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## APPENDIX 7: ANIMAL BONE REPORT FROM DUNASBROC 2005 *by Catherine Smith*

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### 7.1 Introduction

The excavations at Stac, Lewis, carried out by GUARD in July 2005 recovered a small animal bone assemblage. The bone fragments were generally very small, of the order of a few millimetres in length, while the largest fragment was a cattle molar tooth of approximately 50mm length. The majority of the fragments were affected by burning and many were completely calcined to a whitish-grey colour, indicating that they had been exposed to temperatures of at least 645°C (Mays 1998, 216). The small fragment size is in part due to exposure to high temperatures, which has caused splitting and shrinkage of both bones and teeth. Despite this damage, the calcined fragments are relatively free of abrasion. However, the unburnt bones from the site are markedly eroded.

### 7.2 Method

Where possible, fragments have been identified as far as species level by direct comparison with modern defleshed material. However, many of the fragments showed no diagnostic characteristics and have been described as 'indeterminate mammal'. Fragments are listed by context in the catalogue.

### 7.3 Results (for details see [table 15](#))

Identified species were cattle and sheep/goat. Particular bones identified were limited to small carpals or tarsals, which, being small and densely structured tend to have a higher recognition rate than fragments of larger long bones. Teeth were also found in a recognisable condition, although some had disintegrated into their component parts, the central pillars or infundibula, and the outer enamel casing. Such deterioration is common when teeth are subjected to high temperatures.

Evidence regarding the age at death of the animals was limited. However, a sheep/goat metapodial fragment consisting only of an unfused distal epiphyses was assumed to have come from a juvenile

or immature animal (Context 1, Trench 1, SF3). Similarly, an epiphysis from a cattle calcaneum (tarsal) must also have come from a juvenile or immature beast (Context 5, Trench 1, SF183). A cattle lower third molar assessed at Grant's (1982) stage b in which the fifth cusp (third pillar) was as yet unworn probably came from an animal below the age of five years in modern terms (Context 12, Trench 1, SF156).

An unburnt mammalian bone, probably from a long bone shaft, showed evidence of human modification (Context 2, Trench 1). Although much abraded, knife cuts were apparent on each long edge of the fragment near one of the extremities, which may have been modified to form a rough point or gouge. The knife cuts were orientated in a medio-lateral (side-to-side) direction, at right angles to the longitudinal axis of the bone shaft. Such bone 'scoops' are not unknown at Scottish sites dating to the Iron Age and have been found at sites on Tiree, Orkney and Shetland (Ballin Smith 1994, 174–6).

### 7.4 Discussion

Although the bone assemblage is small and very fragmentary, it provides a few indicators as to the nature of the site. The burning on many of the bones indicates human activity. The simplest explanation is cookery or some other type of food preparation, although disposal of rubbish in a domestic fire is also a possibility. Since sheep/goat and cattle bones were present, it can be assumed that a pastoral economy was practised in the vicinity of the site. There was evidence that individual sheep or goats were killed when juvenile or immature, although this does not necessarily mean that no sheep reached maturity: simply that the evidence did not survive. Cattle may also have been killed or died when immature. This is not surprising given the nature of the site. In subsistence economies, it is often difficult to husband cattle over several winters and selective culling may be necessary in order to eke out scarce winter fodder.

The animal bones from Dunasbroc therefore, provide supporting evidence for human occupation at the site.

**Table 15 Catalogue of animal bone for Dunasbroc**

Initials	Date	Trench	Context	Small find no.	Species	Bone	Left/right	Part	Details	Quantity	Burnt/unburnt
IM		1	C1						organic material	1	burnt
ME	27/6/05	1	C1	3	Sheep/goat	metapodial		distal	epiphysis only	1	unburnt
IM		1	C1	8	Indet mammal				1 fragment	1	burnt
IM	4/7/05	1	C2		Cattle	tooth		lower molar	in wear; broken fragment	1	?
IM	4/7/05	1	C2		Indet mammal	LBSF		?worked fragment	abraded; knife cuts	1	unburnt
IM	4/7/05	1	C2	98	Indet mammal				3 fragments	3	calcined
GL	4/7/05	1	C2	24	Cattle	molar tooth		infundibulum	in wear	1	?burnt
GL	4/7/05	1	C2	24	Cattle	molar tooth		enamel fragments		3	?burnt
GL	4/7/05	1	C2	24	Indet mammal				2 fragments	2	burnt
GL	4/7/05	1	C2	24	Indet mammal				1 fragment	1	calcined
ME	1/7/05	2	C3	35	Sheep/goat	tooth	left	upper molar	in wear	1	unburnt
ME	1/7/05	2	C3	37	Sheep/goat	naviculo-cuboid			lateral cuneiform fused	1	unburnt
ME	1/7/05	2	C3	38	Cattle	lower molar		infundibulum	in wear	1	?
GL	4/7/05	1	C4		Indet mammal				1 fragment	1	calcined
GL	4/7/05	1	C4		Cattle	tooth		molar	2 infundibula	2	?
GL	4/7/05	1	C4		Cattle	tooth		molar	5 enamel fragments	5	?
GL	5/7/05	1	C5	122	Indet mammal	LBSF			1 fragment	1	calcined
GL	5/7/05	1	C5	122	Indet mammal				1 fragment	1	calcined
GL	7/7/05	1	C5	183	Cattle	calcaneum	right	epiphysis	2 conjoining fragments	2	burnt
GL	7/7/05	1	C5	184	Indet mammal				5 fragments	5	calcined
ME	7/7/05	2	C6		Indet mammal				31 fragments	31	calcined
ME	6/7/05	2	C6		Indet mammal				2 fragments	2	calcined
ME	6/7/05	2	C6		Indet mammal				8 fragments	8	calcined
ME	1/7/05	2	C6	46	Indet mammal				1 fragment	1	calcined
ME	1/7/05	2	C6	50	Indet mammal				1 fragment	1	calcined
ME	1/7/05	2	C6	55	Indet mammal				1 fragment	1	calcined
ME	1/7/05	2	C6	66	cf Sheep/goat	tooth		incisor enamel	1 fragment	1	unburnt
ME	4/7/05	2	C6	70	Indet mammal				1 fragment	1	calcined
ME	4/7/05	2	C6	79	Indet mammal				9 fragments	9	calcined
ME	4/7/05	2	C6	87	Indet mammal				5 fragments	5	calcined
ME	4/7/05	2	C6	128	Indet mammal				6 fragments	6	calcined
ME	5/7/05	2	C6	147	Indet mammal				17 fragments	17	calcined
ME	6/7/05	2	C6	143	Indet mammal	LBSF			3 fragments	3	calcined
ME	7/7/05	2	C6	166	Indet mammal	LBSF			1 fragment	1	calcined
ME	7/7/05	2	C6	166	Indet mammal				1 fragment	1	calcined
ME	7/7/05	2	C6	166	Indet mammal	carpal			1 fragment	1	calcined
ME	7/7/05	2	C6	166	cf sheep/goat				fragment only	1	calcined
ME	8/7/05	2	C6	187	Indet mammal				possibly part of 1 LBSF	19	calcined
ME	8/7/05	2	C6	187	Indet mammal	LBSF?			1 piece charcoal	1	burnt
ME	7/7/05	2	C6	170	Indet mammal				2 fragments	2	calcined
IM		1	C8		cf Cattle	metatarsal		proximal fragment		1	?burnt
IM	6/7/05	1	C8	139	Indet mammal				2 fragments	2	calcined
GL	7/7/05	1	C12	156	Cattle	tooth		lower M3	Grant stage b	1	unburnt
GL	7/7/05	1	C12	156	Cattle	mandible	left		fragment; fits M3	1	unburnt
GL	7/7/05	1	C12	156					pottery sherd	1	
GL	8/7/05	1	C14	189	Indet mammal				1 fragment	1	calcined
IM		1	C19		Indet mammal				2 fragments	2	calcined
IM		1	C19		Indet mammal				2 fragments	2	burnt

Abbreviations: Indet Indeterminate; LBSF Long bone shaft fragment; M molar; M3 third molar