Historic England

Animal Management

Introductions to Heritage Assets

Summary

Historic England's Introductions to Heritage Assets (IHAs) are accessible, authoritative, illustrated summaries of what we know about specific types of archaeological site, building, landscape or marine asset. Typically they deal with subjects which have previously lacked such a published summary, either because the literature is dauntingly voluminous, or alternatively where little has been written. Most often it is the latter, and many IHAs bring understanding of site or building types which are neglected or little understood.

This IHA provides an introduction to several types of animal management heritage assets intended primarily to manage wild or semi-wild animals and fish, namely deer parks, warrens, dovecots, fishponds and duck decoy ponds. The information that follows covers the history, development and use of these animal management techniques which exist in the historic environment. A summary of the academic interest in the asset types is also included which outlines the research which has been undertaken for each type of animal management. Deer parks, warrens, dovecotes, and fishponds provided a living larder for those privileged to maintain them and this document outlines their associations with each other and a variety of domestic complexes. A list of in-depth sources on the topic is suggested for further reading.

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Front cover
The interior of Minster Lovell dovecote showing the nesting niches and open lantern allowing the doves to come and go.

Introduction

This description covers all those classes of heritage asset intended primarily to manage wild or semi-wild animals and fish, principally for food production. These include such disparate features as deer parks, rabbit warrens, dovecotes, fishponds and duck decoy ponds. What unites them are their roles as 'living larders' and their high status due to their construction and maintenance costs. As such they are frequently associated with one another; warrens and fishponds were often located within deer parks, and all three, with dovecotes, were often associated with sites reflecting nobility, or religious authority.

Deer parks were areas enclosed for the management and hunting of deer and other wild animals, containing both woodland and grassland. Since they were enclosed they also provided a protected area for other uses. One of their distinguishing characteristics in the medieval landscape, where much land was farmed communally, was their private nature. They were found in virtually every county in England but were densest in the midlands and south-east, and least so in the far north, south-west, East Anglia, and Lincolnshire. Within individual counties, there was frequently a close correlation between wooded areas and parks.

Warrens were areas for breeding rabbits (or 'coneys') which were introduced to southern England by the Normans by about 1100. The practice of rearing rabbits soon spread to almost every part of the country. The medieval rabbit was rare and highly prized for both its meat and pelt; warrens were initially the prerogative of the elite. By the 13th century many high status residences had purpose-built enclosures, or 'coneygarths', some containing artificial mounds to house the rabbits. There was a steady rise in the number of warrens from the late 14th century onwards but they also began to descend the social scale until by the end of the 18th century rabbit was considered 'poor food'. Many warrens were obliterated by agricultural improvements, and of the thousands which existed relatively few retain significant remains.

Dovecotes (cover image) were buildings designed to house doves. In the medieval period they were subject to manorial monopolies but by the early modern period could be found on many large farms throughout England. A range of forms existed but all featured niches for the doves to nest in and open access, usually through the roof, so that doves could feed in the local countryside. Ground level access was restricted to keep out predators and for security. An average dovecote could have 1,000 nesting niches. Dovecotes are principally known from standing buildings, although their foundations have been uncovered by excavations on manorial or monastic sites and have sometimes been identified as circular earthworks.

Fishponds were artificial fresh-water pools for breeding, raising and storing fish and were often complex, with groups of ponds and several water channels. The ponds were constructed in a variety of ways but were typically triangular or rectangular. Romano-British fishponds are known; their distribution probably similar to that

of the villas they served. Medieval fishponds were commonplace, though the majority were found in central, eastern and southern England. They were rarer in upland areas and areas with other sources of fish available, such as near the coast. Fishponds occur both singly and as groups and were typically associated with high status sites such as manor houses, castles and monasteries. Since they required a fresh water supply, valley locations were typical and the majority were found on heavy clays. Most were close to settlements, so that they could be watched. Others were within parks, also for security.

Duck decoy ponds were also artificial or modified pools, with one or more curving ditches called pipes leading off. Although ducks were trapped in the medieval period, often using nets on ponds, duck decoy ponds are essentially a post-medieval phenomenon, the earliest known examples dating to the 17th century. They are principally recognised by the characteristic plan of the pipes. Wildfowl were encouraged onto the pond and lured up the netted pipes to be trapped. They were generally located in the low-lying areas of England, with a bias towards the eastern counties. They were typically built in open countryside, away from habitation, since their success depended on a quiet and peaceful situation. They generally occur singly, any apparent clustering being the result of construction on adjacent landholdings.

1 Descriptions

Together with the forest and the chase, **deer parks** formed one of the main hunting grounds of medieval England, and were also associated with lordly display and entertaining. They differed in that they were smaller and fully enclosed (Figure 1). As well as hunting enclosures parks formed secure areas suitable for other activities such as woodland management, secure grazing, fishponds and warrens.

As deer can leap large distances they had substantial boundaries. This 'pale' (Figure 2) normally comprised a bank, topped by a fence, hedge or wall, with a ditch on the inside, though not all of these elements were always present. The pale was broken by gates and occasionally by a deer leap, which allowed deer to enter a park but not leave it, thereby increasing stock numbers. The pale often remains as a massive fenced or hedged bank, though the ditch may have filled in. The optimum shape for a deer park was circular, since this enclosed the maximum area for the minimum outlay on boundary construction, and curvilinear boundaries were common. Existing natural features such as water courses were sometimes used for sections of the boundary and may affect the plan.

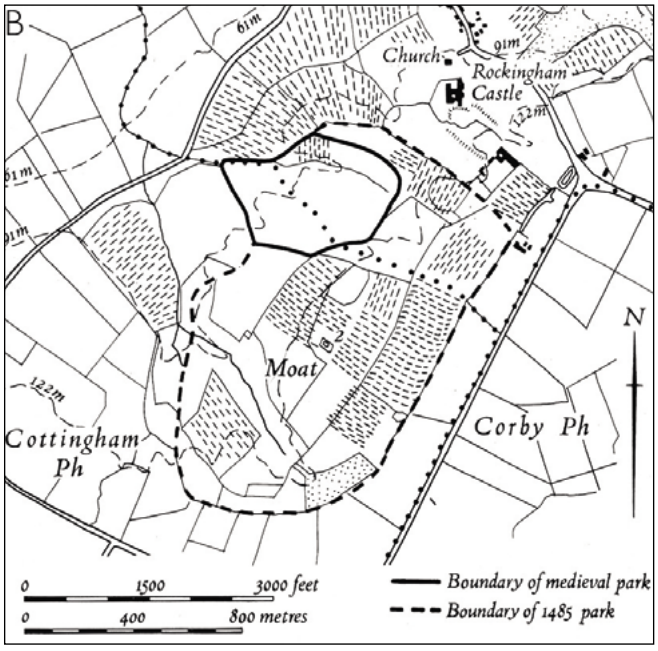

Figure 1
Plan of Rockingham deer park in Northamptonshire: note the development of the park (the moat probably marks the site of a lodge).

The size of deer parks varied considerably, from over 1,000ha to less than 5ha, with a typical size being about 60ha. Many earlier examples were small with rounded plans, later examples tending to be larger and more irregular, but shape was often related to local topography, and size to the owner's wealth. Deer parks contained a mixture of woodland and grassland; the cultivation and management of the woodland was very important and the young trees and shoots were protected from grazing by internal pales and/or fences, the grassland provided fodder for the deer in areas called laundes ('lawns'). They also required a supply of fresh water for the deer and often contained high ground.

Parks frequently contained a range of buildings such as parker's houses, hunting lodges, watchtowers, slaughterhouses and dower-houses some of which could be quite substantial. These buildings may survive, sometimes as modern farmsteads, with names that recall historic functions. Although typically associated with high status sites, most parks were situated some distance away on the margins of previously cultivated land. Nevertheless, there are numerous examples, especially from the 16th century, which were created adjacent to the lord's dwelling, over existing farmed and settled areas.

Figure 2
The extant pale of Lyddington Park, Rutland. The interior of the park is to the left but the pale clearly had ditches on both sides of the bank.

Warrens (Figure 5) were typically enclosed within boundaries to contain the stock, and limit predation and poaching. Islands, deer parks, monastic precincts and even prehistoric hillforts sometimes served as enclosures but many warrens required purpose-built boundaries, sometimes stretching long distances. Within these enclosures were artificial shelters, first developed in the medieval period, and termed 'buries' or 'burrows' from the 16th century onwards. These buries (or 'pillow mounds') were most commonly uniform, flat-topped, rectangular mounds of soil, usually 15m-40m long, 5m-10m wide, rarely exceeding 0.7m high. There were a range of shapes, including circular, conjoined, and cross-shaped as well as irregular mounds created from upcast and mounds adapted from other earthworks. Some excavated examples had artificial, stone-lined tunnels within, and similar arrangements were likely in many mounds. Most had perimeter ditches for drainage. They occurred singly or in groups of up to 40.

The warrener's lodge, placed to overlook the warren, provided accommodation and stores. Such lodges were occasionally of surprising quality. Outbuildings and enclosed gardens might accompany the lodge. Areas nearby may have been cultivated to ensure a supply of winter feed. Extensive warrens, often those that lasted into the 18th and 19th centuries, were established on marginal land, notably on moors and wolds in the south-west and north, throughout the sandy reaches of East Anglia and within the medieval forests of central and southern England. Smaller and earlier warrens, however, were established in almost every part of the country, and on all soils.

Known Romano-British **fishponds** were dug into the ground, revetted with stone and floored with slabs, constructional features not found in medieval examples. They were rectangular in plan with square profiles, measuring about 13m-65m by 2.5m-27m by 0.8m deep and occur singly or in groups of two or three. It is uncertain if they were simply for storage or if fish were bred. They have only been found within villa precincts (for instance Darenth and Eccles, Kent, Fishbourne, West Sussex, or Bancroft, Buckinghamshire) and some of the adjacent buildings may have been associated with them. Fresh water was usually piped to and from the pond, sometimes via the

Figure 3
Minster Lovell, Oxfordshire. This 14th century manorial complex features a circular dovecote (bottom right) and several fishponds. The remains of one can be seen far left.

villa complex. It has been suggested that Romano-British fishponds can be categorised by size but with few known examples this may not be meaningful.

Whether inland fish management using ponds was practised in the Anglo-Saxon period is unknown. After the Norman Conquest of 1066, and throughout the medieval period fish were highly prized, in part because of religious prohibitions against eating flesh on Fridays, and fishponds were mostly built by the elite who often had large fish-management complexes. The fishponds of the lesser nobility were usually on a smaller scale.

Medieval fishponds (Figure 3) show a wide range of construction techniques and sizes. In well-defined valleys earth dams could be built to retain ponds that were typically U-shaped in profile, several metres deep and could be over 100m long. Sometimes material from within the pond area was used to build the dam, producing steeper sides and a flatter bottom (Figure 4). On more level ground ponds were generally constructed by excavating a flat-bottomed basin and using the spoil to create outside banks. These were usually smaller and shallower; about 40m-70m by 20m-60m and 1m deep.

Figure 4
Aerial photograph from the south-east of the Bishop of Lincoln's impressive fishpond complex at Lyddington, Rutland. Water entered the complex from a small stream at top right. The pond to the west is secondary and may have powered a mill.

Most medieval fish-management sites had multiple ponds, typically two or three, but occasionally up to 12. Sometimes all were similar but in others they were of different sizes; the smaller ponds perhaps for breeding, the larger for stock rearing. In simple medieval examples, ponds located on valley floors could be flooded with fresh water by diverting a stream through them. Arrangements were usually more complex: water was channelled to the ponds along input leats and carried away by outlet leats, while bypass channels controlled fluctuations and prevented flooding. The leats could be several metres wide, about a metre deep and, in extreme cases, 1km long. The flow of water was controlled by sluices and their former positions can sometimes be seen.

Islands were common within medieval fishponds and they appear to have sat just above, or below, the surface. The functions of these islands is unclear but they were perhaps used as spawning areas or related to fishing or wildfowl management. Documents suggest that security was a problem and some fishponds were enclosed by a fence or hedge, or sited within deer parks or monastic enclosures. Buildings are infrequently found near medieval fishponds although the fish house at Meare, Somerset is a reminder that they did exist.

Ponds were regularly drained and cleaned; the soil recovered was used as a fertilizer. Ridge and furrow within ponds suggests that once drained a catch-crop might be grown. Medieval fishponds have been categorised by size, construction method, landscape situation and the number and arrangement of ponds.

Duck decoys (Figure 6) were based around shallow ponds (less than 1m deep) usually covering about 0.4ha-0.8ha. Many were in

low-lying alluvial areas and were simply dug out but some needed a clay lining and/or a dam. Irregularities in the banks or islands provided nesting places and there were sometimes shallow areas around the edges, also for nesting or launching small boats. The pond's overall plan was determined by the number and arrangement of the 'pipes'. These were long curving channels tapering away from the pond. They were usually about 65m long, 6m wide at the pond, decreasing to about 0.5m at their point. The number of pipes varied and examples exist with anything from two to ten. When in use they were covered by netting stretched over hoops. Decoys worked by enticement. Ducks landed on the pond to take advantage of the apparently safe environment or were encouraged by various means. They were then enticed up the pipes by scattering bait or lured by a small dog into the narrow end of the pipe where they were trapped in the 'tunnel net' which was detachable.

Decoys required a water supply and there were often various leats controlled by sluices as with fishponds. Buildings for the decoyman and equipment can also be found and decoys were often surrounded by woodland to provide shelter. The whole complex was usually protected by hedges or fences, sometimes with water-filled ditches.

Generally it was wealthier landowners who constructed decoy ponds as they were important status symbols. As they were relatively shallow the pipes quickly silt up, grass over and merge into the surrounding landscape. The pond though may remain. An excellent working example is maintained by the National Trust at Boarstall, Buckinghamshire.

2 Chronologies

Fishponds have the longest history with examples known from Roman Britain. Together with deer parks, warrens, and dovecotes, they (re)emerge in the medieval period as parts of a suite of monument types associated with the provision of fresh meat and the expression of status within the feudal system. It is possible that some deer parks existed before the Conquest but the Normans, with their love of hunting, established many new ones; Domesday Book (1086) recorded 36.

By the 13th century **deer parks** were an integral part of the manorial economy and numbers probably reached their maximum in the earlier 14th century when there may have been over 2,000 in England. From about 1350 economic decline meant the number being created and maintained fell dramatically. Some were still being created in the 15th century and a few in the post-medieval period and some of the earlier disused parks were re-opened and enlarged, but these were generally not as intensively managed or securely enclosed as their predecessors. By the end of the 17th century the deer park in its original form was becoming rare. Many survive today but incorporated within landscaped or amenity parks.

Archaeological excavations have proven that rabbits were eaten in Roman Britain, but no further trace of them is found until after the Norman Conquest. The earliest written source is a grant of land to Plympton Priory, **cum cuniculi** (with rabbits), in 1135. Henry III established one of

Figure 5
Aerial photograph of Huntingdon Warren, Dartmoor. The ditched pillow mounds can be seen running along the valley in the foreground with a second line beyond.

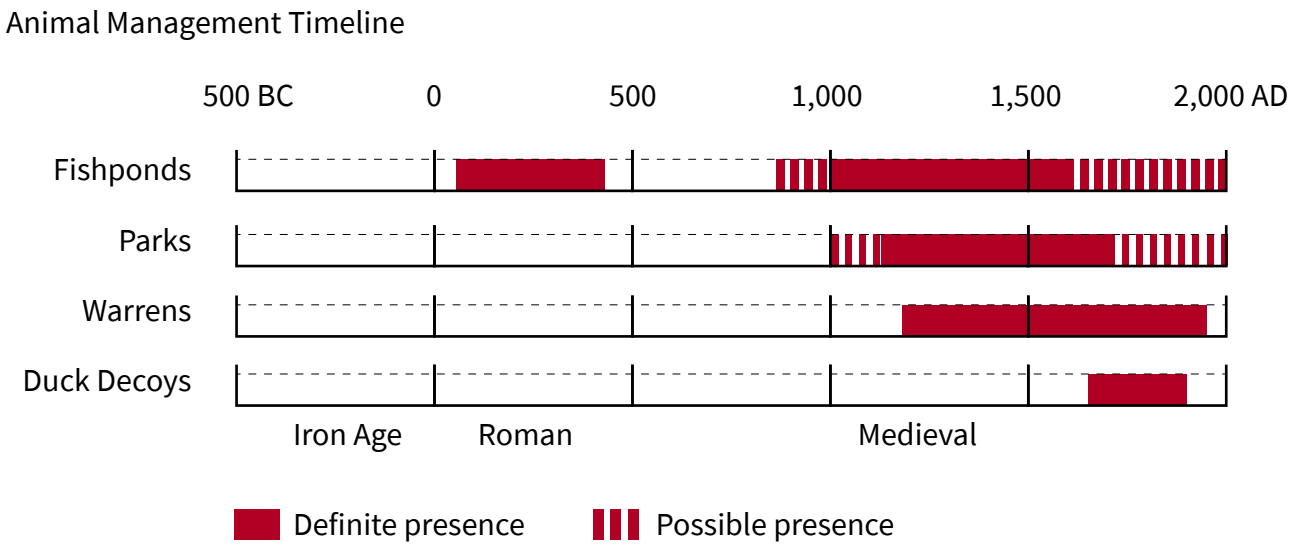

Figure 6
Aerial photograph of Abbotsbury Swannery (Dorset). Originally a typical square duck decoy pond with a pipe at each corner. That at bottom right remains in use and the frame, nets and screens are visible. The others have silted up or been modified.

the first mainland **warrens** at Guildford in 1235, and by 1300 warrens were widely scattered as far as Scotland. The 14th and 15th centuries saw a broader adoption of warrens including some massive enterprises by churchmen.

The greatest expansion, however, occurred in the post-medieval period. Although agricultural improvements about 1800 meant that better uses could be found for many, sizeable new warrens were still being created in upland areas providing pelts for the hat industry and cheap meat for the urban population and for industrial workers, like tinners on Dartmoor (Figure 5); some remained active into the 1900s. The last few were finally forced to close by the introduction of myxomatosis in 1954.

Though recorded at earlier dates on the Continent, the earliest known **fishponds** in Britain date to the 1st century AD and they were used throughout the Romano-British period. They re-emerged by the medieval period with the 12th century representing the high-point of fish farming in England. Although many show signs that they were used and maintained over long periods, the lifespan of individual fishponds is hard to gauge.

After the Dissolution of the monasteries in the 1530s fish farming declined, although in some areas it persisted into the 17th century. Most had fallen out of use by the mid-18th century. Some were reused as ornamental ponds in landscape parks and gardens, while others were adapted as water-cress beds.

By the 13th century ducks were being captured by driving them from ponds, sometimes artificially constructed, into tunnel nets. However in 1534, after numbers became seriously depleted, this practice was outlawed. **Decoy ponds** proper originated in Holland and were introduced into Britain during the 17th century; the term 'decoy' comes from the term 'eendenkooi', Dutch for a duck cage. Their high-point was the 18th and 19th centuries when large numbers were constructed. The majority fell out of use during the 20th century, when duck shooting became a popular sport. A number are still managed by nature conservation bodies.

3 Development of the Asset Types

The study of **deer parks** dates back to the 19th century, but there have been a number of recent surveys of individual parks, discrete areas of the country and parks under specific ownership. There are also numerous general discussions of deer parks. Documentary sources provide a wealth of information about the creation and management of deer parks. These records may include construction details, numbers of deer killed, accounts of expenditure, details of stocking and transportation of animals, and accounts of poaching and other illegal activity.

There seems to be little pattern to the development of deer parks which appears to be largely dependent upon the economic, political and social fortunes of their owners. Archaeological field survey has successfully mapped the course of many pales. A few have been excavated revealing a simple bank and ditch in section.

Until the 20th century the pillow mounds of rabbit **warrens** were often misinterpreted as barrows or other monuments, and to add to the confusion, rabbits and badgers often later created warrens and sets within prehistoric mounds. Academic interest developed in the late 1920s and there were deliberate excavations of pillow mounds from this time onwards.

Recent studies of warrens, or intensively warrened areas, have demonstrated the variety of their field remains and a great deal about their construction. Still wider studies provide compelling evidence for their social impact and economic importance.

Inevitably, these studies focus on later and greater warrens; less attention has been paid to smaller warrens, which played a more intimate role in the operation of lesser medieval manors and religious houses. The role of the warren in the setting of the post-medieval gentry house has, however, been advanced in several recent studies, and interesting theories have been put forward connecting the undoubted religious symbolism of the rabbit with the remains of warrens in monastic and secular settings.

Before the 1970s Romano-British **fishponds** were rarely mentioned in site reports and are absent from most general works dealing with villas, as there was a tendency to focus on the main structural villa remains and decorative areas. Scholars now understand the wider characteristics of villa complexes and estates in much more detail. They have only been discovered by chance at a few excavations, though others may not have been recognised. Consequently few examples are known and it is not possible to make generalisations about their development.

Interest in medieval fishponds dates back to the early years of the present century. A number of county-based studies have been published (for instance Avon, Hampshire, Northamptonshire and Worcestershire), together with several general surveys but very few detailed surveys or excavations have been undertaken. It has been suggested that the simpler examples are earlier in date than those which are more sophisticated but this has not been demonstrated.

A full discussion of **decoy ponds** was first provided in the late 19th century, when many were still in use. A number of publications have dealt with the history and workings of specific sites but there have been few county-based studies and generally the publications that exist are concerned with one or two specific decoys. Many have been recorded by air photography and earthwork survey, but there have been no published formal archaeological excavations of decoy ponds.

Both fishponds and duck decoys have significant and similar archaeological potential. Surface features and subsurface deposits can reveal details of their construction, dating and usage. Since they are typically in low-lying situations, and frequently waterlogged archaeological deposits may form a repository for evidence, not only about activity on the site but also about the wider environment.

4 Associations

Deer parks, warrens, dovecotes, and fishponds provided a living larder for those privileged to maintain them, and in the medieval and early post-medieval periods they sometimes occur in close association with one another and with manorial complexes, castles, palaces, monastic sites and country houses. They all existed within wide and complex systems of land ownership and management, and may be expected to retain relationships with the boundaries of other enclosures, for example coppice woodland or field systems, with roads and trackways, and with a variety of settlements.

Deer parks were commonly enclosed from, and consequently spatially associated with, forests and chases. They were also often located within, and contained areas of, woodland and heathland. As well as the park pale the buildings within a deer park may survive.

The water supply for the deer was commonly dammed to form **fishponds**. Since they were surrounded by a substantial enclosure which reduced poaching, rabbit warrens, decoy ponds and enclosures for pheasants, partridges and hares could be situated in parks. Horse studs were also frequently located in parks.

In some cases previously settled land was emparked so traces of medieval field systems and deserted settlements can be seen. Since deer park creation 'fossilised' part of the landscape many contained earlier monuments, typically field systems, roads and settlements.

Small **warrens** may have been placed some distance from their owner's houses, although it is worth considering if they remained in view. In the south and west the reuse of hillforts and other prehistoric enclosures was common since they provided adaptable earthworks in marginal areas. In many cases, associations with earlier monuments, such as field systems or prehistoric barrows etc, may be entirely coincidental; they may be incorporated within warrens because of their upland locations. Sometimes their inclusion was more deliberate though; they were reconstituted as pillow mounds complete with artificial runs and burrows, increasing confusion as to their identification. Pillow mounds may also be confused with a range of other field monuments including mill mounds, mottes, and various military earthworks.

Romano-British **fishponds** were generally associated with villas and occur within or adjacent to the main building complex. They often lie on similar alignments to the main buildings, usually within the central courtyard or garden in front of the main facade and may have served additional functions such as ornamental or bathing ponds.

Medieval fishponds were often part of high-status complexes such as manors, palaces, castles, and monasteries, and might also be located close to farmsteads and villages. Sometimes the water management systems provided for fishponds also served moats and watermills. The tops of the dams were often flattened and used as routes across valleys and they also tend to be associated with bridges and fords and their roads and tracks.

Decoy ponds have similar associations to fishponds though they are generally later so not associated with castles or monastic sites, other than spatially. A preference for quiet locations means that they were not generally associated with settlements, and though they were associated with route-ways, these were generally minor.

5 Further Reading

Most of these sites are mentioned in most books covering the medieval landscape such as Oliver Rackham's *The History of the Countryside* (1986) or the edited volume by H E Hallam, *The Agrarian History of England and Wales* (1989).

For deer parks, S A Mileson, *Parks in Medieval England* (2009) is now the standard overview, usefully supplemented by the papers in Robert Liddiard's edited volume *The Medieval Deer Park: New Perspective* (2007) and by Jean Birrell's 'Deer and Deer Farming in Medieval England' (*Agricultural History Review*, 40 part 2 (1992), available online at: http://www.bahs.org.uk/AGHR/ARTICLES/40n2a2.pdf

Rabbit farming is covered by Tom Williamson, *Rabbits, Warrens and Archaeology* (2007) and John Sheils, *Rabbits and their History* (1971).

A good introduction to dovecotes is P and J Hansell, *Dovecotes* (2001).

The best general work on fishponds is Mick Aston (ed), *Medieval Fish, Fisheries and Fishponds* (2 volumes, 1988). The first volume contains several overviews and includes a chapter on Romano-British Fishponds.

The best overview of duck decoy ponds and their operation is A Heaton, *Duck Decoys* (Shire, 2001).

6 Where to Get Advice

If you would like to contact the Listing Team in one of our regional offices, please email: customers@HistoricEngland.org.uk noting the subject of your query, or call or write to the local team at:

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Fax: 01904 601999

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Cambridge
CB2 8BU
Tel: 01223 582749
Fax: 01223 582701

South Region
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Cannon Bridge House
25 Dowgate Hill
London
EC4R 2YA
Tel: 020 7973 3700
Fax: 020 7973 3001

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Bristol
BS1 4ND
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