

PROCEEDINGS
OF THE
CAMBRIDGE ANTIQUARIAN
SOCIETY

(INCORPORATING THE CAMBS & HUNTS
ARCHAEOLOGICAL SOCIETY)



VOLUME LXVI

JANUARY 1975 TO DECEMBER 1976

IMRAY LAURIE NORIE AND WILSON

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MERES AND MILLS IN WILLINGHAM AND STRETHAM

K. S. G. HINDE

THERE were numerous shallow lakes called meres in the undrained Fens, mostly around the inland borders of the peat fens of Cambridgeshire. To the west, in the Middle Level, lay Whittlesey, Trundle, Ugg, Ramsey, and Benwick meres. In the east were Redmere, the largest of the meres, Soham and Harriermere, as well as two small unnamed meres in Middle Fen. In the south were the meres of Willingham and Stretham Fens.

The Fenland meres formed an important part of the earliest drainage systems of their immediate localities. After they had been emptied, and forgotten, their sites and the pattern of drainage through them caused problems which in some cases forced a major alteration in the drainage system, probably in ignorance of the cause.

Until the eighteenth century, local drainage was undertaken by each parish separately. As this took little or no account of natural boundaries, it created a disjointed, even antagonistic, pattern which also created many problems in later years.

The unwritten rule of basic drainage, to pass as much of one's own water to one's neighbour as possible and to reject any in return, was clearly applied frequently between parishes, and inhibited systematic and efficient drainage for a long period.

Although it has been suggested that the fenland meres were formed by an inflow of sea-water in early Romano-British times,¹ the best evidence indicates that these meres were formed between about 500 and 100 BC,² by ponding up of water in depressions behind the river banks. There is no evidence of Roman occupation of the beds of any meres.³

As with all inland stretches of water, the level and extent of the meres must have fluctuated with seasonal variations of weather: in the Fens such fluctuations would have been magnified by inflowing of upland water and flooding. Further, with systematic drainage of its locality, each must inevitably have wasted, and efficient general drainage of the Fens doomed the meres whether or not they were directly emptied. Some disappeared in the Middle Ages, such as Redmere and Harriermere, whilst others lingered into the nineteenth century; the last

¹ C. A. H. Hodge and R. S. Searle *The Soils of the District Around Cambridge*, Ag. Research Council, Harpenden (1966).

² Gordon Fowler *An Extinct East Anglian Lake* [East Anglian Mag. (1947) p. 31].

³ C. W. Phillips, ed. *The Fenland in Roman Times* (1970), R. G. S. Passim.

survivor (Whittlesey) was drained by steam engine and centrifugal pump in 1851.

This note relates to the group of meres in Willingham Fen, to Stretham mere, and to the early drainage of their localities by windpumps.

WILLINGHAM

Willingham Fen contained not one, but two, meres (Fig. 1) although only one such is shown on early maps, and many show none.

The position of the main mere in the area called Willingham Mere, can be found by reference to those seventeenth and eighteenth century maps which mark it.⁴

In 1933 Gordon Fowler noted that a mere near Willingham, shown close to the Old West River on seventeenth century maps, extended to 80 acres and was 16½ feet deep in the sixteenth century.⁵ This must refer to the main mere. Besides Willingham Mere, there was an unnamed mere some 1½ miles north-east of Willingham.⁶ The position of former meres is easily recognisable by the deposits of shell marl, and the site of this mere can be traced by this method. The area is called 'The Shoals', which means shallows.⁷

These were not the only meres in the area, for a third mere lying in Over Fen, between Willingham Mere and the River Ouse, can be inferred from the name 'Bluntismere' marked on the Eau Brink Map⁸ and the reference in the Lynn Law of 1637 to 'the late inclosed grounds of Over called Blunte Meer'.⁹ Without the assistance of a soil map, only a general indication of the area of this mere can be given (Fig. 1). I do not agree with Reaney's suggestion that mere in this instance means boundary.

It seems clear that both The Shoals and Blunt Mere had ceased to be permanent tracts of open water by the time Hayward prepared his 1601 map. Willingham Mere seems to have survived well into the eighteenth and possibly into the nineteenth century.¹⁰ If so, it seems likely that it contracted in size

⁴ The most useful of these is Hayward's Map of 1601.

⁵ Gordon Fowler *Fenland Waterways Past and Present South Level District Part I*, Procs. C.A.S. Vol. XXXIII (1933), p. 124. In 1277 there was an open-water fishery for these boats at 30/- each on Willingham Mere. (V.C.H. Cambs. and Isle of Ely, Vol. II, p. 69).

⁶ Hodge & Searle *op. cit.*, p. 115. See also Phillips *op. cit.*, p. 129 to 131 which refers to the meres of Queen Holme.

⁷ P. H. Reaney *Place-Names of Cambridgeshire* (1943), p. 175. Hayward's Survey of 1635/37 refers to 'the Meargrounds called The Shoals'. See S. Wells *Laws of the Bedford Level Corporation* (1828), p. 179.

⁸ J. G. Lenny *Plan of Part of the Bedford Level Subject to the Eau Brink Tax* (1833).

⁹ S. Wells, *op. cit.*, p. 269.

¹⁰ B. C. Warsen and Others *Geology of the County Around Cambridge* (1969), p. 103; and see map in Vancouver, *General View of the Agriculture of the County of Cambridge* (1793), and Laurie/Whittle's Map of Cambridgeshire (1806).

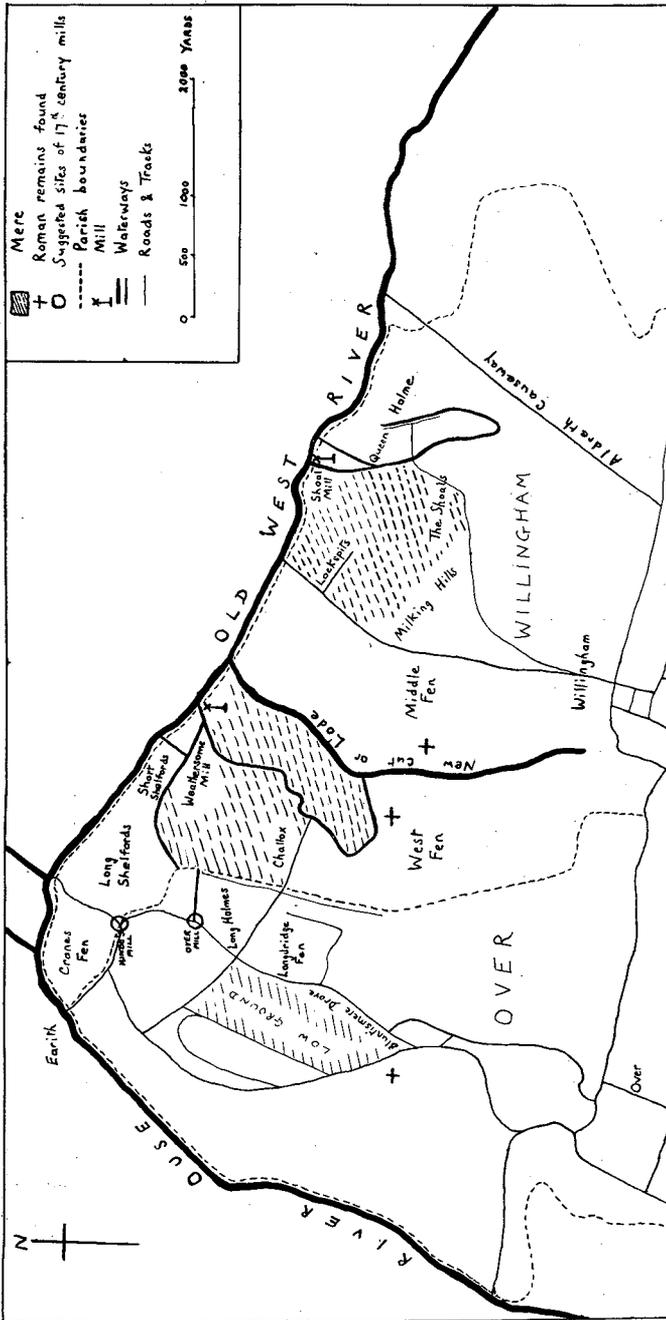


Fig. 1. Willingham Fen.

considerably after Vermuyden's general drainage of the Bedford Level. The shrinkage of the peat soil resulting from more efficient drainage would inevitably lead to the lowering of the land surrounding the mere whilst the bed of the mere remained at the same level. In fact the old bed of Willingham Mere now stands higher than the surrounding land."

Willingham Fen contained one of the two earliest mills recorded as being applied to fen drainage. This and the other mills subsequently erected in this Fen illustrate the relevance of a mere to the drainage system of its district. In fact it only proved possible to trace the position of this mill by first plotting the mere.

This mill is referred to in Atkyns' Survey of the Fens dated 1604 which states 'Over hath very good fens two miles broad and above a mile long very meddowes within ye compasse whereof lye certain grounds of Sir William Hinde where there is an Ingin or Mill placed to receive water, and not far from there another mill for the Town of Over, both serve to good purpose and empty the water into a dyke which falleth into Willingham Mere'.¹²

To trace the precise position of the land referred to by Atkyns, it is necessary to reconcile several different references. In the first place, the land lay in the parish of Willingham, and not Over. This appears from Hayward's Survey of the Fens dated 1635/37, wherein is listed 'Willingham - Heire of Sir Edward Hine, an imbanked fen adjoining more west called Little Shelfolds by Over groundes south and west; and the river north. 80 acres'.¹³

This reference is confirmed by the Lynn Law of 1637¹⁴ which provided for allocation to the Crown 'out of the several fen of John Crane Esq. called Little Shelfould, 7 acres 1 rood at the north east corner thereof near Erith Sluice.' Finally, Hayward's Map of the Fens of 1604 marks the area now known as Crane's Fen as 'Mr Hind'.

Crane Fen was bounded on the north and west by the bank of the River Ouse, and on the south and east by banks which are shown on Hayward's and Lenny's maps. Now the obvious course for the drainage of this fen would have been by channels leading to the river, and there must have been good reason for the

¹¹ *Fenland Notes and Queries*, Volume 1, p. 289 (1891).

¹² S. Wells *op. cit.*, p. 180. This is the only land listed by Hayward as belonging to Hinde in the parishes of Willingham and Over. Sir William Hinde of Madingley Hall died in 1607, and was succeeded by Sir Edward Hinde who died in 1634.

¹³ S. Wells *op. cit.*, p. 269. The field names have changed over the years in a manner designed to confuse. What Hayward called Great Shelfolds in 1635 had been divided into Long and Short Shelfolds by the time Lenny prepared his map for the Eau Brink Tax in 1829/33, and these names reappear on Ordnance Survey maps; whilst Little Shelfolds had become Crane's Fen, presumably after the owner referred to in the Lynn Law.

¹⁴ Cambs. County Record Office.

drainage not only being led away from the river but even requiring the assistance of a mill to direct it into Willingham Mere.

The only simple explanation would seem to be that the land sloped away from the river towards the south-east. This conclusion is supported by the name 'Shelfoulds' which indicates shelving, sloping or shallow hollows.¹⁴ Using Hayward's name, Great and Little Shelfoulds extended over the whole area between the bend in the River Ouse above Earith and the north-east corner of Willingham Mere; and it is reasonable to assume that this land shelved towards the Mere.

It can next be argued that, in placing his mill, Sir William Hinde would have sited it on his own land, but at its furthest extremity. My suggestion as to its position is shown on the plan (Fig. 1). If it is correct then, by what would seem to be pure chance, it was very close to the site of the original steam pumping station erected about 1840 for the drainage of Over Fens. This has now been demolished without trace.

If Hinde's mill was sited as suggested, then it pumped the water southwards, and the obvious position for any mill intended to assist the waters from Over to flow in the direction of Willingham Mere would be at the point where the drain flowing north from Over Village met Hinde's mill drain flowing south-east and the cross drain flowing into the mere. (See Fig. 1).

It is curious that a system of drainage into a mere rather than a river should have been adopted. It indicates that the meres were used as reservoirs for surplus water in times of flood, to be subsequently discharged into the river by gravity when its level dropped. This method could have been adopted because the flow in the Old West was so sluggish and shallow that it was not feasible to drain directly into the river near Earith.

It is possible that, after Vermuyden had constructed the Bedford Rivers, it became feasible to drain Crane Fen and Over directly into the river by gravitation. However, there is one piece of evidence to the contrary.

An agreement¹⁵ made in 1696 between the then Lord of the Manor of Willingham and other farmers of that parish and various Over farmers stated that the latter had recently erected an engine water mill in Langidge in Over Fen and thereby forced water into the grounds of Willingham. The men of Over agreed to pay £50 to the Willingham farmers for the right to continue to use the mill. This suggests that Over Fen remained difficult to drain, and that the mere was still being used as a drainage basin. This may have contributed to the survival of the mere for so long after the surrounding land had been drained.

It seems unlikely that Sir William Hinde was in any way a pioneer in applying

¹⁴ See n. 7 above.

¹⁵ Cambs. County Records Office.

a mill to drainage. Indeed the small area served by the mill suggests both that they were far from uncommon artefacts even in 1604, and that this was a small mill, possibly horse driven. Hayward's failure to mark it on his map, although marking other mills, supports this view. Hinde's mill is not recorded on any maps of the eighteenth century and after, and would seem to have been removed at an early stage.

By the early nineteenth century, Willingham Fen was drained by two wind-pumps. One known as Weathersome, or White's Mill, stood near the mere in the place where the present drainage engine now stands. The other, known as Shoal Mill, drained the eastern end of the district being placed near the old Shoal mere. It is notable that both were clearly intended to drain primarily the meres or their sites, and left the legacy of an engine site now connected most directly to what has become the highest part of the area.

That part of Willingham Fen lying to the north and north-west of Willingham Lode was formed into Willingham West Fen Drainage Commission in 1847. A small beam engine driving a scoop wheel was installed near the site of Weathersome Mill, the house for which survives to contain a diesel engine driving a centrifugal pump today. The eastern part of the fen, including the Shoals, was incorporated into Cottenham, Rampton and Willingham Fen Drainage District in 1842.

STRETHAM

The position of Stretham mere can be easily identified from the Soil Survey Map, and from those of Dugdale and Baddeslade (Fig. 2).

Deep ploughing in the spring of 1972 revealed the shell marl in the sub-soil and gave a rare opportunity to check the extent of the mere physically, revealing incidentally that it must have shelved steeply at its edges.

The area bounded by the high lands of Waterbeach Village, Akeman Street, the River Cam and the Old West River lies in four parishes: Waterbeach, Stretham, Wicken and Little Thetford. Only in 1740 was the drainage of this area undertaken by one authority, Waterbeach Level Drainage Commission.¹⁶ Prior to that time, each parish was responsible for the drainage of its own fenlands, and the inheritance of these separate systems has influenced the drainage of this district as much as the existence of the mere. The boundary drain between the parishes of Waterbeach and Stretham and also between the Isle of Ely and the county of Cambridge, survived unchanged for two centuries after the time of Vermuyden, and parts of it remain today.

The original system of drainage in Waterbeach parish seems to have been by cross drains feeding into catchwaters running parallel to the River Cam. It is most probable that these in turn drained by channels into the river. The northern part, consisting mostly of land in Stretham parish, drained directly into the Old

¹⁶ For the early history of Commissioners' drainage in this District, see R. L. Hills *Drainage by Windmills in the Waterbeach Level*, Proc. C.A.S., Vols. LVI and LVII (1963-4), p. 115-22.

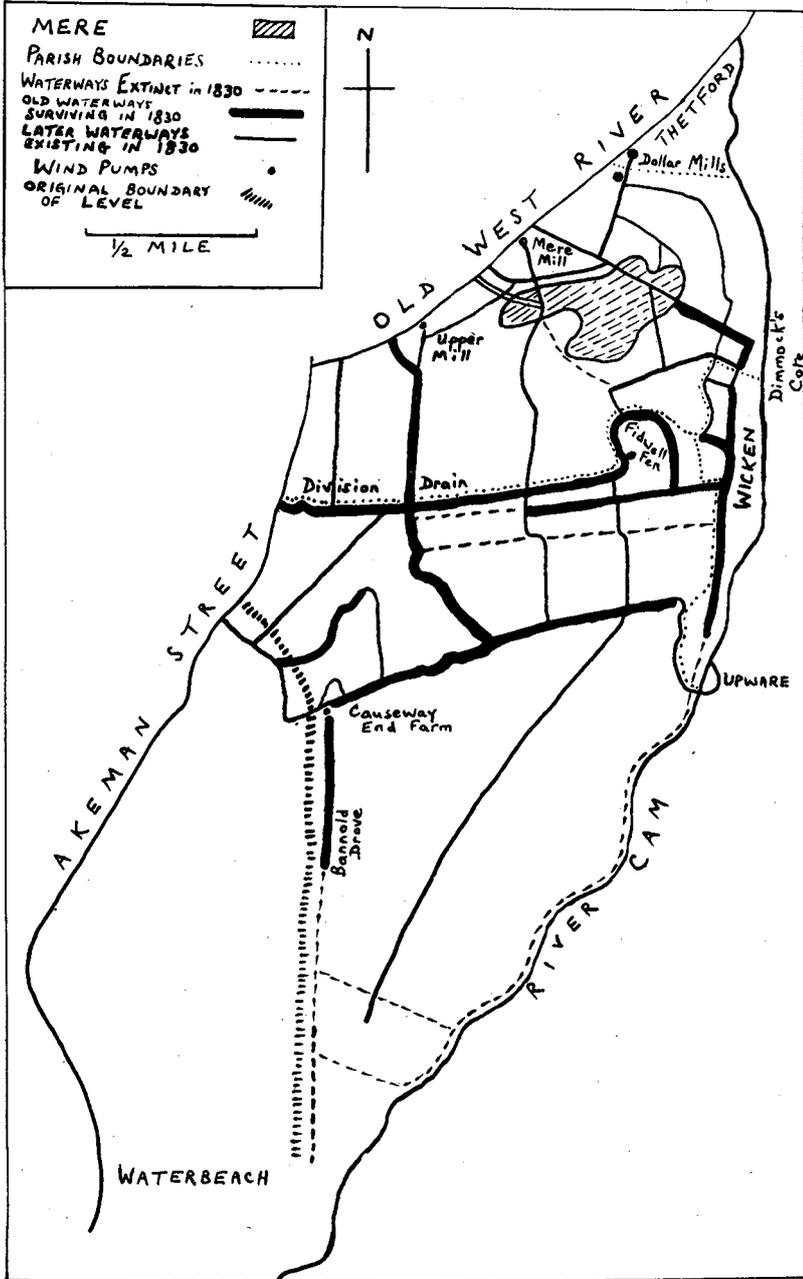


Fig. 2. Waterbeach Level, circa 1830.

West River, but the system of cross drains suggests also a flow from west to east towards the mere. The flow towards the mere suggests that it may have been used as a reservoir for flood waters as at Willingham.

It is significant that the first windpump constructed by the Commissioners was Mere Mill, closely followed by Dowload Mill, which pumped another channel running from the mere. Except for a tunnel letting water into the Cam nearly opposite Upware, this Level was drained entirely into the Old West River until 1946. The Commissioners had three mills draining into that river by 1775, and the Dowload Mill was supplemented by another to form a double-lift system in 1814.

Besides these, there were two other mills operating in this district before 1830, both presumably owned privately. One was at Fidwell Fen, the other at Causeway End Farm.¹⁷ (See Fig. 2). The latter can be remembered as a derelict which was demolished around the turn of the century. It was placed just outside the original area of Waterbeach Level and was presumably used to lift water from Bannold Drove drain into the Commissioners' system.¹⁸

Fidwell Fen mill was on land owned by the Earl of Hardwick.¹⁹ There is evidence of a ditch running east to west across this land which could have been the mill drain;²⁰ but at the present time the site of this mill is in the middle of a field and there is no indication of its purpose or function. It can only be suggested that, when parish drainage existed, this area was drained by gravity into the River Cam; when the activity of the Commissioners brought about a lowering of the peat surface which rendered this impossible, the landowner was obliged to make his own arrangements to lift his water into the Commissioners' system.

With the construction of the steam engine in 1831, the drainage of this district was concentrated towards the new pump. It is notable that it was

¹⁷ Both are marked on Lenny's Eau Brink Map and 1st Ed. Ordnance Survey (1836). Causeway End Mill is marked on the draft O.S. plans Surveyed 1811-20 and the three large stones on which it stood can be seen today. Fidwell Fen Mill is marked on R. G. Baker's Map of Cambridgeshire (1830). Mr C. O. Clarke, Superintendent of Waterbeach Level, discovered the site of this Mill at NGR 527715 in the middle of the field after the Fen Blow of May 1972 lifted the top soil to reveal a slight hump containing numerous fragments of brick and nails. A belt of shell marl elsewhere in the field indicated part of the old division ditch but there was no indication of this near the Mill site.

¹⁸ W. K. Clay *History of Waterbeach* (Cambridge 1859), p. 45-130. This part of the Fen was owned by Samuel Peach from 1818 to 1832 as part of Denny Abbey estate. His holding of 400 acres in the vicinity would have amply justified the maintenance of a private mill.

¹⁹ J. G. Lenny *op. cit.*, p. 354, Lots 1-5. He held some 650 acres in that part, known as North Fen. It was formerly owned by Bedford Level Corporation.

²⁰ Ordnance Survey 2½in sheet 1955 Ed. This drain has long since disappeared without trace.

constructed near the site of the old Mere Mill. As at Willingham, drainage of, or through, the mere seems to have preoccupied the Commissioners. Although it has been stated that the mere was not made dry until the main railway line was constructed across this Fen in 1845,²¹ it seems unlikely that much of the mere remained after the steam engine started work.

The legacy of the mere became apparent in this century. By the Second World War, it was found that the water was not reaching the main engine, and after the war new pumps were constructed draining into the Cam. For some years the old plant was kept as a stand-by, but now insufficient water reaches that part of the district to enable it to work at all, and recently the old main drain has been blocked off so that no water flows to the Old West. With continual drainage, the fen has shrunk, but the mere bed has not sunk to the same extent and stands higher than the surrounding district. Because the system was designed around drainage of the mere, it has of necessity now had to be re-adjusted. One drain across the mere bed has had to be abandoned because it has become too high to feed into the system.

CONCLUSIONS

From this it can be concluded that in medieval times, and possibly later – even into the eighteenth century – these meres were used as reservoirs for flood water.²² For this reason the drainage of these districts was designed to feed primarily through the meres into the rivers, and the meres thus became part of the drainage system. When drained, they left beds which gradually became relatively high lands in the middle of the fens and have inevitably required re-arrangement of the drainage flow, for the lowest parts of these districts have now become the highest. It is also clear that those districts formed out of more than one parish demanded considerable alteration of the old separate systems to achieve efficient drainage.

I am indebted to Mr C. O. Clarke, Superintendent of Waterbeach Level I.D.B.,²³ for assistance generally and in particular for finding the site of Fidwell Fen Mill on the ground; to Wing Commander S. A. Hinde, O.B.E., D.L., for preparing the plans; and to Mr C. Taylor, F.S.A., and Mr Petty of Cambridge City Library.

²¹ Hodge & Searle *op. cit.*, p. 15.

²² As late as 1847 a steam-driven pump was draining an enclosure of 500 acres into Whittlesey Mere. See J. A. Clarke *On the Great Level of the Fens* Jour. Ag. Soc. (1847), p. 101.

²³ Now retired.

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