Summary
This chapter addresses the issues of people, peatlands, conflict and ecology. It does so by considering seven main interactions and presents pertinent examples to illustrate these.

1. Peatlands influence war and conflict through topography and nature, often being of critical significance to strategy and outcome.

2. Heaths and moors were often used as military training grounds, from early times up to the present day.

3. Peatlands were used as wartime bases especially during World War 2 when they were brought into usage as airfields and similar facilities.

4. Bogs and moors especially, had unplanned and passive roles in warfare such being the last resting places for stricken or lost bombers of both sides during World War 2.

5. Peatlands, especially bogs and fens, provided materials of immense value to wartime efforts such as supplying horse litter, *Sphagnum* moss, alder buckthorn or peat fuel.

6. Conflicts, socio-economic stresses or extreme weather all influenced fuel use and competition and therefore peat exploitation.

7. Fens & Bogs as places of sanctuary, of non-conformism, and independence.

The central argument is that peatlands of varying sorts have been hugely important to people in times of conflict or stress, and that the resulting interactions have had major impacts on the ecology and landscapes we see today. In addition, it is suggested, that most of these complex phenomena have been largely overlooked or at least forgotten.

Introduction
Peatlands such as heaths, moors, bogs and fens have all been of importance and significance in the landscape and to people in many parts of the world and throughout many centuries. In terms of the land areas covered, *Sphagnum* moss itself must rate as one of the most abundant plants on Earth. This scale of significance and the nature of these landscapes have led to a remarkable relationship throughout the history of human conflicts and stresses and peatlands, especially in times of war.
Some of the issues and observations are discussed in my three books, *Peat & Peat Cutting* (Rotherham, 2009), *Yorkshire’s Forgotten Fenlands* (Rotherham, 2010), and the *Lost Fens* (Rotherham, 2013). However, whilst issues of landscapes and conflict, and especially ‘landscapes of conflict’ have received attention in recent years (e.g. Pearson, 2008, 2012; Cole, Coates, & Pearson, 2010), the roles of wetlands generally, and peatlands specifically, have for the most part, been ignored. Academic authors have begun to address these issues for example in relation to broader matters of terrain and warfare (e.g. Doyle & Bennett, 2002), and in relation to environmental factors (e.g. Tucker & Russell, 2004).

For moors, bogs, heaths and fens, conflict does not just mean battlefields for conventional warfare, but for contested spaces. From the battles for Kinder Scout and access to the moors, to saving Thorne Moors and Hatfield Chase, peat bogs and moors have been evocative places for the region’s people. Not only this, but they played a major role in the war effort of two World Wars too. Forgotten wartime aspects of peat bog and fen were things like the supply of vital horse-litter (cut peat turf) from sites such as Thorne Moors in South Yorkshire. Conflicts over the proposed drainage of the Fenlands were even a key factor in triggering the English Civil War in the 1600s. It is clear that people and peatlands interact in many complex and complicated ways. Furthermore, human conflicts affect and are influenced by these once vast landscapes.

I suggest there are perhaps seven main ways in which people and peatlands have interacted in times of conflict or other stresses, and I present examples below. Some of the uses and interactions are developed further later in the paper.

**Impacts, utilisation and examples**

1. **Peatlands influence war and conflict through topography and nature, often being of critical significance to strategy and outcome**

   **Examples:** The military significance and use of moors, heaths, fens and bogs, extends over millennia. The moors and bogs around the western edge of Sheffield with their Iron Age hillforts can trace a military presence across millennia. In modern times, they were not only used as military training grounds, but also during WW2 as a decoy area to protect the vital steel industry to the east of Sheffield. Moors and heaths also provided the sites for airfields for the Battle of Britain and the strikes against Nazi Germany.

   However, there is more. Wetlands, especially peat bogs, fens and moors were of huge significance to military campaigns. In the landscape, these treacherous areas of neither firm ground nor navigable water were a serious problem for soldiers or warriors, most of who could not swim anyway. Furthermore, slip into a fen or bog when wearing armour and you sink slowly to a very unpleasant death. The
Saxon troops of Hereward the Wake, holding out on the Isle of Ely in Cambridgeshire, drove the Norman invaders off the fragile causeways by firing the reeds. The Normans in their chainmail sank deep into the quagmire. The battle of Stamford Bridge had earlier been settled in a vast wetland landscape in which the one river crossing was vital strategic key. This aspect of wetlands in the landscape was used to great effect by the Scots against the English at the battles of Stirling Bridge and of Bannockburn. Battles such as Solway Moss, Culloden, and Flodden all turned on the impact of a bog or wet moor, in these cases with catastrophic consequences for the Scots.

Flanders Moss and the River Forth were of huge strategic significance in Scotland, and it was said that he who controlled Stirling Castle, the gateway to the Highlands, controlled Scotland. In England, many of the battles of the civil wars such as the Wars of the Roses, and of the English Civil War, were acted out on heath, moor, and bog. The Battle of Sedgemoor itself was a tragedy played out in a foggy, dank marshland, and earlier, Alfred the Great had sought refuge in the nearby wetlands of Athelney.

In the European arena of the two World Wars, peat bogs and fens played a major strategic role, with the Dutch for example, flooding the former peat cuttings to halt the German advance as they retreated. The Somme and other catastrophic campaigns were fought in vast wetlands and peat bogs.

2. Heaths and moors were often used as military training grounds, from early times up to the present day

Examples: Around Sherwood, the famous heaths of old Sherwood Forest became military training grounds, and in WW2, Clumber Park was a transit and camouflaged storage site for tanks. Dartmoor, Cannock Chase and other heath and bog sites were used for military manoeuvres probably as far back as the Crimean War.

Figure 1. Battle of Solway Moss November 1542 15,000-18,000 Scots routed by 3,000 English
Figure 2. Cannock Chase 1873

Figure 3. Dartmoor 1870

Figure 4. Hampstead Heath August 1860
3. Peatlands were used as wartime bases especially during World War 2 when they were brought into usage as airfields and similar facilities

Examples: In Nottinghamshire and Lincolnshire, commons, heaths, and fens were turned to use as airfields; some still surviving today. Moors and heaths provided the sites for airfields for the Battle of Britain and the strikes against Nazi Germany.

4. Bogs and moors especially, had unplanned and passive roles in warfare such being the last resting places for stricken or lost bombers of both sides during WW2

Examples: In Roman times, the fens and bogs were brought under varying degrees of control through ambitious drainage schemes, but the primary function of these waterways was probably military in moving men, animals and supplies speedily through otherwise difficult terrain.

These landscapes also became the last resting places of aircraft and crews that crashed on Kinder Scout and Bleaklow in the uplands, and Thorne Moors in the lowlands. This is a tragic history, which should not be forgotten.

5. Peatlands, especially bogs and fens, provided materials of immense value to wartime efforts such as supplying horse litter, sphagnum moss, alder, buckthorn or peat fuel

Examples: Early twentieth century wartime aspects of peat bog and fen such as the supply of vital horse-litter (cut peat turf) from sites like Thorne Moors in South Yorkshire, or the harvesting of sphagnum for wound dressings, are now almost forgotten.

One of the main uses of peat in the late 1800s and early 1900s was litter for animal bedding. With huge numbers of animals powering farms, towns and cities, there was a big demand for material to keep things clean, and peat was ideal. Once soiled, its nutritive qualities enhanced, it went on the land as fertiliser. At Thorne Moors in South Yorkshire, the English Moss Litter company extracted peat moss up to the 1960s, and from 1923 to 1962, the Midland Litter Company took moss from Fenn’s Moss near Wrexham. Although raw peat was widely used as litter by farmers and peasants, wider usage took off in the early 1900s. Processed and packaged as a commercial product, during the First World War with its absorbent and fibrous combined with antiseptic properties it was used extensively as horse bedding for the military.

It was also used as animal feed, mixed with green fodder and perhaps molasses. Again its antibacterial properties may have a therapeutic effect and it was used either coarse or as a powder mixed into a cattle cake.

To give some indication of the emerging demands for peat moss litter, there was now nationally an increase of...
around 98,353 working horses between 1901 and 1906. These were employed by railways, tramways, omnibus companies, various local authority undertakings and of course many other businesses. Peat moss litter (dried peat) made an ideal bedding material for them. By the late 1890s, at Thorne Moors, the British Moss Litter Company was formed and took over a number of established peat works across the region between the Rivers Don and Trent. Alongside the system of canals and boats there developed a network of narrow gauge railways and connections beyond to the wide rail network. A new ‘pressing mill’ still known as the ‘Paraffin Mill’ or the ‘Paraffin Works’ was being built in 1895. This was to produce gas for fuel, ammonia water, paraffin, creosote, methyl alcohol, tar and even alcohol for motorcars. Peat dust was used to pack fruit and peat was even fed to cattle. However, these diversifications did not last long and the mill closed in 1922. With declining use of horses for industry and transport, the moss litter business also collapsed.

Established as a major centre for moss litter production, and employing at its peak around 350 men, Thorne Moors in South Yorkshire produced vast quantities of peat litter for the horses sent to the World War 1 front line. In the First World War, many horses were despatched to war zones and they had to be catered for. Horticultural use of peat was a much later afterthought that brought catastrophe to the region’s peat moors and bogs, triggering the battles by ‘Bunting’s Beavers’ and others to save the last remnants of the once vast South Yorkshire moors. The region’s moors and bogs were also used to harvest sphagnum moss for wartime medical uses. (See Griffiths, Rotherham & Handley, this volume).

6. Conflicts, socio-economic stresses or extreme weather all influenced fuel use and competition and therefore peat exploitation

Examples: Often forgotten, are the effects of post-conflict scenarios such as after WW2 in Britain and the resulting energy crisis for domestic and industrial fuels. At Holme Moss, in the south Pennines, one of England’s last community turbaries (legal peat cuts for domestic fuel), two discharged soldiers arrived after the Second World War to set up business. Recently discharged from the army, they used their money to set up a peat fuel business and for several years, in the post-war energy crisis, they supplied peat fuel to factories as far away as Sheffield and Leeds. Similar exploitation affected the post-WW2 blanket peats of the south-west Pennines as large areas were cut for peat fuel to supply Pilkington Glass.

War also meant on the one hand intensification of land use and WW2 brought about the final demise of the remaining Southern Fens of eastern England. On the other hand, conflict could lead to the abandonment of for example, drainage schemes. At Walberswick in Suffolk, marshland drainage was unmaintained and this allowed reversion to fen and marsh. Around Leighton Moss, the long-
standing peat cuttings were abandoned as the site re-wetted due to neglect of drainage. The ultimate result in both cases has been the development of major nature conservation sites by the twenty-first century.

7. Fens & Bogs as places of sanctuary, of non-conformism, and independence

Throughout history, peat bog and fen have provided sanctuary for people in times of conflict or oppression, and for non-conformists and others seeking to distance themselves from the law or the church. Rich in natural resources for those who knew and understood their ways, but difficult to enter or transverse if you did not, these were ideal hideaways from the time of Alfred the Great to Hereward the Wake, and from the nineteenth-century French forces in the Franco-German war, to the Marsh Arabs of Iraq seeking protection from Saddam Hussein. One consequence of the sanctuary that wetlands gave from those in authority was that those in power sought to remove them from the landscape and to control both the environment and the people.

Results: The case studies in more detail

The particular case of the sphagnum harvest

The once widespread peat bogs and moors of Yorkshire also helped a remarkable national and international effort to save the wounded in two world wars. As a part of the research building up to this conference, we made a remarkable discovery. Something found by me and Thelma Griffiths of the National Trust at Longshaw in the Peak District resonated with an interview with locals at Holme Moss who had spoken of people collecting Sphagnum or bog moss for the war effort in 1940s. We were told of a hitherto forgotten way in which people across Yorkshire went out to collect a healing harvest from peat bogs and mires across the county. Sphagnum moss, today associated with hanging baskets, has remarkable properties to hold liquid and to cure or stop infection. In a medical world pre-antibiotics the combination of the power to mop up copious quantities of blood and staunch open wounds, and its healing powers, made sphagnum invaluable for helping the terrible injuries of war. (The sphagnum story is presented in more detail in other papers).

The story relates to landscape change across the county, since at the time, peat bogs and wetlands were more widespread across England, and especially prevalent and important in Yorkshire. Therefore, the call went out to communities and people across the county to go to the bogs and harvest the sphagnum. This was then carefully processed and shipped out to the front or to hospitals where the injured were being treated. Our research has found that some people still remember how this was done, if not themselves directly, then from parents or even grandparents. At Longshaw in the Peak District, we have found a family whose relative, a nurse, helped gather moss for
attended the National Trust talk by Thelma, they had only half-believed grandma’s tales of roaming the moors in search of moss. However, further north in the Pennines, at Holme Moss, we have older people that still recall the collection of sphagnum during the Second World War. A pattern is emerging, and it is now clear that this was no cottage industry but a major undertaking and in places an industrial operation. Huge efforts went into collecting, sorting, processing and packaging the healing harvest, and this was across Britain, from North America, and in Europe itself.

Magazines and newspapers carried stories and calls for action from volunteers. The Northern Rambler, June 1942, for example stated ‘FOR MOORLAND WALKERS. Sphagnum moss is wanted for surgical dressings. There is an urgent demand for this. It is only necessary to squeeze out the surplus moisture before packing. Supplies should be sent to EV Benett-Stanford, Pythouse Hospital Supplies and Comforts Depot, Tisbury. Postage will be refunded.’

Nevertheless, there were still contentious issues of access to moors ‘preserved’ for game shooting. These included ones in both Yorkshire and Lancashire. On the Burnley moors for example, there were notices stating ‘These moors are strictly reserved for game. You are, therefore, requested not to trespass and to help that which is sport for some, work for others and in some measure food for all.’ Another note by the editor observed that ‘Under
Sphagnum Moss has now been employed as a surgical dressing in Germany, though in Japan’s “Child’s History of Ireland” it is claimed that it was first used as a surgical dressing in Ireland as early as 1837. It was little used, and comparatively little known; until a short time after the outbreak of the war, when a tremendous impact was given to the subject by the experiments and writings of Mr. Charles Colhoun, of the Edinburgh Royal Infirmary. Since that time the collecting, drying, cleaning and making into dressings of Sphagnum Moss has become a national industry.

Sphagnum Moss grows so abundantly in nearly every part of the United Kingdom that it is almost inexhaustible. It is always found in wet or damp places, growing very closely packed together, so that it forms large cushions or clumps. There are various kinds of the moss, some large, some small, and a wide range of colours, from very light green, which is the most common, through all shades of green, to deep red and brown. It is very easily recognized by those who have no botanical knowledge, by the little branching “feathers” always found at the top as well as by the way in which it grows.

Sphagnum Moss has three great advantages over cotton wool—the cheapness, its absorbency, and the fact that its preparation is so simple that it can be carried out entirely by quite unskilled workers. Since it is so abundant it is very easily obtained, and owing to the ready acceptance granted by all proprietors of large estates, headed by the King and the Princess Royal, collectors have barely found any difficulties in their way. The only expenditure involved is the cost of transport from the moors to the Central Depots established by the Director-General of Voluntary Organizations, where the moss is prepared and made into dressings; but in many cases the central depots are prepared to pay carriage, and in Scotland, at least, various contracts have been arranged from which free transport is granted by the Director-General of Voluntary Organizations.

We can fully appreciate the value of this moss only after reading the accounts of many over-worked doctors and nurses at the front, who are profoundly grateful for a dressing which lasts a little longer than cotton wool, and thus saves time and suffering as well as expense. That preparation of the moss is very simple, it should be gathered with reasonable care, as cleanly as possible, and in order to dry it is very commonly wrapped in a piece of strong muslin or sacking, or to spread it out on shelves in garrets or on beams, so that it is easily carried indoors at night, or during rain. Experiments have been tried of drying the moss artificially in an oven, or in the drying-mower of a laundry, but neither plan was very successful, as when it is rapidly dried it becomes very dusty and brittle, and the workers who make it into dressings find it both wasteful and unpleasant to handle. It must be dried slowly, either in the open air, which is by far the best method, or by spreading it out indoors, or on rails, or on the door of an empty room.

That cleaning is equally simple, and this is best done while slightly damp. All other substances, such as grasses, twigs, bits of leather, etc., must be picked out, and this part of the process must be carried out with considerable care, and should be well supervised, for one of the most brilliant things in the world is the pine needle, which has a trick of appearing among the moss and necessitating later on to push its sharp point through the dressing; and a very desirable thing it would be to have a wound! The moss should be used whole, not broken up into short pieces.

The final stage is the putting of the moss into bags, of sizes varying from as small as five inches square to a very large dressing, both oblong and square, according to hospital requirements. The bags are made of a fairly close but very thin muslin, not fine enough to lét the absorbency of the moss but close enough to prevent dirt filtering through into the wound.

(continued on page 188.)

Figure 6. Sphagnum in war
the Access Act, Sect 6 (h), anyone picking sphagnum moss would be liable to a fine not exceeding forty shillings. That Act makes it an offence to wilfully injure, remove, or destroy any plant, shrub, tree, or root or any part thereof.’

On Dartmoor too, local people set out to the moors and bogs to gather and process sphagnum moss for the wartime efforts. As told to us by Tom Greeves of the Dartmoor Society, this contribution is commemorated by an inscribed shell outside Church House in Widecombe-in-the-Moor.

Conflict and energy supplies

Sometimes, war or extreme weather might trigger a move from the utilisation of say coal, back to peat, a resource either not used or used historically but then abandoned. This was described for farmers in the south Lancashire Pennines, apparently as a response to bad winters and coal not being available. They reverted to using the local peat turbaries. However, on reflection this seems unlikely since the peat fuel needs careful harvest and drying in order to be useful. In a bad winter, the peat would not solve the immediate problem since you have to plan 6-9 months ahead. It seems more reasonable that the farmers reverted to peat use during the wartime period or the 1920s Depression as a response to economic pressures and energy shortages. Economic problems or matters of fuel price and fuel competition could be disastrous. Richardson (1874) discusses in detail how in Scotland the price of coal had risen so much that it ‘...has become quite a luxury, and almost beyond the reach of any but the wealthier classes’. The crisis was not of availability but of price and the impacts of competition to export coal abroad, which inflated domestic prices beyond the reach of ordinary people. The total exports of coal from the United Kingdom were increasing at around one million tons per year and the resulting price inflation meant a colossal increase in the domestic expenditure on coal fuel, estimated in 1873 to be about £44 million rise in two years. This threatened to cripple industry and to cause serious problems for the ordinary household consumer. The response was to advocate the widespread exploitation of peat from bogs. Richardson described the state of the potential resource and its state at the time:

‘It is evident, therefore, that there is no lack of peat in the United Kingdom, indeed, in so far as it is mere unprofitable and waste land. There is a very great deal too much. Slowly, it is true, but only very slowly, the vast tracts of peat bog are decreasing. Civilisation and agriculture are nibbling at their borders, and many a fine green sward was but a few years ago a dark and filthy moss.’ This description gives an insight into the state of the United Kingdom’s peatlands at the time, and a dramatic comparison with their condition a little over a hundred years later when most were destroyed. At this time, in the 1870s however, it was suggested that Scotland in particular, possessed a rich untapped wealth of fuel to be used in times of coal crisis.
Figure 7. Canadian Geographical Journal 1945 with move to peat fuel because of wood shortage
This phenomenon can be seen operating around the world, especially for example, in North America. Peckham (1874) considered the potential of peat and turf for domestic fuel supply in Minnesota. A key point that he makes is the importance of competition with, and of scarcity of, more sought after fuels. Peat fuel might be viable if an area was remote from forests, and away from coal transportation routes. Shaler in 1895 examined the origin, distribution and commercial value of peat deposits for the USA. He noted the relationship between peat use and the lack of available fuel wood. In northern Europe he suggests that the greatest use of peat fuel was during the eighteenth century when forests had been cleared but mineral coal was not in widespread use since transport to rural areas was difficult. The bulk of the rural population of Northern Germany, Scandinavia, Russia, France, and the British Isles, except in the case of the wealthier classes depended on peat and turf for household fuel. He describes the descendants of Native Americans in the town of Gay Head being amongst the last to use peat fuel in that part of the USA. By the late 1800s, the availability of cheap anthracite coal led a move away from peat. The decline in peat use – which was free except for the cost of collecting, was the availability and low price of coal. The first commercial extraction and processing of peat fuel in the USA was in 1902, when a strike of the Pennsylvania miners caused a fuel crisis (Soper & Osbon, 1922). However, in the USA for example, during the First World War, there was considerable interest in a move from coal and wood to peat or turf as domestic fuel. Turp (1916) reported that little machine—
processed peat fuel would be extracted in the USA in 1915, but by 1917, there would be a resumption of operations. In 1918, Haanel noted the difficulty in obtaining an adequate and cheap fuel supply in Canada. The reasons related to war were complex and included a labour shortage in the USA that restricted coal imports to Canadian provinces. The situation was considered very grave in that fuel could be reduced or even cut off completely. The report argued for urgent attention to developing peat fuel as ‘an excellent substitute for coal’. He finishes the paper with a plea ‘...... to the establishment of a peat industry on a sound basis in Canada, and thus insure the people against a possible shortage of fuel and the suffering it would entail’. Blizard (1917) reported on the value of peat fuel for industrial steam generation, and considered that the key issue was price competition with coal. As coal prices rose, so peat would become competitive. According to Soper & Osbon (1922), the wartime coal shortages in the USA in 1917 and 1918 showed that peat fuel could be extracted and be competitive if coal was scarce and expensive. This observation is evidenced by subsequent activities and by numerous governmental and scientific reports. Whilst there is an extensive literature on the possible exploitation of peat for fuel and for other purposes that stretched back to the mid-1800s (e.g. Peckham, 1874), it is clear that in both the USA and in Canada, war and other crises triggered new interest. Following the fuel shortages in the early 1900s, there are numerous reports on resources in the USA and then in Canada(e.g. Nyström & Anrep, 1909), and then more during the war period (Turp, 1916; Anrep, 1914, 1915, 1918; Blizard, 1917; Haanel, 1912, 1918). Fullerton in 1906
Asks whether in the event of another coal strike, ‘Is there no fuel but coal?’ He then turns his interest to the possible exploitation of peat fuel to alleviate the risk of coal-dependence. Further interest is obvious during the Depression years (e.g. Auer, 1930; New York Times, 1918), and then again during and after the Second World War (Trefethen & Bradford, 1944; Leverin, 1943).

During the Second World War, fuel shortages became critical and Leverin (1943) noted that ‘Prior to the war, the Canadian production of peat moss was small and Canada and the United States obtained their supplies chiefly from Europe. When these were cut off, the industry in Canada began to expand and since the commencement of the war many plants have been brought into production. The output is fairly large and is mostly exported to the United States.’ In this case, the main uses of the peat were other than for fuel, and included stock feed, building insulation, peat pads for asparagus growing, metallurgy, preserving food in the home, packing foods and other materials, and as a deodorant and disinfectant for cess pools and earth closets. Leverin also notes the use of peat moss for surgical dressings, but he is considering peat rather than sphagnum moss itself. He states that the ‘Peat moss and particularly fibrous peat from Eriophorum (cotton grass) specially treated, makes very good surgical dressing, and was used during the war of 1914-1918 by the armies of the Allies and the Central Powers. The United States army used 600,000 pads made of moss obtained from the bogs in that country. It was found to be an excellent substitute for absorbent cotton. A similar material made in France, known as peat batting or peat wool, was used widely during the war for bandaging. It was also employed as filler for mattresses, pillows, and for upholstery in the military hospitals.’ Some of these materials to which Leverin refers, are clearly peat products but the US army pads were almost certainly processed sphagnum moss.

Leverin goes on to note other potential war uses as a substitute for materials that were in short supply. Examples that he quotes included cork for the insulation of aeroplanes, as linoleum filler, and as peat yarn for making coarse blankets for both horses and cattle. Peat fibres were mixed with wool to make underwear, which, due to the insulating properties of the peat, was apparently warmer than pure wool. Additionally, peat was used to manufacture paper, cardboard, building bricks, sweeping compounds, and various chemical compounds such as waxes, dyes, alcohol, and dyestuffs. Wartime manufacture of paraffin could be added to Leverin’s list. Swinnerton (1945) provided a detailed account of the peat industry in Canada by the latter stages of World War Two.

The Irish Question
The Irish Department of the Environment has a useful website with background information on the peat industry and its history. Traditional peat cutting has been of huge importance to the Irish people and cutting for domestic fuel has caused the greatest decline in
Figure 10. Clothes from peat fabric
Northern Ireland peatlands. With the demise of native woodlands, peat became the major source of fuel in Ireland during the seventeenth and eighteenth centuries. Rights to cut peat on small plots of land, known as turbary rights, were allocated to landowners. Traditionally peat was cut by hand using a special turf-spade known as a sleán or slane. Interestingly, hand-cut turf production in Ireland reached its peak in 1926 when over six million tonnes of turf was cut. This follows the First World War, the Irish Troubles, and is during the Great Depression.

Over the years, the amount of turf cut declined steadily until World War II, when peat again became a vital domestic fuel source again as the supplies of coal from Great Britain almost ceased. The deep peat in raised bogs and the extensive areas of blanket bogs were cut extensively.

The use of fen peat as a source of fuel, known as mud turf, was less common because the peat is very shallow and cannot be cut with a spade. Instead, mud turf is gathered by digging a hole and mixing water with the peat, then trampling or ‘puddling’ it with bare feet, shovelling it onto the bank and finally moulding it into blocks by hand. This was a very labour intensive process and was only practised in a few areas, such as Brackagh Moss in County Armagh. After the War, the low price of coal and oil kept peat cutting to a minimum, and by the 1970s, the annual production of peat was down to about a million tonnes, mostly from the blanket bogs in the west. However, the introduction of tractor-drawn auger machines during the 1980s increased the amount of peat cut again. Since then mechanised peat extraction has become the norm in Northern Ireland and the tradition of hand-cutting turf has almost disappeared.

In Northern Ireland 77.5% of raised bogs have been cut for fuel. The majority of peat cutting was for domestic purposes, but the relatively limited commercial extraction for fuel has had important local effects. Commercial extraction needs planning consent, but the complexity of land ownership and turbary rights sometimes makes the distinction between commercial and domestic cutting difficult to determine. This brief description of the situation in Ireland demonstrates the impacts of utilisation, the variety of approaches, and the potential effects of war and other socio-economic stresses.

**Landscapes destroyed: war and the English Fens**

With the outbreak of WW2, there was an upturn in British central government interest in farming improvement and drainage. In the Fenlands, as I describe in ‘The Lost Fens’ (Rotherham, 2013), the land around Wicken Fen in Cambridgeshire was acquired by the pioneering horticulturalist, Alan Bloom. By the spring of 1940, Alan Bloom was considering ambitious plans. ‘There were other more or less waterlogged and inaccessible parts of the Fens, and why should I not try to get a few people together with money to invest, and make
a big thing of this reclamation job?’ His scheme did not get much support but it was a hint of things to come, and by June 1940, he was investing in a caterpillar tractor to allow access onto wet and difficult land. Bloom goes on to describe how in his view Priory Farm had become a battlefield on which the forces of dereliction had paused in their encroachment on the farmed land. In fact for years, the advantage had been with ‘wilderness’ and nobody could farm against water, but now the tables were turned. The plough was going on the offensive and on the one side ‘swamp’, was deliberately encouraged because it gave sanctuary to wildlife. On the other side, there was farmland, its aim, food production. The level of water in the dykes, which divided the two, determined which would prevail, and with flat land on both sides of the drain, there was no possibility of compromise. This very personal account begins to give us an insight into the processes and drivers at work in this bitterly contested landscape. Bloom felt that he had got to ‘fight the National Trust, or rather, I supposed, the local governing Committee……, men with mainly academic interests. They could not see things in the same light as those whose interests were agricultural.’ The final stage seemed to be set over the potential to bring into cultivation around fifteen acres of the flooded lands at the request of the War Agricultural Committee. However, this scenario quickly changed when it was decided at a higher level that Adventurers’ Fen would actually be used as bombing target; both Bloom for Priory Farm, and the National Trust for the nature reserve, received the appropriate requisition notices. Then the situation changed abruptly again and the requisitions were cancelled. In August 1941, the Biology War Committee presented a Memorandum on ‘R. frangula as a source of charcoal for munitions’, to the Joint Committee of government research organisations. This plant was Rhamnus frangula or R. catharticus, the Alder Buckthorn, and long known to provide fine grade charcoal needed for explosives. Unfortunately, it is uncommon in Britain and with maritime blockades overseas supplies had been halted and so this was an urgent matter of national security. Because of the report a survey of the distribution of the species was commissioned (November 1941), and it had been found on Adventurers’ Fen. This brought a temporary stop to the reclamation work as Bloom and other farmers were commissioned to clear scrub and selectively harvest the Alder Buckthorn, and for this the National Trust got paid. Essentially the work involved cutting or coppicing the Buckthorn and it was anticipated that it would take at least three years for any significant re-growth. However, within a few months, the Buckthorn was all cut out and the War Agricultural Committee was fretting over the state of the Fen, anxious to bring it into cultivation. The proposal was now for the entire two hundred and eighty-six acres of Adventurers’ Fen; the rules of engagement had changed: ‘…..the Catchment Board engineers and officials, the overseers and their men –
were of the opinion that Adventurers’ Fen could be and would be drained.’ Apparently, some of the local farmers were still against the scheme saying that it would be a colossal waste of money and would not work. However, the battlefield was soon to receive a visit from the chairman of the War Agricultural Executive Committee, and then not many months after, by the King and Queen and their entourage. The War Agricultural Committee had already begun work on reclaiming the southern part of the Adventurers’ Fen prior to March 1941, and the hope was to be cropping the whole site by summer that year. Apparently, the Catchment Board men had already deepened the drain to the immediate north of Rothschild’s Thirty Acres, and the impact in lowering the water-table was considerable for some distance inside the reserve; for Bloom this was a good sign. Apparently, across the Fen the National Trust had done a thorough job of making a swamp with not a drop of water allowed to run into the drainage system. The water could only drain away very slowly and the consequent impact was to render the site exceedingly wet. This was good for the purposes of conservation but was regarded as a major hindrance to those wishing to shed superfluous water from the Burwell Fen and surrounding lands. The first job was therefore to dig out and clear all the dyke outfalls into the ‘interline’ and the old main drain, and then to drain off the surface waters to allow ploughing on land adjacent. Major new drains, ‘new dykes – in long straight gashes’ were cut across the ancient landscape to release the pent up waters. As Bloom wrote ‘It was sheer delight to watch that water running full pelt from seven or eight points along the boundary of the Fen out of those grips we had been digging’. After a drying breeze for a few days, they could begin the process of burning off the surface vegetation, and the end of an era was finally closing in on the Adventurers’ Fen. Lighting just a small pile of Sedge litter, the flames burst up as if the area had been doused in paraffin.

‘The flames crackled and licked the lower growth, and ran up the bare, hard reed stems to consume first what plumes remained over winter, leaving them twisted and burnt like spent match sticks. All beyond became hidden in smoke, mounting, swirling higher and higher, black at first but turning a rusty-white against the background of blue sky. Out of the smoke bushes came into view, blistered and gaunt as the flames swept on. ..... the smoke ..... seemed to be hundreds of feet up in a billowing cloud.’

The result was clear within less than thirty minutes, with the Fen changed completely in appearance with the dull buff-grey turned to black, and except for occasional reeds persisting in damp turf pits, the charred bushes and smouldering sedge hassocks were all that remained. Bloom and his companions grinned through their blackened, sweaty faces as they surveyed their victory over ancient nature. The cultivation costs were grant aided at £2 an acre plus the cost of ploughing. Half of the grant was to
cover costs and half went to the
landowner or farmer. The tenancy on
this land was to run for three years after
the end of the war, the same as the
power of the War Agricultural
Committee. However, as Bloom
admitted, it was clear by later in 1942
that the costs of the work had been
significantly under-estimated. But as he
said ‘……there was nothing I could do
about it. We had our work cut out to get
the two hundred and eighty-six acres
cropped by 1943, let alone 1942’, and
this despite a colossal investment of
public money and a huge effort by
Bloom and his colleagues. It was
shortly after this time, that King George
and Queen Elizabeth, the Minister of
Agriculture, the Duke of Norfolk, and
Mr Tom Williams MP, plus a huge
number of pressmen visited the area to
inspect the efforts to feed the
landlocked country. They were no doubt
impressed. This was just the sort of
stirring stuff that the country needed.

By February, the area was losing a
massive amount of the topsoil and the
losses got progressively worse through
March. Nevertheless, the land was soon
sown with oats and barley, plus beet and
potatoes. With dry weather, there was
the ironic spectre of a drought. The
solution was to get permission from the
Catchment Board to abstract from
Wicken Lode; action that would
certainly have drawn down the water-
table on the remaining nature reserve
fen even further. In May, there was an
even worse gale which swirled up great
black clouds of dust from Swaffham,
Waterbeach, Soham, and Isleham,
giving the sky ‘a queer, dark tinge for
hours’. This was apparently the worst
‘blow’ for years, a certain result of the
War Agricultural Committee’s efforts.
Dust settled across a wide area and was
reported from homes in Bury St
Edmunds over twenty miles away. The
ancient fenland, robbed of its water, was
now just blowing away. A further
complication of the wind-blow was the
infilling of dykes that needed to be
re-dug, and the replanting by some
farmers of the same crops two to three
times. Nevertheless, that summer they
were harvesting wheat and barley and
plenty of sugar beet. The best crops of
all seemed to be off Rothschild’s Thirty
Acres nature reserve. By the end of
1943, Alan Bloom’s initial work was
done and the land was moving towards
intensive, industrial agriculture. As he
says: ‘Adventurers’ Fen and Priory
Farm had proved that crops equal to
any other black fens – and better than
some –could be grown. Those ideas and
hopes, that for so long I’d been pushing
back into the pigeon-holes of my mind,
could now begin to emerge. More
complete fertility, extended
mechanization, more and better
buildings, a thorough livestock policy,
alternative leys to give some of the
much-cropped land a rest in turn.’

He goes on to consider how the
improvement of these three hundred
acres had cost the nation so dear, but it
was the country’s fault for neglecting
the land in the first place. It was, he felt,
the fault of the previous generation and
the intensive two years was simply
making up for time lost twenty or thirty
years before. But he was looking
towards what he felt was the permanent
recovery of agriculture in Britain and an end to the neglect. He saw signs that ‘.......the welfare of the land must in future run parallel with that of the nation’, and the main thought of millions of people ‘......was that cheap food, abundant in quantity and variety, is the only thing that matters’.

Therefore, this was the vision that oversaw the final demise of the ancient fenland in the southern area. Little did he realise how rapid mechanisation and agri-industrial development, spurred on by the post-war zeal to be self-sufficient in food, subsidised by the public purse and petrochemicals would totally transform the landscape and the communities. These factors would make all of Alan Bloom’s vision come true only a hundred times bigger. However, perhaps too, he did not foresee or approve of the loss from the land and the villages of the families and communities that for generations had been there. His vision was of vibrant communities living and working around the farms and learning to love the land and the landscape. If only he had known...... Alan Bloom, MBE, plantsman, was born on November 19th, 1906, and died on March 31st, 2005, aged 98 years. He was one of the great pioneers of British horticulture in the middle to late twentieth century. His vision and passion drove the move to reclaim what he saw as the derelict and wasted fens for the good of the nation. I would have loved the chance to ask him what he felt about them looking back from the following millennium.

The last of the old fen

Not long after Bloom’s wartime account, that most prolific of countryside writers James Wentworth-Day wrote his ‘History of the Fens’. As with much of his work, Wentworth-Day writes from the gut, full of incisive observation and passion. He was raised in a thatched farmhouse close by the Fens that Bloom came to ‘improve’, and his ancestors had lived there for generations before. Here he experienced: ‘.... in the witch-hours before dawn, the smell of the fen. A strange indefinable smell, scent of reeds and peaty waters, of sallows, and meadowsweet, of rotten lily pads – and of fish.That smell of freshwater fish which is penetrating, ineluctable, indefinable. An old, strange, blended smell, a smell as old as Time, compounded of scents that belonged to an untamed, undrained England, the England of the Saxons’.

He goes on to describe the whimper of wild ducks’ wings at night, with the thin whistle of the teal, and the pig-like squeal of water rails. There was the kerk-keek and ker-erkk of moorhens moving from lode to lode at night, and then the br-oomp-oomp, hollow and ghostly of the bittern in May and June. These were the quiet chorus of secret voices of the fens during the ‘manless’ hours and carried on the soft fenland breeze. This was the fen of Wentworth-Day’s childhood, and by the end of his life reduced to just the rump of Wicken Sedge Fen; all else was gone. However, whilst Wicken remained undrained, it was, as Wentworth-Day observed, not
unchanged. ‘Still a place of dense reed-beds, of sedge jungles, of forests of sallow bushes and creamy oceans of meadowsweet. But the old village proprietors, the fen owners, who each had their few acres of the wild fen, where they cut their reeds, mowed their sedge, and speared their eels, have sold out.’

He noted that the National Trust now owned the Fen, almost to the last acre; cutting neat grass rides and placing signs on neat white posts to tell you where to go. Nevertheless, the villages had changed too; the mud and thatch cottages tumbled down back into the earth from which they came. They were replaced by ‘hideous villas of staring white Cambridge brick, with their grim, unsmiling roofs of alien slate, under which no swallows nest, on whose rooftrees no starlings whistle’. It was the same in all the villages around in Wicken and in Burwell, they were ‘......divorced from their brown and smiling mistress, the fen. And the villages are the poorer’.

In 1935, Wentworth–Day bought a part of the old Fen ‘....a half-drowned, stinking swamp of disused peat diggings, red-beds, and interlacing dykes’. He stopped up the drains to hold back the winter flood-waters on the land and the meres were instantaneously re-created. This miniature oasis close to the remnant Wicken Fen, in a very short time, drew in huge numbers of wildfowl and an amazing diversity of water-birds both common and rare. Wentworth-Day recorded pintails and goldeneye, common and arctic terns, six cattle egrets and a great white egret, mallard, teal, garganey, gadwall, shoveller, curlew, curlew-sandpiper, green sandpiper, common sandpiper, greenshank, a yellowlegs, bar-tailed godwits, ruffs and reeves, little grebes, common snipe and great snipe, and much more. He had starlings coming to roost in flocks half a mile long and a hundred yards deep. There were even nesting black-necked grebes. Hen harriers and marsh harriers swept over the reed-beds and Montagu’s harriers bred there. ‘A wild and lovely place, which dwells in the memory as a very perfect picture of the older England, the England of Hereward the Wake and St Guthlac, the Saxon hermit.’ On Wentworth-Day’s little fen ‘Coots clanked, ducks splattered, snipe drummed, pewits wailed, and the redshanks sprang on flickering wings, ringing their carillon of a thousand bells’, and up to 50,000 sand martins swirled in massive migration roosting flocks. It was, in just this few hundred acres of Adventurers’ Fen, ‘.....the old spirit of the Great Fen that once covered half Lincolnshire and Cambridgeshire’, but destined not to last long. The war came along and then:

‘They drained the fen with a great clamour of bureaucratic self-praise. The waters went away and the fish died by the cartload. The reeds stood rustling and dry above the black mud. Then they set fire to the reeds, and for a day or more my secret fen roared and crackled in a tawny yellow, red-hot sea of flame. Great billowing clouds of black smoke rose up and polluted the blue skies and swept away on the wind until dust,
ashes, and smoke fell like a grey pall on the roofs and the green heath of Newmarket, away on its windy upland.’ The duck rose up and were away, and the moorhens, rails, bitterns, warblers and others too. When the wind blew the dust, smoke and ashes away, all that was left of the secret fen was ‘……. burnt and black and scorched. An insult to the high fen skies. An altar of burned beauty. A sacrifice to man’s neglect of pre-war farming, a burnt offering to humanity’s failure to live together in harmony. And thus, in a funeral pyre vanished the last and loveliest remnant of what had been a recreation in all its wild glory of the ancient Fens of Eastern England.’ He had bought the fen ‘… to preserve it, to save for all time the essential Englishness of it, to love and enjoy the sight of birds and clouds, the wind in the reeds, herons fishing in summer shallows, gulls wheeling against May skies, the sting of winter sleet …..’. Now however, it was no more and Wentworth-Day questioned the wisdom of it all.

‘Is the world any better for this change in my fen, or in the ten thousand acres of other fens which they have drained, burned, grubbed up, and cultivated during the War? Materially, yes. Spiritually, no. Economically, again no. Those are the answers in a nutshell. On my fen they spent thousands of pounds in expensive drainage, in constructing concrete roads which will probably crack, sink, and become derelict in a few years. The bill for our County Agricultural Executive Committees is estimated to be in the neighbourhood of £25,000,000 a year. Do the Committees grow £25,000,000 worth of food each year? The answer, I think, is no.’

The war had brought a brief reprieve from total destruction for the harvesting of the alder buckthorn, but ultimately the fate of the Fens was sealed. In the wider landscape, the arable production from the old fens rivals the best in the world, though of course it depends on massive inputs of petro-chemical fertilizers and fuels. It is arguable as to whether the wartime ‘improvement’ of the relict fens produced much at all from the substantial investment.

**Landscapes transformed: fuel allotments and common rights:**

*Frimley Fuel Allotments, Surrey*

**The background to Frimley**

The development and roles of fuel allotments were discussed in an unpublished conference paper by Rotherham (2005). A good example and one particularly affected by military use, is that of the Frimley Fuel Allotments Charity, founded in 1801, and has been particularly well documented. The account provides a unique insight into the provision of the upkeep of the poor at the time of enclosure. The Fuel Allotment Charity owns land on which the Pine Ridge Golf Centre is built, along with around 100 acres of open access heath. The Charity was established when Parliament under George III passed the Frimley Enclosure Act in 1801. The common was physically enclosed in 1826 and a portion set aside to provide ‘Fuel for Firing’ for the poor of the
Hamlet of Frimley. The history has been documented in detail by Wellard (1995) and provides a very interesting example case study. A perhaps unique aspect of this has been the wealth generated by the arrangement of the golf course on a part of the land holding; generating an income of £65,000 per year in the 1990s.

In 1793 the extensive ‘wastes’ of Frimley had only a small population (905). Almost all of the modern settlements of Camberley, Frimley, and Frimley Green were built on what was then an expansive tract of open heath, including Frimley Heath, Cow moor, Bisley common, Pirbright Common and Chobham Common. The area was covered by gorse or furze, heather, scrub and sparse grass. It had abundant deer but provided poor grazing for sheep. Commoners held rights to cut turf or wood, and to fish and to pasture cattle. The 1801 Act allowed for the dividing, allotting, and inclosing of the waste grounds and commons and commonable lands within the Manor of Frimley in the Parish of Ash, in the County of Surrey. By 1820 the parish workhouse was established on part of the Fuel Allotments site and this housed nineteen paupers. Throughout the late 1700s and early 1800s, the Frimley overseers dealt with the practicality of helping the poor of the parish, and they were funded by a levy of a Poor Rate on the parishioners. This might be money, clothing, food, or fuel. In some cases the poor might, if not infirm, be employed. According to Wellard (1995), this might include physical labour such as cutting turves for fuel, digging graves, or extracting stone for building. Turf was cut on the common waste of which much in Frimley was peat moor and not enclosed at that time.

At the time of enclosure the Act stipulated that ‘....such part of the waste Lands of Frimley as in the judgement of the Commissioners was adequate to provide a reasonable supply of fuel for those inhabitants of the Hamlet who did not occupy lands or a dwelling of an annual value of more than Five Pounds.’ In effect all agricultural labourers, cottagers, and small tradesmen would qualify for fuel from the ‘Firing’ Allotments. Many were poor due to changing urban and rural economics and the demise of small rural crafts and industries, the aftermath of the Napoleonic war, and the rising price of grain. Areas of land were specifically set aside for this purpose. Along with the right, for those qualified under the Act, to take fuel away, the Trustees were empowered to lease the whole or part of the allotments to any person they thought would be suitable as a tenant for a term not exceeding twenty-one years. The rent was to be paid quarterly and on expiration, the tenant would have to leave the land in good condition. The Trustees had to ensure that they spent the money raised on the purchase of ‘fuel for firing’ under the £5 qualification.

The cost of providing fuel was not too great when the bulk was wood or peat. However, as these declined and coal became the more commonplace fuel, the costs increased. The situation was becoming acute by the early 1860s
when an offer to purchase some of the land from the Trust was made. With permission from the Charity Commissioners, the sale was allowed and the money invested. The Charity Commissioners also provided future guidance on the management of the Trust at various times. This allowed for example a waiver in the interpretation of the original Act to provide fuel, to ‘When not required for the purchase of fuel shall be laid out by the Trustees in the purchase of warm clothing and blankets to be distributed by the Trustees at their discretion to the deserving poor resident in the parish of Frimley.’ So fuel was the first priority but warm clothing and blankets could qualify. Those residing in properties valued under £5 already qualified but there was discretion to allow others too. According to Wellard (1995) there followed a series of disputes over the allocation and interpretation of rights allowed under the 1801 Enclosure.

By about 1860, the poor were burning coal along with wood and peat, and money was required. With a total income of around £30 per year from rents and investments, the outlay on coal was about £1 a ton with a quarter of a ton per person per year. For clothing expenditure, a blanket was about 3s (15p), a pair of shoes 12s (60p), a petticoat 5s (25p), and a pair of trousers and a man’s coat a £1.

By 1894, the Frimley Urban District Council was formed and after four years, the Fuel Allotment Charity’s Trustees passed over responsibility for the Fuel Allotments to it. By the early 1900s, the Council was looking to sell the land and extinguish the rights, and to purchase land for a Recreation Ground elsewhere. The Charity Commission turned down their original proposals as unacceptable. However, combined with a military use of the recently enclosed common now purchased by the army, it did prove acceptable. This also allowed for the maintenance of heath and for the cutting of furze fuel.

The military connection

The British Army was seeking a large area of land for training and close to London. With new developments in warfare and military strategies, a location were large-scale encampments and extensive training trenches could be constructed was essential. In 1902, tentative go-ahead was given for detailed discussions with the War Office. Subsequently, the agreement was approved and signed; bringing an income of around £140 per year. Along with this the Charity Commissioners provided a ‘Scheme’ of guidance for the Trustees now in the Council in the administration of the Fuel Allotments Charity; and this gave the rules by which the area was managed from then on. In 1904, 112 people or families received the Christmas coal allocation in Camberley and Yorktown (30 tons), and another 120 in Frimley, Frimley Green and Mytchett (19 tons), at a total cost of £50. By 1909, the annual income was around £200, equivalent to around £20,000 at 1990s values. Not everyone received the same allocation of coal with amounts varying from 2
cwt to 6 cwt. In 1914, there were 327 recipients with 360 paid at 25s per ton. Records over the following period until the 1940s have been lost.

There were serious disputes over the rights to allocations and conflicts between ‘rights’ to take sand and gravel from the land. This was hard to assess or to police effectively and caused significant nuisance. One of the more interesting observations is that many local residents still assumed a right of common over the area even though the common had long since gone and the remainder was endowed to a charitable trust. This caused confusion and resentment. This applied particularly when the army took over the lease. Restrictions on sand and gravel were clearly displayed but none were stated about any rights to take firewood or to cut trees. Some were allowed to do this with the agreement of the trustees; for example, Mr Pearce a broom maker could collect brushwood for his trade. Permission could be granted by the caretaker for the occasional taking of trees, with no more than two allowed each year. However, the uncontrolled and indiscriminate cutting of far more than this (up to eighty on one occasion) was causing serious damage.

In 1914, with the outbreak of war, the use of the Allotments for training necessitated the digging of several miles of trenches and the removal of around 1,000 trees to give the impression of a French battlefield. This was combined with the impact of a prisoner of war camp lacking sanitation and generating foul smells across the whole area. At the conclusion of the war, the army compensated the Council for its losses and began a re-planting programme. By
1939, although the price of coal had increased, the income and expenditure of the trust were almost the same as in 1909. The Second World War brought more military training and usage of the Allotments. By the 1960s, with an annual income of £450, there were continuing problems of maintenance of the Allotments and the other assets of the Trust, and in 1967, permission was given to sell part of the site for the building of a County Council school. With increased revenue, the council began to establish partnerships with other local charities to further the aims of the trust and to dispense the awards. Therefore, at this time around £1,255 was given as £5 fuel vouchers, £2,000 for the support of old people, and £750 for other charitable purposes.
Frimley in the modern era

By the early 1970s, with increasing urbanisation, the Fuel Allotments were one of the few remaining open spaces in the Urban District, and they too were under pressure. Alongside pressures to develop was the idea of creating a golf course over the land. At this point, the Charity Commissioners reminded the Council quite forcibly that the Allotments were for the specific charitable benefit of the poor of Frimley Parish and not for the general benefit of all residents. Capital raised from any land sale could not be used for wider recreational or social welfare purposes even if charitable. The debate continued as to whether the Allotments in their entirety should be made Public Open Space, or should some areas be sold off to provide income for the future. At the same time the Local Government Act of 1973 established the new Borough of Surrey Heath from the earlier Councils, the M3 motorway was constructed close to the district and the population rose by 20,000 people in less than fifteen years. With the departure in 1973 of the military presence on the heath, the go-ahead was given for the design and construction of a municipally owned golf course on 210 acres of the Fuel Allotments. However, the whole issue was clouded by suggestions of exchanges of land for housing development and the loss of large areas of currently open heath with public access. There was significant local community objection, the Charity Commissioners were alerted to the concerns of local people, and the scheme was shelved in 1976. However, in 1979, the Council received permission to go ahead with a Local Authority owned golf course on 120 acres with 160 acres left as free public access. There was by now a deep-seated conflict between local people who demanded the unfettered use of the area as ‘common land’ which it had not been since the early 1800s, and those who saw the main function as raising funds to dispense to the poor and needy of Frimley Parish. There also those interested in the development opportunities that would inevitably arise should planning consents be granted. In the face of these conflicts, the Council established a new charitable body to oversee the future of the Frimley Fuel Allotments. This came into being in 1983.

By 1985, it was decided that the Council was unlikely to proceed with the golf course proposals. The Trustees therefore decided to move independently and seek a developer interested in taking this forward. The result was that by 1986 there were heated public meetings to discuss the options and the future, with angry exchanges between ‘dog walkers’ and those interested in the charity income. From these debates, there emerged several developers wishing to pay several millions of pounds for the opportunity to develop the golf course and varying amounts of housing. Delays of at least two years in deciding on the issues by the Charity Commissioners were estimated to lose around £90,000 of charitable income to be distributed to the poor of Frimley.
Eventually, after further debate and protest, permission was granted in 1988, to begin work on the new golf course. The developer funding the scheme would also pay £100 per acre in annual rent plus 8% of the gross income from Green Fees and the Driving Range. This was with a 125-year lease with a break clause after twenty years. The result was the Pine Ridge Golf Course extending over 164 acres of former heath, leaving 98 acres to free public access. Reluctant to employ an officer to manage the remaining area, as ‘it would be a drain on their charitable resources’, and with the Council unwilling to pick up the cost, the Trustees cast around for a suitably qualified volunteer. However, on a positive note the Frimley Fuel Allotments Charity was by 1994, dispensing around £60,000 per year to the needy of Frimley Parish, and this still included the elderly needing assistance with fuel bills. This story provides a well-documented example of the military training use of a peatland site, and the intensive use by the army was a key aspect in the changing landscape and the loss of the common.

**Peatlands in the European theatre of war**

Peat use was important in many countries of northwest Europe, particularly in Germany, Holland and the other Low Countries, as well as further east into Poland. The French situation was discussed by Rotherham & McCallam (2008), and makes an interesting case study. In 1869, France exported 321,000 tonnes of peat at 10 francs 20 cents per tonne. Comer & Lordier (1903) detail fuel usage and resources in France at the turn of the nineteenth century, but by 1914, the amount was insignificant (Berthelot, 1941). In the early 1940s, there was renewed interest in the industrial exploitation of peat as fuel and for chemical extracts. This focus on peat turf as fuel during times of shortage or of adversity was noted for regions such
Figure 15. Low country defence
Figure 16. WW2 German soldiers crossing a wet field

Figure 17. WW2 German vehicles mired down

Figure 18. Sea floods Holland by Germans
as Scotland, Canada, and the USA (Rotherham, 2005) and the situation in wartime France was a similar response to crisis. The inventory of French peat resources at the time suggested around 1,200,000 hectares available for exploitation as valley peats, marine peats, lowland plains peats etc. The report in *La Nature* (1941) concluded that in its peat reserves France had a resource to be exploited to help reinvigorate its economy. By 1980, France’s annual peat production was 50,000 tons for fuel and 100,000 tons for horticulture, half that in the UK (Bord Na Mona, 1985).

However, a major role of peat bogs and wet landscapes was in the actuality of warfare and the strategic approach to the battlefield. This ranges from the important of a line of massive peat bogs that separated Holland from its potentially aggressive neighbour, Germany, to the strategic flooding of worked peat cuts and polders by the Allies to slow the German advance in WW2. The conquering German forces also broke the dykes in order to flood and destroy Dutch food production. As noted in *The Stars and Stripes* on Monday October 30th, 1944, bogs and muddy conditions hindered both offence and retreat, as the feeling Nazis were bogged down in the Dutch landscape.

Particularly in WW1, bogs, marshes, fens, mud and peat, were immensely important. The Somme, Flanders and other major battlefields were in generally flat or rolling landscapes dominated by bogs, rivers, marshes and farmland, which quickly degenerated into fields of mud as the conflict developed. This is described in detail by the seminal volume by Johnson in 1921, and is a theme worth exploring further.

One final impact of conflicts on peatlands has been the migration of skilled workers and the application of prisoners of war, to the reclamation of bog and fen. In the 1600’s, as I describe in the *Lost Fens* and in *Yorkshire’s Forgotten Fenlands*, Huguenots and Walloons, escaping Catholic persecution came to England’s fenlands and helped in their drainage. Prisoners of war from Dutch and Scottish conflicts with the
English were put to work on this task, and many of them died in the process, buried in the soft, peaty soils by the drains they had dug.

To end the chapter, there is a further remarkable story of peat and conflict. This is the recapture from the Spanish, of Breda in the Netherlands during the Eighty-Year War, which used a Trojan Horse-type plan. However, in this case a turf barge in which seventy soldiers were concealed replaced the wooden horse and on 25th February 1590, was left for the Spanish to take inside the fortress. The ruse was successful and the vital fortress of Breda fell to Maurice of Nassau, Prince of Orange. The Dutch recall the victory as the ‘Turfchip van Breda’.

**Conclusions**

This short review of the relationships between peatlands, people, and conflicts of various sorts, establishes the nature of the interactions and the fact that they have been important in various places and at different times throughout history. The research so far, also indicates that much of the knowledge and heritage relating to these uses or interactions has been either lost or forgotten. Most historians and experts on military issues have had little interest in peat or wetlands, and few ecologists are knowledgeable about history or warfare. Furthermore, the evidence presented is that peatlands writ broad, from bog and moor, to heath and fen, were not only landscapes of conflict but were often contested spaces, if not militarily, then socially, politically, and economically. The exploitation of peatlands and their resources were also
influenced immensely by conflicts and stresses, from economic issues to poor weather. In times of resource shortages, the versatility and abundance of peat led people to explore a remarkable diversity of uses from chemical extractions to manufacture of fabrics. Yet in a little over a hundred years or so, even the memories of these uses have been forgotten.

The peatlands were seen as both ‘waste’ lands for which almost any use was an improvement. They were also considered virtually inexhaustible. However, a century or so on, most areas in Western Europe and the Eastern USA for example, have been almost annihilated. It seems that through the interactions described, landscapes have been transformed and ecologies altered, often radically, but the phenomena have yet to be appreciated.

Finally, as a stage for the theatre of war in many conflicts, peatlands were crucially significant. Nevertheless, despite their sometimes-obvious importance such as in World Wars One and Two, historians just don’t see it.

Bibliography & References


Web sources:


Figure 22. Scotch regiment resting in the mud of Flanders WW1 sold in aid of the YMCA Hut Fund to provide shelter and recreation for our soldiers.
Figure 23. Peat as a substitute for coal