Context Sample	562 60180	513 60177	516 60178	546 60179	546 60282	563 60181	565 60182	565 60283	683 60183	628 60184	Total
Small fish		_	_	_		_	1	_	_	_	1
Frog (Rana sp)	1	3	-	6	4		4	_	3	_	21
Thrush (Turdus sp)	-		-	-	-	_	1	-	1	-	2
Smaller bird	-	-	-	_	-	_	1	_		-	1
Larger bird		_	-	_	_	-	_	-	+	_	+
Mole (Talpa europaea)	-	-		1	1	1			-		3
Common shrew (Sorex araneus)	13	1	4	59	24	17	57	2	14	1	192
Pigmy shrew (Sorex minutus)	-	1	_	2	1		2		1	*****	7
Water vole (Arvicola terrestis)		_	-	1	-	_	_	1	_	-	2
Small vole (Microtus/ Clerthrionomys)	14	- 10.000 - 1	3	16*	9	23	15	2 .	26	2	110
Mouse (Mus/ Apodemus)	9	3	1	23	6	1	13	_	3	-	59
Total	37	8	8	108	45	42	94	5	48	3	398

+: present but not 'countable'

Figure 5.8

Frequency of vertebrate taxa from sieved samples. Late-16th-century deposits in the nave. The following elements have been 'counted': amphibians: pelvis, birds: distal humerus, mammals: mandibles with M_1 in place. The only fish specimen is represented by a maxilla fragment

mice. Smaller (pygmy shrew) and larger (mole and water vole) species are also present, but in a much smaller number. A few fish, bird and, more commonly, amphibian bones were also recorded. All amphibian pelvises belong to the frog and no evidence of the presence of the toad (*Bufo bufo*) was found.

On the basis of the bone preservation, the pattern of the skull breakage and the range of species found it is most likely that this assemblage does not have an anthropogenic origin, but rather derives from owl pellets. All bones may derive from pellets as, alongside small mammals, both fishes and amphibians, as well as birds are also occasionally hunted by several owl species (Cramp 1985). In this case the pellets were probably regurgitated by a barn owl (Tyto alba). This is the species most likely to nest or roost in old churches, ruins and similar environments and the presence of complete anterior skulls is typical of pellets of the barn owl and the long-eared owl (Asio otus), but not of the tawny owl (Strix aluco) (Cramp 1985). Shrews, which are very common in this assemblage, are also typical preys of the barn owl, but they are generally disliked by other species such as tawny owl, long-eared owl and short-eared owl (Asio flammeus) (Chaline 1974). Furthermore, amphibians, which are quite common in this assemblage, are very rare in short-eared owl pellets (Cramp 1985).

The identification of this assemblage as deriving from owl pellets confirms the state of decay of the church and the possible desertion of the site in the post-1538 period, as it is unlikely that during the

period of activity of the abbey owls would be allowed to roost within the church.

5.8 LARGE MAMMAL BONES AND BIRD BONES

by A Outram

Identifications

Fragments have been identified, where possible, to element, species and side of animal. Sometimes, where exact speciation was not possible, fragments have been put into classes such as cattle/horse or ovicaprid/pig. Sheep and goat are notoriously difficult to distinguish from each other and are often placed in a category together as 'ovicaprids' (sheep/goats). Sometimes a positive identification was possible using the criteria laid down by Boessneck (1969). The ribs and vertebrae, which are not particularly diagnostic zones of the animal and are frequently not studied at all, have been classed roughly into ovicaprid/pig and cattle/horse categories by size, apart from when there is something specifically of note.

Species present

The large mammal assemblage consists of cattle (*Bos*), horse (*Equus*), pig (*Sus*) and sheep/goats (*Ovis/Capra*) (Figure 5.9). All these are common domestic farm

^{*:} includes 15 field voles (Microtus agrestis) and 1 bank vole (Clethrionomys glareolus)

Species	Number of bone fragments					
~1	Medieval to Dissolution	Post-medieval				
Pig	3	41				
Ovicaprid	2	62				
Ovicaprid/pig	7	56				
Cattle	7	186				
Horse	1	54				
Cattle/horse	16	177				
Indeterminate	72	441				
Total	108	1017				

FIGURE 5.9

Large mammals. Numbers of fragments by species present

Species	Bone fragments		
Domestic fowl	9		
Greylag goose (Anser anser)	2		
Woodcock (Scolopax rusticola)	2		
Jackdaw (Corvus monedula)	5		
Song thrush (Turdus philomelos)	1		
Pigeon (Columba sp)	4		
Starling (Sturnus vulgaris)	1		
Indeterminate	7		

FIGURE 5.10

Bird bones. Number of fragments for species present (post-medieval)

species. Of the ovicaprids only sheep have been identified definitely but this does not rule out the presence of some goats. Though no bones of dog (Canis) were found in the assemblage, it must have been present on the site judging from the large number of dog-gnawed specimens. The assemblage is too small to attempt useful quantitative studies, but cattle is by far the commonest species in the assemblage.

Age and sex of animals

The assemblage is far too small to examine age and sex structures but the inventory of bones (in the site archive) gives indications of age ranges and sex of animal where this is possible. The only sexable fragments in this assemblage were the canine teeth of pigs, all of which were male (the sample size is very small).

Butchery

Cut marks, chop marks and saw marks are all noted in the inventory. There are no unusual butchery patterns. The only thing of note is that most of the vertebrae have been split or sawn dorso-ventrally (in other words, the animal has been split long-ways down the back into sides). The cutting of animals into sides like this tends to first become common in the post-medieval period. This was shown to be the case in extensive studies in Exeter (Maltby 1979), however the practice is found as early as the mid 11th century in York (Davis 1987).

Animal size

The sample is too small to examine metrical data. However, it should be noted that some of the ovicaprids are particularly large, for example the sheep humerus (88BD 1009 sf 11152), the ovicaprid pelvis (90BG 171) and the ovicaprid metatarsus (90BD 502 sf 1197). These large specimens most probably represent improved stock dating to the post-medieval period, probably after the agricultural revolution (Davis 1987).

Pathology

Only one specimen had pathologies worthy of note. Two lumbar vertebrae of a horse (89BH 1300; modern) had fused together. This is probably the result of the animal being a work animal with its back under constant strain (L Gidney pers comm). The articulations of the more caudal of the two vertebrae (that would articulate with the sacrum) were arthritic, showing articular wear, grooving and exostosis.

Bird bones

The assemblage consisted of 32 bird bones which have been identified as far as possible to element, species and side (Figure 5.10). Only one bone came from a medieval context, a domestic fowl deposited at the Dissolution. A full catalogue of mammal and bird bones is in the site archive.