



# FOREST OF BOWLAND

Area of Outstanding Natural Beauty

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Salter's (deer-leaps) in Leagram deer-park, 1608

**Salters (Deer-Leaps) in Historical Deer-Park Boundaries:  
A Case Study Using a 1608 Dispute Map of Leagram Park in Bowland**

Ver. 1

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## Summary

Salters (deer-leaps) were modifications to the pale fence system of a deer-park boundary, to encourage and enable deer to enter the park through or over the pale, but to impede their egress. In the Middle Ages, salters duly licenced by the Crown or a grant of live deer from royal forests or parks were the legitimate means of populating a park with deer. Private parks within or close to royal forests were subject to particular scrutiny regarding the security of the pale and the inclusion of salters, to ensure that the monarch's deer could not enter the park unless authorised.

Leagram deer-park was in the royal forest of Bolland (Bowland). Shortly after disparkment in 1556, it was purchased by Sir Richard Shireburne of Stonyhurst. A dispute arose subsequently between the Crown and his son, also Richard, primarily about the origins of the park deer, and modifications to the park boundary to entrap forest deer using a wall, fence and salters. In 1608 the Duchy of Lancaster commissioned a survey and map by Roger Kenyon to clarify the case. This scaled map has recently been discovered; it marks sixteen salters in the park boundary. Park maps showing salters are very uncommon.

There have been no overarching studies in the literature on the licencing, management, design and construction of salters in the medieval and early modern periods. The aims of this report are to: (i) describe salter authorisation and management in the Middle Ages; (ii) categorise salter and pale fence types; (iii) predict the locations of the salters shown on Kenyon's map, identify and describe their remains in the field.

A review was undertaken of salter costs and materials employed in the medieval period, to inform the development of criteria to identify salter ground-works in the pale ditch and bank. This information, considered in conjunction with antiquarian sources and modern deer management practices, was used to propose two general salter types: (1) modifications to the existing pale fence to lower its height, (2) a vertical revetment facing into the park, constructed from timber or stone, replacing a section of pale fence. Both types required ground-works such as ramps in the forest leading to the salter, and broad hollows or ditches to make egress difficult. Natural features such as slopes or earth-fast stones were also employed. Salter licences in printed calendars of Chancery Rolls were reviewed to determine the length and numbers of salters authorised in individual parks. A review of the designs and dimensions of park pale fence systems was also undertaken to inform studies on the integration of salters and other deer management structures therein.

Pertinent details of the dispute between Shireburne and the Crown and the tensions arising from ownership of the private park within a royal forest are presented, to provide a rationale for the survey that produced the map, and to assist interpretation and identification of the features marked. The map was shown to be accurate dimensionally and the marked park boundary closely aligned with the modern interpretation of the course of the pale. The approximate locations of the salters were predicted by overlaying the scaled map onto modern mapping. The criteria developed to identify potential salter ground-works were employed to find probable remains within 100 m of each predicted site. In the absence of wooden remains of the salters or fence, the survey necessarily focused on the remains of ground-works. Natural features that could function as salters or be parts of a constructed salter were noted. Modifications to the pale course, in particular pale offsets, were considered to be indicative of salters but not exclusively so.

The superficial survey (without excavation) identified six probable and six possible salter sites in the Leagram pale. In general, they were characterised by drops from the pale bank into hollows deeper and wider than the extant pale, and by shallow ramps or ways approaching the pale. It is concluded that the salter relicts *per se* are not particularly distinctive from pale ground-works' remains and later enclosure and land improvement works. Additional evidence such as pale offsets, ramps, place-names and the marking of salters on contemporary maps are necessary to enable the confident identification of salter remains formerly constructed from wood.

## Foreword

This work is a subsidiary part of a programme, part-funded by the Heritage Lottery Fund, studying the history of Leagram and Radholme medieval deer-parks in the Forest of Bowland Area of Outstanding Natural Beauty (AONB). The programme was undertaken by a team of volunteers led by Cathy Hopley from the AONB and professional archaeologist Nigel Neil. The report is available on the AONB website: [www.forestofbowland.com/deerparks](http://www.forestofbowland.com/deerparks). A subsequent and final stage addressing the 'Leap in the Park' programme, largely focussing on community involvement and also funded by the Heritage Lottery Fund, is also available: [www.forestofbowland.com/aleapinthepark](http://www.forestofbowland.com/aleapinthepark).

This report on the authorisation, design and identification of salters in parks, using Leagram as a case study, was a parallel effort employing information acquired from the historical work on Leagram, specifically, the recently discovered dispute map of Leagram deer-park made in 1608 by Roger Kenyon. The work was broadened to encompass salters in parks throughout England and this report is the outcome of that wide-ranging study as well as the detailed work on the Leagram map. For a more complete history of the ownership and management of the two parks over the centuries, readers are advised to consult the principal report available from the link above.

The Forest of Bowland AONB made a contribution to the expenses of this study.

## Introduction

Leagram deer-park was situated to the east of Chipping village in Lancashire and was within the Forest of Bolland (Bowland). The forest came into royal ownership in the fourteenth century. Leagram was imparked in the 1340s.<sup>1</sup> From the late sixteenth to the mid-eighteenth centuries, the park was privately owned by the Shireburne family of Stonyhurst. In 1594 a dispute arose, lasting 21 years, between the park owner Richard Shireburne and the Crown, represented by the Duchy of Lancaster. In that year, Shireburne had inherited the park from his father Sir Richard, Master Forester of Bolland. There were a number of issues in dispute, including the ownership and origin of deer within the park, and the state of the pale fence separating the private park and royal forest. There was also evidence that Shireburne was killing deer in the park and enhancing the pale to entrap forest deer within; this allegedly included the use of salters. A salter is a modification to a section of a deer-park boundary pale to encourage and enable deer to enter the park, but to bar their egress. Salters are also known as deer-leaps.

Local commissioners were appointed by the Duchy to investigate the case and take evidence from witnesses. They were also instructed to produce a map and in 1608, the park and environs were surveyed and a map drawn by Roger Kenyon. This scaled map has recently been discovered; the park is accurately represented in shape, dimensions and area. It shows sixteen salters on the park boundary and in this respect is very unusual. Only three other park maps in England have been identified that mark salters.

In the Middle Ages, a licence was required to make a park within or close to a royal forest. The inclusion of salters was in the gift of the monarch, and some of the salter licences granted specified their number, length and longevity. In general, they were considered a nuisance to the forest because they entrapped forest deer within a private park. There is little information in the literature and in primary sources on the design, management and evolution of salters, which is remarkable, as the two legitimate means of populating a park with deer in this period were by grant by the king of live deer from his own forests and parks, or the granting of a licence to include salters in a park boundary. The dispute and Kenyon's map provide opportunities to study the tensions arising from the use of salters in a private park within a forest, and to determine the locations of the marked salters in the modern landscape. A field survey may give insights into the design of salters, their integration into the pale system, and the siting of salters with respect to the local topography and the haunts of the deer.

This report outlines the licencing system for the inclusion of salters, the design of pale systems around parks, and on the basis of historical mapping, documentary research and woodcrafts, the probable designs of salters. The interpretation of dispute maps requires knowledge of the demands of the authorities commissioning them, underpinned by the complexities of the specific dispute and the statements of the parties. Consequently, the case against Shireburne is examined in some detail. Leagram was originally a royal park but was disparked in 1556 and seven years later became privately owned. The forest remained in royal ownership until 1661. Changes in ownership inevitably led to conflicts regarding the control and taking of deer, in particular their movements between park and forest. There were also implications for the supply and use of timber and understorey within park and forest. It is pertinent therefore to offer a synopsis of the characteristics of parks, forests and chases, and to compare their management and legal basis as they relate to deer and their browse.

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<sup>1</sup> N. Neil, R. Thurnhill, 'Deer Parks in the Forest of Bowland', Forest of Bowland AONB, Medieval Deer Parks in Bowland, March 2013, pp. 30-43.  
<http://www.forestofbowland.com/deerparks>. Accessed 2 November 2013.

## Report structure

The report has five parts:

1. A synopsis of the history and management of forests, chases and parks in England and the practice of hunting therein, including an account of the history of Leagram deer-park, the origins and progress of the dispute between Shireburne and the Duchy, and an introduction to Kenyon's map;
2. An account of the function of salters, the authority required to construct them in a park within or close to a royal forest, the design of the park pale system, and from historical and modern sources, the probable designs and construction of salters;
3. Following an overview of commissioners' interrogatories, witness statements for both sides of the dispute and the purpose of the survey and mapping, an analysis is presented to determine the general accuracy of Kenyon's 1608 map and finally to calculate the British National Grid references (BNGs) of the sixteen salters marked;
4. The results of a superficial survey in Leagram, at or near each predicted salter location, to identify specific sites considered to meet criteria developed in Part 2, indicating probable or possible ground-works of salters associated with the pale;
5. A discussion and concluding remarks.

## Part I: Deer-parks, forests and Kenyon's map

### Deer-parks

Deer-parks were areas of wood-pasture and open grazing enclosed by a high fence of timber, stone or hedge, and associated ground-works such as a ditch and bank. The fence system was known generically as a pale and was designed to retain the park deer, exclude deer belonging to the monarch, and prohibit entry by local commoners and poachers. Parks enabled the monarch, nobility, bishops and the upper echelons of the gentry to succour, cherish and hunt deer. Venison was a meat of the privileged elite, but beyond simply providing farmed deer for consumption by the owner and his associates, a park provided an ability to gift live animals and carcasses, such as gifts by the king from his own parks and forests to favoured nobility and the elite of religious houses. The gifts expressed favour and imbued status and royal approval to the recipient.

Parks were generally loss-making activities, but their importance and longevity cannot be judged simply in economic terms, but as a profound social statement in the landscape of privacy, exclusion, privilege and wealth that was projected to the monarch, peers and aspiring gentry. For the communities of toiling common people outside the pale, parks restricted the development of settlements and agricultural expansion. They declared a visually imposing forbidden area of ample woodland that, set aside for deer and other animals such as rabbits, contributed nothing to the daily requirements for timber, underwood and food, by plough, pasture, rough hunting and trapping. Wood was in high demand outside the park.<sup>2,3</sup>

There were royal hunting reserves and deer enclosures before the Norman Conquest. The *haga* in pre-Conquest charters was an enclosure or linear feature such as a hedge, and in some contexts, an enclosure for retaining caught animals, including deer. There are indications that the word may refer both to temporary or permanent structures for keeping deer – the *derhage* (deerhay).<sup>4</sup> Deer-parks and the social trappings associated with ownership, hunting and the gift of venison, flourished with the arrival of the Normans. They introduced fallow deer, probably in the early twelfth century from Normans in Sicily.<sup>5</sup> Imparkment grew from the twelfth to the fourteenth centuries and reached its zenith around 1300 when there were c. 3,200 parks in England, occupying up to 2% of the land area of the country,<sup>6</sup> and containing about one quarter of the country's woodland.<sup>7</sup> At this stage, only about one in five of senior gentry were park owners; most parks were in the possession of the aristocracy or bishops under royal licence or grant, or owned by the monarch.<sup>8</sup> From the start of the thirteenth century until the Civil War, a licence from the Crown by grant of royal favour was required to make a park.<sup>9,10</sup> A fine (fee) would be required – Simon of Walton gave the king 10 bezants to enclose a park in the forest of Feckenham<sup>11</sup>, and the Bishop of London paid 60 marks for imparkment within the forest of Braden.<sup>12</sup>

<sup>2</sup> R. Liddiard, "Castle Riding, Norfolk: a 'Landscape of Lordship'?" in C. Harper-Bill (ed.), *Anglo-Norman Studies XXII*, Proceedings of the Battle Conference 1999, (Woodbridge/Boydell Press, 2000), pp. 169-183.

<sup>3</sup> S.A. Miles, *Parks in Medieval England* (Oxford/Oxford University Press, 2009), pp. 178-180.

<sup>4</sup> A. Williams, *The World Before Domesday: The English Aristocracy 871-1066* (London/Continuum UK, 2008), pp. 124-125.

<sup>5</sup> O. Rackham, *The History of the Countryside* (London/Phoenix Giant, 1997), pp. 49-50.

<sup>6</sup> Rackham, *History of the Countryside*, p. 123. An average park area of 200 acres and the estimate is for any particular time.

<sup>7</sup> O. Rackham, *Trees and Woodland in the British Landscape* (London/Phoenix Giant, 1996), pp. 152-153.

<sup>8</sup> S.A. Miles, *Parks in Medieval England* (Oxford/Oxford University Press, 2009), p. 109.

<sup>9</sup> J. Thirsk, 'Agricultural Policy: Public Debate and Legislation' in J. Thirsk (ed.), *The Agrarian History of England and Wales, Volume 5, 1640-1750* (Cambridge/University Press, 1985), pp. 366-367.

<sup>10</sup> S. Lasdun, *The English Park: Royal, Private & Public* (London/Deutsch, 1991), p. 18.

<sup>11</sup> 'Henry III Fine Rolls Project', Fine Roll C 60/50, 37 HENRY III (1252-1253). Membrane 24, Entry 506. [http://www.finerollshenry3.org.uk/content/calendar/roll\\_050.html#it506\\_015](http://www.finerollshenry3.org.uk/content/calendar/roll_050.html#it506_015). Accessed 6 August 2014.

<sup>12</sup> 'Henry III Fine Rolls Project', Fine Roll C 60/50, 37 HENRY III (1252-1253). Membrane 24, Entry 1065. [http://www.finerollshenry3.org.uk/content/calendar/roll\\_050.html#it1065\\_006](http://www.finerollshenry3.org.uk/content/calendar/roll_050.html#it1065_006). Accessed 6 August 2014.

A private owner would petition the monarch to supply live deer:

[From Edward I, 1295]. To the keeper of the park of Wodestok. Order to cause Henry de Lacy, earl of Lincoln, to have in that park six live bucks and ten live does, in order to stock therewith his park of Middleton, of the king's gift ... To the keeper of the forest of Whychewood. Order to cause the said earl to have in that forest six live bucks and ten live does, in order to stock his park aforesaid.<sup>13</sup>

Parks were more common in counties containing large areas of woodland but the upland counties also contained parks, frequently sited on land rising to the waste and commons. The slope provided vistas that assisted the hunting and management of deer. Parks varied in size – the largest medieval park was Clarendon with an area of up to 18.2 sq. km<sup>14</sup>; Leagram's area was 5.5 sq. km in 1608. The size of many parks changed over their lifetime, reflecting the fluctuating finances and aspirations of the owners. Leagram was expanded in the 1420s to include Acornhurst Farm in the north and in 1436 the park was expanded again by the construction of 1,280 yards of pale.<sup>15</sup> Parks were also used to enclose rabbit warrens and fishponds although neither have been identified in Leagram.

Formal disparking grew from the middle of the sixteenth century as many pales and parks deteriorated under the substantial burden of maintenance. Some parks retained a pale but were compartmented to generate income with some or all sections leased out for cattle grazing (agistment), and activities such as coppicing.<sup>16</sup> As Carew wrote in 1602, gentlemen 'preferring gain to delight, or making gain their delight ... made their deer leap over the pale to give the bullocks place'.<sup>17</sup> Leagram was formally disparked after a period of decline when finally the pale was bereft and unable to keep deer within. There was a notable phase of disparking medieval parks in the early to mid-eighteenth century due to the emergence of other types of game, and improved agricultural practices that could bring economic benefit to marginal land containing parks.<sup>18</sup> From the mid-seventeenth century Restoration there was a resurgence of park-making within the aristocracy and wider gentry, as an amenity in the development of prestigious estates, large country houses and designed landscapes. Licences were no longer required and further legislation was enacted to tackle poachers (the start of a series of notorious game laws).<sup>19</sup> Deer enclosures in the eighteenth century heyday of ornamental parks were a popular visual spectacle, rather different in nature to the medieval and early post-medieval parks supplying an elite meat. The landscape designers harked back to the functional medieval parks and their sylvan splendour, by developing stylised vistas.<sup>20</sup>

The number of parks declined in the nineteenth century. In 1867 a survey by Shirley<sup>21</sup> identified 334 parks stocked with deer in England but in 1892 Whitaker noted that 50 of the parks surveyed by Shirley no longer contained deer, but he did find more than 50 parks not identified by Shirley.<sup>22,23</sup> By 1949 there were 143 deer-parks and paddocks in England<sup>24</sup> of which three were in Lancashire.<sup>25</sup> In

<sup>13</sup> *Close Rolls of the Reign of Edward I Preserved in the Public Record Office: A.D. 1288-1296* (London/HMSO, 1904), 1295, p. 467.

<sup>14</sup> A. Richardson, *The Forest, Park and Palace of Clarendon, c.1200-c.1650: Reconstructing an Actual, Conceptual and Documented Wiltshire Landscape*, British Archaeological Reports British Series 387 (Oxford/Archaeopress, 2005), p. 1.

<sup>15</sup> R.C. Shaw, *The Royal Forest of Lancaster* (Preston/Guardian Press, 1956), pp. 427-428.

<sup>16</sup> L.M. Cantor, J. Hatherley, 'The Medieval Parks of England', *Geography*, vol. 64, no. 2 (April 1979), pp. 71-85.

<sup>17</sup> Richard Carew writing in 1602 regarding Cornwall. In T. Tonkin, *Carew's Survey of Cornwall*, (Francis Lord de Dunstanville, Faulder/London & Rees and Curtis/Plymouth, 1811), pp. 75-76.

<sup>18</sup> R. Liddiard, 'The Disparkment of Medieval Parks' in I.D. Rotherham (Ed.), *Landscape Archaeology and Ecology, Volume 6: The History, Ecology and Archaeology of Medieval Parks and Parklands* (Sheffield/Wildtrack Publishing, 2007), p. 182.

<sup>19</sup> Thirsk, *The Agrarian History of England and Wales*, p. 367.

<sup>20</sup> Lasdun, *The English Park*, p. 13.

<sup>21</sup> E.P. Shirley, *Some Account of English Deer Parks* (London/John Murray, 1867), p. ix.

<sup>22</sup> J. Whitaker, *A Descriptive List of the Deer-Parks and Paddocks of England* (London/Ballantyne & Hanson, 1892), p. 4.

<sup>23</sup> G.K. Whitehead, *Deer and Their Management in the Deer Parks of Great Britain and Ireland* (London/Country Life, 1950), pp. 30-31.

<sup>24</sup> Whitehead, *Deer and Their Management*, pp. 247-248.

addition to the economic factors that lead to the decline of deer-parks, war and conflict took their toll. Many were destroyed in the Civil War or sold off by Charles I to raise money. In the two World Wars, some estates were occupied by troops, leading to damage and destruction of infrastructure such as fences and gates. The subsequent escape and dispersal of deer concerned the pest officers of some of the Second World War County War Agricultural Executive Committees; herds of deer were slaughtered to limit damage to food-crops.<sup>26</sup>

The species enclosed in parks were principally fallow and red deer.<sup>27</sup> Roe are unsuited to enclosure; they are territorial and do not associate well with the other species, consequently they were rarely imparked and would only flourish if the park was very large and had diverse flora.<sup>28</sup> Roe were classified as beasts of the warren (i.e. pests) in the reign of Edward III because they chased away other deer.<sup>29</sup> Deer prefer to spend time securely in cover where they can lie down and ruminate, and woodland was an essential feature of parks. Deer tend to use well-trodden tracks (racks) to move between coverts at dawn and dusk. Cold winds, heavy rain and snow affect their behaviour and in such conditions they will feed on the borders of woodland and keep off the open lawns. Fallow are grazers and selective browsers of understorey<sup>30</sup> but in poor winters they and red deer require supplementary feeding with hay, oats, ivy and browse from pollarded trees such as ash and holly.<sup>31</sup> Stags/bucks may come to the park during the rut, and escapees of both sexes may return in the winter for the supplementary feeding.<sup>32</sup> Salters facilitated their entry over the pale into the park.

A former deer-park may be evident in the modern landscape. Characteristic features include: (i) a curvilinear boundary contrasting with angular boundaries of later enclosures both within and outside the park, (ii) place-names reflecting their former presence<sup>33</sup> (such as 'Park Gate' or 'Salter Hill' in Leagram), (iii) remains of the pale system comprising an eroded ditch and bank, the ditch being within the park, or in the case of walled parks, still upstanding high stone walls, (iv) ways, footpaths and administrative boundaries circumventing the park. Many pales systems have been ploughed out or damaged by enclosure ground-works such as drainage, but there are frequently sections surviving, particularly in long-established woodland.

## Forests

Forests were areas of land set aside by monarchs, principally for hunting, that were subject to laws at their will and disposition – Forest Laws. These laws were specifically enacted to preserve and encourage the venison (originally red, fallow, roe deer and wild boar) and the vert (herbage, browse and covert). Forests were also important resources of timber, understorey and pasture. Each forest had courts to implement Forest Law and a hierarchy of officers to serve the courts and protect and maintain the venison and vert. The legal jurisdiction of forests covered at least one-third of the area of England following the afforestations in the twelfth and thirteenth centuries, but the physical forest

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<sup>25</sup> In Lancashire, Shirley noted five parks in 1867 (Knowsley, Lathom, Ashton, Trafford and Holker) and in 1892 Whitaker described a further three (Bardsea, Garswood, Wrightington) but in 1949 Whitehead noted only three (Knowsley, Holker Hall and Burrow Hall).

<sup>26</sup> Whitehead, *Deer and Their Management*, pp. 15-16.

<sup>27</sup> It is not possible to generalise on the balance of red and fallow deer held in parks over the centuries; in a survey of 395 deer-parks and paddocks undertaken in 1892, five contained solely red deer, 83 had mixed herds, and the remainder were fallow. [Whitehead, *Deer and Their Management*, pp. 30-31].

<sup>28</sup> Whitehead, *Deer and Their Management*, p. 172.

<sup>29</sup> A.L. Poole, *From Domesday Book to Magna Carta, 1087-1216* (Oxford University Press, 1998), p. 31.

<sup>30</sup> 'Deer Behaviour', Deer Initiative website, Best Practice Guides, Species Ecology, 31 October 2011, [http://www.thedeerinitiative.co.uk/best\\_practice/species\\_ecology.php](http://www.thedeerinitiative.co.uk/best_practice/species_ecology.php). Accessed 3 November 2013.

<sup>31</sup> A curious Duchy account records 'The officers of Bolland Forest to deliver Staggs etc. to the Owner of Lagryme Parke in respect of their feeding there' implying Forest deer required supplementary feeding in the park. (W.D. Selby, 'Lancashire and Cheshire Records Preserved in the Public Record Office, London: Part 2'. *The Record Society for the Publication of Original Documents Relating to Lancashire and Cheshire, Vol. VIII* (Record Society, 1883), p. 238.)

<sup>32</sup> R. Prior, 'Leaps and Bounds' in F. Hingston. *Deer Parks and Deer of Great Britain* (Buckingham/Sporting & Leisure Press, 1988), p. 116.

<sup>33</sup> T. Way, *A Study of the Impact of Imparkment on the Social Landscape of Cambridgeshire and Huntingdonshire from c1080 to 1760*, British Archaeological Reports 258 (Oxford/Hadrian Books, 1997), p. 10.

– the area where the deer congregated and were succoured – was much less than this.<sup>34</sup> Forests normally contained private land, woods and settlements with exercise of common rights, but within the forest as a whole the monarch still held control over the use of land and resources. Private individuals could raise enclosures around their woods in forests, but deer were not to be excluded.<sup>35</sup> Forest boundaries were enclosed in parts to control access by commoners' animals<sup>36</sup> and were formally perambulated for the forest courts on an irregular basis. The forest boundary usually followed specific landscape features such as watercourses and watersheds, or was defined by linear bounds between, for example, cairns, large stones and prominent trees. Forests were also subject to Common Law for law-breaking not associated with protection of the venison and vert. A forest was not necessarily extensively wooded and they frequently included fells and moors that contained little woodland.

Chases were private forests, usually former royal forests granted by the monarch to private individuals such as senior clergy and aristocracy, thereby divesting his rights over the venison. A chase was not subject to the full force of Forest Laws or the jurisdiction of its officers, but frequently had other private officers and institutions to protect the venison and vert. The owner had 'qualified ownership' of deer and other animals within the chase (discussed below), and the right to hunt. The designation of an area of land as 'forest' and 'chase' may change over time reflecting ownership, but the terms were sometimes used interchangeably. A chase may revert to a forest if the monarch repossessed the rights over the venison and vert. Bolland is described as the 'Forest or Chace' in many of the historical documents associated with the dispute, reflecting its change of ownership.

Within or near to a royal forest, the construction of parks was particularly scrutinised; the rights of the forest were not to be compromised.<sup>37</sup> Parks close to a forest were considered a nuisance to the forest because the monarch's deer may find their way into the park through a pale not appropriately maintained.<sup>38</sup> In practice, the large numbers of parks and forests meant that many parks were indeed close to or within forests or chases. Trespass and unlawful hunting in a park was dealt with by Common Law, but in the forests by Forest Law.

## Hunting

Despite the large numbers of deer-parks and forests in England, there is remarkably little information on the day-to-day practical management of deer and the procurement of venison. The supply of venison was not a commercial market; consumption was generally reserved for the owner for feasting and celebration, or gifted between lordly estates or the upper echelons of the gentry. In 1577 the clergyman William Harrison wrote:

what store of ground is employed vpon that vayne co(m)moditie [the making of parks] which bringeth no maner of gaine or profit to the owner, sith they co(m)monlye giue awaye their fleshe, neuer taking penny for the same, because venission in england is neither bought nor sould by the right owner, but maintained only for hys pleasure, to the no smal decay of husbandry, & diminution of mankinde.<sup>39</sup>

<sup>34</sup> O. Rackham, *Ancient Woodland: Its History and Uses in England* (Colvend, Dalbeatie and Kirkcudbrightshire/Castlepoint Press, 2003), pp. 175-179.

<sup>35</sup> J. Langton, 'Forest Fences: Enclosures in a Pre-enclosure Landscape', *Landscape History*, Vol. 35, Iss. 1 (2014) pp. 10-11.

<sup>36</sup> Langton, 'Forest Fences', p. 8.

<sup>37</sup> G.J. Turner, *Select Pleas of the Forest* (London/Selden Society, 1901), p. cxvi.

<sup>38</sup> Turner, *Select Pleas of the Forest*, p. cxviii.

<sup>39</sup> Holinshed R. *Chronicles of England, Scotland, and Ireland*, vol. 1 (1577), 'Of Parkes and Warrens', p. 89. *The Holinshed Project*, University of Oxford, [http://www.english.ox.ac.uk/holinshed/texts.php?text1=1577\\_0073](http://www.english.ox.ac.uk/holinshed/texts.php?text1=1577_0073). Accessed 2 October 2013. The Chronicles were the work of eight principal authors; this quotation is from the contribution of clergyman William Harrison (1535-1593), titled 'Description of Britain'.

Notwithstanding the impact on the status and privilege arising from the ownership of deer, a commercial market would probably have encouraged more breaching of parks and unlawful hunting than was the case.<sup>40</sup>

There were generally two forms of legitimate hunting employed in parks and forests:

- i. '*Par force de chiens*' was a chase by riders and dogs, a practice beset with privilege, socialising and ritual rather akin to its successor, the hunting of foxes with a pack of hounds (established in the eighteenth century). This type of hunting required lengthy runs and was more suited to forests.
- ii. 'Bow and stable' involved the scenting of deer in covert by 'lymer' dogs with handlers on foot, and the careful driving of the deer to an area (the stable or standing) where bows and crossbows were used by archers in cover to dispatch the deer (Figure 1). Wounded deer were brought down by greyhounds. Alternatively, nets (formed into toils) may have been employed to gather the deer, and killed whilst entrapped.<sup>41</sup> Bow and stable enabled the killing of large numbers of deer in a herd and was more suited to the farming of deer in parks, but it did not have the cachet of the ritual *par force de chiens*; the Tudor diplomat Sir Thomas Elyot noted:

[1531] Kylling of dere with bowes or grehundes serueth well for the potte, (as is the commune saynge,) and therefore it muste of necessitie be some tyme used. But it contayneth therin no commendable solace or exercise, in comparison to the other fourme of hunting.<sup>42</sup>

In the hunting books of the thirteenth and fourteenth centuries, rituals and etiquette are described for the hunt: preparative tasks such as the identification of fine stags, feasting to start the hunt day, the chase, the dispatching of the deer, 'unmaking' the deer (butchery), feeding the hounds with the offal and the rewarding of hunt staff.<sup>43</sup> Such rituals may have been undertaken within English royal forests but in practice, the protocols were probably only enacted occasionally, such as when the monarch hunted.<sup>44</sup> Forest servants would normally have killed venison on command by bow or having captured live deer in nets.

The hunting of deer inevitably led to deer passing between park and forest/chase. If the park was in separate ownership, disputes could arise about the provenance of the stricken animals, and the passage of the respective hunt servants between park and forest/chase. In the dispute between the Duchy and Shireburne, an item of enquiry put to witnesses was whether the 'keepers or officers of the said Forrest of Bolland have had libertie of Chase and rechase of the deare of the saide forrest into and out of the said grownde called Laythgryme [Leagram]'.<sup>45</sup>

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<sup>40</sup> J. Birrell, 'Deer and Deer Farming in Medieval England'. *The Agricultural History Review*, Vol. 40 Pt. 2 (1992), pp. 113-115.

<sup>41</sup> Langton, 'Forest Fences', p. 13.

<sup>42</sup> H.H.S. Croft, *The Boke named The Gouvernour, Devised by Sir Thomas Elyot, Knight, Edited from the First Edition of 1531, Vol. I* (London/Kegan Paul, Trench & Co., 1883), p. 196.

<sup>43</sup> R. Almond, 'The Forest as Hunting Ground', in J. Langton, G. Jones (eds.), *Forests and Chases of Medieval England and Wales c.1000 to c.1500*, (Oxford/St John's College Research Centre, 2010), pp. 73-75.

<sup>44</sup> J. Aberth, *An Environmental History of the Middle Ages: The Crucible of Nature* (Abingdon/Routledge, 2013), pp. 196-197.

<sup>45</sup> TNA DL 4/54/54, 'Attorney General of the Duchy of Lancaster vs. Sherbourne', 1608-09.



Figure 1: Bow and stable hunting – deer being driven to the stable/standing by ‘lymer’ hounds and their handlers. © Jennie Anderson.

## Ownership and unlawful hunting of deer

Deer within an enclosed park were privately owned ‘qualified property’ and were not classed as *ferae naturae* (wild in nature and owned by no man). The deer in the forest were the qualified property of the Crown, and by Forest Law, the monarch assumed exclusive privilege for the appropriation of the beasts of the forest and of warren.<sup>46</sup> Hunting by others was forbidden, but the monarch may gift the privilege at his pleasure. To perturb or kill deer in a forest, even on private land therein, was against Forest Law.<sup>47</sup> Technically, the monarch did not own deer outside forests or royal parks.<sup>48</sup> A park owner could take deer as qualified property, but if the deer left the park they were no longer his property, unless the hunt had started on his land. There was no full ownership of deer until they were captured; qualified ownership was the privilege so to do.<sup>49</sup>

Parks and forests were plagued with people from all levels of society taking deer without authorisation:<sup>50</sup>

[1260] That the king learned by a recent inquisition made by Thomas Gredl, justiciar of the king’s forest on this side of the Trent, that Geoffrey le Lucy [and many named others] recently came to Woodstock and stayed there for many days, and on each day they entered with hare pens, bows and arrows the king’s forest and park at Woodstock, which the king had instructed should be more closely guarded than the king’s other forests and parks, and they seized the king’s venison and took it away by means of the deer-leap in the same park,

<sup>46</sup> Beasts of the warren were animals such as hares and foxes that were classed as pests and not preserved. They were *ferae naturae* and not owned by lords, but the opportunity to hunt such beasts could be granted by charter to particular individuals. [Turner, *Select Pleas of the Forest*, pp. cxxiii-cxxiv.].

<sup>47</sup> Langton, ‘Forest Fences’, p. 6.

<sup>48</sup> The modern monarch does not own wild deer, but does own swans and ‘Fishes Royal’ such as sturgeons and whales.

<sup>49</sup> W.S Holdsworth, *A History of English Law*, Vol. VII (London/Methuen, 1925), pp. 491-2.

<sup>50</sup> Way, *A Study of the Impact of Imparkment*, pp. 72-81.

and carried it to Oxford as an act of dishonour, contempt and manifest offense against the king.<sup>51</sup>

Bowland was no exception to the plague of poaching:

Appointment of Roger de Merchesden [and three others] to arrest and keep in custody in Cliderhowe prison until further order certain persons who have entered the free chace within the forest of Blakeburneshire and the parks there, assigned to Queen Isabell, for life, have carried away the king's deer there ... and are daily committing like trespass there ... The like of Richard de Spaldyngton [and four others] in respect of persons committing like trespasses in the chace and parks of Bouland.<sup>52</sup>

Park and forest staff may not always have been exemplary. In 1617, a member of the local gentry, Nicholas Assheton of Downham, took advantage of the latitude of a forest officer close to the Bolland forest boundary on Waddington or Newton Fells, and confided in his diary:

Nov. 15 [1617] On hill above Walloper Well, shott two young hinds; psently comes the keeper and broke [dispersed] the other deere, had the skin and a shoulder, and vs. [five shillings] and said hee would take no notice.<sup>53</sup>

In the twelfth century the penalties for taking deer could be severe, including maiming and death, but in 1217 the Charter of the Forest declared:

No one shall henceforth lose life or limb because of our venison, but if anyone has been arrested and convicted of taking venison he shall be fined heavily if he has the means; and if he has not the means, he shall lie in our prison for a year and a day.<sup>54</sup>

Contrast this reform with the fact that until 1832, a felon could be hanged for taking sheep.<sup>55</sup> In the Middle Ages there was a property threshold to hunt deer that was further restricted in 1605<sup>56</sup>, and from 1603 there were penalties for deer trading by unauthorised persons that were only repealed in 1827.<sup>57</sup> Unlawful hunting in an enclosure was the killing of the qualified property of others and as an offence against property, it invoked serious penalties.

## Leagram deer-park and the Shireburnes

The Forest of Bolland was created by William II just after Domesday, and in 1092 it was granted to Roger de Poitou, the first Lord of Bowland. On Roger de Poitou's final fall from grace and exile in 1102, the forest was granted to the de Lacy family as part of the Honour of Clitheroe. It was a chase until the fourteenth century when it became a royal forest, the lordship passing to the Duchy of Lancaster in 1399. In 1661 it was granted to George Monck, 1<sup>st</sup> Duke of Albemarle and ceased to be a royal forest.<sup>58</sup>

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<sup>51</sup> *Close Rolls of the Reign of Henry III Preserved in the Public Record Office: A.D. 1259-1261* (London/HMSO, 1934), Membrane 11, p. 67.

<sup>52</sup> *Calendar of the Patent Rolls of the Reign of Edward III Preserved in the Public Record Office: A.D. 1330-1334, Vol. II* (London/HMSO, 1893), 1332, Membrane 30d, p. 284.

<sup>53</sup> F.R. Raines, *The Journal of Nicholas Assheton of Downham* (Remains Historical and Literary Connected with the Palatine Counties of Lancaster and Cheshire, Published by The Cheetham Society, Vol. XIV, 1848), p. 67.

<sup>54</sup> J. Langton, G. Jones, 'The Charter of the Forest and its Relationship to Magna Carta', *Forests and Chases of England and Wales c. 1000 to c. 1850*, St John's College, University of Oxford. <http://info.sjc.ox.ac.uk/forests/Carta.htm>. Accessed 26 March 2014.

<sup>55</sup> T. Shakesheff, *Rural Conflict, Crime and Protest: Herefordshire, 1800 to 1860* (Woodbridge/Boydell, 2003), p. 98.

<sup>56</sup> P.B. Munsche, *Gentleman and Poachers: The English Game Laws 1671-1831* (Cambridge/Cambridge University Press, 1981), p. 5.

<sup>57</sup> Munsche, *Gentleman and Poachers*, p. 5.

<sup>58</sup> C.J. Spencer, S.W. Jolly, 'Bowland: The Rise and Decline, Abandonment and Revival of a Medieval Lordship', *The Escutcheon: The Journal of the Cambridge University Heraldic and Genealogical Society*, Vol. 15 (2010), pp. 3-5.

Leagram was within the forest, but on its periphery. In 1530, Thomas Shireburne (d. 1536) acquired a 40 year lease on the park from Henry VIII and in 1554 upon the death of Shireburne's widow, the park (and Wyndehills<sup>59</sup>) was leased for 80 years to her son, Sir Richard Shireburne of Stonyhurst<sup>60,61</sup> (Figure 2). Following a survey of the park in 1555 that revealed the decay of the pale, the lack of deer in the park and a dearth of timber to repair the pale and buildings, Leagram was disparked the following year by Philip and Mary and the park, lodge and Wyndehills were leased to Shireburne. He was also made Master Forester of Bolland in that year.<sup>62</sup> In 1563 Elizabeth I gave the Leagram estate to Robert Dudley, 1st Earl of Leicester and within four days he had sold the park to Shireburne for £1,618-10s-0d.<sup>63</sup> The transfer was completed in 1567 and from that date, Leagram became Shireburne's private park within a royal forest, of which he was Master Forester. This was a conflict of interest but an advantageous situation for the family that was to end upon his death in 1594.

Sir Richard's son, also Richard (d. 1628/9)<sup>64</sup>, inherited the park but Richard Hoghton (1570–1630)<sup>65</sup> and not Shireburne junior was made Master Forester of Bolland, a role he held until his death.<sup>66</sup> Herein was a source of friction and the core of a lengthy legal case between Shireburne and Hoghton (on behalf of the Duchy) that led to the survey and map in 1608.

<sup>59</sup> Modern Windy Hills, a tenement outside and abutting the park boundary on the west, north of Chipping.

<sup>60</sup> Sir Richard Shireburne [Sherborn] (by 1522-1594) was a prominent Lancastrian and held a number of offices including Deputy Steward of the Duchy of Lancaster, Steward and Master Forester of Bolland and Quernmore, servant of the Earls of Derby, Lieutenant of the Isle of Man, Deputy Lieutenant of Lancashire and MP for Preston (twice) and Liverpool. ('Sherborn, Sir Richard (by 1522–94) of Stonyhurst, Lancs.', *The History of Parliament – Research, Members, 1509–1558*, <http://www.historyofparliamentonline.org/volume/1509-1558/member/sherborn-sir-richard-1522-94>. Accessed 30 October 2013). Shireburne was knighted in 1544 when in his early twenties for valour against the Scots. Sherborn provides a biography of this colourful character and extracts from his will; he gives Shireburne's date of birth as 1526 (C.D. Sherborn, *A History of the Family of Sherborn* (London/Mitchell and Hughes, 1901), pp. 28-38. Available at 'Internet Archive, Ebook and Texts Archive, American Libraries': <https://archive.org/details/ahistoryfamilys00shergoog>. Accessed 30 October 2013).

<sup>61</sup> Neil, 'Deer Parks in the Forest of Bowland', pp. 32-36.

<sup>62</sup> J. Weld, *A History of Leagram: The Park and Manor* (Chetham Society, New series Vol. 72, 1913), pp. 20-22.

<sup>63</sup> Weld, *A History of Leagram*, pp. 27-28.

<sup>64</sup> Richard Shireburne [Sherborn] (1546/7-1628/9) was the second son of his father's first wife Maude Bold; the first son Thomas died a minor. He expanded the estate of the family and was Sheriff of Lancashire (1612-13) and Captain of the Isle of Man for 15 years. He was known as 'Old Fiddle-o'-God' from his customary expletive (W. Howitt, *Visits to Remarkable Places: Old Halls, Battle Fields, and Scenes of Striking Passages in English History and Poetry* (London/Longman et al., 1840), p. 387). Sherborn provides a biography and extracts from his will: Sherborn, *A History of the Family of Sherborn*, pp. 38-43.

<sup>65</sup> Hoghton was knighted in 1599 and made 1<sup>st</sup> Baronet in 1611. He held the posts of Sheriff of Lancashire (1589), represented the County of Lancaster in Parliament (1601–11) and entertained James I in 1617 at considerable expense when, according to legend, a loin of beef was knighted. ('Hoghton, Sir Richard (1569-1630) of Hoghton Tower, Lancs.', *The History of Parliament – Research, Members, 1604-1629*, <http://www.historyofparliamentonline.org/volume/1604-1629/member/hoghton-sir-richard-1569-1630>. Accessed 20 October 2013. *Hoghton Tower: Visitors' Guide* (Hoghton Tower Preservation Trust, 1999), p. 22).

<sup>66</sup> Spencer, *Bowland: The Rise and Decline*, p. 19.

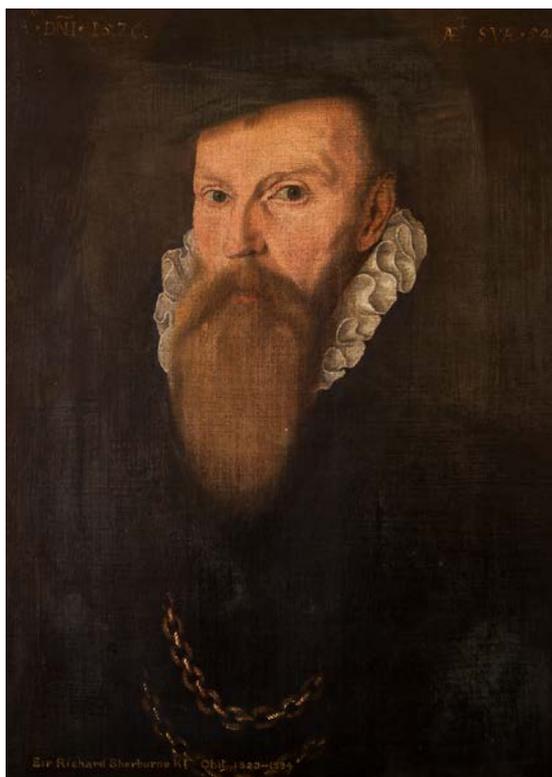


Figure 2: Sir Richard Shireburne of Stonyhurst, lessee then owner of Leagram park after its disparkment, and whose death in 1594 precipitated the dispute. There is no known portrait of his son Richard Shireburne, the defendant in the case. Reproduced with the kind permission of the Governors of Stonyhurst College; photographed by the author.

## Kenyon's map of Leagram and synopsis of the dispute

The dispute is discussed in detail in Part 3 but as an introduction to the presentation of Kenyon's map in this section, a synopsis is provided. The dispute, reviewed by Shannon<sup>67</sup>, focussed on whether Leagram park was within the forest, an issue that was not as important when Richard Shireburne's father was Master Forester, but had now come to the fore upon the appointment of Hoghton. An important aspect was the ownership of deer that were now in the park, presumably having entered from the forest. Commissioners had noted in 1555, just before its disparkment, that there were no deer in the park. Further matters were raised: Shireburne was building a new close, a wall and rails (fence) on the eastern park boundary, and the boundary of the forest on the western side was in dispute.

The Duchy's view was that Leagram was in the forest and that any deer within the park had entered freely through (presumably degraded) two-way 'salters and lopes'<sup>68</sup>, and they belonged to the Crown. More recently, it was alleged that salters had been reinstated to allow ingress only, effectively trapping the Crown's deer from the forest in the park. Shireburne's view was that deer could still come and go, but deer within the park were his property and could be killed. A modern interpretation of Shireburne's motive is that he was populating the park and his new close with forest deer by reinstating the salters, and strengthening the boundary near his new close with the new wall and rails.<sup>69</sup>

<sup>67</sup> W.D. Shannon, pers. comm., 'The Leagram Park Case, 1595-1608'. October 2012.

<sup>68</sup> 'Lopes' are probably 'loops' - moveable hurdles or gates. They are discussed in more detail in the section on terminology in Part 2.

<sup>69</sup> W.D. Shannon, pers. comm., 7 February 2013.

In 1608, the Duchy Chamber instructed a commission of local gentry to take statements from witnesses for both sides, and to make a map. Consequently, Roger Kenyon surveyed and produced the scale map of Leagram park (Figure 3).<sup>70</sup> The map was recently discovered by Dr William Shannon in the Duchy papers in the National Archives.<sup>71</sup> Surveying and making maps was an expensive undertaking, but in this period the income from Crown lands was benefitting by rising land values, and the Crown recognised the value of accurate cadastral mapping in clarifying their holdings and resolving disputes.<sup>72</sup>

The sixteen 'salters' shown were important evidence in the dispute regarding the origin of the deer in the park and the hunting therein, and the unimpeded or regulated ingress and egress of forest and park deer. As discussed above, a salter in a private park within or close to a royal forest required a licence and printed calendars of Close and Patent Rolls show licences issued (and sometimes revoked) for the enclosure of parks, and if the monarch was minded, the construction of a specified number of salters. Salters were important and treasured features of parks in their medieval heyday. Park maps did not emerge until the late sixteenth century but the marking of salters in estate maps of the early modern period and later was extremely uncommon (some examples are discussed below) and therefore Kenyon's map of 1608 is a remarkable and unparalleled example showing sixteen. As an accurate scaled map, it provides an opportunity to locate salters and study their remains.

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<sup>70</sup> Kenyon was described as 'Generall Surveyar of the Duchy of Lancaster' in a written survey of Ightenhill in 1617 (W. Farrer, *The Court Rolls of the Honor of Clitheroe: Vol. II*, (Edinburgh/Ballantyne Press, 1912), p. 404. Printed from Christopher Towneley's MS., *Honor of Clitheroe*, p. 43). He was born in 1582 at Dinckley and died at Park Head near Whalley in 1636. His skills, industry and subsequent income as a surveyor contributed to the ascendancy of the Kenyon family. His eldest son Roger of Peel Hall in Little Hulton was MP for Clitheroe 1690-5 and Receiver of the Duchy of Lancaster 1680-93 ('Kenyon, Roger (c.1627-98), of Parkhead and Peel Hall, Lancs', *The History of Parliament – Research, Members, 1690-1715*, <http://www.historyofparliamentonline.org/volume/1690-1715/member/kenyon-roger-1627-98>. Accessed 4 October 2013).

<sup>71</sup> TNA DL 4/54/54.

<sup>72</sup> E. Baigent, 'Mapping the Forests and Chases of England and Wales, c.1530 to c.1670', in J. Langdon, G. Jones (eds.), *Forests and Chases of England and Wales c.1500-c.1850*, (Oxford/St John's College Research Centre, 2005), pp. 21-28.



Figure 3: The map of Leagram Park made by Roger Kenyon in 1608 (TNA DL4/54/54). North is at the top of the figure. The central blue-green area is the interior of the park and the yellow area is the forest. Chipping is on the western boundary, outside the pale. The River Loud is shown south-east of the park and the Hodder to the east. The interior of the park is largely devoid of detail; Shireburne's lodge is marked north-east of Chipping, a few houses, gates and woodland are shown. One of the sixteen salters is marked with a red arrow (by the author). Reproduced with the permission of the Chancellor and Council of the Duchy of Lancaster, and the National Archives.

## Part 2: Salter and pale design

### Terminology

#### Salter

The word 'salter' in the context of deer-parks or wooded enclosures is a system to encourage and enable deer to enter, but to thwart their return. Salter is from *saltatorium* – a leap.<sup>73</sup> Salters are commonly called deer-leaps but this term is ambiguous and may not represent a true one-way salter. 'Deer-leap' has been applied to gates in a fence over which deer can leap in either direction, but still enclose farm stock (also known as a 'leap-gate', place-name elements OE *hlyp-geat*)<sup>74</sup> – the boundary clauses in King Edgar's Charter for Pershore (972) describe 'from [the] woad barrows to the leap-gate' on the Wabborough/Stoulton boundary.<sup>75,76</sup> This is probably to enable deer, but not stock, to enter and leave enclosures.<sup>77</sup> It has been speculated that the related *hindehlype* may refer to a salter and the prepositions *into* and *æt* that are often used with *hindehlype* indicate an enclosed space.<sup>78</sup> This enclosure may be a hey (*haga*) for gathered deer within a park or forest<sup>79</sup>, or in a pre-Conquest context, a park.<sup>80</sup>

In some uses, the term, 'deer-leap' is, from the context, undoubtedly a one-way salter but in others it is explicitly not. For example, 'Dere may have course and recourse' over 'Dere lepes and brekes' in Hampton Court Chase corn enclosures after cutting.<sup>81</sup> Deer-leap may also refer to the location of a prodigious bound of a deer under chase, such as Deerleap village in the New Forest.<sup>82</sup> The term has also been used to describe a pit-fall - a covered hole employed by poachers to entrap deer.<sup>83,84</sup>

The most common and potentially confusing use is as a synonym of 'freeboard'.<sup>85</sup> A freeboard/deer-leap is the distance from the centre of a hedge to a boundary, usually the far side of a ditch.<sup>86</sup> A freeboard in the context of deer-parks was a strip of land about one perch in width, just outside the pale, that provided access to the fence for maintenance without trespass. It was also an area for the park owner to recover injured deer, or hefted escaped deer returning to the park. In more general boundary law terms it is 'a strip of land, varying in width, lying beyond the boundaries of an estate but over which the owner of the estate possesses certain rights'.<sup>87</sup> For example, in the manor of Yarlington (Somerset) the lord claimed all timber (but not pasture) growing within 6 ft. of the

<sup>73</sup> *Saltatorium* is sometimes used of a step to mount a horse. In heraldic notation it is called a 'St Andrew's Cross' or a 'decussis' (i.e. the symbol of ten), which the letter 'X' expressly denotes, hence a *saltire*. Pers. comm., Dr D.J. Butterfield, Fellow in Classics, Queens' College University of Cambridge.

<sup>74</sup> C. Hough, 'Place-name evidence for an Anglo-Saxon animal name: OE *\*pohhal/\*pocca* "fallow deer"', *Anglo-Saxon England*, Vol. 30, 2001, p. 10.

<sup>75</sup> D. Hooke, *Worcestershire Anglo-Saxon Charter Bounds* (Woodbridge/Boydell Press, 1990), pp. 182-185.

<sup>76</sup> P.A. Stokes, 'King Edgar's Charter for Pershore (AD 972)', *Anglo-Saxon England*, Vol. 37 (2008), p. 45.

<sup>77</sup> 'Stile' may be associated with some salters – there is Park Style farm near a probable salter in Leagram park and the word is used in place-names for a number of possible salters in Quernmore park (discussed below).

<sup>78</sup> A.S. Napier, W.H. Stevenson (Eds.), *Anecdota Oxoniensia: The Crawford Collection Of Early Charters and Documents Now In The Bodleian Library* (Oxford/Clarendon Press, 1895), pp. 54-55.

<sup>79</sup> Langton, 'Forest Fences', pp. 9-10.

<sup>80</sup> D. Hooke, 'The Woodland Landscape of Early Medieval England', in N.J. Higham, J.R. Ryan (eds.), *Place-Names, Language and the Anglo-Saxon Landscape*, (Woodbridge/Boydell Press, 2011), p. 166.

<sup>81</sup> T.E.C. Walker, 'The Chase of Hampton Court', *Surrey Archaeological Collections*, Vol. 62 (1965), pp. 83-87.

<sup>82</sup> W. Gilpin, *Remarks on Forest Scenery Vol. II* (London/T. Cadell and W. Davies, 1808) p. 211.

<sup>83</sup> Shirley, *Some Account of English Deer Parks*, p. 14.

<sup>84</sup> Prior, *Leaps and Bounds*, p. 116.

<sup>85</sup> J. Wright, *The English Dialect Dictionary, Volume 2* (Henry Frowde, 1900), p. 49.

<sup>86</sup> There is a presumption in law that with a hedge/ditch or ditch/bank system, that the boundary is on the edge of the ditch furthest away from the bank or hedge (V. Powell-Smith, *The Law of Boundaries and Fences* (London/Butterworths, 1975), p. 59). It is the extent of a deer's leap and its purpose was to enable the lord of the manor to 'take the deer he happened to shoot as they leapt over his fence onto his neighbour's land' (G.C. Williamson, *Curious Survivals* (1932) in a footnote in Powell-Smith, p. 59).

<sup>87</sup> Wright, *English Dialect Dictionary, Vol. 2*, p. 489.

outside of a boundary ditch (a 'deer's leap' or 'lugfall'<sup>88</sup>) and in other places against certain other manors he claimed 15½ ft.<sup>89,90</sup> Between Wrottesley Park in Staffordshire and the village of Pattingham was a strip of grass called Deerleap<sup>91</sup>, noted in two eleventh century documents and described as *dersprynth* and *derslenthe*.<sup>92</sup>

A deer-leap is also marked on some tithe maps of the nineteenth century. Kain and Oliver's catalogue of the tithe maps notes a deer-leap at Markshall (Essex), Pownall Fee (Cheshire) and Kilve (Somerset).<sup>93</sup> At Kilve, 'Free board or Deer leap 15 feet wide belonging to Kilve' is printed on the tithe map along part of the parish boundary<sup>94</sup>, and the old track is named 'Fifteen Foot Lane'. In the tithe apportionment of Astbury in Cheshire, 'Field Deers Leap or Tree Board adjoining the Land of H Legge' is noted near to 21 perches of plantation owned by Sir Robert Horton.<sup>95</sup> The deer-leap gave Sir Robert rights to the wood-fall and timber from his plantation encroaching onto Legge's land.

In light of the foregoing ambiguities, the term 'deer-leap' is not used in this report to describe a salter, unless the printed primary source has used the term in translation from Latin.

## Loop/lope

The dispute papers use the words 'lope' and 'loppe' in conjunction with salters and deer management. These are probably 'loops' – 'a rail of pales or bars joined together like a gate and movable at pleasure'.<sup>96</sup> In practice, it is a section of the pale that could be removed or simply dropped for deer (and possibly cattle) movement in and out of the park. In modern deer management they are known as 'dropping fences', and allow mass movement of deer in seasonal movements and bad weather.<sup>97,98</sup> A 'bay' is a section of paling between two sturdy posts (c.10 ft. in length) and this could also be termed a 'loop'.<sup>99</sup>

## Authority for salters

A licence to make a park required a petition to the monarch, most of whom were largely indifferent to parks outside forests; Edward I instructed his chancery to grant permission, *ad quod damnum*<sup>100</sup>, for requests for imparkment, upon payment of a fine (fee).<sup>101</sup> The bureaucratic procedure was well defined and required to be followed to avoid the wrath of royal officials and imposition of fines for unauthorised parks.<sup>102</sup> There was merit in licencing a park – in the reign of Elizabeth, a statute protected licenced parks from unauthorised taking of deer but unlicenced parks were excluded.<sup>103</sup>

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<sup>88</sup> A 'lug' is a 'long stick or pole; the branch or limb of a tree' or in measure a 'pole or perch, varying according to local custom; usually of 16½ feet, sometimes of 15, 18, 20, or 21 feet', (Oxford English Dictionary, Online Edition. Accessed 31 January 2014).

<sup>89</sup> T. E. Rogers, *Records of Yarlington: Being The History of a Country Village* (London/Elliot Stock, 1902), pp. 7-8.

<sup>90</sup> J. Batten, 'Deer Parks in Dorset and Somerset', *Somerset and Dorset Notes and Queries*, Vol. 5 (1896), pp. 83-87.

<sup>91</sup> C.S. Burne, 'The Buck's Leap', *Folklore*, Vol. 3, Iss. 3 (1892), pp. 427-428.

<sup>92</sup> *Collections for a History of Staffordshire, Vol. II, Edited by The William Salt Archaeological Society*, (Birmingham/Houghton, 1881), pp. 182-184.

<sup>93</sup> R.J.P. Kain, R.P. Oliver, *The Tithe Maps of England and Wales: A Cartographic Analysis and County-by-County Catalogue* (Cambridge University Press, 1995), p.187 Markshall, p. 305 Wragby, p. 80 Pownall Fee, p. 441 Kilve.

<sup>94</sup> Somerset Historic Environment Record, PRN 34541 - 'Deerpark, Kilve'  
<http://webapp1.somerset.gov.uk/her/details.asp?prn=34541>. Accessed 12 December 2013.

<sup>95</sup> *E-mapping Victorian Cheshire, Tithe Maps Online*, Cheshire Archives and Local Studies, Map EDT 136/2,  
<http://maps.cheshire.gov.uk/tithemaps/>. Accessed 31 January 2014.

<sup>96</sup> Wright, *The English Dialect Dictionary*, Vol. 3, p. 658.

<sup>97</sup> A.J. De Nahlik, *Management of Deer and Their Habitat: Principles and Methods* (Gillingham/Wilson Hunt, 1992), p. 168.

<sup>98</sup> 'Fencing with Wildlife in Mind', Colorado Division of Wildlife, Denver, Colorado, USA, p. 20. Available at: 'Colorado Division of Wildlife; <http://cpw.state.co.us/>. Accessed 18 Jun 2014.

<sup>99</sup> W. Salmon, *The Country Builder's Estimator or, The Architect's Companion*. 3<sup>rd</sup> Edition (London/James Hodges, 1740), pp. 34-36.

<sup>100</sup> 'to what damage' – determination of what damage the grant could inflict on the king's interests.

<sup>101</sup> W. Stubbs, *The Constitutional History of England, in its Origin and Development*, Vol. 3 (Oxford/Clarendon, 1878), p. 537.

<sup>102</sup> Mileson, *Parks in Medieval England*, pp. 142-145.

<sup>103</sup> Thirsk, *Agricultural Policy: Public Debate and Legislation*, p. 366.

Salters also required licencing by petition, either within the authority to make a park, or for existing parks:

[1358] Grant for the king's special affection for Mary de Sancto Polo, countess of Pembroke, that for her life she shall have two deer-leaps<sup>104</sup> in her park at Fodryngeye within the king's forest of Rokyngham.<sup>105</sup>

[1299] Licence for Walter de Langeton, bishop of Coventry and Lichfield, to impark his wood of Tervyn, co. Chester, adjoining Delamere Forest, and make a deer-leap 200 feet broad therein.<sup>106</sup>

[1267/1268] Letters patent by the king, granting liberty to Philip Basset, to have, during his life, a deer leap at his new park below his town of Wotton, and another at his old park, below his manor of la FASTERNE, within the metes of the king's forest of Braden, all beasts entering the said parks by the said leaps to belong to Philip.<sup>107</sup>

Legal writer, gamekeeper and justice of the New Forest, John Manwood<sup>108</sup>, wrote in his 'Treatise of the Forest Laws':

A man may have a Park in a Forest either by Prescription or Grant; But then it must be so inclosed that the Beasts of the Forest cannot enter, for if there is any Deer-leap, or if the Park is not kept enclosed tis a Forfeiture of the Liberties thereof.<sup>109</sup>

The restrictions also applied to purlieus (disafforested land no longer subject to the full extent of Forest Laws, but still with restrictions on the venison<sup>110</sup>), because the king still had qualified ownership of the deer:

[a purlieu man] must not hunt with any manner of fore-stalling<sup>111</sup>; neither shall he make any Salteries or leaping Places where the deer may leap into the Purlieu, and cannot return.<sup>112</sup>

Manwood also specified forty items of enquiry addressed by Swanimote courts<sup>113</sup>; one item concerned the making of parks or closes near a forest:

Item, whether any man have any great close within three miles of the forest that have any saltaries or great gaps, called deer lopes [loops], to receive deer into them when they be in chasing, and when they are in them they cannot get out again.<sup>114</sup>

<sup>104</sup> Without the original Latin enrolments, it is not unequivocally certain whether 'deer-leaps' as translated from the rolls by academics at the end of the nineteenth century always refer to salters (*saltatoria*) as defined in this paper, but the grant of a monarch implies authority to effectively confine his forest deer in her private park – a salter.

<sup>105</sup> *Calendar of Patent Rolls, Edward III Part II* (London/HMSO, 1891), 24 November 1358, p. 127.

<sup>106</sup> *Calendar of Patent Rolls, Edward I Part 3*, p. 439.

<sup>107</sup> 'Deeds: A.4801 - A.4900', *A Descriptive Catalogue of Ancient Deeds: Volume 3* (1900), pp. 107-118.

<http://www.british-history.ac.uk/report.aspx?compid=64327&strquery=leap>, accessed: 19 March 2014.

<sup>108</sup> J. H. Baker, 'Manwood, John (d. 1610)', *Oxford Dictionary of National Biography*, Oxford University Press, 2004

[<http://www.oxforddnb.com/view/article/18012>]. Accessed 28 April 2014].

<sup>109</sup> Forest Laws were summarised by John Manwood (d. 1610) in 'A brefe collection of the Lawes of the Forest', first published in 1592 and revised and reprinted until 1741. The online edition used here is: W. Nelson, *Manwood's Treatise of the Forest Laws* (London/B Lintott et al., 1717), p. 225-226.

<http://books.google.co.uk/books?id=2rYIAAAAMAAJ&printsec=frontcover&dq=A+brief+collection+of+the+Laws+of+the+Forest&hl=en&sa=X&ei=SjhlUbLhlcjlswbzn4G4BA&ved=0CEUO6AEwAg#v=onepage&q=A%20brief%20collection%20of%20the%20Laws%20of%20the%20Forest&f=false>. Accessed 19 Mar 2013.

<sup>110</sup> J. Langton, 'Medieval Forests and Chases: Another Realm?', in J. Langton, G. Jones (eds.), *Forests and Chases of Medieval England and Wales c. 1000 to c. 1500*, (Oxford/St John's College Research Centre, 2010), pp. 14-35.

<sup>111</sup> Fore-stalling is obstructing a deer on its return to the forest.

<sup>112</sup> Nelson, *Manwood's Treatise of the Forest Laws*, p. 298-299.

<sup>113</sup> G. Jones, 'Swanimotes, Woodmotes, and Courts of Free Miners', in J. Langdon, G. Jones (eds.), *Forests and Chases of England and Wales c. 1500-c. 1850*, (Oxford/St John's College Research Centre, 2005), pp. 41-48.

The *ad quod damnum* would address the proximity of the salter to the king's forest, to ensure that the king's deer would not be entrapped:

[1340] Licence after ... inquisition ... for John de Segrave to make a deer-leap in his park of Cold Overton, co. Leicester. It is found by the inquisition that the park ... is without the metes of the forest [of Rutland] a mile and a half distant from the nearest covert of the forest, that the park of Fletrys [Flitteris], co. Rutland, is between it and the forest, and that there is no repair of the king's deer there.<sup>115</sup>

Not all those requesting imparkment were fortunate to have authority for salters:

[1353] Sir Hugh [de Venables] may impark his wood at Kynderton, provided the park be not within the bounds of the [Black] prince's forests, or, if it be within the bounds, that it be so well and strongly enclosed (without deer-leaps or any other devices in the enclosure) that the game of the forest cannot enter.<sup>116</sup>

Examples of salter grants are:

[1227] Henry, King etc. sends greetings. May you know that we have granted and confirmed via this present charter of ours for the venerable father, the Bishop of Lincoln, Hugh II, and his successors in perpetuity, that they may have leaps in their parks in Buggeden [Buckden, Hunts.], Spaldewich [Sladwick, Hunts.] and Lidington [Liddington, Rutland], with all freedoms that pertain to leaps of this kind. Therefore we wish etc. that the same bishop and his successors have in perpetuity the said leaps properly and peacefully.<sup>117</sup>

[1234] We granted to ... Godfrey that he and his heirs have one leap in the same park [in the Forest of Selwood at Corslegh] against the covert of our forest ... And therefore we order you to allow this to be done.<sup>118</sup>

A fine (fee) may be required to construct a salter:

[1253]. Concerning a fine of gold. Giles of Erdington gives the king 12 bezants that he may make deer-leaps in the neighbourhood of his park of Saunebur [Shawbury, Shropshire?]. He has paid P. Chaceporc and is quit.<sup>119</sup>

A salter illicitly constructed within or close to a royal forest could be presented to the Justices in Eyre and required to be removed. In 1285, Isabel of Clifford had two salters in her park at Whinfell in Cumberland classed as 'nuisances to the forest' even though they were outside the forest of Inglewood.<sup>120</sup>

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<sup>114</sup> Whitaker, *The History of Whalley*, p. 65.

<sup>115</sup> *Calendar of the Patent Rolls Preserved in the Public Record Office, Edward III: A.D. 1330-1334, Part V* (London/HMSO, 1900), p. 6.

<sup>116</sup> *Deputy Keeper of the Records. Register of Edward the Black Prince Preserved in the Public Record Office, Part III (Palatinate of Chester) A.D. 1351-1365.* (London/HMSO, 1932), p.130.

<sup>117</sup> C.W. Foster (Ed.), *The Registrum Antiquissimum of the Cathedral Church of Lincoln, Vol. I* (Lincoln Record Society Vol. 27, 1931), p. 175.

<sup>118</sup> *Close Rolls of the Reign of Henry III Preserved in the Public Record Office: A.D. 1231-1234* (London/HMSO, 1905), 1234, Membrane 25, p. 413.

<sup>119</sup> 'Henry III Fine Rolls Project', Fine Roll C 60/50, 37 HENRY III (1252-1253). Membrane 24, Entry 908.

[http://www.finerollshenry3.org.uk/content/calendar/roll\\_050.html#it908\\_008](http://www.finerollshenry3.org.uk/content/calendar/roll_050.html#it908_008). Accessed 8 August 2014.

<sup>120</sup> Turner, *Select Pleas of the Forest*, p. cxvii-cxviii.

In 1289/1290:

Judgment was returned on the part of the Earl of Gloucester against William le Power that his park in Farley be open at the cost of the same William. And that the same man's two leaps be taken down because they harm the free chase from Malverne, etc.<sup>121</sup>

Power had made his park at Farley c. 1250 with deer gifted by Gilbert de Clare of the Chase of Malvern. In 1287 all his deer were killed by wolves.<sup>122</sup> De Clare's son (also Gilbert, the Red Earl) successfully prevented le Power from restocking his park in 1288, because it may prejudice the Chase.<sup>123</sup>

Bishop Roger of Coventry and Lichfield had a park in Heywode containing two salters within the King's Cannock Forest and another salter in his park of Brewode, but the Justices of the Forest were not aware of any warrants authorising these. In 1286 he was commanded by the Sheriff to attend the Justices. He could not produce warrants for holding the woods and taking venison and they were therefore taken into the King's hands. Before Parliament in 1290 he gave up to the King all his woods within the forest, but the King granted the woods back to the Bishop as a free chase in which he could make parks with no salters, nor capture the King's deer in nets.<sup>124</sup> The King received a gift of £1000 from the bishop, who subsequently reclaimed the money from his clergy.<sup>125</sup>

Modifications to salters also came before officials. In 1230, Henry III granted to William of Ferrars one salter in the park of Perry/Potterspury in Northamptonshire.<sup>126</sup> In 1234 'The King granted to William of Ferrars that he could remove the leap that he has by concession of the King in the park at Pirye, and he can have it set up wherever else in the said park seems to him to be more expedient'.<sup>127</sup>

Salters could be degraded to control stock numbers within a park:

[1256] John of Hanebergh and Peter of Legh, guardians of the manor at Woodstock, were given the order that ... they should make all deer-leaps in the park at Woodstock open within the said park and forest, so that the king's wild beasts could freely enter and exit. And ... keep these deer-leaps open ... until the following feast of the Assumption of the Blessed Virgin Mary, or until he has received an order from the king.<sup>128</sup>

## Pale system

[1577] Our Parkes are generally inclosed wyth strong pale made of Oke, of which kinde of woode there is great store cherished from time to tyme in eache of them, onely for the maintenaunce of the sayde defence, and safe reering of the Deere from raunging about the countrey.<sup>129</sup>

The pale system was designed to keep deer within the park, and to exclude deer belonging to the Crown. It was also intended to keep out unauthorised people. The design of the pale had to address

<sup>121</sup> G. Rose, *Placitorum in Domo Capitulari Westmonasteriensi Asservatorum Abbreviato; Temporibus Regum Ric. I. Johann. Henr. III. Edw. I. Edw. II.* (London/House of Commons, 1811), p. 222.

<sup>122</sup> B.G. Smith, *A History of Malvern* (Gloucester/Alan Sutton & The Malvern Bookshop, 1978), p. 33.

<sup>123</sup> Smith, *A History of Malvern*, p. 29.

<sup>124</sup> 'Staffordshire Forest Pleas: 14 Edward I', *Staffordshire Historical Collections*, vol. 5 part 1 (1884), pp. 17-175.

<sup>125</sup> Langton, *Medieval Forests and Chases: Another Realm?*, p. 34.

<sup>126</sup> *Close Rolls of the Reign of Henry III Preserved in the Public Record Office: A.D. 1227-1231* (London/HMSO, 1902). 1230, Membrane 7, p. 346.

<sup>127</sup> *Close Rolls of the Reign of Henry III Preserved in the Public Record Office: A.D. 1231-1234* (London/HMSO, 1905). 1234, Membrane 26, p. 406.

<sup>128</sup> *Close Rolls of the Reign of Henry III Preserved in the Public Record Office: A.D. 1254-1256* (London/HMSO, 1931), Membrane 7, p. 325.

<sup>129</sup> Holinshed, *Chronicles of England, Scotland, and Ireland, Vol. I*, p. 89.

the behaviour and jump height of the deer species enclosed. Deer can jump high vertically or a long distance horizontally and the pale system required features that kept adults and young deer away from the fence, such as white-thorns (hawthorn) on the slope of the bank or perhaps a single stand-off rail to inhibit a bounding approach to the pale system.

Ditches and banks were common but not universal in the boundaries of parks, indeed, individual parks may have had sections devoid of such ground-works where the local topography facilitated retaining the deer with a fence alone. In Leagram there are sites where the pale is associated with gullies and cloughs, and a ditch and bank is not necessary nor indeed evident. The purpose of the ditch and bank was to increase the effective jump height of the fence for deer in the ditch; it also saved valuable timber by reducing the required height of the pale fence. The ditch was normally on the park side (Figure 4). The system was also required to inhibit adult and young deer from pushing through the fence at its base.

In general form, a wooden pale fence comprised an embankment upon which a fence was constructed from oak posts, cleft (riven) oak pales, rails (horizontal braces) and shores (angled support struts).<sup>130</sup> Some fences may have been constructed from sawn close boarding, stone, live or dead hedges<sup>131</sup> (the park fence at Higham Ferrers was three and a half miles of dead hedge<sup>132</sup>). There would not normally be a ditch on the forest side but the freeboard there provided access to the fence. The freeboard width was nominally the leap of a deer in one bound<sup>133</sup>, c. one perch (7 or 8 yards).<sup>134</sup>



Figure 4: Eroded ditch and bank of the pale system in Leagram park. The park is on the left, the forest to the right. This section near Acornhurst was probably constructed in the 1420s when the park was enlarged. The ditch was originally 8 ft. wide and 4 ft. deep. Inset courtesy of English Heritage, based on a survey by AONB volunteers. Photograph by the author.

<sup>130</sup> At 'Brixstok' park [Brigstock, Northamptonshire] in 1379, hollow oaks were used for 'reyles' [rails] and paling, and 'without' (not hollow) for posts; 'croppes, bark and leafless logs' were sold to pay for the works and carriage. *Calendar of Patent Rolls*, Richard II, Part I, p. 322.

<sup>131</sup> Langton, 'Forest Fences', p. 16.

<sup>132</sup> Lasdun, *The English Park: Royal, Private & Public*, p. 204.

<sup>133</sup> J.E. Harting, *Recreations of a Naturalist* (London/Fisher Unwin, 1906), pp. 71-72.

<sup>134</sup> Wright, *English Dialect Dictionary*, Vol. 2, p. 49.

Although documents from the thirteenth and fourteenth centuries describe the legal aspect of deer-park enclosure and use, the everyday details of park management such as the practices employed in the construction and maintenance of the pale and the incorporation of salters and loops, are very limited.<sup>135</sup> Some parks, such as Leagram, were also used to pasture oxen and cattle and were compartmented with rails of sufficient height to confine the stock, but not deer. The Assize of the Forest stated that enclosures accessible to deer should have a low hedge for young deer to pass, no higher than 4½ ft. (1.4 m).<sup>136</sup> Rails would also be used to enclose launds or coppices in the park. In the 1422-1423 accounts of pallisers' expenditure in Leagram to maintain the pale and rails, a new pale ditch in the northern part of the park was 8 ft. (2.4 m) wide and 4 ft. (1.2 m) deep and planted with three courses of white-thorn (Figure 4).<sup>137,138</sup> Nurseries were not generally developed until the eighteenth century and the white-thorn was probably gathered from woods and commons.<sup>139</sup> In Radholme deer-park, the ditches were 8 ft. wide and 4½ ft. (1.4 m) deep.<sup>140</sup> The modern minimum recommended fencing height for deer is 1.8 m (c. 6 ft.) for red and 1.5 m (c. 5 ft.) for fallow<sup>141</sup>; this presumes level ground and not employing a ditch and bank. There is virtually no information on the height of the fence in either park. In the 1595-1608 dispute papers it states that the old pale in Leagram was 'an adjoining pale about fyve quarters in height' (3ft. 9 in. [1.14 m])<sup>142</sup>, which is 1 ft. less than the modern standard for fallow, but it is possible that when incorporated into a pale ditch, bank and thorn system it sufficed to inhibit egress, at an economical cost in paling. It may also be a description of a degraded pale fence, one of the issues relevant to the dispute.

## Fence design

There are contemporary accounts of the costs of medieval pale fencing, but not the design. There were probably two general approaches:

- i. An open fence with spaced vertical cleft oak pales supported by horizontal cleft rails between substantial wooden posts, the maximum height of the pales probably between 4½ ft. and 6 ft. (1.37-1.83 m) depending on deer species imparked, the presence of a ditch, bank and thorns, and local topography. An option would be to have a dense array of gapped short palings on the lower part to stop fawns pushing between the pales, and a series of longer palings at less regular intervals to achieve height with an economical use of timber, and less risk of wind damage. In practice, there would be pales of three different heights.
- ii. A close-boarded fence like a palisade with sawn or cleft oak (probably the former) of uniform height, supported by rails and posts. The fence tops were probably pointed to shed water.

An open fence is present at Charlecote Park in Warwickshire (Figure 5), imparked by the mid-1400s.<sup>143</sup> The original height of the fence was 5 ft. (1.52 m) but a lengthy section of new fencing is 6 ft. (1.83 m) high to inhibit ingress of wild deer.

<sup>135</sup> Birrell, *Deer and Deer Farming in Medieval England*, p. 115.

<sup>136</sup> W.R. Fisher, *The Forest of Essex: Its History, Laws and Administration and Ancient Customs and the Wild Deer Which Lived In It* (London/Butterworths, 1887), p. 314.

<sup>137</sup> Fitzherbert in 1534 extolled white-thorn on the slope of a ditch and bank for stock-proof hedging 'gette thy quykesettes in the wood-countreie, and let them be of whyte-thorn and crabtree, for they be beste ... and let them [the settes] lene towards the dyche'. He advised that 'if it [the ditch] be .v. fote brode, then .iii. fote depe ans so accordynge ; and if it be fyue fote brod, then it would be double sette...'. Presumably it was considered that the 8 ft. ditch in the parks required triple 'settes' (W.W. Skeat, *The Book of Husbandry by Master Fitzherbert – Reprinted from the Edition of 1534* (London/Trübner for the English Dialect Society, 1882), pp. 78-79).

<sup>138</sup> Shaw, *The Royal Forest of Lancaster*, p. 429.

<sup>139</sup> W. Johnson, 'Hedges – A Review of Some Early Literature', *The Local Historian*, Vol. 13 No. 4 (Nov. 1978), pp. 195-204.

<sup>140</sup> Shaw, *The Royal Forest of Lancaster*, p. 429.

<sup>141</sup> B. Mayle, *Managing Deer in the Countryside – Practice Note*. (Forestry Commission, 1999).

<sup>142</sup> Shannon, pers. comm. It is assumed that the height refers to a wooden fence, not including the ditch and bank. The term 'adjoining' implies the fence was without gaps between the pales, '... over and through which the Deare of the said Forest might come and goe in severall places...'

<sup>143</sup> *Charlecote Park* (National Trust Enterprises Ltd., 2008), p. 33.



Figure 5: New deer-park fencing made by cleaving oak at Charlecote Park in Warwickshire showing pales of three heights supported by three rails. The tallest posts are 6 ft. (1.83 m) high. The fence is not set on a bank and ditch system. Photographs by the author.

Fencing is expensive and the design needs to balance cost and function. The three pale heights inhibit deer jumping at about half the cost of pales of equal height. A cleft oak open fence is made from an oak log split with wedges, and individual pales fashioned with a froe – an L-shaped tool comprising a blade and handle to split the oak along the grain. The support posts are about 6 in. (0.15 m) square in oak and each bay/loop is about 10 ft. (3.04 m) wide. The pales are nailed to rails mortised into the post.<sup>144</sup> A craftsman can make and install a 10 ft. wide paled bay and one post in 3-4 h if the oak is

<sup>144</sup> E. Agate. *Fencing: A Practical Handbook* (British Trust for Conservation Volunteers, 2004). Available at 'Internet Archive Wayback Machine: BTCV Practical Conservation Online', archived 11 October 2004,

favourable and ground easily dug.<sup>145</sup> To fence the perimeter of Leagram Park would take c. 3,400 bays. At Chawton Park, the pale appears to have been an open type with three rails, the top being about 4 ft. 9 in. (1.37 m) from the ground and the sawn pales were 4 in. (10 cm) clear of ground and at two heights.<sup>146, 147</sup>

A close-boarded palisade fence would require more labour and three times the quantity of wood of an open fence.<sup>148</sup> In some sixteenth century estate maps there are indications of close-boarded fencing. Figure 6 shows deer-park paling in maps of Musbury in Lancashire (1581)<sup>149</sup>, Holdenby in Northamptonshire (1587)<sup>150</sup> and Elford in Staffordshire (1508).<sup>151</sup> Close-boarding is shown on all three maps but this may be a conventional sign used by the map-makers and not a representation of the designs in practice. Figure 7 is a 1610 portrait of Henry Prince of Wales (1594-1612), eldest son of James I and Anne of Denmark. In the background is a park fence of constant height with pointed boards (but no rails evident) and very narrow gaps between the boards. The high gate presumably enabled horse-riders to enter.

Another function of the pale was to keep pests out of the park and a close-boarded fence was more efficient in his respect. In 1718, Jacob wrote: 'The Walls of your Park should be high; and if Pales, they ought to be close jointed, so that neither Badger nor Cat can creep through, nor Fox, Ec. leap over.'<sup>152</sup> However, palisades were substantially more expensive than cleft open fences. In a builders' guide of 1740, three rail cleft open park paling was charged at 18 s/rod (16.5 ft.) plus 4 s/rod work, including 'hewing and riving pales'. Sawn pales were more expensive at 24 s/rod plus work of 7-8 s/rod, 'hewing and sawing included'. However oak palisading of height 5 ft. 3 in. was much more expensive at 66 s/rod for materials plus 23 s/rod work.<sup>153</sup> Expense may not have been a primary consideration in royal parks or in ostentatious private designed landscapes containing parks. Writing in the mid-eighteenth century, Miller considered that palisades were not as durable as open fences (probably due to the risk of wind damage), and that a pale fencing should be cleft thin, at two heights:

The common Way of making these Fences is to have every other Pale nine or ten Inches above the intermediate one; so that the Fence may be six Feet and a Half high which is enough for Fallow Deer; but where there are Red Deer, the Fence should be one Foot higher, otherwise they will leap over. <sup>154</sup>

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<http://web.archive.org/web/20040421034817/http://handbooks.btcv.org.uk/handbooks/content/section/3305>. Accessed 21 October 2013.

<sup>145</sup> Pers. comm., Alex Moir, The Cleft Wood Company, Hillesden, Buckingham, 27 March 2014.

<sup>146</sup> A. Crocker, 'Disparking the Royal Park of Guildford', *Surrey Archaeological Collections*, vol. 92 (2005), p. 195.

<sup>147</sup> Agate, *Fencing: A Practical Handbook*.

<sup>148</sup> Pers. comm., Alex Moir, 10 October 2013.

<sup>149</sup> National Archives MPC 1/245 taken from DL 4/23/59. 'Map showing lands in the suit Gartside and others v Cronkeshaye and others, 1581'.

<sup>150</sup> Royal Commission on Historical Monuments. *An Inventory of the Historical Monuments in the County of Northampton: Volume III Archaeological Sites in North-West Northamptonshire* (HMSO/London, 1981), Plate 18, detail of Plate 17.

<sup>151</sup> M. Beresford, *History on the Ground: Six Studies in Maps and Landscapes* (London/Methuen, 1971), p. 204. The original is Birmingham Archives MS 3878/1/55 [Elford Hall 55], 'Testimony of Sir John Ferrers, Sir Walter Griffyn and others in a dispute between Geoffrey, Bishop of Coventry and Lichfield and William Smyth, esq., Lord of the Manor of Elford co. Staff., concerning Willeford meadow in Elford, with map of the Manor of Elford attached', dated 6 June 23 Henry VII [1508].

<sup>152</sup> G. Jacob, *The Compleat Sportsman. In Three Parts*. (London/J. Tonson & W. Taylor, 1718), p. 66.

<sup>153</sup> W. Salmon, *The Country Builder's Estimator or, The Architect's Companion*. 3<sup>rd</sup> Edition (London/James Hodges, 1740), pp. 34-36.

<sup>154</sup> P. Miller, *The Gardeners Dictionary* (London/John and Francis Rivington of St. Paul's Churchyard and others, 1768, 8<sup>th</sup> ed.), "Fences".

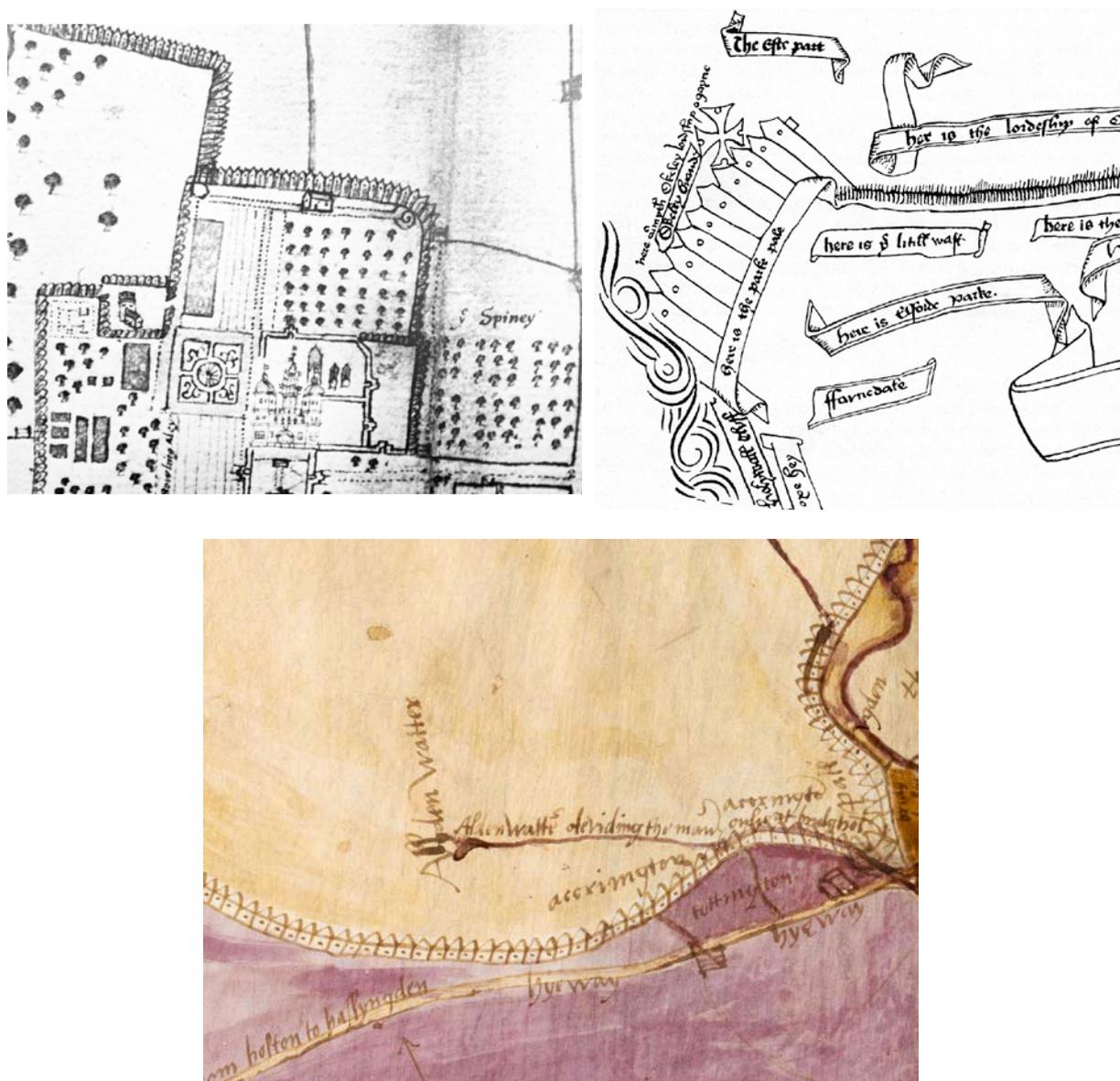


Figure 6: Pale fencing represented on maps of Holdenby, 1587 (upper left), Elford, 1508 (upper right, marked 'here is the park pale') and Musbury, 1581 (bottom). The Musbury map is reproduced with the permission of the Chancellor and Council of the Duchy of Lancaster, and the National Archives.



Figure 7: Portrait of Henry, Prince of Wales with Robert Devereux, 3<sup>rd</sup> Earl of Essex in the Hunting Field (c. 1605). The artist was Robert Peake. In the background is a deer-park (upper, marked with red rectangle) and the enlarged section (lower) shows the construction of the fence and a gate. Reproduced with permission: Royal Collection Trust / © Her Majesty Queen Elizabeth II 2014.

In 1804, 'park paling' was sold as either 5 ft. (1.52 m) or 6 ft. (1.83 m) cleft pales with two or three rails in bay/loop; 'boarded pale' of the same dimensions was available as rough feather-edged or planed.<sup>155</sup> 'Deer herdles' of seven rails and height 6½ ft. (1.98 m) were recommended with the pale in 10 ft. (3.05 m) bays of 25 pales with 1½ in. (38 mm) between pales, a pale width of 3 in. (76 mm).<sup>156</sup>

Iron fencing became fashionable in the nineteenth century. In his 1892 survey of deer-parks in England, Whitaker expressed the view that 'nothing looks better, or harmonises more with the landscape, than the old-fashioned oak-paling, covered with lichen and mellowed with age' (Figure 8), but in practice various materials were used. Of 20 parks in which fence dimensions are given, five were constructed from wood (5-7 ft. high), five from stone or brick (7-11 ft.), three were wire (5½-10 ft.), four of iron (6-6½ ft.) and three of mixed construction (5-6 ft.).<sup>157</sup>

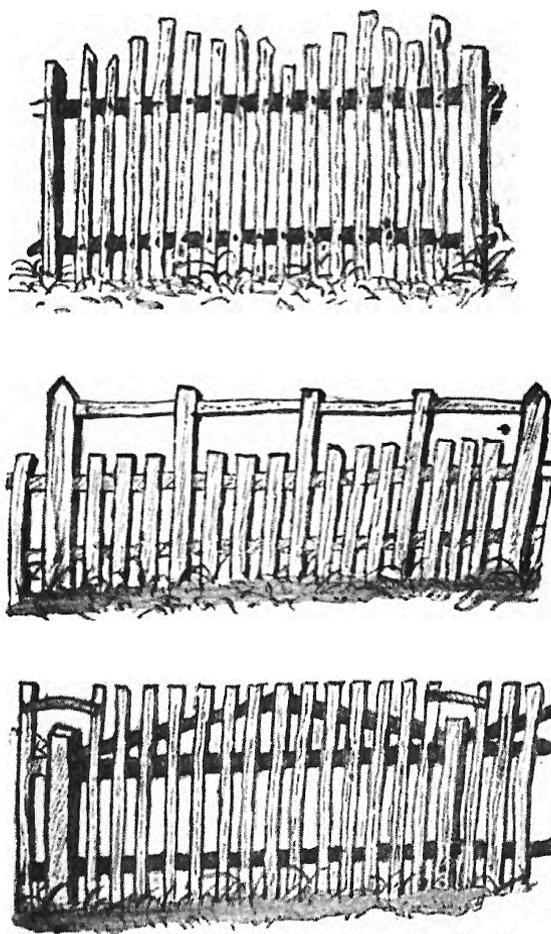


Figure 8: A variety of fence designs – late nineteenth century wooden deer-park fences at Exton, Rutland (upper), Hardwick, Derbyshire (middle) and Rainworth, Nottinghamshire (lower). The park fence at Rainworth was part oak, larch pales and iron.<sup>158</sup> Taken from Whitaker.<sup>158</sup>

<sup>155</sup> J. Taylor, *The Builder's Price-Book* (London/Architectural Library: High Holborn, 1804).

<sup>156</sup> J. Mitchell, *Dendrologia: Or a Treatise of Forest Trees* (Keighley, 1827), pp. 133-137.

<sup>157</sup> J. Whitaker, *A Descriptive List of the Deer-Parks and Paddocks of England* (London/Ballantyne & Hanson, 1892).

<sup>158</sup> Whitaker, *A Descriptive List of the Deer-Parks*.

Some parks were walled, either entirely or partially. At Woodstock Park in Oxfordshire, Henry I had a seven mile wall constructed.<sup>159</sup> In upland areas with inclement weather and freely available stone, walls may be used as they had greater longevity than wooden paling, but the costs of construction were higher. There are substantial lengths of walling in the highest parts of Leagram and Radholme parks but they probably date from disparkment and later enclosure. Indeed, the northern wall in Leagram may not precisely overlie the pale.<sup>160</sup> Walling is not mentioned in known accounts of fence and pale maintenance in these parks.

## Pale maintenance

Maintenance of the pale was necessary and expensive (Figure 9) and with a herd of valuable deer within, the capacity for urgent, expedient repairs was necessary: in Blansby Park near Pickering c.1333 following a flood, workmen spent seven days ‘stopping up the gaps in the pale with thorns until it could be repaired to prevent the deer escaping’.<sup>161</sup> Breaches were also caused by ‘common evildoers’ hunting unlawfully and stealing from the park, and by damage by deer and wind.

Hampton Court Chase had ‘pale-walkers’ to inspect the fence and reinstate fallen pales.<sup>162</sup> In the royal park of Guildford in 1619-28, repairs to 1,300 perches (6.5 km) of pale required 10,700 pales each 6 ft. long, 1,500 rails of 10 ft., 1,950 posts 6 ft. long and 1,850 shores. It is likely these were sawn pales rather than cleft. From the number of cart loads stated and assumptions of the width of posts (6 in. square) and a 6 ft. high pale thickness of 1 in., each pale is calculated to be about 11 in. (280 mm) wide, probably close-boarded.<sup>163</sup> Accounts from 1422-24 of the Master Forester of Bowland, Sir Henry Hoghton, itemise the costs and requirements of the pale repair ‘for the upkeep of the palings around the park of Laythegryme both for old and for new palis, shoris and raylis of the king’s timber:

Nicholas Swynihillhirst working there in the felling and splitting of oaks for palis and raylis for making 100 and ½ palings – at 12 d per hundred – 18 d; cartage of same from the place where they were felled to sundry places needing necessary repair – at 12 d per 100 – 18 d; re-erecting falling palings and making them good again all around the said park for one part of said park *in grosso* – 7 s. 7 d. <sup>164</sup>

It is evident that the Leagram fence in this period was cleft oak and probably an open fence. Other contemporary accounts for Leagram and Radholme describe the construction of ‘pales-bord’ for the boundary and a laund, which implies boards were used, but as the costs of manufacture were the same as the cleft oak, it suggests that these were cleft palings and not palisade boards.<sup>165</sup>

<sup>159</sup> ‘Blenheim: Park to 1705’, *A History of the County of Oxford: Volume 12: Wootton Hundred (South) including Woodstock* (1990), pp. 439-448. [www.british-history.ac.uk/report.aspx?compid=4024&strquery=wall](http://www.british-history.ac.uk/report.aspx?compid=4024&strquery=wall). Accessed: 14 April 2014.

<sup>160</sup> F. Marginson, Peacock Hey Farm, Chipping, pers. comm.

<sup>161</sup> R.B. Turton, *The Honor and Forest of Pickering, Volume IV, New Series* (The North Riding Record Society, 1897), pp. 221-222.

<sup>162</sup> Walker, ‘The Chase of Hampton Court’, p. 87.

<sup>163</sup> Crocker, *Disparking the Royal Park of Guildford*, pp. 187-215.

<sup>164</sup> Shaw, *The Royal Forest of Lancaster*, p. 427.

<sup>165</sup> Shaw, *The Royal Forest of Lancaster*, p. 429.

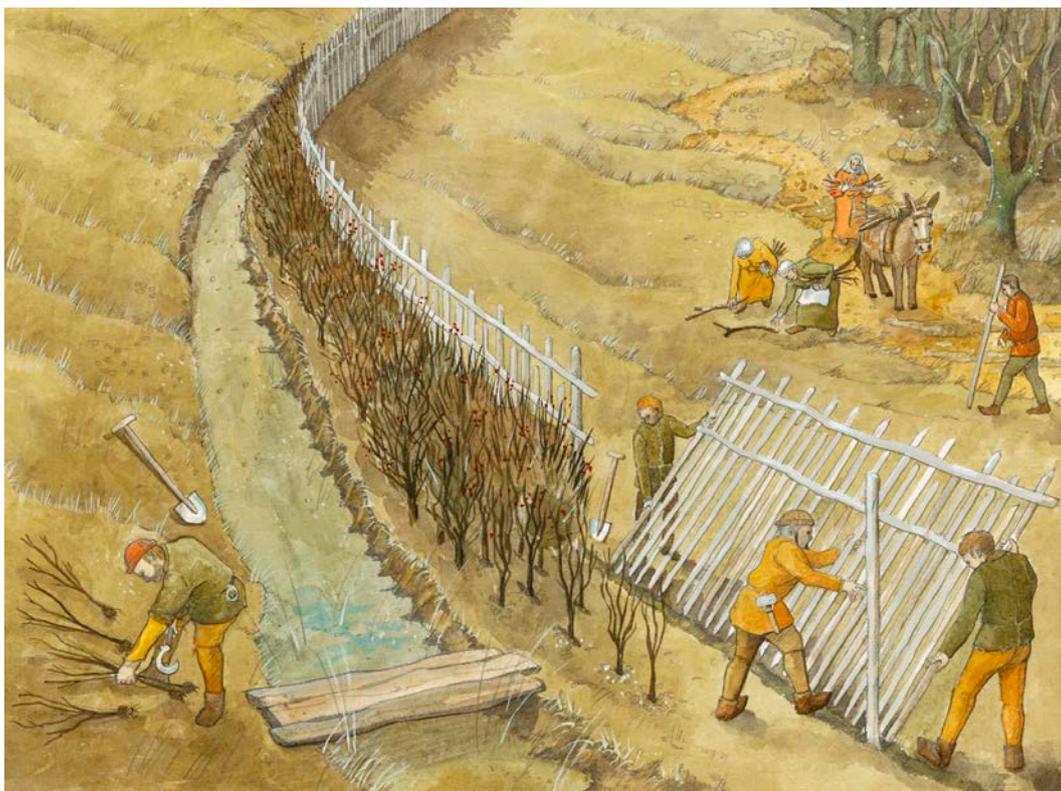


Figure 9: The repair of the Leagram pale in winter, showing a loop/bay of fence being handled. The park is to the left of the fence. The pale is in the mossy area to the south of the park and consequently the ditch has filled with water. Commoners are gathering fallen wood in the forest (right of estovers). © Jennie Anderson.

## Salter design

the Defendant may make his Fence or Ditch very low on the outside next the Forest, and so high within his Park, that the King's Deer cannot get out when they are once within, and so the Park would be in the nature of a Trap to catch them.<sup>166</sup>

The modification of a section of a deer-park boundary to encourage and enable deer to enter the park but be unable to leave, would require new works on the pale ditch and bank. Limited information on the construction of salters in the Middle Ages has been unearthed (discussed below), and drawings by nineteenth century antiquarians, modern deer enclosure management and the known propensity of deer to exploit weaknesses in a fence, do provide outlines for two salter designs:

Type 1 (Figure 10): The pale fence was reduced in height and in order to make return difficult, a substantial ditch made or a natural hollow employed on the internal part just below the lowered fence. The bank may also have been reduced in height. If a thorn fence was used on the park side of the bank, this was undoubtedly removed. There may have been a small opening in base of the fence to allow fawns to follow.

Type 2 (Figure 13): The pale fence was removed and a retaining vertical revetment of stone/brick, or a fabricated wooden revetment was constructed. These provided a sheer drop into the park of sufficient height to enable the deer to jump within, but to inhibit their egress. Natural outcrops of earth-fast stone on slopes may also have been employed. A downward slope into the park would generally be advantageous. A ditch/hollow would probably have been dug at the bottom of the drop.

<sup>166</sup> Nelson, *Manwood's Treatise of the Forest Law*, p. 226.

Salters may have been constructed with the lowered fence or the drop on the same alignment as the pale fence, or more likely with the Type 2, within a returning offset - a short rectangular or trapezoidal section displaced from the fence alignment, into the park, to direct deer towards the drop. Deer should be confident to use the salter and the risk of injury should be minimised whether entering passively or being driven (over a potentially injurious drop into the park). A ramp may have been present on the forest side leading up to the lowered fence or the revetment; this ramp may have been natural or man-made. On downward slopes into the park, a rising ramp may not be necessary. Each type undoubtedly employed features outside the park to encourage deer towards the salter. A permanent or temporary stock funnel arrangement made of hurdles, nets or rails in the forest may have been employed to direct the deer.<sup>167, 168, 169</sup> Natural landscape features such as linear hollows frequented by deer may have been used. Other more innovative approaches were employed – at an illegal park in Feckenham Forest (Worcestershire/Warwickshire) in the late fifteenth century, a canny lord laid trails of hay close to five breaks in the pale, to encourage deer to enter.<sup>170</sup> In the late eighteenth century, a Mr Harbin of Cranborne Chase had his park broken and seized by Lord Rivers when he was caught having an unauthorised salter and enticing deer with apple pomace.<sup>171</sup> Further enquiries by Rivers led to the discovery that Harbin's predecessor only had authority for his life, and Harbin, alas, had no authority for the park.<sup>172</sup>

Salters would have been placed initially close to areas of known deer movements at dawn and dusk such as close to coverts, browsing launds or paths used by deer. Offsets in the pale incorporating a salter would facilitate entrapment of deer exploring the boundary or driven along a wall towards the salter (discussed below).

Figure 11 shows a Type 1 deer-leap at Wolseley Park in Staffordshire in 1867<sup>173</sup>; this appears to be the only representation known of a salter/deer-leap from a park founded in the (late) Middle Ages. Wolseley Park adjoined Cannock Chase and salters were granted to Ralph Wolseley by Edward IV in 1469:<sup>174</sup> '[Wolseley] may inclose with pales and impark. And also in the aforesaid Lands so inclosed or imparked may make and have Deer-leaps'.<sup>175</sup> In 1646 Sir Robert Wolseley wrote to Lord Paget stating the lord had promised him 'twoe Buckes and twoe dowes yeerly to keepe shutt the Jeerleapes [sic] into my Parke unles when my deere gott out. And then to open them certayne dayes.'<sup>176</sup> The promised deer were to come from Paget's Cannock Wood and Haywood Bailiwick but the keepers only allowed Wolseley to have poor quality does from elsewhere (Hills Walke).

In 1934 a heath fire severely damaged two salters. They were described as a number of oak pales supported by posts 18 in. square and the remains of a 3 ft. (0.9 m) deep ditch, 2 yd. (1.8 m) by 4 yd. (3.6 m) could be discerned.<sup>177</sup> The engraving does not show any ground-works, but the construction of the fence with short and long palings is evident, and a lowered section at the salter, topped with a rail. Figure 12 is also a drawing of a Type 1 deer-leap in Wolseley published in 1884.<sup>178</sup> A ditch to impede the escape of deer is shown, measuring 9 ft. (2.8 m) wide and 4 ft. (1.2 m) deep. The fence

<sup>167</sup> M. Derbyshire, 'Old-style Deer Leaps', *Rural History Today* (British Agricultural History Society), Iss. 19, (July 2010), pp. 4-5.

<sup>168</sup> M. Higham, 'Take It With a Pinch of Salt' in A.G. Crosby (Ed.), *Of Names and Places: Selected Writings of Mary Higham* (English Place-Name Society & Society for Name Studies in Britain and Ireland, 2007), p. 22.

<sup>169</sup> G.T. Lawley, 'Ancient Staffordshire Deer Leaps', Wolverhampton City Archives DX-808/5/9 File of Research Papers (c. 1900); DX-808/3/4 Staffordshire Notitia – Notes on Archaeology, History, Genealogy and Ecclesiology of the County of Stafford, Vol. 4 (c. 1900).

<sup>170</sup> Birrell, *Deer and Deer Farming in Medieval England* p. 120.

<sup>171</sup> R. Prior, *Deer Watch: A Field Guide* (Shrewsbury/Swan Hill Press, 2007), p. 76.

<sup>172</sup> Harting, *Recreations of a Naturalist*, pp. 69-70.

<sup>173</sup> Shirley, *Some Account of English Deer Parks*, p. 191.

<sup>174</sup> Shirley, *Some Account of English Deer Parks*, p. 179.

<sup>175</sup> Whitehead, *Deer and Their Management*, p. 23.

<sup>176</sup> Staffordshire Record Office D(W)1781/5/12/3.

<sup>177</sup> Whitehead, *Deer and Their Management*, p. 22.

<sup>178</sup> G. Wrottesley (Ed.). 'Additions and Corrections – The Forest Rolls', *Staffordshire Historical Collections*, vol. 5, pt. 1 (1884), pp. xviii-xix.

is lowered and its construction is different from Shirley's earlier image, but it is probably the same salter. A photograph taken in 1958 purportedly shows a Wolseley deer-leap.<sup>179</sup>



Figure 10: A Type I salter showing deer leaping into a hollow within the park. © Jennie Anderson.

Parks often had upland areas extending onto the waste and marginal land, and the slopes to the lower lying parts were a consideration in the choice of location of a park.<sup>180</sup> The uplands provided a vista for the gathering and hunting of deer, and the slope may be employed in deer management by directing deer to hunters, and by employing the slope and a retaining wall (or wooden structure) with a sheer drop, to function as a Type 2 salter. At the Castle of Morton (Dumfries and Galloway) in a park made by Sir Thomas Randolph, probably dating to the fourteenth century:

‘...on the face of a very great and high Hill, all wild Beasts, such as Deer, Harts and Roes and Hares, did easily leap in, but could not get out again; and if any other Cattle, such as Cows Sheep or Goats did voluntarily leap in, or were forced to it, it is doubted if their Owners were permitted to get them out again’<sup>181</sup>

<sup>179</sup> Staffordshire Record Office D(W)1781/20/5 is a photograph taken by George Wolseley in 1958 of ‘The Deer Leap’, Lion’s Den, Wolseley Park. It shows a short stretch of four posts in a line, each with three rail slots; five of the nine rails are present. It is set amidst winter bracken in a conifer plantation, but a shallow ditch below the rails is just discernible. The structure is isolated and not set in a pale fence. It is a basic rail fence and dissimilar to the nineteenth illustrations. Higham shows a photograph of the remains of a reconstructed salter in Cannock Chase - dilapidated pales with a short section of smaller pales emerging from bracken (Higham, *Take It With a Pinch of Salt*, p. 23).

<sup>180</sup> Mileson, *Parks in Medieval England*, p. 33.

<sup>181</sup> A. Mitchell, J.T. Clark (Eds.), *Geographical Collections Relating to Scotland Made By Walter MacFarlane, Volume III* (Edinburgh/Scottish History Society Vol. LIII, 1908), p. 208.



Figure 11: A deer-leap in Wolseley Park Staffordshire still privileged for use in 1867 when Shirley published 'Some Account of English Deer Parks' and considered by him to be unique.<sup>174,182</sup>

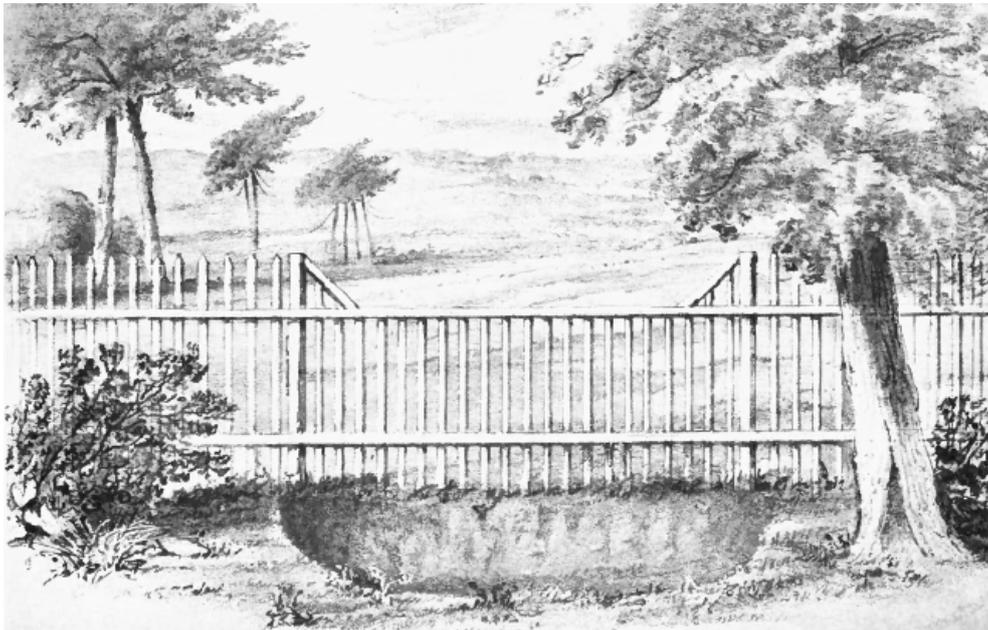


Figure 12: A deer-leap in Wolseley Park drawn and published in 1884 by Major-General Hon. G. Wrottesley.<sup>178</sup>

<sup>182</sup> Shirley, *Some Account of English Deer Parks*, p. 179.



Figure 13: A Type 2 salter with a retaining wall and the higher pasture coincident with the top of the wall (top), and a possible salter in Radholme Park on a down-slope from Kitcham Hill (bottom). The park is to the left of the wall. The painting is copyright Jennie Anderson; photograph by the author.

Figure 13 shows a retaining wall in Radholme that would enable deer to move down the slope into the park, but impede their egress. This feature is coincident with the course of the park boundary. There is evidence of quarrying on Kitcham Hill and this retaining wall could be associated with those activities, but it is possibly a Type 2 salter. A revetment wall height of about 4 ft. 6 in. (1.4 m) is considered by modern deer managers to lower the chances of even red deer jumping the wall. Modern deer management advises a gentle ramp aligned parallel to the wall to direct deer to the top of a Type 2 salter, and the width of the deer access gap need only be 2 ft. (0.6 m) wide with a 3 ft. (0.9 m) drop.<sup>183</sup> Higham shows a modern timber deer-leap at Packington Hall, Warwickshire, of similar pattern to the retaining wall type. It was constructed from wooden pales and the deer guided up a ramp with side fencing, to a sheer drop into the park.<sup>184</sup> At Godmersham Park in Kent

<sup>183</sup> Prior, *Leaps and Bounds*, p. 116.

<sup>184</sup> Higham, *Take It With a Pinch of Salt*, pp. 17-25 at p. 22.

(enclosed 1742) there is a brick Type 2 salter between King's Wood and Godmersham Park of height 1.5 m, approximately 19 m in length, with a ditch within the park 1.5 m in width.<sup>185</sup>

Type 2 wall salters may be the precursors of the 'ha-ha' (sunken fence), which incorporated a drop and ditch. These were used in ornamental parks throughout the eighteenth century and later to keep stock and deer out of formal gardens and lawns, without interrupting the views with a fence. They may be of considerable length; the earliest surviving example in Britain is at Levens Hall, Cumbria built in the 1690s and it survives to a length of 120 m, but was formerly at least twice this length.<sup>186</sup>

A curious structure that could be described as a Type 2 salter is described by Captain George Cartwright, a British merchant who traded and spent time in Labrador in the late eighteenth century. He wrote journals describing practical tasks, including a 'Deer-leap for the entrance into a Pound'.<sup>187</sup> The pound should have a fence not less than 7 ft. (2.1 m) high. Projecting and resting on the fence should be a stout platform, sloping into the pound with the internal end 1 ft. (0.3 m) higher than the external. An external ramp covered with sods should lead up to the platform with a slope sufficient to enable the deer to climb, and there should be fences built to funnel the deer to the ramp. Bending and shaking of the structure should be minimised. One deer-leap would suffice – 'All Parks in England are furnished with Deer-leaps, and they are found to answer the end proposed'. The structure would be grassed to reduce noise and slip and be well made to reduce shake that may inhibit the deer. Salters are placed where deer move but additional salters may be required if there are changes in the pattern of movements.<sup>188</sup>

A former deer-park at Godolphin, Cornwall has a pale that, in the south-east and south-west parts, employs a retaining wall 1.7-2.1 m high, in practice an extended Type 2 salter.<sup>189</sup> This is a use in reverse of a medieval boundary feature called a 'corn-ditch', found largely in the south-west of England, and designed to inhibit deer (and other animals) from entering cultivated areas from open moorland. It is a retaining wall of boulders with a ditch at the base that faces the moorland, and a ramp from within the cultivated area to the top of the wall. It enables those deer that have unfortunately entered the enclosure to return back onto the moor by going up the ramp and over the wall.<sup>190</sup>

In the USA, deer, elk and other large mammals such as bears and cougars may become trapped on fenced highways and various strategies are employed to enable the animals to escape. One approach is a 'jump-out', very similar to a Type 2 salter. A ramp on the highway side is built up to a drop in the line of the fence (or more effectively in a returning offset ['set-back'] to direct the animals). This enables the wildlife to approach and jump a sheer drop into soft ground and return to their habitat (Figure 14).<sup>191</sup> In a modern variant of a Type 1 salter, wire fences across deer/elk migratory routes are recommended to have height adjustable upper and lower wires to enable them to jump the lowered upper wires, and fawns and small mammals to use the raised wire at the fence bottom.<sup>192</sup>

<sup>185</sup> N.R. Bannister, *The Cultural Heritage of Woodlands in the South East* (South East AONBs Woodlands Programme, October 2007), p. 30. Available at the Forestry Commission website, 'The Cultural Heritage of Woodlands in the South East', <http://www.forestry.gov.uk/forestry/inf-d-7dlcj>. Accessed 4 January 2014.

<sup>186</sup> N. Neil, pers. comm.

<sup>187</sup> G. Cartwright, M.P. Stopp (Ed.), *The New Labrador Papers of Captain George Cartwright* (Montreal/McGill-Queen's University Press, 2008), p. 191.

<sup>188</sup> De Nahlik, *Management of Deer and Their Habitat*, pp. 166-167.

<sup>189</sup> 'Deerpark Pale, Godolphin, Breage, Cornwall', Archaeology Data Service, National Trust, <http://archaeologydataservice.ac.uk/archsearch/record.jsf?titleId=1732679>. Accessed 5 February 2014.

<sup>190</sup> S. Rippon, *Making Sense of an Historic Landscape* (Oxford/Oxford University Press, 2012), p. 45.

<sup>191</sup> A.P. Clevenger, M.P. Huijser, *Wildlife Crossing Structure Handbook: Design and Evaluation in North America*, Federal Highway Administration Report No. FHWA-CFL/TD-11-003, March 2011, pp. 183-185.

<sup>192</sup> 'Fencing with Wildlife in Mind', p. 22.



Figure 14: ‘Jump-outs’ in the US designed to enable large mammals such as deer/elk trapped on the highway to escape and not return: (left) a ramp on the highway side up to a drop; (right) a wooden revetment with wire supported by poles directing trapped animals from the highway at the top, to the one-way drop, and thereafter to cross the highway via an underpass. Photographs courtesy of the Arizona Game and Fish Department.

## Salter construction accounts

The two relict Type I salters illustrated by nineteenth century antiquarians may be a design specific to the eighteenth century revival of deer-parks. To understand the size, design and construction of salters in the medieval or immediately post-medieval periods, it is necessary to seek accounts to ascertain costs and the type of materials and tradesmen employed.

At Musbury Park in Rossendale, Lancashire was made ‘a new deer-leap (*insultorium*<sup>193</sup>) ... by agreement of the king’s mandate dated 11 October 17th year [Edward II, 1323], 18 s.’<sup>194</sup> No details are provided on the cost breakdown or construction details. In 1404, a licence in the Patent Rolls to make a deer-leap at the king’s park at Cornbury (Oxfordshire) adjoining Whitewood forest, noted that the parkers had the ‘liberty of digging stones within the forest for the raising, maintenance and repair of the same [the deer-leap]. Due allowance shall be made by the supervision of the clerk of the works for the expenses’.<sup>195</sup> No costs are declared. The provision of ‘raising’ stone suggests that this may be a Type 2 salter with a stone revetment.

More detailed salter accounts have been found in three parks and chases, and these provide greater insights:

### 1301 salter, possibly Woodstock

A King’s Remembrancer account from 30 Edward I (c. 1301) notes the construction of a ‘salter’ at an un-named location (possibly Woodstock<sup>196</sup>) between June and September.<sup>197</sup> The costs of joinery,

<sup>193</sup> The word ‘*insultorium*’ is noted by the transcriber Miss E.M. Walford and translated as ‘deer-leap’, but it is not a word in classical or medieval Latin (pers. comm., D. Butterfield, Fellow and Director of Studies in Classics, Queens’ College, Cambridge). It does appear in two cases known to the author to be used synonymously with ‘*saltatorium*’.

<sup>194</sup> W. Farrer (Ed.), *Lancashire Inquests, Extents and Feudal Aids, Part II, AD 1310 – Ad 1333* (The Record Society for the Publication of Original Documents Relating to Lancashire and Cheshire, Volume LIV, 1907), p. 201. In 1323 the park was owned by Edward II and passed to his widow Isabella upon his death in 1327.

<sup>195</sup> *Calendar of the Patent Rolls Preserved in the Public Record Office, Henry IV: A.D. 1401-1405, Part II* (London/HMSO, 1905), p. 351.

<sup>196</sup> On 27 March 1301, Edward I ordered the keeper of the manor of Wodestock (Woodstock) ‘to cause five hundred pike to be brought in to stock the king’s fishponds of that manor, against the coming of Queen Margaret, the king’s consort, and to cause two deer-leaps [*saltatoria*] to be made in the king’s park there ...’ (*Close Rolls of the Reign of Edward I, Vol IV, Preserved in the Public Record Office: A.D. 1296-1302* (London/HMSO, 1906), p. 440). Whether the accounts relate to this order at Woodstock park earlier in the year is not known. There was a salter at Woodstock in 1251 – men were directed to take sufficient oak from outside the park in the forest Wychwood for one salter (*Close Rolls of the Reign of Henry III Preserved in the Public Record Office: A.D. 1251-1253* (London/HMSO, 1927), p. 2).

<sup>197</sup> TNA E101/501/20, King’s Remembrancer Accounts, Works, 30 Edward I.

digging foundations, extracting stone, cartage of timber, soil and stone are shown at a total cost of £13 8s 3½d. The manuscript is damaged by water and some details cannot be discerned, consequently, man-days cannot be calculated *in toto*. Joiners, masons and their servants were employed. The new salter was made close to an old salter. From the costs and time taken to construct, this was plainly a substantial structure, but the dimensions are not given. There are some intriguing indications of the design: men were employed for considerable periods (weeks) covering the salter with earth (*ad saltar' coop[er]iend cum terra*), foundations were dug (7 men for 3 days in one of the weeks) and there was much cartage of timber. Additionally, 'four masons for the whole week 5 shillings. In four of their servants for the same time 3s. In two men digging stones 18d. for the same time'. A man was sent gathering moss (*In 1 ho[m]i[n]e ad mussum colligend' p[er] id[em] temp[us]*). There is no mention of works on the pale.

The salter may be a Type 2: a revetment producing a drop into the park, backed with earth, approached by a constructed ramp, probably with side-rails, covered with earth topped with moss (peat/turf?) to form a secure, shake-free foothold for the deer. The drop and ramp could have been made either from stone or timber. The timber may also have been used to provide fencing to direct the deer to the salter. The use of turf/moss and the covering of earth (probably to strengthen the construction and blend into the environment) is reminiscent of the construction requirements of the deer-leap described above by Captain Cartwright in late eighteenth century Labrador:

the Bridge [ramp] ... must be constructed of trunks of trees, the thickness of a man's thigh (that they may not bend) laid close together and covered with sods ... Mind to build all firm, that the weight of the Deer may not make any part bend or shake.<sup>198</sup>

### 1538 salters, Hampton Court Chase

Labour accounts from 1536-1538 for the 'spedy enclosure of Lord the kynges [Henry VIII] newe chase of Hampton Cowrte' address the construction of six 'sawtres'.<sup>199,200</sup> Henry's hunting chase was paled and within a large newly-made Honour created by statute; the lands of the local population were 'all overlaid with deer', to their annoyance.<sup>201</sup>

From 6 January to 3 February 1538, sixteen (named) labourers, at different day rates, spent between two and eight days 'dighing and making iii sawtres made in the chace ... also fyllyng the same sawtres with earth and sand'.<sup>202</sup> Two palers were paid for two days work 'palyng of the said three sawtres' (20d.). The salters were between Redhill and Assher [?Esher]. General labourers' and palers' labour costs were £1 10s. 5d. From 3 February to 10 March are additional accounts for the construction of three salters on the pale between Byfleet and Woking Parks, 'dighing casting ... fyllyng then aten [?] with earth and sand'.<sup>203</sup> These accounts also identify persons and costs for 'carriage of sand and pale to the Sawtres with Carrts'. Labour and carting costs shown totalled £3-2s.-4d.

The carriage of earth/sand and the substantial costs of general labour digging, casting and filling imply notable ground-works, probably ramps and a hollow. A short two days of palers' labour suggests limited woodworking for the earlier salters. For the final three salters, craftsman Hary Stnyt's labour costs were more substantial at 8s.-3d. for 'making and plying of iii sawtres' - possibly shoring up revetments for the drops, constructing rails on the approach, or modifying existing newly-built pale fences to accommodate the salters. It is not clear whether these were Types 1 or 2 salters.

<sup>198</sup> Cartwright, *The New Labrador Papers of Captain George Cartwright*, p. 191.

<sup>199</sup> Surrey Heritage Centre (SHC) LM/721.

<sup>200</sup> T.E.C Walker, 'The Chase of Hampton Court', *Surrey Archaeological Collections*, Vol. 62 (1965), pp. 83-87.

<sup>201</sup> E. Law, *The History of Hampton Court Palace in Tudor Times* (London/George Ball and Sons, 1885), pp. 213-215.

<sup>202</sup> SHC LM/719/5.

<sup>203</sup> SHC LM/719/6.

### 1399-1400 salter, Clarendon Park

In the King's Remembrancer accounts of 23 Richard II and I Henry IV (1399-1400) are details of the costs of repair and constructions at Clarendon Park and Palace near Salisbury. The works were to the roof of the king's chamber, stable, kitchen, chapel and latrines. Also shown are the costs of a new salter:<sup>204</sup>

And in the carriage of 24 fallen oak trees there for making of a new salter within the said park, containing 21 loads, given for each load 6d. - 10s. 6d. - And in bringing two men with carts and their horses carrying mud/clay for making the said salter, both of them for 2½ days, each being paid for a day 12d. - 5s.

And in the wages of 18 carpenters working there about making the said salter, containing in length 68 feet and in width 13 feet, each for 13 days' work ... each paid for a day 6d. - 117s. - And in the wages of 5 carpenters working there ... each for 9 days' work within the said time, each paid for a day 6d. - 22s. 6d. ... And in the wages of 6 carpenters working there about the preparation of 24 oaks for the said salter.

And in the wages of 2 sawyers sawing timber for making the said salter, both for 12 days' work ... each paid for a day 6d. - 12s.

And in the wages of 4 labourers working there about making and digging a place for the said salter there, and in helping and assisting the said carpenters and at infilling/covering the said salter with mud/clay [*cum luto*<sup>205</sup>], all of them for 12 days work, each paid 4d. a day - 16s. - And in the wages of 10 labourers working there upon the same works and the making of one ditch for the said salter, all of them for 6 days' work ... each paid 4d. a day. - 20s.

Summing the hours and costs involved, a salter of length 68 ft. (20.7 m) and width 13 ft. (4 m) took 445 man-days to construct and the cost of the work of carpenters, labourers and carters totalled £10 17s 6d. Presumably the fallen oaks came from the king's estate at no cost. Unlike the accounts of the c. 1301 salter above, masons were not employed. It is evident that the timber was sawn and not cleft. Mud/clay was imported to the site, and an excavation was dug to accommodate the salter. It was then in-filled with the imported mud/clay and finally another ditch was dug.<sup>206</sup> The scale of these works and no mention of modifications to the pale fence indicate that this was a Type 2 salter of sawn wood, well embedded in the ground, with additional soil required presumably to support and strengthen the structure above ground (or perhaps build a ramp). The ditch must have been within the park below the drop and the spoil was presumably also used to support the salter above ground. The possible design of the salter is shown in Figure 15.

<sup>204</sup> TNA E101/502/15 m.10, King's Remembrancer Accounts, 'Various: Account of Works', 23 Richard II and I Henry IV.

<sup>205</sup> Richardson translates this as '[with] pitch or bitumen'; but in this report it has been translated, on advice, as 'mud/clay'. [Richardson, *The Forest, Park and Palace of Clarendon, c.1200-c.1650*, p. 117.]

<sup>206</sup> Rowe describes a curious practice in two Hertfordshire parks of daubing clay onto park fences, purpose unknown. It is possible some of the clay was used in this way in the salter construction. (A. Rowe, *Medieval Parks of Hertfordshire* (Hatfield/University of Hertfordshire Press, 2009), p. 30.)

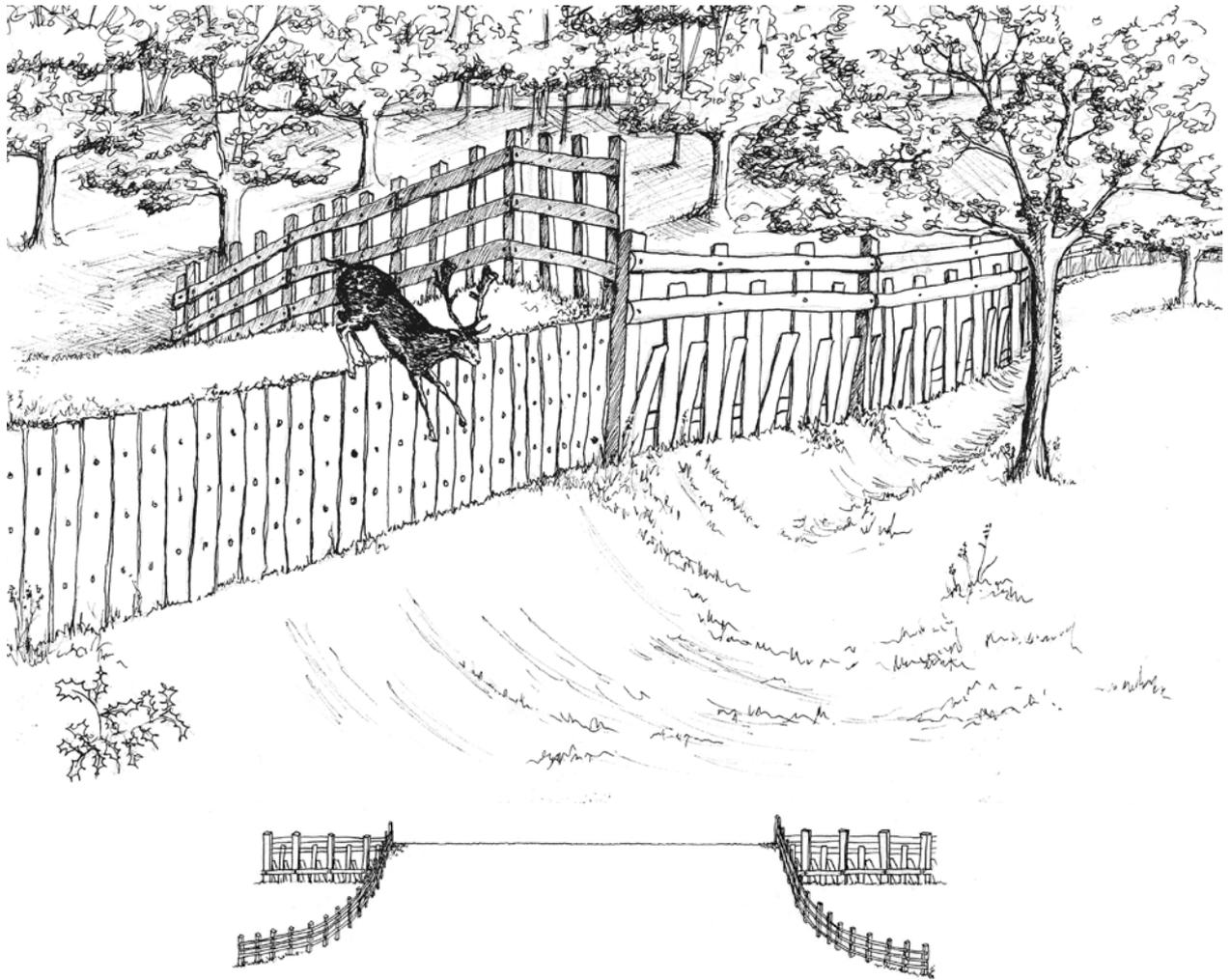


Figure 15: Upper - a conjectural representation of the 1399/1400 salter described in the Clarendon Park accounts. The pale fence is 6 ft. (1.82 m) high and the wooden revetment of the salter about 4½ ft. (1.37 m) above a hollow of soft earth. The hollow is wider and deeper than the pale ditch. Buck fallow are c. 3 ft. (0.91 m) at the shoulder. The deer is on a narrow platform at the top of a railed ramp from the wood, covered with turf/moss. Lower - the approach to the ramp from the forest (ramp width not to scale). © Amy Jobs and the author.

Salters required maintenance; in 1329/30 at Eastwood Park in Gloucestershire, the earl had a deer-leap built by his tenants but it then had to be repaired by a paid carpenter (15 days at 2 d. each day) and at nearby Marlwood in 1331/32, a leap was repaired at a cost of 12 d.<sup>207</sup>

### Salter dimensions and numbers

There is no known licence for the original enclosure of Leagram deer-park, nor for the inclusion of salters in its pale. Licences for other parks do occasionally provide information on the length and the numbers of salters authorised:

Licence for William la Zousche of Haryngworth to make a deer-leap one hundred feet in length in his park of Haryngworth by Rokyngham Forest [Northamptonshire].<sup>208</sup>

<sup>207</sup> P. Franklin, 'Thornbury Woodlands and Deer Parks, Part I: the Earls of Gloucester's Deer Parks', *Transactions of the Bristol and Gloucestershire Archaeological Society*, Vol. 107, (1989), pp. 149-169.

<sup>208</sup> *Calendar of Patent Rolls*, Edward III Part I, p. 363.

Licence for Walter de Langeton, bishop of Coventry and Lichfield, to impark his wood of Tervyn, co. Chester, adjoining Delamere Forest, and make a deer-leap 200 feet broad therein.<sup>209</sup>

Grant ... of special grace [to Ralph de Nevill] to enclose his wood of Raskelf, called Raskelfewoode, adjoining the king's forest of Galtres [Easingwold, Yorkshire], and to make a park of the same with three deer-leaps thereto adjoining each of the length of 100 feet, and to hold the same to his heirs without impediment.<sup>210</sup>

Grant to the abbot and convent of Peterborough, and their successors for ever, of a deer leap ... twenty feet in length, in their park of Byggyng by Undele, near the king's forest of Rokyngham, co. Northampton.<sup>211</sup>

In 1229, Henry III granted a salter to the Bishop of Durham: 'one salter at his park of Crayke, in length seven score feet'.<sup>212</sup> He gave the king 10 marks for the privilege.<sup>213</sup> In the Duchy of Lancaster expenses of 1333-34 for the Forest of Pickering, 'a hedge containing 50 feet in length for stopping up an old deer-leap (*uno insultorio antiquo*) – 1s' was planted, implying a salter of that length (15.2 m).<sup>214</sup> The Wolseley salter illustrated in Figure 11 and Figure 12 was c. 6 ft. (1.8 m) wide, shorter than the salters constructed in the medieval period.

The licences in the various calendars of Patent and Close Rolls usually specified the number of salters permitted in the park:

[1265] On making deer leaps. Matthew of Columbers, custodian of the forest of Chette [Chute], was ordered to allow the bailiffs of Edward, the King's firstborn, at Luttegarsall [Ludgershall], to construct three deer leaps [*tria saltatoria*] in the park of the King at Luttetgarsall, and he should let them have as much timber in the said forest as is necessary to make them.<sup>215</sup>

A c. 1650 map of Clarendon Park shows three 'Dear lipps' (discussed below) and there were four deer leaps in Wanstead Park, Essex, in 1630.<sup>216</sup> Six salters in a park is the largest number noted in this review - John Le Scot, Earl of Chester and Huntingdon was granted six deer-leaps [*sex sautoria*] for a park<sup>217</sup> and as discussed earlier, Henry VIII's chase at Hampton Court also had at least six.

Rackham quotes a lease of 1642 for a coppice compartment in Hatfield Forest that required, every time the wood was cut: <sup>218</sup>

... eighte dear leape of one rod [16.5 ft.] in leanghe and foure foote in height in eury seuerall inclosure [when the underwood was] in the full growth of sixe yeares for deare ...

<sup>209</sup> *Calendar of Patent Rolls*, Edward I Part 3, p. 439.

<sup>210</sup> *Calendar of Charter Rolls*, Vol. 5, 15 Edward III - 5 Henry V, 1341-1417 (London/HMSO, 1916), 12 Richard II, 16 February 1389, p. 310.

<sup>211</sup> *Calendar of Patent Rolls*, Edward III Part I, p. 128.

<sup>212</sup> *Close Rolls of the Reign of Henry III Preserved in the Public Record Office: A.D. 1227-1231* (London/HMSO, 1902), 1229, Membrane 22, p. 261.

<sup>213</sup> 'Henry III Fine Rolls Project', Fine Roll C 60/29, 14 HENRY III (1229-1230). Membrane 13, Entry 15.

[http://www.finerollshenry3.org.uk/content/calendar/roll\\_029.html#it015\\_013](http://www.finerollshenry3.org.uk/content/calendar/roll_029.html#it015_013). Accessed 6 August 2014.

<sup>214</sup> Turton, *The Honor and Forest of Pickering*, Volume II, p. 21.

<sup>215</sup> *Close Rolls of the Reign of Henry III Preserved in the Public Record Office: A.D. 1264-1268* (London/HMSO, 1937), p. 77.

<sup>216</sup> Fisher, *The Forest of Essex*, p. 217.

<sup>217</sup> Lansdowne MS 229/64 catalogue entry, British Library, 'The charter of John Le Scot, Earl of Chester and Huntingdon, regarding the grant of freedom for building a park and six deer-leaps for the said park within its boundaries of Ruston and Ayton'.

[http://searcharchives.bl.uk/primo\\_library/libweb/action/search.do?dscnt=0&frbg=&scp.scps=scope%3A%28BL%29&tab=local&dsmtp=1407310318306&srt=rank&ct=search&mode=Basic&dum=true&indx=1&vl\(freeText0\)=deer-leaps&fn=search&vid=IAMS\\_VU2](http://searcharchives.bl.uk/primo_library/libweb/action/search.do?dscnt=0&frbg=&scp.scps=scope%3A%28BL%29&tab=local&dsmtp=1407310318306&srt=rank&ct=search&mode=Basic&dum=true&indx=1&vl(freeText0)=deer-leaps&fn=search&vid=IAMS_VU2). Accessed 6 August 2014.

<sup>218</sup> O. Rackham, *The Last Forest: The Story of Hatfield Forest* (London/Dent, 1989), pp. 120-121.

onely to leape in and out And for noe other Cattell whatsoever. And the said deare leapes ... to contynewe soe longe as the ... coppices shall continew inclosed.

Deer were permitted into the coppice six years after cutting, but the commoners' cattle were to be excluded for nine years, after which time the fence could come down. The coppice wood-bank ditch was substantial being 6 ft. (1.83 m) broad and deep, presumably with a bank. It is questionable whether the eight 4 ft. (1.22 m) high deer-leaps described were true salters (i.e. one-way); the purpose was to provide quiet browse for the deer (but not cattle) in the established coppice, particularly during winter, and presumably not to entrap them in the enclosure. The 'dear leape' may have been loops.

There were sixteen salters noted on Kenyon's map, an unprecedented number. It is not known when these salters were built but it is implied in the papers for the dispute that salter(s) had been built recently by the defendant Shireburne. The Crown had neglected Leagram as a deer-park. In the sixteenth century, Leagram was principally farmed and deer were rather incidental.<sup>219</sup> Prior to disparkment, the commissioners noted that the pale was in 'great decay, and is not able in any part thereof to keep in any deer'<sup>220</sup> and the fence may have been designed simply to constrain cattle, although it was noted that in its decayed state it was not even able to keep cattle within. Plainly, sixteen functioning salters were an irrelevance in such circumstances. It is not evident whether the salters on Kenyon's map were historical salter sites now dysfunctional, functioning historical salters for compartments, or salters that Shireburne had constructed since he acquired the park. Kenyon does not show any compartments in the park unlike a map from the same period map by his contemporary and mentor Edmund Moore (discussed below).

## Representations of salters on maps

Kenyon shows salters as black lines across the pale, the latter represented by smaller (faded) red lines. This gives no insights into the design of the salters. Three other maps have been found that depict salters in a potentially more representative fashion: a c. 1650 map of Clarendon Park near Salisbury<sup>221</sup>, and two in Norden's 1607 collection of maps of the parks within the Forest of Windsor.<sup>222</sup>

The Clarendon map was probably made when the estate was divided and sold at the instigation of Charles I to service debts from the Civil War.<sup>223</sup> Clarendon Park was first mentioned in 1317 when Edward II enlarged it, but its history as a hunting area may go back pre-Conquest.<sup>224</sup> Figure 16 shows three details from the map, each showing a 'Dear Lipp'. The leaps in (a) and (c) show tall structures with horizontal rails and what may be representations of ramps (two sloping lines); leap (b) shows less detail with horizontal bars and a single sloping line. The pale fence is not lowered in height but appears to have been removed, suggesting that these were Type 2 salters. Their width cannot be determined precisely but they do not appear to hundreds of feet long, indeed they are shown about the same width as the representations of the gates in (b) and (c). It is unwise to take the representations too literally but they may provide some indications of salter structure. The park had a number of salters at various times – in accounts available for period 1313-24, three salters are mentioned. Accounts from the period 1486-96 regarding repairs to the pale indicate the presence of salters from the use of the term 'stile'. Richardson describes sixteen direct and indirect referrals to salter/deer-leaps in the fourteenth and fifteenth centuries.<sup>225</sup> Also shown on the map close to 'The Rangers Lodge' and a 'Kennell', and using the same symbol as the leaps, is a 'Dog trapp Stile'. This

<sup>219</sup> Shaw, *The Royal Forest of Lancaster*, p. 430.

<sup>220</sup> Shaw, *The Royal Forest of Lancaster*, pp. 431-432.

<sup>221</sup> Wiltshire and Swindon History Centre, Map X6/16HC.

<sup>222</sup> J. Norden, *A Description of the Honor of Windesor* (1607), Harley MS 1349 ref. f10v-10\* and f13v-13\*.

<sup>223</sup> T.B. James, C. Gerrard, *Clarendon: Landscape of Kings* (Macclesfield/Windgather, 2007), p. 100.

<sup>224</sup> Richardson, *The Forest, Park and Palace of Clarendon, c. 1200–c. 1650*, pp. 116-118.

<sup>225</sup> Richardson, *The Forest, Park and Palace of Clarendon, c. 1200–c. 1650*, p. 116.

may be a means of enabling hunting dogs to move over the pale; there is a nineteenth century example painted by the sporting artist Dean Wolstenholme (the younger).<sup>226</sup>

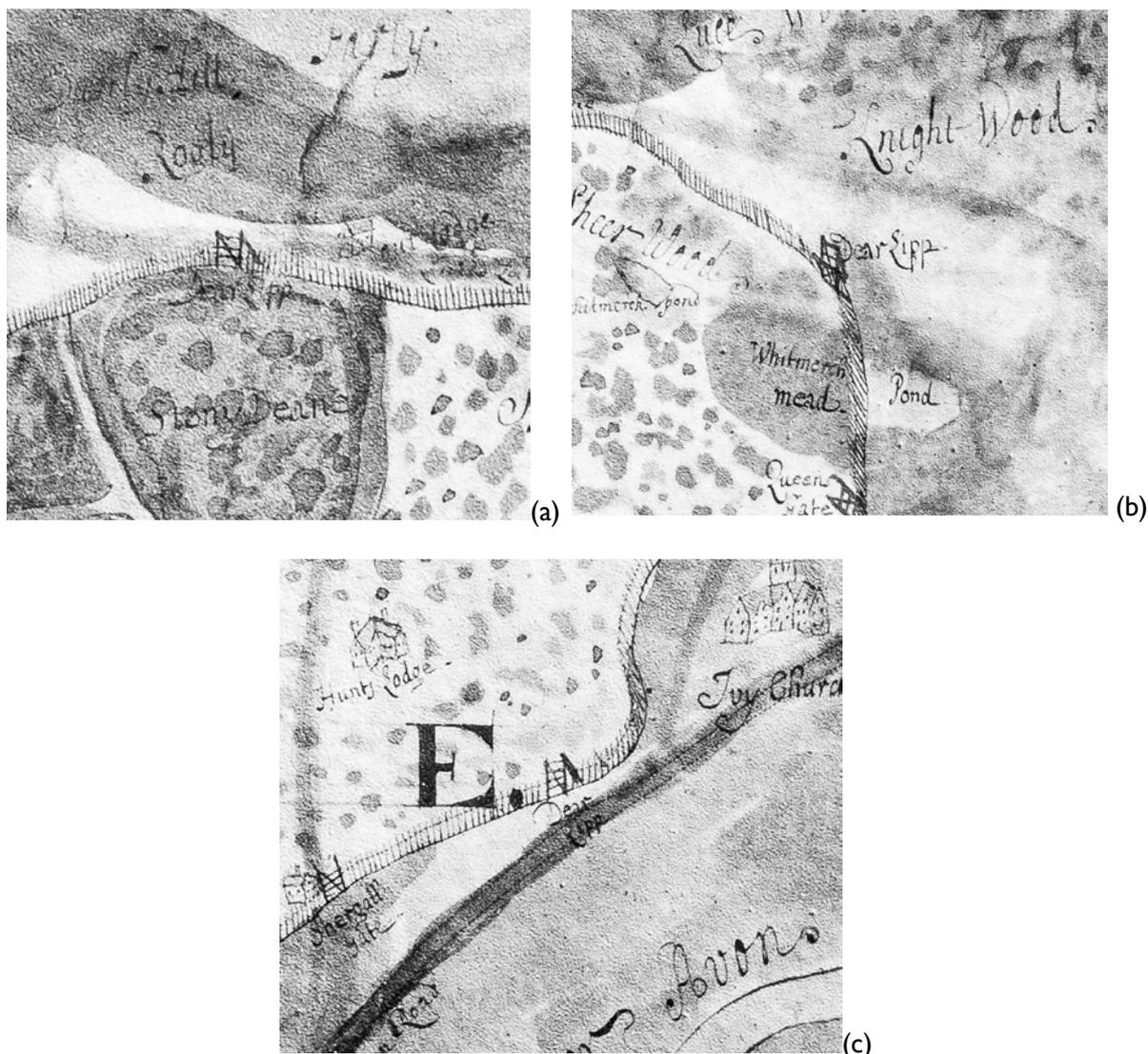


Figure 16: Three extracts of a c. 1650 map of Clarendon Park near Salisbury, each showing at its centre a 'Dear Lipp' (probably a salter) in the pale fence. North is to the left of each image. Taken from Wiltshire and Swindon History Centre ref. X6/16HC. Reproduced with the permission of Wiltshire and Swindon History Centre on behalf of the owner, Mr. Christie Miller.

Figure 17 shows 'deer-leaps' (undoubtedly salters<sup>227</sup>) in Easthampstead and Guildford parks in the Forest of Windsor. At Easthampstead park, the leap is off a freeboard track leading to open heath and the track is also bounded by an enclosure fence/hedge at the site. North of the leap are two gates into the park from the heath. A track (or ditch?) is shown extending into the park from the site of the leap but there is no structure or pale fence evident.

<sup>226</sup> Wolstenholme painted hunting activities in the nineteenth century. In two of his paintings – 'Hunting Scene' and 'Huntsmen Encouraging the Hounds Across a High Stile' – he shows a remarkable high stile crossing what appears to be a high deer-park fence of pales and a high bar. The paintings are available to view on the internet.

<sup>227</sup> Norden's maps of parks in the Forest of Windsor show gates, posterns (secondary gates) and named stiles. The stiles designated as 'deare leap' shown in Easthampstead and Guildford are not general two-way access points but are specific to deer management and are undoubtedly salters. In his paper on the disparkment of Guildford Park, Crocker also interprets the leap as unidirectional, i.e. a salter (Crocker, *Disparking the Royal Park of Guildford*, p. 192).

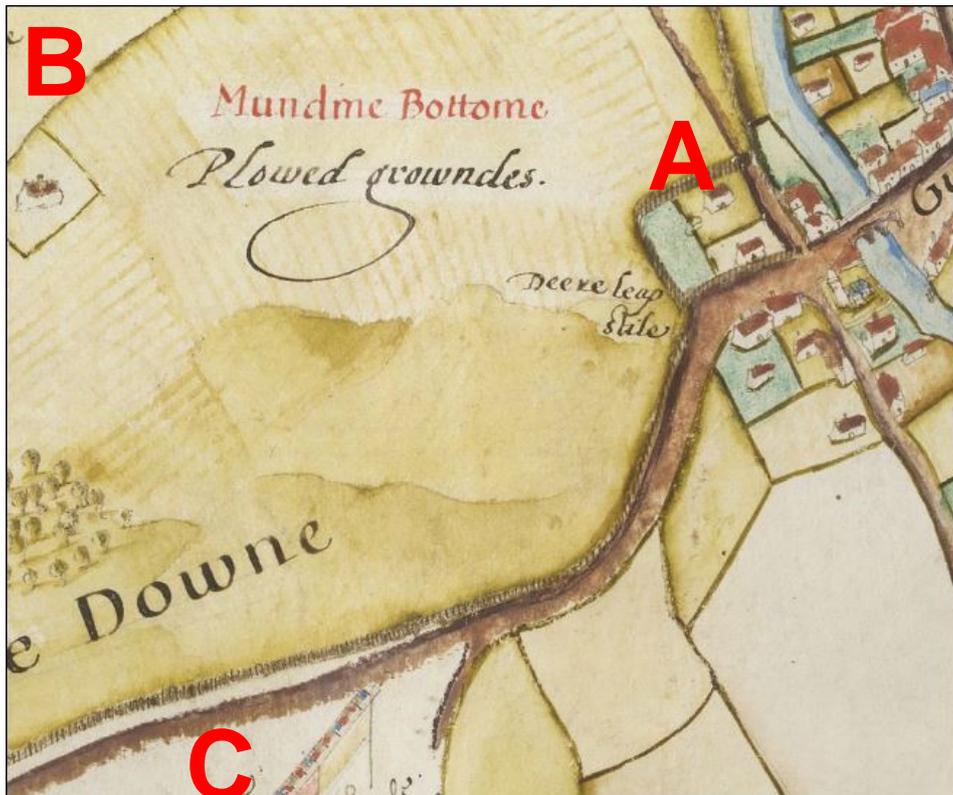


Figure 17: 'Deere Leap' in Easthamstead Park (upper) and Guildford Park (lower) from J. Norden, *A Description of the Honor of Windsor* (1607). In Easthamstead, the park is on the left of the image and at Guildford on the upper left. On the Guildford image, 'A' shows the fenced close near the 'Deere leap', 'B' is the open park outside the ploughed compartment, and 'C' the forest heath. Copyright © The British Library Board, Harley MS 1349 ref. f10v-10\* and f13v-13\* respectively.

At Guildford park, a track is shown crossing a bridge to the west of the town and north of the track is the park, to the south is the forest. At the location of the 'Deere leap stile' just over the bridge are closes and houses, those to the north bounded with a high fence (Figure 17 – 'A'). The Guildford deer-leap is called a 'stile' implying a restrictive access through a stock-proof boundary (a word also used elsewhere suggesting a salter, such as Park Style in Leagram, discussed below). The leap is within a break in the pale fence but its design is not clear. It is also unclear whether the leap directs deer to the park or the closes, probably the former. The close north of the track appears to have pale-like fencing and it may have been used to closely confine deer. Within the park at this point are 'Plowed groundes' which appear to be large open fields bounded by a compartment fence to the north. It does seem perverse to encourage deer to enter cultivated land within the park, rather than the lawns, heath and woodland north of the fields (top left, 'B'). However, deer could be permitted to graze arable remains after the harvest.

The confined location of both leaps was unexpected. At Easthampstead the deer-leap is off the enclosed track coming from the open heath; deer could be driven south off the heath to the funnel of the pale and closes, down the track to the salter (the track having been blocked to its south). At Guildford, the leap is also off an enclosed track down which deer could be driven from the forest in the south-west (bottom left, 'C') through a funnel arrangement between the pale and close fences, to the leap.

## Offsets in a park boundary

Some later walled boundaries close to the pale in Radholme and Leagram incorporate offsets - discontinuities in the course of a wall made by a short section with two right-angles (Figure 18). Higham and Derbyshire associate offsets with salters (Derbyshire's term is 'zig-zag'). Higham concluded<sup>228</sup> that the offset near Salter Hill in Leagram was the site of one of the 'diverse salters' mentioned by witnesses in the 1603 enquiry outlined by Weld.<sup>229</sup> However, Kenyon's map was not available to Higham and the location of the salter near Salter Hill is probably on the slope of the hill, about 200 m from the offset (from the survey discussed in Part 4 below). The wall probably dates from the seventeenth or eighteenth century and although the pale is very wasted near Salter Hill, it appears that the wall does not overlay the old pale, but the pale does go through the salter. Unfortunately, drainage works and erosion make it difficult to determine if the pale itself had an offset.



Figure 18: Offsets in a wall close to Salter Hill in Leagram (left) [BNG 3621244515] and near Radholme pale approaching Kitcham Hill (right) [3669944762]. The Leagram offset is 9.2 m (30 ft.) wide. Photographs by the author.

<sup>228</sup> Higham, *Take It With a Pinch of Salt*, pp. 16-25.

<sup>229</sup> Weld, *History of Leagram*, p. 45.

In the stone walls at Quernmore Park near Lancaster (imparked 1278 by Earl Edmund<sup>230</sup>), Derbyshire identified five 'zig-zags', which he attributed as salters.<sup>231</sup> A survey of the park in 1669 in the archives of Lord Clifford of Chudleigh mentions two of the possible salters: 'Crag Stile' (one of the offsets above a small quarry) and 'High Stile' (now destroyed, on the boundary close to Quernmore Park Hall).<sup>232</sup> There is no written evidence that Quernmore Park had salters, but the 'stile' name, offsets and local topography suggest the 'zig-zags' are possible sites. Three of the offsets are on a 0.5 km length of the Old Park wall at locations where the ground falls away into the park. Each offset is 12.8 m (42 ft.) long. The layout would facilitate the driving of deer along the wall to the offset and possible salter. On a later north border of the park, an offset is close to a small crag (Crag Stile) incorporated into the stone wall that follows the course of the old stone wall boundary of the park. There is a drop down over boulders into the park; the boulders would also provide an impediment for egress (Figure 19).

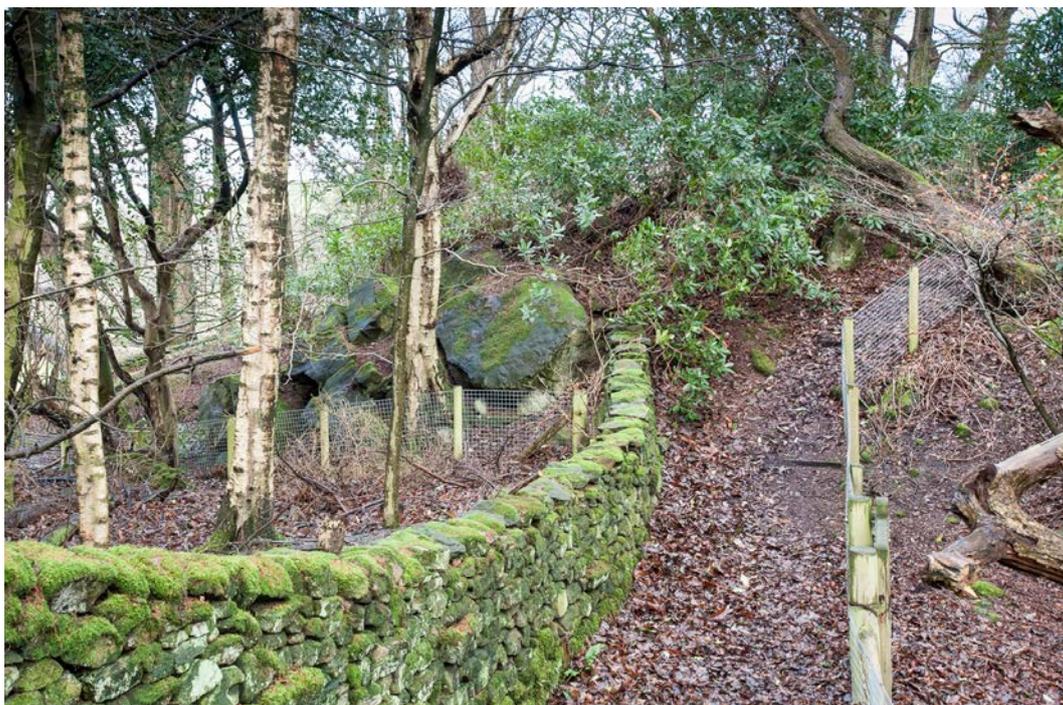


Figure 19: Crag Stile on the northern boundary of Quernmore Park [BNG 3518646456]. The stone wall is on the course of the old stone park pale. The wall approaches a collection of boulders (now topped with rhododendrons) that provide a drop down into the park on the left, from high ground outside the park on the right. An offset (zig-zag) is on the far side of the boulders, out of view. This is possibly the site of a salter. Photograph by the author.

At parks in Duffield Frith in Derbyshire, 'offset gates' in the boundaries allowed access for deer and grazing animals where the pale overlapped to result in a funnel; if the parish boundary followed the pale, the feature was preserved in the parish boundary as a kink.<sup>233</sup>

Deer will walk parallel to a boundary, and a gate or salter at right-angles to their flow may entice them to enter the park, whether promenading or being driven.<sup>234</sup> A deer access in a corner is more

<sup>230</sup> W. Farrer, J. Brownbill (Eds.), *A History of the County of Lancaster - Volume 8* (Victoria County History, 1912), pp. 74-76.

<sup>231</sup> Derbyshire, *Old-style Deer Leaps*, pp. 4-5.

<sup>232</sup> M. Derbyshire, pers. comm.

<sup>233</sup> M. Wiltshire, S. Woore, 'Medieval Parks in Duffield Frith and Elsewhere in Derbyshire' in 'The History, Ecology and Archaeology of Medieval Parks and Parkland', *Landscape Archaeology and Ecology*, Vol. 62, (2007), pp. 114-116.

<sup>234</sup> Prior, *Leaps and Bounds*, p. 116.

likely to be used than on a long run of linear fencing (unless there is good cover or natural routes to attract them).<sup>235</sup>

In the park boundary wall at Boughton Park in Northamptonshire is a returning offset, resulting in a short indentation into the park. The boundary (now a repaired eighteenth century wall) has a c. 45 deg. offset to the postulated location of a former deer-leap, and after c. 2.5 m the wall returns at an angle to its original course. The feature appears to be a short funnel to direct deer to the salter, which was said to have been granted to Sir Edward Montagu by Elizabeth I to acquire deer from the Forest of Rockingham for his park.<sup>236,237</sup>

A survey using large scale MARIO<sup>238</sup> mapping and satellite images of Leagram park identified six possible offsets on the park boundary, mainly in the north and east of the park. Three of the six offsets were close to a salter (S<sub>16</sub>, S<sub>1</sub>, S<sub>4</sub> – see below) and one was near a gate (G<sub>6</sub>). There are no offsets marked on Kenyon's 1608 map nor on the contemporary map of the park by Edmund Moore (discussed below and shown in Annex 3).<sup>239</sup> However, the wall offset near to Salter Hill is arguably evident on John Sparrow's 1774 map of Leagram within Edward Weld's Stonyhurst estate.<sup>240</sup>

Offsets may have had more prosaic uses such as facilitating the gathering and driving of farm stock, rather than deer, along a boundary and through a gate at right angles. They may also be a feature straddling a watercourse to enable farm stock in adjoining enclosures to access water. They can be observed in areas unlikely to have been imparked. In summary, offsets in stone enclosure walls are evident in boundaries not associated with deer-parks. Not all offsets associated with deer-parks are necessarily the sites of salters, but are indicative.

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<sup>235</sup> 'Fencing with Wildlife in Mind', p. 6.

<sup>236</sup> J. Wake, D.C. Webster, *The Letters of Daniel Eaton To The Third Earl of Cardigan 1725-1732* (Publications of the Northamptonshire Record Society, 1971), pp. xxxvi-xxxvii.

<sup>237</sup> The National Heritage List for England, English Heritage, 'Boundary Wall to North of Boughton Park Fronting Road', <http://list.english-heritage.org.uk/resultsingle.aspx?uid=1052022> accessed 13 November 2013.

<sup>238</sup> *Maps & Related Information Online – Lancashire County Council*  
<http://mario.lancashire.gov.uk/agsmario/> accessed 23 November 2012.

<sup>239</sup> Lancashire Archives DDST Box 15 No. 9.

<sup>240</sup> Lancashire Archives DDX 59/1.

## Part 3: The commissioning of Kenyon's map, and its analysis

Landscapes are surveyed and maps drawn to meet the requirements of the commissioning party. The interpretation of a dispute map requires an understanding of the claims of both parties involved. The commissioners' direct orders to Kenyon are not known, although the Duchy's instructions to the commissioners have survived. It is relevant therefore to review the background to the dispute from the perspective of the Duchy and the defendant, Richard Shireburne junior. The various Duchy commissions and the interrogatories and depositions of witnesses for both sides are reviewed.

### Interrogatories, depositions and commissioning of the map

The case has its origins in 1594 with the illness of the defendant's father Sir Richard Shireburn, then Master Forester of Bolland and owner of the park. Leagram park had been leased to Sir Richard upon its disparkment and in 1563 he purchased the park. In 1555 prior to the disparkment, commissioners were commanded to review the woods, understorey, game and deer in the park, and the condition of the pale. They reported that the pale 'is in an underful and great decay, and is not able in any part thereof to keep in any deer' and that 'there are no deer abiding or bred within the said park and there has not been any for many years past'.<sup>241</sup>

In 1594 Sir Richard died after the period of incapacity, and his son Richard inherited the park. In the same year and just prior to the death, the Duchy instigated a commission 'to enquier of Spoiles done in her Ma<sup>ties</sup> forest of Bowland', specifically:<sup>242</sup>

what waste and spoiles of our said tymber and woode & what decaye of deare or either of them hath beene made or done wthin our said foreste by the space of fyve yeares nowe laste paste, and by whome the same hathe beene done,

and

to inquier what number of deare redd or fallowe are remayninge within owr said forest and to whose Charge the keepinge of the saide forest is nowe comytted in the tyme of the weaknes of Sir Richard Shirburne Knighte owr forester there.

Of note was a stag called Wegghorn<sup>243</sup> stricken in Leagram after Sir Richard's death; the injured stag had fled into the forest. Amongst the depositions naming the alleged culprits and also outlining the scale of the illegal felling and killing of deer in the forest, Leagram and Radholme, are descriptions of the state of the pale.<sup>244</sup> A deponent swore that the park was fenced with a hedge and ditch for the most part and some 'payle staykes', and that 'the deer of the forest have recourse into the said park and that likewise the deer of the park have small recourse into the said forest of Bowland'. Another stated that 'the deer may have free course and intercourse betwixt the said ground [park and forest] at their pleasures'. If indeed there were salters in the pale, it is evident that deer still had free passage between the park and forest.

<sup>241</sup> Shaw, *The Royal Forest of Lancaster*, pp. 431-432.

<sup>242</sup> TNA DL 44/520, 'Survey of the spoil and waste within the Forest of Bowland, Yorkshire. 36 Eliz I.'

<sup>243</sup> 'Wegghorned – having horns unequally elevated' (Wright, *The English Dialect Dictionary*, Vol. VI, p. 423)

<sup>244</sup> M. Greenwood, C. Bolton, *Bolland Forest and the Hodder Valley: A History* (Blackpool/Landy Publishing, 2000), pp. 98-105. Note that the authors give an incorrect date of 1596 for the commission; the correct date (in regnal years) is 1594.

There was a further commission in 1595<sup>245</sup> enquiring (amongst other topics): (i) was Leagram within the bounds of the Forest or Chase of Bolland, (ii) was the park fence the same height and as good a fence as it was in times past and how extensive was the pale, (iii) was the pale of such height that the deer might pass over it, (iv) did the deer killed since the death of Sir Richard belong to the forest or park, and what spoil of the deer has occurred since his death?

The deposition of William Barnes of Goosnargh stated:

the Fence about the said pke of Lagrym is for the most pte of suche like force & strengthe as the same hath bene dureing the tyme of this exam' remembrance wherebye the deare might & maye go in & come out at their pleasure, excepte it be aneynst [against?] Wardesley ... in wich place the same is nowe of late so fenced that the deare maye come in & not go out, excepte they be greatlye strayed [strained? i.e. driven].

Wardesley is outside the park boundary, just east of the area around Leagram Mill where the defendant was allegedly building a wall and rails, and enclosing land within the park (his father Sir Richard was given permission to enclose within the park when disparted in 1555/56<sup>246</sup>). The last two lines of Barnes' evidence suggest that salters were being reinstated.

In 1608, the Duchy (Gerrard<sup>247</sup>) commissioned Stephen Tempest, Ralph Asheton, Lawrence Habergham, John Parker to gather:

all such other persones as you shall thinke meete to inquire of the said matter ... by sworne oathe *and* perambulacon ... And also to examine all such wirnesses *who* shall come before you aswell on *Our* behalfe as on the behalfe of the said deffendant ... takeinge to you such persone as you shall thinke meete to repaire unto *Our* Foreste or Chace of Bowland & the Parke or grownde called Laigrime Parke and then ... take a dilligent ... survey ... thereupon to make a perfecte platt of the same ... of the true meetes lymittes & Boundes.

The interrogatories identify the issues requiring investigation (a selective and abbreviated list below<sup>248</sup>):<sup>249</sup>

- i. Has Bolland been taken to be a forest, not a chase only, and so named within memory?
- ii. Is Leagram within the bounds of the forest? Where do the boundaries extend to near Chipping Brook on the west? Does the boundary adjoin or lie near to the brook?
- iii. In times past was the park enclosed with a pale and of what strength and height? Was it of such height that the deer of the forest could come and go, and is the fence now of such height and strength that forest deer 'maie come into the said grownd and can not goe out againe'?
- iv. Have forest red or fallow deer been used to replenish the park, and has Shireburne stocked it with his own deer and from where? Have any deer killed come from the forest, and what damage has been done to his Majesty's deer?
- v. Have forest keepers had the liberty to chase deer into and out of the park?
- vi. Can 'deare within the said forrest ... gett into the same (park) and wether is his Ma[jes]ties deare Usually or yerly seldom come forth therof?

<sup>245</sup> TNA DL 4/37/25, 'The Queen v Sherburn'.

<sup>246</sup> Weld, *A History of Leagram*, p. 17.

<sup>247</sup> Presumably William Gerard, Clerk of the Duchy of Lancaster, 1589-1609.

<sup>248</sup> There were also interrogatories regarding where taxes were paid and service on juries undertaken, the origin of the deer in the park, and the suing of those taking deer during the day and night.

<sup>249</sup> TNA DL 4/54/54.

- vii. Has 'the fence of the said growndes of Lathgrame ... bene made & kept in such sorte as that the deare of the said Forrest of Bolland by reson of Salters and lopes therin have had ... passage ... into & out of the said grownd of Lathgryme without restraynt'?
- viii. Has Shireburne 'molested' any 'Coppies' (a coppice, small wood or plantation<sup>250</sup>) in Leagram that were not present before his time? Do the forest deer go into the 'coppies' for fresh feed and are they killed by Shireburne and his servants/followers? Has the fence been modified recently to make it easier for the deer to enter and leave the 'coppies'? Do stricken deer within the park usually flee into the forest, and do deer when hunted in the forest close to the park, flee into the park?

The dispute between Hoghton (representing the Duchy) and Shireburne went to arbitration and was finally settled in 1615 by an award of 'Lord Gerard of Gerards Bromeley'.<sup>251</sup> One award in Shireburne's favour was that Hoghton, his servants and under-keepers 'shall permit and suffer the said Ric. Sherburne and his heirs to impale Laithgrime Park, and none of them shall intermeddle with the grounds of Laithgrime', although in practice he did not subsequently fence the park, but did continue to kill deer within, without interference from the Duchy.<sup>252</sup>

Kenyon's map addresses some of the interrogatories by marking: salters and gates; the disputed course of the forest boundary near Chipping Brook; the land of 'Starty uants tenement' (Startivants farm) between the park and Chipping Brook on the west, and houses between the park boundary in the south and the forest boundary; a new wall and rails on the east boundary of the park close to Leagram Mill and Wardsley.

## Description of the map

The map (Figure 3) has a 80 perch scale subdivided into 10 perch sections. In this era, it is likely that it was surveyed with a plane table, employing a theodolite with compass to measure angles and alignment, and a chain for length.<sup>253</sup> Four cardinal points are shown on a red compass rose in the centre of the park. The park interior is coloured blue-green and the park boundary shown as spaced lines representative of a pale fence; the map states 'Note that these short redd strikes do contayne the circumference of Laithgrime Parke And that the blacke strikes amongst the redd ones do represent the saulters' (Figure 20).

<sup>250</sup> Wright, *The English Dialect Dictionary: Vol. I*, p. 728.

<sup>251</sup> Probably Thomas Gerard, 1<sup>st</sup> Baron Gerard.

<sup>252</sup> Weld, *A History of Leagram*, pp. 51-53.

<sup>253</sup> P.D.A. Harvey, *Maps in Tudor England* (London/Public Record Office and The British Library, 1993), p. 84.

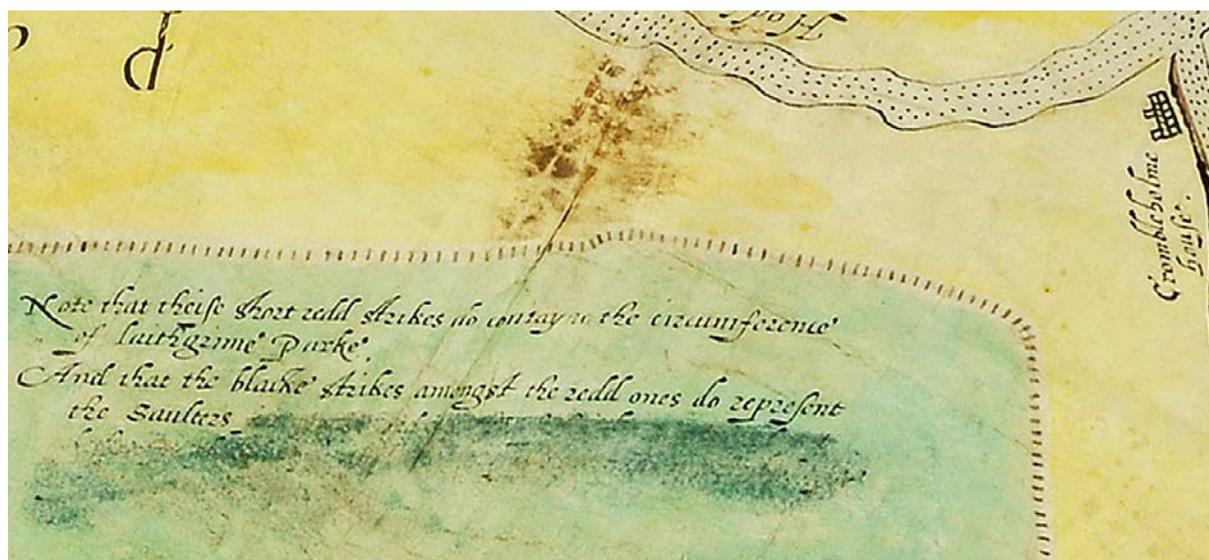


Figure 20: Text on Kenyon's map describing the signs used to depict the boundary of the park (shown just above the text), and the salters (not shown on this extract – see Figure 21). North is to the left. The Hodder (top) and junction with the Loud are shown (top right). 'Crombleholme house' is the modern Loud Mytham farm. The park is shaded green, and the forest yellow.

The commissioners appointed by the Duchy declare:

This is a true platte ... of that pt of the Boundarie of Bollannd, and of Laithgrime parke, made by Roger Kenyon, And ledd by John Threalfale [and others] on the behaulf of the Kinge, ma'ty. And by John Crombleholme [and others], on the behaulf of Mr. Sherburne. the defendant. all sworne thereunto.

Figure 21 is the Chipping area of the map. The village and its church are shown with the bridge over Chipping Brook to its east, and a gate into the park just over the bridge. The park boundary (red arrow) is traversed by sixteen 'Salters' represented by black lines (yellow arrows), some of which have serifs (discussed below). The mill (near to the location of the modern Kirk Mills) is just above 'M'. The disputed forest boundary is shown: the Duchy's version of the boundary follows Chipping Brook from the south, and then heads north up Paycocke Brook (P) [modern Dobson's Brook]. Shireburne's boundary is the black line following the pale from the south, then crossing at 'B' to head up Paycocke Brook. Near the bottom of the full map is text putting the two claims of the disputed route of the forest boundary.

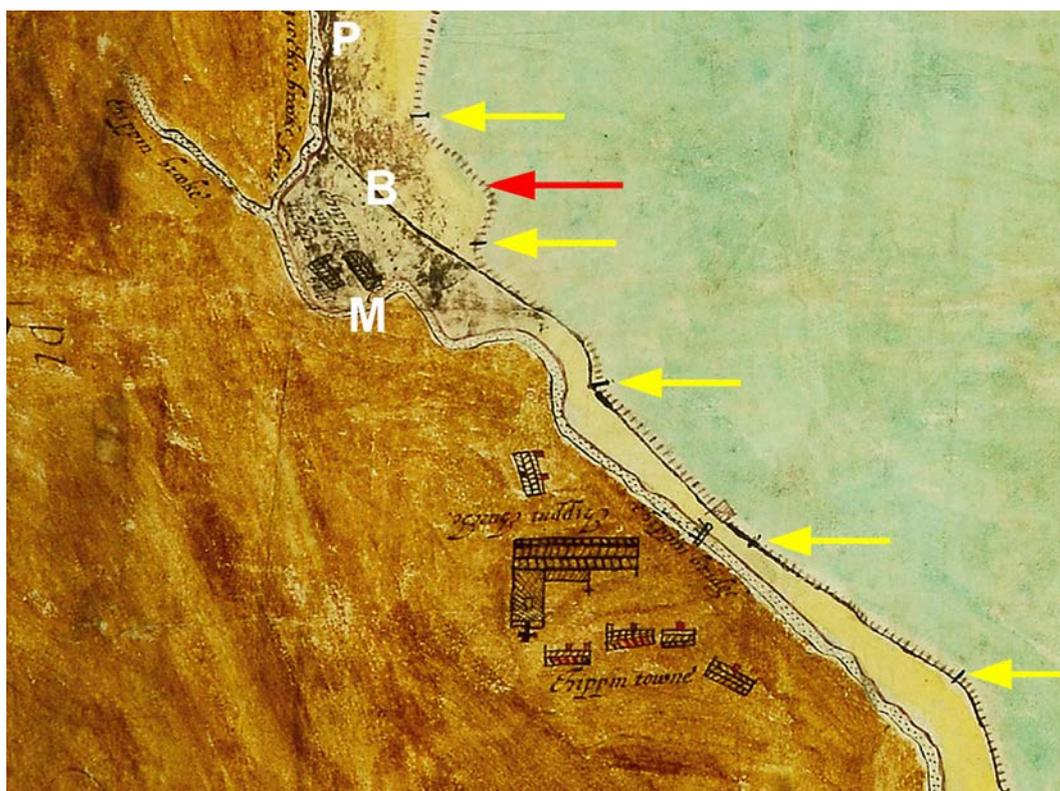


Figure 21: Detail of Kenyon's map showing the Chipping area. North is at the top of the image. Salters are marked with yellow arrows, the pale fence with a red arrow. See the text for further detail.

Within the park there is little detail; 'the Lawnd Mr Sherburne his house in Laithgryme' accompanies a representation of the lodge, and the word 'Pit' is written to the north-north-east. Woodland is represented near the east boundary of the park. Compartments are not shown.

Shireburne had started to erect a wall and rails presumably to feed and encourage deer in his new close, but in 1605 he was commanded to stop in a letter from the King.<sup>254</sup> The map shows 'the new wall' and 'the Railes', a gate and two salters, but it is not clear whether the wall and rails are Shireburne's proposed work, work under construction or completed (Figure 22). Shireburne's new close is not shown but it was undoubtedly associated with the wall or rails. Rails enable the passage of deer but not cattle, thus preserving the pasture for the deer (a laund).

Text on the map is not consistent in orientation suggesting that the map was designed to be placed on a table for inspection by the court officials and defendants. Place-names and features marked on the map and correspondence to modern named buildings and topography are shown in Annex I.

<sup>254</sup> Weld, *History of Leagram*, p. 47.

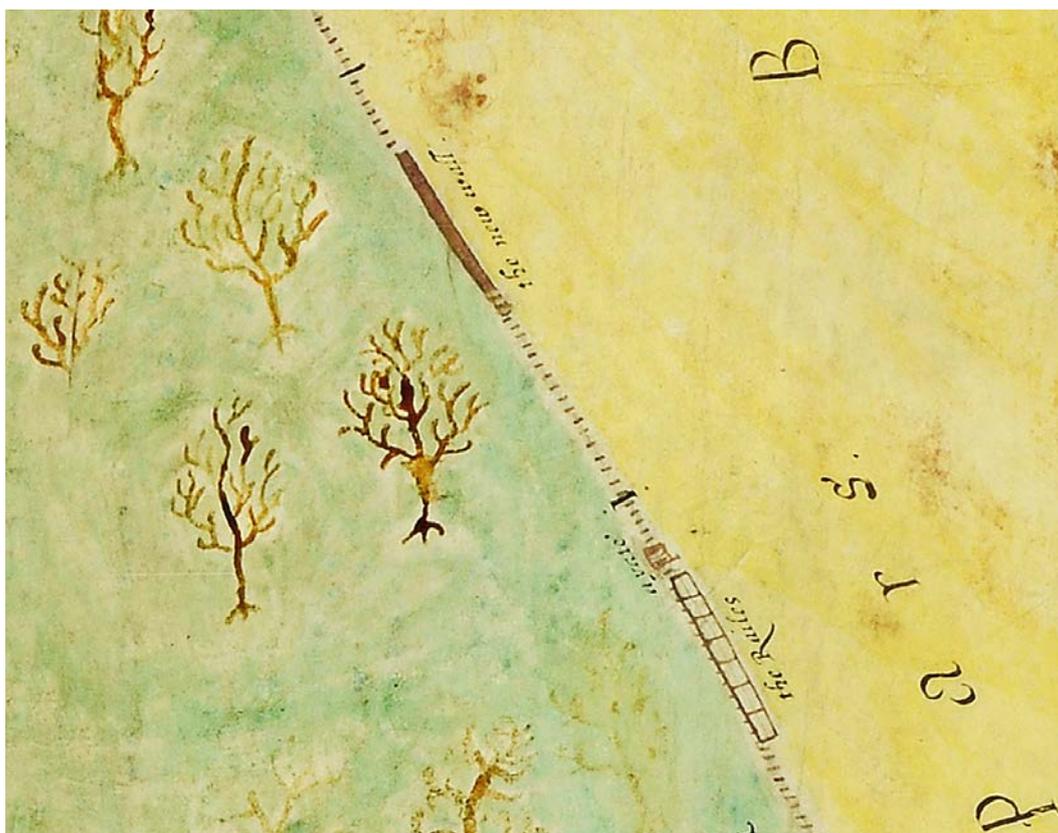


Figure 22: Detail from Kenyon's map showing 'the new wall' (upper), 'the Railes' (lower), a 'yate' (adjacent to the rails) and two salters on the east pale (longer black lines on the pale, the lower with serifs).

## Aligning the Kenyon map to modern OS mapping

The primary purpose of Part 3 is to summarise briefly the work undertaken to determine: (i) the accuracy of the map with regard to the overall dimensions of the park and the shape of the park boundary, (ii) the British National Grid references (BNGs) of the salters and gates.<sup>255</sup>

Kenyon's map was compared with modern 1:25,000 Ordnance Survey (OS) digital mapping. The initial tasks were to rotate the compass rose and map to the appropriate north (magnetic or grid), and to use Kenyon's map scale to uniformly change the map's dimensions to match the scale of the OS map. The scales on each map were employed; maps were not arbitrarily scaled to simply overlay the pales.

The magnetic declination is the angle between true north and magnetic north, and for Chipping it is currently (July 2014) 1 deg. 45 min. west.<sup>256</sup> The predicted magnetic declination in 1610 for the UK was approximately 8 deg. east.<sup>257,258</sup> It would be a reasonable initial assumption that Kenyon's north point on his compass rose pointed to magnetic north. However, rotation of the map by 8 deg. to match grid north on the modern OS map led to greater misalignment of the respective boundaries. Knowledge of the concept of magnetic declination in Europe dates back to the early part of the fifteenth century, and the sixteenth century saw the growth of ocean-going trade and the recording

<sup>255</sup> All-numeric BNGs are employed: 3eeee4nnnn is equivalent to SDeeeennnn.

<sup>256</sup> Grid Magnetic Angle Calculator, *British Geological Survey*,

[http://www.geomag.bgs.ac.uk/data\\_service/models\\_compass/gma\\_calc.html](http://www.geomag.bgs.ac.uk/data_service/models_compass/gma_calc.html). Accessed 27 April 14.

<sup>257</sup> Magnetic Declination - Global Maps of the Historic Declination (Years 1590-1990) Created from the GUFM Model, *National Geophysics Data Center*, <http://www.ngdc.noaa.gov/geomag/declination.shtml>. Accessed 29 December 2012.

<sup>258</sup> A. Jackson, A.R.T. Jonkers, M.R. Walker, 'Four Centuries of Geomagnetic Secular Variation from Historical Records', *Phil. Trans. R. Soc. Lond. A*, Vol. 358 (2000), pp. 957-990.

of the declination.<sup>259</sup> It is certainly conceivable that the north cardinal point on Kenyon's map had been corrected for magnetic declination. There was improved coincidence of the two pales by assuming his north point had been corrected and was true north, and aligning this with modern grid north. It was assumed that the local perch of seven yards was employed in his survey<sup>260</sup> (studies were also undertaken using an eight yard perch – data not presented).

Figure 23 shows the maps overlaid semi-transparently having been scaled individually and aligned grid north, and made coincident arbitrarily at the northern tip of the park boundary. It is evident that the scale of Kenyon's map and the boundary geometry (before any manipulation) is generally good. It is likely that the more accurately surveyed parts of the map are those pertinent to the dispute<sup>261</sup> – probably the west boundary and associated features for the dispute on the Leagram park and forest boundary, and the east boundary for the new close, wall and rails. It was anticipated therefore that a single alignment overlay would not suffice to match accurately Kenyon's and modern boundaries throughout their whole respective courses. Five overlays were used on different parts of the map, each appropriate to a designated area and using known fixed local features such as named houses, gates, river courses and junctions to approximate the two scaled maps, and provide best fit to the respective boundaries (Annex 2).

### Comparison of park dimensions – Kenyon's and modern mapping

Table I presents the calculated area, perimeter and gross dimensions of the park calculated from each map. The area and perimeter of the park on Kenyon's map are about 5% less than the area and length of the modern interpretation of the boundary pale. On this measure and recognising the surveying technologies of the early seventeenth century, Kenyon's map can be described at a gross level as broadly accurate in terms of shape and scale.

	1:25,000 OS	Kenyon 1608
<b>Area (sq. km)</b>	5.55	5.24
<b>Perimeter (km)</b>	10.41	9.95
<b>Maximum Overall Length – North/South (km)</b>	3.52	3.42
<b>Maximum Overall Length – East/West (km)</b>	2.74	2.56

Table I: The calculated size of Leagram Park employing the respective scales for Kenyon's 1608 map (aligned grid north, 7 yd. perch) and modern 1:25,000 OS mapping.

<sup>259</sup> Jackson, *Four Centuries of Geomagnetic Secular Variation from Historical Records*, pp. 959-960.

<sup>260</sup> Shannon, 'Leagram Park Case', p. 7.

<sup>261</sup> W.D. Shannon, 'Dispute Maps in Tudor Lancashire', *The Local Historian*, Vol. 42 (2012), pp. 2-15.



Figure 23: Kenyon's map and modern 1:25,000 overlaid at the scales appropriate to each map. Kenyon's map is rotated to grid north and fixed to modern OS arbitrarily at the northern tip of the park, north-west of Park Gate. The red line is the park boundary marked on modern OS. (Base OS map © Crown Copyright. All rights reserved. Lancashire County Council Licence 100023320, 2011).

## Salters marked on Kenyon's map

Figure 24 shows the estimated locations of the sixteen salters (and six gates) overlaid on the semi-transparent modern OS map. All the gates and ten of the sixteen salters are coincident with the boundary on modern mapping (the map was not distorted to force the salter locations onto the boundary). Of the six salters displaced from the course of the pale, the greatest deviation was 83 m (S<sub>3</sub> in Buckbanks wood on the east pale).

Also marked on Figure 24 are three known salter field and topographical names associated with Leagram park:<sup>262</sup>

- i. *Salter Croft*: A field on the opposite side of the road from Kirk Mill, Chipping. It is directly opposite Grove Row and Malt Kiln House, under the modern factory building (formerly Berry's chair works). In speech, 'South o' Croft' or 'Sooter Croft' are known. Information on the field name is from an account left by the Berry family.<sup>263</sup> The field is outside the pale at approximately 36204435.
- ii. *Salter Hill*: South of High Barn and 200 m north-east of an offset in the boundary wall. There is no written record or map. The name was known by the farmer in the 1960s/70s.<sup>263</sup> The crest of the hill is outside the pale at 3622444531.
- iii. *Sawter*: 'Sawter' field is marked on the Leagram map in the 1774 'A Survey of the Stonyhurst Estate....belonging to Edward Weld, Esq By John Sparrow, Land-Surveyor in Hammersmith, Middlesex'.<sup>264</sup> It is outside but adjoined to the park pale, just south-west of Gibbon Bridge .

A salter shown on Kenyon's map is coincident with each of these place-names (S<sub>13</sub>, S<sub>16</sub> and S<sub>7</sub> respectively).

Table 4 in Annex 2 shows the calculated eight-figure BNGs for the salters and gates. For the salters and gates on the southern border, alternative BNGs are provided when Kenyon's incorrect marking of Bailey Hippings was amended by distorting the pale at this location. Annex 3 shows Edmund Moore's map of Leagram made in the period 1603-1608, and compares the numbers and locations of gates shown on the two maps.

Kenyon wrote that 'the blacke strikes amongst the red ones [denoting the boundary] do represent the Saulters'. Close inspection of the strikes (I) shows that some of them have serifs (I). The legend does not differentiate the two (although intriguingly, there is text obliterated following that sentence). Salters and lopes are not differentiated on the map legend or text. Seven of the sixteen strikes have a serif: S<sub>1</sub>, S<sub>2</sub>, S<sub>3</sub>, S<sub>5</sub>, S<sub>12</sub>, S<sub>14</sub> and S<sub>16</sub>.

<sup>262</sup> Higham, *Take It With a Pinch of Salt*, pp. 17-25 at p. 24.

<sup>263</sup> M. Lord, Nan King's Farm, Chipping, pers comm.

<sup>264</sup> Lancashire Archives DDX 59/1.

Salters (deer-leaps) in Leagram deer-park, 1608

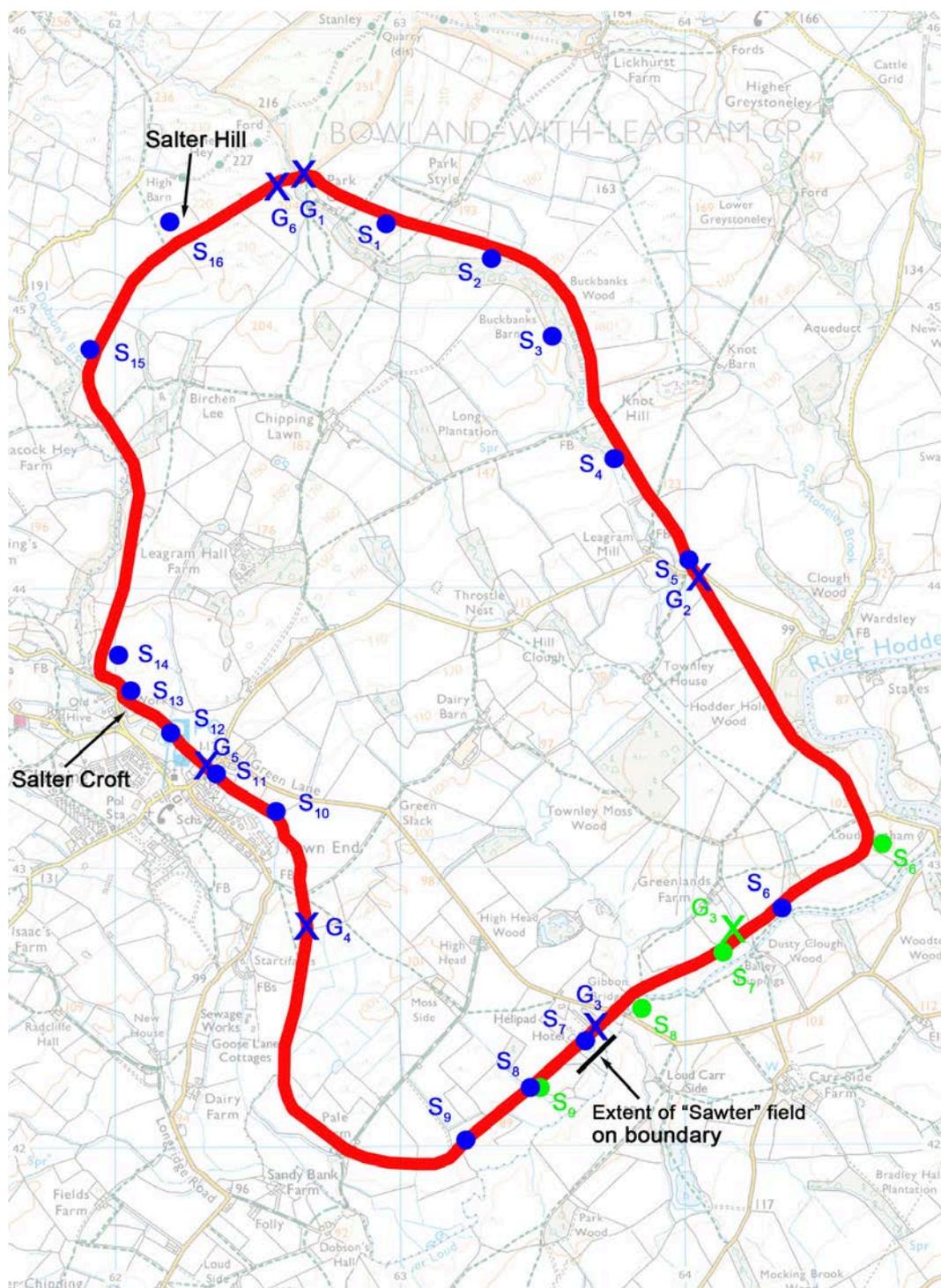


Figure 24: Estimated locations of salters (S - filled circles) and gates (G - filled crosses) marked on Kenyon's 1608 map of Leagram park, employing his scale. The red line denotes the park boundary on modern mapping. The boundary on the 1608 map was aligned in four separate overlays (1-4, see text). Green symbols denote locations S6-9 and G3 when the southern boundary was transformed to force Bailey Hippings from close to Gibbon Bridge to their correct location (Annex 2 - overlay 5). Also shown are three salter field names known from other sources. (Base map © Crown Copyright. All rights reserved. Lancashire County Council Licence 100023320, 2011).

## Disparity of Kenyon's pale and the true pale

Unsurprisingly, the pale courses and salter locations for Kenyon's and modern mapping do not overlie precisely. Figure 25 shows an example in the northern part of Chipping village where the course of the relict pale was surveyed as part of this study. The predicted course of the pale from the scaling and overlay of Kenyon's map (blue dotted line) approximates but does not overlie the modern interpretation of the true course (red line), but does broadly replicate a notable sharp bend in the pale near Kirk Mills. Salters S11–S14 are marked and in the field survey (discussed below), features along the route of Kenyon's pale that showed characteristics of salters were noted for each predicted location. The salter sites were also projected onto the true pale and a further survey undertaken of possible and probable salter sites; that is, both marked pales and associated salters were surveyed.

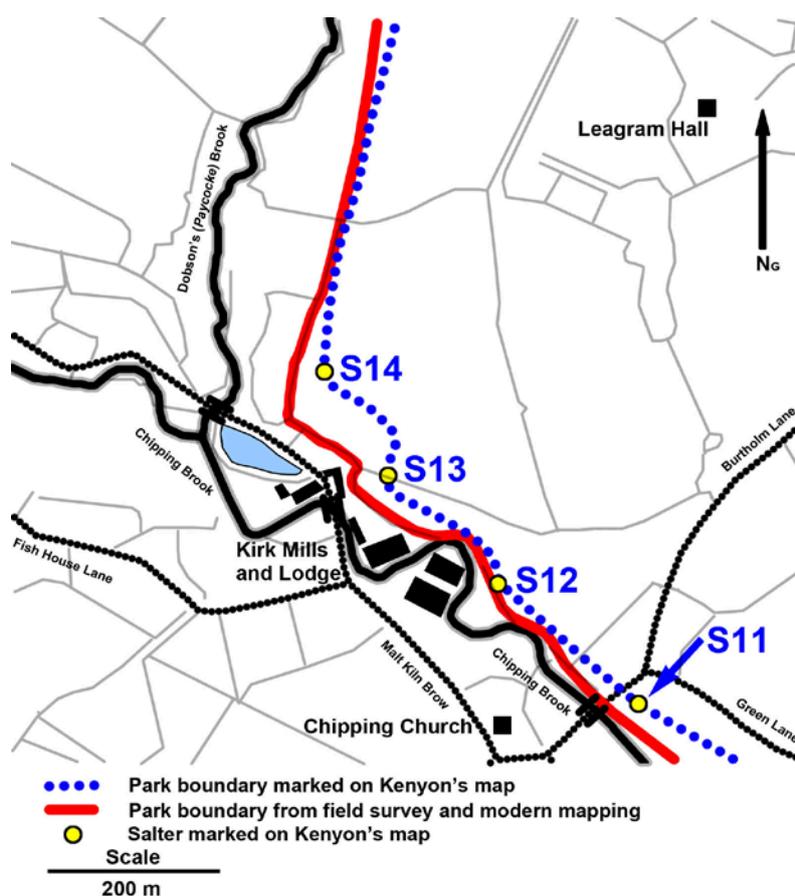


Figure 25: The course of the surveyed boundary pale at Chipping contrasted with the boundary predicted from overlaying Kenyon's map, using his scale. Salters marked by Kenyon are noted on his pale, S11–S14. Modern Leagram Hall is the location of Shireburne's laund and house.

## Location of the Shireburne's new wall and rails

There is a single gate marked on the eastern boundary of the park between Park Gate in the north and Loud Mytham (Crombleholme) at the southern extent. A single gate is also shown on John Sparrow's 1774 survey of Weld's estate<sup>264</sup> and on Edmund Moore's 1603-1608 map of the park (Annex 3).<sup>265</sup> A structure is shown on Moore's map in the woodland west of the gate, fed by a watercourse from 'Inckling Brooke' (Leagram Brook). This is probably Leagram Mill and its leat. Review of the three maps suggests that the gate is just east Leagram Mill, and was probably on the modern Burtholm Lane between Chipping and Wardsley where the boundary intersects (36404440).

<sup>265</sup> Lancashire Archives DDST Box 15 No. 9.

Figure 26 shows the wall, rails and one of the salters plotted on modern mapping, assuming that the gate was on the modern road. Using Kenyon's scale, the new wall is calculated to be 131 m in length, the rails 174 m, and salter S5 is 54 m from the gate. There is a low wall along the park boundary from Leagram Mill Barn on the road at G2, terminating where the track bears north-north-east towards Knot Hill (3638944429). The new wall is predicted to start at this terminus, but currently there is no wall on the boundary immediately beyond this point. The new wall may not have been built; alternatively, there is evidence of later water-board ground-works in this area that have undoubtedly transformed the landscape and may have removed the wall.

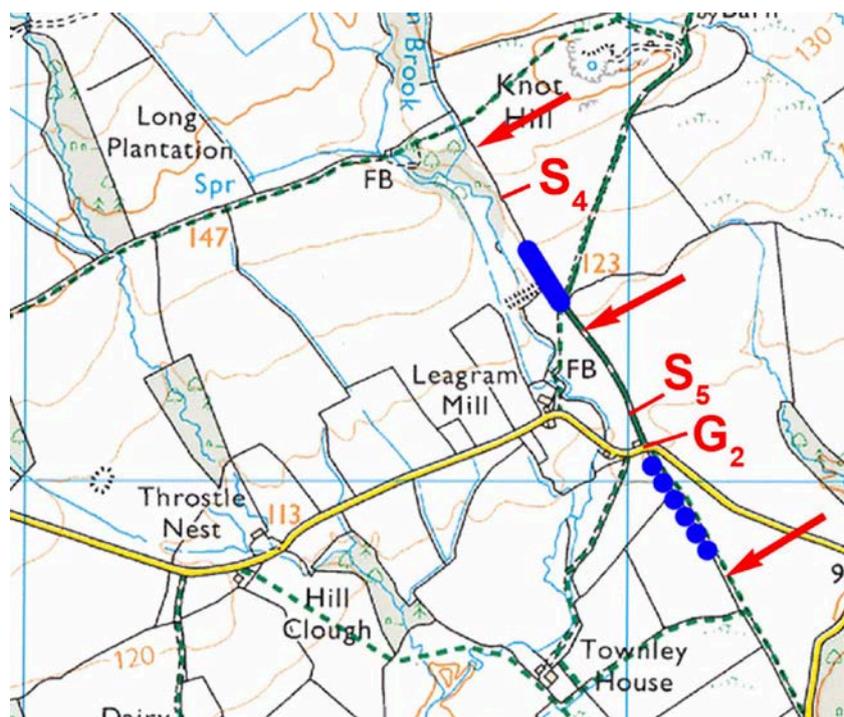


Figure 26: Location of the new wall, (solid blue line), rails (dotted blue line) and salters S<sub>4</sub> and S<sub>5</sub> when the eastern gate (G<sub>2</sub>) marked on Kenyon's map, Moore's map and the 1774 survey of Weld's estate is placed on the intersection of the present road and pale near Leagram Mill. The wall/rails are aligned to the park boundary (red arrows). (OS map © Crown Copyright. All rights reserved. Lancashire County Council Licence 100023320, 2011).

## Part 4: Field survey

A field survey of Leagram park was undertaken to identify remains of salters in the pale, within the vicinity of the calculated BNG reference of each of Kenyon's marked salters. Although the use of his scale enabled the overlay onto 1:25,000 modern mapping, his map could not be accurately geo-referenced without employing fixed topographical points. However, using say four features from his map for a particular section, not all four necessarily precisely overlaid those features on modern mapping. Subjective judgements were required to get the best overall fit for the four fixed points.

His survey and mapping using seventeenth century technology also introduced a margin of error in the BNG estimates of salter location; an error of up to 100 m was assumed. Consequently, the topographical survey extended  $\pm 100$  m along the pale from each predicted salter location. Some of the estimated locations were not precisely on the true pale and in those cases the location was transferred to the pale to a point nominally 90 deg. to its alignment.

The purpose of the survey was to identify possible and probable salter sites and to subsequently advise the Lancashire County Archaeological Service for inclusion in the Historic Environment Record. Excavations were not undertaken.

### Method

Remains of salters were identified using criteria developed from the literature review in Part 2. Plainly, the 1608 pale fence and timber used to construct a salter were no longer present above ground; this was a notable problem. Identification necessarily focussed on slight ground-works or natural features either side of the pale, and changes in bank and ditch alignment indicative of an offset.

The criteria employed were:

- a. Immediately within the park, a ditch or a natural hollow below the top of the bank, probably extending into the park beyond the normal pale ditch, and deeper;
- b. Landforms outside the pale that could funnel or encourage deer to the site, such as low lying hollows for deer to run, woodland for cover close by;
- c. Offsets in the pale, hedges, modern fencing or later enclosure walls;
- d. A ramp at c. 90 deg. to the pale, possibly man-made or natural (such as boulders or upward sloping ground), to encourage deer up to a precipice above the hollow; modern practice suggests a ramp may also be parallel to the pale;
- e. Stones or earth fashioned into a retaining wall, or collections of stone tumbled into the bottom of a ditch;
- f. Sites that employ a slope into the park that could facilitate entry but not egress.

Features associated with the pale were classified on the likelihood of each being a salter site: probable; possible; unlikely; no evidence. The BNG reference of the feature was determined using a recreational global positioning system (Garmin GPSmap 62s) with a presumed absolute accuracy of 10 m, irrespective of the supposedly better accuracy shown on the instrument.<sup>266</sup> The length (along the pale), width, drop height and distance from the predicted location were recorded for each

<sup>266</sup> S. Ainsworth, B. Thomason, *Where On Earth Are We?: The Global Positioning System (GPS) in Archaeological Field Survey* (English Heritage, 2003), pp. 9-11.

feature using a tape and spirit-level. Features that were plainly modern works such as drainage were noted but not measured or scored.

## Survey results

Two of the sixteen predicted locations of salters were beneath a modern building and a hard-standing, and could not be examined: S11 in Chipping village and S7 at the Gibbon Bridge Hotel. Twenty-five features were noted associated with the remaining fourteen salter locations; these are summarised in Table 6 in Annex 4.

Table 2 is a summary of sites scoring 'probable' and 'possible'. Six features were marked as 'probable' salters, located largely on the north-east pale, and the distances of the features ranged 20–100 m from their predicted locations. Six were classed as 'possible' salters, largely on the south-west pale, ranging 0–135 m from the predicted site.

Score	Salter Id. on Kenyon/ OS overlay	Predicted BNG	Feature No. at Salter Id.	Feature BNG#	Feature Distance From Predicted BNG (m)*	Notes
Probable	S1	3629744530	#1	3630244531	55	At boundary (prob. pale) offset c. 6 m in length, a drop of 1.45 m downhill into a slight hollow within park pasture
	S3	3635544489	#2	3636444488	100	On pale at boundary of wood in park, 2 m drop into a hollow with 7 m long ditch at bottom; very shallow hollow approaching site across formerly ploughed pasture
	S4	3637444445	#2	3637944448	60	On pale boundary into wood within park, above brook; sheer cliff into brook, 10.7 m W from pale at salter. C. 2 m drop from pale down a slope to level area; length of feature along pale c. 11 m
	S5	3640244408	#1	3639944415	80	Probably natural hollow into park pasture, c. 12 m in length from a track and wall overlying the former pale; drop of 1.95 m into pasture
	S10	3625744320	#2	3625744318	20	High point on bank 14 m from change in fence alignment (shown on Kenyon's map), with slight ramp, 1.1 m drop into ditch with evidence of retaining wall; recently ploughed field within park
	S16	3621744531	#1	3622244526	65	Hollow on slope of Salter Hill below indistinct pale (erosion/dense rushes); pale location implied from alignment to pale ditch at offset 200 m SW, and from mapping; hollow facing into park
Possible	S6	3643444284	#3	3642244276	135+	0.75 m high bank at a possible pale offset close to holloway heading to Greenlands farm, having crossed the Loud river; eroded area
	S9	3632244203	#2	3632044200	30	Shallow offset in fence/tree line on indistinct pale
	S10	3625744320	#3	3625644318	10	Close to S10#2; 1.25 m drop from pale into a ditch within park; close to a fence border so could be caused by stock
	S12	3622044349	#4	3622244346	40	Drop into a ditch containing stones from a high prob. pale bank surmounted by holly tree; close to waterworks gate and associated ground-works;
	S13	3620744363	#1	3620744363	0	Modern gate and stones over a historical ditch and bank, directly on Kenyon's pale and at S13 predicted location, but not considered to be on the true park pale
	S14	3619944375	#1	3619544370	65	Substantial bank and ditch in a bend of the pale matching Kenyon's marking of a salter on a bend in his pale

# Recreational GPS stated accuracy 3-5 m, but absolute accuracy presumed to be 10 m and GPS reading rounded down to eight figures.

\* Rounded to the nearest 5 m.

+ Outside  $\pm 100$  m survey area but considered to be a 'possible' salter location.

Table 2: Features at predicted salter sites scoring 'probable' or 'possible' in the field survey.

Figure 27 shows the locations of the 'probable' salter sites (black crosses) and the predicted salter locations from Kenyon's 1608 map. Figure 28 shows the 'possible' sites.

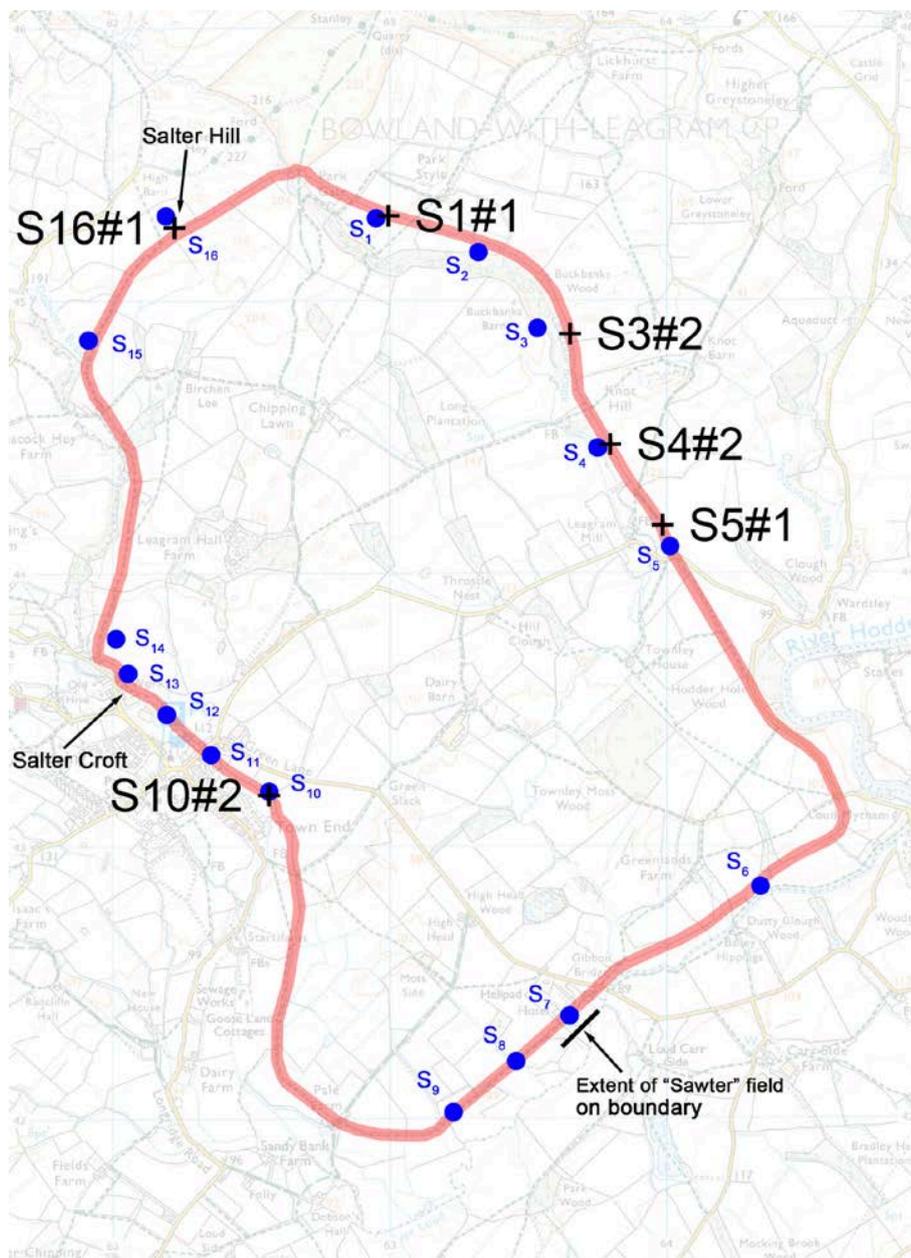


Figure 27: Location of 'probable' salter sites (black crosses, marked with feature identity and associated salter), and the salter locations predicted from Kenyon's 1608 map of Leagram (blue filled circles). The red line denotes the surveyed route of the pale. Base map © Crown Copyright. All rights reserved. Lancashire County Council Licence 100023320, 2011.

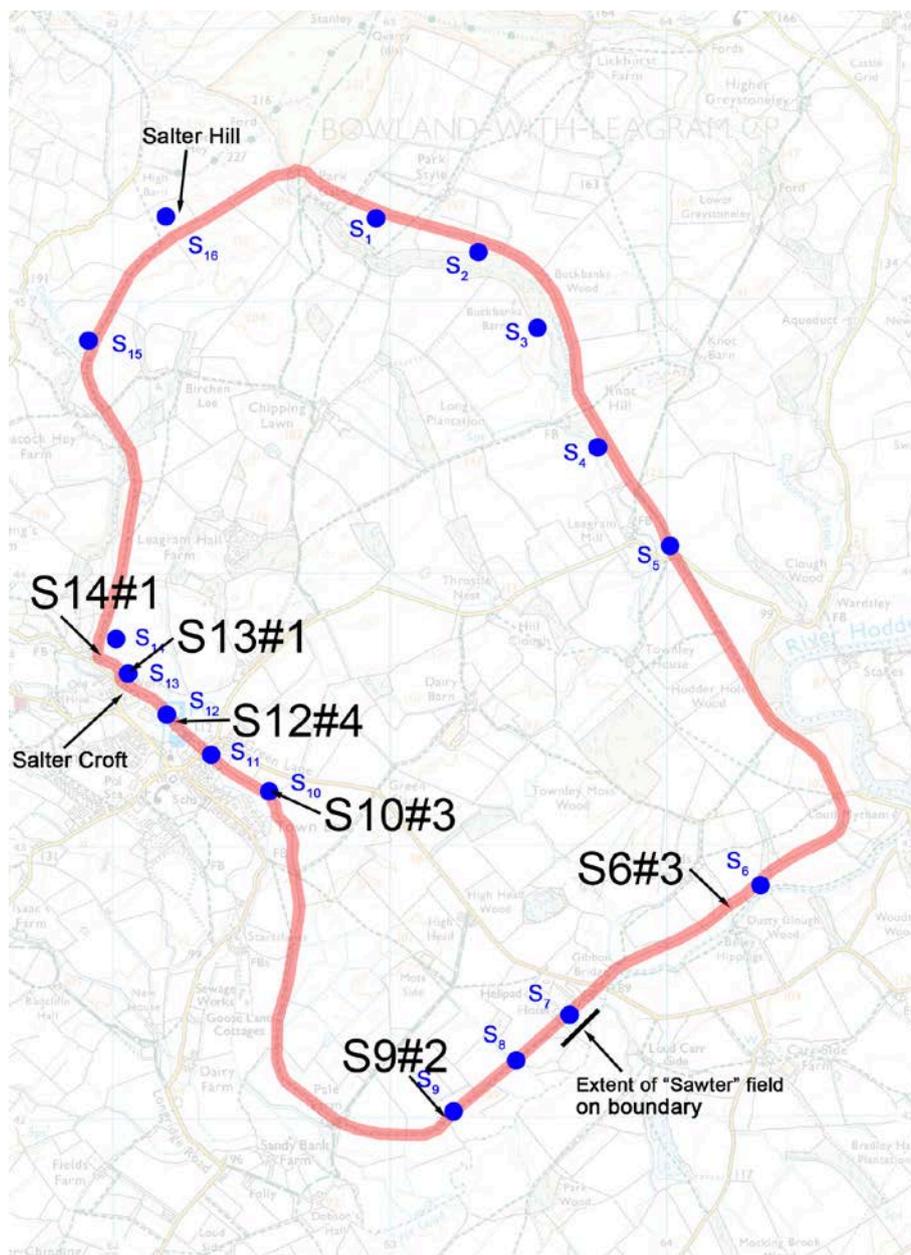


Figure 28: Location of ‘possible’ salter sites (black arrows on pale). For further legend see Figure 27.

Regarding the use of serifs by Kenyon on seven of the salter symbols and a possible distinction of salters and loops so denoted, for the six ‘probable’ salters, four were marked with serifs. Three serif-marked salters on his map were not categorised as ‘probable’ in the field survey. It is improbable therefore that serifs differentiated salters and loops.<sup>267</sup>

### Description of ‘probable’ salter sites

Three of the ‘probable’ salter sites are reviewed to show a range of local topographies employed in salter placement and construction: use of a natural landform (S5 near Leagram Mill); at a pale offset (S1 near Park Gate and Park Style); on a hill slope facing down into the park (S16 on the brow of Salter Hill). The three remaining ‘probable’ sites are also described briefly.

<sup>267</sup> There were insufficient data to undertake statistical tests; the ‘improbable’ is qualitative.





Figure 30: Feature close to S5 considered to be a 'probable' salter. The pole is beneath the modern wall (top right) behind the trees. The normal pasture level alongside the track behind the wall is evident in the distance (A). The pole is 2 m in length. Photograph by the author.



Figure 31: S5 'probable' salter showing the drop into the park from the former pale (near the wall in shadow). Photograph by the author.

## Salter SI

Salter SI is considered to be associated with an offset in the pale. The pale is marked with hawthorns (and modern wire) on the pasture boundary near Park Style and Park Gate farms; 'stile' is a place-name possibly associated with salters (see Figure 17 – Norden's maps, and the possible salters in Quermore Park, discussed above). Figure 32 shows the predicted location of SI (filled circle) and the 'probable' salter is at the offset (arrowed).

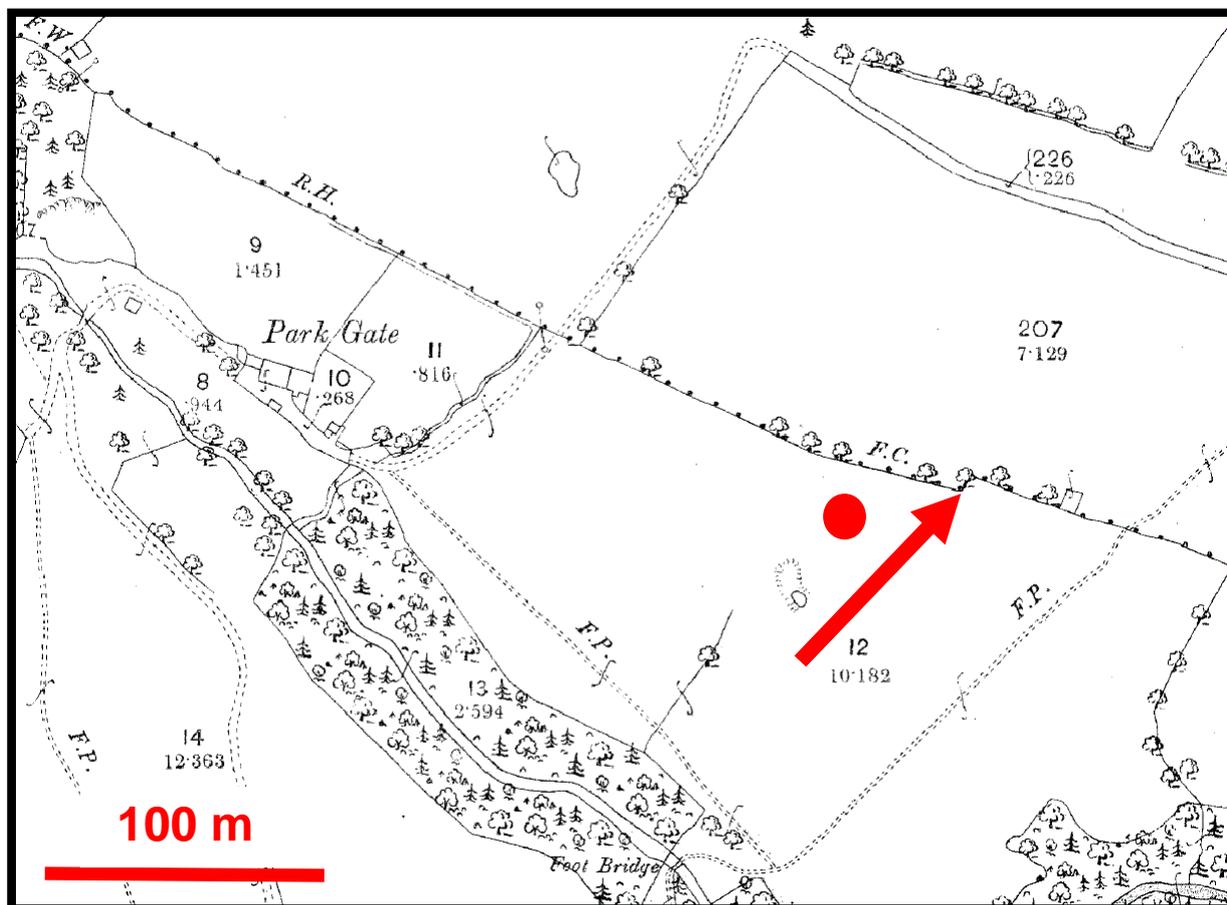


Figure 32: SI salter at an offset east of Park Gate; Park Style farm (not shown) is 190 m north-east of the offset. The predicted salter location is marked with the red filled circle. The red arrow indicates the location of the 'probable' salter at the pale offset. North is at the top of the map. The pale is the boundary marked R.H. and F.C. and the park is to the south (25 inch OS map, 1890 survey)

Figure 33 shows the pale (hawthorns) and the 2 m poles on the offset, which is 6.4 m in length measured half-way up the bank. There is a ditch at the bottom of the bank, rather wider than the pale ditch approaching the salter. The drop height between the poles is 1.45 m, contrasting with c. 0.9 m for the pale proper. A notable feature is that the pale is parallel to the slope in the pasture but after the c. 70 deg. turn for the offset, the salter faces directly downhill, thereby facilitating its function.

On the forest side of the salter and approaching it from the north-west is a broad raised bank/ramp, probably used to maintain the height of the deer on the sloping ground, before the drop over the salter fence into the park (Figure 34).



Figure 33: SI 'probable' salter at an offset in the pale (hawthorn hedge to the left) showing a 1.45 m drop between poles and a broad ditch at the bottom. Photograph by the author.



Figure 34: A broad bank on the approach to SI salter at the pale offset (arrow). Photograph by the author.

## Salter S16

Salter S16 is on Salter Hill. The pale is very wasted in the boggy approach to the hill, and is shrouded in rushes. The offset in the wall considered by Higham to be the site of the salter<sup>268</sup> (Figure 35, upper arrow) is c. 200 m distant; the present survey suggests this may not be the correct salter location. The pale is possibly manifested by the drier green strips in the rushes where a slight bank is present just below the offset in the photograph, approaching the camera. The wall is later than the pale and does not overlie it on the approach to the hill. The pale appears to traverse the wall offset but the ground is much eroded and boggy at this location and an offset in a ditch and bank of the pale proper cannot be discerned.

On the downward slope towards the wall on the far left of the photograph is a hollow. The drop into the hollow (left pole) from the top of the bank (right pole) is >2 m and the 'probable' salter faces into the park to the left (beyond the wall). This site is c. 65 m from the predicted S16 location on the top of the hill, far to the right of the upper pole. If not a salter, the hollow could also be interpreted as a delf to supply stone for the later walling.



Figure 35: Probable salter S16 atop Salter Hill showing the lower pole (lower arrow) in a hollow close to the much eroded pale, probably in the rushes. The 2 m upper pole is at the top of the bank above the presumed salter. The upper arrow and red dots show the location and alignment of a wall offset. The park is to the left of the pale and wall. Photograph by the author.

## S3, S4 and S10 salters

Salter S3 is on the eastern pale bordering Buckbanks wood, at the top of a slope above Leagram Brook in the park. There is a c. 2 m drop into a hollow/ditch within woodland, c. 7 m in length with some stone. Approaching the pale at the salter location is a very shallow hollow across a formerly ploughed field, now pasture. Further south on the eastern pale is salter S4 with a c. 2 m drop from the pale (a modern fence) to a narrow fairly level area in woodland, and a few metres further west a sheer high drop into the brook where the bank has been undercut, and also possibly quarried. The length of the feature along the pale is c. 11 m. There is no evidence of a particular route to the salter across the pasture.

<sup>268</sup> Higham, *Take It With a Pinch of Salt*, pp. 23-24.

Salter S10 is just to the south of the centre of Chipping, approaching Town End, at the southern end of a stretch of a reasonably well-preserved pale ditch and bank incorporating old hawthorn. Approaching the salter from Chipping Brook is a slight ramp to the bank top. The feature is situated c. 14 m from a change in fence alignment (shown on Kenyon's map, but not evident as an offset on the map nor in the field). On the park side and into a recently ploughed field is a c. 1 m drop into a ditch, encroached upon by the plough, with evidence of a retaining wall to the bank top. This may be a Type 2 salter.

### Salter lengths and type

The lengths of the ground-works or natural features along the pale of the 'probable' Leagram salters were difficult to determine accurately due to erosion and later boundary works, but for those at which an estimate could be made, they were less than 12 m (40 ft.). Some of the medieval salters in other parks were up to 200 ft. long. Such long salters imply that deer were driven towards them, probably guided by a fence or hurdles splayed out into the forest.

Without timber/fence remains or excavation, the designation of salter type in Leagram is not straightforward. Of the six 'probable' salters, two employed drops from level ground into a clough in woodland (S3, S4), and one was associated with some stonework and a modest ramp (S10). These may be Type 2. S16 on the slope just off the crown of Salter Hill may have employed a lowered section of fence on the break of slope (Type 1), and S5 employing a natural sloping hollow may also be the same type. Salter S1 at the offset near to Park Style and having a bank on the approach, is the salter site imbuing greatest confidence; it is most likely that the pale fence was extant but lowered here.

## Part 5: Discussion

### Problems of salter identification in the field

The identification of relict wooden salters constructed as direct modifications to the park fence height (Type 1) or built from timber at sites where the fence was removed (a Type 2 variant), will inevitably be difficult because of the absence of wooden remains. The remains of salter ground-works may be unremarkable, particularly in a mossy area such as Bowland where drainage and other works have been undertaken regularly since the land was originally improved. Constructed hollows associated with salters were extensions of the ditch of the pale system (where this existed) and will be softened by erosion. The employment of natural hollows, crags and slopes leaves no trace, except perhaps in a place-name. Stonework (or in the case of nineteenth century parks, brickwork) is more easily identifiable but post-disparkment enclosure often used the former pale, and in upland areas, enclosure boundaries may be a ditch and stone-breasted bank, not unlike the remains of a stone Type 2 salter. Documentary evidence that salters may be up to 200 ft. (61 m) in length further confounds the differentiation of salters and later banked enclosure boundaries associated with a former pale.

Very few park maps marking salters have been identified. The discovery of Kenyon's scaled map of Leagram park in the Duchy archives was a potential turning point in the identification of salters in the field. This was an opportunity, subject to the skills and diligence of the early seventeenth century surveyor and map-maker, to predict the location of salters and thereby focus studies to identify salters in the park boundary. A foundation was developed of documentary research on salter costs and construction materials, a few examples of salter dimensions, antiquarian sketches, and most importantly, an assessment of technical approaches that our medieval forebears may have used. The design of early salters is unclear. The modern craftsman would have a limited number of options faced with a high fence, ditch and bank system designed to thwart a jumping animal, having been instructed to modify the system to allow, and indeed encourage, a one-way movement only. It is known from two medieval financial accounts that ditches, timber, stone, moss/turf and earth banks were used, and certain trades required. Without design details, it is necessary to make a judgement on the best technical approaches and to develop field identification criteria on that basis. This means however that the use of the criteria to identify the probable and possible salters is not truly objective. It is based on pre-conceived ideas of the form of salter remains, using design-based criteria developed from limited evidence, and rather more speculation on the most efficient and effective options available to the craftsman.

Kenyon produced an accurate map in shape and scale. His map can be scaled, overlaid onto modern mapping and co-aligned in longitude and latitude by employing landmarks and houses shown on the map. Thereby, the course of his pale according to his map can be determined. By comparing his pale and the true pale from fieldwork, it was evident that the two were, in general, quite closely aligned. The course of the true Leagram pale is reasonably well defined, although work was undertaken in this study to clarify its course behind the Kirk Mill industrial complex at Chipping, close to Salter Hill and near to Dobson's Brook. Reflecting the closeness of the pales, the predicted locations of the salters on Kenyon's pale were not far from the modern pale. The greatest disparity was at S3 in Buckbank's Wood where the predicted site was 83 m from true pale; at S16 on Salter Hill the separation was 65 m but for most of the remainder, the separation was less than 50 m. It was on this basis and the limitations of 1608 surveying technologies that the  $\pm 100$  m survey line along the pale from each predicted site was employed.

From the foregoing, it is plain that the salter categories 'probable' and 'possible' were very dependent on the correct transposition of Kenyon's surveying onto modern mapping, and the criteria developed to identify the salters. The 200 m surveying strip along the pale for each predicted salter site was an important determinant of whether a landform, which may in other locations be unremarkable, would be classed as a potential relict salter. The designation of a site as 'probable'

could be criticised as too optimistic if the whole pale had to be surveyed without the focus provided by Kenyon's map, but the  $\pm 100$  m survey did improve the confidence that unusual hollows, shallow ramps and drops from a height into the park (sufficiently differentiated from the eroded pale ditch and bank) were candidates for salter remains. Excavation could improve this confidence, but there are no plans. It is concluded that the criteria were not sufficiently indicative to be employed in such a superficial survey without supporting evidence such as salter mapping, coincidence with the pale, offsets and place-names.

## Wall offsets and stiles

The status of wall offsets as indicators of salter locations is equivocal; it is important to differentiate offsets in a pale system, and in a wall that post-dates the construction of the pale. Wall offsets can be observed in areas of the countryside that were not imparked. Some may be located in intake walls between enclosed land and common and in these cases are likely to be employed to direct driven stock along a wall and through a gate in the offset, and into an enclosure. On the basis of Kenyon's map and the lack of evidence of a pale offset in what is admittedly a wet, eroded and rushy area, the wall offset approaching Salter Hill does not appear to be the site of a salter. In contrast, at salter S1 a later enclosure wall is not present and an offset in the ditch and bank is plainly evident on the true pale, close to Park Style and Park Gate farms. In this case, there is sufficient evidence from the 1608 map, place-names, slope of the pasture and modifications to the ditch to infer that the salter was undoubtedly at the pale offset. Some parks such as Quernmore near Lancaster were walled during imparkment and a walled offset in such circumstances may be evidence of a deer management function such as a salter or loop (or indeed farm stock management if the park was compartmented and cattle agisted).

A 'stile' place-name associated with a park is likely to signify a nearby restrictive access over or through the pale fence/wall. The 'Style' at Leagram close to a salter and 'deere leap stile' on Norden's map of Guildford Park show its use associated with salters (or leaps), and at Quernmore Park two boundary locations are described in a 1669 survey as 'stiles'. At the probable locations of these stiles in Quernmore and two other locations also so described, there is evidence of wall offsets on late nineteenth century OS mapping. A 'stile' access may indeed be a salter, but not exclusively so. An offset in a park boundary is indicative of stock or deer management, but in general, not all offsets are salters, and not all salters are at offsets.

## Salter numbers in Leagram

Why were there supposedly sixteen salters at Leagram park in 1608? From the evidence of the primary and secondary sources reviewed, this is an unprecedented number for a deer-park. The Chancery calendars show that in the medieval period the Crown was prescriptive, limiting numbers to single, two or in one licence noted, six salters. For the period up to Kenyon's survey, the number and construction dates of salters in Leagram is not known. Upon formal disparkment in 1556, the park was in private management by the Shireburnes but being in a forest, the Duchy would presumably be concerned about any escalation of salter numbers in the park. It is not clear precisely when salter licences were no longer required in England, but diligent enforcement would be unlikely in this era of park decline into agistment, coppicing and other agricultural activities. The Duchy had plainly allowed the pale to wither prior to disparkment and there was no need for salters (unless deer were being encouraged into small compartments). The large number of salters shown on the 1608 map may reflect a desire by the Duchy (who commissioned the map and indirectly instructed Kenyon) to make a point about Shireburne's tactics in gathering and killing the deer of the forest. It is not known if all the salters noted were functional, neglected or relicts.

Five of the salters were on the periphery of Chipping village, a site unlikely to be a fruitful source of deer for the park. Moore's map shows that the park was compartmented and a laund surrounded the Lodge. Deer using three of these salters would have entered this laund and at the two salters

south of the village bridge over Chipping Brook, deer would have entered 'Parke greene' laund. The park was very close to the village centre, a park gate being sited a few yards over Chipping Bridge. Deer may have been a nuisance in the village enclosures and town fields; salters may have been employed here to encourage their entry into the park – an opportunity to gather deer and to placate the local population growing crops just outside the park bounds.

## Concluding remarks

It is evident from the controls exercised by the Crown in the medieval period on the inclusion, length and numbers of salters in private parks, that salters were efficient means of entrapping the king's deer. The licencing certainly contributed to the Crown's income. The very limited information on their design, construction and management renders them elusive within the remains of other ground-works forming the pale. They may also have been transient features dependent upon the whims of Crown officials and forest servants, the movements of deer, and the requirements of the park owner and parker.

An important desired outcome of the study was to advise the Lancashire County Archaeological Service of the probable locations of salters in Leagram park; this has been achieved. The county has indeed been fortunate in the discovery of an accurate early seventeenth century map that, very unusually, identifies the locations of a large number of salters in a deer-park of medieval origins. Salters were important tools in the acquisition and management of deer. Despite their control and licencing by the Crown in parks within or close to forests, remarkably little is known about their design, management and operational use. This study has offered some new insights from a few examples, but they remain elusive and unrecognised in the remains of an unknown proportion of the very large number of deer-parks enclosed over the centuries.

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Dr Bill Shannon photographed, interpreted and reported the Duchy papers on the Shireburne case. He discovered the Kenyon map in the Duchy archives and provided advice on its interpretation and relevance to the nuances of the dispute.

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## Annex I – Place and house names on Kenyon’s 1608 map

Place-names, houses, gates, bridges and other features marked on Kenyon’s 1608 map used to align his map to modern OS are shown in Table 3. An interpretation of their modern identity and location is presented.

Place and house names on Kenyon’s map	Interpreted location
waller yate	A gate at the northern extent of the park where the bridleway enters, north-west of Park Gate and just east of the steep clough of Burnslack Brook
the parke yate in wyndle hey	Probably the gate west of the clough of Burnslack Brook; a holloway is evident about 4 m south west, now ending at the stone wall and containing a single step stone stile (an extended through-stone); ‘wyndle hey’ is not known locally
carre hey yate	A gate on ‘Paycocke Brooke’ (modern Dobson’s Brook); the gate is predicted to be at 3616744518 about 100 m north of where Dobson’s Brook passes under road to Lickhurst, in a pasture called Carr Hey on an 1800 Derby estate map for Chipping. Its actual location was probably on the modern road where the brook passes under at 3616744508, or at a gate into a field at 3616644503 a few metres south, on a stretch of track to a ford. The track appears to circumvent the modern gully pipe under the road. <sup>269</sup>
Dobson house	Windy Hills farm
The Lawnd Mr Sherburne his house in Laithgryme	Leagram Hall
flecher house	Not precisely known; close to Chipping Mill
chippin mylne	Chipping Mill
Chippin church	Chipping Church
Chippin bridge	Chipping Bridge
budfeild yate	Hudfield – possibly in the area of the bridge just south of Town End where three footpaths converge – see ‘the heble’.
Starty uants tenement	Startifants farm pastures
the heble [bridge]	Not known - possibly the bridge over Chipping Brook at 3625744294, although on Kenyon’s map it is shown south of Startifants; the modern bridge is north of this house. A ‘heble’ is the wooden hand-rail of a plank bridge or the narrow, short bridge itself. <sup>270</sup>
Marsden house	Pale Farm
a yate	See ‘Cottom house’
Cottom house	This house is close to Kenyon’s location for Bailey Hippings (hippings are stepping stones), but it is probable that he has incorrectly marked the Hippings. The house is on the north side of the Loud close to modern Gibbon Bridge, just outside the pale and east of a ‘yate’ (G2) into the park. Moore marks the house of ‘Gilbert Marsden’ at about the same location, accessed by a road from the south-east. Presumably there were hippings or a footbridge over the Loud most probably a footbridge as the Loud pools here and is quite deep with steep banks. <sup>271</sup> Weld

<sup>269</sup> F. Marginson, Peacock Hey Farm, Chipping, pers. comm.

Lancashire Archives - *Stanley, Earls of Derby (of Knowsley)*, DDK Collection, Chipping map.

<sup>270</sup> Wright, *The English Dialect Dictionary*, Vol. 3, p. 124.

<sup>271</sup> J. Hawkins, Chipping, pers. comm.

	states that there was a single plank and rail here over the Loud until a bridge was built by public subscription in 1835. <sup>272</sup> The Cottam family is described in Smith's <i>History of the Parish of Chipping</i> as 'of Thornley'. <sup>273</sup> Thornley is nearby, south of the Loud and 'Cottom' may be misplaced or may be at or very near the site of the modern Gibbon Bridge hotel.
Baley h[?]ppings	Bailey Hippings - the hippings, gate and house on the Kenyon's map align with Gibbon Bridge 0.5 km to the west of their modern location. Overlaying and aligning the meanders of the Loud, the location of 'Marsden house' (Pale Farm) to the west and 'Crombleholme house' (Loud Mytham) to the east on Kenyon's map and modern OS indicates that his location for Bailey Hippings is incorrect. Hippings are actually located close to his 'Johnson house' (see below) to the east. Moore's map shows two 'Bailey/Bailey' houses, either side of the Loud (ruins of Bailey Hippings farm is still evident near the south bank) and a 'way' approaching a gate (the way now a distinct tree-lined holloway), appropriate to the modern location of the hippings. This route was probably an important entrance into the park; there is another set of hippings across the Loud to the east on 1844 6 inch OS. <sup>274</sup>
Bradley Hall	Bradley Hall in Thornley
Johnson house	This may be either the houses of 'Henry Bailey' or 'Hewgh Dobson' marked on Moore's map just within the pale north of the modern hippings (and there is a 'House Garden and Croft' house marked at this location on the Weld estate map and schedule of 1774 <sup>275</sup> ; but this house is not present on 1844 6 inch, 1891 25 inch or modern OS). Alternatively, 'Johnson house' may be the modern Greenlands Farm a little further to the north. The name Johnson is not well known historically in Leagram and there was no Johnson in the deponents for the dispute. <sup>276</sup> Should Johnson be Dobson? 'Henry Bailey' and 'Hewgh Dobson' houses are now gone.
Crombleholme house	Loud Mytham farm
the new bridge of Hodder	Not known; the location of the bridge on Kenyon's map is close to the ford/hippings at Stakes. If Kenyon truly meant a 'new' bridge, he may be incorrectly marking the old pack-horse bridge over the Hodder (adjacent to the later Lower Hodder Bridge) situated 7.4 km to the south-east. This was built in stone 46 years earlier in 1562 by Sir Richard Shireburne to replace a (probably) wooden structure. <sup>277</sup>
the Railes	Located near Leagram Mill - see text; associated with a gate (G2).
the new wall	Located near Leagram Mill - see text; associated with a gate (G2).

Table 3: Place and farm names on Kenyon's 1608 map and an interpretation of their modern location. The names and features are shown counter-clockwise from 'waller yate'.

<sup>272</sup> Weld. *A History of Leagram*, p. 90.

<sup>273</sup> T.C. Smith, *History of the Parish of Chipping in the County of Lancaster*, (Preston/Whitehead, 1894), p. 267.

<sup>274</sup> J. Hawkins, Chipping, pers. comm.

<sup>275</sup> Lancashire Archives DDX 59/1.

<sup>276</sup> F. Marginson, Peacock Hey Farm, Chipping, pers. comm.

<sup>277</sup> Farrer, *A History of the County of Lancaster - Volume 7*, p. 1.

## Annex 2 – Predicted British National Grid references of Leagram salters

Having scaled the 1608 map and modern 1:25,000 OS maps, semi-transparent overlays were used to align topographical features and buildings common to both. The 1608 map was divided into five sections to get the best qualitative correspondence between the maps around the course of the pale. The principal features used to correspond the maps for each numbered overlay were:

1. Waller and Park gates (northern tip of the park), Windy Hills farm, Leagram Hall, confluence of Chipping Brook and Dobson's Brook, Chipping bridge and Chipping church;
2. Leagram Hall, Chipping Bridge, Chipping Church;
3. Park Gate, the gate at Leagram Mill, Loud Mytham;
4. Pale Farm, Loud Mytham, not Bailey Hippings;
5. As for #4, but gross distortion horizontally to fix Bailey Hippings at their modern location (the hippings [stepping stones], gate and house on Kenyon's map align with Green Lane and Gibbon Bridge 0.5 km to the west of the modern location of the hippings – see Annex 1). Kenyon's location for Bailey Hippings is incorrect.

Employing these manipulations, the predicted BNGs of the salters and gates shown on Kenyon's 1608 map are in Table 4.

	BNG ref.	Overlay used
<b>SALTERS</b>		
S1	3629744530	4
S2	3633244517	4
S3	3635544489	4
S4	3637444445	4
S5	3640244408	4
S6	3643444284 (3647044308)	3(5)
S7	3636544239 (3641444270)	3(5)
S8	3634544222 (3638544249)	3(5)
S9	3632244203 (3634844220)	3(5)
S10	3625744320	2
S11	3623644334	2
S12	3622044349	1
S13	3620744363	1
S14	3619944375	1
S15	3618944484	1
S16	3621744531	1
<b>GATES</b>		
G1	3626644547	4
G2	3640544403	4
G3	3636844242 (3641844276)	3(5)
G4	3626744279	2
G5	3623344336	2
G6	3625744544	1

Table 4: Predicted BNGs of salters and gates marked on Kenyon's 1608 map of Leagram Park. Some of the calculated locations are not precisely coincident with the pale. BNGs in brackets denote use of overlay 5 employing distortion of the southern boundary of the map. All-numeric BNGs are shown: 3eeee4nnnn is equivalent to SDeeeennnn

## Annex 3 – Edmund Moore’s map of Leagram - Gates

Figure 36 shows Edmund Moore’s map of Leagram park<sup>278</sup> produced in the period 1603-1608, and probably made for the same dispute. Moore was Kenyon’s mentor.<sup>279</sup> It is a distorted representation of Leagram and the enclosure boundaries outside the park are probably fanciful. Five of the seven gates shown on Moore’s map are on the park boundary and Table 5 compares the number and location of gates on Moore’s and Kenyon’s maps. Only three (possibly four) gates are common to both maps even though they were surveyed within a few years of each other. It is likely that there were gates into the south-west and south-east mosses of the park, indeed, these are shown at Pale Farm and Loud Mytham by Moore, but not Kenyon. The southern area of the park is away from the boundaries and pale under dispute and may not have been as accurately surveyed.

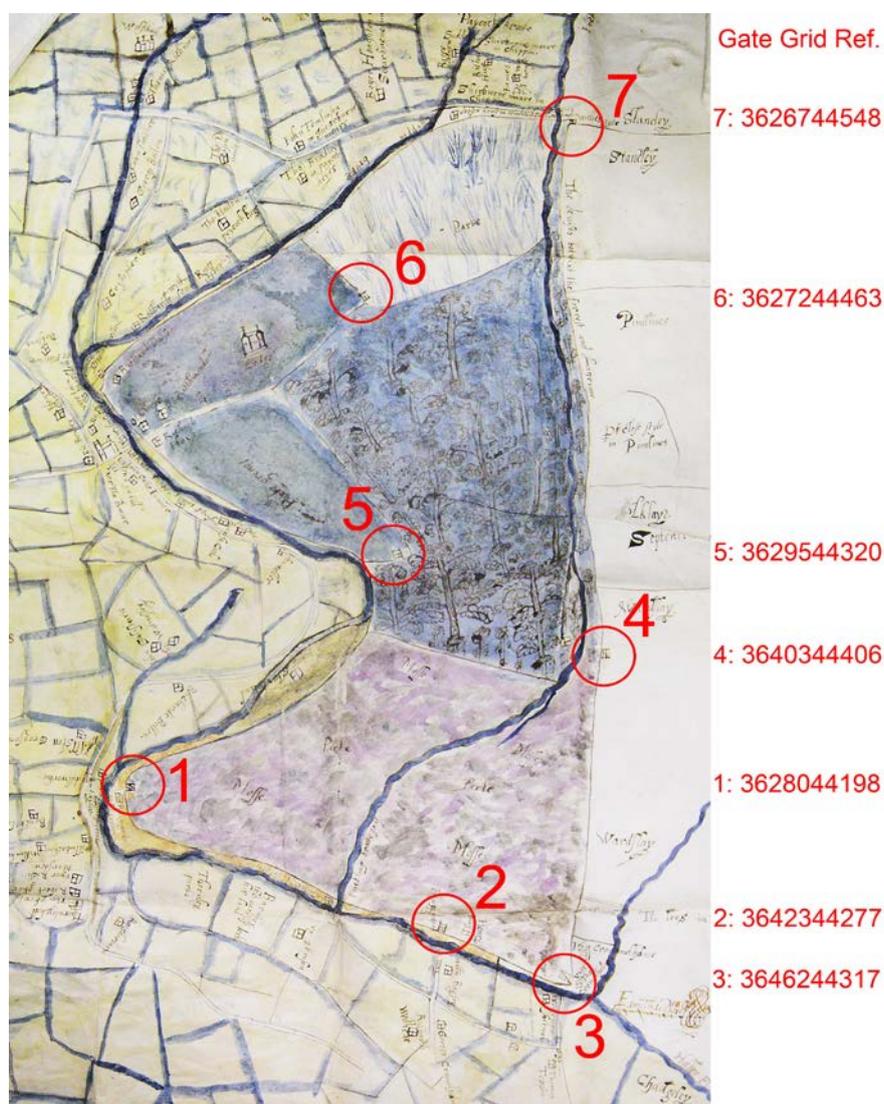


Figure 36: Edmund Moore’s map of Leagram park, probably made within the period 1603-1608. The borders have been cropped. Note the compartments in the park. Seven gates are circled on the map and their estimated BNGs shown. Lancashire Archives ref. DDST Box 15 No. 9; reproduced with their permission.

<sup>278</sup> Lancashire Archives DDST Box 15 No. 9.

<sup>279</sup> Shannon, pers. comm., ‘Leagram Park Case’, p. 9.

Moore I.D. Number	Kenyon	Location	Comments
1	Not shown	Pale Farm	
2	Probably G3	Bailey Hippings	The location of Bailey Hippings and gate on Kenyon's map is not accurate – see Table 4 in Annex I
3	Not shown	Loud Mytham	
4	G2	Leagram Mill	
5	Possibly G4	From Moore's map, near to Green Slack; G4 on Kenyon's map ('bufeild yate') may be the bridge just south of Town End.	Internal gate - G4 on Kenyon is marked on the boundary, and is about 500 m south-west of Moore's gate #5 at Green Slack; Moore's map is notably distorted at this location
6	Not shown	Near Chipping Lawn	Internal gate
7	G1	Waller Gate	Northern extent of the park, onto Stanley common, east of Burnslack Brook clough
Not shown	G5	Chipping Bridge area	
Not shown	G6	Just west of Burnslack Brook, across the clough from Waller Gate (G1)	'the parke yate in wyndle hey' (unknown place-name)

Table 5: Correspondence of gates shown on the maps of Leagram park by Moore (1603-1608 - Figure 36) and Kenyon (1608 - Figure 3).

## Annex 4 – Summary of field survey data

Table 6 below is a summary of all topographical features reviewed on a 200 m stretch of pale from the predicted location of each salter from Kenyon's map, projected onto the nearest part of the true pale (as judged by a survey undertaken as part of this study, and local knowledge). Plainly modern features such as ditching were also reviewed but are not shown in the Table.

Salter Id. on Kenyon/OS overlay	Predicted BNG	Feature No. at Salter Id	Feature BNG#	Feature Distance From Predicted BNG (m)*	Date Surveyed	Classification As A Salter	Notes
<b>S1</b>	3629744530	#1	3630244531	55	23/09/13	Probable	At boundary (prob. pale) offset c. 6 m in length, a drop of 1.45 m downhill into a slight hollow within park pasture
<b>S2</b>	3633244517	Nil		-	07/09/13	(No features)	Predicted salter location in bracken on fenced steep slope; closest access 6 m; pale 50 m from S2
<b>S3</b>	3635544489	#2	3636444488	100		Probable	On pale at boundary of wood in park, 2 m drop into a hollow with 7 m long ditch at bottom; very shallow hollow approaching site across formerly ploughed pasture
		#3	3636344493	100		Unlikely	Prob. drainage scour
		#4	3636244494	90		Unlikely	Platform just within wood at pale boundary; ditch circumvents into wood; scattered stones; boundary deviation shown on 1834 Greystonley estate map (LA DDX 862/3); probably site of a building
<b>S4</b>	3637444445	#2	3637944448	60	10/10/13	Probable	On pale boundary into wood within park, above brook; sheer cliff into brook, 10.7 m W from pale at salter. C. 2 m drop from pale down a slope to level area; length of feature along pale c. 11 m
<b>S5</b>	3640244408	#1	3639944415	80	10/10/13	Probable	Probably natural hollow into park pasture, c. 12 m in length from a track and wall overlying the former pale; drop of 1.95 m into pasture
<b>S6</b>	3643444284 (3647044308)	#2	3640144263	390	26/11/13 (11/12/13)	Unlikely (No evidence)	4 m S of bank
					26/11/13	Unlikely	027 offset – large sunken area S of pale – pale largely linear, offset is more modern wire fence avoiding hollow

Salters (deer-leaps) in Leagram deer-park, 1608

Salter Id. on Kenyon/OS overlay	Predicted BNG	Feature No. at Salter Id	Feature BNG#	Feature Distance From Predicted BNG (m)*	Date Surveyed	Classification As A Salter	Notes
		#3	3642244276	135+	26/11/13	Possible	0.75 m high bank at a possible pale offset close to holloway heading to Greenlands farm, having crossed the Loud river; eroded area
		#4	3643844289	70	26/11/13	No evidence	029 offset – wood border; drainage and erosion;
<b>S7</b>	3636544239 (3641444270)				11/12/13 (12/11/13)	No evidence (Unlikely)	Beneath Gibbon Bridge hotel service car park. S705 in brackets – 6.3 m from bank, within a drainage ditch
<b>S8</b>	3634544222 (3638544249)				12/11/13 11/12/13	No evidence (No evidence)	Much erosion and drainage work; indistinct bank, deep ditch. S805 in brackets.
		#2	3633644214	115	12/11/13	Unlikely	Broad hollow (32 m) on field surface within park, away from indistinct bank, much erosion and drainage work
<b>S9</b>	3632244203 (3634844220)				12/11/13	No evidence (No evidence)	S905 in brackets
		#2	3632044200	30	12/11/13	Possible	Shallow offset in treeline on assumed bank, 22 m W of S9, slope up to site from Loud; enclosure hedge down to Loud; no evidence of hollow park side; eroded and drainage work; stones on ground
<b>S10</b>	3625744320						
		#2	3625744318	20	22/09/13	Probable	High point on bank 14 m from change in fence alignment (shown on Kenyon's map), with slight ramp, 1.1 m drop into ditch with evidence of retaining wall; recently ploughed field within park
		#3	3625644318	10	22/09/13	Possible	Close to S10#2; 1.25 m drop from pale into a ditch within park; close to a fence border so could be caused by stock
<b>S11</b>	3623644334				22/09/13	No evidence	Built-up area; private garden
<b>S12</b>	3622044349						
		#2	3622144347	20	06/08/13	Unlikely	Extended sunken area in pale ditch, close to waterboard gate and ground-works
		#3	3622144346	30		Unlikely	Extended sunken area in pale ditch, ?drainage hollow

Salter Id. on Kenyon/OS overlay	Predicted BNG	Feature No. at Salter Id	Feature BNG#	Feature Distance From Predicted BNG (m)*	Date Surveyed	Classification As A Salter	Notes
		#4	3622244346	40		Possible	Drop into a ditch containing stones from a high prob. pale bank surmounted by holly tree; close to waterworks gate and associated ground-works;
<b>S13</b>	3620744363	#1	3620744363	0	29/07/13	Possible	Modern gate and stones over a historical ditch and bank, directly on Kenyon's pale and at S13 predicted location, but not considered to be on the true park pale
		#2	3621544359	95		Unlikely	Lower bank and extended holloway, probably due to hoof-fall; hurdle between two trees; on ditch and bank to Leagram Hall environs, not on the probable pale; probable stock route
		#3	3621044361	40		Unlikely	Lower eroded bank with evidence of recent hoof-fall; recently fenced; on ditch and bank to Leagram Hall environs, not on the probable pale; probable stock route
<b>S14</b>	3619944375	#1	3619544370	65	25/07/13	Possible	At a bend on pale (evident on Kenyon's map, but not coincident with this precise location) with hollow extending N along the pale ditch and steep incline up to the bank
		#2	3620444376 to 3620344377	45-65	29/07/13	Unlikely	Two parallel slight banks with 14 m linear ditch connecting at 90 deg. (ditch BNGs shown); site is close to route of Kenyon's pale across a pasture, but some distance from modern interpretation of pale location;
<b>S15</b>	3618944484	#2	3619244477	70	15/10/13	Unlikely	High point on bank 68 m from S15, drop into park pasture (no ditch evident) 0.75 m; discussion whether possible or unlikely; modern ground-works and double fence at these locations
		#3	3619244479	70	15/10/13	Unlikely	Hollow in park pasture 16.5 m N of #2, similar drop

Salters (deer-leaps) in Leagram deer-park, 1608

Salter Id. on Kenyon/OS overlay	Predicted BNG	Feature No. at Salter Id	Feature BNG#	Feature Distance From Predicted BNG (m)*	Date Surveyed	Classification As A Salter	Notes
		#4	3619344481	50	15/10/13	Unlikely	Gate in a slight holloway/hollow approaching gate from outside pale;
<b>S16</b>	3621744531	#1	3622244527	65	30/09/13	Probable	Hollow on slope of Salter Hill below indistinct pale (erosion/dense rushes); pale location implied from alignment to pale ditch at offset 200 m SW, and from mapping; hollow facing into park

# Recreational GPS stated accuracy 3-5 m, but absolute accuracy presumed to be 10 m<sup>280</sup> and GPS reading rounded down to eight figures.

\* Rounded to the nearest 5 m.

+ Outside ±100 m survey area but considered to be a 'possible' salter location

The BNG references in brackets are of alternative locations of salters S6-S9 determined using overlay 5 that assumes Kenyon's shown location of Bailey Hippings was correct and the southern border of the park to the east was surveyed incorrectly by him (see Annex 1 and Figure 24).

Table 6: Topographical features reviewed and classified ±100 m from the predicted location of each salter taken from Kenyon's map, projected onto the nearest part of the true pale.

<sup>280</sup> Ainsworth, *Where On Earth Are We*, pp. 9-11.

