Hunstanton u3a Local History Group

LAND RECLAMATION BY DRAINING THE FENS (OR FENLANDS)

1. MY INTEREST

I first became interested in this matter shortly after my wife Annette and I first bought a weekend/holiday home in Heacham, Norfolk some years ago. We used to drive up from our home in Epping, Essex and we soon found a shortcut by turning, just after the M11 and A14 to cut across towards Ely near the Queen Adelaide level crossing area in Cambridgeshire and pushing north to the top end of the A10 which leads to Kings Lynn. It is noticeable that the terrain flattens out with roads below the countryside and with a marked increase in land drainage assets. The soil is so dark it is almost black. This area is redolent of an area I had learned about in schoolboy geography, known as the Zuiderzee in the Netherlands. At that point I had never visited the Zuiderzee but it was famous for having been a shallow bay of the North Sea in the northwest of that country which had been reclaimed through hydrological technology from the sea, mainly for agricultural use.

I was aware that historically some land reclamation had been carried out in parts of East Anglia using earlier forms of the same technology and I was curious to find out more.

2. WHAT CONSTITUTES ‘THE FENS’ FOR THIS PURPOSE?

The definition/description I have found in a book called ‘The Great Level’ by Dorothy Summers (ISBN 7153 7041 3) written in 1976 is as follows:

“Its characteristic problems apart, the Fenland, even today, remains a distinctive region. It forms a vast, extremely flat plain bordering the Wash, wedged between chalk highlands to the east and sandstone and limestone ridges to the west. The whole rests on a basic stratum of Oxford clay or glacial and interglacial sands and gravels. Extending into six counties, viz Lincoln,

Northampton, Huntingdon, Cambridge, Suffolk and Norfolk, the area embraces an area of approximately 1,306 square miles, or about 700,000 acres. The extreme length of the Fenland between Lincoln and Quy is about 73 miles, its breadth from east to west, from Brandon in Suffolk across to Peterborough, is approximately 36 miles. In the north the Fenland boundary stretches from Lincoln to Burgh-le-Marsh, where it joins the marshland of the Lincolnshire coast, which is itself a continuation of the fens. Its western margin extends from Lincoln to Somersham via Bourne, Peterborough, Yaxley and Ramsey. The southern boundary of the fens runs from Somersham to Earith, Swaffham Prior and Mildenhall, while the eastern margin extends from Mildenhall to Lakenheath and Stoke Ferry; thence to King's Lynn and the sea via Downham Market in Norfolk, with an inflexion along the Nar valley."

3. BACKGROUND: HISTORICAL FLOODING AND DRAINAGE

The Fens are very low-lying compared with the chalk and limestone uplands that surround them - in most places no more than 10 metres (33ft) above seal level. As a result of drainage and the subsequent shrinkage of the peat fens, many parts of the Fens now lie below mean sea level. Although a 17th century writer described the Fenland as entirely above sea level (in contrast to the Netherlands) the area now includes the lowest land in the UK. Holme Fen in Cambridgeshire is around 2.75 metres (9ft) below sea level. Within the Fens are a few hills, which have historically been called Islands, as they remained dry when the low-lying fens around them were flooded. The largest of the fen islands was the 23 square mile (60km square) Kimmeridge Clay island on which the cathedral city of Ely was built: its highest point is 39 metres (128 ft) above mean sea level. Without artificial drainage and flood protection, the Fens would be liable to periodic flooding, particularly in winter due to the heavy load of water flowing from the uplands and overflowing the rivers. Fenland as a whole has two principal characteristic features. Firstly, it lies open to the sea, being co-terminous with, or virtually an extension of the Wash. Secondly it is intersected

by many rivers, of which the major ones are the Witham, Welland, Nene and Great Ouse. These with their tributaries carry a colossal volume of drainage water from the surrounding highlands to the Wash into which they collectively discharge the floodwaters of much of central England. They drain an area of 6000 square miles, a region almost five times the size of the Fenland itself.

4. WHO DRAINED THE FENS?

Around 400 years ago, life changed dramatically when the fens were drained. The Dutch engineer, Cornelius Vermuyden, born in 1595 in the southwest of the Netherlands, was asked by King Charles 1 (of England, Scotland and Ireland from 27 March 1625 until he was beheaded in 1649) to design a plan to turn the wetlands into farmland. In 1630 the Old Bedford River was dug in a straight line from Earith to Denver, channelling the water from the fen towards the sea. Charles understood that draining the Fens would reveal super-fertile peat soil just beneath the water, making it ideal for farming. He saw this as a way of making money by collecting taxes from farmers. Charles had previously asked Vermuyden to drain his hunting grounds in Lincolnshire so he was sure he was the man for the job.

The plans to drain the wetlands were paid for by a group of wealthy men, known as the 'Gentlemen Adventurers', who were led by 4th Earl of Bedford. They were given 95,000 acres of the new drained farmland in return for their investment. The Great Fen, between the Wash and Cambridge is more popularly known as the Bedford Level after the 4th Earl who owned a large part of it.

The Gentlemen Adventurers drained the fens by straightening meandering rivers, building embankments and sluices, a type of channel for water which is controlled by gates to keep the tides out. They created washes to store the flood waters such as the Ouse Wash reservoir which is the 3rd largest in England. They had several problems with their drainage plan and in 1640 Vermuyden was asked to take on the rest of the project.

Local people, who relied on the wild fen for hunting and fishing, rebelled against the loss of their livelihoods. They smashed dams and destroyed dykes and became known as the 'Fen Tigers'.

Another key player was Oliver Cromwell, born in 1599 and lived in Ely from 1636 to 1646 with his family. He led Parliament's army against King Charles 1 during the English Civil War and also ruled the British Isles as Lord Protector from 1653 until his death in 1658. At first, as MP for Cambridge, Cromwell opposed Charles' plans to drain the fens. He supported the fenlanders who protested at the loss of their common land. Later on, however, Cromwell decided to support the second drainage plans for the region as he would make lots of money from it. This did not make him popular with local people.

The process of draining the fens was very difficult because when the land was drained of water, the peat soil found in the fens shrank. Once the lands in the fields were lower than the surrounding rivers, flooding became common for hundreds of years as water overflowed the new earth banks.

By the end of the 17th century, the fenlands looked totally different, with strong channels and regular angles where wild wetlands and meandering streams had once been.

Draining the fens took hundreds of years and is still an ongoing process today. The landscape is managed with drainage channels and pumps which keep the water under control so that the rich peat soil can be used to grow a wide range of crops.

Today, organisations such as the Environment Agency maintain the banks, sluices and pumping stations. Using modern machinery assists in keeping homes and farming land flood free.

5. NOTE FROM THE AUTHOR

I put this piece together having drawn from other printed sources, as follows:

*The book "The Great Level" by Dorothy Summers (see this book's further details at the beginning of Section 2 above);

* The Environment Agency documents “Who Drained the Fens” and “Fens 2100+”
* Various searches from Wikipedia.

I hope my efforts provide an accessible and digestible summary. There is much, much more in the sources quoted above.

Without breaking the flow and thrust of the piece I am including further information, as follows, to provide more depth to how the fens were generally understood by the populations of old and how they should be managed going forward:

6. ANCIENT RUMORS

6.1 Saxon Saint Guthlac, The Hermit of Crowland

When Guthlac (who subsequently achieved fame as the founder of Crowland Abbey) took what proved to be his momentous decision to become a hermit, the fenland of eastern England furnished him with a retreat sufficiently dismal and remote to satisfy even his exacting requirements. Comforted, we are told, ‘with divine support’ and undeterred by tales of uncouth monsters, he penetrated into the fastnesses of a strange land of ‘fetid pools’ and ‘flowing rivers’, finding a terrain grim enough to daunt all but the most intrepid settler. St Guthlac had need of his much-vaunted faith in God. The Fenland at this time – in the words of the eighth century chronicler Felix of Crowland – was a trackless waste of ‘immense marshes’ and ‘foul running streams. Because of its low-lying situation and the excessive damp the region was oft-times clouded with moist and dark vapours, a circumstance which lent additional emphasis to rumours widely prevalent at the time that it was the favoured haunt of devils. Even such an intrepid a man as St Guthlac was afflicted by moments of doubt, being ‘greatly troubled within him about the undertaking he had begun, namely to dwell there alone in the wilderness.’ According to popular report the few scattered inhabitants almost certainly numbered amongst their ranks, outlaws, bandits and a half-savage race of fishers and wildfowlers. The latter are traditionally supposed to have semi-

nomadic, amphibious life, rowing or wading from one patch of dry ground to another, a misconception which may well have given rise to the universally held belief that fenmen had webbed feet. In fact, the natives, far from being a race apart, were mostly ordinary farmers.

6.2 What Did the Romans Ever Do for Us?

Generally Speaking, the straight answer is “Quite a Lot”. However, in this matter of Draining the Fens this probably remains true. The difficulty is that most of the evidence for this is circumstantial. The Romans were in possession of England for approximately 400 years and it would have been very surprising had so enterprising a people overlooked the agricultural potential of the fens and East Anglia. In fact in some point during the Roman Occupation there took place a movement of population into the fens and more particularly into the higher silt lands, on such a scale as to leave little room for doubt that it was directed by the central government as deliberate policy. We know that the main colonisation of the Fenland took place during the first half of the second century, although the origins of the settlers is uncertain because it may have resulted from land hunger or displacement elsewhere. The drainage of the Fenland area by the Romans seems to have gained momentum during the second century, involving the cutting of several major waterways to facilitate the clearance of the upland waters to the sea and was more than could be undertaken by private enterprise. Therefore it follows it would have been carried out by government initiative and hence the area reclaimed for cultivation would have been regarded as an imperial estate, its settlers being state or *coloni.* Consequentially it is a safe assumption that at least a section of the Fenland area was under full cultivation at this period. Roman pottery and coinage have been unearthed in a number of places. It would appear that during the Roman era the Fenland was a fairly important corn growing and cattle-raising area. It has even been suggested that the Fenland was specifically earmarked for provisioning the armies in the north and that the bulk of its

produce was transported in barges to the military capital at York. The digging of the Cardyke (a 57mile artificial water channel from Cambridge to Lincolnshire) during the late first or early second century lends weight to this theory.

6.3 And going forward

In a recent publication, The Environment Agency have reported that a new programme of work was launched in 2023 called Fens 2100 to enable the Fens to adapt to the challenges of climate change both now and in the future. This programme will develop a Fens-wide flood resilience strategy that achieves long term value for money and generates regional and national benefits. This is being developed with, and for, Flood Risk Management Authorities so they can plan for the next 20-25 years. Managing water in the Fens is estimated to deliver in excess of £58bn worth of benefits – both through direct protection to people and properties, businesses, critical infrastructure and agricultural land, and through indirect benefits to the local economy e.g. through jobs and the food and drink supply chain. Water levels must be managed 24 hours a day, 365 days of the year. Living and working in the Fens is only possible because of the installation of around 17,000 flood risk management and water level management assets, such as pumping stations and defences. Many of the flood risk assets were built in the 1960s primarily to manage the land for food production and will need significant investment to maintain them in the medium and long term. There is a significant funding gap and addressing this is a core reason for Fens 2100+ programme now.

Over the next 100 years, an additional investment of £4.5bn will be needed to manage flood risk in the fens. These figures are based on today's costs and not accounting for climate change. Applying current flood risk management funding rules to that £4.5bn would mean about 50% of it would be funded, the rest isn't.

Peter Francis
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