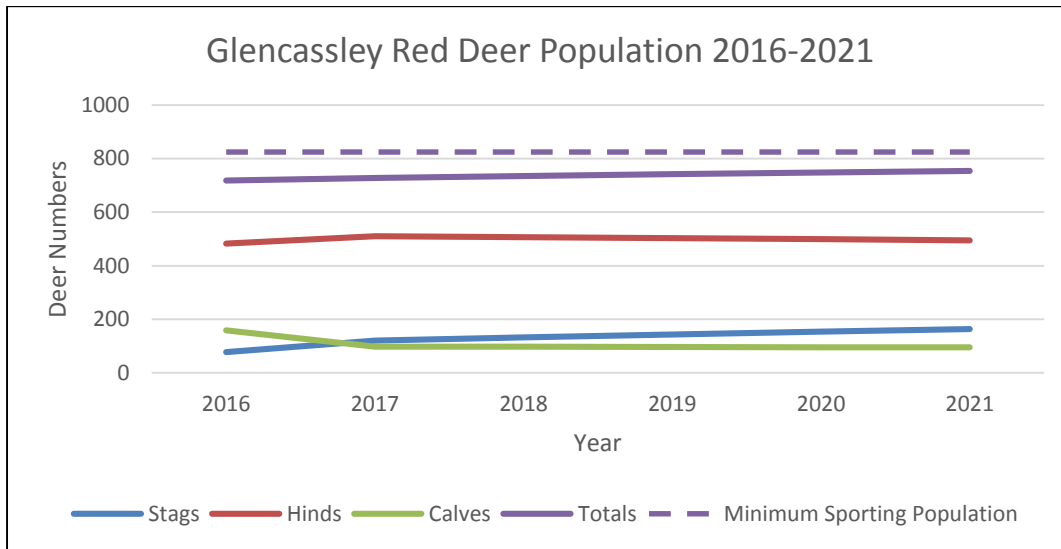
MU2 2016 Red Deer Count

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

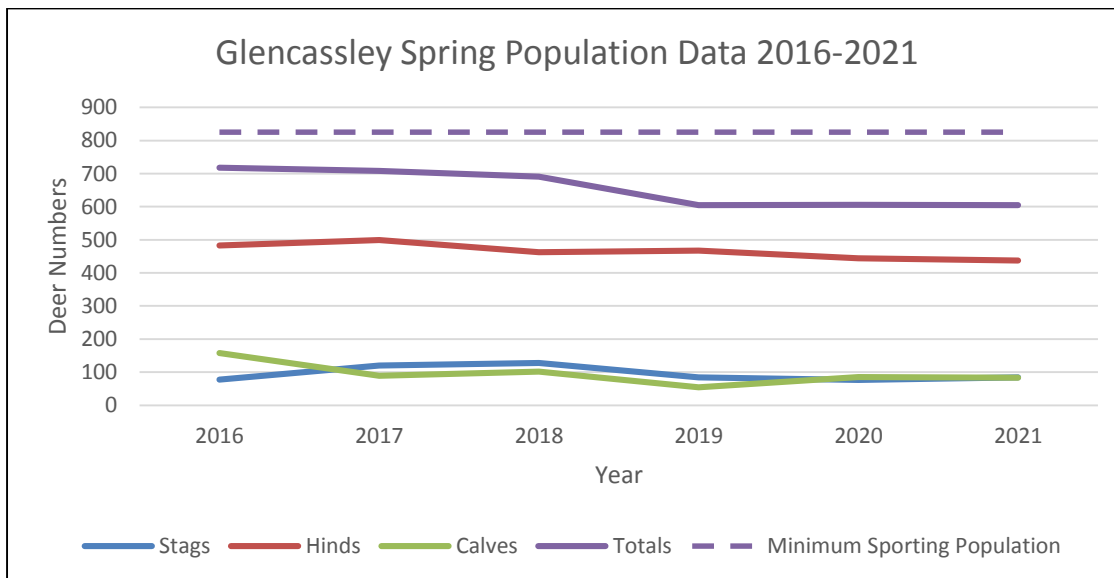
MU2 2019 Red Deer Count

Glencassley	stags	hinds	calves	Total	Density (deer/100ha)
2019 Count	84	467	54	605	14.8
Target Population	375	375	75	825	20.2

MU2 Red Deer Population 2016-2021



MU2 Red Deer Population 2016-2021 Updated after 2019 Count



MU2 Planned Cull

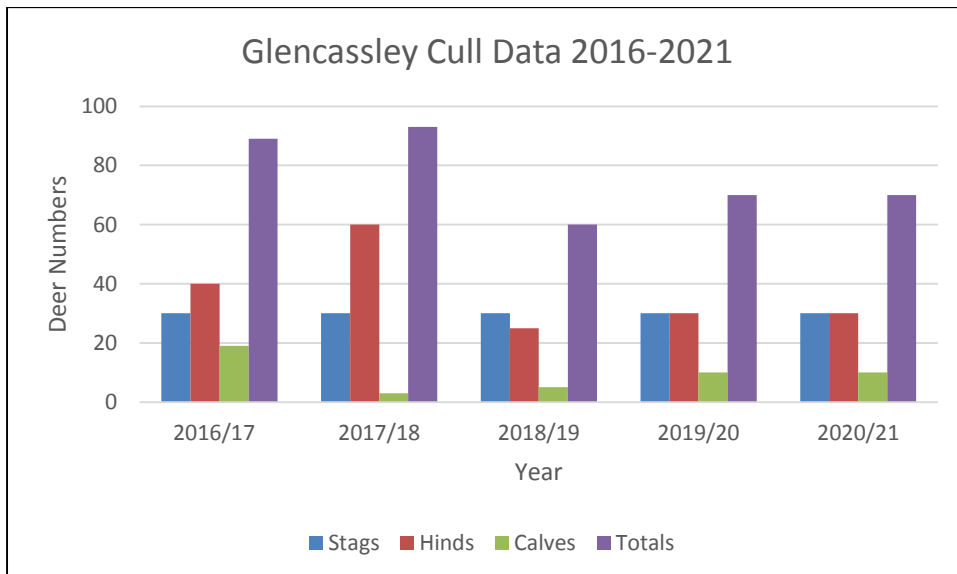
The cull has been set to maintain the current sporting business and help to maintain designated sites in favourable condition. The graph above shows that with this cull there will be a gradual increase in deer numbers (mainly stags) over the period of the plan to bring the population closer to the target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

MU2 Planned Red Deer Cull 2016-2021

Spring 2018 update (updated 2019)

Year	Stags	Hinds	Calves	Total
2016/17 Planned	30	40	10	80
Actual	30	40	19	89
2017/18 Planned	30	30	3	63
Actual	30	60	3	93
2018/19 Planned	30	30	10	70
Actual	30	25	5	60
2019/20 Planned	30	30	10	70
Actual				0
2020/21 Planned	30	30	10	70
Actual				0

MU2 Planned Red Deer Cull 2016-2021 (updated 2019)



MU2 Population Model

Spring 2018 update

MU2-Glencassley Population model	Stags	Hinds	Calves	Totals	Density (deer/100ha)
2016 Spring Count	77	483	158	718	17.6
2016 Summer Population	156	562	112	830	20.3
2016/17 Cull	30	40	10	80	
2017 Mortality	6	22	4	33	
2017 Spring Population	120	500	98	717	17.5
2017 Summer Population	169	548	110	827	20.2
2017/18 Cull	30	60	3	93	
2018 Mortality	7	22	4	33	
2018 Spring Population	132	467	102	701	17.1
2018 Summer Population	183	518	104	804	19.7
2018/19 Cull	30	30	10	70	
2019 Mortality	7	21	4	32	
2019 Spring Population	146	467	89	702	17.2
2019 Summer Population	190	512	102	805	19.7
2019/20 Cull	30	30	10	70	
2020 Mortality	8	20	4	32	
2020 Spring Population	153	461	88	702	17.2
2020 Summer Population	197	505	101	803	19.7
2020/21 Cull	30	30	10	70	
2021 Mortality	8	20	4	32	
2021 Spring Population	159	455	87	701	17.2
2021 Summer Population	203	499	100	801	19.6
Minimum Sporting Population	375	375	75	825	20.2

Assumptions:

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

Calving – 20%

Calf sex ratio – 50:50

Population Model updated after 2019 Count

MU2-Glencassley Population model	Stags	Hinds	Calves	Totals	Density (deer/100ha)
2016 Spring Count	77	483	158	718	17.6
2016 Summer Population	156	562	112	830	20.3
2016/17 Cull	30	40	19	89	
2017 Mortality	6	22	4	33	
2017 Spring Population	120	500	89	708	17.3
2017 Summer Population	164	544	109	817	20.0
2017/18 Cull	30	60	3	93	
2018 Mortality	7	22	4	33	
2018 Spring Population	128	462	101	691	16.9
2018 Summer Population	178	513	103	794	19.4
2018/19 Cull	30	30	10	70	
2019 Mortality	7	21	4	32	
2019 Count	84	467	54	605	14.8
2019 Summer Population	111	494	99	704	17.2
2019/20 Cull	30	30	10	70	
2020 Mortality	4	20	4	28	
2020 Spring Population	77	444	85	606	14.8
2020 Summer Population	119	487	97	703	17.2
2020/21 Cull	30	30	10	70	
2021 Mortality	5	19	4	28	
2021 Spring Population	84	437	83	605	14.8
2021 Summer Population	126	479	96	701	17.1
Minimum Sporting Population	375	375	75	825	20.2

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 carried out in 2016 but still to be agreed with SNH

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: 14.6/100ha

2021 open hill red deer density: 14.2/100ha

Target open hill red deer density: 15.9/100ha

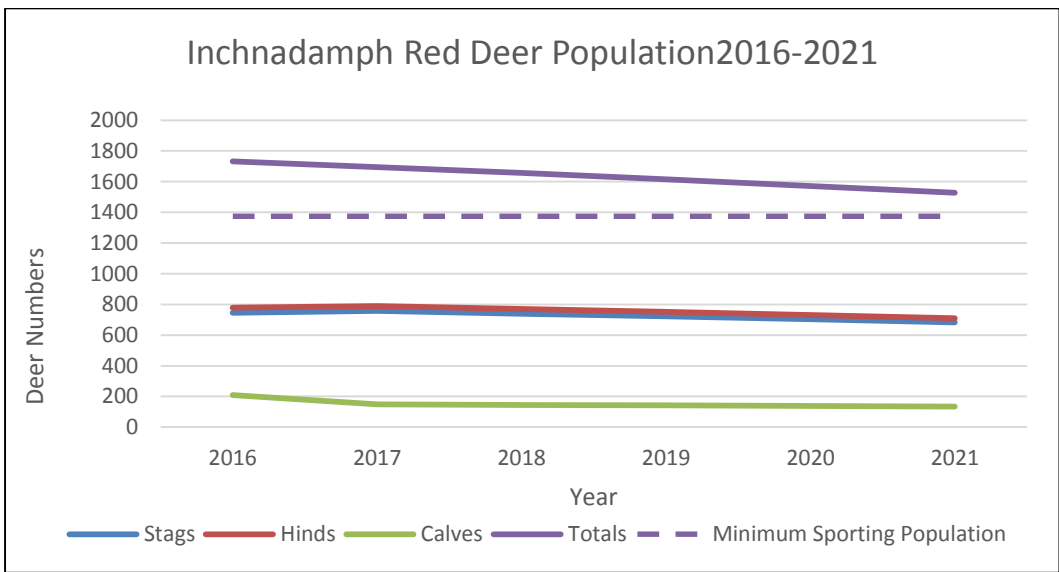
MU3 2016 Red Deer Count

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

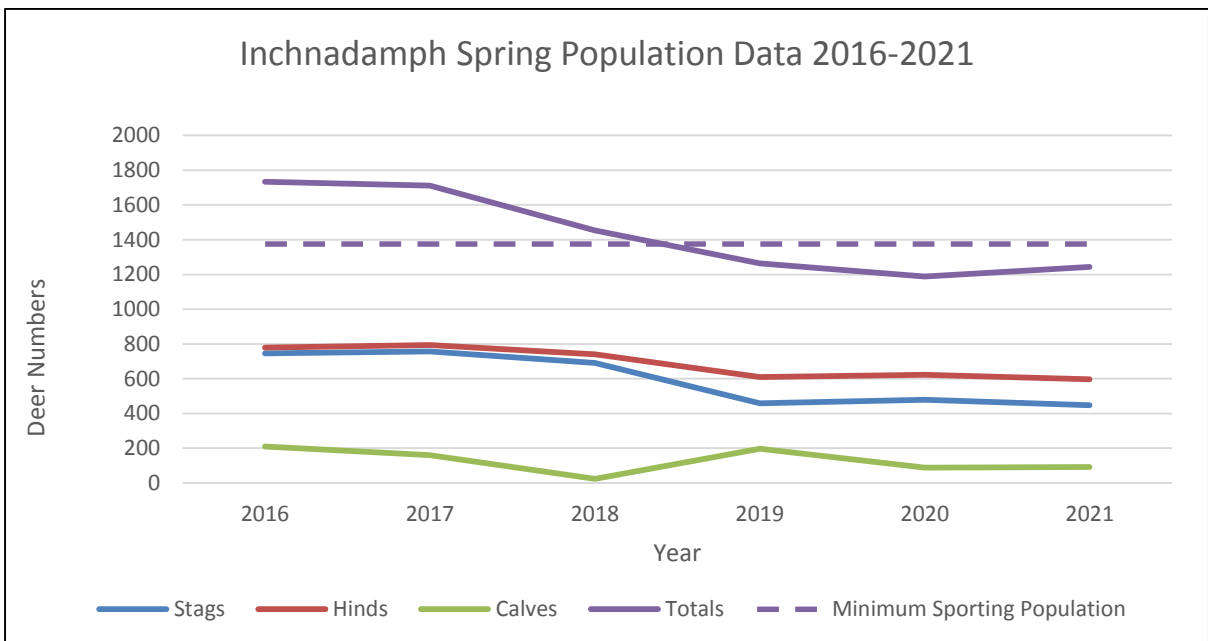
MU3 2016 Red Deer Count

Inchnadamph	stags	hinds	calves	Total	Density (deer/100ha)
2019 Count	459	609	196	1264	14.6
Target Population	625	625	125	1375	15.9

MU3 Red Deer Population 2016-2021



MU3 Red Deer Population 2016-2021 2019 Updated after 2019 Count



MU3 Planned Red Deer Cull

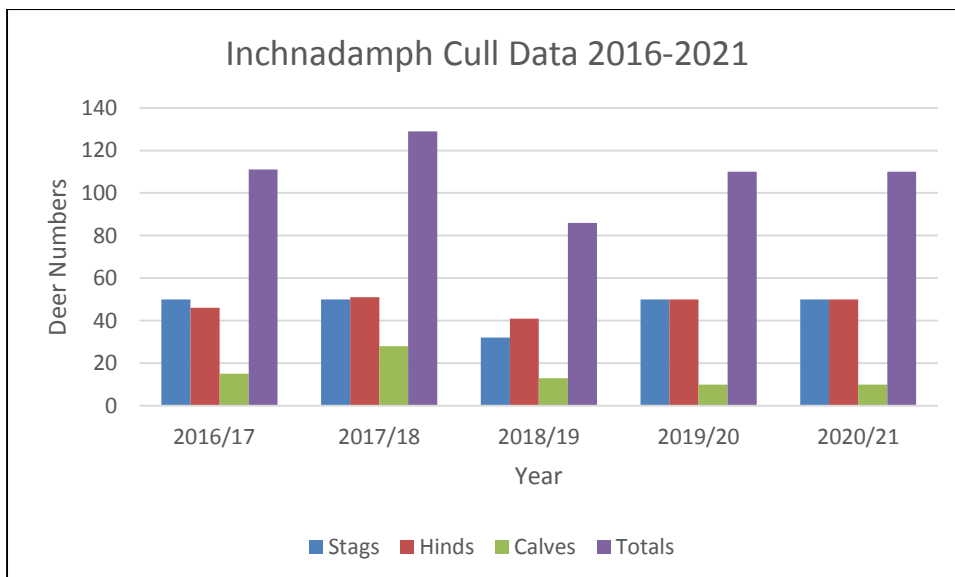
The cull has been set to maintain the current sporting business and help to maintain designated sites in favourable condition. The graph above shows that with this cull there will be a gradual decrease in deer numbers over the period of the plan to bring the population closer to the target level. It 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.

MU3-Inchnadamp Red Deer Cull 2016-2021

Spring 2018 Update

Year	Stags	Hinds	Calves	Total
2016/17 Planned	50	502	10	111
Actual	50	46	15	111
2017/18 Planned	50	51	28	129
Actual	50	51	28	129
2018/19 Planned	50	50	10	110
Actual	32	41	13	86
2019/20 Planned	50	50	10	110
Actual				0
2020/21 Planned	50	50	10	110
Actual				0

MU3 Planned Red Deer Cull 2016-2021 (updated 2019)



MU3 Population Model

Spring 2018 update without this years mortality figures

MU3-Inchnadamp 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	46	15	111	
2017 Mortality	42	44	18	104	
2017 Spring Population	757	793	144	1694	19.6
2017 Summer Population	829	865	173	1867	21.6
2017/18 Cull	50	51	28	129	
2018 Mortality	41	43	17	102	
2018 Spring Population	738	771	128	1636	18.9
2018 Summer Population	801	835	167	1803	20.9
2018/19 Cull	50	50	10	110	
2019 Mortality	40	42	17	99	
2019 Spring Population	711	743	140	1595	18.5
2019 Summer Population	782	813	163	1758	20.3
2019/20 Cull	50	50	10	110	
2020 Mortality	39	41	16	96	
2020 Spring Population	692	723	136	1552	18.0
2020 Summer Population	761	791	158	1710	19.8
2020/21 Cull	50	50	10	110	
2021 Mortality	38	40	16	93	
2021 Spring Population	673	701	132	1506	17.4
2021 Summer Population	739	768	154	1660	19.2
Minimum Sporting Population	625	625	125	1375	15.9

Assumptions:

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

Calving – 20%

Calf sex ratio – 50:5

Population Model updated after 2019 Count

MU3-Inchnadamph Population Model	Stags	Hinds	Calves	Totals	Density (deer/100ha)
2016 Spring count	745	779	209	1733	20.1
2016 Summer Population	850	884	195	1928	22.3
2016/17 Cull	50	46	15	111	
2017 Mortality	42	44	19	106	
2017 Spring Population	757	793	160	1711	19.8
2017 Summer Population	837	873	175	1885	21.8
2017/18 Cull	50	51	28	129	
2018 Mortality	97	82	124	302	
2018 Spring Population	690	741	23	1454	16.8
2018 Summer Population	702	752	132	1586	18.4
2018/19 Cull	32	41	13	86	
2019 Mortality	35	38	13	86	
2019 Count	459	609	196	1264	14.6
2019 Summer Population	557	707	109	1373	15.9
2019/20 Cull	50	50	10	110	
2020 Mortality	28	35	11	74	
2020 Spring Population	479	622	88	1189	13.8
2020 Summer Population	523	666	111	1300	15.0
2020/21 Cull	50	50	10	110	
2021 Mortality	26	33	11	71	
2021 Spring Population	447	582	90	1119	12.9
2021 Summer Population	492	627	104	1223	14.2
Minimum Sporting Population	625	625	125	1375	15.9

MU4 - Invercassley/Duchally

Area: 9979 ha

Deer Management Contact: Robbie Galloway, Chris Gordon

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: 6.2/100ha

2021 open hill red deer density: 6.4/100ha

Target open hill red deer density: 11.0/100ha

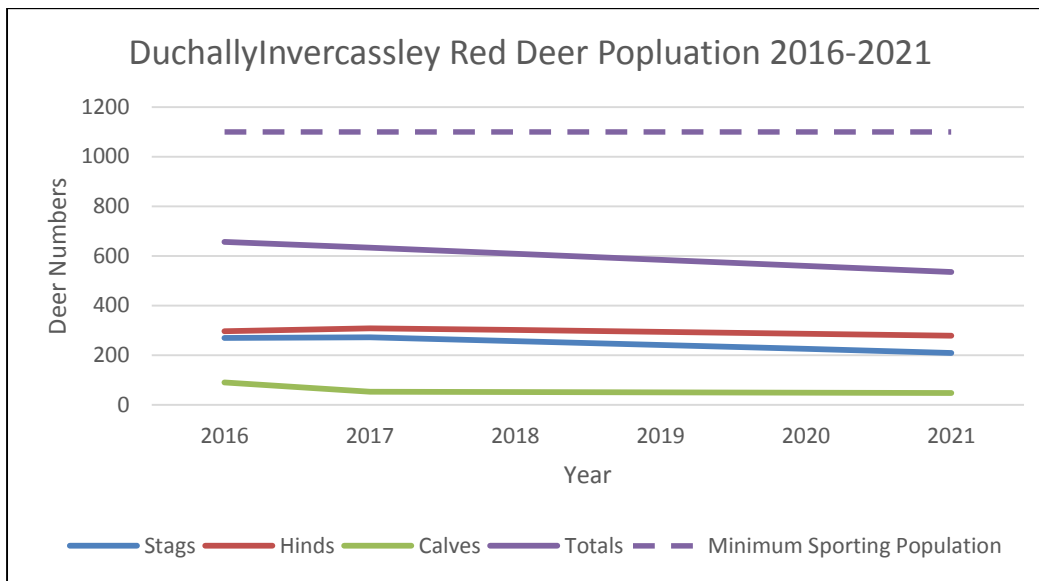
MU4 2016 Red Deer Count

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

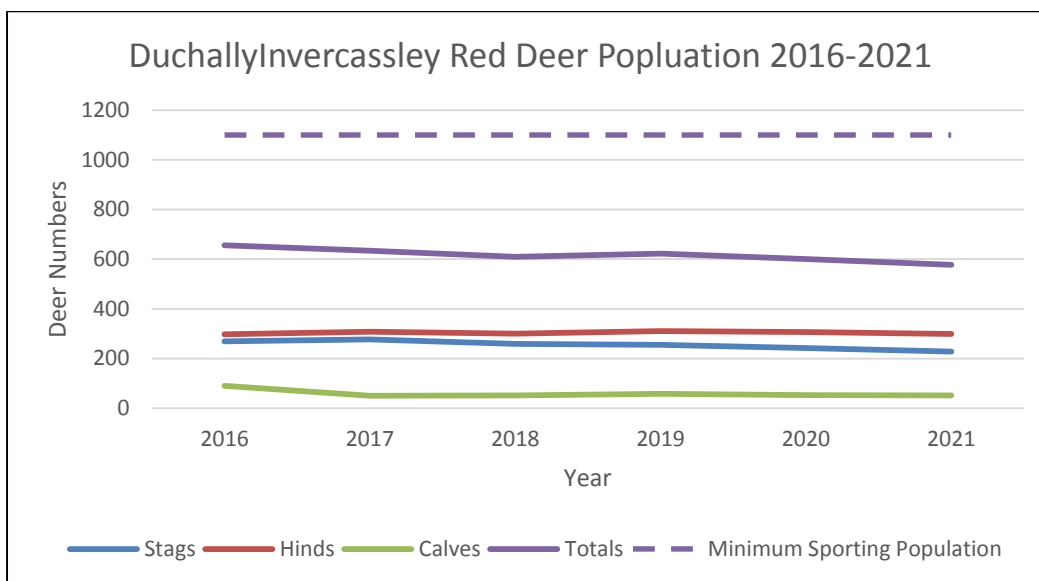
MU4 2019 Red Deer Count

Invercassley/Duchally	stags	hinds	calves	Total	Density (deer/100ha)
2019 Count	255	311	57	623	6.2
Target Population	500	500	100	1100	11.0

MU4 Red Deer Population 2016-2021



MU4 Red Deer Population 2016-2021 Updated after 2019 count



MU4 Planned Red Deer Cull

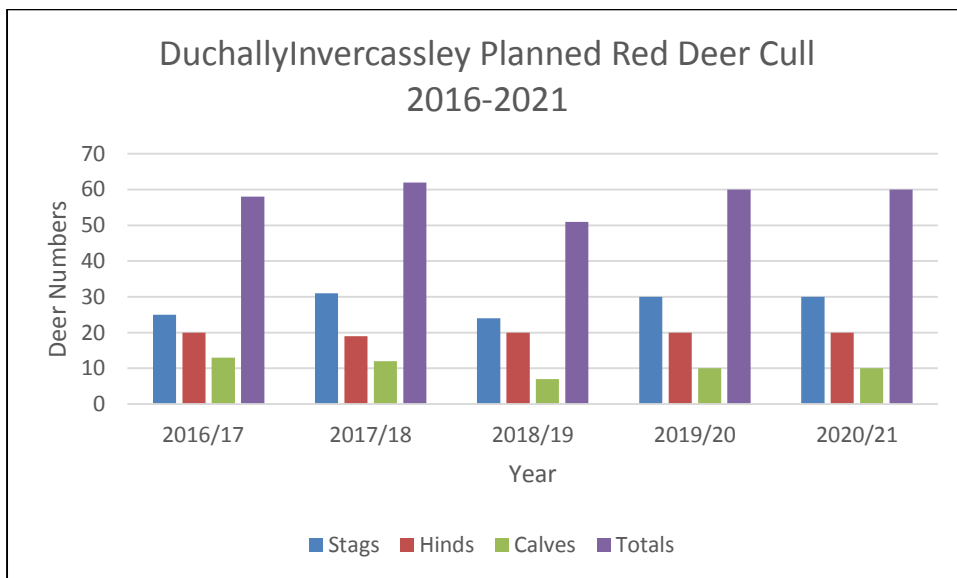
The cull has been set to maintain the current sporting business and help to maintain designated sites in favourable condition. The graph above shows that with this cull there will be a gradual decrease in deer numbers over the period of the plan although the reduction is not thought to be significant 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

Spring 2018 Update

Year	Stags	Hinds	Calves	Total
2016/17 Planned	25	30	15	70
Actual	25	20	13	58
2017/18 Planned	31	35	15	81
Actual	31	19	12	81
2018/19 Planned	30	20	10	60
Actual	24	20	7	0
2019/20 Planned	30	20	10	60
Actual				0
2020/21 Planned	30	20	10	60
Actual				0

MU4 Planned Red Deer Cull 2016-2021 (updated 2019)



MU4 Population Model

Spring 2018 update without this years mortality figures

MU4-Invercassley/Ducahilly 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	25	20	13	58	
2017 Mortality	13	14	5	32	
2017 Spring Population	276	308	50	635	6.4
2017 Summer Population	301	333	67	701	7.0
2017/18 Cull	31	20	10	61	
2018 Mortality	12	13	5	31	
2018 Spring Population	258	300	51	610	6.1
2018 Summer Population	284	326	65	675	6.8
2018/19 Cull	30	20	10	60	
2019 Mortality	11	13	5	30	
2019 Spring Population	243	293	50	585	5.9
2019 Summer Population	268	318	64	649	6.5
2019/20 Cull	30	20	10	60	
2020 Mortality	11	13	5	28	
2020 Spring Population	227	285	48	560	5.6
2020 Summer Population	251	309	62	622	6.2
2020/21 Cull	30	20	10	60	
2021 Mortality	10	12	5	27	
2021 Spring Population	211	277	47	535	5.4
2021 Summer Population	235	300	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

Population Model updated after 2019 Count

MU4-Invercassley/Ducahilly 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	25	20	13	58	
2017 Mortality	13	14	5	32	
2017 Spring Population	276	308	50	635	6.4
2017 Summer Population	301	333	67	701	7.0
2017/18 Cull	31	19	12	62	
2018 Mortality	12	13	5	31	
2018 Spring Population	258	301	49	609	6.1
2018 Summer Population	283	326	65	674	6.8
2018/19 Cull	24	20	7	51	
2019 Mortality	11	13	5	30	
2019 Count	255	311	57	623	6.2
2019 Summer Population	284	340	68	691	6.9
2019/20 Cull	30	20	10	60	
2020 Mortality	11	14	5	30	
2020 Spring Population	242	306	52	601	6.0
2020 Summer Population	268	332	66	667	6.7
2020/21 Cull	30	20	10	60	
2021 Mortality	11	13	5	29	
2021 Spring Population	228	299	51	578	5.8
2021 Summer Population	253	324	65	643	6.4
Minimum Sporting Population	500	500	100	1100	11.0

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: 4.4/100ha

2021 open hill red deer density: 5.8/100ha

Target open hill red deer density: 8.3/100ha

MU5 2016 Red Deer Count

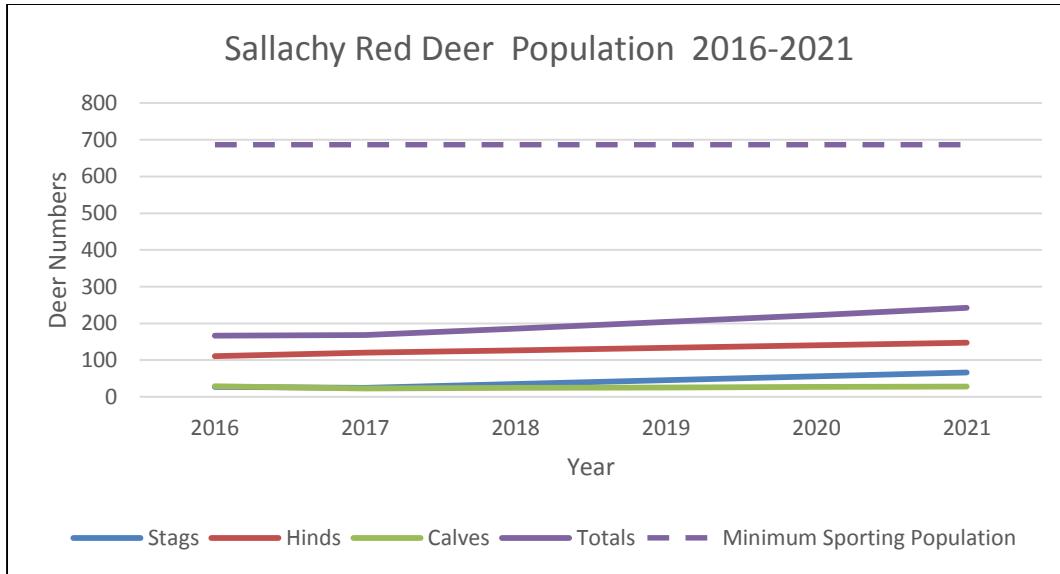
Sallachy	stags	hinds	calves	Total	Density (deer/100ha)
1990	73	136	55	264	3.2
1999	203	267	64	534	6.5
2002	177	313	101	591	7.2
2006	129	245	54	428	5.2
2012	94	118	38	250	3.0
2016 Count	27	111	29	167	2.0
Target Population	312	312	62.5	686.5	8.3

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.

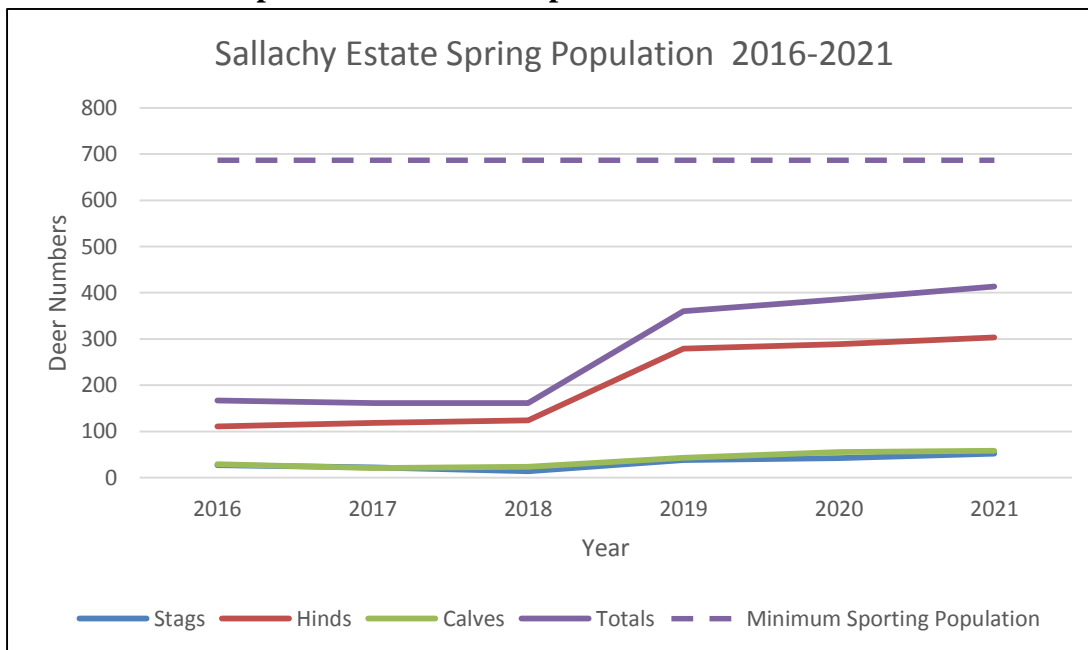
Population after 2019 Count

Sallachy	stags	hinds	calves	Total	Density (deer/100ha)
2019 Count	38	279	43	360	4.4
Target Population	312	312	63	687	8.3

MU5 Red Deer Population 2016-2021



MU5 Red Deer Population 2016-2021 Updated after 2019 count



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.

MU5 Red Deer Cull 2016-2021

Spring 2018 update

Year	Stags	Hinds	Calves	Total
2016/17 Planned	15	0	0	22
Actual	18	2	2	22
2017/18 Planned	15	0	0	17
Actual	17	0	0	17
2018/19 Planned	15	0	0	0
Actual	15	0	0	0
2019/20 Planned	15	0	0	0
Actual				0
2020/21 Planned	15	0	0	0
Actual				0

MU 5 Population Model

Spring 2018 without this years mortality figures

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	18	2	2	22	
2017 Mortality	2	5	2	9	
2017 Spring Population	22	118	21	161	2.0
2017 Summer Population	32	129	26	187	2.3
2017/18 Cull	17	0	0	17	
2018 Mortality	1	5	2	9	
2018 Spring Population	14	124	24	162	2.0
2018 Summer Population	26	136	27	189	2.3
2018/19 Cull	0	0	0	0	
2019 Mortality	1	5	2	9	
2019 Spring Population	25	130	25	180	2.2
2019 Summer Population	37	143	29	209	2.5
2019/20 Cull	0	0	0	0	
2020 Mortality	1	6	2	9	
2020 Spring Population	36	137	26	199	2.4
2020 Summer Population	49	150	30	229	2.8
2020/21 Cull	0	0	0	0	
2021 Mortality	2	6	2	10	
2021 Spring Population	47	144	28	219	2.7
2021 Summer Population	61	158	32	251	3.0
Minimum Sporting Population	312	312	63	687	8.3

Assumptions:

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

Calving – 20%

Calf sex ratio – 50:50

Population Model updated after 2019 Count

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	18	2	2	22	
2017 Mortality	2	5	2	9	
2017 Spring Population	22	118	21	161	2.0
2017 Summer Population	32	129	26	187	2.3
2017/18 Cull	17	0	0	17	
2018 Mortality	1	5	2	9	
2018 Spring Population	14	124	24	162	2.0
2018 Summer Population	26	136	27	189	2.3
2018/19 Cull	15	0	0	15	
2019 Mortality	1	5	2	9	
2019 Count	38	279	43	360	4.4
2019 Summer Population	60	301	60	420	5.1
2019/20 Cull	15	0	0	15	
2020 Mortality	2	12	5	19	
2020 Spring Population	42	288	55	386	4.7
2020 Summer Population	70	316	63	449	5.4
2020/21 Cull	15	0	0	15	
2021 Mortality	3	13	5	20	
2021 Spring Population	52	303	58	414	5.0
2021 Summer Population	81	333	67	480	5.8
Minimum Sporting Population	312	312	63	687	8.3

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.

2018 Update

By the end of 2019 East sub group had monitored 190 plots in blanket bog and dwarf shrub heath. This also covered 6000ha of SAC/SPA. Over all the results showed 85% low impact, 10% moderate impact and 5% high impact. We have mapped the HA results up to 2018 and overlaid this on to the 2019 deer density map. We will analyse this before the ESG summer meeting to look at why impacts are high or moderate in certain areas and to find out if localised culling can influence this.

Programme for 2019 is 180 plots in dwarf shrub heath and blanket bog over three properties and springs and dwarf will at Inchnadamph.

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.

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