



Deer Commission for Scotland

Deer Count Report

Area: East and West Grampian

Dates: 11th – 17th January 2010

Report compiled by: Donald Fraser

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Following DCS guidelines as outlined in the document “Deer Count Reporting Guidance”

PURPOSE

In order to gather current information on deer populations for the Joint-Working process and to support and promote collaborative management DCS agreed to fund a count of East Grampian Sub groups 1,2,3,4 and 5 and the West Grampians Speyside and Tayside DMGs. This area was last counted by DCS in 2005.

PRE COUNT PLANNING

DMGs were asked to nominate co-ordinators who would liaise with DCS staff and local stalkers to facilitate the count. On securing confirmation from DMGs of their participation DCS staff met with the nominated DMG count co-ordinators and estate representatives.

These meetings and subsequent work allowed sufficient information to be gathered to plan count resource needs. Unenclosed woodland areas within the deer range which could be driven and counted, woodland too large to be driven, and deer fenced areas within the deer range / count area were identified and data collated. Appropriate count day areas were identified to prevent / limit movement between daily count areas.

During the pre-count meetings it was agreed that the Allargue, Delnadamph and Crown Estate properties between East Grampian sub area 5 – Mar and the Speyside group, should be included in the count area as there was a recognised movement of deer between these areas although they did not form part of the DMG structure. Including this area in the count formed a more logical and secure boundary in terms of deer movement / management.

It was recognised that weather conditions would be critical to achieving the count and it was anticipated that up to six days of clear weather with snow cover would be needed to limit deer movement and reduce the area where deer were likely to be.

It was estimated that up to 20 helicopter days would be required to undertake the count, with the intention of sub-dividing the area into sectors with 3-4 helicopters used to count an area at one time.

It was agreed that woodland areas that were not fully excluded from open range red deer would where feasible, be driven to push deer onto the open range to be counted. Woodland areas where population assessment has been carried out through dung counting, or where the woodland area was too large to move deer effectively, would not be driven.

In line with DCS counting policy on collaborative counts it was recognised that it would be important that DMG members and stalkers were fully involved in planning, and undertaking the count along with DCS staff.

SUB GROUP	DMG CO-ORDINATOR
<u>Tayside</u>	Ronnie Hepburn
	Graeme Cumming
	Gordon Macgregor
<u>Speyside</u>	Peter Ferguson
	Bob Moncrieff
	Thomas MacDonnell
<u>East Grampian 1</u>	Peter Fraser
	Bruce Cooper
<u>East Grampian 2</u>	Colin McClean
	Gary Coutts
<u>East Grampian 3</u>	Andrew Farquharson
<u>East Grampian 4</u>	Fred Taylor
<u>East Grampian 5</u>	John Cruickshank
	Iain Campbell
	Stuart Cumming

METHODS

1. Type of count: Helicopter, digital camera and visual
2. Classification: Antlered Stags and unclassified total

DMGs were aware that the count could take place at relatively short notice if and when suitable weather conditions arose. DCS and DMG co-ordinators were in contact leading up to the count taking place.

Two different helicopter companies were used during the count, PDG and HJS helicopters. On the first two days of the count four PDG B2 Squirrels were used, Day 3 involved the use of two PDG B2 Squirrels, Day 4 three PDG Squirrels and one HJS Bell Jet Ranger were used, and day 5 one PDG Squirrel was used. Helicopters were based at Mar Lodge for the first two days of the count as this was a central point for the count area. Due to the weather patterns and helicopter company bookings, helicopters were then based at Dalcross, Inverness. Fuel for these helicopters was provided by bowser / barrels at Atholl, Glenfeshie, Glentinar, Mar Lodge and Rothiemurchus

Briefings were carried out before each count day, involving all count crews and individuals involved in liaising with ground teams. Briefings involved weather brief, outlining the day's count area, helicopter crews and logistics.

The use of Digital cameras for photographing deer groups saved helicopter time particularly on larger groups of deer. Groups which were photographed would be counted at a later date. Deer movement was kept to a minimum, estimated to average less than 500 meters.

On larger, spread out groups of deer, a little time (approximately 1 – 2 minutes) was taken to allow deer to group together, this allowed images to be taken of discreet groups of deer. The location of deer groups observed, helicopter flight paths and woods from which deer were moved have all been mapped. Copies of these maps are enclosed with this count report.

Day One

Gannochy (Auchmull, Colmeallie, Punchbowl), Fettercairn, Fasque, Glendye, Finzean, Birse, Ballogie, Glentinar. Glen Muick, Abergeldie, Balmoral, Invermark, Rottal, Glenmoy, North Clova, Upper Clova, Bachnagairn, Coirre Fee, Glen Callater, Baddoch, Tulchan, Glenshee, Alrick, Auchavan, Glen Isla, Glencally, Fergus and Glenmarkie.

Helicopter 1 started counting in Colmeallie, moving onto Auchmull, Fasque, Fettercairn, Glendye, Finzean, Ballogie, Birse and finishing in Glentinar.

Helicopter 2 started in Rottal, moving onto North Clova, Upper Clova with Donald Collins, Glen Callater and Baddoch with Mike Falconer, Glenshee with Pete Poole-Reeves, Alrick and Auchavan with James Davidson, Tulchan with Bill Mearns, Glencally, Fergus and Glenmarkie with Nicholas Gibb, Glen Isla with Jason Williamson finishing in Bachnagairn and Corrie Fee.

Helicopter 3 counted in Balmoral and Abergeldie with Arthur Fernie.

Helicopter 4 started in Invermark with Fred Taylor, moving onto Glenmuick with Ab Taylor.

Day Two

Mar Lodge Estate, Corndavon, Mar Estate, Delnadamp, Allargue, Glen Avon, Invercauld (Home beat), Glen Prosen, South Clova, Airlie, Pearsie, Auldallan, Balintore, Water Board, Lednathie,

Helicopter 1 counted Mar Lodge with Stuart Cumming.

Helicopter 2 counted in Glen Prosen moving onto South Clova, Airlie, Pearsie, Auldallan, Balintore, Waterboard and Lednathie all with Bruce Cooper.

Helicopter 3 started in Inchroy with David Irvine, moving onto Allargue with Neil Brown, and Delnadamp with David Scrimgeour.

Helicopter 3 started in Invercauld (home beat), Corndavon, with John Cruickshank moving on to Mar Estate with Ian Campbell.

Day 3

Drumochter South, Phones, Ralia, Glen Tromie, Lynaberack, Gaick, Glenfeshie, Killiehuntly, Invereshie.

Helicopter 1 started in South Drumochter with Steven Fraser, moving onto Phones, Ralia, Glentromie, Lynaberack finishing in Gaick.

Helicopter 2 started in Glenfeshie with Donnie Ross, moving onto Killiehuntly, Invereshie and part Lynaberack and part Gaick.

Day 4

Ashintully, Atholl (Bruar, Clunes, Dalnamein, Forest Lodge, West Hand), Baledmund, Balnakeilly, Balvarran, Clunebeg, Clunskae, Dalmunzie, Dalnacardoch, Dirnanean, Fealar, Finegand, Glenfernate, Glen Kilrie, Soilzarie, Rhiedorrach, Lude, Straloch, Tarvie, Urrard.

Helicopter 1 started in Atholl (West Forest lodge, West hand, Clunes, Bruar and Dalnamein with Richard Fraser.

Helicopter 2 started in Rhiedorrach, Dalmunzie, picking up Gordon Macgregor and counting Finegand, Glenkilrie, Soilzarie, Ashintully, Balvarran, Dirnanean, Glenfernat, Straloch, Tarvie and Clunskae.

Helicopter 3 started in Atholl (East forest Lodge) with Gavin Mackay, moving into Fealar with Mark Brown, Lude, Clunebeg, Urrard, Baledmund, Balnakeilly and Tulliemet.

Helicopter 4 counted Dalnacardoch with Kevin Simpson.

Day 5

Delnabo, Crown, Dorback, Abernethy, Seafeld Estates, Craigowrie Hill, Pityoulish, F.E.Glenmore, Cairngorm NNR, Rothiemurchus.

Helicopter 1 started at Delnabo and counted all the above as far as and including Rothiemurchus. The crew included estate representatives from Delnabo and Dorback, Des Dugan for Abernethy, Seafeld and Craigowrie Hill and Peter Ferguson for Rothiemurchus.

Days 1 and 2 were counted on the Monday and Tuesday of the 11th and 12th January. Due to a weather system moving through on Wednesday and Thursday bringing more snow to the area, counting was delayed until Friday the 15th of January (Day 3) and Sunday the 17th January (Day 4). DCS had planned to co-ordinate the open hill count of Delnabo round to Rothiemurchus with a ground count of driven woodland at Abernethy and Rothiemurchus on Monday the 18th of January thus finishing the East and West Grampians count. However the amount and depth of snow lying on the open hill at that time forced the plan to be suspended and with the agreement of the estates involved, it was not until Tuesday the 23rd of March that this area was counted.

WEATHER

	Day 1	Day 2	Day 3	Day 4	Day 5
	11/01/2010	12/01/2010	15/01/2010	17/01/2010	23/03/2010
General conditions	Bright and clear	Mainly bright and clear with hill fog in Glen Prosen area.	Mainly bright and clear with brief snow showers.	Bright and clear	Bright and clear
Wind direction	N	NE	N	N	NW
Wind speed	5 – 10 mph	10 – 15 mph	5 – 10 mph	5 – 10 mph	15-20 mph
Snow cover	Complete	Complete	Complete	Complete	Above 1500ft
Cloud cover	0/8	8/8	3/8	0/8	0/8
Cloud level	Above 3000ft	Above 3000ft except for 2 or3 brief periods at 2000ft.	Above 3000ft	Above 3000ft.	Above 3000ft.
Temperature	-10°	-5°	-10°	-10°	5°

COUNT DATA

The property (ha) and Density (sq Km) relate to the area and deer density derived from DCS GIS information of property boundaries shown in red on the count maps.

Speyside DMG

Property	Planar Area (Ha)	Stags	Unclassified	Total	Density (Deer/km ²)
ABERNETHY	12673	65	17	82	1
CAIRNGORM HILL	1703	0	0	0	0
CRAIGOWRIE HILL	855	9	39	48	6
CROWN	639	4	29	33	5
DELNABO	1227	1	12	13	1
DORBACK	5789	66	350	416	7
DRUMOCHTER (SOUTH)	1896	0	8	8	0
DRUMOCHTER & RALIA	2732	70	0	70	3
F.E. GLENMORE	750	0	0	0	0
GAICK	7710	24	501	525	7
GLENFESHIE	17216	98	44	142	1
GLEN TROMIE (PART)	165	9	131	140	85
INCHRORY & GLENAVON	17815	354	808	1162	7
INVERESHIE	3078	2	0	2	0
KILLIEHUNTLY	1787	6	0	6	0
LYNABERACK	4237	292	597	889	21
PHONES	7588	37	241	278	4
PITYOULISH	890	0	0	0	0
ROTHIEMURCHUS	9877	53	236	289	3
TOMNAGOWHAN & TULLOCH	121	0	0	0	0
Total	98748	1090	3013	4103	4

Property	Planar Area (Ha)	Stags	Unclassified	Total	Density (Deer/km ²)
ALLARGUE	2310	0	1	1	0
DELNADAMPH	3228	0	0	0	0
Total	5538	0	1	1	0

East Grampian : Sub Area 1

Property	Planar Area (Ha)	Stags	Unclassified	Total	Density (Deer/km ²)
Airlie West	2530	40	157	197	8
Alrick	1406	32	0	32	2
Auchavan	952	61	929	990	104
Auldallan	603	0	0	0	0
Balintore	1684	27	104	131	8
Corrie Fee	164	16	48	64	39
Glen Isla	1544	200	872	1072	69
Glen Prosen	5707	50	283	333	6
Glencally, Fergus & Glenmarkie	2077	0	70	70	3
Waterboard Ground, Glenhead & Glen Damff	2700	57	218	275	10
Invercauld (Glenshee)	4057	514	292	806	20
Lednathie	1315	291	147	438	33
Pearsie	1260	88	0	88	7
South Clova	1163	2	33	35	3
Tulchan	4926	0	0	0	0
Totals	32088	1378	3153	4531	14

East Grampian : Sub Area 2

Property	Planar Area (Ha)	Stags	Unclassified	Total	Density (Deer/km ²)
Abergeldie	4737	540	348	888	19
Balmoral	14516	695	727	1422	10
Balmoral (Bachnagairn)	3411	231	790	1021	30
FCS Glendoll	690	0	0	0	0
Glen Muick	5223	389	583	972	19
Glen Tanar	11707	420	340	760	6
Invercauld (Glencallater)	6994	432	500	932	13
Totals	47278	2707	3288	5995	13

East Grampian : Sub Area 3

Property	Planar Area (Ha)	Stags	Unclassified	Total	Density (Deer/km ²)
Ballogie	3585	0	0	0	0
Birse	3188	0	0	0	0
Fasque	1009	27	35	62	6
Fettercairn	690	1	38	39	6
Finzean	2141	29	223	252	12
Glendye	8806	40	265	305	3
Totals	19419	97	561	658	3

East Grampian : Sub Area 4

Property	Planar Area (Ha)	Stags	Unclassified	Total	Density (Deer/km ²)
Colmeallie	852	19	537	556	65
Gannochy (Auchmull)	995	14	77	91	9
Glenmoy	2828	1	0	1	0
Invermark	15202	355	2884	3239	21
North Clova	1264	110	215	325	26
Rottal	3337	138	605	744	22
Upper Clova	246	60	85	145	59
Totals	24724	697	4403	5101	21

East Grampian : Sub Area 4 (Fenced Area)

Property	Planar Area (Ha)	Stags	Unclassified	Total	Density (Deer/km ²)
Careston	2194	0	0	0	0
Gannochy (Auchmull)	2375	0	0	0	0
Glenogil	4573	0	0	0	0
Hunthill	6914	0	0	0	0
Invermark	2637	0	0	0	0
Lethnot	2917	0	0	0	0
Millden	7700	0	0	0	0
Totals	29310	0	0	0	0

East Grampian : Sub Area 5

Property	Planar Area (Ha)	Stags	Unclassified	Total	Density (Deer/km ²)
INVERCAULD (BADDOCH)	4359	144	724	868	20
INVERCAULD (CORNDAVON)	12051	77	612	689	6
INVERCAULD (HOME)	10375	73	490	563	5
MAR ESTATE	5938	422	550	972	16
MAR LODGE	29285	791	1158	1949	7
Total	62008	1507	3534	5041	8

Tayside DMG

Property	Planar Area (Ha)	Stags	Unclassified	Total	Density (Deer/Km ²)
ASHINTULLY	1858	711	0	711	38
ATHOLL (BRUAR)	4847	5	0	5	0
ATHOLL (CLUNES)	4773	816	971	1787	37
ATHOLL (DALNAMEIN)	4924	71	2186	2257	46
ATHOLL (FOREST LODGE)	13745	525	2446	2971	22
ATHOLL (WEST HAND)	6936	602	1040	1642	24
BALEDMUND	1340	109	96	205	15
BALNAKEILLY	1317	102	361	463	35
BALVARRAN	865	7	0	7	1
CLUNEBEG	359	109	6	115	32
CLUNSKEA	717	14	526	540	75
DALMUNZIE	2626	1	21	22	1
DALNACARDOCH	7412	363	28	391	5
DIRNANEAN	1556	32	520	552	35
FEALAR	4928	3	347	350	7
FINEGAND	642	0	3	3	0
GLENFERNATE	5724	230	3143	3373	59
GLENKILRIE	840	355	0	355	42
INVERCAULD (RHIEDORRACH)	4009	85	929	1014	25
LUDE	3818	98	971	1069	28
STRALOCH	1158	107	431	538	46
TARVIE	976	44	6	50	5
URRARD	909	507	9	516	57
Total	76279	4896	14040	18936	25
ATHOLL (TULLIEMET)	N/A	24	144	168	N/A

COUNT AUDIT

COMPONENT	EFFECT ON QUALITY OF COUNT	WHAT COULD BE DONE BETTER?	WAS POPULATION ESTIMATE ADVERSELY AFFECTED?
Pre count planning	Well planned Contact with DMG co-ordinators leading up to count and during count maintained and briefings done daily with count teams.	Communication with co-ordinators was ongoing through out the count and the fluid nature of the operational planning meant that plans changed quickly but every effort was made to keep all informed of how the count progressed.	No
Area counted	Entire area counted		No
Count method	Number of counters - Adequate counters		No
	Driven woodlands - Woodland driven where necessary / practicable	Every effort made to have enough resources to carry out effective clearing of woodland. Generally very successful.	Some groups of deer which did not come out of the woodland were recorded by ground teams in Abernethy, Rothiemurchus, Glen Tanar and Balmoral/ Abergeldie. These deer have been included on the count map.
	Communications - Good communications	Communications between ground teams and helicopter always difficult but every effort made through out the count to keep in touch with ground teams and to keep them informed of count progression.	No
	Routes - Routes Appropriate for conditions	Overlaps were counted on Glen Tilt/Mar Lodge at Bynack Lodge area, Glen Feshie/Mar Lodge at Glen Geldie area, Corrie Fee/South Clova at Winter Corries area to identify whether any overnight movement of deer had taken place.	Every effort was made not to double count with photographs used to distinguish groups of deer. Local DMG stalkers were involved in the count to ensure no double counting occurred.
Deer classification	Antlered Stags and unclassified Targets met		No
Number and quality of deer group photographs	Quality of photographs was good with software used to improve image quality.	85% of deer were counted by photograph.	No
Visibility and data quality	Generally very good visibility.	Snow showers and low cloud on day two slowed count progress but did not affect accuracy of the count. Generally bright days with good snow cover provided very good visibility.	Every effort was made to count all areas.
	Data quality high Data was collected as per DCS staff guidance on deer census.		No
Wind affects	Wind Strength Little wind for most of the count. No effect on accuracy of count.	Performance of helicopters in terms of undertaking the tasks asked by navigators was generally good.	No
Ground conditions	Ground conditions excellent snow cover in over 90% of count area.	Given recent weather conditions over the last numbers of years it is unlikely to get four days of perfect conditions throughout a count area of this size. However too much snow caused a delay in counting part of the Speyside DMG.	No
Deer behaviour and movement affected?		Deer movement was taken into account in the planning process and every effort was made to ensure that count day boundaries were secure.	No If there was any doubt as to whether deer movement would take place then an overlap area was counted and photographs of groups compared to ensure no double counting of deer took place.

COSTS

ORGANISATION	PLANNING DAYS	COUNT DAYS	REPORT DAYS	COST (£)
DCS	9	41	22	
FCS		17		
DCS Contractor		16		
DMG	2	32		
Total	10	106	22	

Note: All contractor costs calculated at £150 per day. Helicopter hours include travel to and from count area and refuelling trips.

	HOURS	COST (£)
Helicopter (hours)	64.2	93,046.54

COST ANALYSIS

AREA COUNTED (HA)	COST PER 100HA (£/SQ. KM)	COST PER DEER (£/DEER)
456554	£20.38	£2.09

CONCLUSIONS

Due to the scale and resources involved it was most important that there was an element of flexibility in the planning process throughout the count. This allowed count co-ordinators to make judgements as to when and where to deploy resources to make the most of count time available without compromising the accuracy of the count.

This flexibility was only possible due to the understanding of those involved that the progression of the count was going to depend on a range of different factors many of which were outwith the control of the count co-ordinators. Throughout the count DCS endeavoured to keep DMG count co-ordinators informed as to how the count was progressing so that they in turn could make sure that other DMG members were aware of how the count was progressing.

The contribution and co-operation from DMG members involved, helped ensure that the count was well planned and implemented. DCS recognises the willing input from DMG members and in particular the invaluable help and assistance from the DMG Co-ordinators throughout the count operation.

Weather conditions in January 2010 were very favourable for carrying out a helicopter deer count. However difficulties with pre-booked helicopters always prevent ideal conditions matching helicopter availability. Although there was a delay between some count days, with the level of snow cover DCS are content that deer movements will have been kept to a minimum between areas. The depth and cover of snow meant that part of the Speyside DMG area which included Abernethy and Rothiemurchus woodlands could not be counted effectively.

With the agreement of the landowners and stalkers the count of this area was delayed until the snow receded up the hill allowing deer to be moved out of the woodlands and counted. DCS are satisfied that little movement took place at the North end (Delnabo) and the South end (Rothiemurchus) of that area even after a gap of eight weeks.

Density maps, helicopter route maps and a CD containing all the count data and photographs will be sent to the DMG chairman / secretary and any estates wishing to view these should contact the DMG secretary / chairman.

- In five days 861 groups totalling 44552 deer were counted, by direct observation and photography, in the East and West Grampian count area.
- 37843 deer were counted using photographs with 6709 deer counted by visual counting.
- Photographs were used for counting which are available to DMG members and some of these photographs could be used to classify hinds and calves.

While stags classified from photographs are entered in the stag totals, an unknown proportion of males (mostly knobbers) will appear in the unclassified total.

Deer Commission for Scotland
April 2010

APPENDIX 1: COUNT TEAMS

	DAY 1	DAY 2	DAY 3	DAY 4	Day 5
	HELI 1	HELI 1	HELI 1	HELI 1	HELI 1
Navigator	Alan Corrigan	Alan Corrigan	Alan Corrigan	Alan Corrigan	Alan Corrigan
Camera	Chris MacKenzie	Chris MacKenzie	Chris MacKenzie	Chris MacKenzie	Graeme MacRae
Recorder	Marcus Munro	Marcus Munro	Marcus Munro	Marcus Munro	Graeme Taylor
Observer/ counter		Stewart Cumming	Steven Fraser	Richard Fraser	Des Dugan
					Rod - Dorback
					Mark - Delnabo
					Peter Ferguson
	HELI 2	HELI 2	HELI 2	HELI 2	
Navigator	Donald Fraser	Donald Fraser	Donnie Ross	Donald Fraser	
Camera	David Balharry	David Balharry	Graeme MacRae	David Balharry	
Recorder	Graeme Taylor	Sinclair Coghill	Donald Fraser	Jamie Hammond	
Observer/ counter	Mike Falconer	Bruce Cooper	Graeme Taylor	Gordon MacGregor	
	Donald Collins				
	Pete Poole- Reeves James Davidson				
	Bill Mearns				
	Jason Williamson				
	Nicholas Gibb				
	HELI 3	HELI 3		HELI 3	
Navigator	Graeme MacRae	Graeme MacRae		Graeme MacRae	
Camera	Alastair MacGugan	Graeme Taylor		Robbie Kernahan	
Recorder	Linzi Seivwright	Linzi Seivwright		Gavin MacKay	
Observer/ counter	Arthur Fernie	David Irvine		Mark Brown	
		Neil Brown David Scrimgeour		James Irvine	
	HELI 4	HELI 4		HELI 4	
Navigator	Iain Hope	Iain Hope		Iain Hope	
Camera	Robbie Kernahan	James Scott		James Scott	
Recorder	James Scott	Jamie Hammond		Linzi Seivwright	
Observer/ counter	Fred Taylor	John Cruickshank		Kevin Simpson	
	Ab Taylor	Iain Campbell			
	GROUND TEAM	GROUND TEAM	GROUND TEAM	GROUND TEAM	GROUND TEAM
	J Irvine	J Irvine		Atholl Estate staff	Iain Hope
	J Hammond	Mar Lodge staff			Fiona Newcombe
	S Coghill	FCS Rangers			Rothiemurchus staff
	Gary Coutts				Abernethy staff
	Balmoral Estate Staff				
	FCS Rangers				
	Glentanar Estate Staff				