

74

THE CROMER MORaine -

A STUDY OF ITS PROGRESSIVE RECLAMATION

ELIZABETH LANGTON

ProQuest Number: 10097240

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest 10097240

Published by ProQuest LLC(2016). Copyright of the Dissertation is held by the Author.

All rights reserved.

This work is protected against unauthorized copying under Title 17, United States Code.
Microform Edition © ProQuest LLC.

ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

ABSTRACT

The Cromer Moraine forms a distinctive geographical region near the coast of the northern part of the County of Norfolk. A pronounced characteristic of this region is the widespread cover of heathland, far less extensive than in former times. This heathland appears in its turn to have developed from an original woodland cover which was destroyed by the depredations of man and his domesticated animals .

It has been necessary first to delimit the region as accurately as possible and this has been accomplished by means of a detailed study of local topography and of well-sections.

The earliest evidence of the location of heathland comes from the Domesday Survey and this has been confirmed by references to heathland in various other documents down to 1750.

By the middle of the eighteenth century the new developments in agriculture, or 'Norfolk Husbandry' as it was called, became widely known and practised, resulting in this region in a greatly accelerated reclamation of heathland; so that by the time of the Tithe Survey (1838-42) less than a hundred years later over 4000 acres of heath had been reclaimed.

A most valuable milestone in the study of this progressive reclamation is provided by Faden's Map published in 1794.

Reclamation continued, though more slowly, through the nineteenth century till it came to a standstill with the onset of the agricultural depression in 1879, after which there was very little until the emergency

demands of the Second World War (1939/45) gave fresh impetus to reclamation.

Heathland has also been reclaimed for purposes other than agriculture - in the development of the urban centres of Cromer and Sheringham and the construction of golf courses.

More recently the public attitude towards reclamation has altered considerably, and the heath and woods of the Moraine are now carefully preserved for their value as scenic assets to the coastal resorts and tourist centres.

<u>CHAPTERS</u>	<u>Page</u>
1. THE CROMER MORaine	1
2. THE LOCATION OF HEATHLAND ON THE MORaine FROM 1086 - 1750	8
3. RECLAMATION OF THE HEATH	
PART I. 1750 - 1794	20
PART II. 1794 - 1842	36
4. RECLAMATION versus PRESERVATION SINCE 1842	49

APPENDICES

A. THE DELIMITATION OF THE CROMER MORaine	63
B. FLORA OF KELLING HEATH	68
C. FLORA OF BEESTON COMMON	70
REFERENCE LITERATURE	76

INDEX TO ILLUSTRATIONS

	<u>Page</u>
Fig. 1. Map of Cromer Moraine in relation to north-east Norfolk.	1
" 2. Sections from north to south across the Moraine:	1
A. In the east.	
B. In the centre.	
C. In the west.	
" 3. Diagram to show main features of north edge of Moraine.	2
" 4. Map to show the positions of the new villages.	8
" 5. Diagram showing distribution of meadow in 1086.	8
" 6. Diagram showing distribution of woodland in 1086.	9
" 7. Diagram showing distribution of (a) goats and (b) regions of sparse population in 1086.	10
" 8. Diagram showing distribution of (a) heath and (b) heath names from the Tithe Schedules 1838-42, plotted on the 6" scale and transferred to a scale of 2.1/2" to 1 mile.	11
" 9. Distribution of heath and wood in the parish of Mannington 1565.	15
" 10. Distribution of heath plotted on a scale 2.1/2" to 1 mile, based on evidence from W. Faden's map and the Tithe Schedules (a) To the east of Edgefield. (b) To the west of the River Glaven.	17
" 11. Map to show location of the occurrence of enclosures 1517-19.	19.
" 12. Diagram to show distribution of heathland, woodland and reclamation 1086-1750.	19.
" 13. Table of parish of Felbrigg 1771 (a) before enclosure. (b) after enclosure.	26.

	<u>Page.</u>
Fig. 14. Graphs of population in parish of Felbrigg 1770-1851 and parish of Kelling 1770-1851.	32
" 15. Graph of population of Sharrington 1780-1831.	33
" 16. Map of heath, commonland and woodland transferred from W. Faden's survey (1" to 1 mile) 1790-94 on scale 2.1/2" to 1 mile.	37
" 17. Land-use from Tithe Documents 1838-42 transferred to 2.1/2" to 1 mile maps.	37
" 18. Table for 24 parishes showing:	
(a) acreage	
(b) acreage of heath in 1794	
(c) acreage of heath in 1838-42	
(d) acreage reclaimed between 1794 and 1838-42	
(e) percentage reclaimed " " " "	38
" 19. Diagram to show major areas of heathland 1838-42.	38
" 20. Comparative maps of land-use from W. Faden's survey, 1794, and from the Tithe Maps 1838-42 in respect of:	
(a) reclamation on the summit and north slope	
(b) reclamation near Edgefield.	39
" 21. (c) reclamation in the south-west.	43
" 22.) Comparative diagrams to illustrate on a parish basis	
" 23.) value of rents per acre on the Moraine in 1815 and 1842.	48
" 24. Table to show the reduction of heathland by reclamation and land-use changes between 1838-42 and 1946-48.	52
" 25. Table to show the reclamation of heathland for 13 parishes of the summit and north slope by ploughing, planting and building between 1838-42 and 1946-48 as well as the heath that remains (1946-48).	52
" 26. Map of land-use constructed from Air Ministry photographs 1946-48 (6" to 1 mile approx.) and plotted on a scale of 2.1/2" to 1 mile.	53
" 27. Comparative diagrams of land-use from Tithe Schedules 1838-39 and Land Utilisation Survey Maps 1933 to illustrate reclamation of heath in Holt and Kelling parishes.	53

Fig. 28.	Table to illustrate progress of reclamation of Roughton Heath 1842-1948.	54
" 29.	Comparative diagrams to illustrate the reclamation of Roughton Heath 1839, 1889, 1907 and 1946-48.	54
" 30.	Comparative diagrams to illustrate the planting of woodland north of Felbrigg.	55
" 31.	Map to show location of two groups of settlements in the parishes of Kelling and Bodham.	55
" 32.	Comparative maps to show reclamation for building purposes in Sheringham, 1889 and 1907, and in Cromer, 1888 and 1907	56
" 33.	Diagram to show the position of the three North Norfolk Golf Courses in relation to built-up areas, heathland and permanent pasture (L.U.S. maps 1" to 1 mile 1933).	57
" 34.	Table to show the reclamation of heathland by ploughing and planting between 1838-42 and 1946-48 as well as the heath that remains in 1946-48, Edgefield and District	58
" 35.	- ditto - West of the Glaven	59
" 36.	Map to illustrate the reversion to heath in the parish of Hunworth between 1838-42 and 1946-48.	59
" 37.	Table to show absence of reclamation of heath between 1838-42 and 1946-48 in the district of the Upper Ant.	60
" 38.	Map to show positions of the wells whose sections have been discussed in delimiting land boundary of the Moraine.	63
" 39.	Well-section at West Beckham Institution.	63
" 40.	Well-sections at Melton Constable and Bale on the Moraine and at Thursford and Morston off the Moraine.	64
" 41.	Map to show the watershed between the Rivers Stiffkey and Bure.	65

Fig. 42.	Well-sections at Itteringham and Wolterton Park on the Moraine and at Blickling Park off the Moraine.	65
" 43.	Well-sections of Banningham on the Moraine and of Oxnead off the Moraine.	66
" 44.	Map showing watershed between: A. Rivers Bure and Blackwater Beck B. Blackwater Beck and River Ant north-west of North Walsham.	66
" 45.	Well-sections at Bacton on the Moraine and at East Ruston off the Moraine.	67
" 46.	Map to show contours of coastal district near Bacton.	67

CHAPTER 1.The Cromer Moraine.

The Cromer Moraine is a distinctive geographical region here delimited for the first time. To achieve this delimitation the writer combined a study of well-sections and local topography (see Appendix A).

The Moraine is formed by a ridge of glacial deposits which stretches 20 miles across north Norfolk from near Melton Constable in the west to Bacton in the east (Fig. 1) and forms part of a terminal moraine. This glacial material has been laid down on the Crag and Forest beds of the Pliocene age and these in turn overlay beds of chalk, which are however rarely seen above sea-level though exposed as a wave-cut platform at low tide.

The narrow coastal plain lying between the well-marked north face of the Moraine and the sea (Fig. 2) also consists of glacial material with some ridge deposits. This plain varies in width from about one mile at Sheringham to under half a mile at Overstrand, and averages about 100 feet above sea-level, though its surface is broken by isolated hills, such as Beeston Hill, and by deep valleys, as at Weybourne. There is very little surface drainage on this plain; only a few streams rise at the foot of the well-marked north face and flow north to the sea - as for instance Beeston Beck at Sheringham. The sea-cliffs which form the northern boundary of the plain are from 50 to 100 feet high but recede inland to the west of Weybourne where salt-marshes have developed at their foot.

MAP TO SHOW THE CROMER MORaine IN RELATION TO NORTH-EAST NORFOLK

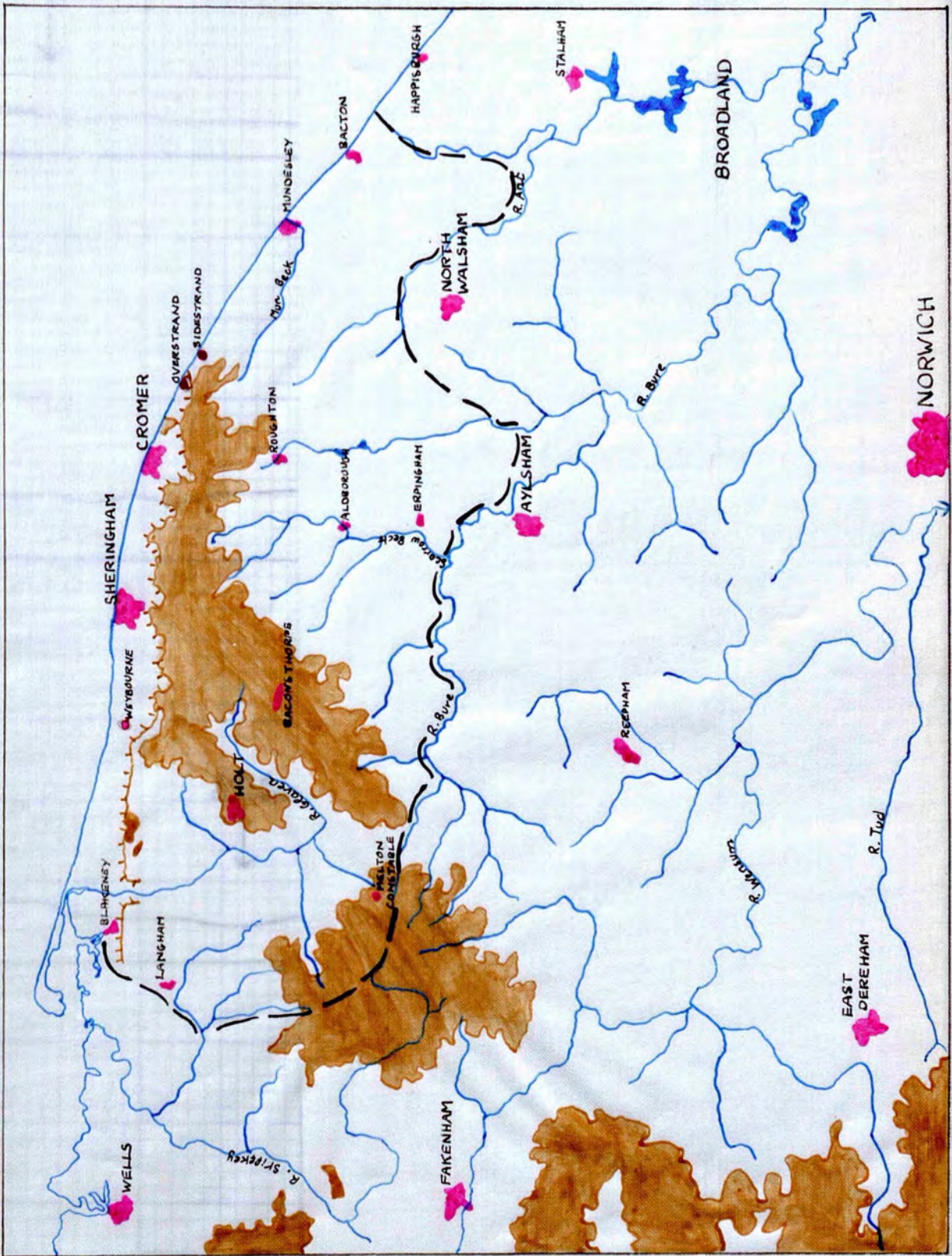
SCALE

1" REPRESENTS 4 MILES

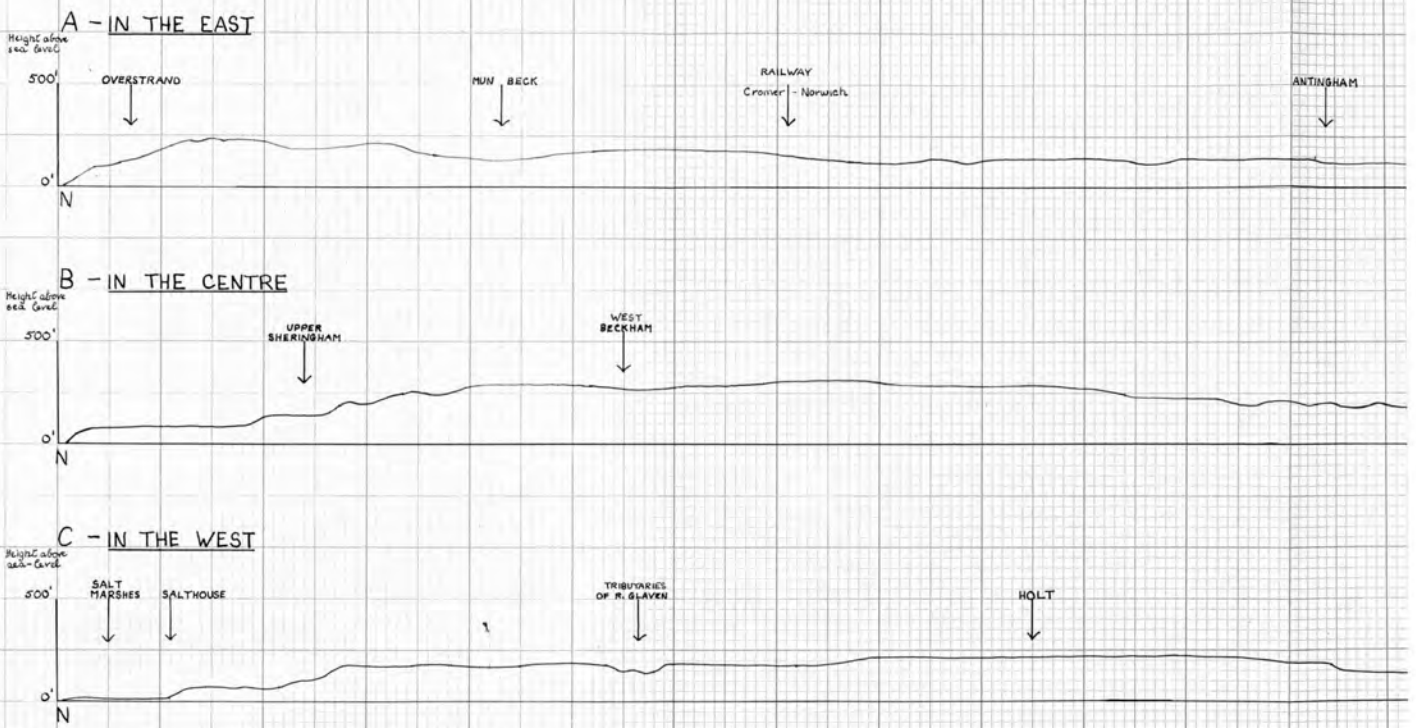
KEY

-  LAND OVER 200 FEET
-  BOUNDARY OF MORaine
-  NORTH FACE OF THE MORaine

FIGURE 1.



SECTIONS FROM NORTH TO SOUTH ACROSS THE MORAINE



SCALE

HORIZONTAL - 1:25,000
VERTICAL - 1 INCH REPRESENTS 500 FEET

DRAINE

TINGHAM



BOUNDARY
of
moraine



S

LITTLE
BARNINGHAM



RIVER
BURE
Boundary
of moraine



S

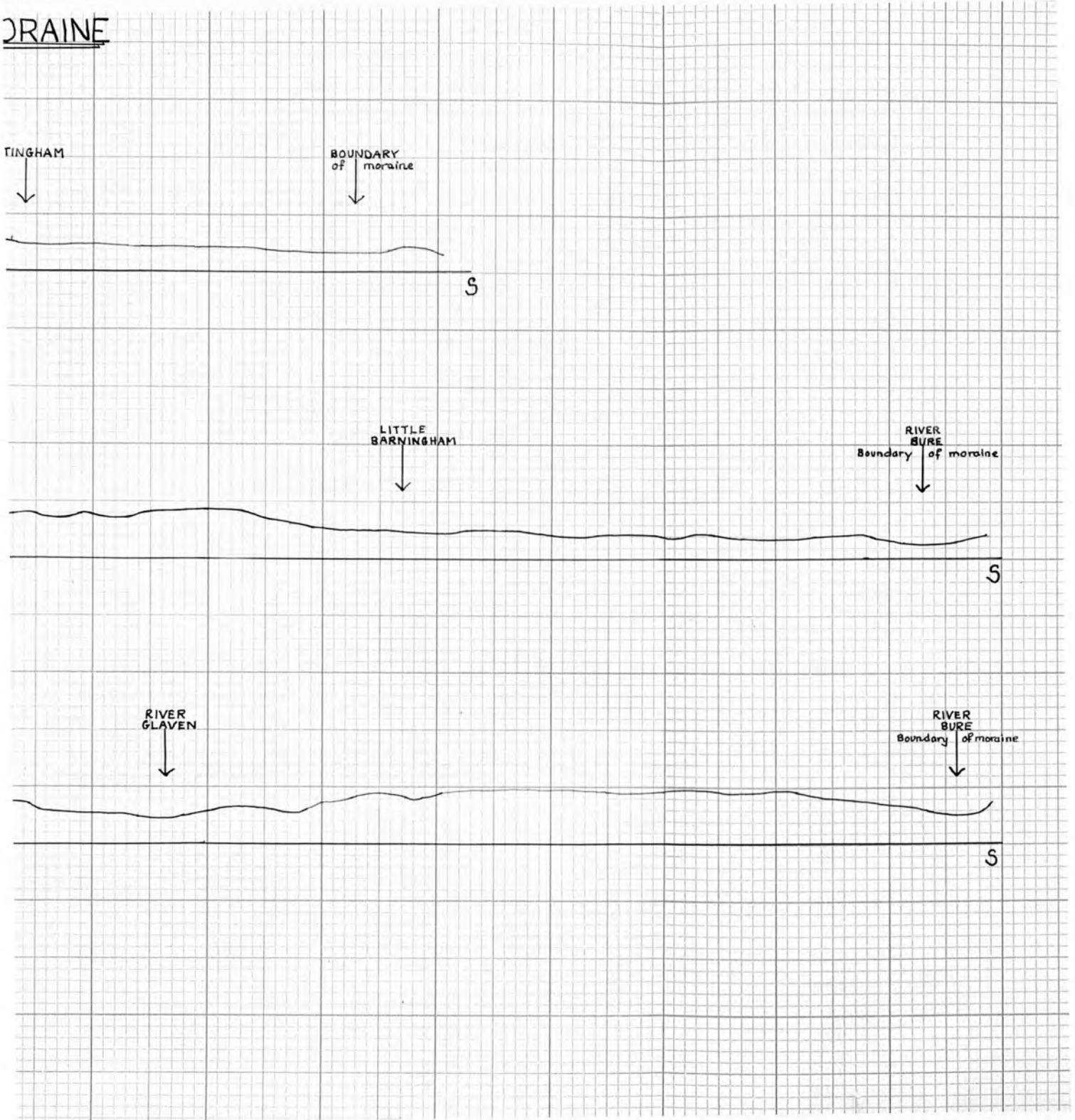
RIVER
GLAVEN



RIVER
BURE
Boundary
of moraine



S



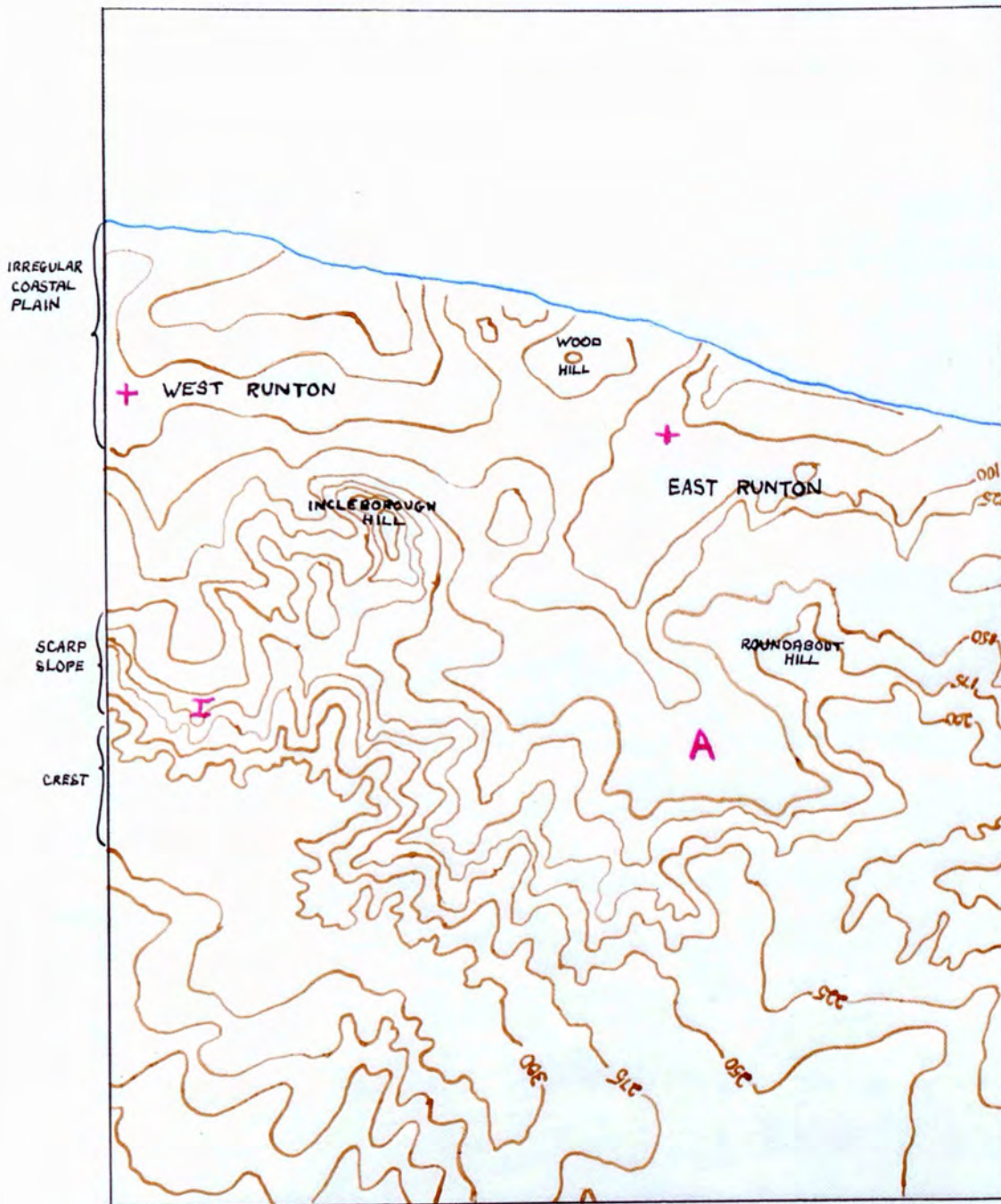
The outstanding physical feature of the Moraine is the well-marked north-facing slope which runs westwards from the sea coast at Sidestrand and forms the margin of the coastal plain until it fades out near Blakeney. The trend of the slope does not parallel the coast exactly, nor is it always straight, for deep embayments occur - as at East Runton, Upper Sheringham and Weybourne (Fig. 3 letter A). The face of the slope is broken by numerous short steep-sided dry valleys, occasionally joined by tributary valleys (Fig. 3, letter I).

The summit of the Moraine is at its highest to the south of West Runton, where it reaches to 330 ft. above sea-level and forms a narrow plateau about one mile wide. To the east and west of this, the summit level descends to about 200 ft., forming, on the east, cliffs at Sidestrand and Trimingham and on the west a broad plateau around Holt. To the west of Holt the summit is severed by the steep-sided valley of the Glaven, beyond which it rises again to about 300 ft. at Melton Constable in the south-west. From Melton Constable northwards towards Blakeney the Moraine forms an undulating area at just over 100 ft., bounded in the north by a less pronounced north face where the Moraine dies out (Fig. 2, section 3).

Everywhere to the south of the summit area the surface is undulating (Fig. 2) and gradually decreases in height to about 100 ft. at the southern boundary. The Moraine is drained by the tributaries of the River Bure in the west and of the River Ant in the east, except for a small area in the north-west which is drained by the River Glaven. This river rises on the southern side of the summit, but after flowing for a few miles south-westwards it turns northwards at Hunworth to reach the sea

FIGURE 3.

DIAGRAM TO SHOW MAIN FEATURES OF NORTH
EDGE OF MORaine



SCALE - 1:25,000

CONTOUR INTERVAL - 25 FEET

at Cley. A similar course is followed by the River Stiffkey further to the west, but in this case only the headwaters are within the Moraine.

This region has not only a characteristic land surface and scenery, but also a distinctive ecological history which reflects the long period of occupation by man and by his domesticated animals. Today most of the Moraine is either farmland, heathland or woodland, but in previous centuries the acreage of heathland was greater and that of farmland less. According to recent research the heaths are probably the result of the first occupation of the region by man, the land having previously been covered with woodland.

H.R. Beever, in 1923, expressed the opinion that Norfolk, except perhaps in the west, was once heavily wooded¹. The area of woodland would therefore have included the Moraine. The work of Godwin in the field of pollen analysis has established the view that the "so-called 'natural heath' had its origin in the clearing of woodland by Neolithic farmers"². Recent ecological research confirms that this must have occurred within the Morainic area, for there is evidence to suggest the presence of a woodland cover in the Boreal Coniferous Forest Period. Pollen diagrams indicate the persistence of small amounts of pine in East Anglia throughout the

¹H.R. Beever - Norfolk Woodlands. Transactions of the Norfolk and Norwich Naturalists Society. Vol. XI, p. 491.

²H.C. Darby - Clearing the Woodland in Europe. Man's Role in changing the Face of the Earth. 1956. p. 189.

Post-glacial Period³. At Holt, on the Moraine, an orchid called *Goodyera* is plentiful; this orchid is found only in pinewoods, being a relic of the Boreal Coniferous Forest Period. Pinewoods are now found at Holt and it has been suggested that *Goodyera* could have been introduced after the planting of the present pinewoods, but research by Dutch ecologists in N.E. Holland suggests that it is a relic⁴, and therefore small amounts of pine must have existed since the Boreal period. With the advent of the Atlantic period and its associated warmer and wetter conditions, deciduous forest covered much of England and from the Moraine comes a possible relic of this age also. *Hookeria lucens* (a moss) is found in Holt Lowes in boggy alderwood and could have existed since the Atlantic period⁵. Two types of woodland may have flourished contemporaneously on the Moraine, for *Goodyera* is found only in pinewoods and *Hookeria* only in deciduous woods.

Relict plants also provide evidence that this woodland was not continuous but contained open spaces. In Holt Lowes are found calcareous springs coming from the chalky glacial material where the development of climax woodland is indefinitely suppressed. These areas have remained

³Godwin and Vallantine - Studies in the Post-glacial History of British Vegetation. *Journal of Ecology* 39. pp. 285-301.

⁴C.H. Andrews - Glacial Relics in the Netherlands, in "The Changing Flora of Britain". Ed. J.E. Lousley. 1953. p. 84.

⁵F. Rose - The Importance of Relict and Disjunct Distributions in the Interpretation of the History of the present British Flora. 1956.

unwooded since late-glacial times as their flora contains relics of this period. *Leiocolea schultzei* and *Cinclidium stygium* are both presumed to be relics of this age and are found around the calcareous springs of Holt Lowes.

Much of this evidence of coniferous and deciduous woodland with open spaces is obtained from the Holt district, the name of which means 'wood'. There is no reason to suppose that other parts of the Moraine, especially along the summit, were not covered with similar vegetation. The Holt district and the summit have since become areas of widespread heath, which must have developed over the land which was once wooded. Trees have comparatively recently been planted on heathland, thus showing that the land is capable of supporting woodland.

Heathland has been in existence for many centuries and there seems to have been little regeneration of woodland, probably owing to grazing by domesticated or wild animals, though soil conditions might also have been a contributory factor. When man began to clear the woodland, and the subsequent grazing of animals prevented its regeneration, the soils themselves gradually changed. Destruction of the tree cover led to a leaching of the surface soils and the development of a hard pan in the subsoil. Lack of tree humus caused a decrease in water retention, thus making the surface layers much drier. The sands and gravels which cover much of the higher part of the Moraine may extend down to 60 feet without any beds of clay, as at Roughton Heath⁶, which has supported heath for many centuries. A dry,

⁶A well-section on Roughton Heath shows sand extending downwards for 60 feet.

sandy soil, combined with spasmodic grazing would make it more difficult for trees to regenerate but easier for heath plants to colonise.

W. Marshall, writing generally of northern Norfolk, describes the soil as being 5 to 6 inches deep with a subsoil that does not retain water⁷. The soil conditions of Roughton Heath are thus typical of a much larger area and as a result heath was able to develop on former woodland over much of the Moraine.

The Morainic heaths appear therefore to be successional, and this theory is supported by the successful plantations found on them today. Much of the essential evidence comes from the Holt district but more ecological research is necessary before it can be categorically stated that all the morainic heaths were originally covered in woodland.

Today the plant communities of the true heaths (Appendix B) contain the heath plants *Calluna* and *Erica* which are interspersed with furze, grasses and bracken, but *Calluna* and *Erica* are not widespread on the Moraine as bracken and furze are the predominating plants in many areas of 'heath'. The vegetation is not identical with that of the great Norfolk heath of Breckland. This may be due to the more maritime position of the Cromer Moraine. For instance, the late-flowering furze which occurs on the Moraine and also in Devon and Cornwall (which has a truly maritime climate) is not found in Breckland.

Some heaths on the Moraine are termed 'commons', but all commons are not 'heaths'. 'Common' indicates the common ownership of land which

⁷W. Marshall - Rural Economy of Norfolk. Vol. I, p. 11. 1787.

has been set aside for the use of the local inhabitants. On any one common the degree of drainage and grazing determines the area of marsh, pasture and heath vegetation. For instance, on Beeston Regis Common, marsh occurs along a small stream, heath covers mounds of higher and more sandy ground, whilst pasture, with furze and bracken, has developed on the margins, aided by sporadic grazing by donkeys and goats. Thus common land may, in part, have identical vegetation with heath (Appendix C).

On the summit and northern half of the Moraine part of the common land is true heath, but in the southern part of the Moraine, in the river valleys, the common land was usually not heath but marshy pasture which in many cases today is drained and enclosed.

The Cromer Moraine forms part of a major region of light soils around the southern half of the North Sea. In the course of occupation by man much of the original woodland has probably been cut down and replaced either by heathland or by agricultural land. On the Moraine the heath is far less extensive than formerly and the purpose of the following chapters is to trace its reclamation down to the present time.

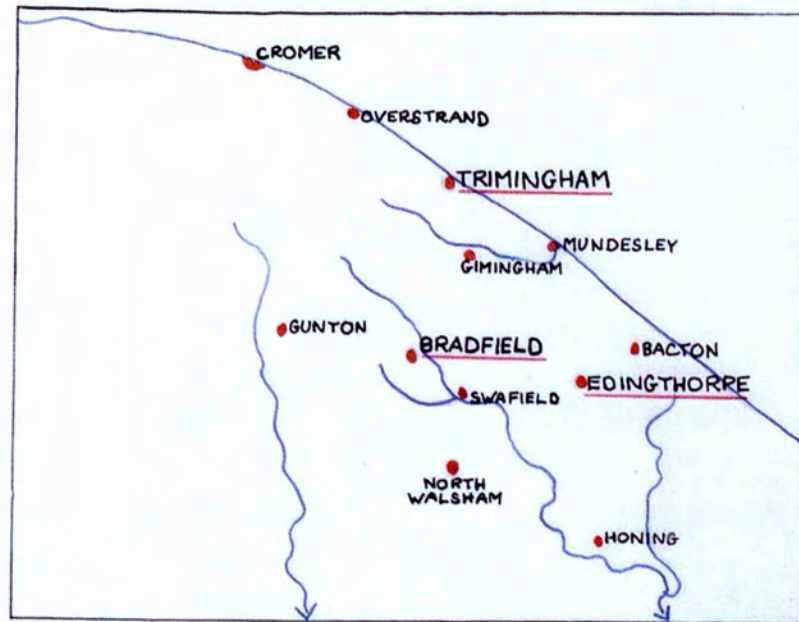
CHAPTER 2.

The Location of Heathland on the Moraine from 1086-1750.

By the time of the Domesday Survey the settlement of the Moraine was consolidated. Three of the present villages (Fig. 4), Edingthorpe, Trimingham and Bradfield, were either not in existence or formed mere subsidiary settlements in a Domesday vill. From a study of the Domesday settlement pattern (Fig. 5), and allowing for the possibility of such subsidiary settlements, it can be seen that parts of the Moraine were less densely settled than others. Villages were much more widely spaced along the summit of the Moraine and around Edgefield than, for instance, in the basin of the Scarrow Beck. It should be noted that the more scanty settlement was generally located on the higher parts where sands and gravels are at their thickest. The land between the more widely spaced villages included the ploughland, the meadow, the woodland and 'the waste'. Some indication of the extent of the amounts of the first three can be derived from the Survey, while the 'waste' or heath could have existed where the previous three categories were of small extent or absent altogether.

The number of ploughteams that were recorded for a vill gives a comparative indication of the amount of arable land. The Survey records roughly the same number of ploughteams in the more widely spaced villages as in the Scarrow Beck basin with its denser settlement. The meadowland of the Moraine (Fig. 5) was found around the Scarrow Beck and its tributaries, there being almost none on the higher and drier parts of more scanty settlement. These facts about arable and meadow suggest that most of the land of

MAP TO SHOW THE POSITIONS OF
THE NEW VILLAGES



KEY

— NEW VILLAGES

SCALE

1 INCH REPRESENTS 4 MILES.

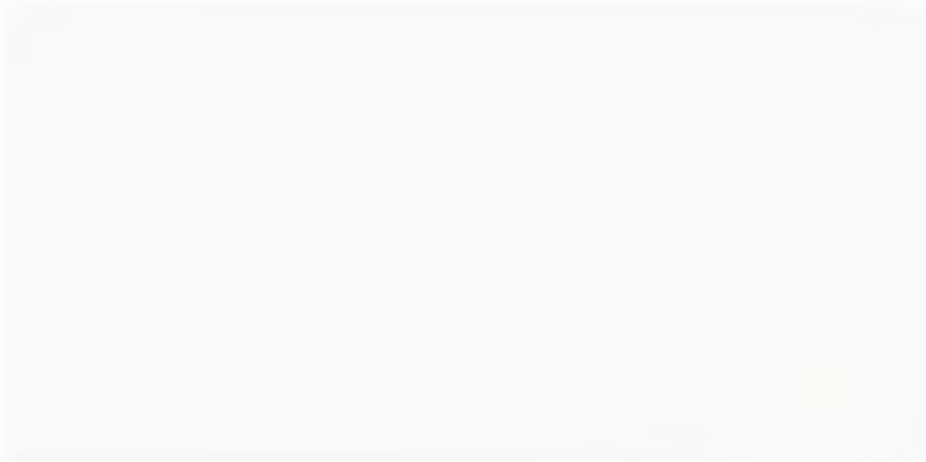
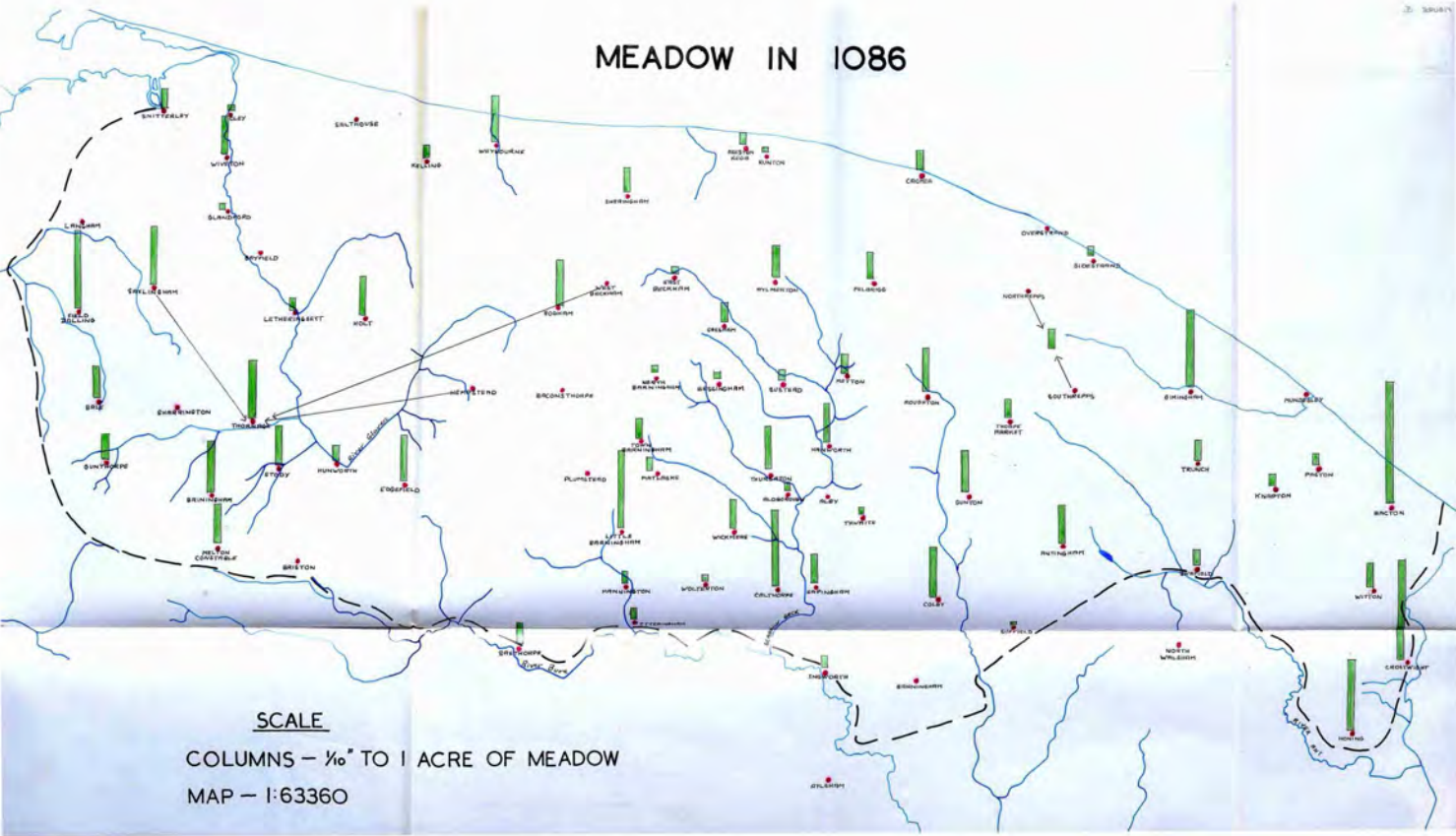


FIGURE 5.

MEADOW IN 1086



SCALE
COLUMNS - $\frac{1}{16}$ " TO 1 ACRE OF MEADOW
MAP - 1:63360

the widely spaced vills was either woodland or 'waste', as there was no proportionate increase of ploughteams or meadowland.

It is clear from the Survey that woodland for swine existed in many of the vills on the Moraine (Fig. 6) and that in the area with scantier settlement there were three vills with woodland above the average, namely -

Sheringham with woodland for 100 swine.

Salthouse " " " 100 "

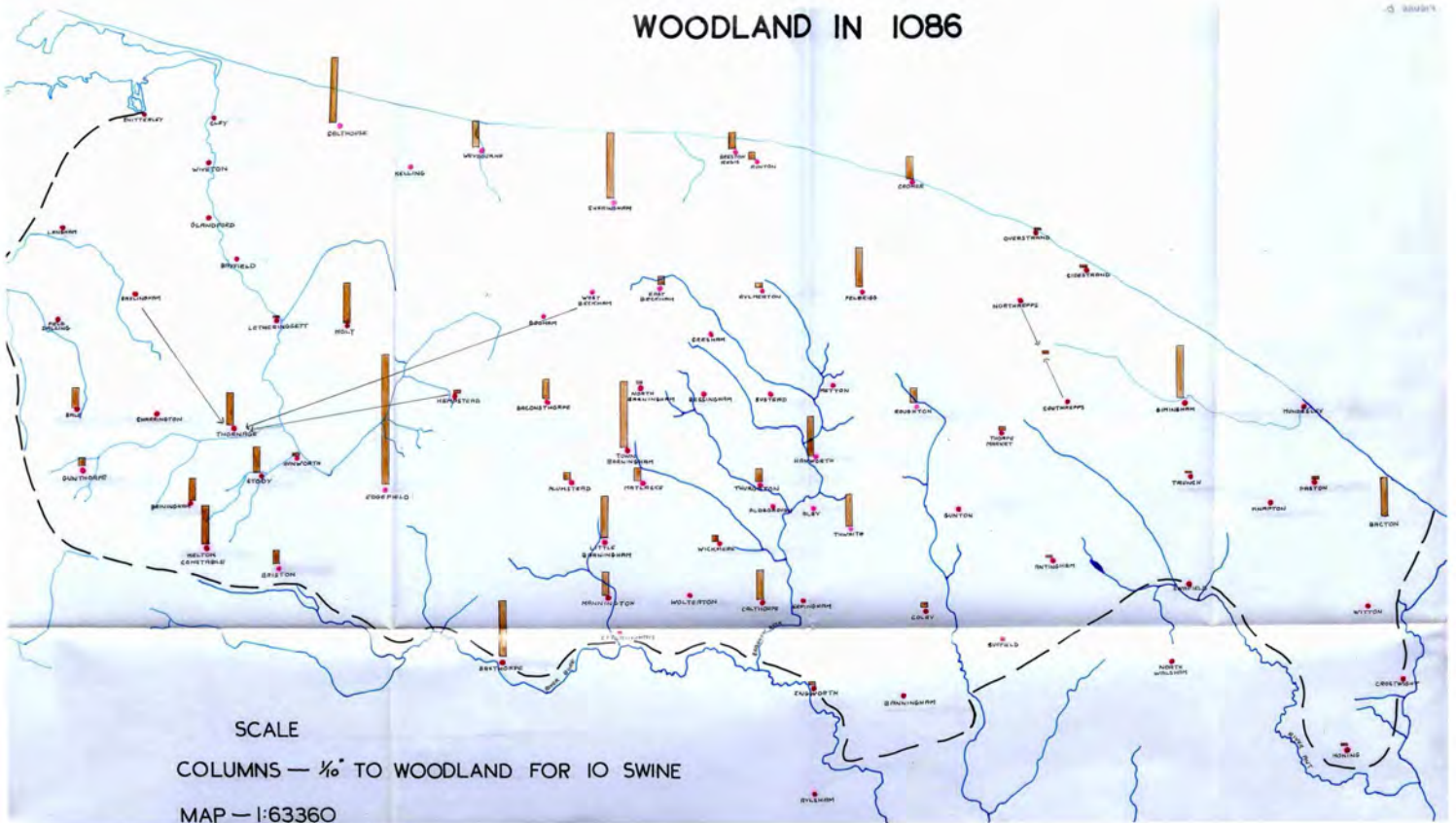
Edgefield " " " 200 "

As woodland above the average was only found in these three vills and Town Barningham (wood for 100 swine) on the edge of the Scarrow Beck basin, it must be assumed that the widely spaced vills contained a high degree of 'waste'. Indeed, the Survey throws further light upon the problem. The vills of Sheringham, Baconsthorpe and Mannington in the widely spaced district of vills suffered a reduction of woodland between 1066 and 1086. It has been suggested that the land cleared of wood developed into 'waste'¹, because between the two dates there was no corresponding increase in ploughteams. When the felled woodland was not ploughed it was probably grazed over, thus effectively preventing any regeneration of woodland, especially when goats were included in the stock kept. The number of goats was greater in the area of more widely spaced vills than in the Scarrow Beck basin and, being of such a destructive nature, goats were here most probably responsible for the establishment of the heath. The Survey records goats in the vills

¹R. Lennard - The destruction of Woodland in the Eastern Counties under William the Conqueror. Econ. Hist. Rev. (1945), Vol. XV, p. 39.

FIGURE 6.

WOODLAND IN 1086



where the clearing took place (Fig. 7). Similar conditions of clearing could have existed before or after the Survey, and heath could have developed. The available evidence seems to point to much of the land between the widely spaced vills as being 'waste' or heath, and not occupied by larger acreages of wood, meadow or arable land.

The widely spaced vills occur in four main districts (Fig. 7) which closely correspond with the location of heath on Faden's Map of 1794. The districts are as follows:

1. The summit areas and northern slope of the Moraine from the Glaven valley eastwards to Cromer and Overstrand. This stretch of country separated the villages of the coastal plain from those near the headwaters of the tributaries of the Bure which drain the southern slope of the Moraine.
2. Edgefield District - east and south of the village of Edgefield. The nearest villages were at least 3 miles away.
3. West of the Glaven valley - between villages in the Glaven valley and those near the tributaries of the Stiffkey still further west.
4. The district of the Upper Ant in the east.

The earliest records of waste or heath are not, as might be expected, in any of the foregoing regions, but in the more densely settled parts within the basin of the Scarrow Beck. There, increasing pressure of population would call for the early use of the waste, which would therefore acquire an economic use and a positive value, while the larger wastes in the scantily settled areas were probably of no economic worth and of little importance (except on the margins) to the inhabitants of neighbouring vills.

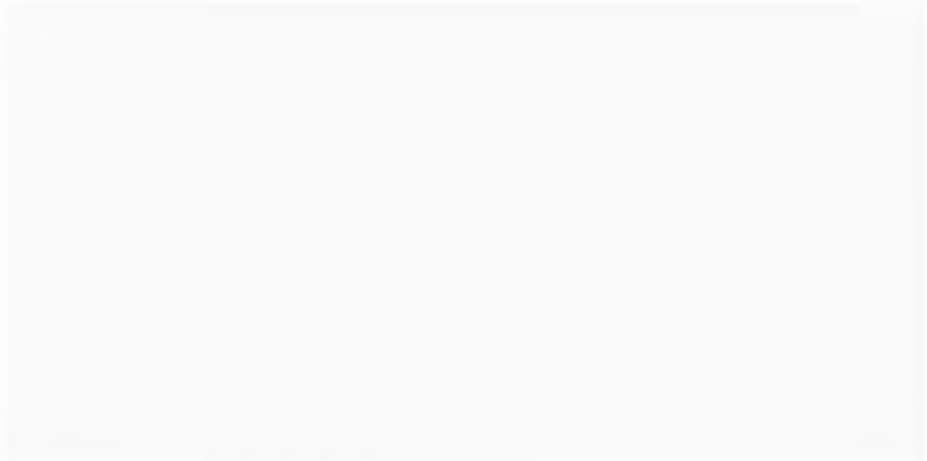
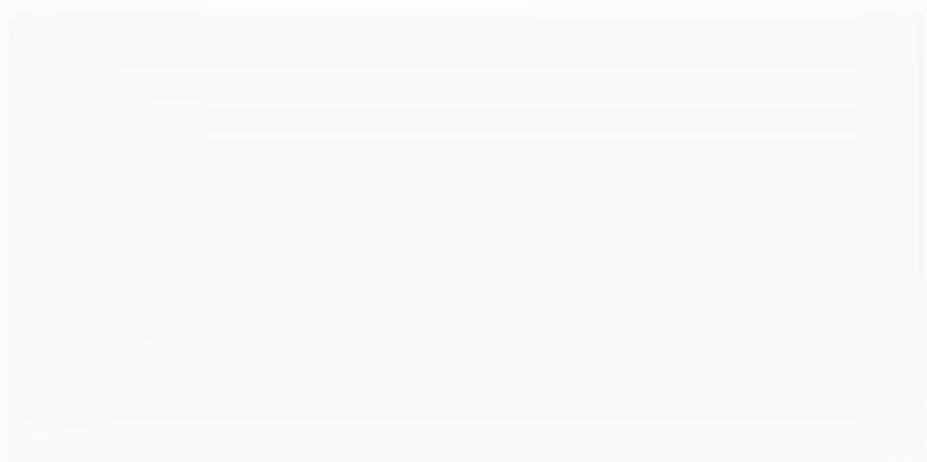
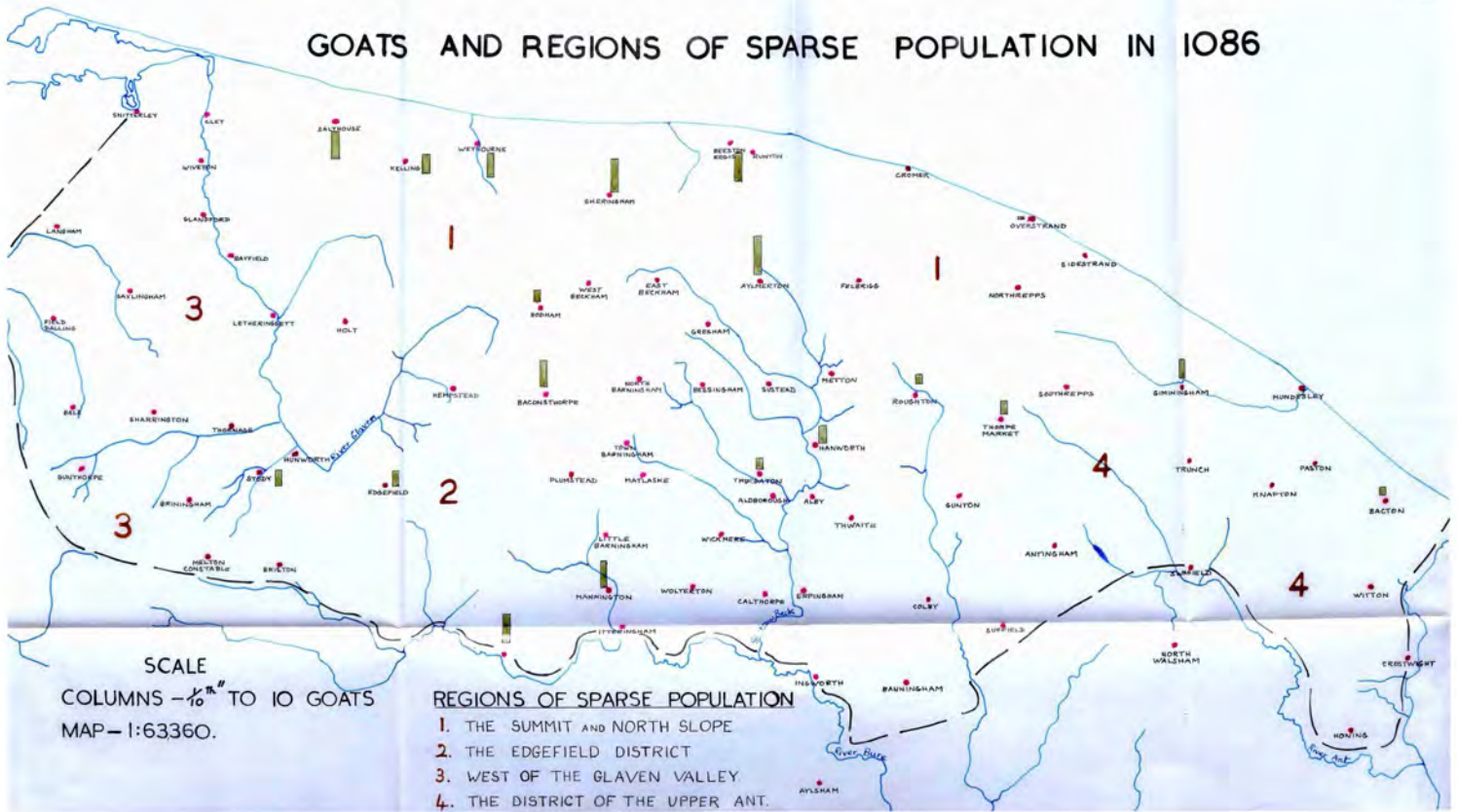


FIGURE 7.



GOATS AND REGIONS OF SPARSE POPULATION IN 1086



SCALE
COLUMNS - 1/10" TO 10 GOATS
MAP - 1:63360.

REGIONS OF SPARSE POPULATION

1. THE SUMMIT AND NORTH SLOPE
2. THE EDGEFIELD DISTRICT
3. WEST OF THE GLAVEN VALLEY
4. THE DISTRICT OF THE UPPER ANT.

For instance, the Abbey of St. Benet of Holme made a grant of 'moorland' in Thurgaton during the years 1141 to 1149², while nearly 100 years later, in 1238, Sir Nicholas de Barningham gave part of his heath in Barningham Northwood (North Barningham) to the monks at Binham³. It is only in these records of land transactions that early mention of heath can be found. But through the succeeding centuries evidence of heath can be found in all the four main areas of sparse settlement in the eleventh century. The evidence is generally piecemeal so that the precise location of the heath within the parish is not possible, though the documentary evidence usually makes dating possible.

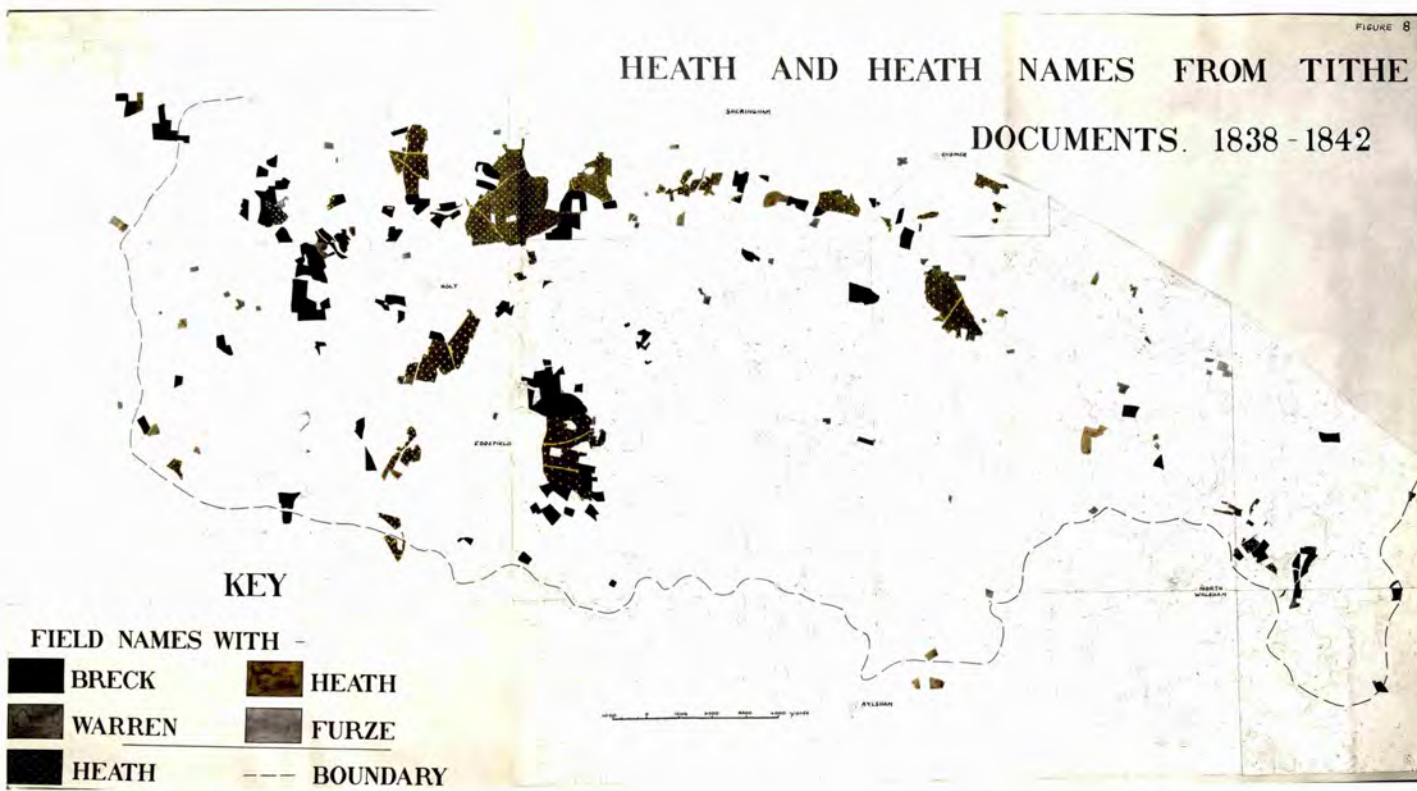
Field names from the later Tithe Schedules (1838-42) play a large part in the identification of former heath. Many of these field names (Fig. 8) contain the word 'breck' which was closely associated with that of 'heath'. Breck may have been originally derived from the old Norse word 'brecka' meaning 'the slope of a hill'⁴. This meaning may well apply, but on the Moraine and in Breckland 'breck' has been associated with heath. According to Clarke, several meanings have been attached to it, but in general in heathy areas a 'breck' is a portion of heath that has at some

²J.R. West. Register of the Abbey of St. Benet of Holme. Norfolk Record Society, Vol. II, pp. 83 and 127.

³History and Antiquities of the County of Norfolk. 1781. Vol. III, p. 18.

⁴W.G. Clarke - Norfolk and Suffolk. 1921. p. 47.

HEATH AND HEATH NAMES FROM TITHE DOCUMENTS. 1838 - 1842



time been broken up by the plough.⁵ Sometimes this has remained in cultivation and sometimes has reverted to its former state of heath. Brecks played a part in the development of the infield-outfield system of Norfolk husbandry. As early as the sixteenth century heathland lying outside the arable area but grazed by sheep as part of a fold-course was occasionally tilled. Later this heathland was enclosed as brecks and tilled at regular intervals. As Norfolk farming gradually improved there was increased cultivation of these heathland brecks⁶. Most of the brecks recorded in the Tithe Survey were not heath even in 1794 and therefore they indicate reclaimed heathland of an earlier but unknown date.

Evidence of heath during the centuries preceding 1750 will now be given and for the sake of clarity chronological order has been favoured.

1. The Summit Areas and Northern Slope of the Moraine.

Evidence of heath is found for many of the parishes which cover this higher part of the Moraine. The evidence is scattered in time between 1306 and 1750, and the number of acres mentioned is usually larger than in the other districts.

(a) 1306 - Parish of Bodham - 64 acres of heath together with other land was mentioned in court proceedings⁷.

(b) 1321 - Parish of East Beckham - 20 acres of heath⁸.

⁵A.H. Smith - English Place-name Elements. 1956. p. 47.

⁶K.J. Allison - The Sheep-corn Husbandry of Norfolk in the 16th and 17th centuries. The Agricultural History Review. Vol. V, 1957, p. 29.

⁷C. Parkin - Essay towards a Topographical History of the County of Norfolk. 1808. Vol. IX, p. 367.

⁸Ibid., Vol. VIII, p. 85.

- (c) 1350 - Parishes of Cromer, Overstrand and Roughton - 46 acres of heath⁹.
- (d) 1531 - Parish of Holt - 80 acres of heath¹⁰.
- (e) 1558 - Parish of East Beckham - Thomas Pigeon owned 200 acres of heath when he died¹¹.
- (f) 1630 - Parishes of Cromer, Overstrand and Northrepps - 250 acres of furze and heath¹².
- (g) 1644 - Parish of Kelling - The Lord of the Manor enclosed a piece of breck¹³.
- (h) 1669 - Parish of Bodham - Bodham 'foldcourse' consisted of 297 acres of heathland which is approximately one-fifth of the acreage of the parish¹⁴.

This also gives evidence of one specific use of the heathland, viz. of sheepgrazing; the open fields and heathland of a village were divided between the Manorial Lords (in many cases there was more than one) and the area allotted to each was called 'a foldcourse'.

⁹Ibid., Vol. VIII, p. 103.

¹⁰Calendar of Frere Mss. : Hundred of Holt. Norfolk Record Society, Vol. I, p. 26.

¹¹C. Parkin - Op. cit. 1808. Vol. IX, p. 85.

¹²A.L. Raimes - Reymes of Overstrand - Norfolk Archaeology, Vol. XXX, p.60.

¹³Calendar of Frere Mss. : Hundred of Holt. Norfolk Record Society, Vol. I, p. 31.

¹⁴C. Candler - Some East Anglian Field-names. Norfolk Archaeology. Vol. XI, p. 154.

(i) 1700 - Parish of Weybourne - Here there were 'wastes' on which the tenants could plant timber without leave¹⁵.

(j) 1735 - Parishes of Kelling and Salthouse - 1000 acres of common land between them¹⁶.

It is in the eastern part of the summit (c. and f. above) that some of the early reclamation took place. Northrepps is a large parish now containing two small villages - Northrepps and Crossdale Street. No mention can be found of Crossdale Street before 1286 when land was conveyed from father to son and recorded in the 'Feet of Fines' for Norfolk. It is likely that the land where the village developed was formerly heath¹⁷ and connected the heath along the summit with that at Roughton (Fig. 12). This reclamation may not have completely destroyed the connecting heathland, as Cromer and Roughton are mentioned together in 1350.

Woodland was found in Sheringham¹⁸ and Beeston Regis¹⁹ in the fifteenth and sixteenth centuries and was probably located along the north face of the Moraine, which in parts is too steep for agriculture and too

¹⁵Calendar of Frere Mss. : Hundred of Holt. Norfolk Record Society, Vol. I, p. 39.

¹⁶Ibid., p. 30.

¹⁷R. C. Gurney - Northrepps Hall - Private collection of papers.

¹⁸⁻¹⁹H.R. Beever - Norfolk Woodlands. Transactions of the Norfolk and Norwich Naturalists Society. Vol. XI, pp. 501-505.

bleak for settlement. The wood in Sheringham may have been the same wooded area mentioned in the Domesday Survey.

2. The Edgefield District.

The heathland here was to the east and south of Edgefield village, towards Plumstead, Little Barningham and Mannington, with some in the north on the border with Holt.

(a) 1135 to 1272 - Parishes of Hempstead and Plumstead -

During this time there was common and heath²⁰. At the beginning of the eighteenth century the heath in Hempstead was known as 'Hampstead Heath'²¹.

(b) 1565 - Parish of Mannington - A map of 1565 shows heath to the west of the Saxthorpe Road (Fig. 9) and stretching to the boundary of the parish²².

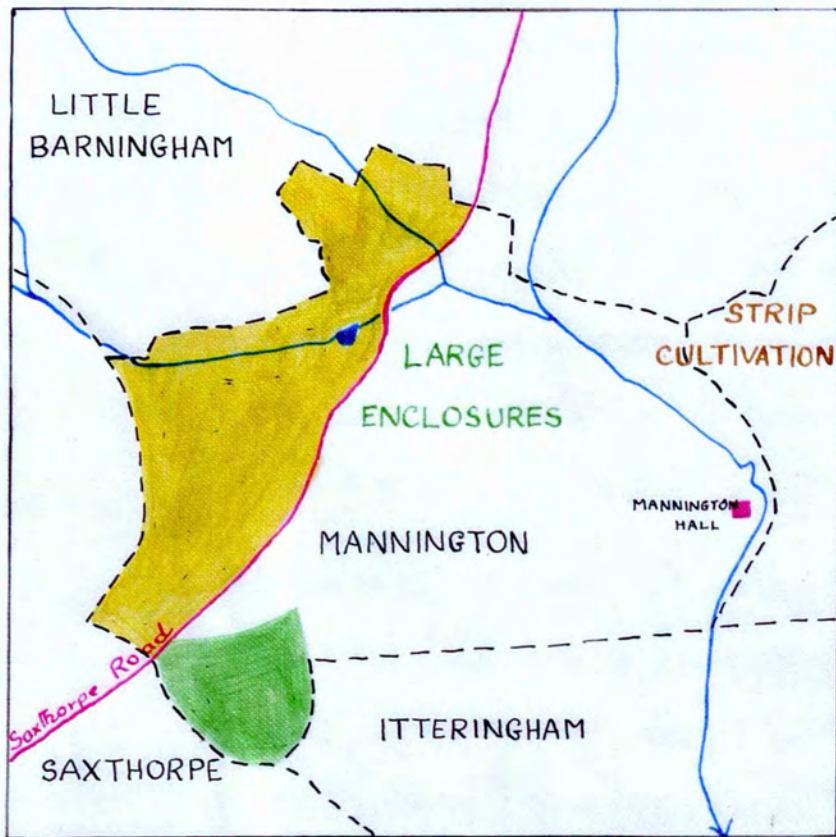
(c) The most valuable evidence of the heath in the Edgefield district is that derived from the field names found in the Tithe Schedules. These are shown in Fig. 10A together with the greatest extent of heath hitherto mapped (1794). It will be seen from the diagram that none of the brecks occur on land which was heath in 1794, neither had any reverted as at the time of the Tithe Survey they all formed arable land. If these brecks had once formed a large heath its area would have

²⁰C. Parkin - Op. cit. 1808. Vol. IX, p. 384.




²¹Calendar of the Frere Mss. : Hundred of Holt - Norfolk Record Society Vol. I, p. 20.

²²R.J.W. Purdy - Mannington Hall. Norfolk Archaeology, Vol. XIV, p. 324.

MANNINGTON IN 1565.



KEY

-  HEATH
-  WOOD
-  PARISH BOUNDARY

SCALE

2½ INCHES TO 1 MILE

been more than 1000 acres. This heath was shared by six parishes and would have formed an important part in the husbandry, being used for sheep grazing. It is clear, however, that the reclamation of the brecks must have occurred prior to 1794 as none were heath then.

The existence of wood in Edgefield is first noted in the Domesday Survey when there was woodland for 200 swine, the biggest number in any vill on the Moraine. In 1654 the trees of the Great Wood of Edgefield were of commercial value²³, but whether the location of the woodland was the same as that of the Domesday Survey is not known.

3. West of the Glaven.

Here the Morainic deposits thin out westwards, and the heath is much more scattered and less continuous than in the first two districts.

(a) 1345 - Parish of Saxlingham - 7 acres of heath²⁴.

(b) 1350 - Parish of Wiveton - 70 acres of heath²⁵.

(c) 1700 - Parishes of Briningham and Stody - These parishes shared 60 acres of common in 1700²⁶ and Stody Heath consisted of 30 acres of 'brewry land'²⁷.

²³Calendar of Frere Mss. : Hundred of Holt. Norfolk Record Society, Vol. I, p. 16.

²⁴C. Parkin - Op. cit., Vol. IX, p. 435.

²⁵Ibid., p. 454.

²⁶⁻²⁷Calendar of Frere Mss. : Hundred of Holt. Norfolk Record Society, Vol. I, p. 29.

- (d) 1738 - Parish of Briningham - Stock Heath of 89 acres was partly in the parish of Briningham, on the boundary of the Moraine²⁸.
- (e) The brecks and heath from the Tithe Schedules are plotted in Fig. 10B. The brecks occur in blocks, sometimes independent and sometimes adjoining the heaths. These brecks represent former heathlands, but must have been reclaimed before 1794 as they are not marked on Fadens Map as heath. To the west of the River Glaven there are small patches of sand and gravel which until the advent of the improved farming methods and the enclosure of brecks would have supported little but heath vegetation.

4. The District of the Upper Ant.

Much of this district lay within the Soke of Gimingham.

- (a) The 'waste' of the Soke of Gimingham lay in a long and wide strip at its southern boundary roughly along the River Ant and extending into the parishes of Thorpe Market and Bradfield²⁹.

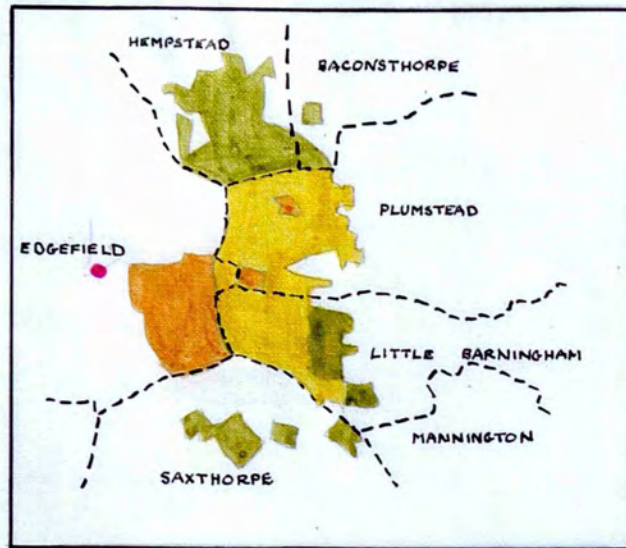
C.M. Hoare also states that in 1381-2 there were probably wide stretches of heath, wood and waste within the Soke.

²⁸B. Cozens-Hardy - Description of a Map of Briningham. Norfolk Archaeology, Vol. XVIII, p. 263.

²⁹C.M. Hoare - History of an East Anglian Soke. 1918. p. 135.

EVIDENCE FROM FIELD NAMES

A- TO THE EAST OF EDGEFIELD



B- TO THE WEST OF THE RIVER GLAVEN VALLEY



KEY

- HEATH ON TITHE MAPS
- HEATH ON W. FADEN'S MAP - ARABLE ON THE TITHE MAP
- FIELDS WITH THE NAME CONTAINING 'BRECK.'
- FIELDS WITH THE NAME CONTAINING 'HEATH.'
- PARISH BOUNDARY

- (b) 1493 - Parish of Southrepps - Two men were accused of 'overburdening' the common heath with stock³⁰.
- (c) 1496 - Parish of Trunch - 20 acres of heath³¹.
- (d) 1625 - Parish of Sidestrand - 10 acres of heath³².

Wood existed in Bacton in 1415³³ and probably covered, as Bacton Wood did in 1794, the land in the south-west of the parish near the River Ant.

5. Other Districts.

References to scattered heaths are found outside the four main districts. All are located in the basin of the Scarrow Beck and all but one are mentioned in the fourteenth century records. No further mention can be found of the heaths on any of these parishes, and it is probable that they were enclosed and reclaimed at an earlier date.

- (a) 1318 - Parish of North Barningham - 60 acres of heath³⁴.
- (b) 1338 - Parish of Town Barningham - 16 acres of heath³⁵.
- (c) 1338 - Parish of Calthorpe - 100 acres of heath³⁶.
- (d) 1599 - Parish of Sustead - 100 acres of heath³⁷.

³⁰Ibid., p. 135.

³¹C.M. Hoare - The last of the Bondmen in a Norfolk Manor. Norfolk Archaeology. Vol. XIX, p. 28.

³²C.M. Hoare - Records of a Norfolk Village. 1914. p. 26.

³³L.J. Redstone - The Cellarers Accounts of Bromholm Priory. 1415-16. Norfolk Record Society. Vol. XVII, p. 61.

³⁴C. Parkin - Op. cit. Vol. VIII, p. 93.

³⁵Ibid., Vol. VIII, p. 97.

³⁶Ibid., Vol. VI, p. 19.

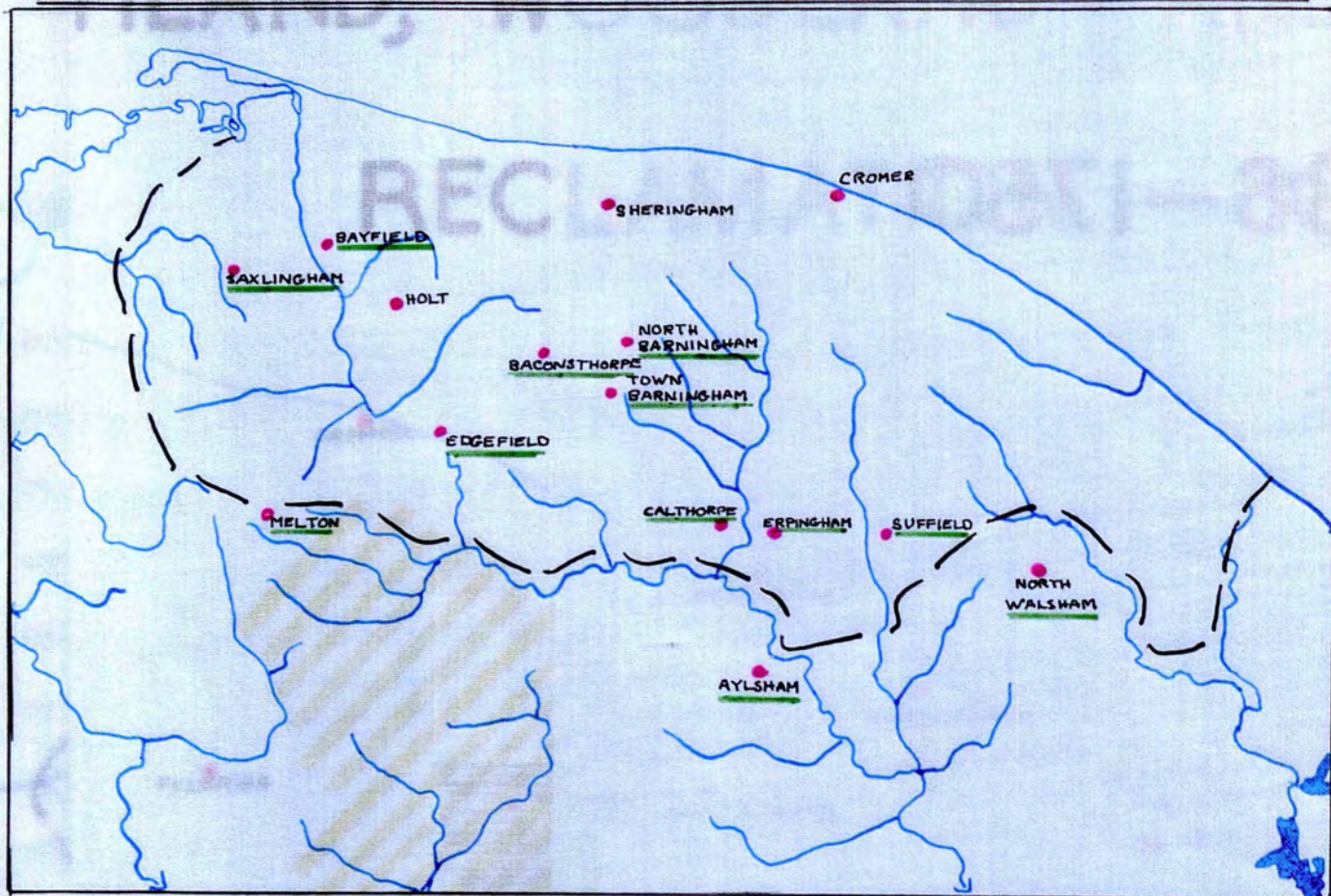
³⁷Ibid., Vol. VIII, p. 168.

The Inclosure Inquisitions of the sixteenth century (1517-19)³⁸ record enclosures in the first three of the above parishes (Fig. 11). These inquisitions concerned arable and pasture, but the fact that enclosure was occurring indicates a possible early reclamation of these heaths. No later mention is found of them.

From the above evidence it appears that during the period 1066-1750 there was heath in the densely settled Scarrow Beck basin (Fig. 12) as well as widespread heath in the four districts which had shown the most scanty settlement at the time of the Domesday Survey.



³⁸ I.S. Leadam. The Inquisition of 1517, Inclosures and Evictions. Transactions of the Royal Historical Society, Vol. VII, New Series, pp. 231-303.


MAP TO SHOW THE POSITIONS OF ENCLOSURES -1517-1519



SCALE - 1 INCH REPRESENTS 4 MILES

KEY

 PLACES WHERE ENCLOSURES OCCURRED
 PLACES WHERE ENCLOSURES OCCURRED

 BOUNDARY OF MORaine

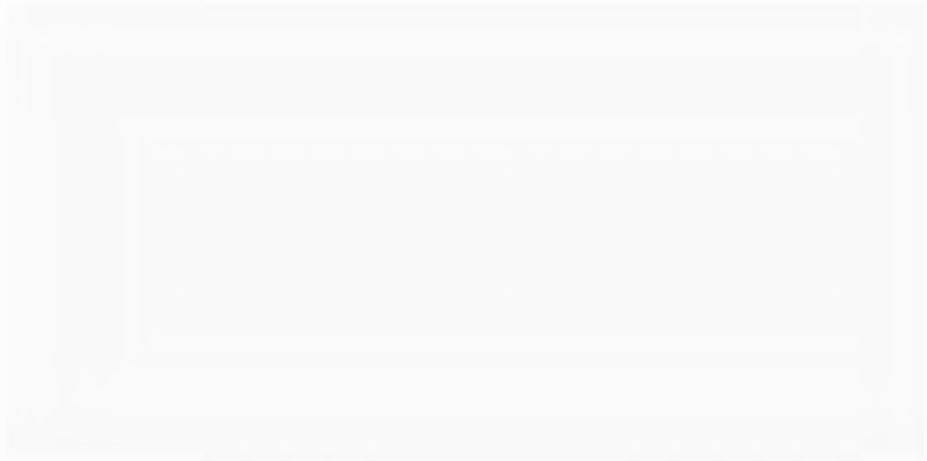
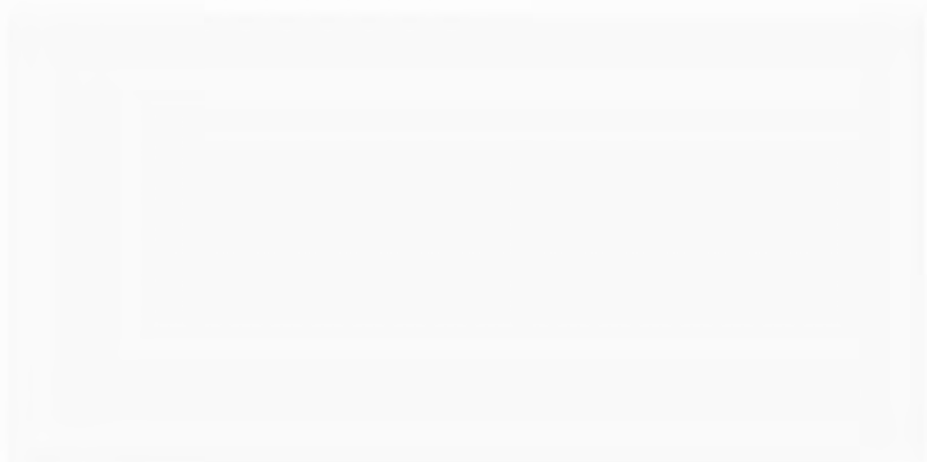
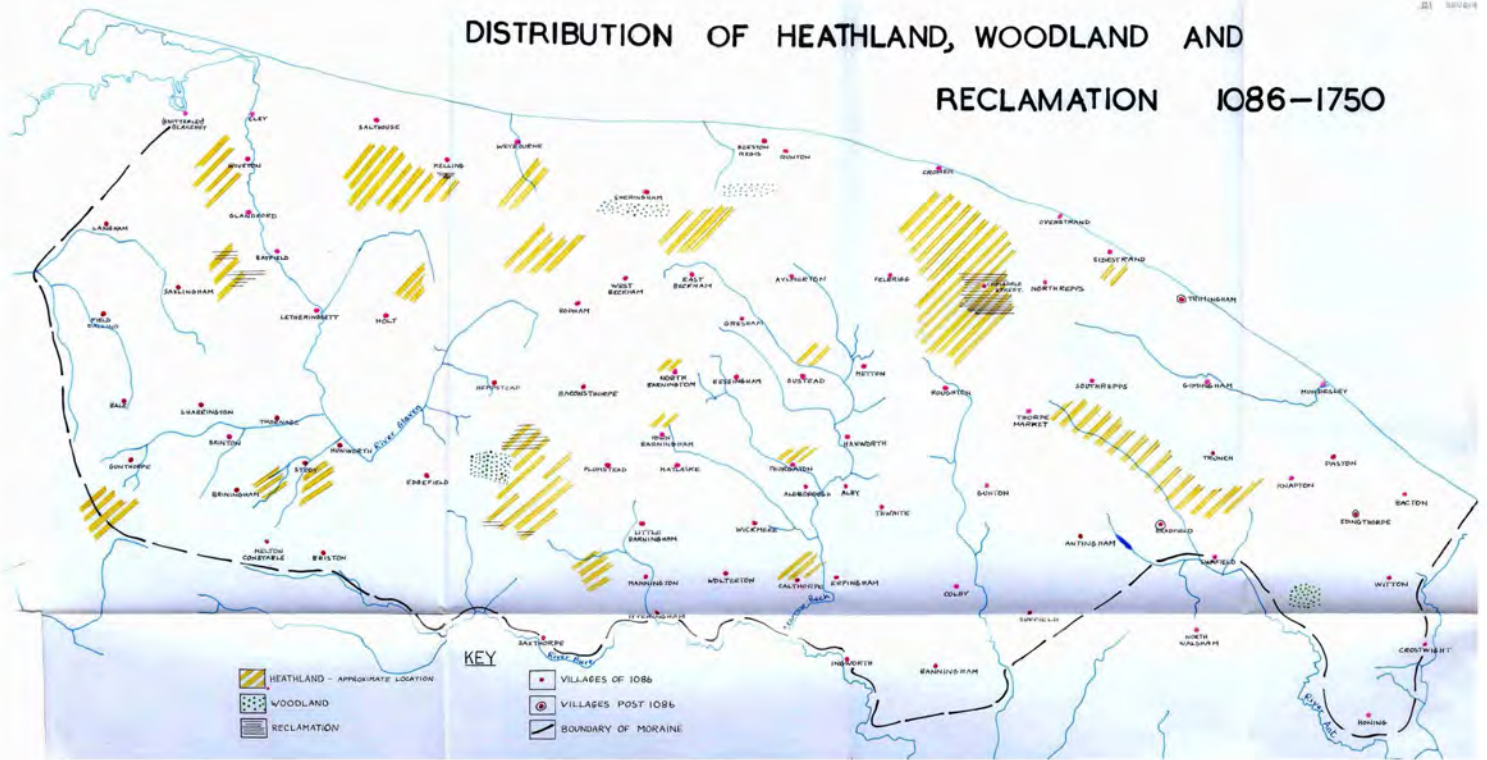


FIGURE 12.



DISTRIBUTION OF HEATHLAND, WOODLAND AND RECLAMATION 1086-1750



CHAPTER 3.

Reclamation of the Heath.PART I. 1750 - 1794 (Faden).

During the centuries up to 1750 the land for farming on the Moraine was associated in the main with sheep and corn, and the area was regarded as a generally poor one. From time to time the brecks were reclaimed from the heath, but this reclamation was scattered both in time and place. However, in the first half of the eighteenth century the Agricultural Revolution put new life into farming and the farmers of the Moraine were quick to perceive the material advantages gained by adopting the new methods. The existing cultivated areas produced increased yields and the reclamation of big areas of common and heath led to a great extension of the total area under cultivation.

The importance of the enclosure movement could not, in Arthur Young's view, be over-emphasised, as without it no other improvements could be carried out. Much of eastern Norfolk had gradually been enclosed privately and this received Arthur Young's approval as he considered that private measure aroused less local opposition than enclosure by parliamentary Acts. Kent describes these gradual enclosures in the following way: "Wherever a person can get four or five acres together he plants a white thorn hedge round it and sets an oak at every rod distance, which is consented to by a kind of general courtesy from one neighbour to another."¹

¹N. Kent - General View of the Agriculture of the County of Norfolk. 1796. p. 72.

The multifarious effects of enclosure were all of profit to the landowner. The rotation of crops made possible by enclosure of the land led to a greater soil fertility, especially when marl or clay was spread over the ground. Cattle and sheep could wander unattended in the fields now enclosed by hedges or fences, and benefit from the more nutritious grasses of the sown pastures, whilst the labour released from guarding the stock could be transferred to the maintenance of hedges and ditches, which in turn provided some shelter for both animals and corn crops. The greater responsibilities incurred by the farmer were more than offset by the augmented profits from the well farmed land.

Two features of land tenure, viz. large farms and long leases, were according to Arthur Young essential to improvement once enclosure had been achieved. Concerning the size of farms, Young considered a moderate sized farm to be from 400 to 600 acres and a large one from 1000 to 2000 acres². As Young obtained most of his evidence from the big landowners, such as Mr. Coke at Holkham in west Norfolk, on whose farms the greatest progress was made, he naturally favoured the larger unit. But it was true that the wider basis of the new farming economy required bigger farm units; successful crop rotation depended on growing the same acreage of each crop every year and many farmers also required additional pasture lands in permanent or long ley for their stock. Hence arose Young's preference for large farms. Kent, on the other hand,

²A. Young - General View of the Agriculture of the County of Norfolk. 1804. p. 26.

favoured the smaller farm which supported, in proportion to its size, a greater number of cows, pigs and poultry³. The larger farms often produced only sufficient meat, dairy produce and eggs for their own consumption and none for sale to the local, non-agricultural population.

The terms of tenure also came under review; the usual term for the leaseholds of farms was 21 years, but such farms had made big profits and there was a tendency for leases to be reduced to 14 or even 7 years⁴. According to Young, the 21-year lease had encouraged the leaseholders to be the agents in changing the heaths and commons to prosperous cultivation⁵. The long lease also enabled the tenant to profit from improvements such as crop rotation and fertilisation with marl and clay. A short lease gave the farmer no incentive to improve his land, as the slow processes of nature barely allowed him time to reap the benefits of his improvements. The terms of the lease were, however, often restrictive to the farmer, the aim of the restrictions being to prevent exhaustion of the soil and to encourage the retention of farmyard manure together with the control of rabbits. In return, the landlord paid half the expense of ditching and kept the buildings, gates and fences in repair⁶. The tenant was not empowered to enclose any common or waste, but he could improve it once the landlord had carried out enclosure.

³N. Kent - General View of the Agriculture of the County of Norfolk 1796. p. 132.

⁴W. Marshall - The Rural Economy of Norfolk 1787. Vol. I, p. 67.

⁵A. Young - General View of the Agriculture of the County of Norfolk 1804. p. 47.

⁶N. Riches - Agriculture Revolution in Norfolk. pp. 72-73.

Mention must be made of the methods of cultivation which Young advocated for improving land. One of the most important but also the most expensive was the use of marl, or in some instances of clay, mixed if possible with farmyard manure. The Morainic area being underlain by chalk had good supplies of marl; the evidence for this can be seen today in the old pits, such as at Lodge Hill, Upper Sheringham and at East Beckham by the Cromer Road. As early as 1770 the amount of marl spread near Holt was 60 loads an acre (about 35 cu. ft. a load)⁷. If further marling was required smaller amounts could be applied - and might be as little as 7 or 8 loads per acre⁸.

A less costly but slower means of improvement was by crop rotation, although even with this some marl or clay was required. The basic crops of the Norfolk Rotation were wheat, barley, turnips and clover, but these were varied in the order and the length of the rotation. Three rotations at least were found on the Moraine, as follows⁹:

1. <u>Between Blakeney and Sheringham.</u>	2. <u>Holt to Aylsham</u> (rich and well cultivated)	
turnips	(a) turnips	(b) turnips
barley	barley	barley
clover	clover	clover
wheat	wheat	clover
	pease	buckwheat
		what

⁷A. Young - Op. cit., p. 402.

⁸W. Marshall - Rural Economy of Norfolk. 1787. Vol. II, p. 363.

⁹A. Young - A Farmer's Tour through the East of England. 1771. Vol. II, pp. 59-66.

Each of the above rotations includes the four basic crops which were necessary both in the provision of cash crops (wheat and barley) and in providing winter-feed and bedding for animals. The enrichment of the soil with nitrogen compounds from the growing of clover, ploughing in of stubbles instead of fallowing, and the folding of stock on turnips and clover gave the farmer improved soil and a continuous use of all his land.

The crops grown in Norfolk before the improvements became widespread did not include root crops for the feeding of stock in winter. The inclusion of a turnip crop in the rotation was basic to the improved agriculture, as according to Kent it served the Norfolk farmer in three ways: firstly, the requisite cultivation and frequent hoeing cleared the ground by destroying the weeds; secondly, the crop provided winter food for a greater number of cattle and sheep; and, thirdly, the grazing of stock folded on the turnips manured the ground for succeeding crops¹⁰. Feed for cattle was needed if they were to be kept throughout the winter, as under the old system most had been slaughtered in the autumn. Turnips were not the only food used, but their cultivation was an essential part in the new system of mixed farming as they produced the farmyard manure which was absolutely essential to maintain fertility.

Most of the farmers had small amounts of meadowland and permanent pasture and they were slow to introduce clovers and other artificial grasses into them. Where they did so, they neglected to graze and fertilise them

¹⁰N. Kent - On Norfolk Turnips and Fallowing. *Annals of Agriculture*, XXII, 1794, p. 25.

adequately, with the result that Young, passing through the area in 1804, wrote, "Nowhere are meadows and pastures worse managed left in a state of nature by men who willingly make all sort of exertions to render their arable land clean, rich, and productive"¹¹.

An increase in agricultural production resulted from some or all of these possible improvements. Bigger yields, increased crop acreages and the intensive rearing of cattle and/or sheep ensured a steady income which in itself provided the incentive to reclaim further land.

The increased area under cultivation was accomplished by the reclamation of heath and commonland. Approximately 1700 acres of brecks were reclaimed by 1794¹² and this involved the removal of the existing vegetation by one of two methods. One was to remove the larger trees and bushes and then to plough in the undergrowth, thus adding potential humus to the soil. Arthur Young disapproved of this method as he favoured the alternative - viz. "paring and burning", which obviated the necessity of waiting at least two years for the process of rotting to be completed. After paring and burning, the land could be ploughed immediately, thus stifling any further growth of weeds. This would be followed by a crop of turnips, the cultivation of which removed any persistent weeds, including bracken. All this could be carried out in the time it took merely to

¹¹A. Young - General View of the Agriculture of the County of Norfolk 1804. p. 370.

¹²This figure is calculated from the area of 'brecks' shown on the Tithe Maps (Fig. 8) and which were not heath in 1794 (Fadens Map).

prepare the land for cultivation by the other method. The progress in reclamation on the Moraine can be seen from a study of the evidence for two parishes - Felbrigg and Kelling. Felbrigg, to the south-west of Cromer, occupies part of the summit area and southern slope of the Moraine and was enclosed privately in 1771 by a Mr. Wyndham. He had to buy one freehold farm which he subsequently rented to the former owner on a 21-year lease (referred to later). The state of the parish before and after enclosure can be seen from the following table:

<u>FELBRIGG - 1300 acres.</u>		<u>Figure 13.</u>
<u>Before Enclosure</u> ¹³ .	<u>After Enclosure.</u>	
400 acres enclosed.	Not stated except for one farm on 21-year lease.	
100 acres woodland.	Same.	
400 acres common field.	Enclosed for farms.	
400 acres heath and common.	<ul style="list-style-type: none"> (1. Poor heath and common reserved (for firing. (2. Better heath and common parcelled (out to different tenants. (3. 19 acres woodland planted in 1776. 	

For the newly enclosed land he laid out roads and driftways¹⁴ and further improved the land by marling. The new leasehold tenant with the 21-year lease was required to marl 20 acres every year until the whole of his farm had been marled at the rate of 20 cartloads per acre.

¹³N. Kent - General View of the Agriculture of the County of Norfolk. 1796. p. 75.

¹⁴W. Marshall - Rural Economy of Norfolk 1787. Vol. II, p. 365.

Thus the parish of Felbrigg in the latter half of the eighteenth century exemplifies the improvements which followed enclosure when land-owners who were anxious to improve their land possessed sufficient knowledge and capital to do so. No detail is given of the exact method of clearing and cultivating the reclaimed heath and common in Felbrigg, but fortunately such details are available from another parish on the Moraine a few years later.

Kelling was a few miles to the west of Felbrigg and covered part of the summit area and steep north face of the Moraine. With Salthouse, it was included within the first of the Parliamentary Enclosure Acts for the region in 1780, and in that respect differs from Felbrigg. The Parliamentary Enclosure Act was mainly "to extinguish all rights of sheep-walk, common and shackage" over common fields and half-year lands, and this is stated in the preamble to the Kelling and Salthouse Enclosure Act. At the time of enclosure there were 1626 acres of warren, common and heath, which was almost half of the combined acreage of the two parishes - 3825 acres - and was in "the same dreary uncultivated barbarous state as so many other common heaths in the neighbourhood"¹⁵. This Enclosure Act (1780) was not followed by large-scale improvements within the two parishes for a century later large acreages of heath still existed. Reclamation never got beyond what might be termed a 'Pilot Scheme', which gave the Lord of the Manor profit from acres that before enclosure yielded little or nothing¹⁶.

¹⁵A. Young - General View of the Agriculture of the County of Norfolk 1804. p. 153.

¹⁶Ibid., p. 152.

This scheme included improving the land by the following method -

- 1st year)
) "ploughs and leaves the furrow two years to rot.
 2nd year)
- 3rd year - clays it 50 loads an acre, and 10 loads of muck, works it for turnips, which are good, worth 40/- an acre; these are sowed with sheep and cattle.
- 4th year - sows oats.
- 5th year - lays down to grass for as many years as it will stand for the rabbits"¹⁷.

The land in Kelling was, and still is, poor, but good crops of turnips and oats were at first obtained from the newly broken-up land. This gives proof that with the new farming methods profitable returns were made even from land of indifferent quality. Arthur Young criticised the initial steps of this improvement. He suggested in its stead an alternative husbandry of sheep-walk and corn. He disapproved of breaking up the vegetation and leaving it to rot for two years, as this method had been tried in various parts of the kingdom and almost everywhere had proved unprofitable. He advocated paring and burning, followed by turnips or cole and then grasses "being as well loaded with sheep for as long as possible." When the land began to deteriorate it was prepared for one crop of corn, and then to grass again. This was a variation on his usual advice and may possibly have been due to his appreciation of the northward facing aspect of the

¹⁷Ibid., p. 152.

parish which exposed it to the full brunt of the northerly winds. The high and level area of Kelling Common was particularly bleak and windswept and thus more suited to sheep than to mixed farming. Whether Young's suggestions were ever carried out is doubtful, for the acreage of heathland is still large today; he must indeed have anticipated that his advice would go unheeded for he added significantly at the conclusion of his discussion on the parish, "the notion that the land is good for nothing but rabbits, makes it so"¹⁸.

The new farming methods did not meet with equal success throughout the area. Some landowners were not only more successful in their practices but also possessed a steadier financial background, whilst other factors beyond the control of the landowner played an important part. For instance, aspect may have accounted for greater success in Felbrigg than in Kelling. Felbrigg, too, had been protected from the north by plantations since the seventeenth century. Water supply could also affect success, especially as livestock was so important in the new agriculture. Much of Kelling was high (for the Moraine) and flat, with the water table near the surface in only one small north-facing valley.

The planting of trees was another important method of reclaiming heath and common. Such reclamation aided the improved husbandry by providing shelter for stock and timber for fences and gates. Trees were planted in Aylmerton and in the neighbouring parish of Felbrigg by Mr. Wyndham. In

¹⁸Ibid., p. 153.

March 1776 at Aylmerton a grant of just over 60 acres of common land was made for "the growth and preservation of trees"¹⁹. A grant for the same purpose was made two months later in Felbrigg and consisted of 19 acres of common (see p. 26). This followed the enclosure of the parish in 1771 and was an added improvement. Mr. Wyndham raised most of his trees from seed, the main varieties being Oak, Spanish Chestnut and Beech²⁰. Mr. Wyndham was not the only landowner who was planting trees at this time, as in the parish of Harworth a few miles to the south of Felbrigg two grants of common land of 31 and 35 acres were made to Sir Harbord Harbord for "the growth of timber"²¹.

More detail can be obtained from the estate of Mr. Cook Flower of Sheringham. In 1781 he carried out heathland reclamation by planting young trees amongst furze and ling²² on the summits of low hills lying between the steep north face of the Moraine and the sea. Patches of gravel called by Soloman²³ 'Ridge gravels' capped these outlying hills to the west of Sheringham. Tree planting was of particular advantage on land too

¹⁹Calendar of the Deeds enrolled within the County of Norfolk. Norfolk Archaeology, Vol. XIII, p. 289.

²⁰N. Kent. General View of the Agriculture of the County of Norfolk 1796. p. 76.

²¹Calendar of the Deeds enrolled within the County of Norfolk. Norfolk Archaeology, Vol. XIII, p. 290.

²²History and Antiquities of the County of Norfolk. 1781. Vol. III, p. 101.

²³J.D. Soloman - Glacial Succession on the N. Norfolk Coast. Proceedings of the Geological Association. 1932. pp. 241-271.

steep for ploughing but did not bring in such quick returns as heath reclaimed by cropping and grazing.

Enclosure and the improved farming on both old and newly farmed land led at first to an increase in population. Many more farm labourers were needed to cultivate the crops, to tend the stock in winter and for the general upkeep of the farm. Turnips, the vital crop in the new rotation, had to be hand-hoed by skilled labour. On land newly enclosed from heath or common, labourers were needed to clear the old vegetation (especially if there were scattered trees), whilst the planting of hedges and hedgerow trees and the construction and maintenance of ditches all required more workers than had been needed hitherto.

The increased demand for labour led at first to a drift of population into those parishes where land had been recently enclosed and improved; some of this demand was met by gangs of women and children who supplemented the full-time farm workers. How this demand for labour could vary between parish and parish can best be illustrated by a comparison of the population of Felbrigg with that of Kelling.

In Felbrigg (enclosed privately in 1771) there was an increase of 53 people between 1777 and 1796. The total population was 174 in 1796²⁴ and had risen to 181 by 1801. After this peak there was a steady decline for the next 50 years, so that by 1851 the figure had fallen to 126 (Fig. 14A) - approximately the same as before enclosure.

²⁴N. Kent - General View of the Agriculture of the County of Norfolk. 1796. p. 75.

Enclosures, together with the first heavy marlings, led, as has been shown, to an extra demand for labour in the initial stages of the change-over, but demand decreased thereafter and population gradually drifted to the growing urban centres or emigrated to the expanding colonies overseas. The development of Cromer as a seaside and fishing resort probably also attracted some of the population from nearby parishes such as Felbrigg.

On the other hand, the parish of Kelling, enclosed by Parliamentary Act, presents a noteworthy contrast. According to Arthur Young²⁵ the population remained almost stationary before and after enclosure in 1780, decreasing by 3 in the 20 years before and by 5 in the 20 years after (Fig. 14B). The Enclosure Act of Kelling had extinguished common rights of sheep-walk and shackage but even so improvements to small areas only were carried out. The explanation for this has already been given (see p. 29). Even by the middle of the nineteenth century there was still a large area of heath in Kelling. After the passing of the Act of Enclosure the poor were no longer free to use the whole of the heathland but were restricted to their communal allotments of 300-400 acres. According to Arthur Young²⁶ the poor gained by this restriction and thus the land was not overstocked.

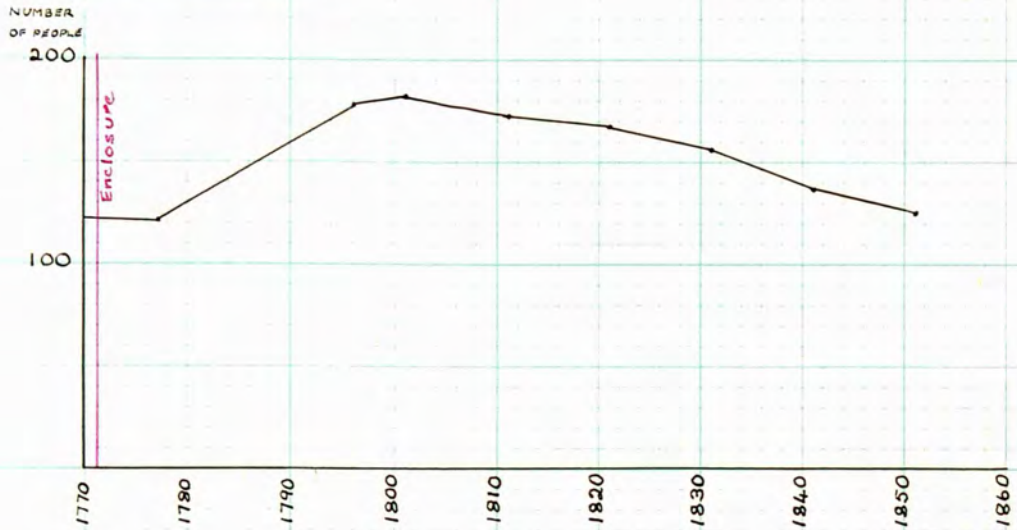
Sharrington, a small parish on the west side of the Moraine, also enclosed by Parliamentary Act, provides an interesting contrast to

²⁵A. Young - General View of the Agriculture of the County of Norfolk. 1804. p. 152.

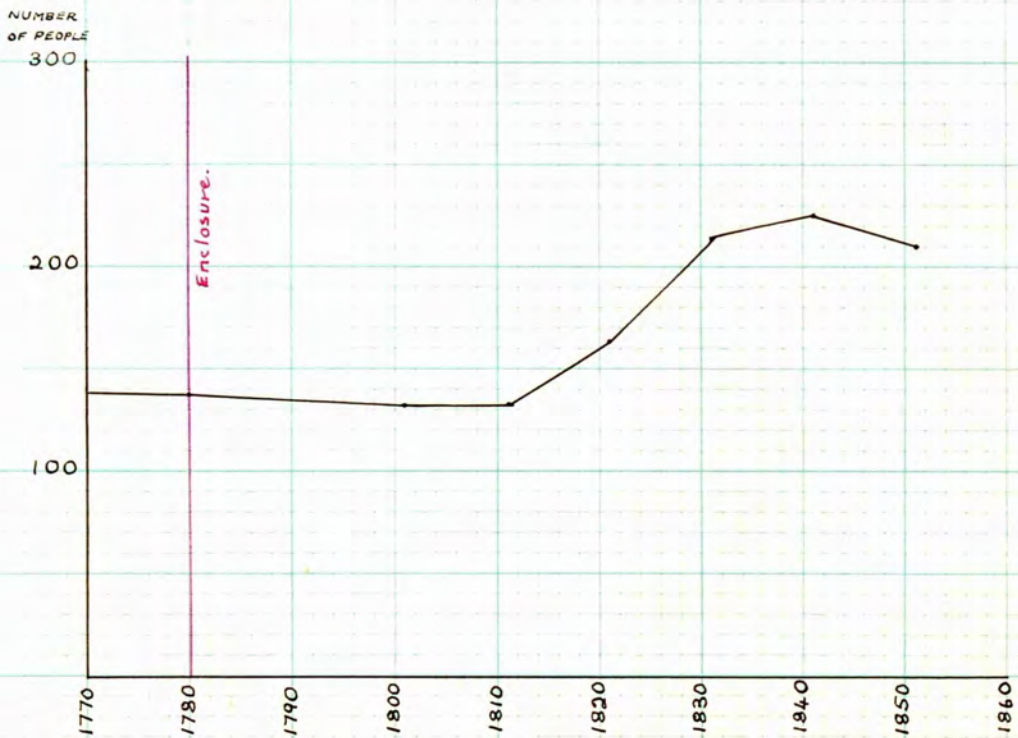
²⁶Ibid., p. 152.

POPULATION - 1770 TO 1851.

A. FELBRIGG.



B. KELLING.



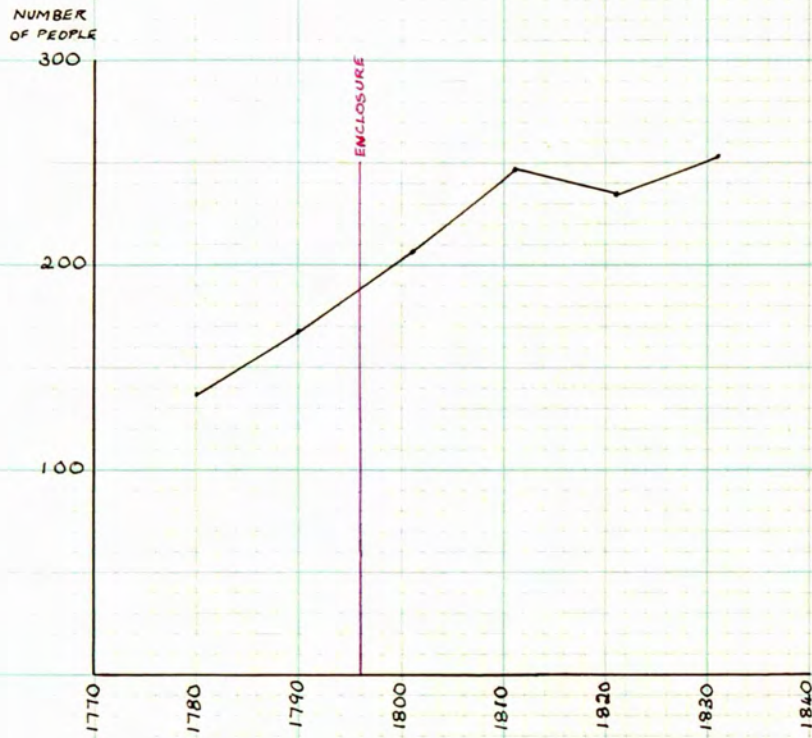
Kelling, for after the Act of Enclosure its population increased. The Act of 1796 was for the enclosure of the common and for the improvement of half-year lands to whole-year lands. The population of Sharrington shows a continuous increase from 1780 to 1811 (Fig. 15), whereas the population of Kelling was static during this period and unaffected by the Enclosure Act, owing, it is believed, to a harsher physical environment.

Between 1790 and 1794 William Faden surveyed the County of Norfolk and subsequently produced the first 1 inch to 1 mile map²⁷ of the county. This map (Fig. 16) shows a reduction in the area of heath and common as compared with times past; but heaths and commons were still extensive and numerous and the descriptions written by William Marshall and Arthur Young about 1790 give a graphic picture of these. William Marshall, writing in 1792, stated that the north-eastern part of Norfolk

²⁷Faden's Map also shows (in black and white) relief by hachures, settlements, roads, rivers and certain types of land-use. Despite the cartographical problem of transferring details to a map based on a different projection (viz. the 2.1/2" O.S. map) and the difficulty of locating certain roads and tracks which have been altered or obliterated by time (checked by the writer where possible in the field), the newly constructed map is of prime importance in demonstrating the first accurate mapping of heath and commonland in the county. The 2.1/2" maps on to which Faden's detail has been transferred were specially printed in order to omit irrelevant material. By using the grey and orange plates only, detail was limited to field boundaries, contours and roads, the latter being subsequently whitened out. The sheets of the 2.1/2" map were mounted together to form one large map, which was then photographed and reduced (Fig. 16). On Faden's Map common and heathland are not clearly distinguishable from each other, as they were often co-existent. The distinction was usually drawn by the name and where this was the case it has been represented on Fig. 16 by differing shades for heath and common.

FIGURE 15.

THE POPULATION OF SHARRINGTON, 1780 TO 1831.



(the Morainic area) "abounds with barren heaths and infertile enclosures with not an acre of retentive subsoil"²⁸. More detail of the state of the countryside is given by Arthur Young, who found for instance that "nine-tenths of the land between Sheringham and Cromer was in black ling heath"²⁹. The road between these two places, after climbing the north slope, continued along the summit of the Moraine, so following the line of heath shown on Faden's Map.

Below is a summary of the areas of heath, common and woodland on the Cromer Moraine according to Faden's Map: -

A - HEATHLAND AND COMMONLAND

1. Summit areas of Moraine and northern slope.

From south of Holt to Cromer. The main area of heath extended along summit and north-facing slope.

Salthouse Common and Warren.

Despite the Enclosure Act of 1780, this area is shown as a wide extent of heath, with straight boundaries. One section on the east is shown as an enclosure but no indication is given of its use and it had disappeared by 1838, when also the differentiation between the names 'warren' and 'common' had been merged into the one term 'heath'.

Roughton Heath.

This was described by a contemporary writer as a small parish of

²⁸W. Marshall - Rural Economy of Norfolk. 1787. Vol. I, p. 11.

²⁹A. Young - A Farmer's Tour through the East of England. 1771. p. 62.

poor land³⁰ and was obviously once continuous with the main area of heathland (see p. 14).

2. Edgefield District.

Edgefield Heath and Plumstead Common - the nomenclature changes at the parish boundary which is also there coincident with the boundary between two Hundreds.

2. West of the Glaven.

Stody Common.

Dalling Common.

Stock Heath. This area occupies the watershed between the R. Glaven and R. Stiffkey in an area where the Moraine dies out.

4. The Upper Ant.

Antingham Common. This area represents the remains of the waste of the Soke of Gimmingham (see Chap. 2). According to Faden this is called 'common' but heath vegetation is suggested by inference from field names in the later Tithe Schedule, 1839: e.g. Heath Close, Heath Ten Acres.

South of Bacton near the River Ant. These were patches of heath near Bacton Wood.

B - WOODLAND

1. Summit Areas and Northern Slope of the Moraine.

Along the north face of the Moraine in Sheringham and on the summit in Felbrigg.

³⁰W. Marshall - Op. cit., Vol. I, p. 241.

2. Edgefield District.

The 'Great Wood' (between Edgefield and Plumstead).

4. The Upper Ant.

Bacton Wood. Brushwood was left between Bacton and Witton Heaths³¹ and is shown on the map as small patches of heath. Woodland had been cleared and the land used for arable farming.

The importance of Faden's Map cannot be over-stressed for it gives the first accurate delimitation of the extent and location of heath, common and woodland towards the end of the eighteenth century and thus provides a valuable basis from which to measure subsequent reclamation.

PART II. 1794 - 1842.

During the years between the publication of Faden's Map (1794) and the compilation of the Tithe Schedules (1838-1842) reclamation on the Moraine continued at an increased pace. The rise in agricultural prices gave a stimulus to agriculture which attracted "the attention of persons of intellect, education and capital, who, encouraged by the energetic examples and influence of Mr. Coke invested large sums in the pursuit"³². The estate of Mr. Coke at Holkham was only a few miles to the west where the results of the improved methods of farming could be seen and compared with the less progressive farming in the neighbouring districts of the Moraine itself. There was more heath in the western part of the Moraine and it was

³¹History and Antiquities of the County of Norfolk. Vol. IX. Hundred of Tunstead. p. 10.

³²R.N. Bacon - A Report on the Agriculture of Norfolk. 1844. p. 83.

probable that the influence of Mr. Coke's improved methods greatly aided the reclamation of these western heaths.

Over half the heath existing on the Moraine in 1794 was reclaimed in the years 1794 to 1838. Some indication of the extent of reclamation can be judged from the map based on the Tithe Schedules (Fig. 17) and more detail is given in the accompanying table (Fig. 18). Though the average amount reclaimed was more than 50 per cent. of the heath of 1794, the proportion was even higher in the western districts. A large heath, like Stock Heath in the west, had 91 per cent. of its 1794 acreage reclaimed, while at Felbrigg in the centre the heath was reduced by 80 per cent., though at Roughton in the east it remained almost untouched. Two large commons of Dalling (in the west) and Antingham (in the east) almost disappeared during this period. Commonland had often developed on comparatively better soils than the heath and therefore could be more easily brought into cultivation. Enclosure was usually the primary condition of reclamation, but each area had its own distinctive features. These areas will now be discussed individually in the same sequence as in the previous chapter (Fig. 19).

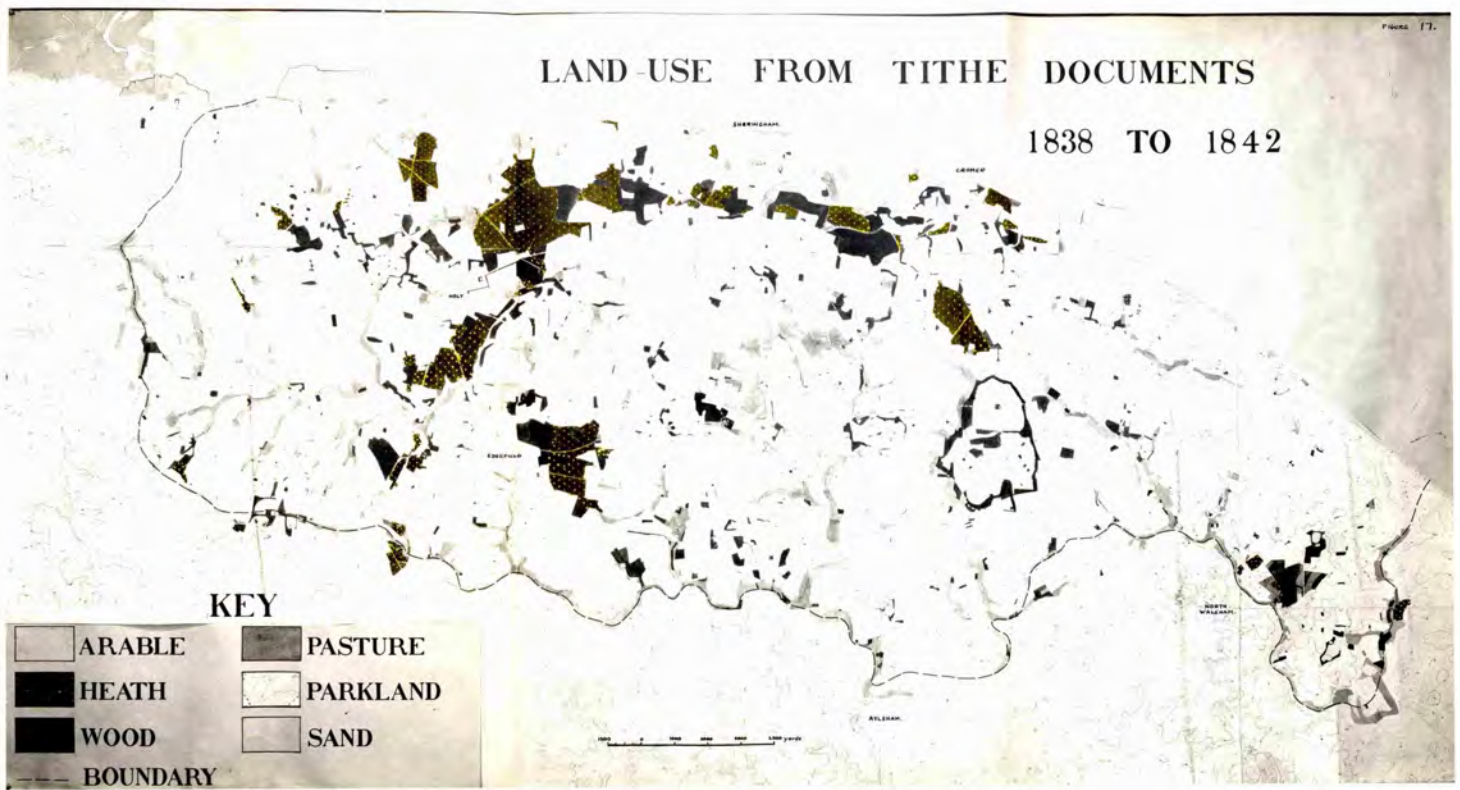
1. Summit Areas and Northern Slopes.

Holt and Kelling. 44 per cent. reclaimed.








In the period between Faden's Map and the Tithe Maps much of the heath to the east of Holt had been reclaimed for arable and woodland. Holt was one of the largest parishes affected by an Enclosure Act, but at the beginning of the nineteenth century, in 1804, 1600 acres of a total

LAND-USE FROM TITHE DOCUMENTS

1838 TO 1842



KEY

	ARABLE		PASTURE
	HEATH		PARKLAND
	WOOD		SAND
	BOUNDARY		

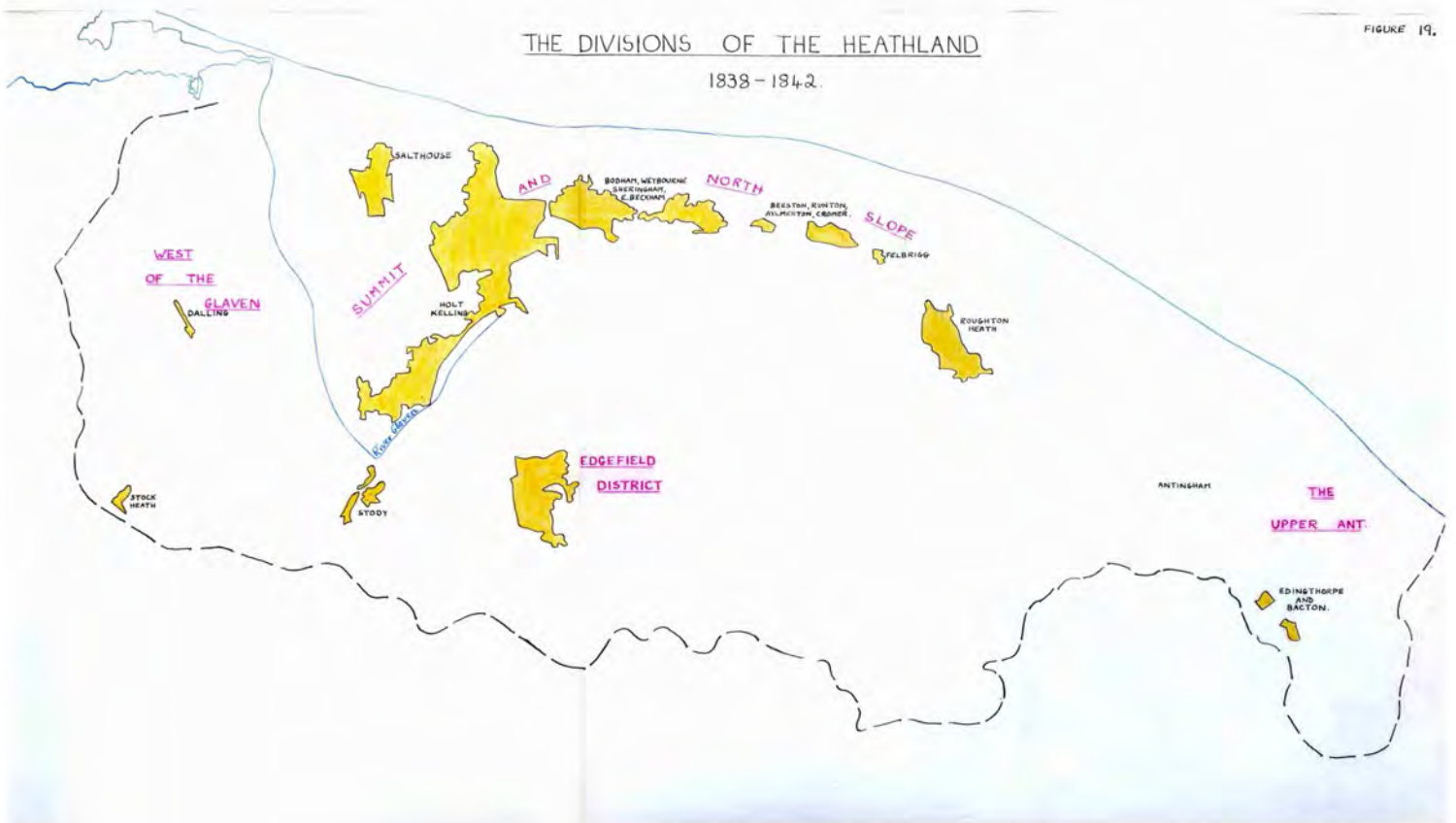
HEATH RECLAIMED (Approximate)³³Figure 18.

DISTRICT	Acreage of Parishes	Acreage 1794	Acreage 1838/42	Acreage reclaimed	Percentage reclaimed
<u>1. SUMMIT & NORTH SLOPE</u>					
Holt, Kelling.	5020	2900	1500	1400	44
Bodham, Weybourne,) Sheringham, E. Beckham)	6410	980	500	480	55
Beeston, Runton,) Aylmerton, Cromer)	4170	760	165	595	79
Felbrigg	1440	120	20	100	83
Salthouse	1960	350	350	-	0
Roughton	1620	390	380	10	3
<u>2. EDGEFIELD DISTRICT</u>					
Edgefield, Plumstead,) Little Barningham)	4940	710	500	210	30
<u>3. WEST OF THE GLAVEN</u>					
Stody, Hunworth	1940	220	100	120	53
Dalling	1630	360	25	335	93
Stock Heath	1220	330	30	300	91
<u>4. THE UPPER ANT</u>					
Antingham	1530	800	a very little pasture	800	almost 100
Bacton, Witton,) Edingthorpe)	4108	230	60 +	170	75
TOTAL		8150	3630	4520	56

³³The above approximate acreages of heath were obtained by measuring on squared paper the area of heath on both Faden's Map and the maps of the Tithe Survey. Acreages from Faden's Map were calculated directly as it is on a 1" to 1 mile scale. In the case of the Tithe Survey the areas were transferred to the 2.1/2" to 1 mile maps and it was from these that the area of heath was calculated.

THE DIVISIONS OF THE HEATHLAND
1838 - 1842.

FIGURE 19.



of 2950 acres was described by Arthur Young as 'waste'³⁴. The inhabitants had discussed the enclosure of it, but had taken no action. The 'waste' or heath was used by neighbouring farmers for sheep grazing as it was said that sheep thrived better when grazing on ling than when grazing on ordinary pasture³⁵. Observations such as this would have strengthened local opposition to enclosure, a measure which would have led to the destruction of the ling and of the reputedly good grazing. Eventually in 1807 enclosure was carried out by Parliamentary Act but improvement did not start immediately. In 1809 there was heath in Holt and in the neighbouring parish of Letheringsett which was capable of improvement³⁶. Despite local opposition and a slow start, reclamation was later carried out on a big scale; by 1839 there were large fields of arable land and plantations of trees on former heath.

Kelling Heath was continuous over the parish boundary with that of Holt to the north, but being nearer to the sea (on the summit and north slope) it had an unfavourable environment which apparently was such as to deter any large-scale improvements. The Enclosure Act of 1780 did not result in any reduction of the heath except for two small arable enclosures made in the centre of the heath - an unusual position (Fig. 20.I).

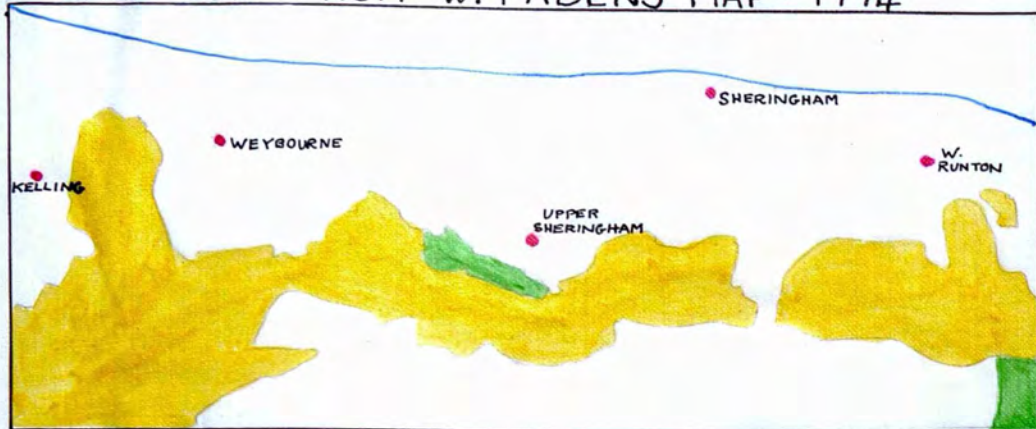
³⁴A. Young - A General View of the Agriculture of the County of Norfolk. 1804. p. 388.

³⁵Ibid., p. 462.

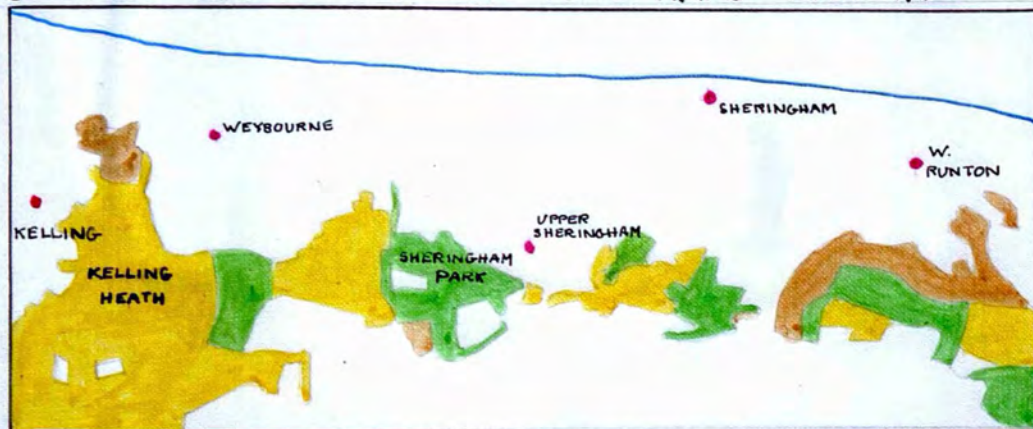
³⁶W. Rye - Notes on Runton, Norfolk - Norfolk Antiquarian Miscellany. 1877. Vol. I, p. 431.

I RECLAMATION ON THE ESCARPMENT

A - LAND USE FROM W. FADENS MAP - 1794



B - LAND USE FROM THE TITHE MAPS - 1838-42

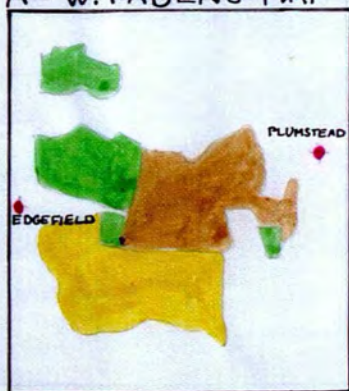


KEY



II RECLAMATION NEAR EDGEFIELD

A - W. FADENS MAP - 1794



B - TITHE MAPS - 1838-42



Bodham, Weybourne, Sheringham and East Beckham. 55 per cent.
reclaimed.

Reclamation in these four parishes was much more piecemeal than in Holt, and took the form of a narrowing of the belt of heath which extended along the summit and north face of the Moraine. It resulted in an increase in arable land, and in Sheringham in an increase of woodland. Much of the south-west of the parish of Sheringham was included within the new Sheringham Park which was laid out by the landscape gardener Humphrey Repton, who was commissioned in 1812³⁷. He combined the existing plantations with his own improvements and in doing so reclaimed some heath along the north face and summit of the Moraine (Fig. 20.I).

Sheringham Parish was also affected by an Enclosure Act in 1809 and by 1811 this had been carried out. Two small commons remained, one for each of the two villages within the parish. Upper Sheringham Common formed part of the summit heaths, while that at Lower Sheringham was at the base of the north slope and continuous with the common of Beeston Regis to the east.

A map (1811) of Sheringham³⁸ shows the position of a marl pit, adjacent to the road between Upper Sheringham and Holt. The large size of this disused pit indicates the thousands of tons of marl which must in former times have been removed for fertilising nearby land.

Trees were planted on summit heathland in East Beckham, to the immediate south of Sheringham.

³⁷R.W. Ketton-Cremer - A Norfolk Gallery. 1948. p. 212.

³⁸Map is preserved in the offices of the Sheringham Urban District Council.

Beeston and Runton. 79 per cent. reclaimed.

The effect of reclamation in these two parishes was seen in a large area of wood stretching along the Moraine summit as far east as Felbrigg. A few enclosures had been made on the south side, but were surrounded by the trees on three sides as a protection from the northerly winds.

Most of the northern face of the Moraine was described in 1838 as pasture, whereas it was mapped as heathland 44 years earlier (Fig. 20.I). Much of this slope today is heathy scrubland.

Felbrigg. 83 per cent. reclaimed.

The heath to the east of Felbrigg Park had been reclaimed by an extension of the woods previously planted in the northern part of the Park. The largest area of heath remained on the summit, as it was left after enclosure for the use of the local inhabitants.

Salthouse.

The large heath in this parish is remarkable. The environment is similar to Kelling, a bleak and dry climate and a northern aspect, which gave little encouragement for reclamation. The parish was enclosed with that of Kelling in 1780 but little reclamation took place. Very little of this enclosed heath was improved even during this great period of reclamation.

Roughton. 3 per cent. reclaimed.

Reclamation was almost non-existent in this parish and only one enclosure of any size was made in the south. The heath occupied a flat windswept southerly spur of the summit whilst the village and farms were in a more sheltered position to the south-west.

2. Edgefield District.

Edgefield, Plumstead and Little Barningham. 30 per cent. reclaimed.

These three parishes (south of Holt) shared a heath in 1794, parts of which also formed the commonland of Plumstead and Edgefield. Edgefield Common was enclosed in 1812 by Parliamentary Act³⁹, but 50 acres in the south-east on the boundary with Saxthorpe were left in heath as a fuel enclosure award. By the time of the Tithe Map (1842) even this had been improved to arable land (Fig. 20.II). Except along the boundary with Holt there was now no heathland in Edgefield and its former existence was marked by only one field name in 1842 - King's Heath Close.

The parish of Little Barningham was enclosed in 1821, but little if any reduction of heath immediately resulted. The heath appears to be slightly larger than in 1794 but this may be due to more accurate mapping combined with the possibility that some rough pasture might now have been termed 'heath'. In Plumstead Faden mapped 'common' which was described in the Tithe Document as 'heath'. Little reclamation had occurred and consisted in the east of small enclosures, whilst a small wood had been planted in the centre of the common.

3. West of the Glaven.

Stody and Hunworth. 53 per cent. reclaimed.

South-west of Holt across the valley of the Glaven were the commons of the parishes of Stody and Hunworth. Stody Common was enclosed by Parliamentary Act in 1805, and by 1839 the commonland had been planted

³⁹ Award in 'Local Collection' Norwich Public Library.

with trees. The plantation seems to have extended beyond the limits of the former Common (compare Faden's and the Tithe Maps). (Fig. 21.)

Reclamation in Hunworth was much more piecemeal, occurring in the centre and separating the remaining heathy commons from each other. The enclosures were usually very small, two of the larger being called 'Heath Piece' and 'First Breck'. All these enclosures were arable in 1839.

Dalling. 93 per cent. reclaimed.

The large common existing here in 1794 had almost disappeared by 1839, except for a narrow central strip, now termed 'heath'. Names given to the new enclosures preserve the record of the common's former existence; 9 field names contain the word 'common', 6 contain the word 'moor', and 4 the word 'furze'. The names 'moor' and 'furze' indicate the characteristic vegetation and appearance of the former common.

Stock Heath. 91 per cent. reclaimed.

The greater part of this heath was reclaimed but no details are available. The land in part was planted with trees and in part was used for crops.

4. The Upper Ant.

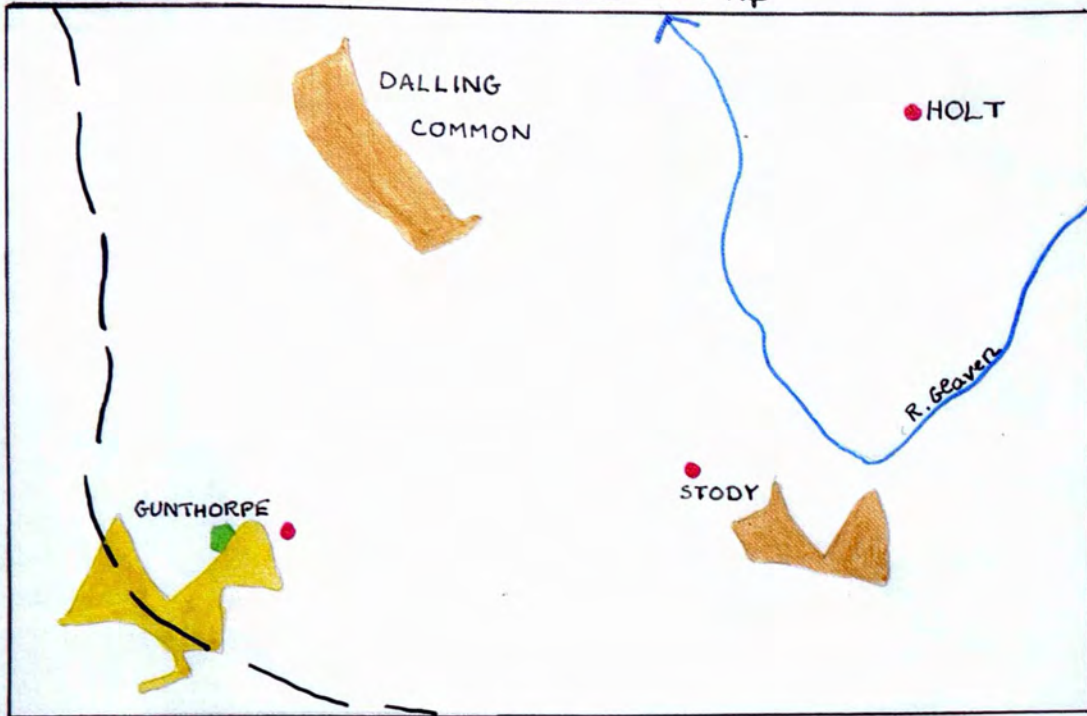
Antingham. Almost 100 per cent. reclaimed.

The large common here had virtually disappeared by 1839. Some pasture remained along the River Ant. Its former existence is recorded by names given to the new enclosures such as 'Mill Heath Piece', 'First Heath Close' and 'Heath 10 acres'. All these were in the northern half, and indicate that here at least heath vegetation did exist on commonland.

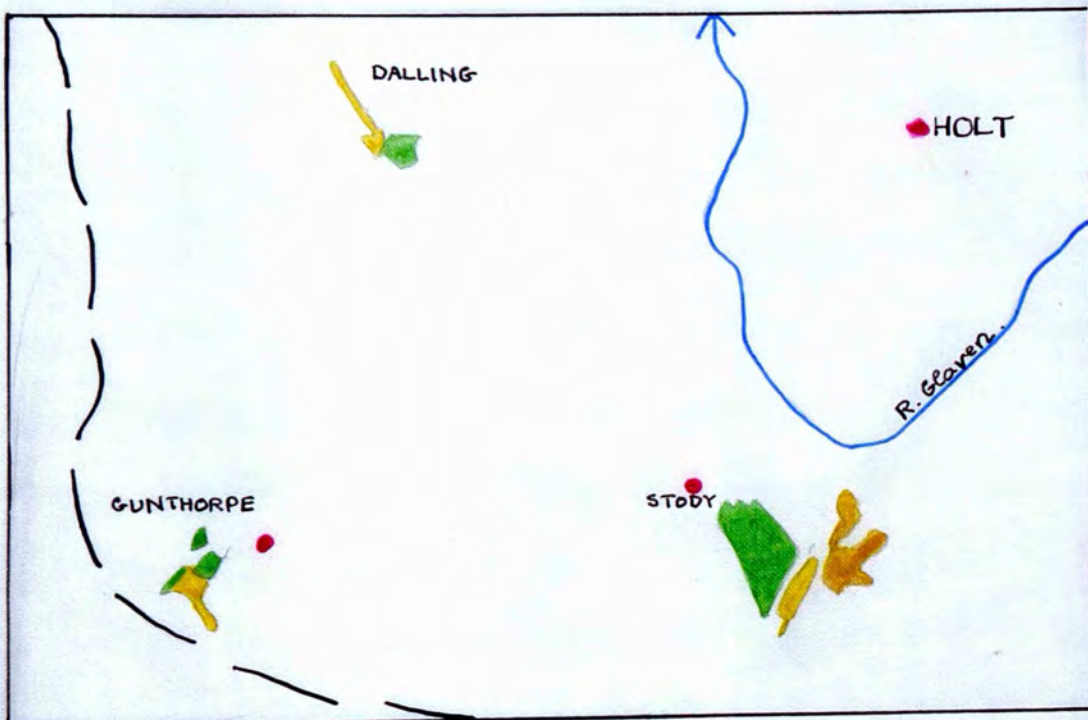
RECLAMATION IN THE SOUTH-WEST

FIGURE 21.



A- LAND-USE FROM W.FADENS MAP - 1794





B- LAND-USE FROM TITHE-MAPS - 1838-42



KEY

-  HEATHLAND
-  WOODLAND

-  COMMONLAND
-  BOUNDARY

Edingthorpe, Bacton and Witton. 75 per cent. reclaimed.

The land-use of the former heath in these three parishes was varied in 1839. Much of the area reclaimed was used for arable farming, but in Witton land was designated as pasture. The field names of this pasture included 'New Breck', 'Harmer's Breck', and 'Upper Hungry Breck'. If the ordinary definition of 'Breck' is accepted it would appear that the cropped land had been laid down to pasture by 1839. The neighbouring arable fields also had similar names, such as 'Heath 10 acres', and 'Breck 6 acres', indicating their former state.

The foregoing summary brings out clearly the varied purposes of reclamation, and the evidence that can be derived from field names of the former existence of heath. Two heaths, in spite of the reclamation in neighbouring parishes, remained almost untouched. In Salthouse, the conditioning factor of enclosure had been carried out as early as 1780 but this had not occurred in the other one - Roughton. Both heaths occupied flat, bleak, and windswept parts of the summit area. Roughton was favoured with a southerly aspect and its reclamation came later in the century. Despite these two exceptions the period 1794 to 1844 (when more than half the acreage of common and heath disappeared) was the greatest in the history of the reclamation of the Moraine.

The heath at the time of Faden was so extensive that in spite of the great amount reclaimed it still formed (1844) a characteristic

feature of the region. The remaining commons and heaths were smaller and less numerous and the larger areas were mostly located on the summit and north face of the Moraine. The soils of the summit were lighter and "more backward than elsewhere", being described by Bacon as "a very light blowing sand without a stone upon it, and the crops are from a week to a fortnight more backward than almost any other part of the country"⁴⁰. These soils would deter reclamation in contrast to the 'warmer' soils which would be improved first. In spite of the agricultural depression that followed in the wake of the Napoleonic wars, reclamation continued though at a much reduced pace. No new enclosures took place between 1821 and 1824; the period was one of consolidation.

Reclamation brought big changes to the agricultural landscape. The aspect became much less open as hedgerows of trees around the enclosures and new plantations grew up. Much of the land, now arable, enjoyed more shelter than it had known for centuries. The scene described by Marshall had disappeared. Writing in 1792 (before the great period of reclamation) he noted that "there is not, generally speaking, a piece of woodland or a coppice in the whole district, and even plantations are thinly and partially scattered"⁴¹. There were exceptions, like the Great Wood at Edgefield, but the plantations which developed with reclamation helped to give the higher parts of the district a much more wooded appearance and gave shelter in

⁴⁰R. N. Bacon - Report on the Agriculture of Norfolk, p. 21.

⁴¹W. Marshall - Rural Economy of Norfolk. Vol. I, p. 4. 1787.

the lee of the summit. Trees were also planted on long-established farmland of the Moraine, as the Tithe Maps record numerous small woods.

During the great period of reclamation the value of land rose, which in itself was an incentive to further reclamation. The number of applicants for vacant tenancies was sometimes so great that the new tenant was chosen not necessarily for his farming capabilities but for his ability to pay a high rent.⁴² Even so, very few would pay as high a rent for recently enclosed heathland as for long-established farmland.

An examination of the rentals for the area in 1815⁴³ (Fig. 22) calls for the following observations.

1. In 1815 the parishes with low average rents occurred over a wide area, and reflected the extent of heath shown by Faden, for even though reclamation prior to 1815 had taken place the improvements had not been stabilised sufficiently to be reflected in rent.
2. The lowest rent in 1815 was in the parish of Kelling, whose extensive heath and unfavourable environment have already been commented on.
3. The highest rents in 1815 were a reflection of other geographical and economic influences. The coastal parishes showed the advantage of proximity to the sea, especially the small urban centres of Mundesley, Cromer and Sheringham; the Scarrow Beck area had been extensively farmed for many centuries; the south-east area as far as Paston was lower and south-facing, whilst Holt, although containing much heath, had rental values

⁴²R.N. Bacon - Op. cit., 1844, p. 39.

⁴³Published in the Census Returns for 1821.

increased by reason of the influence of the weekly market and the Boys' Public School, viz. Gresham's School.

From a comparison of the rentals for 1815 (Fig. 22) and 1842⁴⁴ (Fig. 23) four main groups of parishes emerge: -

1. Great increase. The majority of coastal parishes - those which contained market towns (Aylsham, North Walsham, Holt).
2. More than average increase. From Southrepps to Honing, around the Scarrow Beck, and to the west and south-west of Holt.
3. Some increase. Remaining parishes, except those in No. 4, showed some increase between 1815 and 1842.
4. Little or no increase. The summit area - parishes of Kelling, East Beckham, Aylmerton and Felbrigg and in the parishes around Edgefield.

The parishes which had at one time or another heath vegetation mostly fall into the third and fourth of the above four groups, where there had been little or almost no increase in the value of the land. It now remains to examine why those parishes in the fourth group had not increased in value as much as other parishes with reclaimed heath which fall into the third group.

The summit area of the Moraine had always been largely covered in heath until the decades immediately prior to 1842. The soils were sandy, dry and cold and there was little shelter. These conditions were found at their maximum in Kelling. The amount of heath that had been reclaimed on the summit area was not so great as in some other parts of the Moraine, and much had been reclaimed by the planting of trees - a form of reclamation

⁴⁴These figures are given in R.N. Bacon's "Report on the Agriculture of Norfolk," 1844.

yielding slower returns than from arable land. Thus even in 27 years the value of the timber would not be sufficient to increase greatly the rental value. Kelling Heath had remained almost untouched, hence the very small rise in rental values. The Edgefield district had for long been a poor one, due mainly to the existence of a large heath divided between five parishes - Edgefield, Hempstead, Plumstead, Little Barningham and Mannington. Though reclamation had reduced the acreage of the heath, much still remained, especially in Plumstead and Little Barningham. This heath had been one of the largest on the Moraine, with the exception of those on the summit area; consequently the land values were very similar.

The comparison of the rentals brings out clearly the growing differentiation in the prosperity of the area between the better soils, the more favourably located heathlands and the more sterile heath. Thus by 1842 increased rents were obtained from over 4,600 acres of land which had been reclaimed since 1794.

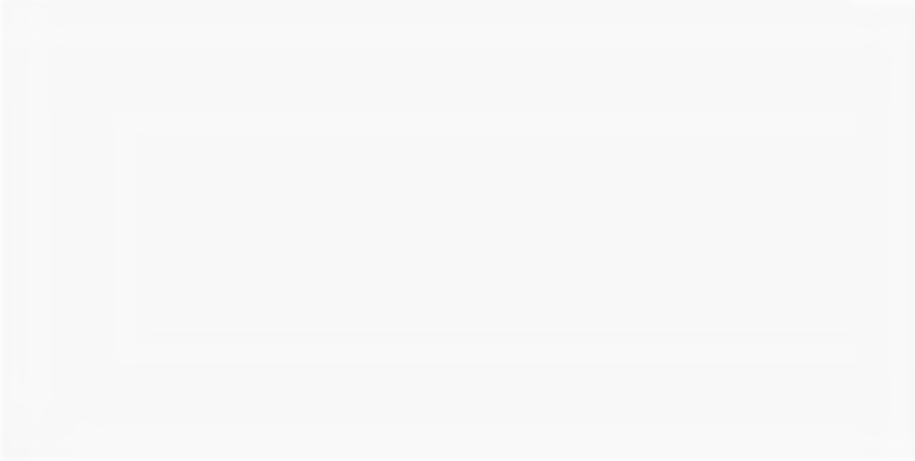
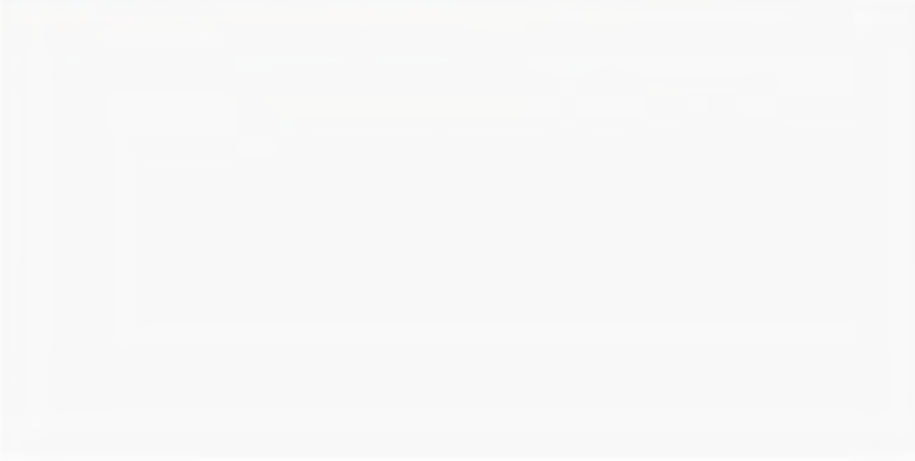
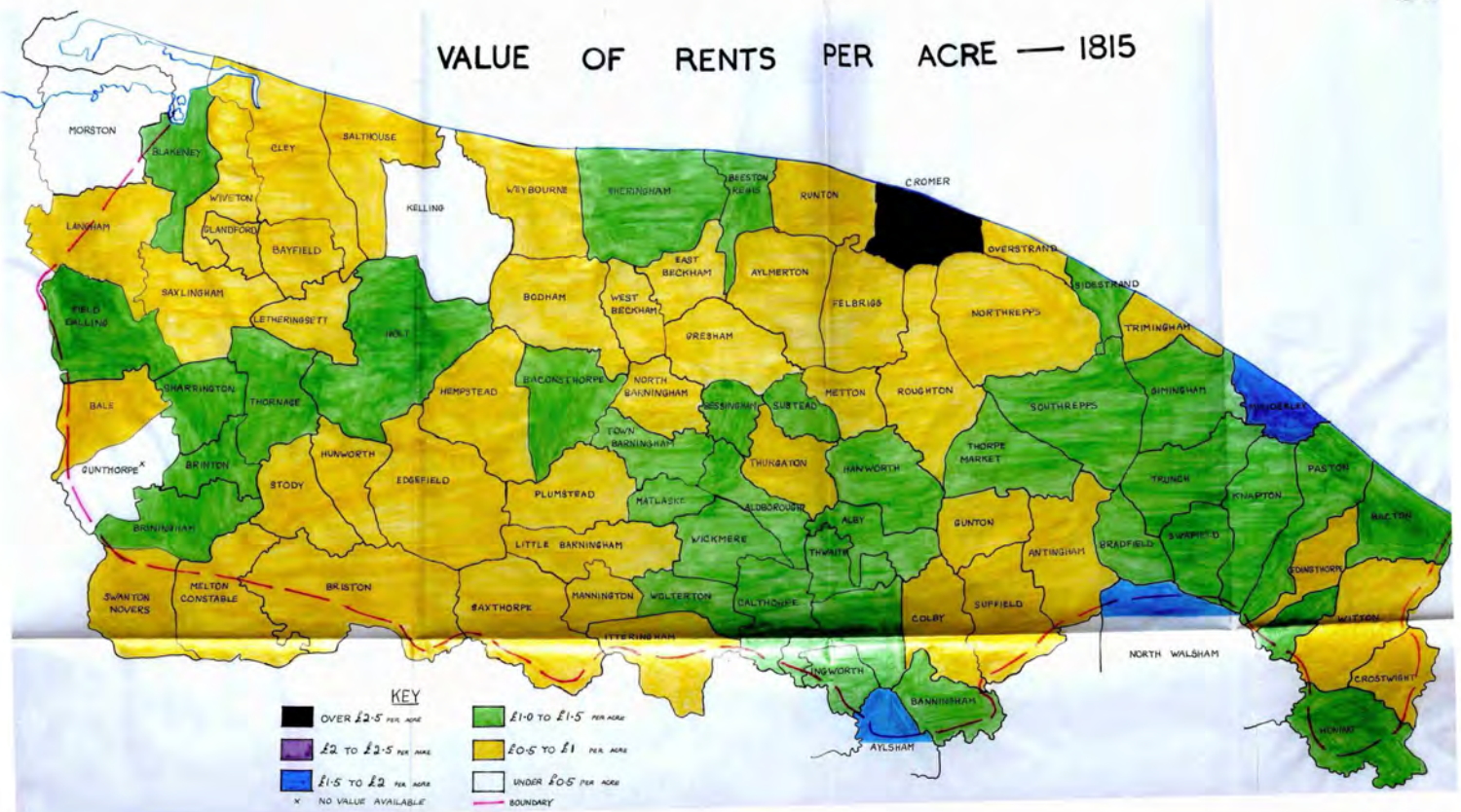


FIGURE 22.



VALUE OF RENTS PER ACRE — 1815



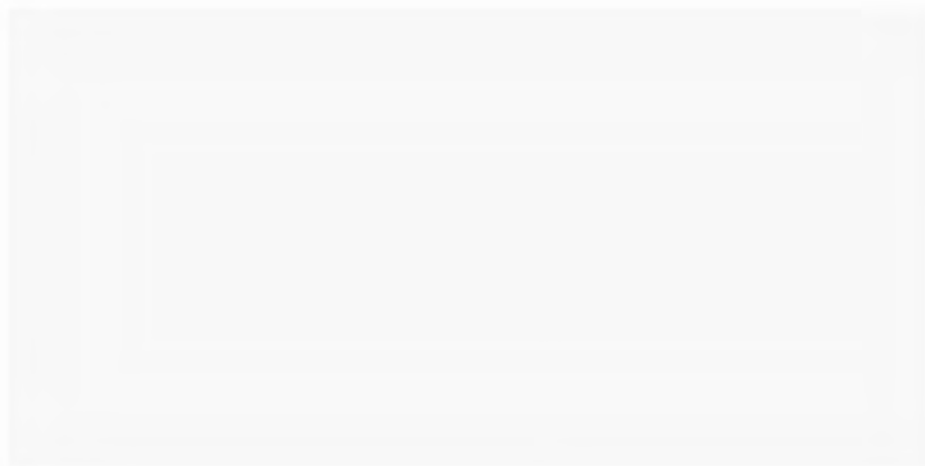
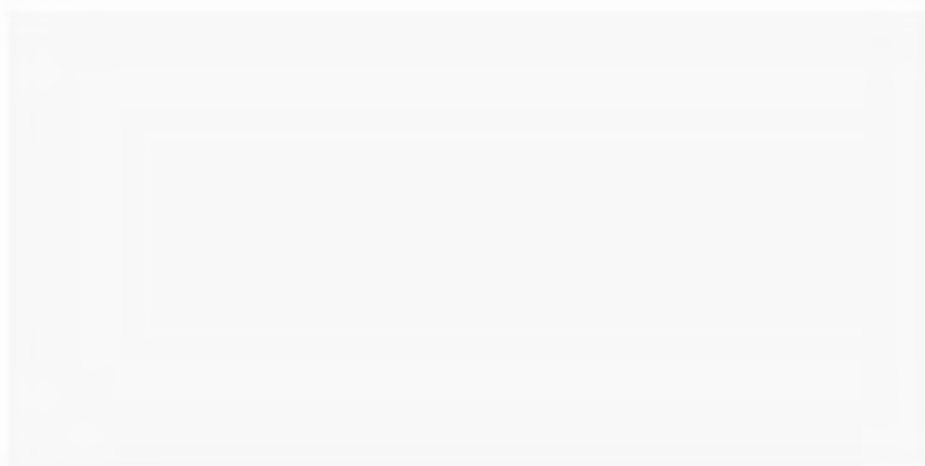


FIGURE 23.



CHAPTER 4.

Reclamation versus Preservation - Since 1842.

The peak period of reclamation on the Moraine drew to a close in the middle of the nineteenth century. About 4600 acres (Fig. 18) of the better heathland had been reclaimed; only the less fertile heaths and common remained so that subsequent reclamation was on a smaller scale and at a slower rate. Even as early as the Tithe Survey, enclosures by Act of Parliament were virtually complete, though in some cases improvement was delayed by lack of fencing.

Reclamation of the Moraine continued until 1875 throughout a period of marked agricultural prosperity which was based on several factors, not all directly concerned with agriculture. Firstly came the changes in method of fertilisation. The use of local marl and clay which were both heavy and bulky and of low specific value (thereby making heavy demands on labour and transport), was replaced by the importation of artificial fertilisers whose distribution was made easier by increased road and rail facilities.

Secondly, the steadily increasing urban population led to a rising demand for agricultural produce which therefore commanded high prices. In spite of the advent of Free Trade and the consequent importation of grain from the rapidly developing lands overseas, this agricultural prosperity was unaffected because both the Crimean War (1854-1856) and the Franco-Prussian War (1870-1871) led to a diversion of grain from Britain and a maintenance of high prices for home produce. Although hostilities terminated in 1871, the impact of foreign competition was not

fully felt until 1875 when the prevailing economic conditions were aggravated by a series of bad harvests in England. The ensuing decline in agriculture continued steadily until halted by the artificial economic conditions of the First World War. However, the high degree of agricultural prosperity prior to 1875 was reflected in the Moraine by the reclamation of a considerable area of heathland which had hitherto been considered unproductive.

The decrease in acreage under the plough which occurred in most parts of England as the result of the agricultural depression after 1879 was less marked on the Moraine where light soils and subsoils predominate, but such change-over from arable to pasture as did occur was accompanied by a slower rate in the reclamation of the heathland. For example, 117 acres of Roughton Heath were reclaimed between 1869 and 1889 and only 26 acres between 1889 and 1907. Newly reclaimed heathland still required ploughing and sowing with rotation crops as these were an essential stage in its improvement, but falling profits made farmers reluctant to risk capital on the extension of their farms.

This general trend from arable to grassland was halted by the First World War (1914-1918) but was resumed once the war was over. In this particular, however, the Moraine has differed from the rest of the country in that arable land has remained predominant with pasture largely confined to the river valleys. This is illustrated by the L.U.S. map (1933) which, besides showing dominant arable with pasture in the valleys,

clearly marks a belt of heath and wood along the summit and north face of the Moraine as well as in the other three districts already distinguished¹.

During the Second World War (1939-1945) the Government pursued a policy of compulsory cropping and the reclamation of any land that could possibly be made to yield a crop. In this way the southern part of Roughton Heath - the first large area of heathland reclaimed since 1907 - was brought under the plough, but remaining heathlands even at this time of urgent national need were considered too unfavourable in soil aspect and slope for any cultivation whatsoever. These areas were, however, used for military training.

As to the reclamation for other purposes, afforestation takes first place. At the turn of the century trees were planted on heathland and subsequent felling has been followed by replanting². More heathland was absorbed by the increased activity in house-building during the same period and where golf courses were constructed heath was included within their boundaries to increase the hazards of the game.

In the following table it will be noticed that the acreage actually reclaimed greatly exceeds the heathland utilised for building and golf courses.

¹Acreages from the L.U.S. maps have not been used for comparison purposes. The writer found that the limits of the heath on the L.U.S. 1" map were inaccurate; particularly was this the case with Roughton Heath and to a lesser extent with other areas.

²Personal observation.

THE REDUCTION OF HEATHLAND. 1842 - 1946/8.Figure 24.Reclamation

Agriculture	1034 acres
Woodland	390 acres

Land-use Changes

Building	78 acres
Golf courses	35 acres

TOTAL	1537 acres.
-------	-------------

The total reduction of heathland from 1844-1948 was 1537 acres - a mere third of that carried out during the preceding half-century (1794-1842) (Fig. 18). The detail of this reclamation is given below under four major regions of sparse settlement already identified.

1. SUMMIT AND NORTH SLOPE.RECLAMATION - 1842-1948³ - in acresFigure 25

	Acreage of Parishes	Reclamation for arable	Reclamation for wood	Build- ing	Heath in Tithe 1838-42	Heath in 1946-48
Holt) Kelling)	5020	400	170	10	1500	1030 (includes 110 pasture in tithe)
Bodham) Weybourne) Sheringham) E. Beckham)	6410	-	60	63	500	400 (23 of former wood)
Beeston) Runton) Aylmerton) Cromer)	4170	30	90 + 125 on pasture	5	165	120 (in- cludes 80 of pasture in Tithe)
Felbrigg	1440	20	-	-	20 +	-
Salthouse	1960	-	-	-	350	350
Roughton	1620	270	-	-	380	110

³As for Fig. 18 the acreages were obtained by a comparison of the heath in 1838/42 and 1946/48. The land-use for 1948 was obtained from Air Ministry (ctd.)

Since the eleventh century the summit and north slope has been noted for its heath, wood and sparse settlement. The above table includes the more varied purposes for which heathland was used in many parishes during the last 100 years.

New farmland accounted for 724 acres reclaimed from heath and more than half of this was in the parish of Holt and nearly one-third in Roughton. Most of the new farmland in Holt was to the north-east of the parish towards Kelling and in the south near Pippins Heath⁴. This reclamation at Holt has left the remaining heath with an irregular boundary defined by a series of straight lines at rightangles showing the piecemeal enclosure (Fig. 27). The heath in the parish of Roughton had lain almost untouched for many centuries and was enclosed in 1869⁵. By 1889⁶, 117 acres had been reclaimed for arable land during the peak of agricultural prosperity. The following table illustrates the progress of reclamation.

3 (continued)

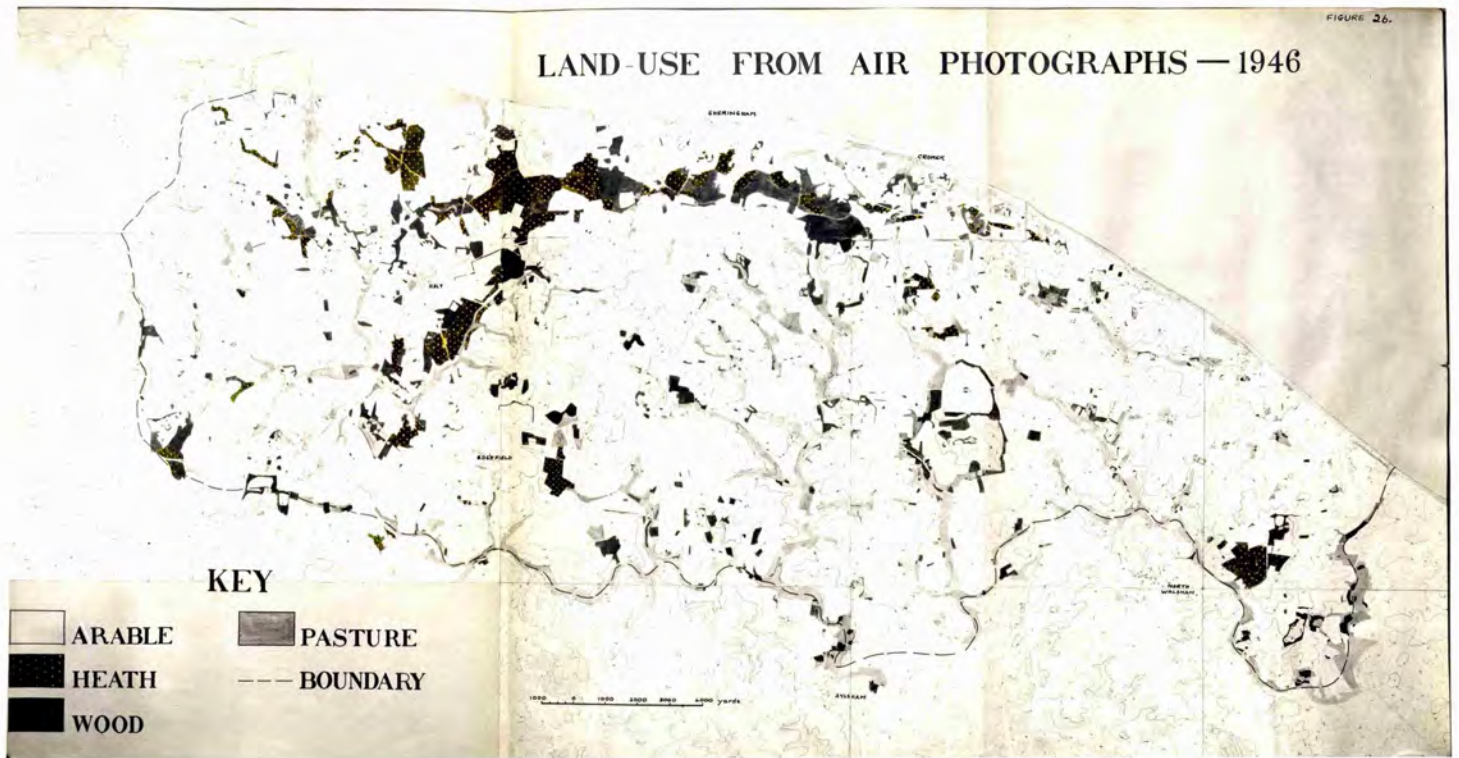
photographs (Fig. 26) combined with field study. The land-use was transferred on to the 2.1/2" maps similar to those used for the Tithe Survey. The area of heath in acres was calculated from these maps.

⁴From a comparison of the Tithe and L.U.S. Maps.

⁵Roughton Inclosure - In the Local Collection. Norwich Public Library.

⁶First edition of the Ordnance Survey 6" to 1 mile map 1888-89.

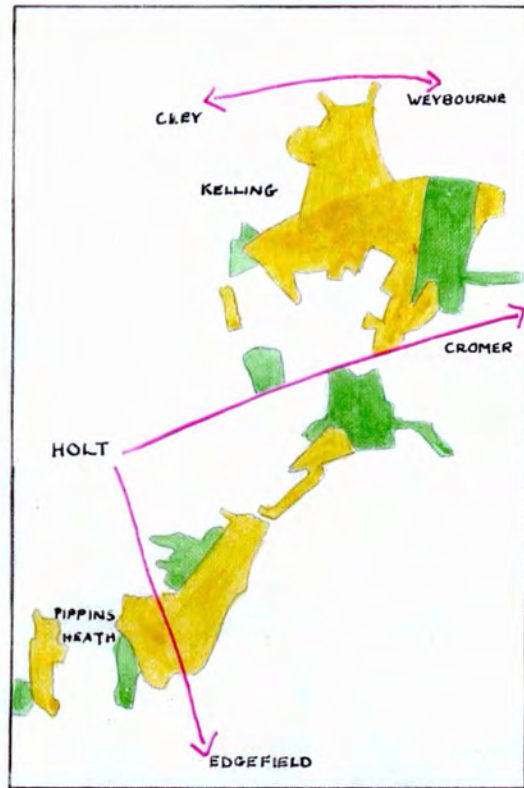
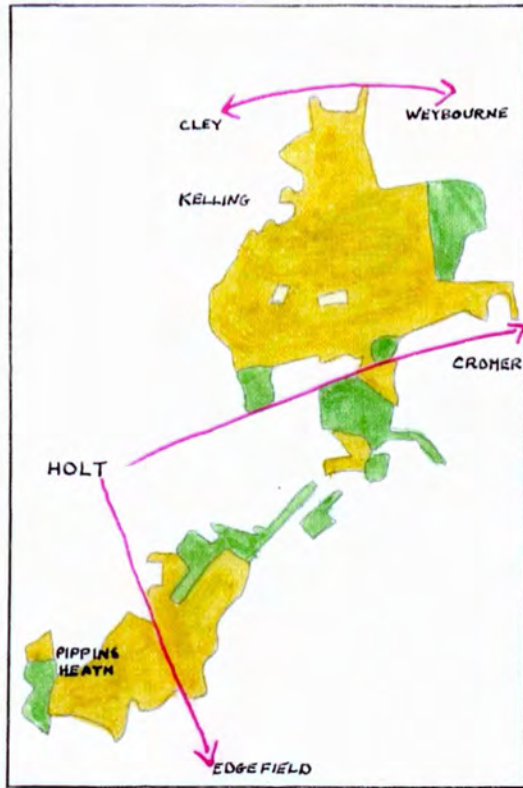
LAND-USE FROM AIR PHOTOGRAPHS — 1946



RECLAMATION OF HEATH IN HOLT AND KELLING.

LAND-USE FROM TITHE MAPS 1838-9

LAND-USE FROM L.U.S. MAPS -1933



KEY

-  HEATHLAND
-  WOODLAND
-  MAIN ROAD

RECLAMATION OF ROUGHTON HEATH⁷.Figure 28.

Years	Acreage of heath remaining.	Amount reclaimed.
1842-69	380	-
1889	263	117
1907 ⁸	237	26
1946-48	110	127

The first enclosures were to the north-west of the Cromer Road (Fig. 29), and gradually more heath was taken in on that side. It was not until the Second World War that the heath to the south of the road was reclaimed. Today heath is still in existence on the original northern and southern fringes. A permanent record of the former existence of heath is found in the name of a farm in the enclosed land of 1869-89 called 'Heath Farm'⁹ (Fig. 29).

Afforestation during this period was carried out both by the State and by private owners. The Forestry Commission has not up to the present reclaimed any heath; the Commission took over various 'parcels' of existing woodland amounting in all to 770 acres around Holt in 1927. Since then this acreage has been gradually increased by the acquisition of more

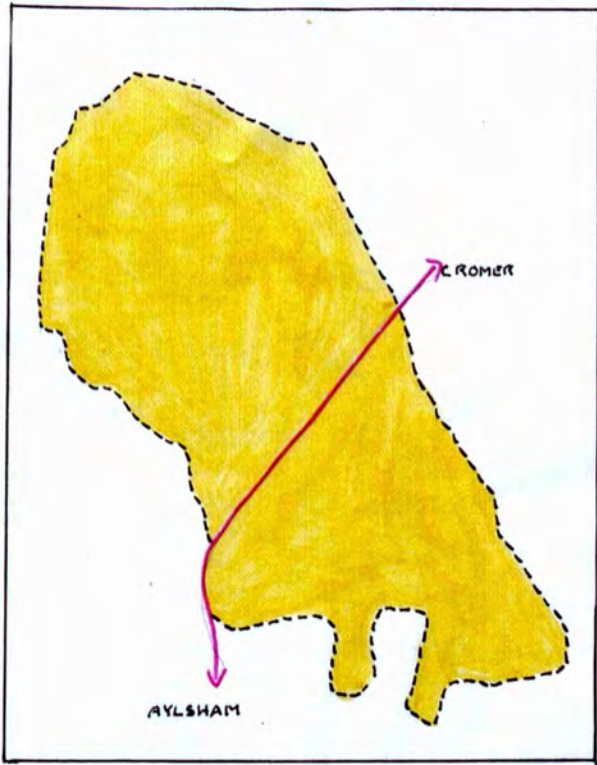
⁷ Figures calculated from first two editions (1889, 1907) O.S. 6" maps and Air Ministry photographs (1946-48).

⁸ 2nd edition O.S. 6" to 1 mile maps. 1907.

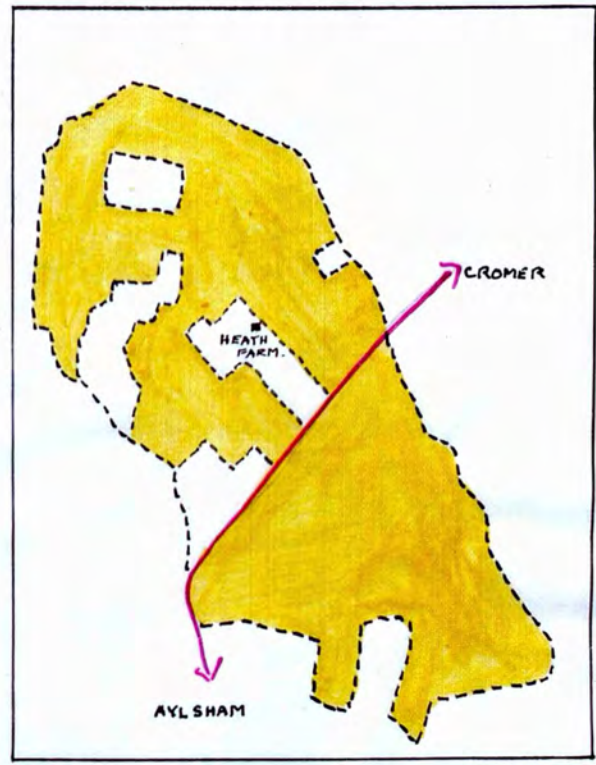
⁹ See 2.1/2" to 1 mile map. O.S. (post-war, no date of publication.)

RECLAMATION OF ROUGHTON HEATH

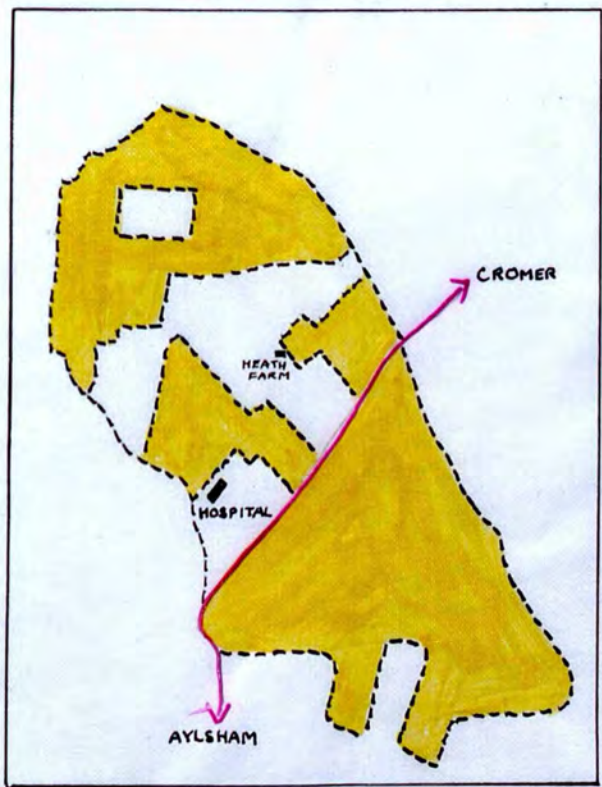
A- TITHE MAP 1839



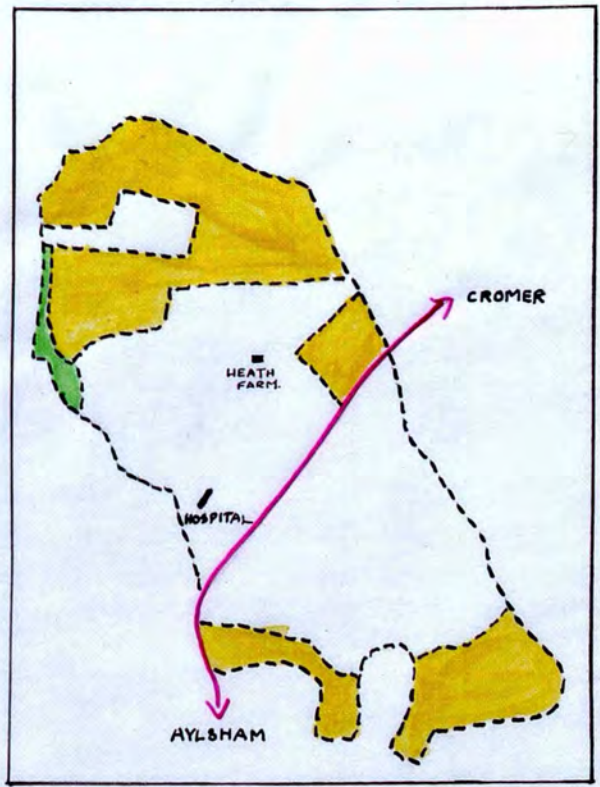
B- 1st. EDITION OF 6" MAPS 1889



C- 2ND. EDITION OF 6" MAP 1907



D- 1946-1948



KEY
 HEATHLAND
 MAIN ROAD

SCALE
 2 1/2 INCHES REPRESENTS 1 MILE

areas of woodland in which both coniferous and deciduous trees have been planted¹⁰.

Plantations were established by private owners around High Kelling on heathland at the end of the nineteenth century, as well as near Holt, thus increasing the acreage of woodland in this district. The greatest acreage planted (215 acres) was at the eastern end of the summit near Felbrigg (Fig. 30), where at the turn of the century 90 acres were planted on heath and 125 acres on pasture along the northern slope of the Moraine¹¹.

Heathland has also been affected by the growth of new secondary settlements. In one instance, i.e. Bodham, the new settlement developed prior to 1842¹². Bodham Street has grown up to the north of Lower Bodham (Fig. 31), the old village, and near to reclaimed heathland on the summit. It has increased in size since 1842, probably because it is sited on the main road between Cromer and Holt. At the end of the nineteenth century a similar settlement developed to the west in the neighbouring parish of Kelling. The buildings at High Kelling (the secondary village) are mainly used as a Sanatorium and Convalescent Home but were built on heathland, thus effecting a change in land-use.

The modern extension of housing in Cromer and Sheringham has occupied small patches of heath covering isolated hills between the northern

¹⁰Facts contained in letters of November 1955 from the Forestry Commission, London.

¹¹Local knowledge when planted - comparison of Tithe map 1838-42 and Air Ministry Photographs (1946-48) gives acreage.

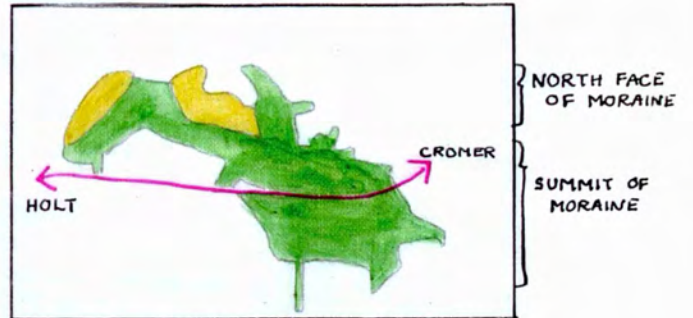
¹²2" O.S. drawings of 1816 show beginnings of settlement. Brit. Mus.

WOODLAND PLANTING NORTH OF FELBRIGG.


LAND-USE FROM TITHE MAPS - 1838



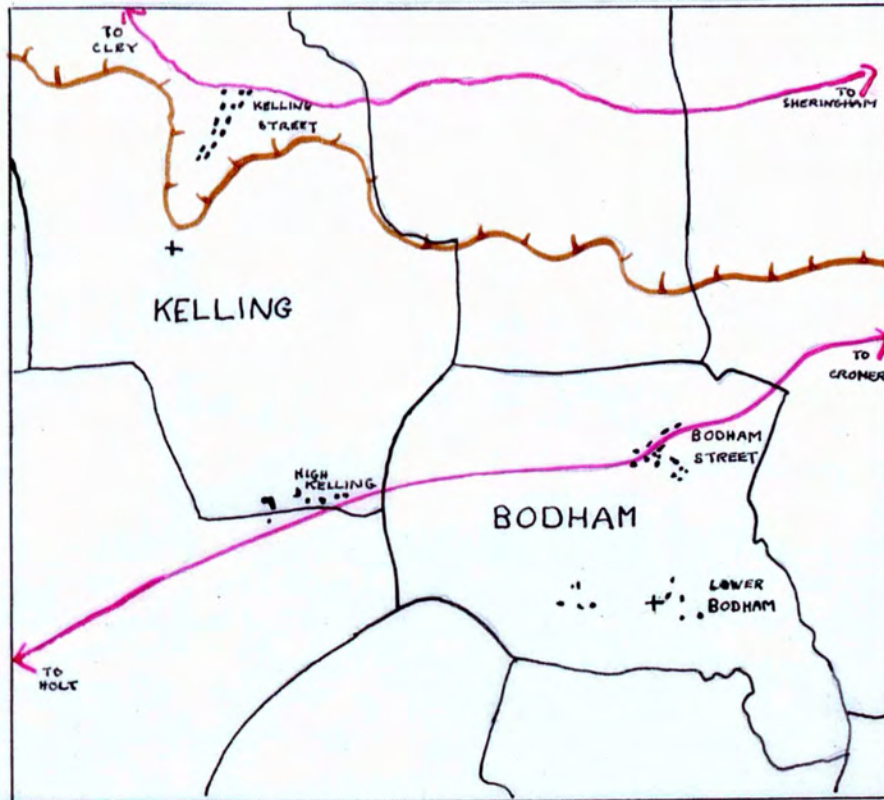
LAND-USE FROM L.U.S. MAP - 1933








KEY

-  HEATHLAND
-  WOODLAND
-  PASTURE
-  MAIN ROAD

MAP TO SHOW TWO GROUPS OF SETTLEMENTS IN THE PARISHES OF KELLING AND BODHAM



KEY

-  PARISH BOUNDARY
-  MAIN ROAD
-  BUILDINGS
-  CHURCH
-  LINE OF ESCARPMENT

SCALE

1 INCH REPRESENTS 1 MILE

slope and the sea. To the east of Cromer the Royal Links Hotel and associated buildings were built about 1905 (Fig. 32B) and at Sheringham building plots for private houses extended on to heath in the south-west of Sheringham at Hooks Hill and Bunkers Hill. These were covered with heathy vegetation in 1889¹³ but by 1907¹⁴ roads, houses and building plots had encroached upon the heath leaving, as Fig. 32A shows, only about half the original acreage. Since 1907 further building has taken place¹⁵ and now only the very bleak summits of these hills remain covered with their original vegetation. Only at Cromer has building development extended as far inland as the northern slope of the Moraine, but there the slope was less steep than in some parts. This extension of the Urban District of Cromer was most probably at the expense of arable land which had long since been reclaimed from heath¹⁶.

The amenities provided for the visitors to these coastal towns caused further changes in the use of the heathy areas. Golf courses were constructed (Fig. 33) at Cromer¹⁷ and Sheringham¹⁸ along the edge of the cliffs and included small isolated patches of heath, such as Lighthouse Hill

¹³First edition of 6" to 1 mile maps. 1889.

¹⁴Second edition of 6" to 1 mile maps. 1907.

¹⁵Personal observation and comparison with 1907 6" map.

¹⁶If reclaimed, reclamation was before 1794 (Faden).

¹⁷Golf Club started in 1887 and was formally opened in 1888 under Royal Patronage (see Official Handbook, p. 7).

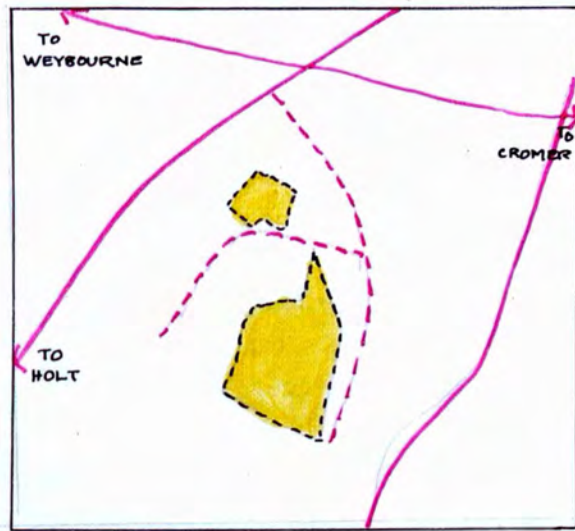
¹⁸First 9 holes opened in 1891. More land was acquired in 1897. Land previously was open grassland near cliffs and enclosed grassland further inland. It included some small patches of heath.

RECLAMATION FOR BUILDING PURPOSES

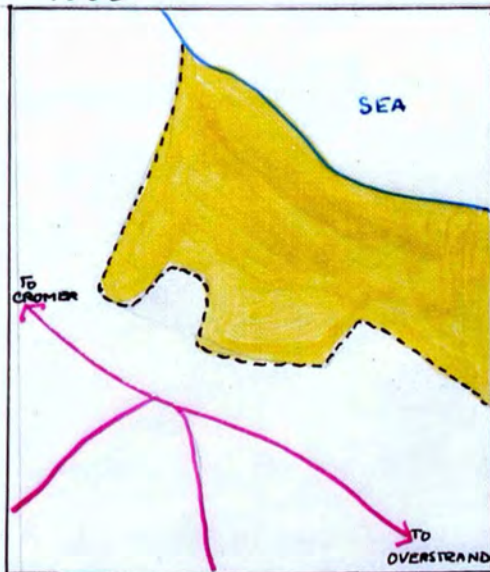
A- IN SHERINGHAM
1889



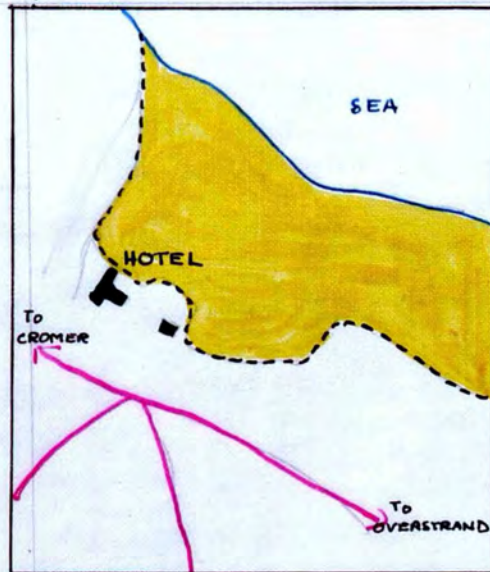
1907




B- IN CROMER
1888





1907



KEY

 HEATHLAND

 MAIN ROAD

 MINOR ROAD FOR BUILDING DEVELOPMENT.

SCALE

6 INCHES REPRESENTS 1 MILE

at Cromer and Skelding Hill at Sheringham. The actual heath vegetation remains and is an added attraction both to the golfers and to those who walk along the cliffs. These patches are being gradually destroyed by sea erosion, especially between Cromer and Overstrand, where during the last 20 years there have been some bad falls of cliff edge¹⁹, further reducing the acreage of heathland. Further to the west on the summit, part of Salthouse and Kelling Common (or heath) was required in 1903 by a Mr. Grundall²⁰ for the creation of a golf course of roughly 300 acres. The application to the Charity Commissioners in whom the heath was vested was refused and thus a change in utilisation was further postponed and the heath of these Commons still remains.

Other temporary changes in the utilisation of the heaths and commons took place during the Second World War. Kelling Heath and Beeston Common were used for training purposes²¹ by the Army and the resultant destruction of the natural vegetation has now been obliterated by regeneration²², though some training is still carried out. Golf courses were used for sheep grazing²³, so reverting to their classification of heath vegetation utilised as grazing land.

¹⁹Personal knowledge.

²⁰Letter of application and reply seen at Charity Commission, London.

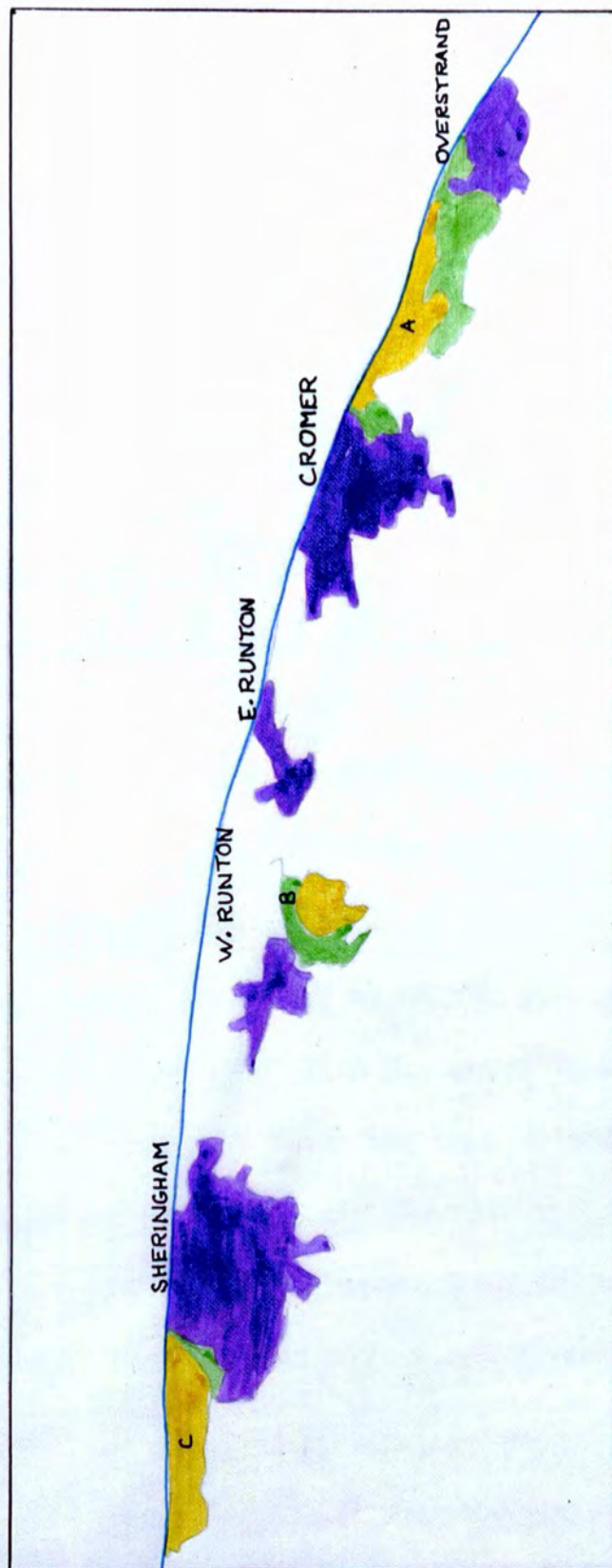
²¹Personal knowledge.

²²Personal observation.

²³Personal knowledge.

DIAGRAM TO SHOW THE POSITION OF THREE NORTH NORFOLK GOLF COURSES

AN EXTRACT TAKEN FROM THE L.U.S. MAP - 1933



KEY

HEATHLAND

PERMANENT PASTURE

BUILT UP AREAS

A } - GOLF COURSES
B }
C }

SCALE

1 INCH REPRESENTS 1 MILE.

FIGURE 33.

Reference to the table (Fig. 25) shows that Salthouse Heath has remained undisturbed. This is commonland with an unfavourable environment similar to that of Kelling, and still awaits reclamation or a change in land-use.

2. THE EDGEFIELD DISTRICT.

<u>RECLAMATION - 1842-1946/8²⁴ - in acres</u>					<u>Figure 34.</u>	
Acreage of Parishes	Reclamation for arable	Reclamation for wood	Build- ing	Heath in Tithe 1838-42	Heath in 1946-48	
Edgefield and District	4940	310	30	-	500	160 (includes some rough pasture)

To the east of Edgefield village there has existed for many centuries an area of heathland which must once have extended for at least 1000 acres²⁵ in Edgefield and adjoining parishes. The reclamation of this started before 1794 and continued up to the time of the Tithe Survey.

The reclamation continued during the last 100 years and was largely achieved before 1889, when 310 acres were turned into arable land²⁶ - mainly in Little Barningham where the primary enclosure occurred in the first half of the century in 1821. Further reclamation of 30 acres was accomplished by the planting of trees, thus leaving only 160 acres of the original heath, 70 acres of which is rough grazing²⁷.

²⁴ Figures calculated as for Fig. 18 on p. 38.

²⁵ Calculated from heath of 1794 (Faden) together with 'brecks' located (probably pre-Faden) in the Tithe Survey.

²⁶ Acreage obtained by a comparison of areas on the Tithe Map (1838-42) and first edition of the O.S. 6" to 1 mile map (1889).

²⁷ From a comparison of 1889 6" map with Air Ministry photographs 1946-48.

Mention must be made of a change in the landscape of this district caused by the felling of the Great Wood at Edgefield in 1851²⁸. Woodland here had probably existed since Domesday times and was identifiable in the seventeenth century (see p. 16). After clearance, the land was used for farming except for a narrow strip of woodland left as a shelter belt round the edge of the old wood in the north and east.

3. WEST OF THE GLAVEN

Figure 35.

RECLAMATION 1842-1948²⁹ - in acres.

	Acreage of Parishes	Reclamation for arable	Reclamation for wood	Build- ing	Heath in Tithe 1838-42	Heath in 1948
Stody and Humworth	1940	-	40	-	100	80 (includes some heath reverted)
Dalling	1630	-	-	-	25	25
Stock Heath	1220	-	-	-	30	30

Compared with the previous two districts there have been few changes here during the last 100 years, as Dalling Common and Stock Heath had both been largely reclaimed by the time of the Tithe Survey (see Fig. 18). The small acreages of heath and rough pasture which were left (55 acres approx.) have remained untouched primarily owing to their topographical situation.




²⁸Census Returns for 1851 contain a note that the population of Edgefield was increased by men who were felling the Great Wood.

²⁹See note Fig. 18, p. 38.

REVERSION TO HEATH IN HUNWORTH.



KEY

-  HEATH IN 1838 AND 1946/8
-  ARABLE IN 1838 AND HEATH IN 1946/8.
-  ROADS

SCALE

6 INCHES REPRESENT 1 MILE.

In Stody and Hunworth changes have occurred - reclamation by afforestation and reversion to heath of arable land (Fig. 36). Such reversion is unique on the Moraine. The few small fields were almost surrounded by heath; thus it was easy for the heath to re-establish itself.

4. THE DISTRICT OF THE UPPER ANT.

Figure 37.

RECLAMATION 1842-1948³⁰ - in acres.

	Acreage of Parishes	Reclamation for arable	Reclamation for wood	Build- ing	Heath in Tithe 1838-42	Heath in 1948
Bacton and Edingthorpe	2343	-	-	-	60 and some rough pasture	210 (in- cludes scrub of Bacton Wood
Antingham	1530	-	-	-	little pasture	little pasture

Reclamation in this district has been negligible. Antingham Common was reclaimed in the first part of the century (see Fig. 18), leaving only a small area of rough pasture. In Bacton and Edingthorpe, around Bacton Wood, there has been for long an area of unproductive land. The Tithe Schedule showed an area of wood surrounded by heath, rough pasture and pasture. Much of the wood has been cut down during the last 100 years, leaving scrubland which merges indefinitely in places into heath or pasture³¹. No reclamation has occurred.

³⁰See note Fig. 18, p. 38.

³¹Personal observation and Air Ministry photographs 1946-48.

The last century has seen comparatively few changes on the Moraine, only 1400 acres having been reclaimed compared with 4000 acres in the preceding 50 years. The most marked change occurred in the area which previous generations had left untouched - the north slope and summit. Only about 2500 acres of heathy land remain, but woodland is encroaching on marginal areas³², especially where grazing is scanty. The future reclamation of these remaining acres is doubtful as during the last 20 or 30 years a change in outlook towards these heathy lands has been developing.

CONCLUSION

For some centuries the large expanse of heath on the Moraine had been regarded as a drawback to the local economy, supplying at the most scanty grazing and firewood. The heaths, now regarded as valuable open spaces, had no significance as such to those living in the surrounding villages, but were ploughed up and reclaimed whenever economic conditions would allow. Recent years have brought a complete change of attitude to these areas; a rapidly expanding urban population, made daily more mobile through the use of the motor car and coach, seeks further afield for physical relaxation and enjoyment of the countryside at a time when open and accessible rural areas are so often disappearing. For the first time in history these heathlands have been fully appreciated as being of aesthetic and therefore indirectly of economic worth. The call today is for preservation, not reclamation. In 1924 the National Trust purchased

³²As for instance on the southern part of Beeston Common.

by means of a public subscription contributed by residents of the county part of the summit of the Moraine near West Runton called 'Roman Camp'. This is an area of exceptional natural beauty including the highest spot in Norfolk, from which there is one of the finest views of the county. This was the first part of the Moraine to be permanently preserved in its natural state. Much more recently (since 1945) local opposition has been aroused when any action is threatened which will destroy the beauty of the north slope or its neighbouring heaths or commons. Proposed caravan sites and the deliberate burning of vegetation have both, in the last few years, caused much discussion among the inhabitants of the coastal resorts, many of whom feared the destruction of one of the greatest attractions of this coast. In a county where the shores are generally low lying and marshy, the cliffs and wooded hills of Cromer and Sheringham make these resorts unique.

For the first time in history the heathlands are appreciated as being economic assets to the county and although all may not be preserved from further reclamation, it seems certain that the local inhabitants will be vigilant in the preservation of those in close proximity to the coastal resorts.

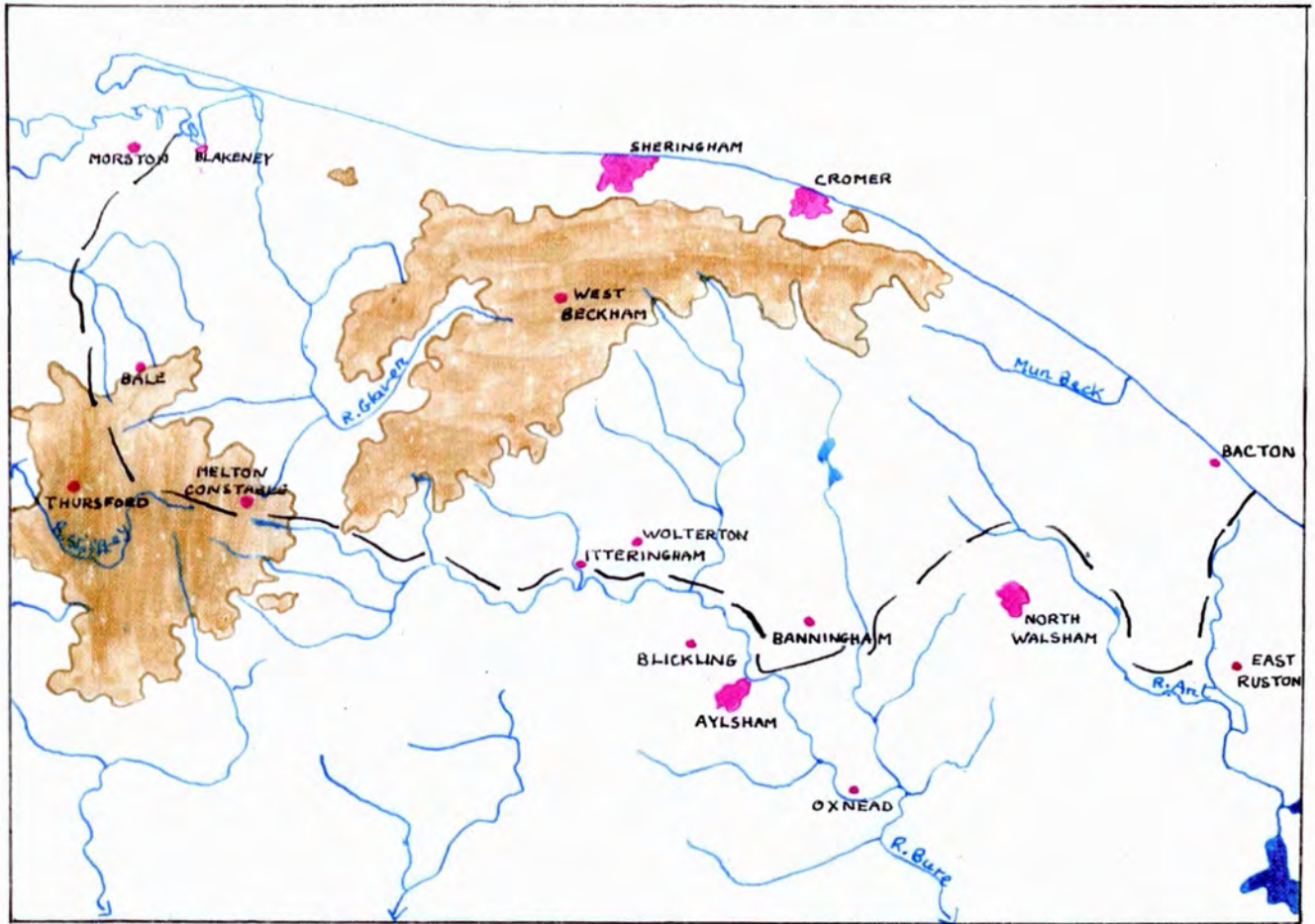
APPENDIX A.THE DELIMITATION OF THE CROMER MORAINE.

The Cromer Moraine comes to an abrupt end at the coast on its north and north-eastern side, but inland its delimitation is obscured by the abundant glacial deposits of northern Norfolk. In order to determine the landward boundary of the Moraine it has been necessary to find out where the typical Moraine deposits peter out over the earlier glacial cover. This has been achieved by a study of the Moraine deposits in well-sections and these findings, together with a detailed study of the local topography, have made it possible to determine the landward margin of the Moraine, though it should be noted that the line of demarcation in many places is no more definite than a zone of transition.

A well-section taken at West Beckham almost on the summit (Figs. 38 and 39) provides the most complete guide to the deposits forming the Moraine. The well descends to the level of the chalk, above which there are beds of various clays, mottled, blue and sandy, which are of Pliocene age. The deposits above the blue clay (including brick-earth) are classified as early or mid-glacial and outcrop to the south of the River Bure, where they have given rise to extensive heaths. They do not form part of the surface of the Moraine.



Above these beds lie the deposits of the Cromer Moraine, 140 feet in thickness and occurring at a higher level than other glacial deposits in Norfolk. Cromer Morainic deposits consist of beds of gravel, flint,

MAP TO SHOW THE POSITIONS OF WELL-SECTIONS DISCUSSED

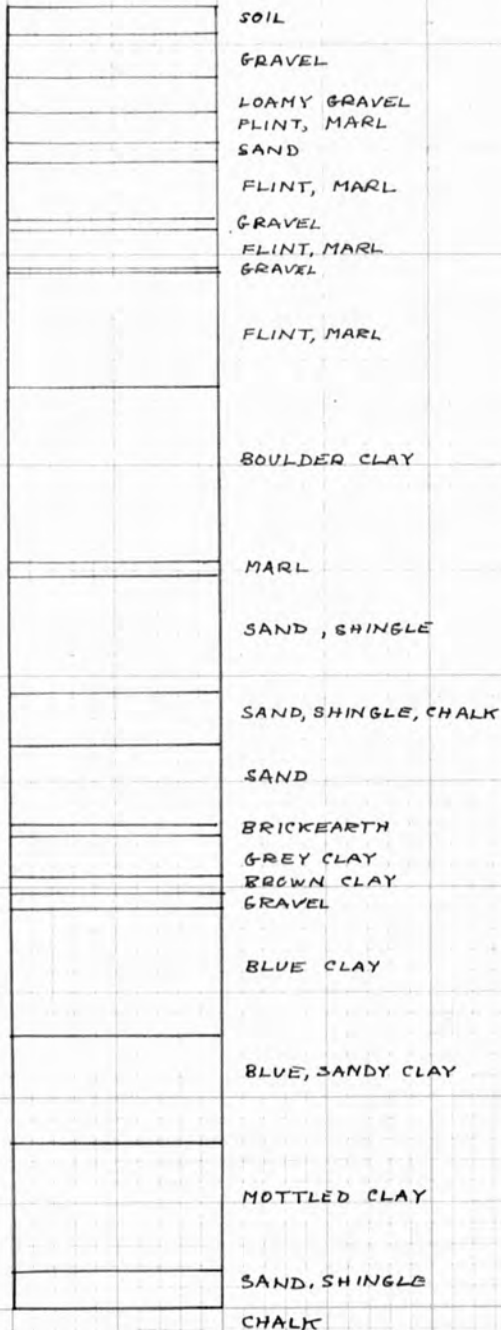


SCALE — 1 INCH REPRESENTS 4 MILES.

KEY

-  LAND OVER 200 FEET.
-  BOUNDARY OF MORAINE

WELL SECTION AT WEST BECKHAM INSTITUTION



VERTICAL SCALE

FOR ALL WELL-SECTIONS

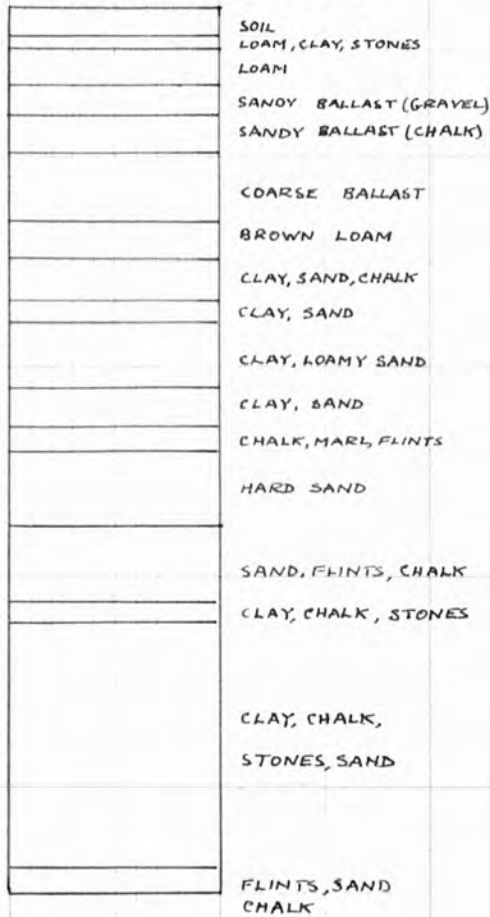
1 INCH REPRESENTS 40 FEET

marl and boulder clay with no definite sequence and of varying thickness, and their distribution may be regarded as determining the limits of the Cromer Moraine.

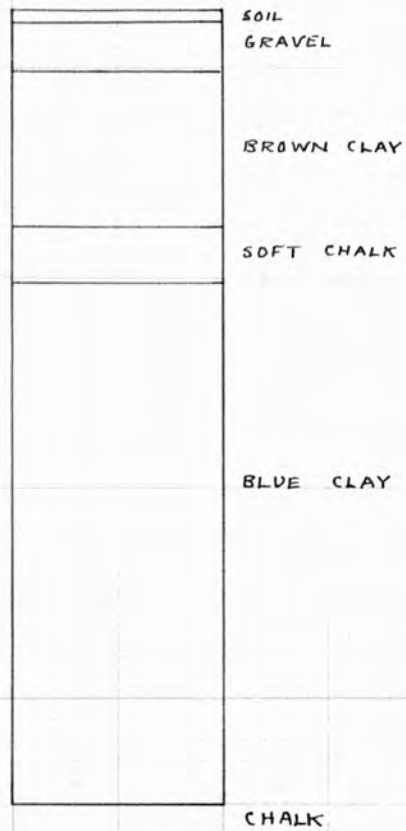
On the western side of the Moraine the boundary lies to the west of the Glaven valley, as this river flows through characteristic Morainic country. At Morston, about 6 miles along the coast from the mouth of the Glaven, chalk is found at the surface (Fig. 40) and south from there the country develops the features of a chalk dip slope. The last remnant of Morainic material is found capping a hill between Blakeney and Morston and this has been taken as the beginning of the western boundary. South from Blakeney two lines of sections have been obtained between which lies the boundary of the Moraine. A well-section at Bale (Fig. 40) shows 10 feet of gravel at the surface, and here the Moraine is definitely dying out. The most distinct topographical feature is the south to north valley of a tributary of the River Stiffkey. To the west of this valley no well-section shows Morainic deposits and the valley has been taken as the boundary as far as its head near Melton Constable, with Cromer Moraine deposits capping the hills to the east of the valley. Melton Constable is situated on the watershed between the Rivers Stiffkey and Bure and a well-section (Fig. 40) shows true Moraine deposits in the sandy ballast and stones, but with more loam than usual. The brown loam, 40 feet from the surface, can be classified as mid-glacial and therefore not of the Cromer Moraine type. The watershed of the rivers seems to occur where the Cromer Moraine deposits have been pushed by ice up against earlier glacial deposits. Well-sections indicate a boundary between Melton Constable and Thursford to the west

ON THE MORaine

MELTON CONSTABLE

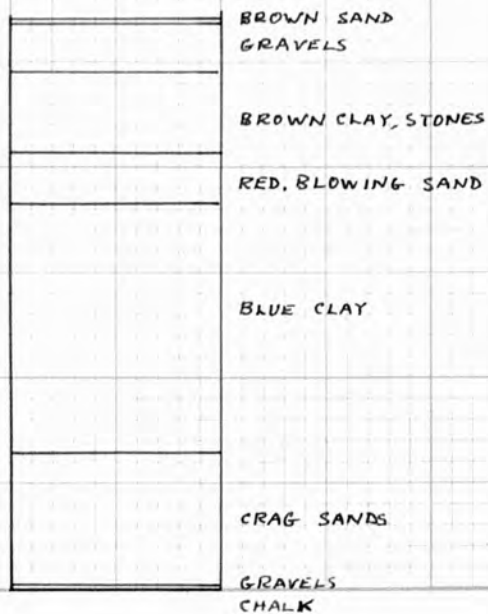


BALE



OFF THE MORaine

THURSFORD



MORSTON



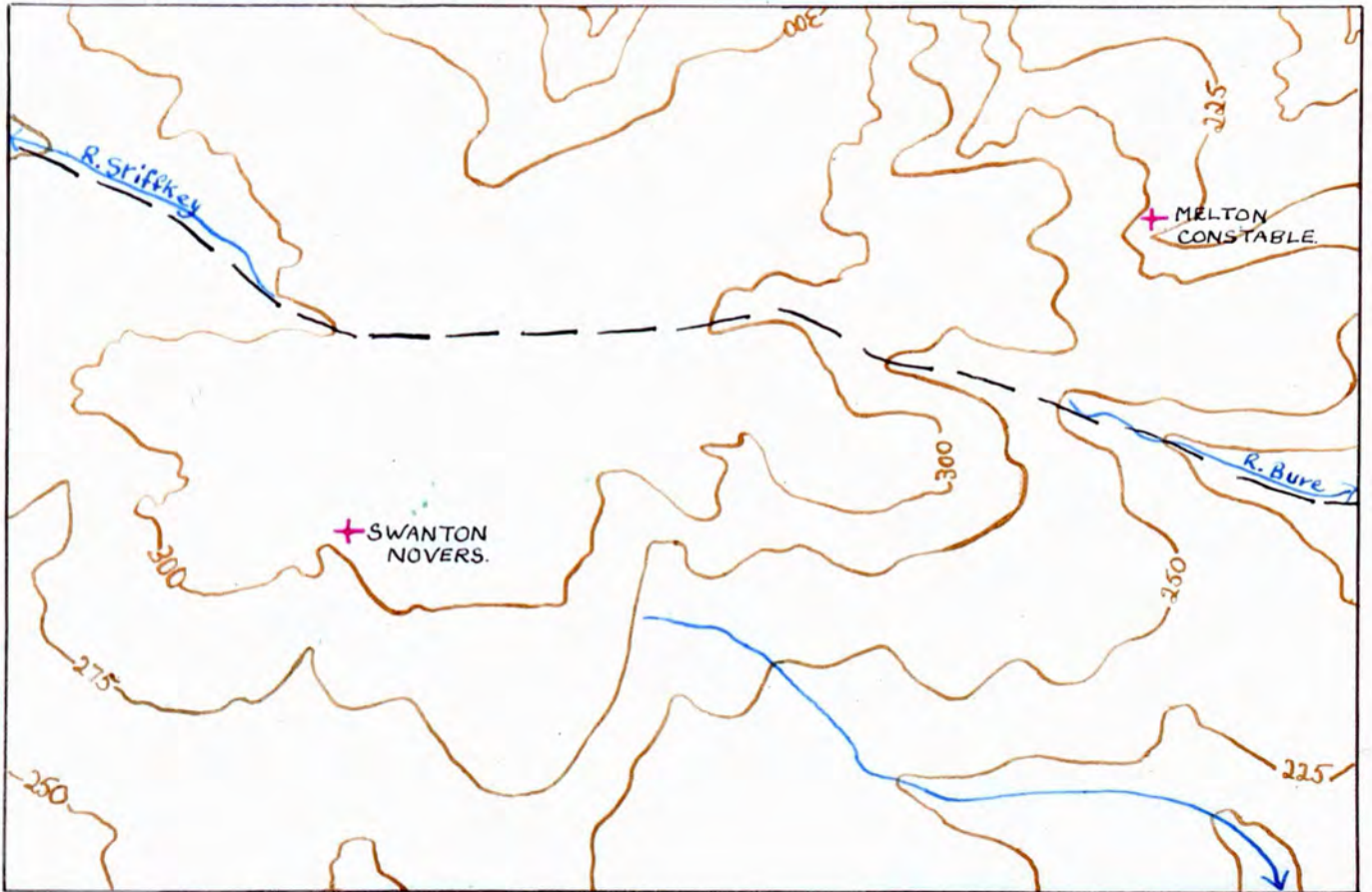
(Fig. 38) but there is little evidence in the topography here to assist in delimitation. However, the sources of the Rivers Bure and Stiffkey approach very closely just to the south-west of Melton Constable (Fig. 41) and these upper courses have been taken as the boundary. This leaves both Melton Park and Blickling Park (in a similar position to the east) outside the Moraine area.

Running in a west to east direction from Melton Constable to Ingworth, near Aylsham, is the valley of the River Bure. This is a marked relief feature and to the south of it (especially at Blickling) are outcrops of mid-glacial sands (Fig. 42). Well-sections obtained to the north of the river are of little use, as at Itteringham there is 150 feet of sand, while at Wolterton Park there is no record of the upper deposits of a well sunk at an earlier date. The 'blowing sand' at the base of this well may be Morainic.

The country north of the Bure is of a different character from that to the south, gradually rising towards the summit of the Moraine and becoming more articulated. Thick deposits of sand are found on the Moraine, as for instance at Roughton, where the deposits are 60 feet thick, suggesting that the sands at Itteringham are not unique and may easily be outwash deposits from the higher parts of the Moraine. Thus the landward limit of the Moraine appears to be coterminous with the River Bure as far east as Ingworth.

At Ingworth the River Bure turns sharply southward and abandons the west to east direction which it has followed from Melton Constable. The country to the south of Ingworth and Aylsham differs considerably from

THE WATERSHED BETWEEN THE RIVERS BURE AND STIFFKEY



SCALE - 2½ INCHES REPRESENT 1 MILE

KEY

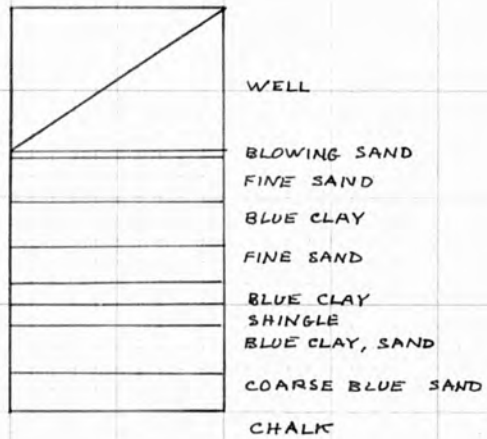
— BOUNDARY OF MORaine.

ON THE MORAINE

ITTERINGHAM

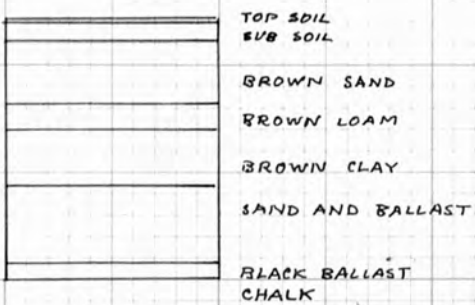


WOLVERTON PARK



OFF THE MORAINE

BLICKLING PARK



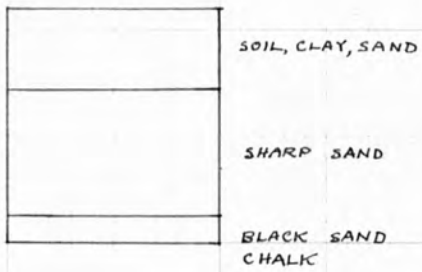
the landscape of the Cromer Moraine in being much flatter and less undulating; here chalk is covered by glacial deposits, but of a much earlier age. Therefore evidence has been sought to continue the west to east line of the upper Bure valley and to connect it with the country to the south of Bacton, where the limit is again topographically defined. Well-sections have been obtained at Banningham and Oxnead (Fig. 43) which show that the former is on the Moraine while the latter is not. However, these sections are about four miles apart and so further evidence was sought to narrow this wide transition zone. As is shown in Fig. 44A, there is, to the immediate east of Aylsham, a shallow dry channel (followed by the railway line to North Walsham) and this has been selected as the most probable southern limit of the Moraine; it continues as far as the valley of the stream which drains Gunton Park. Observation in the field suggests that this is the most likely limit within the zone of four miles defined by the well-sections (see above).

The boundary continues across the interfluvium between the Gunton Park stream and the River Ant. It bends northward so as to leave North Walsham town to the south of the Moraine. In crossing this interfluvium the boundary follows a very shallow depression (shown on Fig. 44B by the insertion of spot heights) but it does continue the general west to east trend begun by the upper Bure.

The boundary now follows the well-marked feature of the River Ant valley which, though running in a north-west to south-east direction, contains a misfit stream in a broad valley comparable with that of the River Bure. The valley is followed as far as the village of Honing, where the

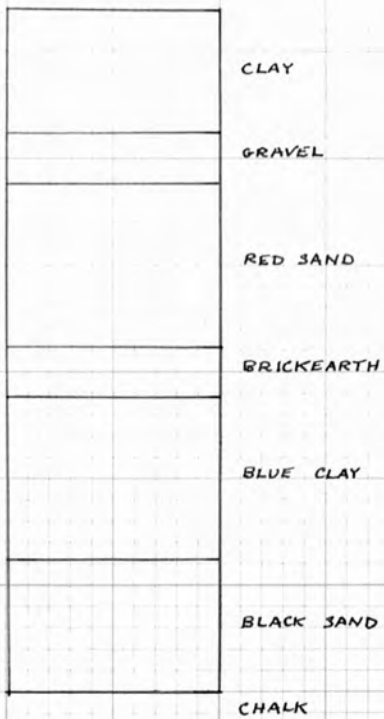
ON THE MORAINE

BANNINGHAM

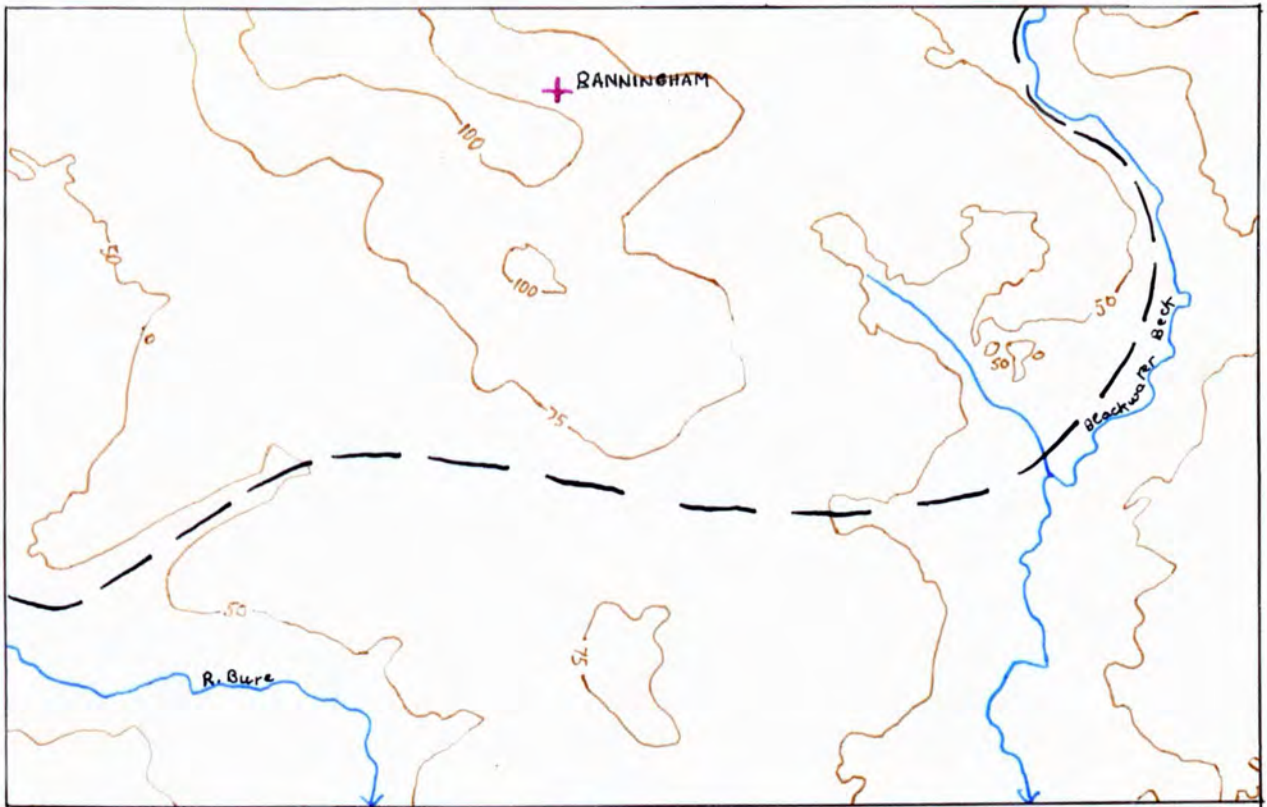


OFF THE MORAINE

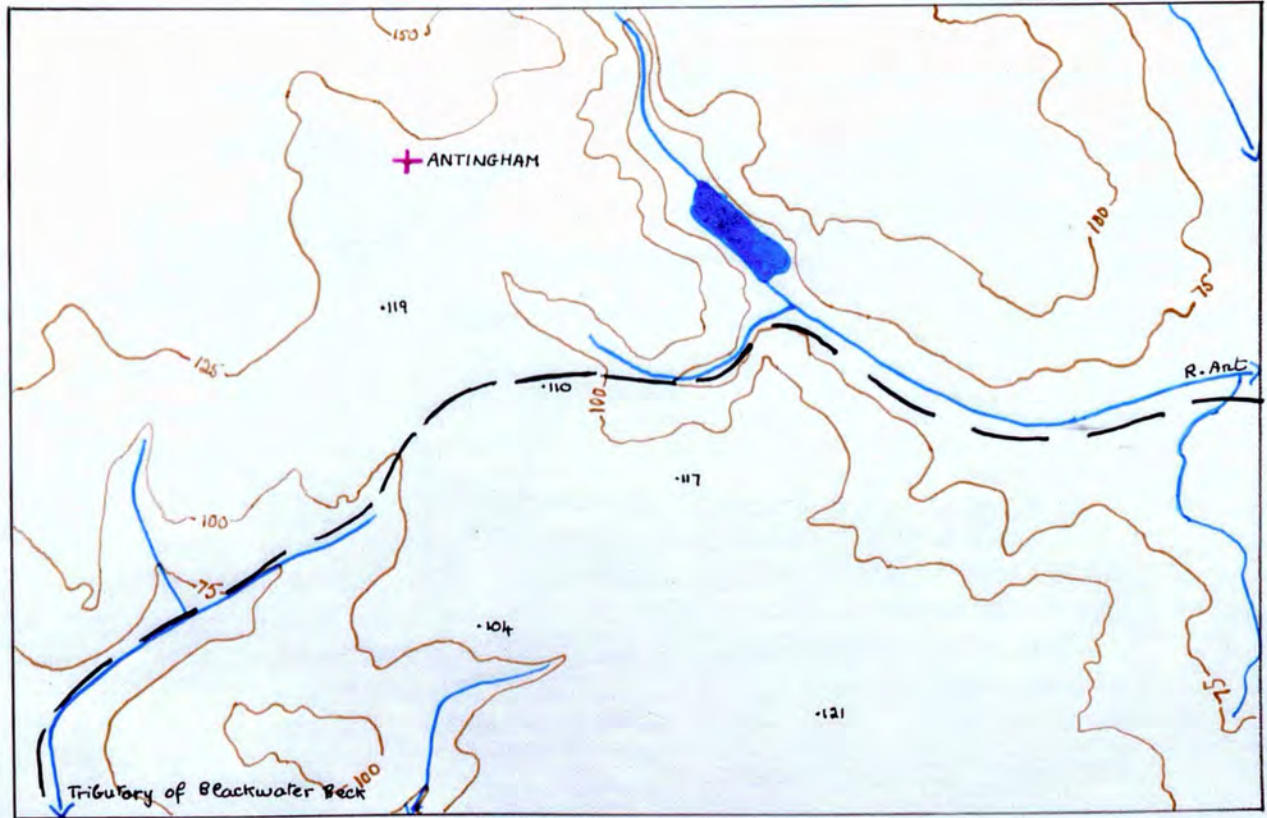
OXNEAD



A. DIAGRAM OF CONTOURS BETWEEN RIVER BURE AND BLACKWATER BECK



B. DIAGRAM OF CONTOURS TO NORTH-WEST OF NORTH WALSHAM



SCALE FOR FIGS. 1:25,000
KEY FOR FIGS. — BOUNDARY OF MORaine

river flows eastward for about two miles before continuing its more southerly course. A well-section at East Ruston (Fig. 45) shows brick-earth at the surface and therefore lies outside the Cromer Moraine. This village is to the east of Honing and therefore the boundary must here leave the River Ant valley.

Just to the east of Honing there is a wide valley running north to the coast just to the south of Bacton and containing a misfit stream (Fig. 46). As this is the most marked feature between Honing and East Ruston, the boundary has been drawn north-eastwards up this valley to the coast. A well-section at Witton in the valley shows a very thin capping of river and glacial gravels above the Pliocene deposits. A section at Bacton, near the coast, indicates a thin layer of gravel as the Moraine dies out.

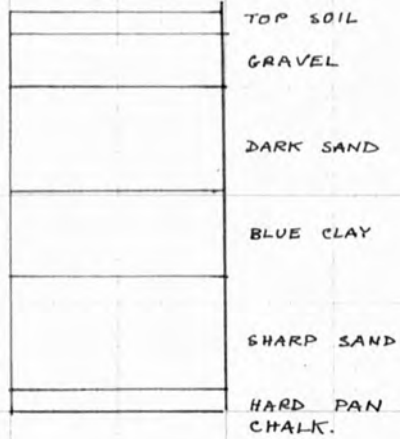
In conclusion, the delimitation of the Cromer Moraine has been based primarily on the evidence of deposits found in well-sections, but within the zone thus defined the topography has been studied in some detail in order to obtain a more accurate definition. By this means the Cromer Moraine has been delimited in Fig. 38.

Note:

In the delimitation of the Cromer Moraine reference was made (on the advice of the Geological Survey) to F. Buckingham Esquire, one-time head of the leading firm of Norfolk water engineers. His unique practical knowledge in conjunction with detailed records kept by his firm for more than 100 years ensured as accurate a delimitation as possible. The completed map showing the boundary finally selected was submitted to Mr. Buckingham, who, after suggesting a few minor adjustments, gave it his complete approval.

ON THE MORaine

BACTON - SEA VIEW CAFE



OFF THE MORaine

EAST RUSTON

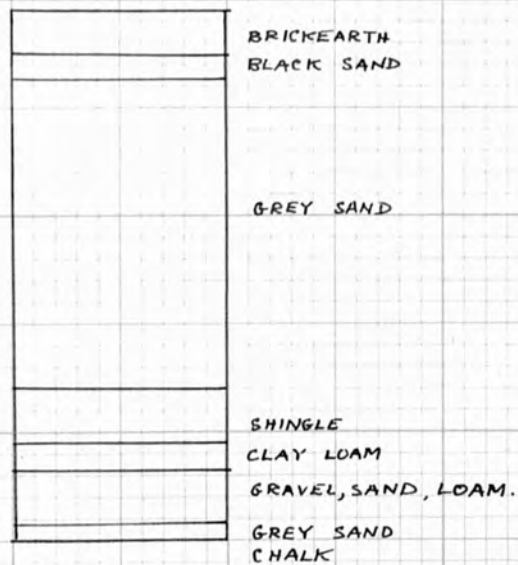
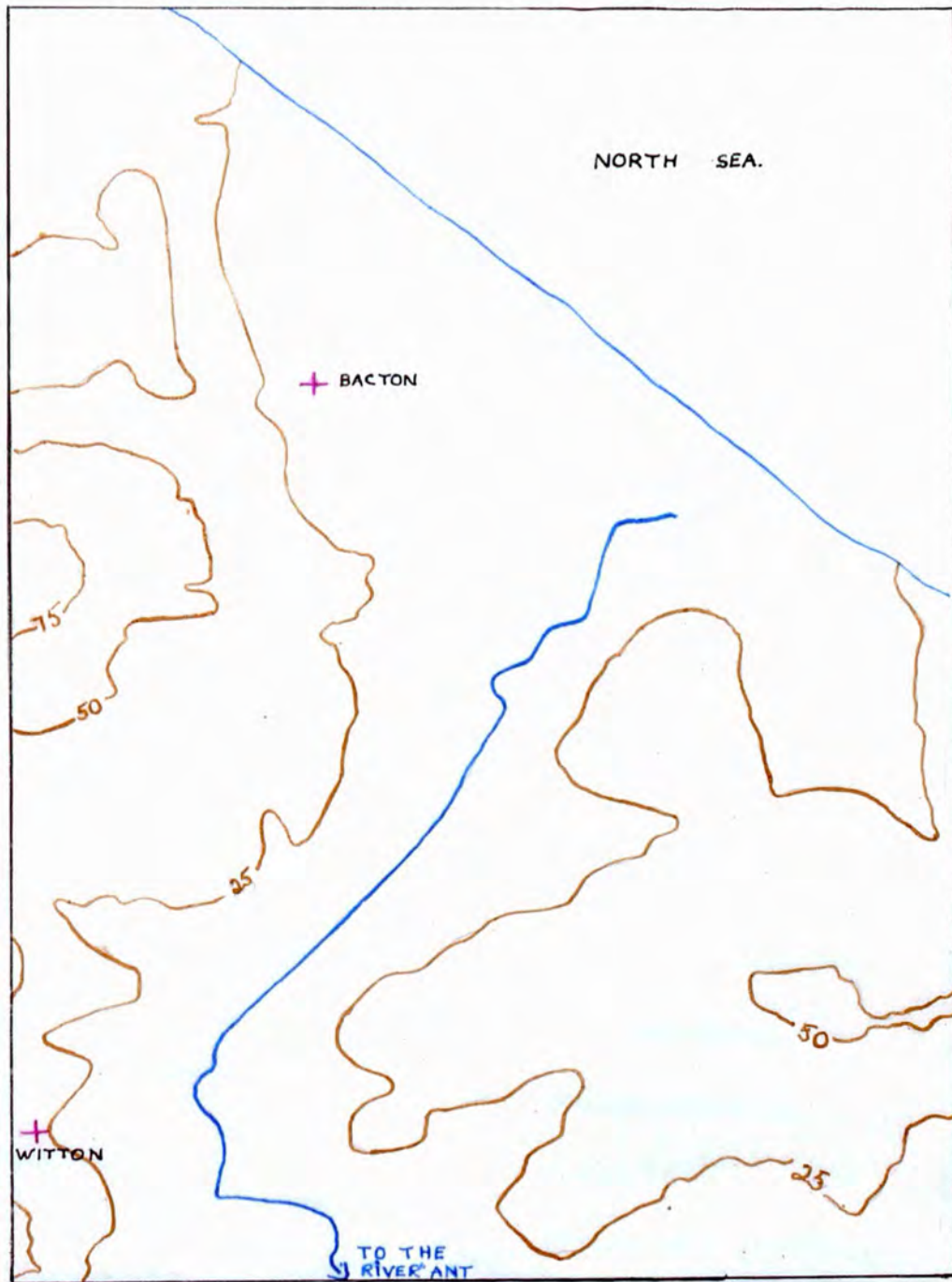


FIGURE 46.

DIAGRAM OF THE COASTAL RELIEF NEAR BACTON



SCALE — 2½ INCHES REPRESENT 1 MILE.

APPENDIX B.FLORA OF KELLING HEATH.

Bell-heather	<i>Erica cinerea</i>
Blackberry, Bramble	<i>Rubus fruticosus</i>
Broom	<i>Cytisus scoparius</i>
Bugloss	<i>Lycopsis arvensis</i>
Chickweed	<i>Stellaria media</i>
Common Agrimony	<i>Agrimonia eupatoria</i>
Common Centaury	<i>Erythraea Centaurium</i>
Common St. John's Wort	<i>Hypericum perforatum</i>
Crosswort, Mugwort	<i>Galium cruciata</i>
Cudweed	<i>Filago germanica</i>
Dog Rose	<i>Rosa canina</i>
English Stonecrop	<i>Sedum anglicum</i>
Foxglove	<i>Digitalis purpurea</i>
Furze, Gorse, Whin	<i>Ulex europaeus</i>
Heath Bedstraw	<i>Galium saxatile</i>
'Heath Violet'	<i>Viola canina</i>
Hoary Mullein	<i>Verbascum pulverulentum</i>
Honeysuckle	<i>Lonicera periclymenum</i>
Hound's-tongue	<i>Cynoglossum officinale</i>
Imperforate St. John's Wort	<i>Hypericum quadrangulum</i>
Lesser Stitchwort	<i>Stellaria graminea</i>
Ling, Heather	<i>Calluna vulgaris</i>

Floughman's Spikenard	<i>Inula conyza</i>
Ragwort	<i>Senecio jacobaea</i>
Red Campion	<i>Lychnis dioica</i>
Rosebay Willow-herb, Fireweed	<i>Epilobium angustifolium</i>
Sheep's Sorrel	<i>Rumex acetosella</i>
Silverweed	<i>Potentilla anserina</i>
Small-flowered Willow-herb	<i>Epilobium roseum</i>
White Campion	<i>Lychnis alba</i>
White or Red Bryony	<i>Bryonia dioica</i>
Wild Strawberry	<i>Fragaria vesca</i>
Yellow and blue Forget-me-not	<i>Myosotis versicolor</i>
	<i>Acaena Sanguisorbae</i> (probably imported with sheep's wool. Native of E. Australia, New Zealand, etc.)

APPENDIX C.FLORA OF BEESTON COMMON.Heath Plants

Bell Heather	<i>Erica cinerea</i>
Blackberry, Bramble	<i>Rubus fruticosus</i>
Bracken	<i>Pteris aquilina</i>
Common Tormentil	<i>Potentilla erecta</i>
Cross-leaved Heath, Bog Heather	<i>Erica tetralix</i>
Furze, Gorse, Whin	<i>Ulex europæus</i>
Heath Bedstraw	<i>Galium saxatile</i>
'Heath Violet'	<i>Viola canina</i>
Ling, Heather	<i>Calluna vulgaris</i>
Wild Pansy	<i>Viola tricolor</i>
Wood Sage	<i>Teucrium scorodonia</i>

Grassland Plants

Bee Orchid	<i>Ophrys apifera</i>
Birdsfoot-trefoil, Bacon and Eggs	<i>Lotus corniculatus</i>
Black Horehound	<i>Ballota nigra</i>
Blue Fleabane	<i>Erigeron acris</i>
Buck's-horn Plantain	<i>Plantago coronopus</i>
Bulbous buttercup	<i>Ranunculus bulbosus</i>
Cat's Ear	<i>Hypochaeris radicata</i>
Common Agrimony	<i>Agrimonia eupatoria</i>
Common Dandelion	<i>Taraxacum officinale</i>

Grassland Plants (ctd)

Common Forget-me-not	<i>Myosotis arvensis</i>
Common Mouse-ear Chickweed	<i>Cerastium vulgatum</i>
Common Storksbill	<i>Erodium cicutarium</i>
Cow parsnip	<i>Heracleum sphondylium</i>
Creeping Cinquefoil	<i>Potentilla reptans</i>
Daisy	<i>Bellis perennis</i>
Fleabane	<i>Inula dysenterica</i>
Great Burdock	<i>Arctium lappa</i>
Great Plantain	<i>Plantago major</i>
Hairy Hawkbit	<i>Leontodon hirtus</i>
Harebell	<i>Campanula rotundifolia</i>
Knotgrass	<i>Polygonum aviculare</i>
Lady's Bedstraw	<i>Galium verum</i>
Lesser Celandine, Pilewort	<i>Ranunculus ficaria</i>
Lesser Knapweed, Hardheads	<i>Centaurea nigra</i>
Lesser Stitchwort	<i>Stellaria graminea</i>
Meadow Saxifrage	<i>Saxifraga granulata</i>
Milk- or Sow-Thistle	<i>Sonchus oleraceus</i>
Mouse-ear Hawkweed	<i>Hieracium pilosella</i>
Ploughman's Spikenard	<i>Inula conyza</i>
Ragwort	<i>Senecio jacobaea</i>
Red Clover	<i>Trifolium pratense</i>
Ribwort	<i>Plantago lanceolata</i>
Rough Hawkbit	<i>Leontodon hispidus</i>

Grassland Plants (ctd)

Self-heal	<i>Franella vulgaris</i>
Sheep's Sorrel	<i>Rumex acetosella</i>
Silver Birch	<i>Betula alba</i>
Silverweed	<i>Potentilla anserina</i>
Smooth Hawk's-beard	<i>Crepis capillaris</i>
Spear Thistle	<i>Carduus lanceolatus</i>
Spring Sedge	<i>Carex caryophylla</i>
Sweep's Brush, 'Field Woodrush'	<i>Luzula campestris</i>
White Clover, Dutch Clover	<i>Trifolium repens</i>
Wild Carrot	<i>Daucus carota</i>
Wild Thyme	<i>Thymus serpyllum</i>
Yarrow Milfoil	<i>Achillea millefolium</i>
Yellow and Blue Forget-me-not	<i>Myosotis versicolor</i>
Yorkshire Fog	<i>Holcus lanatus</i>

Fen Plants

Alder	<i>Alnus glutinosa</i>
Amphibious Bistort	<i>Polygonum amphibium</i>
Blunt-flowered Rush	<i>Juncus obtusiflorus</i>
Bog Pimpernel	<i>Anagallis tenella</i>
Brooklime	<i>Veronica beccabunga</i>
Brookweed	<i>Samolus valerandi</i>
Buckbean	<i>Menyanthes trifoliata</i>
Common Butterwort	<i>Pinguicula vulgaris</i>
Common Centaury	<i>Erythraea Centaurium</i>

Fen Plants (ctd)

73.

Cuckoo Flower, Lady's Smock	Cardamine pratensis
Devil's-bit Scabious	Scabiosa succisa
Fragrant Orchid	Habenaria conopsea
Grass of Parnassus	Parnassia palustris
Great Hairy Willow-Herb	Epilobium hirsutum
Great Horsetail	Equisetum telmateia
Great Sallow, Goat Willow	Salix caprea
Hemp Agrimony	Eupatorium cannabinum
'Jointed Rush'	Juncus articulatus
Kingcup, Marsh Marigold, May Blobs	Caltha palustris
Knotgrass	Polygonum persicaria
Knotted Pearlwort	Sagina nodosa
Lesser Butterfly Orchid	Habenaria bifolia
Lesser Spearwort	Ranunculus flammula
Mare's-tail	Hippuris vulgaris
'Marsh Helleborine'	Epipactis palustris
Marsh Ragwort	Senecio aquaticus
Marsh Thistle	Carduus palustris
Marsh Valerian	Valeriana dioica
Marsh Willow-herb	Epilobium palustre
Meadow Buttercup	Ranunculus acris
'Marrow Buckler-fern'	Aspidium spinulosum
Pennywort, White-rot	Hydrocotyle vulgaris
Ragged Robin	Ichnis flos-cuculi
Red Bartsia	Bartsia Odontites
Reed	Arundo Phragmites
Slender Sedge	Carex Lasiocarpa
Spotted Orchis	Orchis maculata

Fen Plants (ctd)

Twayblade	<i>Listera ovata</i>
Valerian	<i>Valeriana officinalis</i>
Watercress	<i>Nasturtium officinale</i>
Water Crowfoot	<i>Ranunculus aquatilis</i>
'Water Forget-me-not'	<i>Myosotis scorpioides</i>
Water Mint	<i>Mentha aquatica</i>
White Willow	<i>Salix alba</i>
	<i>Orchis latifolia</i>

Bog Plants

Bog Orchid	<i>Malaxis paludosa</i>
Common Cotton-grass	<i>Eriophorum angustifolium</i>
Great Sundew	<i>Drosera anglica</i>
Lousewort	<i>Pedicularis sylvatica</i>
Marsh St. John's Wort	<i>Hypericum elodes</i>

Woodland Plants

Ash	<i>Fraxinus excelsior</i>
Bittersweet, Woody Nightshade	<i>Solanum dulcamara</i>
Blackthorn, Sloe	<i>Prunus spinosa</i>
Bluebell, Wild Hyacinth	<i>Scilla nonscripta</i>
Common Oak, Pendunculate Oak	<i>Quercus robur</i>
Crab Apple	<i>Pyrus Malus</i>
Dewberry	<i>Rubus caesius</i>
Elder	<i>Sambucus nigra</i>
Germander Speedwell	<i>Veronica chamaedrys</i>

Woodland Plants (ctd)

Ground Ivy	<i>Nepeta hederacea</i>
Hedge Woundwort	<i>Stachys sylvatica</i>
Herb Robert	<i>Geranium robertianum</i>
Holly	<i>Ilex aquifolium</i>
Honeysuckle	<i>Lonicera Periclymenum</i>
Hop	<i>Humulus lupulus</i>
Midland Hawthorn	<i>Crataegus oxyacanthoides</i>
Moschatel, Townhall Clock	<i>Adoxa moschatellina</i>
Primrose	<i>Primula vulgaris</i>
Red-veined Dock	<i>Rumex nemorosus</i>
Rosebay Willow-herb, Fireweed	<i>Epilobium angustifolium</i>
Rowan, Mountain Ash	<i>Pyrus Aucuparia</i>
Stinging Nettle	<i>Urtica dioica</i>
Thyme-leaved Sandwort	<i>Arenaria serpyllifolia</i>
White or Red Bryony	<i>Bryonia dioica</i>
Wild Campion	<i>Lychnis dioica</i>
Wild Strawberry	<i>Fragaria vesca</i>
Wood-sorrel	<i>Oxalis acetosella</i>

REFERENCE LITERATURE

- ALLISON, K.J. The Sheep-corn Husbandry of Norfolk in the 16th and 17th Centuries. *The Agricultural History Review*. Vol. V. 1957.
- ANDREWS, C.H. Glacial Relics in the Netherlands in "The Changing Flora of Britain". Ed. J.E. Lousley. 1953.
- BACON, R.N. A Report on the Agriculture of Norfolk. 1844.
- BEEVOR, H.R. Norfolk Woodlands. *Transactions of the Norfolk and Norwich Naturalists Society*. Vol. XI.
- CANDLER, C. Some East Anglian Field-names. *Norfolk Archaeology*. Vol. XI.
- CLAPHAM, TUTIN and WARBURG. *Flora of the British Isles*. 1952.
- CLARKE, W.G. *Norfolk and Suffolk*. 1921.
- COZENS-HARDY, B. Description of a Map of Briningham. *Norfolk Archaeology*. Vol. XVIII.
- DARBY, H.C. Clearing the Woodland in Europe. *Man's Role in Changing the Face of the Earth*. 1956.
- GODWIN and VALLANTINE. Studies in the Post-glacial History of British Vegetation. *Journal of Ecology* 39.
- GURNEY, R.C. Northrepps Hall. Private collection of papers.
- HOARE, C.M. *History of an East Anglian Soke*. 1918.
- HOARE, C.M. The Last of the Bondmen in a Norfolk Manor. *Norfolk Archaeology*. Vol. XIX.
- HOARE, C.M. *Records of a Norfolk Village*. 1914.
- KENT, N. *General View of the Agriculture of the County of Norfolk*. 1796.
- KENT, N. On Norfolk Turnips and Fallowing. *Annals of Agriculture*, XXII. 1794.
- KETTON-CREMER, R.W. *A Norfolk Gallery*. 1948.
- LENNARD, R. The Destruction of Woodland in the Eastern Counties under William the Conqueror. *Economic History Review*. 1945. Vol. XV.
- LEADAM, I.S. The Inquisition of 1517, Inclosures and Evictions. *Transactions of the Royal Historical Society, New Series*, Vol. VII. 1893.

- MARSHALL, W. Rural Economy of Norfolk. 1787. Vols. I and II.
- PARKIN, C. Essay towards a Topographical History of the County of Norfolk. 1808. Vols. VI, VIII and IX.
- FURDY, R.J.W. Mannington Hall. Norfolk Archaeology. Vol. XIV.
- RAIMES, A.L. Reymes of Overstrand. Norfolk Archaeology. Vol. XXX.
- REDSTONE, L.J. The Cellarers Accounts of Bromholm Priory. 1415-16. Norfolk Record Society. Vol. XVII.
- ROSE, F. The Importance of Relict and Disjunct Distributions in the Interpretation of the History of the present British Flora. 1956.
- RYE, W. Notes on Runton, Norfolk. Norfolk Antiquarian Miscellany. 1877. Vol. I.
- SMITH, A.H. English Place-Name Elements. 1956.
- SOLOMAN, J.D. Glacial Succession on the N. Norfolk Coast. Proceedings of the Geological Association. 1932.
- WEST, J.R. Register of the Abbey of St. Benet of Holme. Norfolk Record Society, Vol. II.
- YOUNG, A. General View of the Agriculture of the County of Norfolk. 1804.
- YOUNG, A. A Farmer's Tour through the East of England. 1771. Vol. II.

Miscellaneous

- History and Antiquities of the County of Norfolk. 1781. Vol. III and Vol. IX. Hundred of Tunstead.
- Calendar of the Deeds enrolled within the County of Norfolk. Norfolk Archaeology, Vol. XIII.
- Calendar of Frere Mss. : Hundred of Holt. Norfolk Record Society, Vol. I.
- Map - Survey of Norfolk. W. Faden. Scale 1" to 1 mile. 1790-94. Bedford College, London.
- Parliamentary Enclosure Awards. Norwich Public Library.
- Map of Sheringham 1811. Maps in care of Sheringham Urban District Council.

2" Drawings O.S. Norfolk 1816. British Museum.

Tithe Schedules and accompanying maps. Tithe Commission.

Census Returns England and Wales. 1821. 1881.

6", 2.1/2", 1" Maps. Ordnance Survey. All editions.

Sheets of the Land Utilisation Survey. 1" to 1 mile. 1933.

Photographs - Air Ministry.

Correspondence - Forestry Commission

- F. Buckingham Esquire, Norwich.