

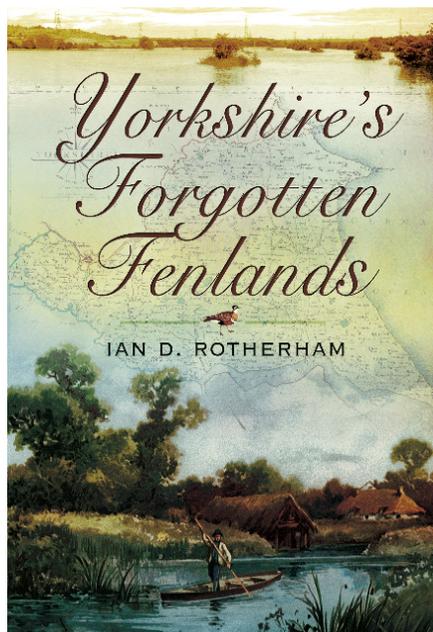
Yorkshire's Forgotten Fenlands

Ian D. Rotherham (2010)
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Nowadays it is difficult to imagine the former extent of wetlands in any country because open waters, swamps, marshes, fens and bogs have been drained and much reduced in area as a result of land use change over centuries. The extent to which this has happened in one region of England is described graphically by Ian Rotherham in this fascinating and informative book about the Northern Fens of Yorkshire and north Lincolnshire. He stresses the interrelationship between this vast low-lying area, with its flood plains and rivers draining into the North Sea and the moorlands and blanket bogs of the Pennine Hills to the west. The latter were the principal source of water that irrigated the former and whose waterlogged soils gave rise to an array of wetland habitats important for wildlife and people. In addition, the rivers that crossed this lowland landscape were important transportation routes that contributed to the prosperity of the region and towns such as Hull and York.

The origins of this vast wetland area are traced back more than 7,000 years when sea level was rising, following retreat of the ice sheets that covered most of northern Europe, and Britain was becoming an island. Melt water from the retreating glaciers left lakes and deposits of boulder clay. Sea level rise impeded drainage of the rivers. Until sea level stabilised these wetlands increased and decreased in extent and, under the influence of surface waterlogging and high rainfall, many areas formed, firstly, fen peat and then raised bog.

Accounts of the effects of subsequent changes in climate to warmer and wetter conditions and the increasing sophistication of human technology from the stone, bronze to iron ages, are interwoven with interpretation of landscape changes following woodland clearance, establishment of arable and pastoral agriculture and then the need for additional land that could only be obtained by drainage of the wetlands. Throughout these early periods of human development the Yorkshire Fens would provide an abundance of food, materials for house construction (especially thatching) and refuges from attack.

The Romans built roads across, fortifications in and around, the Yorkshire Fens and also began drainage of areas for agriculture. The drainage works were largely abandoned when the Romans left Britain and were not renewed until mediaeval times. There is evidence that, in Roman times, peat fuel was supplied to the City of York which was then a Roman garrison. Following the Norman Conquest of England much of this area was designated as 'hunting chases' mostly for deer under Forest Law. Hatfield Chase, covering 72,850 hectares, was the largest deer park in England. Around the same time, church-based monasteries had become powerful large landowners in this part of England and were active in land drainage and reclamation to obtain land for their largest source of income, namely wool from sheep. Peat was in widespread use for domestic heating and cooking and it provided power for industries such as

potteries, brick and tile making, salt manufacture and many other purposes. Before the use of coal expanded, and deep coal mines satisfied the demands of the industrial revolution from different parts of Britain, peat was a major energy source.

This book documents in detail the drainage of the Yorkshire and north Lincolnshire Fens that speeded up from the 14th Century onwards as demand for agricultural land increased, technology developed to make it possible and many Acts of Parliament were passed to overcome problems of land tenure. Rivers were deepened and straightened, drains were dug and dykes were constructed and water was led to the North Sea in the shortest distance and time. The only major problem was that as it dried the peat shrank and the land surface subsided leading to re-flooding! Wind pumps were a partial answer, followed by steam pumps which increased the cost.

Ian Rotherham explains the relationship between the expansion of agriculture, industrial development, an increasing urban population, and drainage and disappearance of the Yorkshire Fenlands. This is a fascinating period in history that led to many problems that had to be solved by drainage engineers such as the controversial Dutchman Cornelius Vermuyden who supervised several land reclamation projects in this part of England in the first half of the 17th Century. As a result skilled peasants from Dutch, Flemish and French wetland areas migrated to England to participate in these drainage works and in return some received title to land that sometimes caused discontent amongst local people.

The result of this land use change activity over centuries is that most of the fenland of Yorkshire and north Lincolnshire has disappeared. Information provided in this book suggests that the original extent of this wetland before drainage was around 3,000 km². The largest fenland block, Thorne and Hatfield Moors, occupied an area of 2,000 km² of which only 3,318 hectares or 1.7 % remains. If this is extrapolated to the entire area of the Yorkshire Fenlands then only some 5,000 ha remain today.

The final 'nail in the coffin' of this former vast wetland area was inserted in the 19th and 20th centuries as demand for agriculture increased further. In Victorian times drainage continued but as peat soils dried out they were subject to water and wind erosion leaving only the most difficult sites to

dewater, those in deep basins or great thicknesses of peat. The latter continued to be exploited, however, for fuel and peat moss litter for livestock bedding, often being shipped as far as London. Most of the Yorkshire Fenlands had disappeared by the end of Queen Victoria's reign when the 20th Century had just begun. In the middle of 20th Century some of the fuel and moss litter companies became, or were purchased by companies specialising in peat for horticultural growing media. This last 'use' of peat commenced towards the end of nearly two thousand years of land reclamation and use and it has become a very emotive issue in the United Kingdom.

Most of what remains of this vast fenland landscape is now protected in nature reserves and its biodiversity is protected for future generations to enjoy and respect. The remains of Thorne and Hatfield Moors are included in a new Special Area for Conservation (SAC) designated under EU regulations, although whether peat accumulation can recommence remains to be seen by our descendants.

In conclusion, it is important to mention the current situation. This vast fenland landscape formed in response to frequent flooding of water from the Pennine uplands, linked to poor or retarded water runoff in the lowlands to the North Sea. Drainage of the fens removed the buffer capacity of the lowland floodplains to absorb and hold water until it could drain naturally eastwards. 'Gripping' of the upland blanket bogs to enable rain water to flow quicker into reservoirs constructed to satisfy the demands of the increasing urban population and factories in Yorkshire, Lancashire and Derbyshire reduced greatly the 'life blood' of the lowland wetlands. Now, following extremely high rainfall in short periods of time, water flows from the uplands faster than it can be impounded in reservoirs or absorbed into the ground, resulting in flooding along the former flood plains of the lowland rivers and causing much damage to properties at considerable economic and environmental cost. Despite proposals to rewet former peatland areas in the uplands and fenlands in the lowlands, this can only be achieved on a very small scale and there is no likelihood that the 98 % of lost Fenland in Yorkshire and north Lincolnshire can ever be restored.

This book is well written, easy to read and understand, and no specialised knowledge is needed to enjoy it. *Jack Rieley, 11th April 2011*