
12 Mammals and birds *by Tanya O'Sullivan*

12.1 Methodology

Bone material was recovered both by hand on site, and from sieved samples. Bones were identified using the reference collection at AOC Archaeology Ltd and National Museums of Scotland. Bone measurements and age determination followed standard guidelines (von den Dreisch 1976; Silver 1979).

12.2 Large mammals

The majority of large mammal bones were recovered from contexts attributed to Periods IV and V, with a smaller concentration from Period I. Two sheep long bone fragments were the only animal remains recovered from Period III contexts, and no bones from Period II were present in the assemblage. The bones were in good condition, although fragmented and broken to such a degree that biometrical and ageing data was limited. All of the bones recovered are listed in Table 4.

Period I The bone bearing contexts from Period I did not represent a homogenous group. The samples were from the floor of Room 5, the fill of the great drain, and masonry associated with the drain. Each context yielded a minimum of one cow and one sheep.

Period IV Animal bones were recovered from 27 contexts in Period IV. However, most of these yielded just a few fragments of either cattle or sheep bone. A minimum of two cows and two sheep were represented from the drain fills, one cow and one sheep from the midden deposits, and two sheep and one cow from Period IV floor deposits.

Period V Twenty contexts yielded animal bone in Period V. Again no more than a minimum of one or two cattle or sheep were present, including a complete cow skeleton from the upper fill of the drain.

12.2.1 Livestock husbandry

Although the Dundrennan sample as a whole was substantial, it consisted of small, spatially distinct groups of broken bone. Pig remains, apart from a tooth, are absent from the assemblage. Pigs do not appear to have played a large part in the economy of Cistercian communities in Scotland. Houses of other orders – such as the Observantine friars at Jedburgh – appear to have eaten pork in small quantities (Groves forthcoming). There are a number of reasons why one would not expect to find pig at Dundrennan. In the

early days the Cistercians' strict diet forbade the eating of meat from four legged beasts except for inmates of the infirmary (Cook 1961, 153). This was relaxed in later years and consumption of meat was allowed on Sundays, Tuesdays and Thursdays. A survey of the percentage of fragment distribution on Scottish castle sites (McCormick 1996; McCormick 1997; and McCormick forthcoming) also reveals small numbers of pig. The absence of oak forest is generally thought to be the reason for the lack of pig remains on these sites, as pigs need oak and beech mast to forage successfully. Similarly, the practice of clearing woodland for agricultural purposes would have depleted the availability of woods for pannage in the vicinity of the monasteries.

Unlike pig, both cattle and sheep had uses other than as meat animals. In fact, cattle were mainly kept for draught purposes and the chief function of the cow was to breed plough oxen (Symon 1959, 57). Sheep were kept largely for their milk and wool, as well for meat. The intensive breeding of stock and production of wool were likely activities at Dundrennan, in keeping with the Cistercian tradition as observed at Melrose, Newbattle, Kelso and Coupar Angus. The Cistercians at Melrose derived much of their revenue from the pasturing of stock and, for example, in 1180 were given the right to build a *vaccaria* for 100 cows in Threipwood; while Newbattle Abbey had the right of pasturage for 1000 sheep and 60 cattle; and Kelso Abbey had 80 cows at Witelaw (ibid). The bones from Dundrennan, although not adding much to the picture, do not imply any great divergence from this pattern. However, where the Minimum Number of Individuals (MNI) could be ascertained it would appear that sheep outnumbered cattle by two to one in some contexts and appeared in equal numbers in others. Some data on bone fusion for both cattle and sheep could be gleaned and is given by Table 5.

12.2.2 Butchery

All skeletal elements were represented in the sample, indicating that animals were brought in on the hoof for slaughter rather than as pre-processed meat coming into the abbey in the form of jointed carcasses. The bone distribution does not provide evidence for specialised butchery dumps. The only notable feature of the butchery evidence was that not only did the bones display all the signs of both primary and secondary butchery but there was evidence that they were further cut after the meat was consumed, presumably to extract marrow or make broth. One split cattle proximal radius from Period I shows cut marks on its inner surface. Marrow was an

Table 4 Mammal bones

Species	Element	Break	Age	Butch.	Taph.	RF	LBF	U/I	Comments
Period 1									
cattle	cdv	1							
cattle	cev	1							
cattle	thv	1							
cattle	femur	3p							
cattle	scapula	3p	f						
cattle	pelvis	1		chp					
cattle	pelvis	1				10			
cattle	femur	1d							
cattle	femur	1d							
cattle	humerus	3p							
cattle	femur	3p							
cattle	humerus	3d							
cattle									r all unid
cattle	ph1								r
cattle	radius	2p				2		16	
cattle	mc								
cattle	radius	2p		chp		12			inner surface
cattle	radius	2d							
cattle	ph1								
cattle	mc								
cattle	mt	2p		chp					
cattle	mt	2d							
cattle	ph2								
cattle	ph3								
cattle	cev								
cattle	ulna			chp					
cattle	calcaneus								
cattle	astragalus					1	2		
cattle	mt	1p							2 frgs burnt bn
sheep						5			
sheep	humerus	3d							
sheep	teeth	1							
sheep									r all unid
sheep	scapula								
sheep	tooth								
sheep	tibia	2p							
sheep	mt	2p							
sheep	tibia	8s							
sheep	radius	8s							
sheep	radius	8s							

Table 4 (cont.) Mammal bones

Species	Element	Break	Age	Butch.	Taph.	RF	LBF	U/I	Comments
cattle	mt	2d							
cattle	tibia	2d	u						
cattle	femur	2d							
cattle	femur	2p				12	7	19	
cattle	ph3								
cattle	mc	2d							
cattle	mc	2p							
cattle	thv								
cattle						5			r
cattle	carpal (2)								r
cattle						6	10		
cattle						1			r
cattle	lbv					7	6		
cattle	scapula		u						
cattle	cdv								
cattle	astragalus							100	r
cattle	ph1								r
cattle	ph2								r
cattle	ph3								r
cattle	scapula (2)								r
cattle	mandible (2)								r
cattle	calcaneus								r
cattle	ph2					1			
cattle	ph1	1							
cattle	ph2								
cattle	tibia	1s							
cattle	ph1 (2)								
cattle	tibia	2s							
cattle	mc	2s							
cattle	pelvis								
cattle	mt	2p							
cattle	scapula (2)								
cattle	astragalus								
cattle	tibia	2d							r
cattle	pelvis								r
cattle	ph1					4			
cattle	ph2								
cattle									r all unid
cattle	tibia	2d							
cattle	mc	2p						6	
cattle	humerus	2d		chp					
cattle	femur	3p				3			

Table 4 (cont.) Mammal bones

Species	Element	Break	Age	Butch.	Taph.	RF	LBF	U/I	Comments
cattle									r all unid
cattle	cev (2)								
cattle	femur	2d	u						
cattle	scapula (2)			chp					
cattle	ulna			chp	g				
cattle	humerus	2d							
cattle	cev								
cattle	astragalus			chp					
cattle	thv						1	13	
cattle	skull (3)								
cattle	cdv		u			36	4	17	
cattle	ph2								
cattle	skull								
cattle	femur	3d				10	2		
cattle	tibia	1p							
cattle	pelvis	1							
cattle	ph1								
cattle	thv								
cattle	pelvis								
cattle							2		r all unid
cattle	humerus	2p				16			
cattle	astragalus								
cattle	scapula								r
cattle	vert (2)								r
cattle	mt	3d							
cattle	mt	3p							
cattle	mt	3p	up					4	
cattle	teeth								
cattle									r all unid
dog	tooth								r
hare	humerus	8d							
sheep	pelvis					2			
sheep	tooth							5	
sheep									r unid.
sheep	ph2							19	
sheep						2			
sheep	humerus	2d					2		
sheep	mandible (2)					18		13	m3 unerupted
sheep	femur	2p							
sheep	cev	1					1	50	
sheep	calcaneus								r
sheep	humerus	2d							

Table 4 (cont.) Mammal bones

Species	Element	Break	Age	Butch.	Taph.	RF	LBF	U/I	Comments
sheep	skull								
sheep	carpal								
sheep	pelvis								
sheep	pelvis						11		r
sheep	pelvis								r
sheep	tibia	2p							r
sheep	tooth								
sheep	tibia	2d	u						
sheep	tibia	2d	f	chp					
sheep	femur	2p							
sheep	tibia	2p							
sheep	mc.	2d							
sheep	mc.	2p							
sheep	mandible								
sheep	tibia	1d							
sheep	tibia	3d							
sheep	pelvis								
sheep	tooth					7			
sheep	tibia	3p							
sheep	radius	3d	u						
sheep	humerus	3d							
sheep	humerus	2d							
0sheep	mandible (2)								
sheep	radius	2p							
sheep	scapula (6)			chp					
sheep	ulna								
sheep	pelvis (2)								
sheep	humerus	3d	f						
sheep	humerus	2p				10			
sheep	vert								
sheep	radius	8s				8	3		
sheep	radius	3d							
sheep	tibia	8s							
sheep	pelvis								
sheep	teeth (3)					2			
sheep									
sheep									r all unid
sheep	scapula								r
sheep	skull								r
sheep	teeth (6)								r
sheep	humerus	2d				4			r
sheep	tibia	2p							r

Table 4 (cont.) Mammal bones

Species	Element	Break	Age	Butch.	Taph.	RF	LBF	U/I	Comments
sheep	mandible								r
sheep	vert								r
sheep	scapula					7	8		r
sheep	mandible (2)								r
sheep	tibia	2p							r
sheep	teeth (10)								r
sheep	astragalus								r
sheep	teeth (14)								r
sheep	mandible								r
sheep	radius	2p				7		100	r
sheep	mc	1s							
sheep	radius	9d							
sheep	humerus	3d							
sheep	tibia	8s							
sheep	humerus	2d							
sheep	teeth (6)								
sheep	tibia	8s						20	
sheep	femur	3d							
sheep	mc	8s							
sheep	ulna								r
sheep	pelvis (4)								r
sheep	mandible								r
sheep	ph2								
sheep	tibia	2p							
sheep									r unid
sheep	ph2								
sheep	pelvis (2)						1	20	
tblsheep	mt	8							
sheep	teeth (6)								
sheep	humerus	2p							
sheep						1			r unid
sheep	tibia	2d							
sheep	mc	2p							
sheep	mc	2d							
sheep	thv								
sheep	scapula							3	
sheep	pelvis								r
sheep	humerus	2d			g				
sheep	radius	2d							
sheep	mc	2p				1		6	
sheep	mc	2d							
sheep	tibia	2p							

Table 4 (cont.) Mammal bones

Species	Element	Break	Age	Butch.	Taph.	RF	LBF	U/I	Comments
sheep	tibia	2d							
sheep	tibia	2d							
sheep	tibia	2p	u						
sheep	calc								r num unid
sheep	pelvis								
sheep	tibia	3p						2	
sheep	tibia	3d							
sheep	tibia	3d							
sheep	tibia	3d							
sheep	tibia					6			r
sheep	pelvis (2)								
sheep	mandible								m2 unerrup
sheep	mand (2)								
sheep	cev								
sheep	scapula (5)								
sheep	ulna	8							
sheep	ulna	2p	f						
sheep	calcaneus								
sheep	skull (2)								
sheep	atlas								
sheep	radius	2d							
sheep	radius	2p	f						
sheep	radius	2d	f						
sheep	radius	2p	u						
sheep	humerus	2p	u			18			
sheep	humerus	2d							
sheep	humerus	2d							
sheep	humerus	2d							
sheep	cev								
sheep	skull (2)								
sheep	atlas (2)								
sheep	astragalus				chp				
sheep	ulna (2)								
sheep	cdv		u						
sheep	pelvis (3)								
sheep	thv								
sheep	ph1								
sheep	humerus	2d				1			
sheep	humerus	2p							
sheep	tibia	2d							
sheep	tibia	2d							
sheep	tibia	2p							

Table 4 (cont.) Mammal bones

Species	Element	Break	Age	Butch.	Taph.	RF	LBF	U/I	Comments
Period IV-V									
cattle						1			
cattle	astragalus								
cattle	ph1			chp			5		
cattle	radius	8s				1			
cattle	scapula								
cattle	femur	2d				39			
cattle	radius	2d							
cattle	humerus	1p							
cattle	thv (2)			chp					
cattle	mandible								
cattle	cev (2)								
cattle	scapula								
cattle	pelvis								
cattle	calcaneus								
cattle	skull					8			
cattle						2		8	
sheep									r unid
sheep	scapula (2)		u			9		6	
sheep									r unid
sheep	mandible								
sheep						1			
sheep	thv								
sheep	tooth								
sheep	pelvis								
sheep	pelvis								
sheep	pelvis (2)								
sheep	tibia	2d							
sheep	tibia	2d							
sheep	tibia	8s							
sheep	mandible								m2 unerrupt
sheep	thv								
sheep	scapula (6)								
sheep	femur								r
sheep	calcaneus					24	8	12	
sheep	tibia	3p							r
sheep	vert								
sheep	axis			chp					
sheep	atlas								
sheep	sacrum frg								
sheep	radius	2p				12	3		
sheep	tibia	3p							

Table 4 (cont.) Mammal bones

Species	Element	Break	Age	Butch.	Taph.	RF	LBF	U/I	Comments
sheep	radius	2p							
sheep	femur	2d							
sheep	tibia	8s							
sheep	ulna								r
sheep	scapula					5	7		r
sheep	astragalus								r
sheep	mc	2p	u			22		100	r
sheep	humerus	8s							r
sheep	humerus	2d							
sheep	humerus	2p	u						
sheep	radius	2d							
sheep	tibia	2d	u						
sheep	horn								
sheep	mandible								
sheep									
sheep	ulna								
sheep	scapula (6)								
sheep	cev (9)							1	burnt
sheep	thv (6)								
sheep	calc (2)								
sheep	skull								
sheep	Ph1								
sheep	tibia	2p							
sheep	tooth								
sheep	thv								
sheep	scapula								
sheep	scapula					5			
Period V									
cat	femur		u						
cat	tibia	1	u					100	r
cattle	mc.	2p							
cattle	mc.	2d							
cattle	tibia	2p							
cattle	tibia	3d							
cattle	ph2	1							
cattle	ph1	1							
cattle	ph1								
cattle	tibia	2d							
cattle	skull								
cattle	cev								
cattle	scapula								
cattle	ulna					1			

Table 4 (cont.) Mammal bones

Species	Element	Break	Age	Butch.	Taph.	RF	LBF	U/I	Comments
cattle	femur	8s							
cattle	femur	2p				3			
cattle	thv							2	
cattle	radius								
cattle	radius		u			1			
cattle	humerus	2p				2		15	
cattle	mc.	2p							
cattle	mc.	2d				1			
cattle	skull								
cattle	mandible								m2 half erupt.
cattle	radius	2p							
cattle	tibia	3p				6		24	
cattle	ulna								
cattle	ph1								
cattle	scapula								
cattle	lbv								
cattle	thv		u						
cattle	ph3								
cattle	pelvis (2)								
cattle								3	
cattle	humerus	2p						2	
cattle	tibia	8s							
cattle	humerus	2d							
cattle	carpal								
cattle						1			r all unid
cattle	astragalus			chp		1			
cattle	radius	3p							
cattle	tibia	2d				4		11	
cattle	calcaneus								7 frgs burnt bn
cattle						1			
cattle	pelvis								
cattle	femur	3p							
cattle	cdv(2)								
cattle	cad								
cattle	ph2					2	13	8	
cattle	carpal frag.								
cattle	atlas frag.								
cattle	femur	3p	up						
cattle	pelvis (3)			chp					
cattle	femur	3d		chp					
cattle	mt	3d							
cattle	ph3	1							

Table 4 (cont.) Mammal bones

Species	Element	Break	Age	Butch.	Taph.	RF	LBF	U/I	Comments
cattle	cdv	1							
cattle	scapula (3)								
cattle	cev (2)								
cattle	teeth (4)								
cattle	radius	3p							
cattle	ulna								
cattle	mc	2d							
cattle	thv								
cattle	mc	2p	u						
cattle	femur	2p	u			13	4	68	
cattle	tibia	3d							
cattle	astragalus	1							
cattle	humerus	3d				2			
cattle	ph2								
cattle	tibia								
cattle	radius	2p				3		6	
cattle	mp	1							
cattle	cev							4	
cattle	tibia	2p							
cattle	tibia	2p							
cattle	skull (11)								
cattle	hyoid								
cattle	scapula								
cattle	cev								
cattle	radius	3p							
cattle	humerus	2p							
cattle	ph2								
cattle	tibia	3d							
cattle	cev		u						
cattle	tibia	3p				10	4		
cattle	tibia	3d							
cattle	phal.								
cattle	scapula (2)								
cattle	ulna			chp					
cattle	femur	2p							
cattle	femur	2p							
cattle	radius	2p		chp					
cattle	humerus	2d							
cattle	humerus	2p			4	13			
cattle	skull								
pig	tooth								
sheep	tooth					1			

Table 4 (cont.) Mammal bones

Species	Element	Break	Age	Butch.	Taph.	RF	LBF	U/I	Comments
sheep	scapula (2)				g				
sheep									
sheep	tooth (1)								
phasheep	mandible								
sheep	mc	1	u						
sheep	humerus	3d							
sheep	humerus	3d			g	1		3	
sheep							2		
sheep	pelvis					1		3	
sheep						2		1	
sheep	pelvis								
sheep	atlas			chp					
sheep	humerus	3d						6	
sheep	humerus								
sheep	humerus					1			
sheep	radius	2d	u						
sheep	radius	2p							
sheep	ulna								
sheep	atlas								
sheep	femur	head							

Key

Element calc: calcaneus; cdv: caudal vertebra; cev: cervical vertebra; lbv: lumbar vertebra; mc: metacarpal; mt: metatarsal; ph1: phalanx 1; phal: phalanx; thv: thoracic vertebra

Break (breakage) 2p: 20% of shaft present plus proximal epiphysis; 2d: 20% of shaft present plus distal epiphysis; 8s: 80% of shaft (only) present; 1: complete bone

Age u: unfused; f: fused; up: unfused proximal

Butch. (butchery) chp: chop mark present

Taph (taphonomy) g: evidence of gnawing

RF number of rib fragments

LBF number of broken long bone fragments

U/I number of unidentified fragments.

Comments r: material from sieved samples; unid: unidentified; bn: bone; unerrup: unerrupted.

important source of food and it has been noted (Smith 1877, 112) that bones of slaughtered animals were stored after the meat was removed and kept for periods of food shortage. Evidence of excessive chopping of the bone occurs in Periods IV and V also, indicating that this was not just a phenomenon associated with the early years.

A large number of sheep long bones displayed evidence of gnawing, suggesting that they were finally used to feed cats or dogs.

12.3 Small mammals

Cat (*Felis catus*) was represented by an unfused femur and tibia respectively. Mature hare (*Lepus timidus*), common house mouse (*Mus domesticus*), common shrew (*Sorex araneus*) and field vole (*Microtus agrestis*) were also present. As most of

these contexts show signs of disturbance it can be said that the majority of the mouse bones are likely to be intrusive.

The cat bones, unlike those found at Pluscarden Priory or Rattray Castle (McCormick 1994, 412; McCormick forthcoming) did not display any cut marks so it cannot be said if skinning took place or if the Dundrennan cat was eaten (as may have been the case at Pluscarden). The hare bone did not display any visible signs of butchery either but this species is known to have been hunted widely as game.

12.4 Birds

A large quantity of bird bones was recovered from Period IV and V contexts. The majority of the bones were of domestic fowl (*Gallus gallus*, 72%), followed by domestic goose (*Anser anser*, 13.8%). Other

Table 5 Fusion of cattle and sheep bones

Cattle	months	element	fused	unfused	Sheep	months	element	fused	unfused
Period 1					Period II				
	7-10	scapula		1		6-10	scapula	1	
		pelvis		2			radius p		
	12-18	humerus d		1			pelvis		
		radius p		2			humerus d	3	
	24-30	metac d				18-28	metac		
	27-36	metat d		1			tibia d	1	
		tibia d					metat	1	
	36-42	calc		1		30-42	radius d		
	42	femur		2			femur d		
	42-48	humerus p		1			humerus p	1	
		radius d		1			femur p		
		femur d		2			tibia p	1	
		ulna p					ulna	1	
							calcaneus	1	
Period 2					Period IV				
	7-10	scapula	1	1		6-10	scapula	3	
		pelvis	3	1			radius p	3	1
	12-18	humerus d	2				pelvis	6	
		radius p	1				humerus d	5	
	24-30	metac d	2			18-28	metac	7	
		tibia d	2				tibia d	8	1
	27-36	metat d	1				metat	1	
	36-42	calcaneus	1	1		30-42	radius d	4	
	42	femur p	1				femur d	2	
	42-48	humerus p	1				humerus p		1
		radius d					femur p	2	1
		femur d	1				tibia p	7	1
		ulna p	1				ulna	0	
Period V					Period V				
	7-10	scapula				6-10	scapula	2	
		pelvis					radius p	4	1
	12-18	humerus d	2				pelvis	8	
		radius p	3				humerus d	6	
	24-30	metac d	2			18-28	metac		1
		tibia d	6	1			tibia d	7	
	27-36	metat d	1				metat	3	
	36-42	calcaneus	1			30-42	radius d	3	3
	42	femur p	1	1			femur d		
	42-48	humerus p	3				humerus p	1	3
		radius d	4				femur p	2	1
		femur d	1				tibia p	5	1
		ulna p	1				ulna	1	3
							calcaneus	1	

Key

d: distal; metac: metacarpal; metat: metatarsal; p: proximal

species included teal (*Anas crecca*, 2%), mallard (*Anas platyrhynchos* 1.3%), whimbrel (*Numenius phaeopus*, 1.3%), jackdaw (*Corvus monedula*, 1.8%) and snipe (*Gallinago gallinago*, 1.3%). A single humerus morphologically similar and matching in size to merlin (*Falco columbarius*) was present (representing 1.3% of the assemblage). A list of all species and parts present is given by Table 6.

Poultry was eaten extensively by the monks who were officially allowed to eat the meat of two- but not four-legged creatures. Domestic fowl and goose appeared also as the primary bird remains in excavated assemblages from the Observantine friary at Jedburgh and a Valliscaulian house at Pluscarden (Groves forthcoming; Hamilton-Dyer 1994, 414). Some jackdaw bones were also noted at Pluscarden. None of the Dundrennan fowl tarsometatarsii remained intact, but where it could be ascertained from the lower distal shaft area, it was noted that no spurs or spur scars were present, indicating the presence of female birds only in these instances. Records from the rental of Braemar dating from 1557, mention '176 reik hens at 4 d each'. Reik hens are farmyard hens and formed part of the rent paid in kind by tenants (Shirley 1926, 25). The majority of the Dundrennan bones were mature, indicating that the birds were likely to have been kept until later in life as suppliers of eggs.

A number of the fowl humeri displayed cut marks on the proximal bicipital surface, and a further few displayed cuts on the distal condyles of the tibiotarsii. Cut marks in these areas are consistent with the removal of the wing bones and leg bones, probably after cooking. All skeletal elements were present indicating the chickens were likely to have been cooked whole in the pot. A number of the fowl bones display tooth marks in the area of the distal condyles, indicating that the bones were finally chewed by cats or dogs.

The presence of teal and mallard imply that the monks enjoyed wild game on occasion. Wild birds recorded as having been eaten in religious houses are quite varied and included curlew and snipe (Black 1993). This may account for the presence of snipe and whimbrel (small curlew) in the sample.

The merlin (the smallest of the falcons) may have been used for hunting. That monks and neighbouring landowners sometimes came into dispute over hunting rights is illustrated by an agreement in 1235, between the monks of Melrose and Roger Avenel, regarding rights to the eyries of goshawks and sparrow hawks (Shirley 1926, 15). The records attest also to the widespread protection of hawks. Hawking may have been an important occupation of the monks, not only for sport, but to provide small birds for the table on those days when other meat was forbidden.

Table 6 Bird bone

Species	Element	Break	Age	Butchery	Taphonomy
	cmc				
	tibio-t				
	cmc				
	sternum				
	tooth				
	femur	2p			
	pelvis				
	skull				
	radius	9p			
	scapula				
	pelvis				
	pubis				
	sternum				
df	sternum frg				
df	tibia				
df	femur	3p			
df	humerus			chp	
df	scapula frg				
df	ulna				
df	coracoid				
df	tibio-t	9d			
df	pelvis frg				
df	tibio-t	1			
df	tibio-t	1			
df	humerus	8s		u	
df	tmt	1			
df	humerus	3p			
df		9d			g
df	sternum				
df					
df	tmt	9d			
df	humerus	2p		u	
df	cmc				
df	ulna	1			
df	ulna	2d			
df	femur	2d			
df	femur	1			
df	coracoid	1			
df	ulna				
df	radius				
df	humerus	9d		u	
df	ulna	9d			
df	sternum				
df	furcula frgs				
df	pelvis				
df	tibia	9p			

Species	Element	Break	Age	Butchery	Taphonomy
df	radius	1			
df	pelvis frg				
df	humerus	3d			
df	coracoid				
df	radius	5p			
df	tibio-t	2d			
df	tibio-t	4d			
df	humerus				
dg	ulna	1			
dg	coracoid				
dg	furcula				
dg	furcula				
jackdaw	ulna				
jackdaw	tibio-t				
jackdaw	tarso-m	1			
mallard	humerus				
merlin	cmc	1			
snipe	femur	1			
snipe	radius	3d			
teal		9d			
teal		9p			
Period IV-V					
	tibio-t	1			
	tibio-t				
	femur				
	humerus				
df	scapula				
df	femur	1			
df	sternum				
df	tibio-t	1			
df	tibio-t	2d			
df	scapula				
df	pelvis				
df	ulna				
df	tibio-t				
df	humerus				
df	ulna	8s			
df	pelvis frg				
dg	coracoid				
dg	humerus	2d			
dg	coracoid				
merlin	tibio-t	4d			
wader	tibio-t				
whimbrel	tibio-t	6d			
Period V					
	3 unid				
	femur				
	shaft				
	cmc (2)	1			
	humerus				

Species	Element	Break	Age	Butchery	Taphonomy
	humerus				
	tmt (2)				
	tibio-t	2d			
	tibio-t	2p			
	tibio-t				
	pelvis (2)				
	radius frg				
df	humerus (3)				
df	tibio-t	9p			
df	tibio-t	1			
df	coracoid				
df	tibia				
df	tibia			chp	
df	sternum				
df	femur	1			
df	pelvis				
df	radius	9d			
df	pelvis	1			
df	femur	9p			
df	coracoid				
df	coracoid				
df	femur	1			
df	sternum				
df	humerus	1		chp	
df	sternum frgs				
df	sternum frgs				
df	tibio-t				
df	sternum				G
df	furcula				
df	tmt				
df	Pelvis frgs				
df	coracoid (2)				
df	tibia	2d			
df	tibia	1			
df	tmt				
df	coracoid				
df	sternum (4)				
df	radius	1			
df	femur				
df	furcula				
dg	tibio-t				
duck	coracoid				
jackdaw	humerus				
wader	radius				

Species: dg: domestic goose; df: domestic fowl
Break (breakage) 2p: 20% of shaft present plus proximal epiphysis; 2d: 20% of shaft present plus distal epiphysis; 8s: 80% of shaft (only) present; 1: complete bone
Age u: unfused *Butch.* (butchery) chp: chop mark present
Taph (taphonomy) g: evidence of gnawing