

1

Mapping a changing landscape: Breckland c.1750–1920

Jon Gregory and Sarah Spooner

School of History, University of East Anglia, Norwich NR4 7TJ

Summary

The landscape of Breckland was transformed in the course of the eighteenth and nineteenth centuries through a series of overlapping processes directed by the large estates which came to dominate the area. These changes included the enclosure and attempted reclamation of heathland, the expansion of gardens and parks around country houses, the closure and diversion of roads and, most notably in terms of visual impact, tree-planting on a widespread scale. This paper discusses an ongoing project to map landscape change in the area in the post-medieval period, drawing on a range of contemporary sources and utilising the capabilities of GIS (Geographic Information Systems) software in order to build a clearer picture of the evolving post-medieval landscape.

Introduction

Changes in Breckland during the twentieth century have to some extent obscured and overshadowed earlier landscape developments in the area, but these can be seen to have been strongly influenced by preceding activity, both in terms of the appearance and use of the landscape, and in the way it was perceived and valued. The initial focus of the mapping and research summarised here was the area covered by the *Breaking New Ground* project, encompassing an area of 231 square kilometres in the centre of Breckland (Fig. 1). For some maps this was subsequently extended to Natural England's *Brecks National Character Area*. The maps draw on work directed by the authors with contributions from a wider team of students and volunteers. Maps were produced to cover a range of themes relevant to the development of the post-medieval Breckland landscape, with three discussed below: the impact of tree planting; the distribution of extraction pits and the changing network of rights of way.¹ Taken together, these maps help to illustrate various ways in which the actions of landowners contributed to the reshaping of the Breckland landscape from c.1750 onwards.

Perceptions of the Breckland landscape in the eighteenth and nineteenth centuries, as recorded by contemporary authors, are characterised by two main features: firstly, that they tended to represent the views of those who came to the area as 'outsiders'; and secondly, that they presented an almost uniformly negative impression.² Breckland did not conform to the preconceived notions of what was acceptable and admirable in terms of rural landscapes. The lack of cultivated land and extent of surviving heathland commons and warrens perplexed and frustrated authors of agricultural reports.³ Meanwhile, for those interested in the aesthetic qualities of landscape

¹ Other maps not discussed in detail here cover parliamentary enclosure, parks and gardens, eighteenth-century heathland, the growth of landed estates and land use as recorded on tithe award maps. Some features, such as warrens and pine lines, were not mapped as these have been dealt with in detail by other projects.

² Gregory, 2008

³ Young, 1804, p.385.



Breckland offered little that conformed to preconceived notions of what was beautiful or picturesque. The qualities which were to be celebrated by later authors – the openness of the landscape, the heathland flora and fauna, the apparent lack of human activity – were viewed as failings to be corrected. Contemporary authors sought to emphasise the lack of cultivation, the monotony of heathland and the ‘otherness’ of the landscape, which seemed alien and out of place in the English landscape, as William Gilpin remarked in 1769: “It was a little surprising to find such a piece of absolute desert almost in the heart of England. To us it was a novel idea. We had not even heard of it.”⁴ Such views no doubt influenced the activities of eighteenth- and nineteenth-century landowners who, inspired by a combination of motives which can be grouped together under the heading of ‘improvement’, embarked on ambitious, if not financially prudent, schemes to reclaim and cultivate heathland, to plant trees and to reshape the landscape of Breckland in ways that did not always prove to be either financially prudent or sustainable in the long term.

Figure 1.
Breckland Area Map.



Mapping the Breckland Landscape

Trees and Plantations

Numerous examples can be found of landowners undertaking extensive campaigns of tree planting in the eighteenth and nineteenth centuries, particularly on large landed estates in heathland and moorland regions and often in conjunction with wider projects of enclosure and reclamation.⁵ Contemporary agricultural texts extolled the virtues of planting as a means of turning marginal land to more productive use where other agricultural activities were not feasible.⁶ However, as several historians have noted, the act of planting trees was imbued with various overlapping meanings. In addition to the economic value of the timber, planting also emphasised ownership, expressed confidence in the security and longevity of the estate, brought about aesthetic improvements, provided shelter (for farmland and for game) and expressed



Figure 2.
Plantations on 1880s
OS.

⁵ Williamson, 2002, p.76.

⁶ Hitt, 1760.



patriotism through adding to the national stock of timber.⁷ This combination of the practical and the symbolic made tree planting a very attractive investment for the improving landowner. Yet by the early nineteenth century planting had made relatively little progress in Breckland. There were some notable exceptions, chief among which was the spectacular double-belt which had been established around the entire parish of West Tofts in the early 1770s.⁸ Other concentrations of planting were similarly located in and around the parks which formed the core of the dominant landed estates. This can be seen on the draft Ordnance Survey drawings of the early nineteenth century around Weeting, Merton, Buckenham Tofts and Riddlesworth in Norfolk and at Elveden, Euston, Livermere and Culford in Suffolk.⁹

Figure 3.
Plantations 1820-1880
comparison



By the time the Ordnance Survey produced the first detailed large-scale maps of Norfolk and Suffolk in the 1880s, the scale of the transformation is immediately clear. On every estate both the size and number of plantations had increased (Fig. 2). These generally took the form of either compact geometric blocks or long belts and strips, but within these two general distinctions considerable variations existed in the size, shape and composition of the planting. The first edition 6-inch and 25-inch to the mile maps of the area show the results of a concerted effort to increase the number and extent of plantations on the part of landowners, with the pace of planting increasing rapidly from the 1820s onwards. There are various factors which can be identified as having influenced this chronology. Firstly, there was clearly a relationship with enclosure and land reclamation. At a fundamental level, enclosing heathland and removing common rights made the planting of trees a more straightforward process, and in the context of Breckland created a practical need for shelter belts. However, in some instances the increase of planting around the middle of the nineteenth century could be read in part as an acknowledgement of the failure of some of the more ambitious schemes of heathland reclamation taking place in the late eighteenth and early nineteenth centuries. Tree planting was an attractive alternative where agricultural improvement

7 Daniels, 1998.

8 Norfolk Record Office (NRO) WLS LXI/2/23 430x5

9 British Library, Ordnance Survey Drawings, sheet numbers 237; 238; 291, 1813-35.

could not be sustained. A second important factor was the ever-increasing importance of game management and shooting on Breckland estates through the nineteenth century.¹⁰ The unusual planting arrangements at some parks, such as those around Brandon and Downham Halls, can be attributed to the significance attached to game management at this time, which seems to have had a stronger influence on designs than fashionable aesthetic considerations.

As Fig. 3 shows, by the late nineteenth century plantations had spread across Breckland, though much of the landscape remained open or relatively sparsely planted. The major landscape parks can be picked out clearly by their encircling belts and large blocks of planting. Beyond these, the impact of estates on the wider landscape can be seen in the array of smaller, often linear, plantations providing shelter for game and for farmland, such as those around Kilverstone and Icklingham (Fig. 4). At first glance it might be assumed that the development of Forestry Commission plantations in the 1920s and 1930s obliterated the earlier pattern of plantations in Breckland, but closer examination of the landscape reveals this was not the case. While the plantations themselves did not necessarily survive, their shapes and boundaries can usually be clearly discerned when comparing nineteenth-century maps with more recent maps and aerial photographs.¹¹ The establishment of forestry plantations in the twentieth century went far beyond anything that nineteenth-century landowners had been able to achieve, or even to envisage, but the earlier phase of planting discussed here was significant in its own right, and continued to exert some influence on the structure of the later landscape.

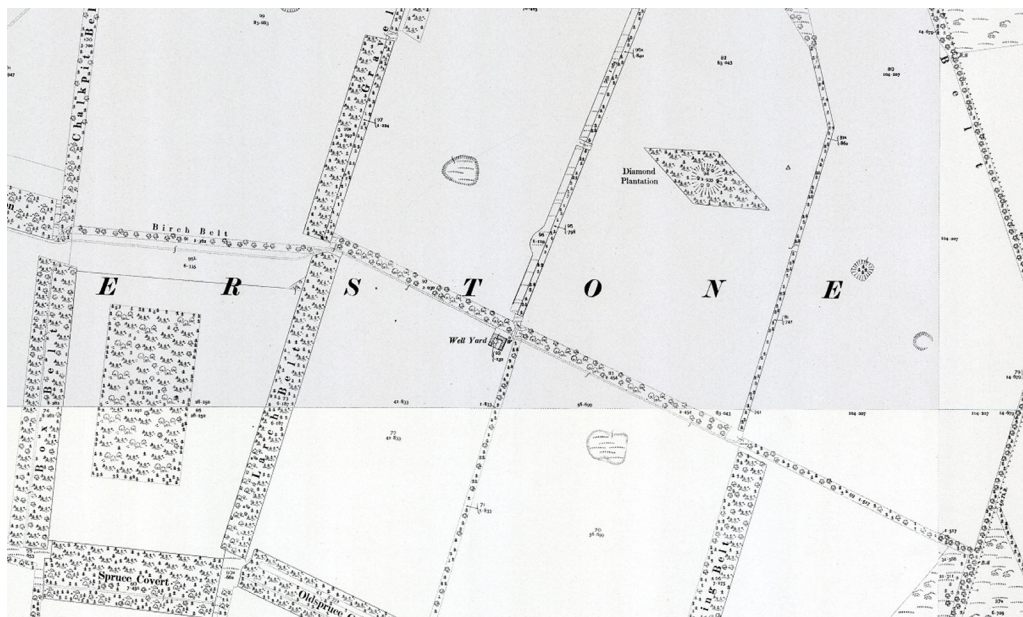


Figure 4.
Kilverstone detail

Extraction Pits

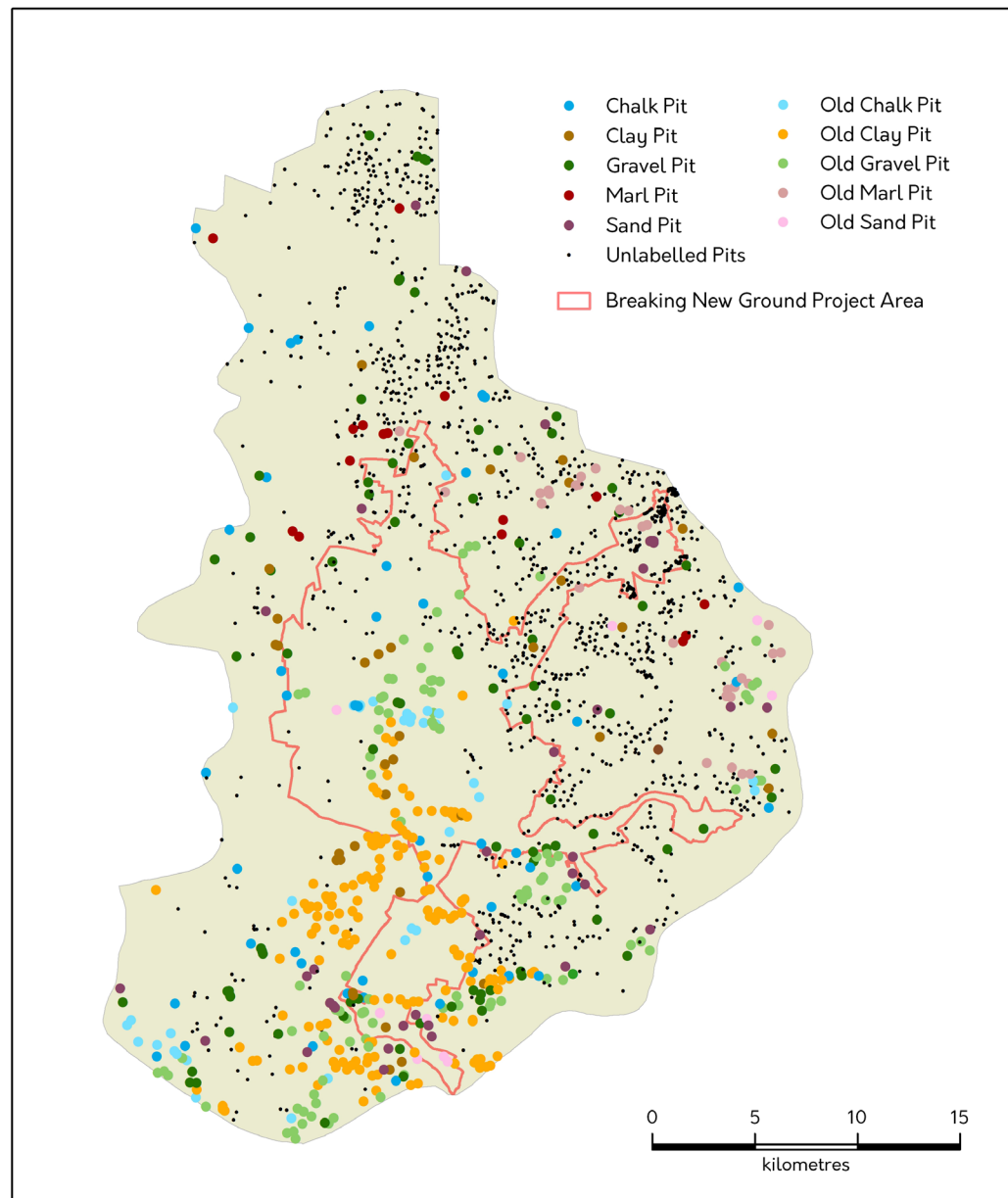
Pits, ponds and hollows of various types and sizes can be found across Breckland. In some areas they occur in almost every field, as can be clearly seen on the large-scale Ordnance Survey maps of the late nineteenth century. For this project these were mapped from the first edition 6-inch OS maps, initially within the *Breaking New Ground* project boundary and then subsequently throughout the Brecks National Character Area (Fig. 5). The Ordnance Survey distinguished between dry pits, which were shown with hachures, and water-filled pits and ponds, which were depicted with

¹⁰ Williamson, 2013.

¹¹ Skipper and Williamson, 1998, p. 37.



Figure 5.
All pits.



a solid line. Only the former were included in the maps discussed here. Extraction pits are a common feature across East Anglia and were dug for various reasons – to obtain sand or gravel for building and road repairs, clay for bricks and, as was the case for many of the Breckland pits, chalk and marl for agricultural improvement.¹² The importance of marl – a term covering various compositions of calcareous clay – was emphasised by contemporary agricultural writers and has since been restated by historians studying improvements in post-medieval farming.¹³ Marling played a key role in the reclamation and cultivation of heathland in East Anglia, neutralising the acidity of the sandy soils and therefore allowing a wider range of arable crops to be grown. Contemporary leases, surveys and reports make it clear that vast quantities of marl were dug and spread on the land in the eighteenth and nineteenth centuries as former areas of heathland were enclosed and farmed. Applications of 30–50 loads per acre were typical, but in some cases this rose to 100 loads. When Arthur Young

¹² Skipper and Williamson, 1998, p. 37.

¹³ Mathew, 1993; Williamson, 2002, p.67.

MAPPING A CHANGING LANDSCAPE

visited the Wretham Hall estate in the 1790s he recorded that each “load” included 35 cubic feet of material.¹⁴ A late eighteenth-century map of the parishes of Stanford/Sturston provides an insight into the importance which estates attached to finding suitable materials for improving their land in this period. The map is covered in detailed annotations which record the depth of sample holes which were dug and notes on the quality of the material found, for example “Good chalk at 6ft”.¹⁵

In the first phase of mapping a total of 1845 pits were mapped from the first edition Ordnance Survey 6-inch maps. Where pits were labelled this information was recorded, resulting in 17 separate categories. The majority of pits (69%) are illustrated on the 1880s maps but are not labelled. For the 566 pits that were labelled, surveyors distinguished between “old” disused pits and those apparently still in use, or only recently abandoned. The instructions issued to Ordnance Survey field examiners help to shed some light on the different ways in which pits were recorded. Only “large” pits were to be labelled, although no clear definition of size was provided. Where the slopes of pits had become “old and grass-grown from disuse” then they were to be marked as old on the map. A large number of pits in Breckland were therefore considered to be too small to warrant a label.¹⁶ Based on their relatively small size and their position in the middle of fields it can be assumed that most of the unlabelled pits were marl pits, dug and used in the eighteenth and nineteenth centuries as the former heaths were being enclosed and converted to arable use. The more detailed 25-inch map series illustrates the close attention that was paid to these features, with hachures used to carefully delineate the slopes of the pit (Fig. 6). The most commonly occurring labels in Breckland were for clay, sand and chalk pits, as summarised in the table below. Of these, “Old Clay Pit” occurred most frequently, accounting for 167 pits (9% of the total number mapped).

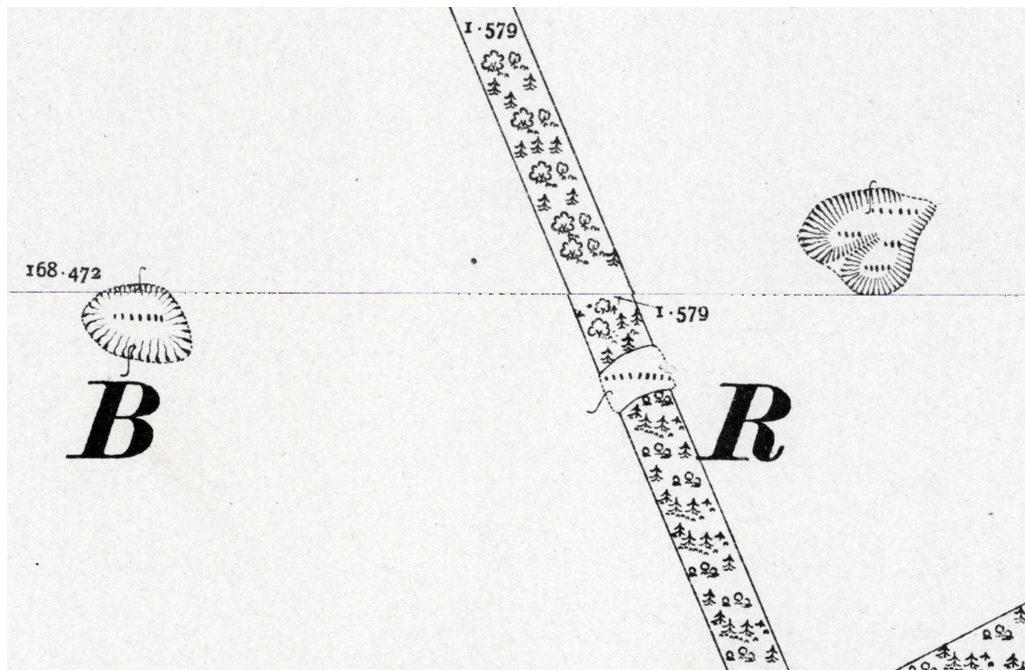


Figure 6.
Pits detail from 25in
OS.

¹⁴ Young, 1793, pp.476–7.

¹⁵ NRO WLS LX/1, 429X7.

¹⁶ Johnston, 1905, pp.21–2.



Table 1
Pits recorded within Brecks NCA boundary. Many of the smaller unlabelled pits were marl pits.

OS Map Label	Total Number	Percentage of all pits
No Label	1282	69.5
Old Clay Pit	167	9.1
Old Gravel Pit	97	5.3
Gravel Pit	84	4.6
Chalk Pit	50	2.7
Sand Pit	37	2.0
Clay Pit	35	1.9
Old Chalk Pit	35	1.9
Old Marl Pit	31	1.7
Marl Pit	16	0.9
Old Sand Pit	9	0.8
Lime Pit	1	0.1
Brick Pit	1	0.1

When looking at the distribution of all pits it can be seen that they occur in greater numbers around the eastern fringe of the area, a distribution which becomes more marked when only unlabelled pits are mapped. The overall distribution of pits was influenced by a number of factors, most obviously by the availability and accessibility of different materials as dictated by the underlying geology and variations in the depth and composition of Breckland soils. Pits are notably absent from those parts where the sands are deepest, and where enclosure and reclamation had little or no impact. Other factors which affected more localised patterns included the extent to which estates were pursuing agricultural improvement on their tenanted farms. Significant concentrations of pits can thus be seen around estates at Merton, East Wretham, Elveden and the chain of estates to the east of Thetford between the Rivers Thet and Ouse. Sand and gravel pits tended to be larger (and therefore were labelled by the Ordnance Survey) and typically found close to settlements or alongside roads. They occur across the area with a particular concentration in the Lark valley. By the time the OS surveyed these maps the practice of marling was continuing in some places, but declining overall in importance. This is reflected in the fact that 31 of the 47 labelled marl pits mapped here were considered to be “old”. The development of alternative methods of soil improvement, the abandonment of agricultural land during the slump of the late nineteenth century and the inconvenience that pits posed as machinery was increasingly adopted, all contributed to this decline. Prince found that there was very little evidence of the practice continuing after the First World War.¹⁷

¹⁷ Prince, 1962.

Public Rights of Way in Breckland

Modern ‘definitive maps’ of rights of way in Norfolk and Suffolk show a dense network of public rights of way on the clayland belt stretching through both counties – this area of ‘ancient countryside’ has a much higher proportion of public footpaths than the ‘planned countryside’ of the north and west. Breckland, in contrast, has the lowest density of rights of way in East Anglia. (Fig. 7) The current distribution of these was shaped to some extent by landscape change in the eighteenth and nineteenth centuries and through the impact of parliamentary enclosure and wider schemes of agricultural improvement. It also demonstrates the power of the large landed estates that built up within Breckland – the owners of these estates were often keen to divert or remove public roads and paths, particularly in the immediate vicinity of their mansions, parks and plantations.¹⁸

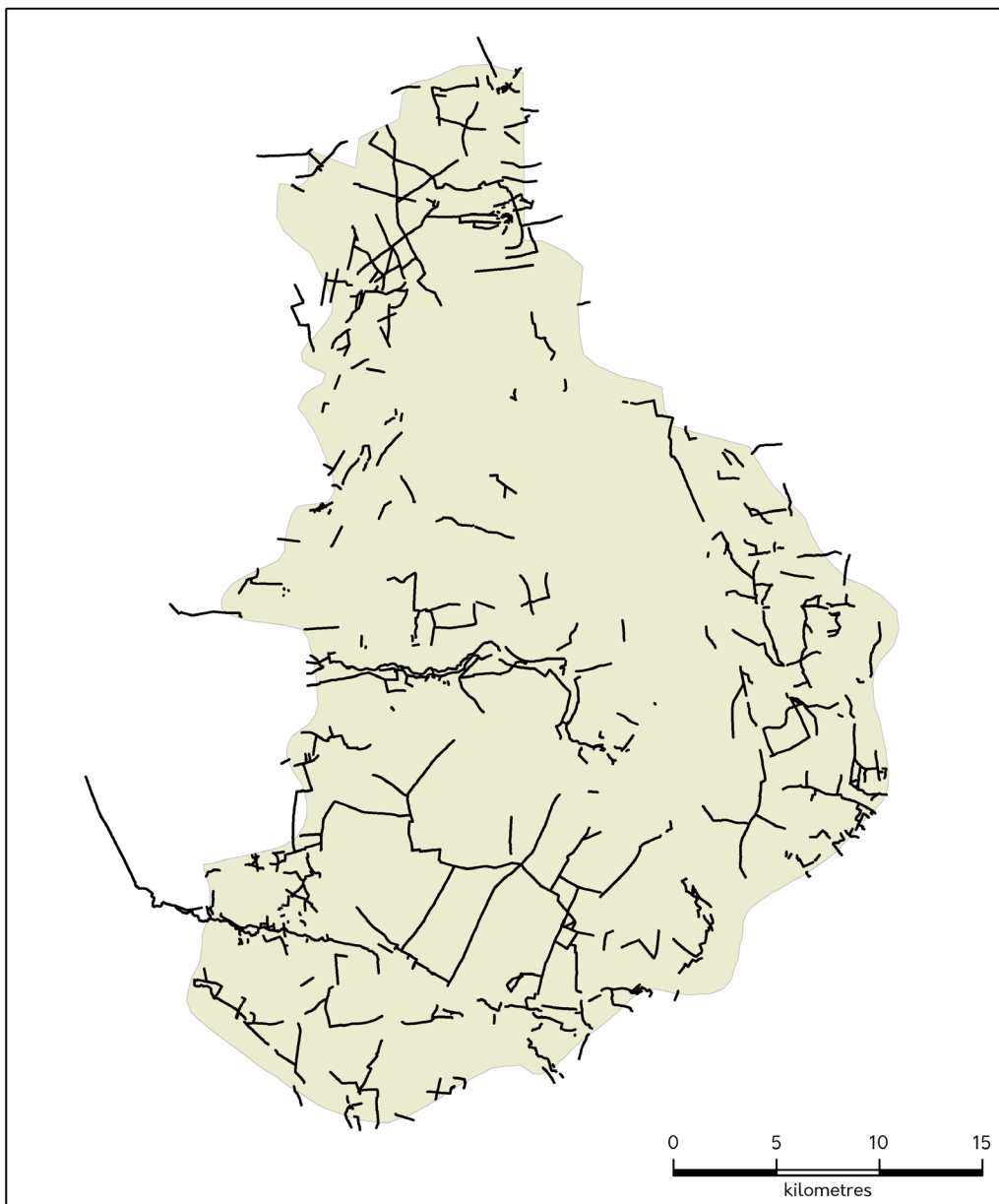
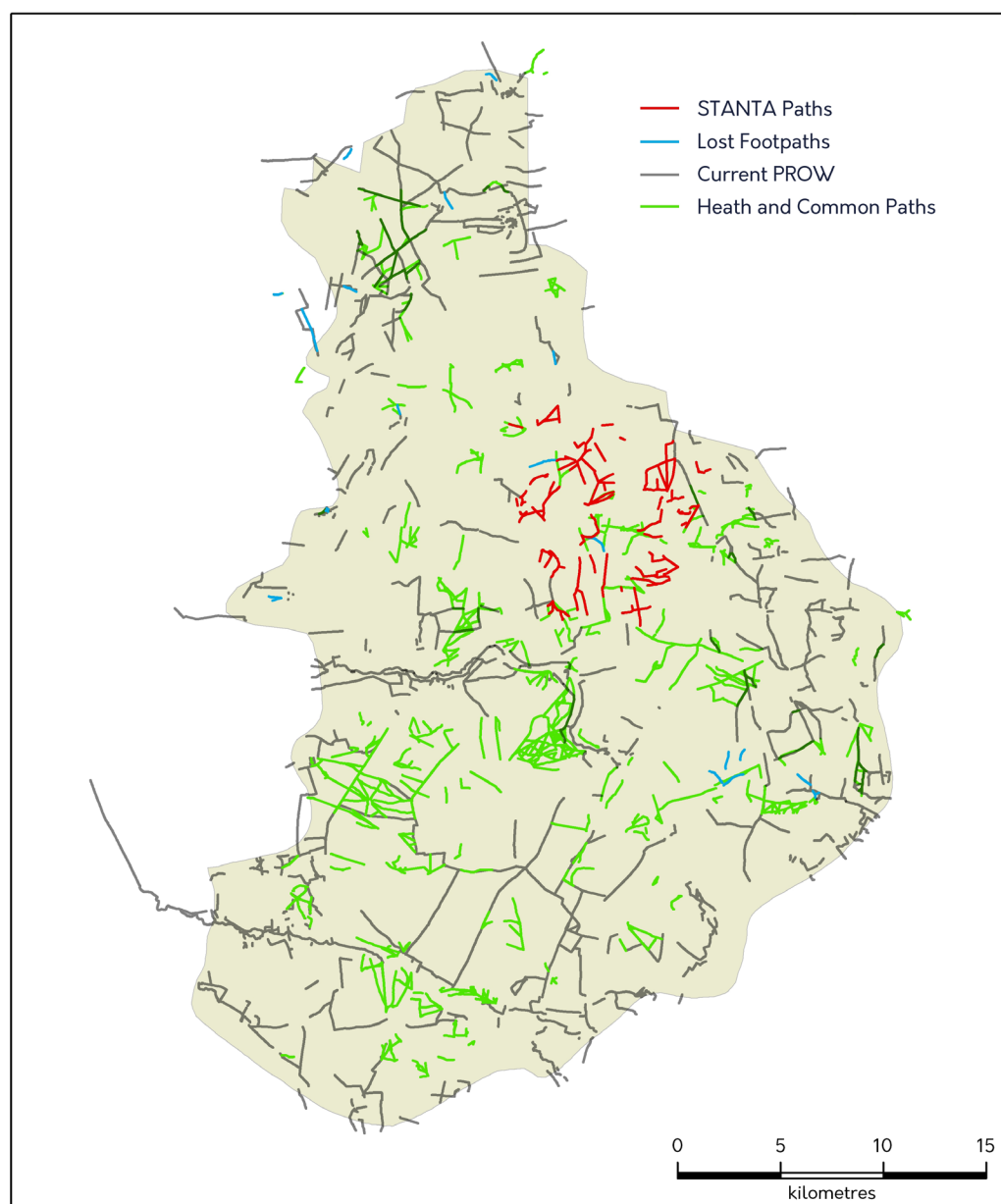


Figure 7
All Prow.

¹⁸ Breen, 2017.



Figure 8
Paths



Before 1800 the landscape of the Brecks was much more accessible than it is today, but over the course of the century the network of rights of way was gradually eroded by the actions of improving landowners. Fig. 8 shows the unenclosed tracks across the heaths and warrens that lasted into the 1880s. Although a handful of these survive as modern public rights of way, the majority have disappeared from the landscape. It is important to emphasise that many of these unenclosed tracks were not routinely marked as public rights of way by the OS surveyors. Some of them may have been private tracks, particularly perhaps those within the warrens, but the disposition of others, running across areas of rough grazing and open heathland, imply a right of access by the public, particularly where the tracks link together two public roads. The tracks across Bromehill Heath, near Weeting (Fig. 9), are typical – a series of overlapping, braided tracks criss-crossing the heath. The tracks are not shown on the Tithe Map of the 1840s, where the heath is shown as empty space, so this network of trackways is difficult to date – some are shown schematically on Faden’s map of 1797.¹⁹

¹⁹ NRO DE/TA 36.

MAPPING A CHANGING LANDSCAPE

Weeting with Bromehill was enclosed in 1774,²⁰ but the appearance and braiding of the tracks suggest that they may pre-date the enclosure. Only one of these routes survives as a restricted byway (and as a modern forestry track); the rest have disappeared under forestry plantations and are not public rights of way.

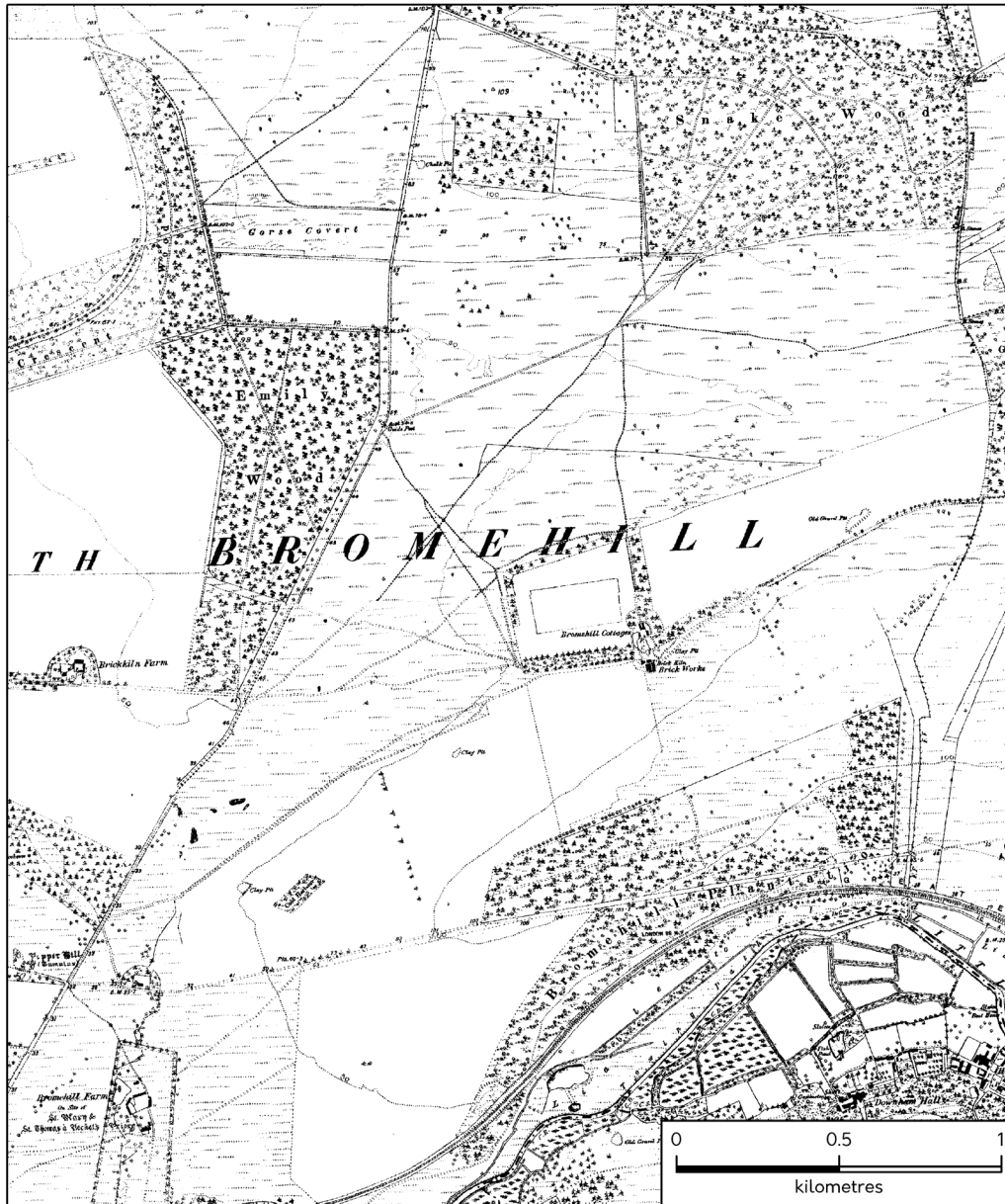


Figure 9
Bromehill

As efforts to improve Breckland were abandoned and estates went into decline during the later nineteenth and early twentieth centuries, the landscape was put to new uses which further eroded the rights of way network. The creation in the Second World War of the Stanford Battle Training Area in Breckland represented a significant loss to the public rights of way network, and one that happened almost in a single stroke. Sturston, which lies at the centre of the Battle Area, is now the only parish in Norfolk which is now completely inaccessible to the public, with no public roads, footpaths or any other rights of way. In all, just over 57 kilometres of road and 73 kilometres of paths and tracks were closed to the public – 130 kilometres in total. In addition, a similar

²⁰ NRO DE/TA 36.



number of private tracks and paths, many running through estate plantations, were also taken over by the military. These closures were made permanent in 1950.²¹

The issue of accurately defining public rights of way had become increasingly important during the interwar years when the political issue of countryside access was under constant scrutiny. The later National Parks and Access to the Countryside Act of 1949 included provision for the creation of a 'definitive' map of public rights of way by local authorities.²² The 'definitive map' was completed in Norfolk and Suffolk during the late 1950s and early 1960s. Returns were completed by parish councils, and the information then fed back to the county councils for inclusion on the map. This process inevitably led to some variation in the results fed back to the local authority. In Merton there was no parish council, so the landowner, Lord Walsingham, took on the responsibility of the survey himself – two restricted byways run through the area of the park at Merton Hall, although many of the older footpaths and rights of way within the parish had already been removed or diverted through the actions of Lord Walsingham's predecessors in the late eighteenth century.²³ A comparison of the modern definitive map with the Ordnance Survey 6-inch sheets of the 1880s demonstrates that the number of 'lost' footpaths in Breckland is relatively few, mirroring patterns elsewhere in the region. Fig. 7 shows footpaths which were marked "F.P." (footpath) in the 1880s, but which are not included as footpaths on the modern definitive map. There are a total of 81 such footpaths (51 in Suffolk and 30 in Norfolk). Some of these paths have been diverted, and a modern footpath runs close to, or along part of their length. Others have been removed legally – closed during the late nineteenth or early twentieth centuries, whereas others have quietly disappeared from the landscape, some through lack of use and some through omission from the definitive map. Taken together with the trackways across the heaths and warrens (if a public right of access can be assumed in many of those instances), this suggests that the ability of the public to access much of the Breckland landscape contracted dramatically in the period after 1880.

Conclusion

The mapping this project discusses is very much a work in progress. In each case there is additional material and detail that can be added to the features already mapped, and the potential to extend the mapping to compare different periods and areas. In the context of Breckland, this project shows the benefits of mapping features as a way of identifying distributions which in turn shed light on the varied progress and impact of landscape change during a period when many parts of the area were being reshaped under the direction of landed estates. Mapping such features using GIS allows different features to be layered and compared, to identify the links between the various processes which shaped and left their mark on the Breckland landscape. For each of the themes above there are further research avenues that could be profitably explored. The plantations and woodland mapped from the 1880s OS maps provide a basis for further comparison with different periods, using earlier maps to chart the spread of planting through the nineteenth century, and later maps to examine in more detail the impact which pre-existing plantations had on the layout of subsequent layout of Forestry Commission plantations. Current work is focusing on adding additional detail to the 1880s maps, recording names of plantations and information on the balance between broadleaved and coniferous species. Similar work can be done on the extraction pits layer, comparing the dataset with earlier and later maps, and drawing links with archival references to the use of marl and other materials. Mapping

²¹ NRO DC9/1/38.

²² National Parks and Access to the Countryside Act (NPACA) 1949, section 31; The National Archives (TNA) NA AT 26/8.

²³ NRO DC9/1/38; Gregory, 2008.

the landscape history and development of the rights of way network provides a means of exploring the impact which wider landscape developments, such as enclosure, had on the local experience of landscape at a human level, changing patterns of access and directly affecting the way in which the landscape was experienced.

Bibliography

- Breen, T. 'Public or Private? An Analysis of the Legal Status of Rights of Way in Norfolk' in *Landscapes*, vol. 18, no. 1 (2017), pp.55–70.
- Daniels, S. 'The Political Iconography of Woodland in later Georgian England' in Cosgrove, D. & Daniels, S. *The Iconography of Landscape* (Cambridge University Press, 1998).
- Gilpin, W. *Observations of Several Parts of the Counties of Cambridge, Norfolk, Suffolk and Essex* (1809).
- Gregory, J. *Marginal Environments and the Idea of Improvement: transforming heathland and moorland landscapes 1650–1850*, Unpublished PhD thesis, University of East Anglia (2008).
- Hitt, T. *A Treatise of Husbandry on the Improvement of Dry and Barren Lands* (1760).
- Johnston, D.A. *Instructions to Field Examiners* (Ordnance Survey, 1905).
- Mathew, W. 'Marling in British Agriculture: A Case of Partial Identity' in *Agricultural History Review*, vol. 41, (1993), pp.97–110.
- Mayfield, B. 'Access to the Countryside: the tragedy of the house of commons' in *Legal Studies*, vol. 37, no. 2, (2017), pp.343–362.
- O'Leary, D.O. 'Military Training' in *Stanford Battle Area* (1979).
- Prince, H.C. 'Pits and Ponds in Norfolk' in *Erdkunde*, vol.16 (1962), pp.10–31.
- Skipper, K. and Williamson, T. *Thetford Forest: Making a Landscape 1922–1997* (Centre of East Anglian Studies, 1998).
- Williamson, T. *The Transformation of Rural England: Farming and the Landscape 1700–1870* (University of Exeter Press, 2002).
- Williamson, T. *An Environmental History of Wildlife in England 1650–1950* (Bloomsbury, 2013).
- Young, A. 'A Week in Norfolk' in *Annals of Agriculture*, vol. 19 (1793), pp.441–499.
- Young, A. *General View of the Agriculture of the County of Norfolk* (1804).