Conceptions, Uses, and Transformations of Wetland Environments in England c.1000-1400

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Abstract

This thesis examines coastal wetland landscapes, and human relations with them, in England c.1000-1400, specifically the Pevensey Levels in Sussex and Romney Marsh in Kent. It relies on hagiography, legends, poetry, medical writing, administrative documents, archaeology and chronicles to explore the ways in which medieval people conceived of and lived in wetlands. Thus it lies at the intersection of social, economic, medical, environmental and cultural history. I interrogate the ways in which medieval literary sources describe and understand wetland environments, explore how medical treatises understood wetlands in relation to a miasmatic understanding of contagious disease, (particularly malaria) and use archaeological sources as well as manorial and royal records to examine the economic, political, and agricultural uses of wetlands, particularly in the context of drainage.

In the earliest period of the study, c.1000-1200, the wetland and the body are understood to be in dialogue with one another. People could change and impact their landscape, and in turn the landscape changed those who entered or dwelt within; in this way, people are intimately tied to their landscape. Malaria posed a challenge for wetland inhabitants, but it was debilitating rather than deadly for those who were born and raised in the marsh. The wetlands used as a case study here also provided resources, and both elites and common people were able to benefit from fishing, fowling, and foraging, pasturing and the production of salt. Relations with the swamp varied with social status, with the poor and landless relying most heavily on the landscape's resources. In this way, people of all social statuses were able to benefit from the wetland landscape, and those who lived within this environment were understood to be fundamentally connected to their environment.

However, by the thirteenth century, attitudes shifted, with landlords draining the wetlands to add to their demesne. The impetus to "improve" the land continued and accelerated through

the fourteenth century. Wetlands became a key site for the exertion of state authority, as the crown and wealthy landlords began to insist on drainage to further their political and economic interests. These drainage projects were often done at the expense of ordinary people, who lost access to wetland resources once the land was drained, and in some cases responded to this loss by neglecting or destroying drainage infrastructure. After c.1250, the beginning of what came to be called the Little Ice Age brought rising sea levels and increased storm activity. The increased risk of flooding intensified efforts to keep the sea at bay and drain the wetlands, which paradoxically made these areas more fragile and led to the loss of some of these lands, since drainage compacts the soil and brings the land closer to sea level. However, the drainage continued, and popular resistance to the construction faded as common people were pushed off the land to make way for demesne lands and pasturage.

By the end of this period, what were once wetland habitats were instead submerged under a rising sea, or otherwise drained to grow cash crops and wool. Thus, we have an early example of how landscape management intersected with systems of power and a developing state. The fact that bodies were understood as deeply connected to the environment meant that these changes were enacted as much on bodies as on the swamp. The drainage of the wetlands transformed the landscape from a biologically diverse ecosystem that supported people of every social status, to a commodity that only benefited wealthy landholders, while forcing the poor and landless to seek out other means of subsistence, having been alienated from their landscape. Drainage, then, was only an improvement for some, and a disaster for others. In this way, the fundamental connection between communities and their landscape was severed, and ushered in an era of privatised, commercialised land, and displaced, atomised populations.

Résumé

Cette thèse examine les paysages des zones humides côtières et les relations humaines avec eux, en Angleterre vers 1000-1400, en particulier les Pevensey Levels dans le Sussex et le Romney Marsh dans le Kent. Il s'appuie sur l'hagiographie, les légendes, la poésie, l'écriture médicale, les documents administratifs, l'archéologie et les chroniques pour explorer les manières dont les peuples médiévaux concevaient et vivaient les zones humides. Elle se situe ainsi au carrefour de l'histoire sociale, économique, médicale, environnementale et culturelle. J'interroge les manières dont les sources littéraires médiévales décrivent et comprennent les environnements des zones humides, j'explore comment les traités médicaux comprenaient les zones humides par rapport à une compréhension miasmatique des maladies contagieuses (en particulier le paludisme) et j'utilise des sources archéologiques ainsi que des archives seigneuriales et royales pour examiner l'économie. , politiques et agricoles des zones humides, notamment dans le cadre du drainage.

Dans la première période de l'étude, vers 1000-1200, la zone humide et le corps sont compris comme étant en dialogue l'un avec l'autre. Le corps exerce son influence sur la zone humide, et à son tour le paysage change ceux qui y pénètrent ou y habitent ; de cette façon, les gens sont intimement liés à leur paysage. Le paludisme représentait un défi pour les habitants des zones humides, mais il était plus débilitant que mortel pour ceux qui étaient nés et avaient grandi dans le marais. Les zones humides utilisées comme étude de cas ici ont également fourni des ressources, et les élites et les gens ordinaires ont pu bénéficier de la pêche, de la volaille et de la recherche de nourriture, ainsi que de la production de sel. Les relations avec le marais variaient selon le statut social, les pauvres et les sans-terre dépendant le plus des ressources du paysage. De cette manière, des personnes de tous les statuts sociaux ont pu bénéficier du paysage des

zones humides, et ceux qui vivaient dans cet environnement étaient considérés comme fondamentalement liés à leur environnement.

Cependant, au XIIIe siècle, les attitudes ont changé, les propriétaires drainant les zones humides pour les ajouter à leur domaine. L'impulsion pour « améliorer » la terre s'est poursuivie et accélérée tout au long du XIVe siècle. Les zones humides sont devenues un site clé pour l'exercice de l'autorité de l'État, car la couronne et les riches propriétaires ont commencé à insister sur le drainage pour promouvoir leurs intérêts politiques et économiques. Ces projets de drainage ont souvent été réalisés aux dépens des gens ordinaires, qui ont perdu l'accès aux ressources des zones humides une fois la terre drainée et, dans certains cas, ont répondu à cette perte en négligeant ou en détruisant les infrastructures de drainage. Simultanément vers 1250, le petit âge glaciaire a entraîné une élévation du niveau de la mer et une augmentation de l'activité des tempêtes. L'augmentation du risque d'inondation a intensifié les efforts pour tenir la mer à distance et drainer les zones humides, ce qui a paradoxalement fragilisé ces zones et entraîné la perte de certaines de ces terres, car le drainage compacte les sols et les rapproche du niveau de la mer. Cependant, le drainage s'est poursuivi et la résistance populaire à la construction s'est estompée à mesure que les gens ordinaires ont été chassés de la terre pour faire place à des terres domaniales et à des pâturages.

À la fin de cette période, ce qui était autrefois des habitats de zones humides a plutôt été submergé par la montée de la mer, ou autrement drainé pour faire pousser des cultures commerciales et de la laine. Ainsi, nous avons un exemple précoce de la façon dont la gestion du paysage s'est croisée avec des systèmes de pouvoir et un État en développement. Le fait que les corps étaient compris comme profondément liés à l'environnement signifiait que ces changements s'effectuaient autant sur les corps que sur le marais. Le drainage des zones humides

a transformé le paysage d'un écosystème biologiquement diversifié qui soutenait des personnes de tous les statuts sociaux, en une marchandise qui ne profitait qu'aux riches propriétaires terriens, tout en forçant les pauvres et les sans-terre à rechercher d'autres moyens de subsistance, ayant été aliénés de leur paysage. Le drainage n'était donc qu'une amélioration pour les uns, et un désastre pour les autres. De cette manière, le lien fondamental entre les communautés et leur paysage a été rompu et a inauguré une ère de terres privatisées et commercialisées et de populations déplacées et atomisées.

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Introduction

When describing the Dead Marshes in *The Lord of the Rings: The Two Towers,* Tolkien wrote,

> "The hobbits soon found that what had looked like one vast fen was really an endless network of pools, and soft mires, and winding half-strangled water-courses. Among these a cunning eye and foot could thread a wandering path [...] It was dreary and wearisome. Cold clammy winter still held sway in this forsaken country. The only green was the scum of the livid weed on the dark greasy surfaces of the sullen waters. Dead grasses and rotting reeds loomed up in the mists like ragged shadows of long-forgotten summers. As the day wore on the light increased a little, and the mists lifted, growing thinner and more transparent. Far above the rot and vapours of the world the sun was riding high and golden now in a serene country with floors of dazzling foam, but only a passing ghost of her could they see below, bleared, pale, giving no colour and no warmth."[1]

This brief passage beautifully illustrates not only the general conception of wetlands, but more particularly the medieval sentiment about these regions – Tolkien was, after all, a scholar of medieval languages and literatures. Now as then, wetland regions, whether swamps, bogs, fens, or marshes, are all liminal landscapes, being neither earth nor water, but instead, a merging of the two. They conjure images of desolate wastelands, murky water, muddy meandering paths, rotting vegetation, and eerie mists. Their ecology makes it difficult to build upon and settle such land, or even to navigate through it; after all, a wrong turn can lead to drowning as you are pulled into the depths. Draining wetlands, and thereby transforming them from a liminal, difficult-to-categorise space into one that is quite literally solid, has often been understood as an "improvement" of the environment. But even doing so did not drain away the multiple natures of the bog. Indeed, in the English Middle Ages, there was a bifocal imagining of the wetlands, where they could be sites of danger, disease, and damnation, but could also serve as a home for pious hermits, a refuge for righteous folk heroes, and a resting place for incorrupt bodies of

[1] J.R.R. Tolkien, *The Lord of the Rings: The Two Towers* (London: Harper Collins, 1991), 818.

saints. Furthermore, while wetlands were drained and reclaimed in the Middle Ages, they were also used extensively in their undrained state as sources of natural resources, such as fishing, fowling, and salt production. In fact these uses were so important that in many cases, those living in, near, or in relation to swamps actively resisted their drainage. Medieval wetlands were, in this way, paradoxical and contested spaces—at once feral and fruitful, places of danger and of refuge, and landscapes both "requiring" and resisting drainage. Wetlands are not the only environments which exhibit this paradox: mountains and forests were also places that inspired cultural anxiety in the pre-modern period, while at the same time were inhabited and exploited over millennia. But forests, even in the Middle Ages, underwent a process of "romanticising", and while mountains for the most part had to wait until the Romantic movement of the 19th century to experience a comparable cultural rehabilitation, they have also joined forests as landscapes of the "natural sublime".[2] Wetlands never underwent such rehabilitation, and it is worth considering why. First, there is no consistent vocabulary for a wetland. It can be a swamp, bog, fen, marsh, level and so on; even the recent coinage "wetland" seems at once artificial and restricted – wetlands are "conservation lands" removed from human activity, and by implication unamenable to that activity, and set aside as wild. Unlike forests, wetlands cannot lean on the charisma of trees; unlike mountains, they are flat and featureless, not lofty and awe-inspiring. It is little wonder that cultural, economic and environmental historians have approached wetlands in highly fragmented, sometimes even furtive ways.

In this dissertation, I explore these multiplicities and in so doing tease out an understudied aspect of Medieval English conceptions of human relations to the natural world. This thesis aims to map several distinct but interconnected dimensions of the lived

[2] See for example Corinne J. Saunders, *The Forest of Medieval Romance: Avernus, Broceliande, Arden*, (Woodbridge: Boydell & Brewer Ltd, 1993).

experience of the medieval wetland: how it was imagined in literature, custom, culture, and science; how it was exploited, manipulated and altered; and how it was affected by late medieval climate change and related social and economic crises. Every aspect of the lived experience of these environments will be considered, from the imagined landscape and cultural conceptions of the environment, the socioeconomic realities of these communities, the medical aspects of endemic disease, and the political, legal, and administrative uses of these regions. Both lay and ecclesiastic communities will be considered, and people of all social status will be drawn into the narrative. By looking at the big picture, it will be possible to gain a broad understanding of life in these environments. However, in order to bring more specificity to the study, Romney Marsh in Kent, and the Pevensey Levels in Sussex will be used as case studies, as sources permit. "Zooming in" on these areas whenever possible, will allow for the provision of details of the lived experience, without limiting the scope of cultural and medical histories.

These particular wetlands are excellent candidates for my study for a number of reasons. First, while they are two wetlands in close proximity to one another, their socioeconomic and legal histories are quite distinct, and allow for comparison of different utilisations of environments that seem, on first glance, very similar. For example, much of Romney Marsh proper was settled and at least partially drained between c.800-1100, whereas the Pevensey Levels of East Sussex were left in a more or less 'natural' state until the early thirteenth century, when concerted drainage efforts began.[3] Secondly, while the East Anglian fens and the Somerset Levels have been written about extensively, relatively little has been written about this region. Finally, Romney Marsh and the Pevensey Levels lie along the South-East coast of England, and

[3]L. F. Salzmann, "The inning of Pevensey levels," *Sussex Archaeological Collections* 53 (1910): 34-35.

their proximity to continental Europe made the area important both economically and politically. Indeed, Romney Marsh is surrounded on the south and east by the English Channel, and stretches for one hundred square miles inland, until it abuts the adjacent upland cliffs; there are also additional areas of marshland along the rivers Rother, Tillingham, and Brede that extend beyond the main marshland region (Figure 1).[4] The Pevensey Levels lie to the east, in Sussex, and encompass all the wetlands between Eastbourne and Bexhill; the Pevensey Levels are bounded by the English Channel to the south and southeast, the high weald to the north and east, and the low weald to the west (Figure 2).[5]

[4]Jill Eddison, *Romney Marsh : Survival of a Frontier*, (Stroud: History Press, 2000),17.
[5] Salzmann, "The Inning of the Pevensey Levels," 31-35.

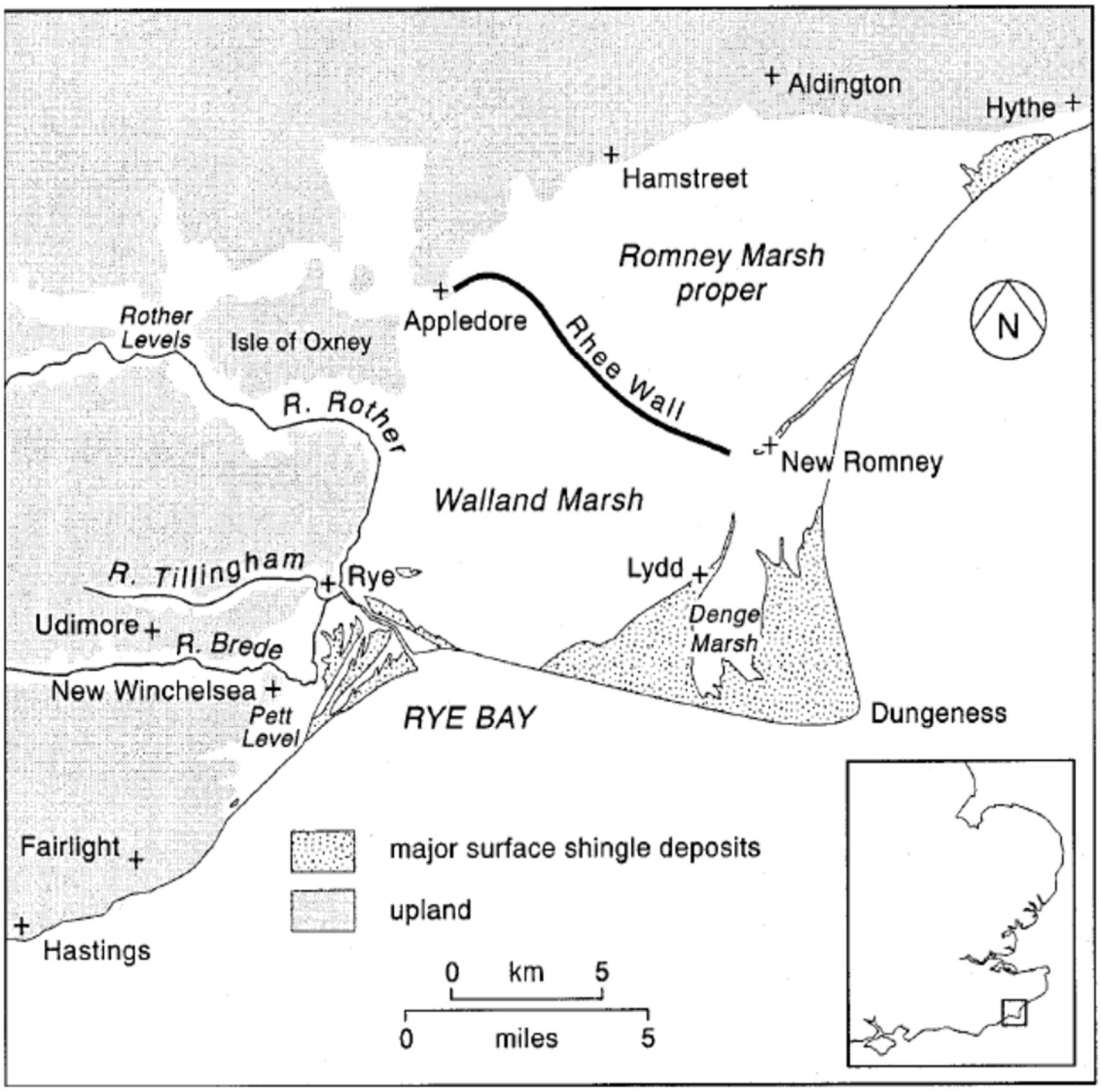

Figure 1: Map of Romney Marsh, including the subdivisions of marshland, along with towns and manors. Taken from Eddison, *Romney Marsh: Survival on a Frontier,* 18.

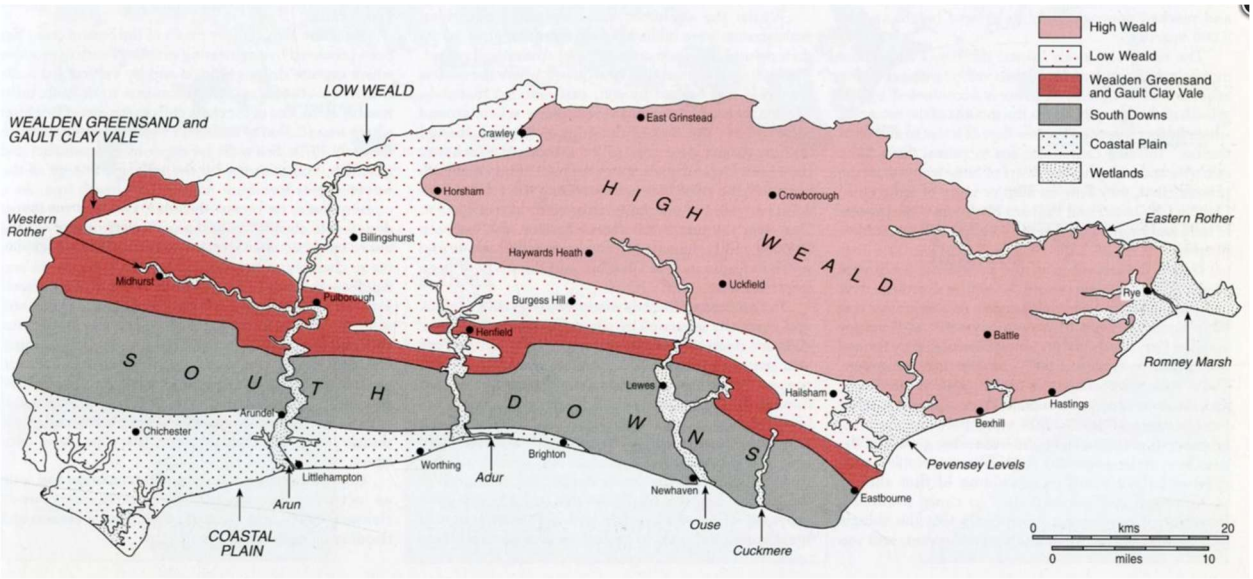

Figure 2: The geography of Sussex and Kent, displaying differences in geology along with principal locations, including the Pevensey Levels and Romney Marsh.
Taken from Leslie & Short (eds.), *An Historical Atlas of Sussex,* 6.

In chapter 1, I examine the ways in which medieval English authors, writing in various genres (imaginative, historical, religious, etc.) wrote about and understood wetlands. The imagined wetland was a paradox, portrayed as disorderly, unpredictable, and dangerous, but also as a haven and a refuge. Using hagiography, legends, poetry, medical writing, chronicles, and correspondence, this chapter argues that the wetland was imagined as both consumed and consuming, able to be influenced by those who entered, but also able to, in turn, change those who stepped into the liminal landscape. This chapter will examine the ways that the environment and body were understood, not as discrete units, but as porous entities that interacted with one another. In this way, people were intrinsically tied to their environment. Furthermore, this chapter will "read against the grain" to consider how the dangers of the wetland were

intentionally exaggerated by those who dwelt there and was used as a means to display their virtues and fortitude. By casting the wetlands they lived in as a "wilderness", monastic communities were able to connect themselves to Christ in the desert, and thus prove their piety and faith.

Chapter 2 complicates the narrative themes outlined in the previous chapter by delving into the actual uses of wetlands by those living near or in them. Here we see that while the literary image of the wetland is one of dangerousness and uncivilization, wetlands were actually highly valuable sources of natural resources. Running counter to some of the themes discussed in Chapter 1, I explore how wetlands were in fact very desirable to many monastic houses and lay lords. Here also social status comes to the fore: human use of wetlands differed greatly depending on their standing, and I aim to recover the voices and experiences of poor and landless peasants who relied on marshland resources. I further explore how frictions played out in these sites, illuminating how the wetland was a site of resistance to authority and established social norms. In this way, the wetlands, though portrayed quite ambivalently in written works, were in actuality valuable resources to people of every social status.

Chapter 3 delves into a particularly important aspect of the wetlands' apparent dangerousness: malarial miasmas. This chapter will explore malaria's presence in the Medieval English wetlands, discussing the transmission of this endemic disease and its debilitating effects. Furthermore, I argue that the presence of this endemic, environmentally bounded disease further solidified the interactions between the body and the landscape; those who dwelt in the marsh were able to learn to live with the disease, while outsiders were often killed by malaria when they tried to enter. Malaria made the bodies of those living in and around wetlands essentially different from those living in uplands. This extreme example demonstrates how deeply porous

the medieval body was understood to be—because of their relation to the marsh those living there were marked as belonging in and being in dialogue with that landscape. Finally, the lived realities of malaria are considered, and medical literature is used to explore the possible treatments available at the time. Understanding the aspects of malaria in this context sheds light on the lived experience of the wetland environment, and shows how people were able to manage health in this period.[6]

In Chapter 4, I turn to wetland drainage. Between c.800-1280 C.E. the drainage of Romney Marsh and the Pevensey Levels was driven by local actors and involved little outside input. Both lay and ecclesiastic landlords invested in draining their lands, as did landed peasants. This chapter follows how drainage progressed, the context of these projects, and asks why both peasants and elites chose to reclaim the wetlands. Typically, peasants drained their land in a piecemeal fashion with the involvement of their neighbours and families, which maintained emotional and communal ties to the land. In contrast, elite landholders were often absentee, and typically drained land as a means to increase the size of their demesne and as a way to assert their lordship over the land by taming and "improving" a locale that was seen as uncivilised. Furthermore, the chapter compares the drainage of the Pevensey Levels with Romney Marsh, and examines why the former was drained much later than the latter. Finally, this chapter discusses the drawbacks of draining the land, including environmental concerns and the loss of natural resources, particularly for the poor, smallholders, and the landless.

[6] Of course, not everyone in the wetland would have had access to formally trained medical practitioners. However, monastic communities and lay elites would have likely had access to learned medicine, and physicians would have been available in towns. Furthermore, some of the recipes discussed, particularly in the Anglo-Saxon medical corpus, appear to have been sourced from local folk medicine, and therefore similar techniques could have been employed by peasant communities. While many of the ways people dealt with malaria is certainly lost to time, these written sources provide at least some examples of possible treatment options.

Chapter 5 explores the challenges posed by the fourteenth-century crisis and the response in Romney Marsh and in the Pevensey Levels. At this point, drainage was not being driven only by local actors, but also by commissions *de walliis et fossatis* (of walls and ditches) issued by Crown authority. In the period before the Black Death, these commissions were reactionary in nature, only being issued after damage had already been done to the drainage infrastructure, as the external authorities did not necessarily understand the ebbs and flows of flooding and storms. Here again, resistance to drainage made the wetland a site of friction. While peasants lost resources when wetlands were drained, local elites wanted to drain the wetlands and use the land for commercialised production of grain, dairy, meat, and wool. The growing state authority intervened to protect the interests of the Crown and of the landed elite to construct and maintain infrastructure. After the Black Death, the commissions became more proactive in nature, as the state became more familiar with the area and more efficient. The resistance to such enclosure remained, but with less frequency. It appears that the Black Death resulted in depopulation of the wetlands, as peasants died in the plague or sold their land to wealthy elites in order to weather the crises of the fourteenth century. In the end, the wetlands were either abandoned and flooded by the sea, or were consolidated into the estates of the wealthy, who used the drained land as sheep pasturage or to grow grain for the market. Meanwhile, the peasants who had once made their living off that land, and had been deeply enmeshed in their landscape, were forced to eke out a living elsewhere.

In conclusion, in the earliest period of the study, the wetland and the body are understood to be in dialogue with one another. The body exerts its influence on the wetland, and in turn the landscape changes those who enter or dwell there; in this way, people are intimately tied to their landscape. Both elites and common people were able to benefit from the resources available in

the wetlands, and though malaria posed a challenge, it was a disease that could be managed, and once again set people apart. However, by the thirteenth century, attitudes began to shift, with landlords wishing to drain the wetland and add it to their demesne, ensuring that only they could benefit from the environment. Even in this instance, though, the landscape exerted power over the body; by transforming the wetland, the landlord was himself transformed, as he went from the lord of a "wilderness" to the lord of a tamed, civilised landscape. However, by the late thirteenth century, and continuing through the fourteenth, the burgeoning state was able to assert increasing authority, and insisted on drainage to further the interests of the crown, and of wealthy landlords.

By the end of this period, the wetland had been either drained or had been completely flooded by the sea; what were once biologically diverse wetland habitats were instead submerged into the sea, or drained and levelled to grow cash crops and wool. Thus, we have an early example of how landscape management intersected with systems of power and a developing state. The fact that bodies were understood as deeply connected to the environment meant that these changes were enacted as much on bodies as on the swamp. The drainage of the wetlands transformed the landscape from a biologically diverse ecosystem that supported people of every social status, to a commodity that only benefited wealthy landholders, while forcing the poor and landless to seek out other means of subsistence, having been alienated from their landscape. Drainage, then, was only an improvement for some, and a disaster for others. In this way, the fundamental connection between communities and their landscape was severed, and ushered in an era of privatised, commercialised land, and displaced, atomised populations.

Sources

This study relies on a wide variety of sources to examine the different dimensions of the lived experiences of the wetlands, and each chapter calls upon evidence of a different kind. Chapter 1 employs narrative sources, including legends, poetry, hagiography, literature, and chronicles to explore how wetlands were perceived in the medieval English imagination. By analysing the ways in which wetlands feature in literary sources, it is possible to gain an understanding of the perceptions of wetlands at the time. Medieval medical literature is also used to explore the ways that wetlands were associated with disease in this period, a theme which will be further developed in Chapter 3. Chapter 2 uses chronicles and administrative records in order to assess how wetland resources were used in the region. Furthermore, archaeological studies are vital to this chapter, as they shed light on the consumption of fish and fowl, as well as the construction and use of saltworks in the area. Chapter 3 uses medieval medical literature to delve into how malaria could have been treated in the Middle Ages in England. While these sources would not have been available to everyone who dwelt in the wetlands, this medical knowledge would have been available to monastic communities, lay landlords, and in the later period, to townsfolk. Moreover, the "learned" theory of malaria as an environmental disease of "miasma" is a rationalization of the lived experience of people both learned and unlearned, who agreed that living in the marshes exposed one to distinctive health risks. While it is an imperfect metric, these sources at least shed some light onto how malaria could have been managed in the Middle Ages. Chapter 4 relies on both archaeological evidence and manorial records to trace land use and drainage. This allows for a study of not only when and how wetlands were drained, but also why they were reclaimed in the first place. Finally, Chapter 5 uses the Calendar of the Patent Rolls to follow the development of the commissions *de walliis et fossatis.* These records display

not only the increasing reach of Crown authority, but also shed light on instances of purposeful destruction of drainage infrastructure. Thus, it is possible to trace not only the construction and maintenance of drainage infrastructure, but also makes it possible to follow the resistance to the drainage of these lands.

In the future, I hope to expand upon this work by including a wider variety of archival sources. However, due to the Covid-19 pandemic, I was unable to access the relevant archives after March 2020, so many manorial documents were not available to me. In light of these circumstances, this thesis has made use of the documents and sources that were accessible.

Historiography and Methodology

My survey of historiography is tailored to the specific shape of the analysis undertaken in this thesis. For example, the chapter on malaria will address prior scholarship on medieval malaria in general, while the chapter on late medieval climate change will survey the literature on this phenomenon in general. Here I will confine my literature review to the scholarship that specifically addresses wetlands in medieval England in general, and the two coastal regions I have selected as my focus areas in particular.

Wetlands in Medieval England have long been the subject of historical inquiry, with the earliest of these works being Dugdale's *History of Imbanking* in 1772.[7] Drainage has continued to be the focus of many histories of the wetlands of England.[8] While most of these histories have

[7]William Dugdale, *The History of Inbanking and Draining of Divers Fens and Marshes, Both in Foreign Parts and in This Kingdom, and of the Improvements Thereby : Extracted from Records, Manuscripts, and Other Authentic Testimonies*, (London: Printed by W. Bowyer and J. Nichols, 1772).

[8] Ian Simmons, "Medieval and Early Modern Management of the River Lymm and Wainfleet Haven (east Lincolnshire, England)," *Landscape History* 39, no. 2 (2018): 5-21; Eric H. Ash, *The Draining of the Fens: Projectors, Popular Politics, and State Building in Early Modern England* (Baltimore: JHU Press, 2017); Michael Chisholm, "Water Management in the Fens before the Introduction of Pumps," *Landscape History* 33, no. 1 (2012): 45-68; Henry Clifford Darby, *The Draining of the Fens*, (Cambridge: Cambridge

focused on the technological, economic, and legal aspects of drainage, there has also been some acknowledgement of the ecological damage caused by drainage.[9] Aside from their drainage, there has been some scholarship about the general land use and environmental history of these landscapes, particularly within the East Anglian fens.[10] There has also been some similar work done on the land use of the Somerset levels, particularly with regards to Glastonbury Abbey.[11] More recently there has been work on the cultural conceptions of wetlands in England in the Middle Ages.[12]

By comparison, relatively little work had been done on Romney Marsh and the Pevensey Levels. Edison and Draper have explored the reclamation of Walland Marsh, a portion of

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University Press, 2011); I. G. Simmons, "Creating Dry Land in SE Lindsey (Lincolnshire, England) before ad 1550," *Water History* 6, no. 3 (2014): 211-225.

[9] Ian D. Rotherham, *Lost Fens: England's Greatest Ecological Disaster* (Gloucestershire: The History Press, 2013).

[10] Henry Clifford Darby, *The Medieval Fenland*, (Cambridge: Cambridge University Press, 2011); Michael Chisholm, "The medieval network of navigable Fenland waterways I: Crowland," In *Proceedings of the Cambridge Antiquarian Society*, (2010) vol. 99, pp. 125-38; Duncan Sayer, "Medieval Waterways and Hydraulic Economics: Monasteries, Towns and the East Anglian Fen," *World Archaeology* 41, no. 1 (2009): 134-150; Rachel Ballantyne, "Islands in Wilderness: The Changing Medieval use of the East Anglian Peat Fens, England," *Environmental Archaeology* 9, no. 2 (2004): 189-198.

[11] Stephen Rippon,"Taming a Wetland Wilderness: Romano-British and Medieval Reclamation in the Somerset Levels and Moors," Somerset Archaeological and Natural History Society, 2006; Stephen Rippon, "Making the Most of a Bad Situation? Glastonbury Abbey, Meare, and the Medieval Exploitation of Wetland Resources in the Somerset Levels," *Medieval Archaeology* 48, no. 1 (2004): 91-130; Michael Williams, *The Draining of the Somerset Levels*, (Cambridge: Cambridge England: University Press, 1970).

[12]Laura Chuhan Campbell, "Nature and the Supernatural in the Medieval and Early Modern Imagination," *Neophilologus* 105, no. 4 (2021): 587-588; Christopher Abram, "At Home in the Fens with the Grendelkin," In *Dating Beowulf*, (Manchester:Manchester University Press, 2019): 120-144; Sarah Harlan-Haughey, *The Ecology of the English Outlaw in Medieval Literature: From Fen to Greenwood*, (London: Routledge, 2016); Susan Oosthuizen,"Culture and Identity in the Early Medieval Fenland Landscape," *Landscape History* 37, no. 1 (2016) 5-24; Justin T. Noetzel, *Marsh Men and Trackless Bogs: A Cultural History of the English Fens*, (Saint Louis: Saint Louis University, 2014); Justin T. Noetzel, "Monster, Demon, Warrior: St. Guthlac and the Cultural Landscape of the Anglo-Saxon Fens," *Comitatus: A Journal of Medieval and Renaissance Studies* 45, no. 1 (2014): 105-131; Ian D. Rotherham,"A Fear of Nature–Images & Perceptions of Heath, Moor, Bog & Fen in England," In *Between the Atlantic and the Mediterranean-Responses to Climate and Weather Conditions throughout History*, (Sheffield: Wildtrack Publishing Sheffield, 2012):131-164; Laura Musselwhite, "Myth and Reality: A Necessary Marriage at Twelfth Century Glastonbury," *Historian* 70 (2001):18; Antonia Gransden, "The Growth of the Glastonbury Traditions and Legends in the Twelfth Century," The Journal of Ecclesiastical History 27, no. 4 (1976): 337-358; Roger Sherman Loomis, "Glastonbury, School of Forgery and Isle of Avalon," In *The Grail: From Celtic Myth to Christian Symbol*, (New York: Columbia University Press, 1963): 249-270.

Romney Marsh, and discussed the patterns of embankment and the land's use for pasturage.[13] Eddison also wrote about Romney Marsh more generally, and gave a chronology of reclamation of the landscape. [14] Dulley and Salzmann explored the development of drainage in the Pevensey Levels.[15] Beyond their utility for natural resources and as fertile land once drained, there has also been some discussion of other aspects of wetland drainage. For example, Moore and Bednarski have discussed wetland drainage in the Pevensey Levels as a locus of state bureaucracy, and have traced the shift from custom and communal memory to written records through the commissions of sewers and other documents related to drainage.[16] Furthermore, with regards to the connection between bodies and their landscape, there has been little work done in rural contexts, and none with regards to wetlands in particular. For example, Rawcliffe explored urban health in English cities c.1250-1530, and argued that there were not firm boundaries between personal and public health, but rather, there was a concept of communal health, and the personal vices of individuals impacted their entire community.[17] Likewise Fay examined medieval Norwich, and discussed the ways in which environmental, topographical, and astrological conditions were understood as impacting health, along with the concept that the moral and hygienic behaviours of individuals impacted the health and wellbeing of the entire city.[18]

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[13] Jill Eddison and Gillian Draper, "A Landscape of Medieval Reclamation: Walland Marsh, Kent." *Landscape History* 19, no. 1 (1997): 75–88.
[14] Jill Eddison, *Romney Marsh : Survival of a Frontier*, (Stroud: History Press, 2000).
[15]A. J. F. Dulley, "Excavations at Pevensey, Sussex, 1962–6." *Medieval Archaeology* 11, no. 1 (1967): 209-232; A. J. F. Dulley, "The Level and Port of Pevensey in the Middle Ages," *Sussex Archaeological Collections* 104 (1966): 26-45; L. F. Salzmann, "The Inning of Pevensey levels," *Sussex Archaeological Collections* 53 (1910): 32-60; L. F. Salzmann, "Excavations on the Site of the Roman Fortress at Pevensey, 1907–08," *Archaeological Journal* 65, no. 1 (1908): 125-135.
[16]Andrew Moore and Steven Bednarski, "Draining the Swamp: National and Local Regulation of Drainage in a 1396 English Sewer Commission Report," *Speculum* 97, no. 2 (2022): 322-348.
[17] Carole Rawcliffe, *Urban Bodies: Communal Health in Late Medieval Towns and Cities. (*Woodbridge: Boydell Press, 2013).
[18] Isla Fay, *Health and the City: Disease, Environment and Government in Norwich, 1200-1575,* (York: York Medieval Press, 2015).

Working within this framework, I examine the ways in which bodies were not understood to be discrete entities, but were instead understood as being a part of the broader community and landscape. The body could impact the land and community, and in turn, the body was impacted by the communal body and the environmental conditions. The liminality and porosity of wetlands in particular resulted in a space where the body and the land were in constant dialogue, and this connection was severed by drainage, which flattened the landscape into a controlled commodity and thus changed the understanding of both the environment and the body.

The work that has been done on the wetlands in question has thus been fragmented and sporadic, with individual works examining the environmental, legal, cultural, and economic histories of these landscapes. Understandably, given the wide variety of terrains that could be described as "wetland", it has also been resolutely local in focus. It has also been subject to much disciplinary cantonization, notably between archaeologists, climate historians, and economic historians. There has been no comprehensive work on the topic, and nothing that integrates these varying dimensions. While it is beyond the scope of this thesis to create a fully comprehensive analysis, I will attempt to establish a framework for integrating the diverse aspects of these regions

There are few methological models for such a framework, but one which this thesis will make use of is what Richard Hoffmann called “the interaction model of social ecology”, which

“ acknowledges the reality, autonomy, and interrelationship of both nature and culture. It establishes human society, human artefacts, indeed even human bodies, as hybrids of the symbolic and the material, for human organisms and material cultures necessarily exist simultaneously in both the cultural and the natural spheres [...] Material culture is conjoined with symbolic culture while at the same time its objects, living and non-living, participate in flows of energy and materials with the natural environment. Individuals and whole societies thus have metabolisms and cease to exist if those cannot be maintained. Of course, humans not only interact with the natural sphere, they consciously seek to use elements of it for their cultural purposes and in so doing, they modify it, consciously or not. The model dubs this process ‘colonization’ of a natural ecosystem [...] In a colonized ecosystem, selected natural processes

are guided to operate for human ends, and it is vital to emphasize, by culture itself. Colonization, however, never completely replaces natural with anthropogenic and controlled processes, so it can have unintended as well as planned consequences."[19]

Hoffmann, being a scholar of the medieval environment in general and of medieval fishing in particular, has employed this type of framework to better understand medieval interaction with the natural world. This framework is employed in this dissertation, whereby nature, culture, and the physical body interact with and impact one another. In the first chapter, the cultural understandings and conceptions of the wetland are explored, as well as the ways in which the body and nature impacted one another in the medieval imagination. The second chapter will highlight the ways in which people used elements of the wetland environment for both material needs and cultural purposes; the natural wetland provided not only natural resources such as food and salt, but also cultural and symbolic resources, such as high-status foods and ingredients for medicinal and ritual purposes. Chapter 3 examines the connection between the ecosystem, the body, and society through the lens of malaria, a disease endemic to the medieval wetlands. The material realities of this disease are explored, as well as the cultural understanding of the illness and its treatment. The fourth chapter discusses the colonisation of the environment, where natural processes are guided and redirected to operate for specific cultural purposes – in this case, for the purposes of feeding a growing population, meeting elite demands for a particular diet, an expansion of commercialisation, and for cultural conceptions of civilisation and status. Finally, Chapter 5 considers the concept of a colonised landscape that never truly loses its natural function. Draining a wetland requires constant maintenance to prevent it from reverting to its natural state, and this chapter explores the ways in which local elites and crown authority asserted their influence to keep the land dry. However, there was also

[19]Richard Hoffmann, *An Environmental History of Medieval Europe*, (Cambridge: Cambridge University Press, 2014), 8.

pushback in the form of resistance to drainage, since many people, particularly landless or smallholder peasants, lost access to resources when the wetlands were enclosed and drained. In this way, this thesis examines the ways in which the wetland environment, culture, and human bodies converged and were in dialogue with one another, and how that dialogue was severed by the drainage and reclamation of these landscapes.

Chapter 1: Medieval Conceptions of Wetlands: Demons, Danger, Disorder

1.1: Introduction

When describing the Abbotts of Malmesbury in the *Gesta Pontificum Anglorum,* William of Malmesbury had this to say about Brihtwold, who served as abbot of Malmesbury from 1046-1053:

"Brihtwold displayed sloth in good causes and energy in bad; and the old story is that he died a pitiful death, cut off in the town amid the trappings of a drinking bout, and was buried with his predecessors in the church of St Andrew, which was adjacent to the big church. It is known for a fact that the guardians of the place were troubled by hallucinatory apparitions until the body was dug up and plunged in a deep swamp a long way from the monastery; from there, from time to time, rises a foul smell that breathes a noisome miasma over the locals."

"Eum [Brihtwold], inertem ad bonum, alacremad malum, miserabilem mortem obisse tradit uetustas, in uilla inter medios potationum apparatus extinctum, in ecclesia beati Andreae, quae magnae adherebat aecclesiae, inter predecessores sepultum. Satisque constat custodes locis sumbris fantasticis inquietatos, donee cadauer suffossum longe a monasterio paludi profundae immerserint; unde aliquotiens teter odor emergens."[20]

This brief description provides insight into the intersection of death, bodies, community, and wetland landscapes in the medieval imagination. Brihtwold's wicked ways in life continue into his death, with the mere proximity of his corpse causing "hallucinatory apparitions" to others in the community. These apparitions only stop when the body is removed from the consecrated ground of the church, and is instead disposed of in a swamp, a landscape that was long associated with disorder and danger. The swamp is used as a defensive environment by the monks of St Malmesbury, who see it as a place to discard the harmful corpse. However, the swamp is a porous place, a liminal landscape, and the addition of Brihtwold's body to the land changes the nature of the environment. While the swamp is able to absorb the corpse, the

[20]William of Malmesbury and M. Winterbottom (ed. and trans.), *Gesta Pontificum Anglorum: The History of the English Bishops, Volume One: Text and Translation* (Oxford: Clarendon Press, 2007), 615 #258.

presence of that body causes the land to periodically generate “a noisome miasma”. In this way, both the body and the swamp are simultaneously transformed and transformative, acting upon each other in tandem.

This chapter traces medieval English written representations of wetland landscapes as a means of understanding the conceptions of this natural environment. The question of how medieval people understood their environment is essential to this study. The White Thesis claimed that the medieval understanding of the environment was one rooted in domination and exploitation, which derived from the Biblical mandate to subdue the earth and have dominion over it; White further argued that this medieval understanding of the environment was responsible for the modern ecological crisis, since this concept of dominion had led to the exploitation and destruction of the natural world.[21] Since its publication, the White Thesis has been controversial and has elicited a variety of responses.[22] Contemporaneously, Glacken also wrote about the pre-modern understanding of nature, and argued that prior to the eighteenth century, Western environmental thought held that the world was a divine creation, that human characteristics are determined by the physical environment, and that humanity's mission was to bring order to creation; it is notable that Glacken sets the end date of these ideas as the enlightenment.[23] Herlihy expanded upon these ideas, and argued that there were four ways that

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[21] Lynn White Jr, "The Historical Roots of our Ecologic Crisis," *Science* 155, no. 3767 (1967): 1203-1207.
[22] See for example Elspeth Whitney, "Lynn White, Ecotheology, and History," *Environmental Ethics* 15, no. 2 (1993): 151-169; Willis Jenkins, "After Lynn White: Religious Ethics and Environmental Problems," *Journal of Religious Ethics* 37, no. 2 (2009): 283-309; Thomas J. Sauer and Michael P. Nelson, "Science, Ethics, and the Historical Roots of our Ecological Crisis: Was White Right?," *Sustaining Soil Productivity in Response to Global Climate Change: Science, Policy, and Ethics* (2011): 3-16; Michael S. Northcott, "Lynn White Jr. Right and Wrong: The Anti-Ecological Character of Latin Christianity and the Pro-Ecological turn of Protestantism," In *Religion and Ecological Crisis*, (London: Routledge, 2016), 69-82; Todd LeVasseur and Anna Peterson, eds. *Religion and Ecological Crisis: The “Lynn White Thesis” at Fifty*, (London: Routledge, 2016); Md Abu Sayem, "Lynn White, Jr.'s Critical Analysis of Environmental Degradation in Relation to Faith Traditions: Is His" The Historical Roots of Our Ecological Crisis" Still Relevant?," *Journal of Ecumenical Studies* 56, no. 1 (2021): 1-23.
[23] Clarence J. Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century*, (Oakland:Univ of California Press, 1967).

medieval people viewed that natural world: eschatological, where the natural world could be read to discern divine will in the light of the eventual end of the world ,adversarial, where the natural world was seen as the habitat of demons and monsters, collaborative, where humanity could work within nature as collaborators in divine creation , and recreational, where humanity could find rest and joy in the natural world .[24] Aberth has recently argued that these categories were temporally bounded, and that the early Middle Ages were dominated by the adversarial view, but that improving climate and technology in the High Middle Ages led to the collaborative view, which itself gave way to a view of nature as both adversarial and impacted by humanity in the wake of the Black Death and Little Ice Age.[25] I argue that with regards to the wetland environment, there was an enduring ambivalent view throughout the Middle Ages, where these landscapes were paradoxically understood as simultaneously helpful and harmful, protective and dangerous, and sites of damnation and salvation. The major differences over the period were the sources of danger in the wetlands, which changed from monsters and demons in the early period, to a more pronounced focus on the medical and environmental risks in the later period. William of Malmesbury's account, written in 1125, with its transition from demonic to medical, marks an important historical threshold. Furthermore, I argue that in the imagined wetland, the character and intentions of the people who entered the area were what determined the environment's reaction to them, displaying a dialogue between the physical body and the landscape.

Of central importance is the relationship of people, both alive and dead, to the wetland environment, whether positive, negative, or ambivalent. I argue that in the medieval imagination,

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[24] David Herlihy, "Attitudes Towards the Environment in Medieval Society," in Lester J. Bilsky, ed., *Historical Ecology: Essays on Environment and Social Change*, (Port Washington, NY: Kennikat Press, 1980), 100-116.

[25] John Aberth, *An Environmental History of the Middle Ages: The Crucible of Nature*, (Oxfordshire:Routledge, 2012).

wetland environments were porous and permeable, able to absorb and transform those who entered. Likewise, in the medieval imagination, human bodies, particularly corpses, did not have rigid boundaries, but were instead both permeable and permeating, and deeply connected to the wider community and broader environment.[26] As Ross and Akbari explain,

> " [The] Body was not only that which was most intimately personal and most proper to the individual, but also that which was most public and representative of the interlocked nature of the group. …To be excluded from the communal body is to be cut off, even to be annihilated."[27]

Therefore, life and death within the wetland environment can offer unique insight into medieval understandings of both how landscapes impact humanity, and in turn, how human bodies can impact landscapes. The ecology of life and death in the wetlands was a complex system, where both the bodies and the landscape were permeable, and each was able to act upon the other. This intersection is important to disentangling the way that wetland communities, death and burial in wetlands, and wetlands themselves, occupied ambiguous and often contradictory places in the medieval imagination. Marshlands are a liminal space, neither fully water nor fully earth, but rather, a combination of these two Aristotelian elements in a transitory landscape. Meredith discusses how the murky waters make it easy to imagine the wetland as bottomless, and there are very real dangers of drowning.[28] Roberts asserts that along with the physical dangers, wetlands also frighten visitors because "the navigator of liminal landscapes

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[26] For discussions of the permeability of the body, see Carole Rawcliffe, *Urban Bodies:Communal Health in Late Medieval English Towns and Cities*, (Woodbridge, Suffolk: Boydell Press, 2013); Jill Ross and Suzanne Conklin Akbari, eds., *The Ends of the Body : Identity and Community in Medieval Culture*, (Toronto: University of Toronto Press, 2013); and Thea Tomaini, ed.,*Dealing with the Dead:Mortality and Community in Medieval and Early Modern Europe*, (Leiden: Brill, 2018).

[27]Jill Ross and Suzanne Conklin Akbari, "Introduction: Limits and Teleology: The Many Ends of the Body", in *The Ends of the Body: Identity and Community in Medieval Culture*, (Toronto: University of Toronto Press, 2013), 3.

[28]Diane Meredith, "Hazards in the Bog: Real and Imagined",*Geographical Review,* Vol. 92, No. 3 (Jul., 2002), 320.

potentially 'crosses over' to states of being or consciousness that draw their precarious affectivity from the uncertain and 'unmappable' geographies that are temporarily inhabited".[29] In this way, the wetlands were seen as a true wilderness, a place unknown and unknowable to civilised society.

However, the wetlands were not actually pristine, untouched places beyond the reach of humanity. Human populations have been living in England for at least 10,000 years, and altered their landscape from their earliest arrivals.[30] In the Mesolithic period, there is evidence of the removal of trees to create and maintain open areas for grazing and agriculture, and in the Neolithic these open areas were expanded to make way for more open fields.[31] The Roman occupation resulted in more changes to the landscape, in the creation and expansions of towns, the laying of roads, and a more intensive use of land for fuel and food.[32] When the Anglo-Saxons migrated to England, they were not entering an untouched wilderness, but rather, a landscape that bore the distinct mark of human agency. Many of them came from coastal regions of Denmark, itself a place with many bogs. The Anglo-Saxons further altered the land, clearing fields and establishing settlements. Indeed, one of the riddles in the Exeter book calls the ploughman "the foe of the forest."[33] Land was continuously cleared for cultivation and settlement through the Anglo-Saxon period and after the Norman Conquest, so that by the mid

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[29] Les Roberts, *Spatial Anthropology: Excursions in Liminal Space* (London/New York: Rowman and Littlefield, 2018), 40.
[30] Ian G. Simmons, *An Environmental History of Great Britain*, (Edinburgh: Edinburgh University Press, 2001), 3.
[31]Simmons, *Environmental History of Great Britain,* 48-49 and 54.
[32] For more on Roman transformation of the landscape, see Adam Rogers, 'The Development of Towns', in Martin Millett, Louise Revell, and Alison Moore (eds), *The Oxford Handbook of Roman Britain*, (Oxford: Oxford Academic,2014), 741-766 and Marijke Van der Veen, 'Arable Farming, Horticulture, and Food: Expansion, Innovation, and Diversity', in Martin Millett, Louise Revell, and Alison Moore (eds), *The Oxford Handbook of Roman Britain*, (Oxford: Oxford Academic, 2014), 807-833.
[33]Jerry Denno, "Oppression and Voice in Anglo-Saxon Riddle Poems," *CEA Critic* 70, no. 1 (2007): 39-40.

fourteenth century, woodland accounted for only about 7% of English land. [34] The reality, then, was that even in the Middle Ages, England had very little in the way of pristine nature. However, while landscapes unaltered by human activity were scarce, the idea of the wilderness and its connotations remained vitally important; and since a wetland, unlike a forest, cannot be easily "cleared", these landscapes remained more "wild" both literally and in the imagination.

The importance of the concept of wilderness and the untamed landscape were and are important culturally as a constructed 'other', a place which society can measure itself against. For example, Schama argues that people create the wilderness by designating certain areas as outside of human influence, thus making the wilderness a cultural concept rather than a natural phenomenon, since "The wilderness, after all, does not locate itself, [and] does not name itself." and does not "venerate itself."[35] This is similar to Buell's distinction between "place" and "space", where a space is simply a physical location, whereas a space is a place that has been given cultural meaning.[36] In this way, certain locales in the medieval imagination were considered to be a wilderness, not because they were untouched, pristine natural environments, but rather, because they stood outside of normative conceptions of human civilisations.[37] The wilderness, therefore, was the "other", a cultural construct which society created and then measured themselves against.

In particular, the concept of the wilderness was important to medieval Christianity. The Gospel of Matthew records that after his baptism, Jesus went to the desert for 40 days, fasted,

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[34]Oliver Rackham, *Woodlands*, (London: Collins, 2010), 64-65.
[35]Schama, *Landscape and Memory*, 7.
[36] Lawrence Buell, *Writing for an Endangered World*, (Cambridge: Harvard University Press, 2009),59.
[37] For more on medieval English understandings of nature, see for example Sarah Stanbury, "Ecochaucer: Green Ethics and Medieval Nature," *Chaucer Review* 34 (2004): 1–16; John Howe and Michael Wolfe, *Inventing Medieval Landscapes:Senses of Place in Western Europe*, (Gainesville, Fla: University Press of Florida, 2002); and Rebecca M. Douglass, "Ecocriticism and Middle English Literature," *Studies in Medievalism* 10 (1998): 136–63.

and was tempted by the Devil, but resisted the temptation and then returned to civilization. Early Christians, seeking to imitate Christ, would go into the desert to dwell alone as hermits or in communities, which laid the foundation for monasticism. For example, one of the first and best known hermits was Saint Anthony the Great, who gave up his worldly possessions and left his home to live in the desert of Egypt, where he too was tempted by the Devil; his life was recorded by Athanasius in the fifth century.[38] In England wetlands took on the role of the proverbial desert. In medieval English literature, wetlands were often portrayed as dismal wastelands, inhabited by demons, monsters, and outlaws driven to the margins of society.[39] However, in keeping with the wilderness tradition of Christianity, wetlands also featured in literature as refuges for hermits or monastic orders seeking isolation to better serve God.[40] These conflicting attitudes shaped ideas around living and dying in wetland environments. Living outside of established communities could be the chosen life of an ascetic, or could be a punishment imposed upon those living outside the law. Furthermore, burial outside of consecrated ground was a judicial punishment in England from at least the mid-tenth century, and was part of deviant

[38]Athanasius and Robert T. Meyer, *The Life of Saint Anthony*, Ancient Christian Writers, No. 10. (New York: Mahwah, 1978).

[39]For discussions of wetlands in medieval English literature, see for example Justin T. Noetzel, "Monster, Demon, Warrior: St. Guthlac and the Cultural Landscape of the Anglo-Saxon Fens," *Comitatus: A Journal of Medieval and Renaissance Studies* 45 (2014), 105-131; David Herlihy, “Attitudes toward the Environment in Medieval Society,” in *Historical Ecology: Essays in Environment and Social Change,* ed. Lester Bilsky (Port Washington, NY: Kinnikat Press, 1980), 100-16; and Sarah Harlan-Haughey, *The Ecology of the English Outlaw in Medieval Literature: From Fen to Greenwood*,(London: Routledge, 2016).

[40] See, for example, Felix and Bertram Colgrave, ed. *Felix's Life of Saint Guthlac: Texts, Translation and Notes*, (Cambridge: Cambridge University Press, 1985); and William Of Malmesbury, Michael Winterbottom, and Rodney M Thomson, *Saints' Lives : Lives of Ss. Wulfstan, Dunstan, Patrick, Benignus and Indract* (Oxford: Clarendon Press, 2002),369 “he chose Glastonbury in particular as a place where there would be wide scope for triumphs over the Devil and where he could earn the joys of reward in heaven. At this time the place was almost inaccessible amid its marshes, and its lonely position made it appropriate for serving God.”

burial customs for sinners and criminals in the English Middle Ages.[41] Wetland burial could be particularly disgraceful, as seen in the story of Brihtwold, given the unfavourable connotations of the wetland environment. However, there are also instances where death in the wetlands is seen as a triumph. For example, St Guthlac, a hermit who made his home in the East Anglian fens, overcame the demons who dwelt in the wetland, and after years of steadfast prayer and fasting, died in the fen. He was buried in the wetland, and a year later his body was found to be incorrupt and was moved to a nearby sepulchre.[42]

These instances display the paradox of the wetlands in the medieval imagination; they could be both a site of danger and defence, annihilation and preservation, damnation and salvation, and finally, as a landscape of corruption and sanctification. This paradoxical view remained throughout the Middle Ages, even after 'wildernesses' such as woodlands had begun to be romanticised in chivalric literature and folktales such as the Robin Hood stories. Indeed, while the "adversarial" view of nature fell away with regards to many natural environments, the wetlands remained stubbornly ambiguous. The body and the wetland continued to act upon each other in the medieval imagination, with the character and intentions of the person or people in question determining both their impact on the landscape, and in turn, how the landscape responded to them. By using literary examples that discuss wetlands in this period, it is possible to shed light on how these landscapes were perceived in relation to humanity.

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[41]See for example Nicole Marafioti, "Unconsecrated Burial and Excommunication in Anglo-Saxon England: A Reassessment," *Traditio,* 74, (2019), 55-123, and Andrew Reynolds, *Anglo-Saxon Deviant Burial Customs*, (Oxford: Oxford University Press, 2009).
[42]Felix, and Bertram Colgrave, (ed.), *Felix's Life of Saint Guthlac: Texts, Translation and Notes*, (Cambridge: Cambridge University Press, 1985), 161-63.

1.2: The Dangerous Wetland: Death, Disease, Demons

To begin, wetlands were often portrayed as a source of death and danger when they appeared in literature. Prior to the Norman Conquest, this danger was typically associated with demons and monsters. For example, the author of *Beowulf* , writing c. 700-1000 C.E., tells us that "The warriors lived in joy and laughter until one creature unleashed his crimes. 'Grendel' they called that grim spirit, a hellish fiend who haunted the wasteland, unhappy soul, and stalked the fens".[43] The warriors are living in happiness and harmony, and the danger they face comes not from other human beings, but from the wasteland of the fens. The men are only able to quell these attacks by killing Grendel, but even after Grendel is slain, the danger persists, since "it was soon clear that he had an avenger, vicious, deadly, biding her time in bitter hatred: Grendel's mother."[44] Grendel's mother presents both physical and spiritual danger to the men of the mead hall, as seen in her treatment of Aeschere. She kills this man in vengeance for her son's death, and drags his body into the swamp.[45] Later, when the men are approaching the marsh, the author describes how "it broke their hearts when they found the bloody head of Aeschere at the cliff 's edge."[46] Thus, the man is not merely dead, but is also denied a proper funeral. Instead, he is decapitated, and his head is left at the boundary of the marshy wasteland, marking the edge of civilisation and wilderness.

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[43]Stephen Mitchell, trans., *Beowulf*, (New Haven, CT: Yale University Press, 2021), 9, #92-96; "Swā ðā drihtguman drēamum lifdon, ēadiġlīċe, oð ðæt ān ongan fyrene fre(m)man fēond on helle; wæs se grimma gǣst Grendel hāten, mære mearcstapa, sē þe mōras hēold, fen ond fæsten;"
[44]Mitchell, *Beowulf*, 83, #1202-6; "æt ġesȳne wearþ, wīdcūþ werum, þætte wrecend þā ġȳt lifde æfter lāþum, lange þrāge, æfter gūðċeare; Grendles mōdor"
[45]Mitchell, *Beowulf*,139, #2039-2046.
[46]Mitchell, *Beowulf*, 93, #1361-2. "Denum eallum wæs, winum Scyldinga, weorce on mōde tō ġeþolianne, ðeġne monegum, oncȳð eorla ġehwǣm, syðþan Æscheres on þām holmclife hafelan mētton. Flōd blōde wēol —folc tō sǣgon— hātan heolfre."

Another instance of wetlands presenting danger and incoming death to people is seen in "Wulf and Eadwacer", a notoriously ambiguous Anglo-Saxon poem penned c.970-990 C.E.[47] The speaker is a woman who is lamenting her separation from Wulf, stating "Wulf is on an island; I am on another. Fast is that island, surrounded by fens."[48] It is unclear if Wulf is her lover or her husband, but she longs for him and is kept from him in her marshy prison. She appears to be held captive on her island by a man named Eadwacer. The poem is unclear if Eadwacer is her husband who is keeping her from her lover Wulf, or if Wulf is her husband and Eadwacer is her kidnapper. In any case, she cannot leave her island due to the dangers of the fen, and will remain separated from Wulf. Wulf is himself in dangers, as the speaker laments that "There are bloodthirsty men on that island. If they find him, will they take him into the tribe and let him thrive or think him a threat?"[49] The wetland and its inhabitants pose a threat to both the woman and to Wulf, and they both must navigate the dangerous landscape in which they find themselves. Finally, the speaker adds, "Do you hear, Eadwacer, guardian of goods? Wulf will bear our sad whelp to the wood."[50] It is once again unclear if the 'wulf' she speaks of is a literal wolf or the man named Wulf. In either case, she is telling Eadwacer that their 'whelp', their child, will soon be carried off, either by a wild animal or by another man. She comes across as accusatory to Eadwacer, almost taunting, in these lines, implying that while Eadwacer might have warm feelings towards the child, she herself is indifferent, even cold. Their child is also in danger in the fen, and will soon die in the maw of a beast or at the hands of a jealous man. The

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[47]On the difficulty of interpreting "Wulf and Eadwacer", see R. D. Fulk and Christopher M Cain, *A History of Old English Literature*, Second Edition (Chichester: Wiley-Blackwell, 2013); Conor McCarthy, *Love, Sex and Marriage in the Middle Ages : A Sourcebook* (London: Routledge, 2004); and H. Aertsen and Rolf H. Bremmer, *Companion to Old English Poetry*, (Amsterdam: VU University Press, 1994).
[48]Craig Williamson, (ed.), *Beowulf and Other Old English Poems*, (Philadelphia: University of Pennsylvania Press, 2011), 159.
[49]Williamson, *Old English Poems,* 159.
[50]Williamson, *Old English Poems,* 159.

wetland, thus, presents danger and death to the speaker, Wulf, the child, and even to Eadwacer, who will soon see his child perish.

Maxims II, Anglo-Saxon wisdom poetry written in the eleventh century, also contains references to the dangers of the wetlands. One of the proverbs of the poem reads, "A demon must live alone in the fen."[51] The concept of dwelling *alone* in the fen is important, as it runs contrary to the Anglo-Saxon concepts of hospitality and shared communal identity.[52] To be alone is to be outside of the community and society, and thus to be left unsupported and removed from civilisation. The fen thus becomes the locus of isolation and uncertainty, a place where inhuman monsters are banished. The wetland is dangerous then, not only because it is the natural home of demons, but also because it represents a removal from community and the social order.

After the conquest, the wetlands were still associated with danger, though the focus shifts from literal demons to the risks of drowning and foul air. For example, in his *Gesta Pontificum Anglorum*, written c. 1125, William of Malmesbury wrote that in order to "tame the rebellious flesh" Saint Aldhelm would go into a spring until the water was at his shoulders and "Here he would spend whole nights without taking harm, paying no heed to the freezing winter cold or to the mists that rose from the marshes in the summer".[53] In this way, the mists from the marsh are portrayed as something that could cause "harm", but Aldhelm is able to withstand both the cold and the mists. In this way, the marsh was seen as dangerous, or at least harmful, to those around that landscape.

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[51]Williamson, *Old English Poems.* 182.
[52]For more on Anglo-Saxon hospitality culture, see for example Tom Lambert, "Hospitality, Protection and Refuge in early English law," *Journal of Refugee Studies* 30, no. 2 (2017): 243-260; Kathrin Felder, "Networks of Meaning and the Social Dynamics of Identity. An Example from early Anglo-Saxon England," *Papers from the Institute of Archaeology* 25, no. 1 (2015); and Alban Gautier, "Hospitality in pre-Viking Anglo-Saxon England," *Early Medieval Europe* 17, no. 1 (2009): 23-44.
[53]William of Malmesbury, *Gesta Pontificum Anglorum,* 539, "ut uim rebelli corpori consciscerat, fonti qui proximus monasterio se humerotenus immergebat. Ibi nec glatialem in hieme rigorem nee aestate nebulas ex locis palustribus halantes curans, noctes durabat inoffensus."

However, some people sought out the death and danger of the wetlands as a means to test their faith and prove their devotion to God. Felix, writing c.730-740 C.E., tells us that when St Guthlac was seeking a spot for his hermitage, he chose "an island in the middle of the marsh…No settler had been able to dwell alone in this place before Guthlac the servant of Christ, on account of the phantoms and demons which haunted it."[54] The wetland is here referred to as a desert in order to parallel the desert fathers whom Guthlac will model his asceticism off of; indeed, the lack of actual deserts in England resulted in wetlands taking on the role of the biblical 'wilderness'.[55] The demons attacked Guthlac soon after he settled into his wetland home, binding his limbs and forcing him from his cell.[56] Felix writes that they "plunged him into the muddy waters of the black marsh. Then they carried him through the wildest parts of the fen, and dragged him through the dense thickets of brambles, tearing his limbs and all his body."[57] Here we see the wetland become an instrument of the demonic torment, as these denizens of hell use the landscape to enact further harm on the servant of Christ. While Guthlac does not yet die in this passage, his body is harmed by the demons and by the swamp he inhabits. Even without the presence of demonic activity, the wetland landscape was a source of danger and death, and one that could only be mitigated through the grace of God. Once again, In the life of Oswald, penned by Eadmer of Canterbury c.1114-1116, the saint visits Ramsey, and the monks attempt to cross the marsh in a boat. The boat began to sink, and the monks nearly drowned. They were only

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[54]Felix,*Guthlac,* 89; "insula media in palude posita […]Nullus hanc ante famulum Christi Guthlacum solus habitare colonus valebat, propter videlicet illic demorantium fantasias demonum.

[55]For a discussion of the use of the term "desert" in medieval hagiographical traditions, see for example Conrad Leyser, "The Uses of the Desert in the Sixth-Century West," *Church History and Religious Culture* 86.1 (2006): 113-34; William Harmless, Desert Christians: *An Introduction to the Literature of Early Monasticism,* (Oxford: Oxford University Press, 2004).

[56]Felix,*Guthlac,* 103.

[57]Felix,*Guthlac,* 103; "suam duxerunt, et adductum in atrae paludis coenosis laticibus inmerserunt. Deinde asportantes ilium per paludis asperrima loca inter densissima veprium vimina dilaceratis membrorum conpaginibus trahebant.

saved because Oswald "made the sign of the blessed Cross and the boat emerged immediately from the depths of the waters."[58] This passage portrays the wetlands as deadly and dangerous, not, explicitly at least, because of demons or monsters, but because of its natural, uncultivated characteristics. It is only through St Oswald's true faith that the monks survive the perils of the landscape. Hence, the landscape is in dialogue with those who enter the wetland, and those who show faith and piety are allowed to find safe passage.

However, the wicked receive no such divine intervention. When William the Conqueror heard that Ely was harbouring Hereward the Wake, the leader of a resistance movement against the Normans, he attempted to take the monastery by force. The author of *The Deeds of Hereward,* penned c.1109-1131, tells us that William the Conqueror, "moved his whole army to Aldreth where the surrounding water and swamp was narrower [and] they built a causeway through the swamp. [...]they assembled in the water large tree-trunks joined together with beams, and underneath tied whole sheep-skins, flayed and reversed and fully inflated so that the weight of those going over it might be better borne."[59] Therefore, not only are the Conqueror and his men attempting to storm a monastery and invade holy ground, but they are also harming the flora and fauna of the swamp to do so, wasting full grown trees and slaughtering the sheep that graze on the land. However, the men rush across at once, hoping to steal gold and silver from the abbey, and the weight of the men is too much for the simple causeway, so

> "those who went hurrying in front were drowned together with the road itself they had made. Those who were in the middle of the company were swallowed up in the watery and deep swamp as well. A few of those who were following at the rear got away with difficulty… Thus

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[58] Eadmer, Bernard James Muir, and Andrew J. Turner, *Eadmer of Canterbury: Lives and Miracles of Saints Oda, Dunstan, and Oswald*, Oxford Medieval Texts, (Oxford: Clarendon Press, 2006), 267; "Qua signo beatae crucis edito, ilico nauis ab aquarum profunditate emergens, quasi nichil oneris ferret, in ulteriorem fluminis ripam prosperrimo lapsu cum omnibus quae portabat euecta est."

[59] Michael Swanton,"The Deeds of Hereward" in Thomas H. Ohlgren,(ed.), *Medieval Outlaws: Twelve Tales in Modern English Translation,* (West Lafayette, Indiana: Parlor Press, 2005), 69.

in this way, with hardly anybody pursuing them, great numbers perished in the swamp."[60]

Their careless disregard for the sanctity of the monastery, and for the landscape itself, leads them to their own watery graves. The wetland can be a site of death and danger to those who enter it, but the intentions, character, and morality of the people involved enter into a dialogue with the environment that guides its treatment of them. Furthermore, outsiders who do not understand the wetland are at additional risk, since they are unable to navigate this foreign, liminal environment. In this way, the wetland can be dangerous for outsiders but provide protection to those who know its ways.

1.3: Wetlands as a Defensive Environment

The wetland could also be used as a defensive environment, though this protection provided by the wetlands can sometimes be ambivalent. For example, in "Wulf and Eadwacer", it seems that Eadwacer is using the wetland as a form of defence. He keeps the speaker on a fenland island, which separates her from Wulf. This could be Eadwacer using the landscape to keep his wife away from her lover, or he could be keeping a kidnapped woman away from her husband. In either case, he is using the wetlands as a way to keep the female speaker trapped, and to defend her from other men. Indeed, in the poem the woman calls Eadwacer "guardian of goods".[61] This could refer to him guarding material wealth on his island, and can also be referencing how he guards over the speaker and views her as his "goods". In this case, the speaker clearly does not want to be trapped on the fenland island, but Eadwacer is using the landscape as a defensive site to keep her there.

[60]Swanton, "Hereward", 70.
[61]Williamson, *Old English Poems,* 159.

Likewise, another ambiguous example of wetland protection is when the monks of Malmesbury cast Brihtwold's body into the swamp for their own protection, there were unexpected consequences. While casting him into the wetland stops the hallucinations they were suffering from, it ultimately causes more problems, as the presence of the wicked Abbott's body results in the creation of miasmas in the swamp.[62] The defensive and protective properties of the wetland could thus result in unexpected outcomes, especially with regards to wetland burial. This account was written c.1125, depicts the unexpected nature of the swamp, whereby casting the body into the murky water yields unintended negative consequences. However, this is a period of transition, as later accounts of wetlands as defensive sites seems to portray them in a less ambiguous light.

For example, in *The Deeds of Hereward* c.1109- 1131, Ely and Hereward, as seen above, are protected from William and his men. Indeed, we are told that while William's men were all drowning, "nobody from the Isle was caught in the trap. For some of them had made a heap of turves on the bank of the aforesaid river in front of the bulwarks and ramparts, laying ambushes to both right and left."[63] Since the inhabitants of Ely respect their environment and know how to navigate the wetlands, they are able to survive and thrive while the invading outsiders perish. The Normans continued to flounder in the wetlands, since, "struggling for a week they just about completed one mound and set up four wooden bastions on which to site the war-engines. But those in the Isle resisted vigorously, building outworks and ramparts to oppose them."[64] The marsh dwellers were once again able to outmanoeuver the outsiders, and the Normans become so desperate that they resorted to witchcraft, placing a witch "in an elevated position in their midst,

[62]William of Malmesbury, *Gesta Pontificum Anglorum,* 165 #258.
[63]Swanton, "Hereward", 70.
[64]Swanton, "Hereward",73.

so that […] she might have space in which to practice her art."[65] As the witch performs her magic and the Normans prepare to attack, the residents of Ely go on the offensive, and the author states that "those who had been concealed in the swamp all around to right and left among the sharp reeds and brambles of the marshland, set fire to part of it so that, driven by the wind, the smoke and flames surged up against the king's camp."[66] Since those who live in the swamp are familiar with the landscape, they knew where it was safe to hide, and also knew how the winds would blow, and thus were able to use the landscape to their advantage, without causing undue damage, but rather, creating a type of controlled burn. The king's men try to flee from the flames,

> "But they could not go far along those watery paths through the wastes of the swamp, and they could not keep to the track easily. In consequence very many of them were suddenly swallowed up, and others, overwhelmed with arrows, drowned in the same waters, for… they were unable to use their lances against the bands of those who came… out from the Isle to repel them."[67]

Once again, the invaders' ignorance of the landscape results in their deaths, and they are once again punished for attacking an abbey and using witchcraft. The witch herself "fell down in the greatest terror head-first from her exalted position and broke her neck."[68] Thus, the witch in her lofty position is laid low in the swamp, and the men are once again consumed by the wetland in retribution for their crimes, keeping the residents of Ely safe once again through the deaths and watery burials of their enemies. In this instance, the outside invaders are repelled from the wetland, since they are attacking a landscape they do not understand, and perish therein.

Another example of the wetlands acting as a defensive mechanism is recorded in the *Liber Eliensis.* While the following story of Saint Aethelthryth reportedly took place in the

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[65]Swanton, "Hereward",79.
[66]Swanton, "Hereward",79.
[67]Swanton, "Hereward",79-80.
[68]Swanton, "Hereward",80.

seventh-century, the account was written in 1131 at the earliest. In the telling, we are informed that Aethelthryth had made a vow of chastity in her youth, and maintained her virginity even after being married to King Ecgfrith. However, after a time, she was granted a divorce and left to become a nun. However, when she heard that Ecgfrith was coming to the convent to bring her back by force, she fled to the Isle of Ely with two other nuns to evade him. Once there, they climbed a hill called Coldeburcheshevet to evade her former husband. It seemed Ecgfrith would be able to capture them, but the *Liber Eliensis,* written c.1131-1174, recorded that,

> "God, who 'commands the winds and the sea and they obey Him', does not desert those who trust in Him. We believe it came about by His decrease that the sea, leavings its bed and now pouring forth its waters in many directions, surrounded the place up which the holy virgins had climbed, and, as we have learnt from local inhabitants, kept them hidden for seven days on end, without food or drink, as they took their stand together in prayer, and that - wondrous to relate - it forgot how to ebb back in the usual manner, so long as the king remained there, or near the place. The water stood still, to make clear to everyone the merit of the virgin, and the water served as a means of help and protection and was, as it were, not water, with its propensity to harm or destroy. The handmaid of Christ, protected in this manner by this defence, evaded the threats of the king and did not suffer any harm from him. For God, who had pity on the needy, brought help and protected His betrothed, unarmed as she was, with the shield of His merciful right hand."[69]

In this passage, the wetland is protective both on its own merits, and as the site of a miracle. To begin, Aethelthryth flees to the Isle of Ely, presumably because the terrain was difficult to navigate and it was a remote location, making it a good place to hide. However, when Ecgfrith is able to make it through the fens, God intervenes and uses the water of the fens to protect Aethelthryth. The flooded wetland created both a physical and a symbolic boundary between the saint and her former husband, since it is not possible for him to cross the waters, and the standing water makes it "clear to everyone the merit of the virgin."[70] In this way, Aethelthryth is not only protected by the creation of a literal barrier, but of a spiritual one, with

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[69]Janet Fairweather, *Liber Eliensis : A History of the Isle of Ely from the Seventh Century to the Twelfth*, (Woodbridge: Boydell, 2005), 34.
[70]Fairweather, *Liber Eliensis,* 34.

the water rising around herself and her fellow nuns displaying their purity and favour with God. It is noteworthy that the author specifies that normally water has a "propensity to harm or destroy". This serves to make the miracle even more important, since God uses what is normally a harmful or destructive force as a means of protection. Aethelthryth's purity and piety is such that in her presence, what would normally be a disaster is instead a blessing. In this instance, Aethelthryth is bounded by the fen, protected, and then becomes part of it when she decides to found a monastery in that location. In this way, the protection of the fen is transformative, taking her from nun to abbess, and she transforms the island from a lonely marsh to a thriving community. It is significant that this tale is framed in this way, with a king chasing her into the wetlands, only for the land and water itself to rise in protection of Aethelthryth; in this way, it is reflective of the Norman Conquest, when King William I attacked and conquered England, but had much trouble taking Ely. Indeed, the *Liber Eliensis* was written in part as a way to support Ely's claims to a judicial liberty and their right to exercise authority in the region.[71] In this way, the wetland's defensive capabilities were used to bolster Ely both spiritually and politically.

1.4: Wetland Burial: Annihilation and Preservation

Furthermore, wetland burial was another paradox; on one hand, the wetland could also be a place where bodies were deposited in order to be forgotten, shamed, and dishonoured, so that even the memory of the person would be annihilated, but on the other, they could be places of bodily preservation, and could be places of long memory. For example, Brihtwold was meant to be forgotten in the swamp, but instead imposed himself upon the landscape and was remembered due to his "noisome miasmas".[72] Grendel's mother denies Aeschere a proper burial, and instead

[71]E.O. Blake, (ed.), *Liber Eliensis*, (London: Royal Historical Society, 1962), xxiii–lx.
[72]William of Malmesbury, *Gesta Pontificum Anglorum,* 165 #258.

leaves him dishonoured in the marsh, beheaded and left as a mere boundary marker.[73] In all these cases, the dead are denied a proper Christian burial in consecrated ground, and are cut off from their communities. Their burial in the swamp is adding insult to injury, denying them even the decency of a proper burial in the earth, but instead leaving them to "rot" in the murky landscape.

Even kings weren't immune to this shameful burial. *The Anglo Saxon Chronicle* records that in 1040 C.E., King Harthacnut had his predecessor Harold "dug up and thrown into the fen."[74] This was done in retaliation for Harold blinding Alfred, Harthacnut's half brother, in 1036.[75] By removing Harold from his tomb and disposing of him in a wetland, Harthacnut was displaying that his predecessor was unworthy of being buried in consecrated ground, and further, deserved to be absorbed into the marshlands. The choice of a fen is significant, as rather than solid ground, Harold is forced to be buried in a liminal, watery space, where he will be removed from memory and no memorial can be created for him. This plan did backfire on him, as the *Chronicle* records that Hardacnut "did nothing worthy of a king as long as he ruled."[76] Similarly, when King Edward was assassinated, he was initially buried in a swamp. The *Passio Sancti Edwardi,* written in the late twelfth-century, states that the Queen Dowager Aelfthryth, his stepmother, conspired to kill Edward. Once he was dead, she ordered her men to bury him "in a hidden and marshy place" in order to avoid detection.[77] Once again, the body is thrown into the swamp in order to dispose of not only the body, but the memory of the deceased.[78]

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[73]Mitchell, *Beowulf*,139, #2039-2046.
[74]Dorothy Whitelock, *The Anglo-Saxon Chronicle : A Revised Translation*, (New Brunswick, N.J.: Rutgers University Press, 1961), 105 #1040.
[75]Whitelock, *The Anglo-Saxon Chronicle,* 103-4 #1036.
[76]Whitelock, *The Anglo-Saxon Chronicle,* 105 #1040.
[77] "in locus abditis et palustribus"; Christine E. Fell, *Edward: King and Martyr,* (Leeds: University of Leeds, 1971),7.
[78] Of course, Anglo-Saxon records are part of a long tradition of bog burial in North-western Europe, and while it would be dangerous to conflate the motivations and ideas behind pre-historical bog burial with that of the Anglo-Saxons, it is worth noting this longstanding tradition. For more about bog burial in England and North-western Europe more broadly, see for example Jessica Stevens and Henry Chapman,

However, the wetlands do not keep things hidden forever, and they are places of long memory. Harlan-Haughey, writing about outlaws, argues that fenlands, "maintain the imprint of previous exile in their landscape, in the conservative folkways that surround them, and in their magnetism to new forms of exile."[79] But this memory could extend not only to outlaws and exiles, but to anyone who lived or died in the wetlands. For example, the bodies of William's drowned soldiers would sometimes emerge from the swamp, with the writer of *The Deeds of Hereward* stating that "to this day many of them are dragged out of the depths of those waters in rotting armor. I've sometimes seen this myself."[80] The swamp, having swallowed the wicked men, occasionally deigns to spit them back out, providing an ongoing reminder of their failure and foolishness. This conception of wetlands as a place of long memory is also displayed in the story of King Edward. A year after his death, a group of faithful Christians found where the body was buried "for around the place where it had been hidden, there was a pillar of fire above."[81] The locals unearth his body, bring it to Wareham, and give him a proper Christian funeral in their churchyard.[82] Once again, it is the faith of the people, along with the innocence of Edward, that leads his remains to be found and given a proper burial. Edward, having lived a good life, did not deserve the exile of the swamp, and is instead miraculously revealed to others, who are able to ensure that he has a proper burial that brings him back into the community body. In this way, the wetlands could be conceived of as places with long reaching memory, where bodies

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"Regional Patterns in Bog Body Distribution–A Case Study from the UK," *Journal of Wetland Archaeology* 19, no. 1-2 (2019): 131-153; Henry Chapman, "The Landscape Archaeology of Bog Bodies," *Journal of Wetland Archaeology* 15, no. 1 (2015): 109-121; and Melanie Giles, "Iron Age Bog Bodies of North-western Europe: Representing the Dead," *Archaeological Dialogues* 16, no. 1 (2009): 75-101.

[79]Harlan-Haughey, *The Ecology of the English Outlaw,* 19.

[80]Swanton, "Hereward"*,* 69.

[81]"Nam circa locum ipsum ubi occultatum fuerat, columna instar ignis desuper"; Fell, *Edward,* 7., my translation.

[82]Fell, *Edward,* 7.

were preserved and could re-emerge, thus revealing secrets or providing reminders of events long past.

1.5: Corruption and Damnation, Sanctification and Salvation: The Wetland as a Test

The imagined wetland could also be the site of corruption and damnation, where the wicked descended into Hell upon their deaths. For example, Grendel is a "God-cursed creature" who murders for his own enjoyment and strides "gloating, glutted with blood and slaughter, dragging the dead to his dank lair."[83] Grendel's malevolence does not go unpunished, and he is eventually slain. While he was dying, he returned to his marshland and the author tells us that he "dived in, doomed, and wretchedly in his dank marsh-den had given up his heathen soul. Hell had received him."[84] The wetland here acts as a portal directly to hell, absorbing the wicked being body and soul.[85] Grendel, monstrous and evil, is consumed by the wetland and damned for his crimes. Likewise, Brihtwold is strongly implied to have been damned, given William of Malmesbury's scathing descriptions, and his lack of a Christian burial.[86] The Norman soldiers are similarly consumed by the marshes, swallowed whole, and denied a Christian burial in consecrated ground.[87] They, too, are damned for their crimes and left to wallow in the swamp for eternity. Thus the wetland could be the site of damnation in medieval English literature.

In contrast, the wetland could also be the site of salvation, where faith was tested and proven true, and through these blessed deeds, the landscape itself could become sanctified. For

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[83]Mitchell, *Beowulf*, 9, #101-105; "Wiht unhǣlo, grim ond grǣdiġ, ġearo sōna wæs, rēoc ond rēþe, ond on ræste ġenam þrītiġ þeġna; þanon eft ġewāt hūðe hrēmiġ tō hām faran, mid þǣre wælfylle wīca nēosan."
[84]Mitchell, *Beowulf*, 55-57, #804-812; "Dēaðfǣġe dēog siððan drēama lēas in fenfreoðo feorh āleġde, hæþene sāwle; þǣr him hel onfēng."
[85]For discussion of Anglo-Saxon conceptions of hell in the landscape, see Sarah Semple, "Illustrations of Damnation in Late Anglo-Saxon Manuscripts," Anglo Saxon England 32, no. 1 (2003): 231–46.
[86]William of Malmesbury, *Gesta Pontificum Anglorum,* 165 #258.
[87]Swanton, "Hereward", 69.

example, Beowulf himself saves the mead hall by slaying Grendel. When Beowulf initially arrives, we are told that "God in His grace has surely sent him to rescue us now from Grendel's rage."[88] Furthermore, when going into battle, "Beowulf trusted totally in his great strength and in God's favour."[89] The salvation here is twofold, both physical and spiritual. By killing Grendel and his mother, the community is saved from the attacks and the landscape is redeemed, and likewise, Beowulf is depicted as a man chosen by God himself, who works out his salvation through his courage when facing the Grendelkin.

Similarly, Guthlac faces the demons and dangers of the fen in order to seek salvation. Shortly after he takes up residence in the fens, Felix tells us that demons descended upon him in his cell and bore him off into the night, taking him to the entrance to hell and telling him that they had been comissioned to torture him for eternity.[90] However, Guthlac remained steadfast and replied,

> "Woe unto you, you sons of darkness, seed of Cain, you are but dust and ashes. If it is in your power to deliver me into these tortures, lo! I am ready; so why utter these empty threats from your lying throats?"
>
> "Vae vobis, filii tenebrarum, semen Cain, favilla cineris. Si vestrae potentiae sit istis me tradere poenis, en praesto sum; ut quid falsivomis pectoribus vanas minas depromitis?"[91]

His faith is rewarded, and St Bartholomew descends from heaven to command the demons to return Guthlac to his home, which they do, unable to disobey the saint.[92] Here we see that Guthlac's faith was put to the ultimate test during his time in the wetlands, a place that once again served as a portal to hell. However, unlike Grendel, Guthlac is righteous and good, and his

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[88]Mitchell, *Beowulf*, 27, #361-2; "hīe wyrd forswēop on Grendles gryre. God ēaþe mæġ þone dolscaðan dæda ġetwæfan!"
[89]Mitchell, *Beowulf*, 45, #641-2; "Sōð is ġecȳþed þæt mihtiġ God manna cynnes wēold (w)īdeferhð."
[90]Felix, *Guthlac,* 107.
[91]Felix, *Guthlac,* 107.
[92]Felix, *Guthlac,* 107.

unwavering faith in the face of terror allow him to be saved from the pits of hell. Upon his return, the marsh itself tests him. He is harassed by two jackdaws, who steal and destroy anything they come across, dropping his belongings into the water or tearing them to pieces.[93] However, he does not grow angry with the birds or harm them in any way, and instead "bore their manifold injuries patiently and piously, so that the example of his patience was not only shown among men but was clear even among birds and wild beasts."[94] Guthlac's grace and charity were so profound that "Not only indeed did the creatures of the earth and sky obey his commands, but also even the very water and the air obeyed the true servant of the true God."[95] Guthlac is tested by the fenland, and he is able to rise to the occasion, showing such virtue that even the animals take note. In turn, the fen responds to his goodness, with the birds, the fish, and the landscape itself obeying his commands as a result of his righteousness. We see here that the fen is a site of salvation for Guthlac, a place where his faith and virtues can be tested, and the environment is in turn sanctified by the saint's presence, with nature returning to an almost Edenic state in his presence.

Guthalac's death is where this dialogue between the man and the landscape is most apparent. After fifteen years of dwelling in his hermitage the saint dies in his marshy home.[96] A monk who had been staying with him "suddenly beheld the house filled with the splendour of heavenly light and a tower of fire stretching from earth to heaven [...] The whole air was heard to thunder with angelic songs, while one would have thought the island to be filled with the sweet

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[93]Felix,*Guthlac,*119-121.
[94]Felix,*Guthlac,*121; "Supramemoratus autem Dei famulus, varias eorum iniurias perferens, longanimiter pio pectore sufferebat, ut non solum in hominibus exemplum patientiae ipsius ostenderetur, sed etiam in volucribus et in feris manifesta esset."
[95]Felix,*Guthlac,*121; "Non solum vero terrae aerisque animalia illius iussionibus obtemperabant immo etiam aqua aerque ipsi veri Dei vero famulo oboediebant."
[96]Felix,*Guthlac,*151-155.

scents of many kinds of spices."[97] Once again, a pillar of fire in the fenland marks the resting place of a saint, creating a physical manifestation of the light of God that Guthalc brought into the desolate wetland. Guthlac's saintly body transforms the wetland into a blessed, miraculous place. His body was buried in the wetlands and left there for a year; after twelve months passed, his sister, St Pega, received a message from God telling her to move Guthlac's body to another sepulchre, and upon his exhumation, Pega "found his body whole as if it were still alive."[98] Guthlac's body remains incorrupt, and once again, the fenland is the site of a miracle, with Guthlac's body, protected on his island surrounded by marsh, as the locus of the miraculous.[99]

Finally, Saint Aetheltryth also both finds salvation and sanctifies the wetland landscape in her death. Aetheltryth initially entered the wetland in order to remove herself from her husband, King Ecgfrith, in order to keep her vow of perpetual chastity.[100] There, she founded Ely Abbey, and served as Abbess for seven years.[101] Thus, the fenland provided a landscape in which she could seek salvation and devote herself to God, and Aethelthryth blessed the 'wilderness' by founding an abbey on an island in the fens. However, it is once again the death of the saint that brings about the full sanctification of the landscape. The *Liber Eliensis* records how upon her

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[97]Felix,*Guthlac,* 159; "subito caelestis luminis splendore domum repleri turremque velut igneam a terra in caelum erectam prospicit. […] Cantantibus quoque angelis spatium totius aeris detonari audiebatur; insulam etiam illam diversorum aromatum odoriferis spiraminibus inflari cerneres."

[98]Felix,*Guthlac,* 161; "invenerunt corpus totum integrum, quasi adhuc viveret."

[99] It is worth noting that bogs do have preservative properties, and numerous bodies and objects have been found buried in bogs, preserved for centuries. For more on preservation in the bog, see for example Melanie Giles, *Bog Bodies: Face to Face with the Past*, (Manchester: Manchester University Press, 2020); Nina H. Nielsen, Bente Philippsen, Marie Kanstrup, and Jesper Olsen, "Diet and radiocarbon dating of Tollund Man: new analyses of an Iron Age bog body from Denmark," *Radiocarbon* 60, no. 5 (2018): 1533-1545; David Yates and Richard Bradley, "Still Water, Hidden Depths: The Deposition of Bronze Age Metalwork in the English Fenland," *Antiquity* 84, no. 324 (2010): 405-415; Richard Warner, Philip Macdonald, and John O. Neill, "Treasure in the Bog," *British Archaeology (York)* 78 (2004): 22-23; Anthony Purdy, "Unearthing the Past: The Archaeology of Bog Bodies in Glob, Atwood, Hébert and Drabble," *Textual Practice* 16, no. 3 (2002): 443-458; Hilda Roderick Ellis Davidson, *The Sword in Anglo-Saxon England: Its Archaeology and Literature*, (Woodbrigde: Boydell & Brewer Ltd, 1998); and Caroline Earwood, "Bog Butter: A Two Thousand Year History," *The Journal of Irish Archaeology* (1997): 25-42.

[100]Fairweather, *Liber Eliensis,* 31.

[101]Fairweather, *Liber Eliensis*, 49.

death, a white marble Roman sarcophagus was found nearby, and was a perfect fit for her incorrupt body.[102] The monks conclude that God Himself meant for her to be buried in that sarcophagus, and that it was provided by divine intervention as a final resting place for her virginal body.[103] Aethelthryth's incorrupt body in the miraculous sarcophagus is proof of her own, individual salvation. However, her body also becomes a locus of sanctification for Ely Abbey, the monks and nuns who reside there, and for the landscape at large. Her incorrupt body is taken as a sign of God's favour, and her sanctification extends to both the abbey and the surrounding landscape. Aethelthryth's incorrupt body was laid to rest in a shrine at the centre of the abbey, which is itself surrounded by the waters of the fen. Her saintly presence becomes absorbed into the marshy landscape, and in contrast to Brihtwold, whose wickedness corrupted his surroundings, Aethelthryth's body instead sanctifies the fen.

Hence, death and burial within wetlands could be a complex dialogue between the landscape, the body, and the broader community. The character, morality, and intentions of the people in question deeply influenced the way that the natural world reacted to them, and in turn, how their bodies impacted the wetlands. The dead body and the wetland could both be perceived as changeable, porous entities, which acted upon each other in accordance with their own natures. Thus both the bodies and the swamp could be transformed and transformative, displaying the complex dialogue between humanity and the natural world.

1.6: Conquering the Wetland: Power, Piety, Propaganda

Given the cultural connotations of the wetlands, it is no surprise that they were viewed as a particularly good place for hermitages and monasteries. After all, they were removed from

[102]Fairweather, *Liber Eliensis,* 57-58.
[103]Fairweather, *Liber Eliensis,* 57-58.

many of the temptations of the world, and were associated with both spiritual and physical risks, which provided the chance to test one's faith. As such, wetlands were a perfect landscape for monks and nuns, as they minimised distractions and gave them a chance to strengthen their faith in the face of danger. However, monastic authors also went out of their way to portray these landscapes as inhospitably as possible. For example, William of Malmesbury, writing in the twelfth-century, wrote of the Isle of Ely, stating "The island could not in those days be approached except by water; but our contemporaries, able to bring more expertise to bear, have overcome nature and thrown a causeway over the swamp, thus providing a land route and making it possible to reach the island on foot".[104] This passage demonstrates the view of the marshlands as something to be overcome and conquered by humanity, and praises the residents of Ely for overcoming nature; while people in earlier periods had only been able to access the abbey by boat, by the twelfth century they had been able to "overcome nature". Indeed, the *Liber Eliensis* records how this causeway was built with even more glowing praise:

"St Edmund appeared in a vision to a farmer from the vill of Exning, and spoke to him in the following words, chivvying him into action by saying: 'Good man, attend carefully to what I am saying. Fulfil the commands given you without fail, and, on rising, go with all haste to the Bishop of Ely. And you are to say in my name that he should provide me with a causeway by which I may go to visit my lady, the most blessed Aethelthryth.'

And soon, in Ely, just as he was commanded, the man hurried to the bishop and reported to him the command which he had received. The bishop, on hearing such remarkable news, wept for joy and put the question to several people as to whether he might by any chance be capable of fulfilling the command. And, as no one was coming forward to undertake the venture, a certain monk of that very church, called John, a man of the utmost simplicity of nature, speech and appearance, came and presented himself to the bishop, saying that he was willing and, with God's help, able, to carry out this work.

And in fact, subsequently, on the orders of the bishop himself, he began to measure out a route from the land of Soham and cut a swathe of reeds to make a causeway; he also arched over river-beds with little bridges, and in this way that man, beloved of God as he was, in a short space of

[104] William Of Malmesbury, *Gesta Pontificum Anglorum,* 491; "Non enim insula tune nisi nauigio adiri poterat. Sed nostra aetas sollertior uicit naturam aggeribus querf in paludem iactis tramitem terrestrem prebuit, et insulam pedibus accessibilem fecit."

time was successful, and brought the work envisaged by Heaven to its conclusion. He constructed a causeway right into Ely through trackless expanses of marshland, while everyone marvelled and blessed God."[105]

This passage illustrates the way that life in the wetland was used by monastic writers to display their piety and favour with God. The building of a causeway is not a mere construction project, but is instead a divine directive, with instructions delivered by a saint. In this way, infrastructure is not simply built to simplify transportation, but instead is a sign of doing God's will.[106] Furthermore, it is notable that the bishop seeks someone to do the work, but no one is willing to undertake the task, until a monk from Ely steps forward and says he will do it with God's help. In this instance, the message is clear that outsiders cannot and will not tame the marshes, and that this is a task that only those holy enough to dwell in the marshland monastery can accomplish. Indeed, John the monk is clear that he will carry out the work with God's help, implying that any expertise the outside builders may have is not enough, and that only divine intervention allows one to build in the marshland landscape. It is made very clear that John is simple in nature, and uses only the reeds of the marsh in his construction. Therefore, he is not able to make the causeway due to learned expertise or costly materials, but rather, because of his faith and trust in God; of course, ironically, John would have known very well how to make a

[105]Fairweather, *Liber Eliensis,* 319-320.

[106] Indeed, marshland causeways had long been constructed in England, and would have been a routine infrastructure project by this period. For example, see John Steane, *The Archaeology of Medieval England and Wales*, (London: Routledge, 2014); David S. Neal, Angela Wardle, and Jonathan Hunn, "Excavation of the Iron age, Roman and Medieval settlement at Gorhambury, St Albans," No. 14. *English Heritage*, 2012; John Lewin, "Medieval Environmental Impacts and Feedbacks: The Lowland Floodplains of England and Wales," *Geoarchaeology* 25, no. 3 (2010): 267-311; David Harrison, *The Bridges of Medieval England: Transport and Society 400-1800*, (Oxford: Oxford University Press, 2004); Barry Cunliffe, *Iron Age Communities in Britain: An account of England, Scotland and Wales from the Seventh century BC until the Roman Conquest* (London: Routledge, 2004); Michael Parker Pearson and Naomi Field, *Fiskerton: Iron Age Timber Causeway with Iron Age and Roman Votive Offerings*, (Oxford: Oxbow books, 2003); Timothy W. Potter and Ben Robinson, "New Roman and Prehistoric Aerial Discoveries at Grandford, Cambridgeshire," *Antiquity* 74, no. 283 (2000): 31-32; B. E. Vyner, "The Territory of Ritual: Cross-Ridge Boundaries and the Prehistoric Landscape of the Cleveland Hills, northeast England," *Antiquity* 68, no. 258 (1994): 27-38; and Philip Crummy, Jennifer Hillam, and C. Crossan, "Mersea Island: the Anglo-Saxon Causeway," *Essex Archaeology and History* 14 (1982): 77-86.

causeway, as this had been done in the fens for millennia, but the clerical chronicler wants to present this as nothing short of miraculous. When John completes his task, it is described as him having "brought the work envisaged by Heaven to its conclusion", which, once again, reiterates the idea that such infrastructure projects are the fulfilment of divine directives. Finally, at the causeway's completion, "everyone marvelled and blessed God", which again reinforces the idea that life in the fenland monastery is only possible through God's favour. In this way, the *Liber Eliensis* uses the landscape as a way to show their righteousness, and to show that they are only able to live in the fens because they are blessed by God. Furthermore, this passage ties them intrinsically to their land, showing that only those who are part of the wetland can truly navigate and understand that environment, once again displaying the porosity of the body of the individual, the community, and the landscape.

In another instance, in Eadmer of Canterbury's *Life of Oswald*,written c.1114-1116, Eadmer records that the saint arrived at Ramsey to celebrate rogation day, and "the monks made a procession to the church of blessed Mary, which because of the intervening marsh could not be approached except by taking a long circuitous route over dry land."[107] This shows how the marsh posed both a spiritual and physical barrier that the monks had to cross in order to reach hallowed ground. When the monks later decide to cross the marsh in a boat, it begins to sink, and they cry out to Oswald for help. Oswald then "made the sign of the blessed Cross and the boat emerged immediately from the depths of the waters."[108] Hence, it is only through divine intervention that

[107]Eadmer, *Eadmer of Canterbury,* 267; "Post haec instabant dies rogationum, et seruus Deirf Osuualdus, sumpto itinere, Rameseiam petit, uisitare scilicet et consolari fratres quos, ut supra meminimus, iam dudum ibi posuerat. Adest, et monachi pro more nominatorum dierum procedunt ad aecclesiam beatae Mariae quae ob interiacentem paludem non nisi longo circumitu per siccum adiri ualebat."

[108]Eadmer, *Eadmer of Canterbury,* 267; "Qua signo beatae crucis edito, ilico nauis ab aquarum profunditate emergens, quasi nichil oneris ferret, in ulteriorem fluminis ripam prosperrimo lapsu cum omnibus quae portabat euecta est."

the monks survive the wetland landscape. This shows, once again, how the perceived dangers of the wetland environment were used by monastic writers to prove their favour with God.

Similarly, when William of Malmesbury described Thorney Abbey in the twelfth century, as a place "surrounded by swamps", he wrote "No part of the land, however tiny, is uncultivated. In one place you come across fruit trees, in another fields bordered with vines [...] Nature and art are in competition: what the one forgets the other brings forth."[109] He then wrote " It is the image of paradise, and its loveliness gives an advance idea of heaven itself".[110] Though the monks are surrounded by the disorder of the swamp, they have brought the land under cultivation, and thus created a paradise on earth. In this instance, the monks are clearly portrayed as collaborating with God and furthering His creation. They are able to take their swampy island and transform it into heaven on earth. In this way, again, monastic communities used the wetland landscape as proof of their piety and righteousness. The ability to cultivate land in the swamp is portrayed as a divine gift, and something that was only possible because the monks lived in accordance with God's will.

In some cases, there were no miracles attributed to wetland use, and no poetic comparisons to heaven. However, even in more mundane entries about wetlands, there could still be an emphasis on how the land was reclaimed and improved. For example, in 1130, the Chronicle of Battle Abbey records that the abbot purchased marshland in the Pevensey Levels, and "Much labour and expense were then put into land reclamation and building, improving the

[109]William of Malmesbury, *Gesta Pontificum Anglorum,* 493; "Nulla ibi uel exigua terrae portio uacat. Hic in pomiferas arbores terra se subrigit, hie pretexitur ager uineis, quae uel per terram repunt uel per baiulos palos in celsum surgu[nt]. Mutuum certamen naturae et cultus, ut quod obliuiscitur ilia producat iste."

[110]William of Malmesbury, *Gesta Pontificum Anglorum,* 493; "paradisi simulacrum, quod amenitate iam caelos ipsos imaginetur."

holding greatly."[111] In this case, no direct reference is made to miracles or the divine. However, the brief entry still emphasises that that holding was greatly improved by reclaiming the land and building upon it. It also is sure to mention that this improvement was only possible through "much labour and expense." In this way, the chronicle makes it clear that the wetland in its unreclaimed state was much worse than the reclaimed land, and that Battle Abbey was responsible for improving this corner of creation through a great expenditure of resources. It is noteworthy that in this case, it is a very matter-of-fact note, rather than an exaltation of the marsh as either a lonesome desert of a divine paradise. However, this is simply another example where chroniclers used everything from miracles to mundane infrastructure projects to emphasise the need to improve wetlands.

In short, wetland monastic communities could use their landscape to emphasise their power and piety. They portrayed wetland reclamation and infrastructure construction as vast improvements over the natural marsh, and in many cases attributed their successes to divine favour. By linking themselves to the landscape in this way, they were able to present themselves as especially favoured by God, and it was in their best interests to portray the wetlands in a dismal light, so that any triumph over the environment would be that much more impressive. However, the lived reality of the wetlands was not quite so grim as written accounts might portray, which will be discussed in the following chapter.

1.7: Conclusion

The imagined wetland could thus be a paradox in the medieval English imagination. In the literature that deals with wetlands, the landscapes tend to play home to monsters and demons,

[111]Eleanor Searle, *The Chronicle of Battle Abbey*, (Oxford: Clarendon Press, 1980), 211; Cum uero multo iam labore multisque expensis, in domibus, in agriculturis instaurata esset eadem terra, molendino etiam optimo in marisco facto, iamque plurimum commodi expectaretur"

were known to drag people into the murky depths, and to be generally unpleasant and harmful. The liminal marsh, neither water nor earth, not barren and yet not cultivated, thus presented a physical manifestation of disorder. These cultural perceptions existed since the literature of Anglo-Saxon period, but later monastic writers expanded upon these ideas in order to portray wetland monasteries as particularly holy. Furthermore, the porosity of the body and of the marsh were in dialogue with one another, and those living in the marsh could be understood to both impact and be impacted by their environment. In this way, the marshland could be redeemed and redeeming, whereby the landscape could be the locus of faith and piety, and by withstanding the dangers of the swamp, one could prove themselves and find salvation. In this way, the wetland was both consumed and consuming, acting upon and being acted upon. The paradox of the wetland, then, is resolved by understanding the intimate connection between the body and the environment; the wetlands held contradictory meanings, because they reflected back the characters and intentions of the people who entered the porous, liminal environment.

Chapter 2: The Natural Wetland: Sites of Productivity and Power

2.1 Introduction

In the last chapter, we saw how some English medieval writers portrayed wetlands. Wetlands were broadly considered to be dangerous, unhealthy, uncivilised wastelands in medieval English literature. They were often cast as places where nobody lived, a place where ascetics could set up hermitages, or where a religious order could build a monastery, far from the temptations and distractions of society. Indeed, being able to withstand the evil nature of the wetlands, and being able to supposedly conquer these challenging landscapes was seen as a sign of the holiness of the monks and nuns in question, and in some cases the monastic scribes themselves portrayed the wetlands in this light to valourise their mission. Additionally, the wetlands were portrayed as both consumed and consuming, able to fundamentally change and be changed depending on the character and intentions of the people entering the space. Indeed, the wetland was often seen as impenetrable by outsiders, and was thus a site of rebellion and escape. However, the reality of the wetlands was considerably different. There were plenty of not only monastic, but also lay communities in the wetlands, and these lands were often held by high ranking individuals, including the Lords of the Rapes and the Archbishop of Canterbury. Clearly, these were not mere wastelands, and people must have found value in these regions.

Why were these wetlands desirable, despite their poor reputation? Wetlands, particularly along the coast, provide a wide variety of natural resources. Another point of consideration is the way in which wetlands were used and understood in the Middle Ages. The Postan Thesis argued that population growth in the thirteenth and fourteenth centuries drove smallholding peasants to reclaim and cultivate “marginal” land such as moors and wetland, which led to a decline in standards of living; then, Postan argues that the Great Famine and cattle murrain of c.1315-1322

was a Malthusian crisis, whereby the population had grown too large to sustain itself, and the pressure on resources was only eased by the Black Death.[112] This thesis has been very influential, but has been seriously challenged both in terms of the crises not being Malthusian in nature, and with regards to the concept of wetlands, moors, and other such environments as being marginal or undesirable.[113]

Rippon argues that there are three main ways that communities could use wetlands. The first is exploitation of natural resources, such as fish, fowl, salt, and pasturage, which leaves the environment more or less in its natural state; the second is through modification, where the landscape is modestly altered through drainage ditches and low embankments whereby excess water is kept out during the summer in order to prolong grazing seasons, but allows the marsh to flood in the winter; and the final way to use a wetland is through transformation, which is the complete draining of the land and the construction of seawalls to keep water out year round.[114] Transformation is costly, laborious, time consuming, requires the engineering of complex drainage systems, and also demands constant maintenance; however, drained wetlands are very fertile, and can make draining the land economically viable.[115] Of course, transformation and exploitation are mutually exclusive - once a wetland is drained and turned into dry land, the naturally occurring flora and fauna of the wetlands are no longer available. Modification is a type

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[112]M. M. Postan, *The Medieval Economy and Society: An Economic History of Britain in the Middle Ages*, The Pelican Economic History of Britain, (Harmondsworth England: Penguin, 1975) and M. M. Postan and H. J Habakkuk, (eds.), *The Cambridge Economic History of Europe*, 2nd ed, (Cambridge: Cambridge University Press, 1966).

[113] See for example Mark Bailey, Christine Carpenter, and Ba Ma Dippt, *A Marginal Economy?: East Anglian Breckland in the later Middle Ages*, (Cambridge: Cambridge University Press, 1989); B. M. S. Campbell, ed. *Before the Black Death: Studies in the "Crisis" of the Early Fourteenth Century*, (Manchester: Manchester University Press, 1991). Gregory Clark, “The Economics of Exhaustion, the Postan Thesis, and the Agricultural Revolution,” *The Journal of Economic History* 52, no. 1 (1992): 61–84; Christopher. Dyer, *Making a Living in the Middle Ages*, (Yale University Press, 2003).

[114]Rippon, *Coastal Wetlands,* 1.

[115]Rippon, *Coastal Wetlands,* 2.

of middle ground, where the wetland's natural resources are still available and the ecosystem continues to function as a wetland environment.

This chapter will focus on the exploitation and modification of coastal wetlands in Sussex and Kent, particularly the Pevensey Levels and Romney Marsh, during the Middle Ages.

Romney Marsh is located in Kent, in the southeast of England. It is surrounded on the south and east by the English Channel, and stretches for one hundred square miles inland, until it abuts the adjacent upland cliffs; there are also additional areas of marshland along the rivers Rother, Tillingham, and Brede that extend beyond the main marshland region (Figure 1).[116] The name Romney Marsh is used to refer to this entire region. However, there are subdivisions within the marsh. Romney Marsh proper is the expanse of wetland that lies to the north of the Rhee Wall, an engineered watercourse dating to the thirteenth century, and Walland marsh lies to its south.[117] Dengue Marsh lies east of Walland Marsh, near Lydd, and the Prett Level lies next to Winchelsea.[118] For clarity, the name Romney Marsh is used to describe the entire region, while the names of the smaller regions will be employed when speaking of those specific areas.

[116]Jill Eddison, *Romney Marsh*, 17.
[117]Eddison, *Romney Marsh,* 17-18.
[118]Eddison, *Romney Marsh,* 17-18.

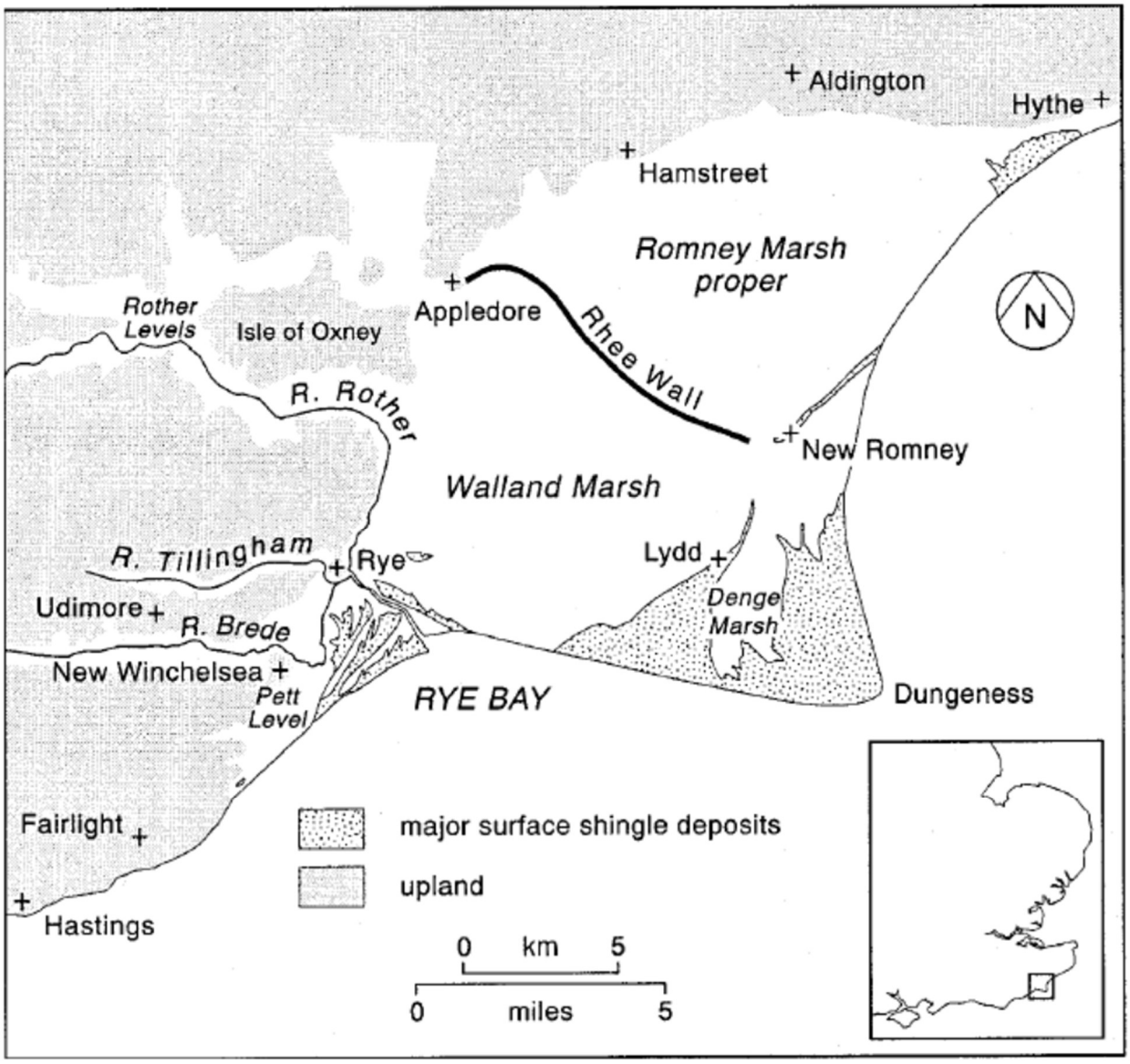

Figure 3: Map of Romney Marsh, including the subdivisions of marshland, along with towns and manors. Taken from Eddison, *Romney Marsh: Survival on a Frontier,* 18.

Similarly, the Pevensey Levels of East Sussex are subdivided into smaller regions. The Pevensey Levels refers to all the wetlands between Eastbourne and Bexhill; the Pevensey Levels are bounded by the English Channel to the south and southeast, the high weald to the north and

east, and the low weald to the west (Figure 4).[119] This region is further divided into Willingdon Level (between Eastbourne, Polegate, and Pevensey), Pevensey Level (the main marshland region located between Pevensey and Bexhill), and Hooe Level (accounting for the remaining wetlands of Hooe and Bexhill).[120] Once again, for clarity, the term Pevensey Levels will be used to refer to the region as a whole, while the subdivisions within will be referred to for more specific analysis. This region has been chosen as a case study in order to compare two wetland regions which existed in close proximity, but had very different trajectories with regards to their use and drainage.

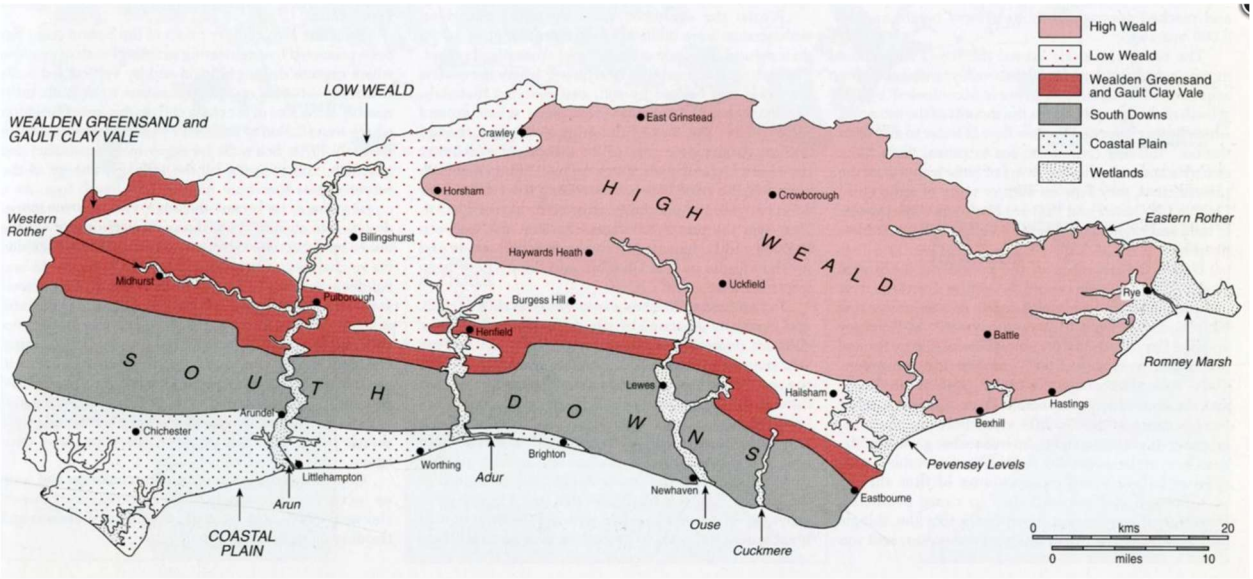

Figure 4: The geography of Sussex and Kent, displaying differences in geology along with principal locations, including the Pevensey Levels and Romney Marsh.
Taken from Leslie & Short (eds.), *An Historical Atlas of Sussex,* 6.

This chapter will focus on the exploitation and modification of these wetlands c.1000-1250 C.E. The drainage and transformation of these landscapes truly began in earnest in the

[119]Salzmann, "The Inning of the Pevensey Levels," 31-35.
[120]Salzmann, "The Inning of the Pevensey Levels," 31-35.

thirteenth century, which will be discussed in detail in the next chapter. First, this chapter will discuss land ownership in these coastal wetlands, and the communities who lived in these regions. This chapter will display that even in their natural or slightly modified form, wetlands were not the barren wastelands described in medieval writings, but rather, a source of wealth for both local communities and their broader counties through foraging, fowling, fishing, salt processing, and sheep grazing. Furthermore, the chapter considers the differing settlement and use patterns between Romney Marsh and the Pevensey Levels. Finally, the way that the by-occupations of the wetland would have been essential to poor and landless peasants is considered, along with ways that the marshes could provide extra resources in times of scarcity. I argue that the wetlands in their natural state were valuable resources, which benefitted rich and poor alike.[121]

2.1.2: The Lords of the Wetlands

Prior to the Norman Conquest, the Church was the main landholder in medieval Kent; indeed, while the period from c.800-1066 C.E. included lay tenants, the majority of the land was held by the Church, particularly in the eastern regions of the county.[122] Sweetinburgh argues that during this period, Anglo-Saxon thegns and members of the higher peasantry would have owed allegiance to senior clergy, and the structure of land ownership mirrored the feudal structure developing on the continent.[123] Therefore, William the Conqueror's system of land tenure and ownership would have been relatively familiar to the people of Kent, which he used to his advantage.[124] William was aware that he could not simply expropriate Church lands, so he did

[121] The way that drainage disproportionately benefited the rich at the expense of the poor is discussed in chapter 5 of this thesis.
[122]Sheila Sweetinburgh, "Introduction" in Sheila Sweetinburgh, ed., *Early Medieval Kent, 800-1200,* (Woodbridge: Boydell Press, 2016), 5.
[123]Sweetinburgh, "Introduction" in *Early Medieval Kent,* 6.
[124]Sweetinburgh, "Introduction" in *Early Medieval Kent,* 6.

the next best thing and gave it to his half brother, Bishop Odo of Bayeux; Odo became the Earl of Kent and received most of the non-ecclesiastic lands of Kent, along with some that belonged to the See of Canterbury; he needed tenants and knights for his land, and brought in Norman knights, dispossessing the previous Saxon thegns and tenants.[125] Hugh de Montfort also received land in Southern Kent, including a sizable portion of Romney Marsh.[126] However, after the Revolt of the Earls in 1075, both Hugh de Montfort and Odo's lands were reapportioned due to their involvement in the revolt. This meant that by 1075, lesser tenants could claim higher positions, and entirely new people were able to claim land. For example, the descendants of Fulbert of Chilam and Hugh de Port rose to become tenants in chief, and men such as William Peverel of Dover were able to claim land in the region; therefore, Odo's estate break up ended up creating many smaller baronies throughout Kent, however, with regards to Romney Marsh, the control of the land remained mostly in the hands of the Church, specifically the See of Canterbury, which held the land until the dissolution of the monasteries in the 1530s.[127] Much of Romney Marsh was the desmense of the Archbishop of Canterbury. In the thirteenth-century, the land was reorganised into administrative units called bailiwicks during the vacancy of the see following the death of Archbishop Pecham (December 8, 1292 - February 4, 1295). The temporalities were restored to Archbishop Winchelsey, and they remained stable until the dissolutions under Archbishop Cranmer. Therefore, from 1295 until the end of the Middle Ages, the Archbishop of Canterbury held in desmense lands in the marsh that stretched as far south as Lydd, along the coast and up to Lyminge, and as far west as Cranbrook.[128]

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[125]Sweetinburgh, "Introduction" in *Early Medieval Kent,* 6.
[126]Sweetinburgh, "Introduction" in *Early Medieval Kent,* 7.
[127] Du Boulay, *Lordship of Canterbury,* 200.
[128]Du Boulay, *Lordship of Canterbury,* 195-7.

In Kent, almost every parish was made up of assorted plots of land that belonged to different manors, which resulted in a fragmented situation where the manor and the parish were not coterminous; instead, these communities were centered around the demesne land, which was then surrounded by peasant holdings. The peasants who lived closer to the demesne lands owed more obligations to the lord of the manor, while those who lived further out held their land by a form of tenure called gavelkind, which carried fewer obligations, and beyond the gavelkind land there was typically woodland, pasture, and marshlands. Due to the fragmented nature of these Kentish communities, there were not the types of nucleated villages and open field systems as seen in the Midlands. Indeed, Kent was a society made up of groups of farmsteads rather than organised villages, where peasants held "discrete blocks" of land within the open fields that did exist, and typically had more freedom with regards to "crop rotation, grazing policy, and farming practices more generally."[129]

In this way, Romney Marsh was part of a complex web of landholding. On one hand, parts of the marsh were held by Canterbury Cathedral and the Archbishop of Cantberbury, who would have been the wealthiest and most important landowners in Kent. However, much of the marsh was also held by the gavelkind, who had the freedom to buy, sell, and use the land as they saw fit. There were also landless peasants who could benefit from the resources of the marsh. Therefore, the marsh was being used as commercial land for the elite, and was otherwise occupied by smallholder farmsteads. In this way, both elites and peasants used the unreclaimed marshland for increased income.

With regards to the Pevensey Levels, there are only two extant Anglo-Saxon charters which mention the region. The first, from 772, records how Offa of Mercia granted the Bishop of

[129] Sweetinburgh, "Introduction" in *Early Medieval Kent,* 7-9.

Selsey an estate in Bexhill, and gave him three hides at Barnhorne, the south of which was salt marsh as far as Hooe Stream; the second, from 947, records the granting of land at West Hankham and Glynleigh, and the boundaries show the state of the marsh at that time; the marsh is described as beginning at a watercourse called Landrithe, and then follows a north-south road from Rickney by Stone Cross to Langney, and continues up to Willingdon Level.[130] The charter also sets boundaries of the marsh extending to the borders of Ersham and Horse Eye.[131] From the time of the Domesday Book, Budgen summarises the landholding of the Pevensey Levels in the High Middle Ages as follows:

> "At the time of the compilation of Domesday Book the lordship of Pevensey Rape was held by Robert, Count of Mortain. A large proportion of the lands within the rape was held of the Count by other persons, the remainder being retained by the Count as his demesne. Coming back into the king's hands in 1101 by the forfeiture of William, Count of Mortain, Robert's son and successor, the lordship of the Rape was granted to Gilbert de Aquila and, with intervals of varying duration when it was temporarily resumed by the king, it remained in the de Aquila family until the death of a later Gilbert de Aquila in or prior to 1232. Owing to this family association the name, the Honour of Aquila, became permanently attached to the lordship of Pevensey and the manors held thereof. The grant to Gilbert de Aquila did not extend to all the manors formerly held of the Mortains as mesne lords, nor did it include those which they had themselves held in demesne; some of these became attached to the Honour of Leicester and were held in 1264 of Simon de Montfort, Earl of Leicester, as mesne lord; others were granted by the king to various persons to be held in chief."[132]

As seen in this passage, the Pevensey Levels were certainly not wasteland, and were indeed desirable landscapes that were at times even held by the Crow. Sussex did not practise the same sort of gavelkind land tenure as Kent. Therefore, the Pevensey Levels were mostly held by both lay and ecclessiastic lords, who profited off the resources of the marsh. However, peasants were able to gain an income from the wetland bby practising by-occupations such as salt making. Furthermore, there were parts of the Pevensey Levels that existed as common land, and peasants

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[130]Dulley, "The Level and Port of Pevensey," 26.
[131]Dulley, "The Level and Port of Pevensey," 27.
[132]Walter Budgen, "Pevensey Castle Guard and Endelwick Rents", *Sussex Archaeological Collections,* vol 76, 1935, pp. 115.

were able to gather resources from the coastal wetland. While the structure of landholding was very different than in Romney Marsh, in both coastal wetlands there is evidence that everyone from the wealthiest landlords to the poorest peasants were able to benefit from the natural resources of the marshland environment.

2.2 Foraging

Coastal wetlands such as Romney Marsh and the Pevensey Levels supported a wide variety of vegetation useful for culinary, medicinal, and ritual purposes. These wetlands are not peat bogs, where peat could be harvested, and the do not support the reeds and rushes of freshwater fens, which can be used for thatch, construction, baskets, and bedding; however, they still offer a wide array of useful flora.[133] Foraging for edible plants could have added both variety and needed nutrition to supplement the diets of people in wetland communities. Furthermore, the use of local plants in medicinal recipes would have also been an important factor. Of course, it can be difficult to discern which plants would have been present in the region at the time, but disciplines such as archaeobotany can shed light on which plants would have been growing in the area in this period.[134] By examining the ways that wetland plants were used in this period, it is possible to shed light on the importance of these ecosystems to their local communities. The

[133]Rippon, “Water and Land”, 40-41.

[134] For more information about medieval plants in Britain, see for example Mark McKerracher, *Anglo-Saxon Crops and Weeds: A Case Study in Quantitative Archaeobotany*, (Oxford: Archaeopress Publishing Ltd, 2019); Lisa Moffett, "The Archaeobotany of Late Medieval Plant Remains," in *The Oxford Handbook of Later Medieval Archaeology in Britain* (2018): 116 - 127; Ruth Pelling, Gill Campbell, Wendy Carruthers, Kath Hunter, and Peter Marshall, "Exploring contamination (intrusion and residuality) in the archaeobotanical record: case studies from central and southern England," *Vegetation History and Archaeobotany* 24, no. 1 (2015): 85-99; Marijke Van Der Veen, Alistair Hill, and Alexandra Livarda, "The Archaeobotany of medieval Britain (c. A.D. 450–1500): identifying research priorities for the 21st century," *Medieval Archaeology* (2013) 151-182; Frances Watkins, Barbara Pendry, Alberto Sanchez-Medina, and Olivia Corcoran, "Antimicrobial assays of three native British plants used in Anglo-Saxon medicine for wound healing formulations in 10th century England," *Journal of ethnopharmacology* 144, no. 2 (2012): 408-415; Dominique de Moulins, "The weeds from the thatch roofs of medieval cottages from the south of England," *Vegetation history and archaeobotany* 16, no. 5 (2007): 385-398.

additional food would have been an important source of both nutrients and extra calories, and the medicinal plants would have provided relief from illness.[135] Finally, the symbolic and ritual use of particular plants would have been important culturally and religiously. In this context, then, the wetland plants were not merely important ecologically, but also socially, culturally, culinarily, and medically.[136]

2.2.1 Foraging in the Pevensey Levels of Sussex

The coastal wetlands of Sussex were home in this period to a variety of edible plants such as Danish scurvy grass (*Cochlearia Danica*), English scurvy grass *(C. Anglica*), sea kale (*Cratnbe maritima*) , and sea purslane (*Honkeneya peploides*) as well as fennel (*Foeniculum vulgare).*[137] Fennel was brought to England by the Romans, and maintained a presence in the region throughout the Middle Ages.[138] Fennel (*Foeniculum vulgare*), known as finel/finol/finul in Old English, was employed in a variety of medicinal and magical endeavours. Fennel was used as part of a remedy for coughs in the Old English Herbarium;[139] one was to crush the roots and add them to wine, and then drink the mixture for nine days.[140] The Herbarium also lists

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[135]Whether the remedies available at the time were biologically effective or not, the placebo effect of the medical treatments would have been important and provided relief, making access to the necessary ingredients vital.

[136]There is, of course, always some degree of uncertainty when identifying plants in historical documents with modern plants. In this section I have taken care to give the Old English name as well as the modern common name and the scientific name, and to only include plants that are native to England, or that have archaeobotanical evidence of growing there by this period.

[137] William Page, ed. *The Victoria History of the County of Sussex*, Vol. 2.(Constable, 1907), 42.

[138] For further discussion of fennel in the English Middle Ages, see Alexandra Livarda and Marijke Van der Veen, "Social access and dispersal of condiments in North-West Europe from the Roman to the Medieval period," *Vegetation History and Archaeobotany* 17, no. 1 (2008): 201-209.

[139] The Old English Herbarium is an Old English translation of *De Herba Vettonica, Herbarium of Apuleius,* and *Liber medicinae ex herbis feminis***;** the earliest extant manuscript dates to c.1000. For further discussion of the Herbarium, see for example Anne Van Arsdall, *Medieval Herbal Remedies: The Old English Herbarium and Anglo-Saxon Medicine*, (London: Routledge, 2012); and Hubert Jan DeVriend, ed. *The Old English Herbarium and Medicina de Quadrupedibus* (Oxford: Oxford University Press, 1984).

[140]Oswald Cockayne, ed., *Leechdoms, Wortcunning, and Starcraft of Early England, Volume I,* (London: Longman, Green, Longman, Roberts, and Green, 1864), 237.

fennel as one of the ingredients of a remedy for sore bladders; fennel, along with other greens, was to be boiled in water, and then the sick person was to drink the mixture for seven days to heal their bladder troubles.[141] Bald's Leechbook,[142] an Old-English medical compendium written in the mid tenth-century, recommends the use of fennel to cure misty eyes. One can either steep green fennel in a crock full of rainwater for thirty days and thereafter wash their eyes in the water every day, or alternatively, is advised to combine fennel and honey, boil the mixture, and then apply the cooled salve to the eyes.[143] Fennel is a component in a recipe to cure Lenten Addle (likely malaria), where a variety of plants are to be boiled in holy water, had prayers said over them, and then be administered to the sick.[144] Fennel is also recommended as a component in a variety of charms and protective rituals. Leechbook III,[145] an Anglo-Saxon medical compendium written in int tenth century, includes fennel in a drink to ward off the devil, and for a drink to ward off temptation.[146] Another charm calls for fennel, styrax, and hallowed salt to be placed into a hole in a plough; only then is the ploughman to begin ploughing the fields, and must recipe an incantation while so doing, which is done to ensure the fertility of the field.[147] Thus, the forage available in the Pevensey Levels provided food, medicine, and protective charms and elixirs.

2.2.2 Foraging in Romney Marsh in Kent

[141]Cockayne, *Leechdoms Volume I,* 239.
[142] For more on The Leechbook of Bald, see for example Emily Kesling, *Medical Texts in Anglo-Saxon Literary Culture*,(Woodbridge: Boydell & Brewer, 2020) and Malcolm Laurence Cameron, "Bald's Leechbook: its Sources and their Use in its Compilation," *Anglo-Saxon England* 12 (1983): 153-182.
[143]Cockayne, *Leechdoms Volume 2,* 27.
[144]Cockayne, *Leechdoms Volume 2,*141.
[145] For more on Leechbook III, see for example Emily Kesling, *Medical Texts in Anglo-Saxon Literary Culture*,(Woodbridge: Boydell & Brewer, 2020).
[146]Cockayne, *Leechdoms Volume 2,* 353.
[147]Cockayne, *Leechdoms Volume 1,*403.

Likewise, Romney Marsh was home to a wide variety of wild plants that have both culinary and medicinal uses. The marshland is home to water parsnips *(Sium latifolium)*, sea fennel *(Crithmum maritimum)*, and smooth cat's ear (*Hypochceris glabra*), which is a type of dandelion.[148] All of these plants have at least parts that are edible, and could have been used to supplement the diets of local communities. Romney Marsh is also home to marshmallow (*Althcea officinalis).*[149]

Marsh mallow (*Althcea officinalis),* known as merscmealwe in Old English, serves both as flavouring for food, and is featured in medicinal remedies from medieval England. In the Old English Herbarium, it is recommended as a cure for both gout and joint stiffness; for the former, marsh mallow must be pounded into lard and applied to the affected area, and for the latter, marsh mallow is to be cooked with cress and linseed and applied to the body.[150] Bald's Leechbook recommends the use of marsh mallow to relieve gas, or for watery or bloody stools.[151] Similarly, Leechbook III indicates that marsh mallow may be combined with a variety of other herbs to form a salve to offer relief to people with cancer.[152] Finally, Leechbook III also provides a remedy for "elf disease" which includes a variety of herbs, including marshmallow, which are to be combined with ale and holy water, and then a charm must be sung over the mixture.[153] Then the remedy may be administered.[154]

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[148]William Page, *The Victoria History of the County of Kent*, The Victoria History of the Counties of England, (London: Constable, 1908), 57-58.
[149]Page, *The Victoria History of the County of Kent,* 53-65.
[150]Cockayne, *Leechdoms Volume 1,* 141.
[151]Cockayne, *Leechdoms Volume 2,* 237.
[152]Cockayne, *Leechdoms Volume 2,* 313.
[153]Cockayne, *Leechdoms Volume 2,* 353.
[154]Cockayne, *Leechdoms Volume 2,* 353.

Furthermore, holly grows wild in Romney Marsh, and was another important resource found in the wetland.[155] For one thing, holly can be used as winter fodder for sheep. Spray argues that holly was used as a form of fresh browse for sheep throughout much of England in the Middle Ages, and it would have been an important source of both calories and nutrients for the animals, especially as the winter wore on and the stored up winter feed began to dwindle.[156] Furthermore, holly was important for religious and symbolic reasons. As Hook has noted, since pre-Christian times, holly was thought to offer protection against magic, and would be brought into the home to ward off elves and fairies; the custom continued even after the Christianisation of England; the sharp leaves became associated with Christ's crown of thorns, and the red berries with His passion. Moreover, the pagan beliefs in the Oak Knight, who represented midsummer, battling the Holly Knight, who represented midwinter, also became Christianised, whereby the Oak Knight became associated with John the Baptist, and the Holly Knight with his "merciful successor" Jesus Christ, which led to the holly being venerated above the oak; indeed, there was a saying that went "Of all the trees that are in the wood, the holly bears the crown".[157] Holly wood was also used for a variety of practical applications. Holly wood burns very hot, which makes it ideal for fuel for blacksmiths and weapon makers and the dense, hard wood was ideal for spear shafts, cart wheels, and carving work. Finally, holly was also used medicinally. The bark and leaves of the holly are ingredients in recipes in the Lacnunga, and are used in remedies for toothaches, leprosy, wounds, dry lungs, and as a fever reducer.[158] In this case, one plant has

[155]Rippon, *Coastal Wetlands,* 159.
[156]Martin Spray, "Holly as fodder in England", *The Agricultural History Review,* Vol. 29 No.2 (1981), 97.
[157]Della Hook, *Trees in Anglo-Saxon England: Literature, Lore and Landscape*, Vol. 13, (Woodbridge: Boydell & Brewer, 2010), 213.
[158]Hook, *Trees in Anglo-Saxon England,* 214.

many uses; it was important economically, socially, symbolically, religiously, and medicinally. In such cases, people of all social statuses benefitted from access to these plants.

2.3 Fowling

Wetlands provide an important habitat for many species of birds, and there is evidence of their consumption in England from at least the eight century.[159] In the early period of this study, these birds would have been eaten by rich and poor alike, though elites did use these birds as a status symbol; however, after the Norman Conquest, the consumption of wild birds was restricted to elites by their cost and by law.[160] Therefore, after 1066 and the introduction of Norman Forest Laws, the wildfowl of the wetlands became more important as a status symbol for the elites of society. Peasants were still able to benefit from these birds, since the by-occupation of fowling would have been a source of income, and would have been particularly important for the poor and landless. Furthermore, there were peasants who were willing to flout the laws surrounding the taking of wild birds, particularly in times of scarcity, and so the wetland wildfowl served as an important source of food, as well as a symbol of resistance and a subversion of hierarchical structures. Thus, the taking of wetland wildfowl was important nutritionally in the earlier period, and was important socially and economically in the later period, as well as being a site of resistance to authority.

[159]D. Seargeantson, “Birds: Food and a Mark of Status” in Woolgar, C. M., Serjeantson, D., and Waldron, T.,eds, *Food in Medieval England : Diet and Nutrition*, (Oxford: Oxford University Press, 2006), 147.
[160]Searjeanston,“Birds: Food and a Mark of Status”, 131.

2.3.1 Wetland Wildfowl as Status Symbol

In the Middle Ages, wild food, and particularly wildfowl, were a source of status, as they reflected the ability to pay a fowler, or the leisure time to engage in hunting.[161] The late Saxon period saw a rise in professional fowlers, who would have served both elite and ecclesiastic houses, and also provided wildfowl for the developing urban markets; contemporaneously, falconry and hawking increased in importance amongst the elites, as a way to emphasise their wealth and status; as such, the consumption of wild birds more broadly became an important mark of status not only in the household of thegns, but in otherwise wealthy and monastic houses.[162] Furthermore, after the conquest, wild birds were used as a display of wealth and status in the twelfth and thirteenth centuries in both aristocratic and ecclesiastic settings.[163] For example, swans, peacocks, and cranes were served at the coronation feast of Edward I in 1274.[164] These birds could also be given as high status gifts, as seen in 1212 when Sir William Stormy gave the bishop of Salisbury six herons and four mallards.[165]

Archaeology can give important insight into the prevalence and extent of bird consumption. Both wild and domestic bird bones are far more common in assemblages from castles, manors, and ecclesiastic houses than in towns, and town assemblages produce more bird bones than rural settlements from the Middle Ages; while these results cannot provide a full

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[161]Ken Albala, “Wild Food: The Call of the Domestic”, in Richard Hosking, ed. *Proceedings of the Oxford Symposium on Food and Cookery, 2004,* (Oxford: Oxford Symposium, 2006), 9-10, and Umberto Albarella and Richard Thomas, "They Dined on Crane: Bird Consumption, Wild Fowling and Status in Medieval England," *Acta Zoologica Cracoviensa* 45 (2002): 23-38.
[162]Naomi Sykes, “The Dynamics of Status Symbols: Wildfowl Exploitation in England ad 410–1550”, *Archaeological Journal,* (2004), 161:1, 87.
[163]Searjeanston,“Birds: Food and a Mark of Status”, 142.
[164]Annie Grant, "Food, Status and Religion in England in the Middle Ages: An Archaeozoological Perspective," in J. Desse *L’animal Dans L’alimentation Humaine: Les Criteres de Choix. Paris: Anthropoxoologia* (1988): 139.
[165] Robin S.Oggins, *The Kings and Their Hawks: Falconry in Medieval England*, (New Haven: Yale University Press, 2004), 17.

picture, they do suggest that the consumption of birds was generally more common amongst the wealthy and within religious houses than in towns and villages.[166] Indeed, Stone estimates that birds accounted for approximately ten percent of the meat eaten in aristocratic and religious houses in England in the Middle Ages.[167] This is no mere coincidence, especially with regards to wild birds. Through the High and Late Middle Ages, the percentage of wild bird bones found in assemblages tends to increase. For example, in deposits from Pevensey Castle in the mid-fourteenth to mid-sixteenth centuries, wild bird bones account for about twenty percent of the bird bones uncovered, indicating quite the appetite for wild or exotic fowl.[168]

Furthermore, the consumption of wildfowl was not only a reflection of wealth and leisure, but also of power and lordship. Much like aristocratic hunting was a display of status, so too was the consumption of wild animals. The consumption of these animals displayed lordship over the natural environment and the creatures that dwelt in the "wilderness". For all these reasons, medieval elites benefitted from access to the wetland, and that environment was an important source of status. Access to wetland wildfowl was therefore a kind of conspicuous consumption, and reinforced the social hierarchy.

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[166]Searjeanston ,"Birds: Food and a Mark of Status",137, and Umberto Albarella, Mauro Rizzetto, Hannah Russ, Kim Vickers, and Sarah Viner-Daniels, eds. *The Oxford Handbook of Zooarchaeology*, (Oxford: Oxford University Press, 2017), 225.

[167]D. J. Stone, "The Consumption and Supply of Birds in Late Medieval England", in Woolgar, C. M., Serjeantson, D., and Waldron, T., eds, *Food in Medieval England : Diet and Nutrition*, (Oxford: Oxford University Press, 2006),148.

[168]Searjeanston,"Birds: Food and a Mark of Status", 136.

2.3.2 Wetland Wildfowl in the Peasant Economy

Peasant consumption of wildfowl waxed and waned throughout this period in England. Prior to the Norman Conquest, bird bones accounted for less than ten percent of bones, indicating that birds were not a very common food at this time for rural communities.[169] However, despite the small percentage of overall consumption, these birds would have been an important source of meat in the peasant diet, providing fats, protein, and iron. Late Saxon sources describe the techniques used to take wild birds, and unlike falconry or hawking, these methods would have been quite accessible to peasants. For example, in Aelfric's Colloquy, written c. 950-1000, the fowler says he catches birds "a lot of ways: sometimes with nets, with nooses, with lime, with bird calls, with a hawk, and with a trap".[170] It seems that by the Late Saxon period, wild birds would have made up a small but important portion of the peasant diet, and would have been available to all.

The Conquest brought with it significant changes in peasant wildfowl consumption; from the mid-eleventh to mid-twelfth century, wild bird remains become much rarer in assemblages from villages and religious sites, but increase significantly in elite assemblages, a change likely brought about by the Norman introduction of Forest Law, which restricted access to wild birds, and wild resources more generally.[171] However, this means that the demand for fowlers would have only increased, due to elite demand. Indeed, by the High Middle Ages, most wild birds eaten were caught by professional fowlers, who used a combination of nets, snares, and hawking to capture their prey, which they then sold for income.[172] This would have created a demand for

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[169]Searjeanston ,"Birds: Food and a Mark of Status",137.
[170]Stephen J. Harris, "Aelfric's Colloquy", in D.T. Kline, ed., *Medieval Literature for Children,* (London: Routledge, 2003), 121.
[171]Sykes, "Wildfowl Exploitation in England", 88.
[172]Searjeanston,"Birds: Food and a Mark of Status", 147.

fowlers, and provided economic opportunities to peasants who were able to capture these wild birds. This by-occupation would have brought in additional income for peasant families, and would have been particularly important to the landless or those with very little land. Furthermore, the engagement in fowling could be seen as an escape from agricultural labour.[173] Fowling would have been less physically demanding than agricultural work, and provided at least a small reprieve from heavier tasks. In this way, peasants were still able to benefit from the wetland wildfowl, even when restrictions were placed upon their consumption of these birds.

However, by the end of the twelfth century and beginning of the thirteenth, wild bird consumption was once again on the rise amongst the lower classes, particularly in rural areas.[174] Sykes argues that this increase in wildbird consumption could reflect two different, but not mutually exclusive, motivations. On one hand, peasants may have turned to wildfowling as a way to mitigate risk in the face of crop failure, and provided an important food source in times of famine or shortage, and would have been allowable so long as the peasants did not take protected, socially important birds.[175] Stone also argues that particularly in times of bad harvests, wild birds would have been important to peasants' survival.[176] On the other hand, some peasants may not have turned to fowling out of simple necessity, but as a form of rebellion. By poaching birds, particularly high status birds such as crane, swan, or heron, the peasants defied the aristocracy, while mimicking their patterns of consumption; indeed it is during this time that the first sumptuary laws were enacted in England, reflecting a wider anxiety amongst the aristocracy

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[173] For further discussions of pastoral living and by-occupations as an escape from agricultural work and the impositions of authority, see for example Mark E. Frank, "Hacking the Yak: The Chinese Effort to Improve a Tibetan Animal in the Early Twentieth Century," *East Asian Science, Technology, and Medicine* 48, no. 48 (2018): 17–48, and James C. Scott, *The Art of Not Being Governed : An Anarchist History of Upland Southeast Asia*, (New Delhi: Orient Blackswan, 2010).

[174] Sykes, "Wildfowl Exploitation in England", 88-89.

[175] Sykes, "Wildfowl Exploitation in England", 89.

[176] Stone,"The Consumption and Supply of Birds in Late Medieval England", 154

with regards to peasants having access to their status symbols.[177] Poaching was thus a way that peasants could resist authority and hegemonic order, and reassert their ancient rights to the land.[178] In this way, the taking of wild birds in the wetlands was both a practical and a symbolic act. Birds provided needed protein, particularly in times of scarcity, and the hunting and consumption of wildfowl was a political act of resistance. The wetlands thus acted as a site of resistance to hegemonic power, and created a landscape where peasants could claim the status symbols of the elites.

Overall, from the twelfth century until the end of the fourteenth, wild made a modest but still notable contribution to the peasant diet. It is difficult to estimate the full extent of the role birds and birding played in the peasant economy, but it is safe to say that wild birds played three important roles in the lives of peasants. First, elite demand for wild birds created economic opportunity for fowlers, who could sell their birds for a profit. Secondly, birds could be caught and eaten to supplement the diet, as famine food, or to make up for a poor harvest. Finally, poaching high status birds provided an outlet to defy aristocratic authority and assert identity, while also enjoying the luxuries normally reserved for the elites. In sum, wetland wildfowl were economically, nutritionally, and symbolically valuable to medieval peasant communities.

[177]Sykes, "Wildfowl Exploitation in England", 89.
[178] William Perry Marvin, *Hunting Law and Ritual in Medieval English Literature*, (Suffolk: D.S. Brewer, 2006), 79.

2.4 Fishing

Fishing was an important activity in Romney Marsh and the Pevensey Levels in the Middle Ages. Indeed, in the medieval period, the archaeological record indicates that there was a marked increase in the consumption of fish as compared to the Roman era.[179] This increased consumption is partially explained by the spread of Christianity. Both monastic and lay communities were expected to abstain from meat for much of the year, and since seafood was not classified as meat for religious purposes, fish became a more important source of protein and calories. As such, during Lent, and on all fast days, fish was in high demand by all levels of society.[180] Furthermore, the increased consumption of fish through the Middle Ages was also a result of an increase in population which drove the exploitation of all available food sources.[181] Fishing was an important aspect of this increased exploitation, since catching fish can be a very low cost and high reward activity.[182] Indeed, around 1000 C.E., the archaeological record displays a marked increase in remains of herring and cod, particularly in towns, indicating that fish was becoming a more important component in the medieval English diet.[183] The fish and other seafood available in coastal wetlands provided necessary sustenance for the entire population, with everyone from the king himself to the humblest peasant consuming these resources. However, once again, fishing provided a by-occupation and additional income for peasants, while certain seafood, such as whale tongue, was a status symbol for the elites. Likewise, once again, there is evidence of peasants, and even local elites, flouting laws

[179]Rippon, *Coastal Wetlands,* 221.
[180]D. Seargeantson and C. M. Woolgar, "Fish Consumption in Medieval England" in Woolgar, C. M., Serjeantson, D., and Waldron, T., eds, *Food in Medieval England : Diet and Nutrition*, (Oxford: Oxford University Press, 2006), 102.
[181]Rippon, *Coastal Wetlands,* 221.
[182]Serjeantson and Woolgar, "Fish Consumption in Medieval England" ,102.
[183]Serjeantson and Woolgar, "Fish Consumption", 104.

restricting access to certain animals, as both a matter of practicality and as a symbolic act of resistance to hegemonic powers. In this way, fish and other sea creatures were important nutritionally, economically, and socially; furthermore, access to these resources made coastal wetlands all the more appealing, as these lands made it possible to benefit from the bounty of the sea.[184]

2.4.1 Shellfish at Pevensey

To begin, shellfish along the coast of the Pevensey Levels were an important resource for everyone in the area, rich and poor alike. Archaeological evidence shows an increase in the consumption of shellfish beginning in the tenth century, with oysters being particularly popular, as evidenced by their large presence in food debris assemblages and the remains of shellfish processing sites.[185] By the twelfth century, even more types of shellfish were being consumed in the area. For example, at Pevensey Castle, an assemblage of shells dating to the twelfth century includes a wide variety of shellfish, including whelks; the inclusion of whelks is notable, as they must be caught in pots, and as such require additional effort to obtain.[186] This could be a reflection of the increasing pressure to feed a growing population, but also underscores the benefits of living in an area with an abundance of high protein, nutrient-dense food available. Furthermore, this could give insight into the economic activities of women and children. Typically in coastal communities, the gathering of shellfish was done by women and children as a way to supplement the food available through agriculture and other forms of fishing.[187] The

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[184] Of course there are long stretches of coastline in England that are not wetland, but in Sussex and Kent, the Pevensey Levels and Romney Marsh account for a great deal of coastline, and owning or having access to these lands would have been an important point of access to the sea.
[185]Rippon, *Coastal Wetlands,* 225.
[186]Rippon, *Coastal Wetlands,* 225.
[187]Serjeantson and Woolgar, "Fish Consumption in Medieval England" ,122.

assemblages at Pevensey Castle indicate that the consumption of shellfish was not limited to peasants, but was an important food source for all members of society.

2.4.2 Whaling in the English Channel

In the late tenth century, a French monk named Letaldus from the abbeys of Le Mans and Micy wrote a poem called "About a Certain Fisherman Whom a Whale Swallowed".[188] The poem is about a man named Within, an Englishman from Kent who gets swallowed by a whale while out fishing; after four days and five nights, he is able to escape by setting fire to his boat and killing the whale with his sword.[189] The whale's carcass washes up in Within's hometown of Rochester, but when the locals go to butcher the whale, they hear Within's voice from the animal, and think the whale is possessed; it is only after the whale is exorcised that Within is finally freed.[190] He initially has lost his sense of sight, and his hair has fallen out, but he soon returns to a normal life, and his appearance returns to what it was before his encounter with the whale.[191] While this story is fictional, it does reflect certain truths regarding whales in Medieval England. To begin, it points out directly that Kent was a region where whaling was possible. Secondly, whales were feared creatures, since they were viewed as monstrous beasts who could potentially swallow people whole. Furthermore, the local people going to butcher the carcass reflects the reality of whale use in England in the Middle Ages. In the Anglo-Saxon period, beached whales were a windfall for coastal communities, providing valuable meat and whalebone. After the Conquest, the king technically had the right to all cetaceans washed ashore, as part of the right of wreck, but these remains were frequently taken by local people, given how

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[188]Jan M. Ziolkowski, *Fairy Tales from before Fairy Tales: The Medieval Latin Past of Wonderful Lies*, (Ann Arbor: University of Michigan Press, 2010), 67.
[189]Ziolkowski, *Fairy Tales,* 67-8.
[190]Ziolkowski, *Fairy Tales,* 67-8.
[191]Ziolkowski, *Fairy Tales,* 68.

difficult it was to enforce the Crown's right to the whales. This was part of a trajectory of increasing Crown control of natural resources, including Norman forest law. This section considers the symbolic and practical uses of whales and whaling along these coastal wetlands; while the whales themselves were obviously not marsh-dwelling, the access to the sea along these stretches of wetland would have been valuable, thus making the wetlands themselves more attractive.

To begin, it appears that the people who lived along the south coast of England in the Middle Ages rarely engaged in whaling. Aelfric's Colloquy contains the following conversation, which was to be had between teacher and student:

> "Teacher: Would you catch a whale?
> Student "Fisherman": No!
> Teacher: Why?
> Student "Fisherman": Because it's a dangerous thing to catch a whale. It's safer for me to go to the river with my boat than to go with many boats a-hunting whales
> Teacher: Why's that?
> Student "Fisherman": Because I prefer to catch a fish that I can kill than a fish that with one blow can sink and destroy not only me but all my companions
> Teacher: Still, many catch whales and avoid danger, and get good money for it
> Student "Fisherman": That's the truth! But I don't dare because of my cowardly soul."[192]

This passage provides important information about the pursuit of whales in Anglo-Saxon England. The dialogue demonstrates that whaling necessitated many men and boats, especially as compared to fishing, and was much more dangerous. Szabo also discusses how this passage indicates a lack of "specialised whaling industry" in Anglo-Saxon England, given that it is a fisherman who is addressed, rather than a specialised whaler.[193] Szabo also writes that the mention of many boats would "indicate an drive-whaling strategy, common across the North Atlantic", and argues that given the risks of these techniques, the fisherman is right to be hesitant

[192]Harris, "Aelfric's Colloquy", 120-1.
[193]Vicki Szabo, *Monstrous Fishes and the Mead-Dark Sea: Whaling in the Medieval North Atlantic*, The Northern World, V. 35. (Leiden: Brill, 2008), 58.

to pursue such prey.[194] Indeed, Gardiner argues that there is little evidence for whaling in Anglo-Saxon or Medieval England, despite the fact that whalers from Normandy and Flanders often caught whales in the English Channel.[195] How, then, did people in Medieval England obtain whales? And what, exactly, is meant by the term "whale"? Gardiner indicates that " Medieval sources frequently make little distinction between the different types of cetacean. They were all covered by the descriptive, but unspecific Latin *crassus piscis*, 'fat fish' or its contraction *craspesius.* These "fat fish" were extremely valuable, given their rarity and the difficulty of obtaining them. While there is sufficient evidence to indicate that whaling off the Channel coast was prevalent by at least the ninth century between France and Normandy, the Anglo-Saxons and early Medieval English people mostly would have obtained whales by utilising the porpoises that washed up on shore.[196]

However, who had the legal right to beached whales and other "great fish" was a point of contention in the Middle Ages. Cetaceans that washed up on shore were counted as wreck from a legal perspective, and under Roman law, wrecked goods belonged to the owner of said goods, provided that he survived, and otherwise, the goods belonged to the finder; since cetaceans have no owner, they belonged to the finder.[197] The rights of the finder were maintained in the early Anglo-Saxon period, but as crown authority increased, wreck was claimed by the crown as *jura regalia*.[198] The king could, of course, grant the right of wreck to other feudal landowners, and in

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[194]Vicki Szabo, "Subsistence Whaling and the Norse Diaspora: Norsemen, Basques, and Whale Use in the Western North Atlantic, CA. AD 900–1640," In *Studies in The Medieval Atlantic*, pp. 65-99, (Palgrave Macmillan, New York, 2012), 73.
[195]Mark Gardiner, "The Exploitation of Sea-Mammals in Medieval England: Bones and their Social Context", *Archaeological Journal*, (1997) 154:1, 173.
[196]Gardiner, "The Exploitation of Sea-Mammals", 175.
[197]Frederick C. Hamil, "Wreck of the sea in Medieval England", in Arthur E. R Boak, ed., *University of Michigan Historical Essays*. University of Michigan Publications. History and Political Science, V. 11. (Ann Arbor: University of Michigan Press,1937), 3.
[198]Hamil, "Wreck of the sea", 3.

some cases extended those rights to the lords of coastal manors. The earliest example is a charter from King Canute, which stated that Christchurch Canterbury had the right of wreck "found on this side of the middle of the sea", and later, Edward the Confessor granted an article of writ, which read: "Urk, my huscarl, is to have his strand over against his own land, freely and well throughout, up from the sea, and out on sea, and whatever may be driven to his strand, by my full command", and after the Norman Conquest, some land grants included rights to the wreck of the sea, but these rights were mostly restricted to large ecclesiastic houses, and few were given to lay manors.[199] By and large, the crown maintained that the king had the right to the wreck of the sea; for example, "The Leges Henrici Primi dated between 1116 and 1118 asserted that 'wreck of the sea and things cast up by the sea' were the right of the king".[200] However, since it was difficult to enforce the crown's right to wrecked goods, the reality was that wreck was taken routinely by local communities and landlords. Indeed, by the reign of Edward I, Hamil argues that "wreck was taken everywhere almost by prescription, and little was realistically secured by the crown".[201]

As such, the legal rights to beached cetaceans remained contested, especially in situations where there could be multiple claims made on the same animal. For example, in a case in Denge Marsh, which is part of Romney Marsh:

"A whale was stranded at Denge Marsh near Dungeness on 9th February 1258 and was claimed shortly after by the abbot's bailiff. Later that day men from the nearby Cinque Port town of Romney came and tried to claim the whale, but when rebuffed offered to purchase part. The men threatened force and to avoid trouble the bailiff asked for help in cutting up the whale offering to reward them for their work. The men of the more distant Cinque Port town of Winchelsea who arrived later were similarly put to work. Later the whale was claimed by the sheriff of Kent for the king and by the constable of Dover Castle, the latter evidently in his role as Warden of Cinque Ports (Murray I935, 8o). In the five or six days while the matter was determined the bailiff prevented anyone from carrying off pieces of the whale and finally had the greater part

[199]Hamil, "Wreck of the sea", 4-5.
[200]Gardiner, "The Exploitation of Sea-Mammals", 176.
[201]Hamil, "Wreck of the sea", 5.

sent to the abbey at Battle. It was thought expedient to send the king half the tongue, but a writ was sent to the abbot requiring him to prove his right to the whale and an inquisition held (Cal. Inq. Misc. I, no. 24o;Johnson I935)." [202]

The crown wanted to clarify who had the right to wreck, and strengthen the right of the king to wrecked goods. So, in 1274, Edward I made inquisitions regarding the taking of wreck. However, most manors simply argued that they had had "immemorial possession" and were within their rights to claim wreck.[203] Edward realised that it would be essentially impossible to counter all of these claims, and so in 1290 decreed:

"All those which claim to have quiet possession of any franchise before the time of King Richard, without interruption, and can show the same by lawful inquest, shall well enjoy their possession; and in case that such possession be demanded for cause reasonable, our lord the king shall confirm it by title".[204]

While this decree only regained a few liberties for the king at the time, it did bring about the end of prescriptive rights; for the rest of the Middle Ages, the right of wreck could only be gained through specific royal grants.[205]

Why was such an effort made to secure the right to claim cetaceans? Firstly, the right of wreck was not only about cetaceans, but about being allowed to claim wrecked goods from ships, which were much more financially valuable; moreover, the right to claim wreck was linked to lordship over the land, and as such, the right to claim everything from seaweed to cetaceans to washed up goods was important to maintaining the social hierarchy.[206] Secondly, cetaceans were an important status symbol throughout the Middle Ages. Whales and other cetaceans were of limited availability, and as such were considered rare and valuable. This made them ideal food to

[202]Gardiner, "The Exploitation of Sea-Mammals", 178.
[203]Hamil, "Wreck of the sea", 5.
[204]Hamil, "Wreck of the sea", 5.
[205]Hamil, "Wreck of the sea", 6.
[206]Gardiner, "The Exploitation of Sea-Mammals", 185-6.

be served at banquets, or to be sent as a lordly gift.[207] In the early Middle Ages, the meat would have been a valuable source of food for the communities that found whales washed up on their beaches. However, as the rights to whales became more restricted, so too was the access to whale meat diminished. By the High Middles Ages, for the most part, whale meat was a luxury food due to its rarity and expense. Indeed, Gardiner argues that whale was consumed most often by the wealthiest households, particularly during Lent when meat from land animals could not be consumed. For example, in 1246 the Sheriff of London was told to obtain one hundred cutlets of whale meat, and to send them to Winchester for the King for the Lenten season.[208] Whales could also have been a source of oil, if they were processed properly and efficiently. Curiously, there is little evidence for whale blubber processing in England in the Middle Ages, despite whale oil being commonly processed just across the Channel in France.[209] This could indicate that the blubber was eaten rather than processed into oil or may simply have been discarded.

The final, and arguably most important, resource to be obtained from whales were their bones and baleen (which is also often called whale bone, but is actually the keratinous bristles in the mouths of baleen whales that allow them to filter feed on krill). Indeed, as Moffat et. al. explain, "The Latin balena, -ae, and the French baleine simply translates as 'whale', and are used to describe any material derived from marine mammals.[210] This makes it difficult to discern whether actual whale bone or baleen is being referred to in documentary sources. However, there is ample archaeological evidence to display the use of both whale bone and baleen in Medieval England. Gardiner has discussed the use of whale bone, as opposed to baleen, in archaeological

[207]Gardiner, "The Exploitation of Sea-Mammals", 186.
[208]Gardiner, "The Exploitation of Sea-Mammals", 180.
[209]Gardiner, "The Exploitation of Sea-Mammals", 181.
[210]Ralph Moffat, James Spriggs, and Sonia O'Connor, "The Use of Baleen for Arms, Armour and Heraldic Crests in Medieval Britain", *The Antiquaries Journal* 88 (2008), 209.

remains from Anglo-Saxon England, thus showing that the Anglo-Saxons used whale bones for carving everything from mundane objects, such as writing tablets and combs, to intricately carved high-status caskets.[211] Riddler has also discussed the use of whalebone in Anglo-Saxon combs, sword pommels, game pieces, and weaving battens.[212] Baleen was also an important raw material in the English Middle Ages, with archaeological and documentary evidence showing that baleen was used in arms, armour, and heraldry.[213] For example, the documents regarding Edward I's tournament equipment indicate that he commissioned "thirty-eight swords of baleen" and had them decorated with silver and gold.[214] In another instance, Sir John Fitz Marmaduke's inventory included a baleen bow, and "a red aketon with baleen sleeves" along with baleen gauntlets.[215] Baleen gauntlets appear to have been particularly popular. Edward II, when putting out a call for foot soldiers for a campaign in Gascony, instructed the major municipalities to "provide the strongest and most vigorous men" and to provide them with baleen gauntlets along with "other armour proper for foot soldiers", and baleen gauntlets were also recorded in the inventories of castle garrisons, such as at Caernafon and Harlech.[216] Therefore, whalebone and baleen were important for people at every level of society. Whalebone could be used for everyday household items like weaving battens and combs but could also be carved into elaborate caskets for elites. Baleen swords could be commissioned by a king and embellished with gold and silver, but baleen could also be used to make gauntlets for foot soldiers. The

[211]Gardiner, "The Exploitation of Sea-Mammals", 181.
[212]Ian Riddler, "The Archaeology of the Anglo-Saxon Whale" in Stacy S. Klein, William V. Schipper, and Shannon Lewis-Simpson, eds., *The Maritime World of the Anglo-Saxons*, Medieval and Renaissance Texts and Studies, Volume 448, Tempe, Arizona: Arizona Center for Medieval and Renaissance Studies, (2014), 348-50.
[213]Moffat et. al., "The Use of Baleen", 209.
[214]Moffat et. al., "The Use of Baleen", 209.
[215]Moffat et. al., "The Use of Baleen", 211.
[216]Moffat et. al., "The Use of Baleen", 212.

skeletal remains of cetaceans were thus am important part of life in the English Middle Ages, and people of every social status used the items made from these resources.

Thus, whales and other cetaceans were an important part of the appeal of coastal wetlands and notably in our two focus areas of Romney Marsh and Pevensey. While there may have been some limited whaling in England in the Middle Ages, most whales and other cetaceans were obtained from being washed ashore, so access to the coast was vital if one was to lay claim to the remains. In the earlier part of the period, cetaceans provided a source of food for the local communities, and later the whale meat became a status symbol for the wealthy and powerful in society. The bones and baleen of cetaceans were used in everything from writing desks and combs to weaving battens and armour. Thus the access to these creatures that the marshlands provided was valuable. Furthermore, this is an instance of privatisation in the wetland landscape, which will be seen later in the land itself.[217] This smaller scale instance of Crown authority, whereby the king asserted his right to beached cetaceans, is reflected in the developments of the late thirteenth and fourteenth century, when the Crown had increasing control over the drainage of wetlands. In both instances, a resource that was once used communally was instead claimed and regulated by external authorities.

2.4.3 Marine Fishing and the Importance of Herring

Marine fishing was a vital source of food and income c.1000 CE up until the end of the Middle Ages. In particular, preserved marine fish, such as cod and herring, were staples of the medieval diet and to the economies where the fish were caught.[218] The most important fish for much of the Middle Ages, especially in England, was the humble herring. The Domesday Book

[217]See chapters 4 and 5 of this dissertation for a discussion of land enclosure and drainage.
[218]Serjeantson and Woolgar, “Fish Consumption in Medieval England” , 102.

indicates that even prior to the Conquest, herring was an important food in England; there were many fisheries, and the Domesday Book records large renders of herring from Sussex and Kent, as well as Surrey and East Anglia.[219] For example, St Peter's, Winchester, obtained 38,500 herrings from Southease (or Lewes), in Sussex; similarly, in Lewes and Brighton, both in Sussex and very close to the Pevensey Levels, 4000 herrings were paid as a form of rent, indicating that herring may have operated as a form of currency in the area.[220] Campbell argues that the importance of herring in England only grew, and that by the twelfth century herring were essential to the English economy, and in particular, the fishing of herring at Yarmouth.[221] In this way, marine fishing benefited rich and poor alike. Everyone benefited from the ready access to a nutrient dense food source; furthermore, elites received renders of herring and made income from fisheries, while peasants were able to make income by working in fishing as a by-occupation. However, the preservation of herring requires a huge amount of salt. Fortunately, the Pevensey Levels were able to provide a substantial amount of this vital mineral.

2.5 Salt Production in the Pevensey Levels

Coastal wetlands can be exploited for their salt, which is essential in industrial applications, such as soldering pipes and tanning leather, in medicinal recipes and distillates, and in food preservation.[222] Pigs were slaughtered in November, and the pork would be salted in order to last through the winter; moreover, a great deal of salt was needed to preserve dairy

[219]Serjeantson and Woolgar, "Fish Consumption in Medieval England" ,102
[220]James Campbell, "Domesday Herrings", in Christopher Harper-Bill, Carole Rawcliffe and Richard G. Wilson, eds., *East Anglia's History: Studies in Honour of Norman Scarfe*, (Boydell Press: Woodbridge, 2002), 6.
[221]Campbell, "Domesday Herrings" 6.
[222]A.R. Bridbury, *England and the Salt Trade in the Later Middle Ages*, (Oxford: Clarendon Press, 1955), xv.

products. As discussed above, salt was also vital in the preservation of fish, and the proportion of fish in the medieval diet increased throughout the Middle Ages. Herring go bad quite rapidly, and must be salted within twenty-four hours of being caught, after which they can be either packed in more salt, or smoked. Thus, it was important to produce and store salt as close to the fishing grounds as possible, so that there was minimal delay between catching and preserving the herring.[223] This makes coastal salt-making operations very important, as the salt can be produced, stored, and used to preserve the fish all at once.

The Pevensey Levels in East Sussex were a significant source of salt in England in the Middle Ages. There is extensive documentary evidence of salt making in the area. For example, the Domesday Book ascribes over 100 saltworks to the region, with the most being at Hooe, with thirty-four, and Eastbourne, with sixteen. Dulley argues that "Some of these works were valuable assets to their lords, two at Eastbourne being together rated at 40s., more than the total worth of many of the smaller manors of the district," but also notes that "The general scale of production was smaller than this, however, the entries having a median value of 2s. Sd. per unit."[224] Still, there was a much higher concentration of saltworks in Pevensey than in other similar locations; for example, there "were only three vills in the Ouse valley with saltworks (23 in all), as against eleven with 102 at Pevensey".[225] Saltmaking continued to be important in the region throughout the twelfth and thirteenth centuries. For example, "Shortly after 1148, Bishop Hilary of Chichester assigned to his Chancellor part of the Chapelry of Pevensey, which he had recently received from King Stephen, including a render of salt," and "A saltworks called 'Guldenesaltkote' was in operation in 1199, and in 1230-1 William de Monte Acute, who seems

[223]Bridbury, *Salt Trade,* xv-xvi.
[224]Dulley, "The Level and Port of Pevensey," 29.
[225]Dulley, "The Level and Port of Pevensey," 30.

to have held land in Bestenover (modern Pevensey Bridge Level), was receiving 18 ambers of salt from part of his lands;" then, In 1234, "the Norman abbey of Grestain was confirmed in the right to 100 ambers from the saltworks of Pevensey Marsh."[226] These saltworks were very profitable economically, the lords of the rapes ensured they reaped the rewards of these industries, as they controlled three-quarters of all salt production in the region.[227]

How exactly did these saltworks function? Archaeological evidence shows that these salterns were earthwork mounds, made of the same clay as the marsh, built beside the small rivers and streams of the wetland.[228] In the saltworks, salt water would be collected in large lead evaporation pans, sometimes referred to as plumbi.[229] Once the water had evaporated sufficiently, the rest of the water was removed through boiling.[230] Coastal salt making was necessarily seasonal work in the south of England, since only in the summer was the weather warm and dry enough to allow for sufficient evaporation to make the cost of fuel viable.[231] Thus, salt making was both vital and precarious; when the weather was good and fuel was readily available, it turned a profit and provided a mineral necessary for life.[232] However, if the weather was bad and fuel was expensive, salt production could become untenable very quickly.[233] When times were good for salt production, the industry provided income for both the peasant workers and the elites who owned the saltworks, and also provided the needed resources to preserve food.

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[226]Dulley, "The Level and Port of Pevensey," 29.
[227]Dulley, "The Level and Port of Pevensey," 29.
[228]Rippon, *Coastal Wetlands,* 187.
[229]Claughton, "Mineral Resources", 60.
[230]Claughton, "Mineral Resources", 60.
[231]Bridbury, *Salt Trade,*16.
[232]In the Pevensey Levels, the fuel used would have been wood, since peat was not produced in these wetlands.
[233] For more on the end of salt production in the Pevensey Levels, see Chapter 4 of this thesis.

In this way, everyone benefited from the saltworks during this period, with the natural wetland being a source of wealth and prosperity for all involved.

2.6 Marsh as Meadow

Salt marshes in their natural or modified state are excellent for grazing sheep and cattle; in their natural state, the wetlands provided highly nutritious vegetation due to the highly fertile soil. In their modified state, the wetlands had low embankments that would have kept the floodwaters out earlier in the spring and later into the autumn, thus extending the grazing season, while still allowing the wetland to flood in the winter. In both cases, the vegetation that grows in these areas is particularly nutritious due to the rich soils, and it is estimated that in the Middle Ages, sheep grazed on salt marshes produced fifty percent more milk than sheep grazing in upland regions.[234] Furthermore, the salt in the water prevents foot rot, and kills the liver fluke parasite, which sheep are vulnerable to in damp, freshwater pastures.[235] Therefore, anyone who had access to these wetlands for pasturage benefitted from the excellent environmental conditions.

However, in both Romney Marsh and the Pevensey Levels, most of the wealth from sheep and castle did not stay in the wetland communities, since the pasturage was typically used as summer pasture for inland manors and monasteries. For example, the county of Kent contains vast areas of coastal marsh, both in the north and the south, but the way these regions were used as pasture could not be more different. In the Levels of north Kent and the Stour, none of the parishes are purely marshland; rather, all of the parishes in these regions contain a mixture of upland and wetland; indeed, of the 74 parishes located in the Levels and the Stour, only one,

[234]Rippon, *Coastal Wetlands,* 39-40.
[235]Rippon, *Coastal Wetlands,* 39.

Lower Halstow, had its church situated in the marshland, indicating that by and large in these areas, the actual settlements were situated in the upland regions.[236] It thus appears that the parishes of the Levels and the Stour lived in the upland regions of their parishes, and used the marshlands exclusively as outlying pastures for their animals.[237] Conversely, Romney Marsh parishes had little or no upland to speak of, and Everitt posits that "they are purely marshland communities and have always been so."[238] The reasons for this appear to be twofold. To begin with, Romney Marsh is a large region of wetland, meaning that the opportunity to have a parish that was a mix of upland and wetland would not have been as possible as it was in smaller wetland regions such as the Levels and the Stour. However, more importantly, Romney Marsh was mostly used for "detached pasture", since it was used not only by local communities, but by absentee landlords as well, who engaged in transhumance in order to exploit the wealth of the marshes; for instance, Burmarsh was the "borough marsh" for the people of Canterbury, which lies eighteen miles to the north, and likewise, Dengemarsh was the marshland pasturage of the people of Dengue, a community which lay twenty five miles away from the actual wetlands.[239] Likewise, the Pevensey Levels, while not as extensive as Romney Marsh, were also used as summer pasturage. The ownership of the Pevensey Levels was fragmented; the religious houses of Battle, Lewes, and Michelham held much of the land, but so did local families.[240] For example, Battle owned a manor at Barnehorne, which served as pasturage and meadow.[241]

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[236]Alan Everitt, *Continuity and Colonization: The Evolution of Kentish Settlement*. Communities, Contexts, and Cultures, (Leicester: Leicester University Press, 1986), 57.
[237]Everitt, *Continuity and Colonization,* 57; Everitt argues that even in Lower Halstow, the placement of the church did not indicate the area of settlement, but rather, that the church was built upon the landing place of a saintly figure in the Christian history of Kent, since the church lies near the shore and contains both Roman and Saxon elements.
[238]Everitt, *Continuity and Colonization,* 58.
[239]Everitt, *Continuity and Colonization,* 58.
[240]Rippon, *Coastal Wetlands,* 189.
[241]Rippon, *Coastal Wetlands,* 189.

In this way, while local populations could have benefitted from the excellent grazing conditions, the reality was that in most cases, elites disproportionately gained from the environment in this instance. The use of the natural and modified wetlands as detached pasture allowed absentee landlords to increase their income through the increased productivity of their livestock. However, during this period, local populations would have still been able to benefit from the bounty of the marsh, as the wetland resources would have still been available to them.

2.7 Conclusion

This chapter has demonstrated that even in their unreclaimed state marshes were very valuable to medieval communities and provided benefits to people of every social status. These landscapes provided valuable flora and fauna that could be used for food and medicine, fish and fowl, salt, and pasturage. Both lay and ecclesiastic landlords benefited from the wetland resources, using them as both status symbols and sources of income. Likewise, peasant wetland communities used these available resources to improve their diet, and to work in by-occupations, which brought in extra income and provided an escape from agricultural labour. In this way, the wetland in its natural or slightly modified state was able to support a wide variety of people. The biologically diverse ecosystem provided food and resources for everyone in the area, and would have been particularly important to the poor and landless, who would have relied on the by-occupations and wild foods to supplement their diet and income. However, as seen in this chapter, there were already some instances where peasants were denied access to certain coastal marsh resources, such as whales and fowl. While people could and did flout these laws, there was a trend towards the restriction of natural resources, which would only become more pronounced in the later period of this study.

Chapter 3: Malaria in the Marshes

3.1 Introduction

In the seventh century Aldhelm of Malmesbury, who had studied at Canterbury, wrote a letter explaining he would return there,

"if I were not prevented by the illness that afflicts my fragile body, roasting my wasted limbs with fever to the very marrow: the same illness that once forced me to go back home when I was with you the second time, after my elementary training."

"si me diuersa impedimentorm obstacula retardarent, presertimque corporeae fragilitatis ualitudine medullitus tabentia membra coquente non sinerer; qua quondam, dum post primaelementa iterum apud uos essem, domum redire coactus sum."[242]

In this passage, Aldhelm created a link between the illness and the environment. After all, he could have been cared for at Canterbury, but instead chose to return home to Malmesbury, meaning that he chose to travel while sick rather than stay where he was and recover. Furthermore, he is indicating that he does not want to risk returning to Canterbury, since he still suffers from the illness he contracted there, and does not want to take the chance of the illness growing worse.[243] Furthermore, earlier in the letter, Aldhelm indicated that that he had left Canterbury three years ago.[244] This would indicate that he had been suffering from the fevers he had contracted at Canterbury for at least that long, and that the disease was making him fragile and wasted. There are few diseases that would result in ongoing cyclical fevers for years on end, and fewer still that would have been present in medieval England. The likeliest disease would be

[242] William of Malmesbury, *Deeds of the Bishops of England*, 226-7.
[243]He could be averse to travel due to the illness itself, but given he was willing to travel from Malmesbury to Canterbury while sick, it seems unlikely that the rigors of travel alone are what is keeping him.
[244] William of Malmesbury, *Deeds of the Bishops of England*, 226-7.

malaria, given that cyclical ongoing fevers are a hallmark of that illness, and the wetlands around Canterbury would have allowed for the proliferation of mosquitoes, which spread the disease.

Malaria is an ancient disease that can be traced back to antiquity in the archaeological record.[245] While malaria is most often associated with warmer climates, evidence suggests that malaria was endemic to parts of the British Isles from the first arrival of the Romans in the first century until the early twentieth century.[246] However, little research has been conducted on the transmission, prevalence, and treatment of malaria in medieval England. Medical treatment of malaria in medieval England has similarly received little attention. This is not to say that no work has been done on medieval malaria, or malaria in England. In 1997, Dobson used parish records to trace morbidity and mortality, and was able to show that malaria was endemic in the wetlands of England in the early modern period.[247] Likewise, Gasper used Anselm of Canterbury's correspondence to discuss a probable case of malaria at Canterbury, and the way that the disease was understood.[248] Then in 2012, Gowland and Western used skeletal analysis to show that malaria was endemic to marshes in England in the Anglo-Saxon period.[249] Likewise, Reiter also explored malaria in England in the early modern period.[250] Finally, Newfield examined the presence of malaria in medieval Europe in the early Middle Ages, and argued that the disease can be traced through documentary evidence that discusses people

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[245]Jennifer C. C. Hume, Emily J. Lyons, and Karen P. Day, "Malaria in antiquity: a genetics perspective", *World Archaeology,* 35, no.2, (2003), 180-192.
[246] R. Sallares, *Malaria and Rome*, (Oxford: Oxford University Press, 2002), 34.
[247] Mary J. Dobson, *Contours of Death and Disease in Early Modern England*, (Cambridge: Cambridge Univ. Press, 1997).
[248] Giles Gasper, "'A doctor in the house'? The context for Anselm of Canterbury's interest in medicine with reference to a probable case of malaria," *Journal of Medieval History,* 30 (2004): 245-261.
[249] Rebecca L. Gowland and A. Gaynor Western, "Morbidity in the marshes: Using spatial epidemiology to investigate skeletal evidence for malaria in Anglo-Saxon England (AD 410–1050)," *American Journal of Physical Anthropology* 147, no. 2 (2012): 301-311.
[250] Paul Reiter, "From Shakespeare to Defoe: Malaria in England in the Little Ice Age", *Emerging Infectious Diseases* 6, no. 1 (2000): 1-11.

suffering from the characteristic cyclical fevers and chills.[251] However, there has not been a specific case study of malaria in England in the period between c.1000-1400, and this dissertation will consider the implications of the disease during this period. This chapter explores the dimensions of endemic malaria in English coastal wetlands in the Middle Ages. This disease would have been endemic in the Pevensey Levels and Romney Marsh, and so any study of the lived experience of these communities must include this debilitating disease. This chapter discusses how the presence of malaria was yet another way that the body was in dialogue with the landscape. Furthermore, the chapter also analyses medieval medical sources to examine the types of treatments that could have been employed against malaria and its symptoms.

Malaria is spread by mosquitoes, which need stagnant water to breed; therefore, wetland communities suffered from widespread malaria, whereas their nearby upland counterparts typically did not suffer from this disease. Indeed, there was a medieval Kentish proverb that held that if a man from the marsh married a woman from the hill, he would bury her within three years.[252] In this way, marsh dwellers were physically distinct from outsiders, and were adapted to their landscape; the man from the marsh had presumably grown up in that landscape and had contracted malaria as a child, which allowed him to build resilience to the parasite, whereas the woman from the hill, being infected as an adult, was much likelier to die in the wetland environment.

In summary, understanding the impact and treatment of malaria is important to understand the lived experience of the wetland. It was a debilitating disease and was a constant factor of life in this environment; therefore, knowledge of how this illness could be managed

[251]Timothy P. Newfield, "Malaria and malaria-like disease in the early Middle Ages", *Early Medieval Europe,* 25, no. 3, (2017): 251-300.
[252] Hoffmann, *An Environmental History,* 302.

medically sheds light on life in this landscape. There has been relatively little attention paid to malaria, and this study will consider this disease as not only a physical ailment, but in its broader social, cultural, and intellectual milieu, and will also consider what treatments could have been available. Furthermore, the presence of this disease was an instance where marsh dwellers were physically different and removed from their upland counterparts. This chapter explores Old English, Anglo-Norman, Latin, and Middle English medical sources to understand the treatment of malaria in the period between 1000-1400. It also discusses the ways in which distinctive pathogenesis of the wetland was a factor of living in the landscape, and marked one as belonging to that environment, thus reinforcing the "otherness" of both the land and the communities of the region. Medical history can be used in the form of case studies to better understand a particular time and place. For example, in 1999, Rawcliffe explored the history of St Gile's Hospital in Norwich, and showed how the hospital was not merely a place of physical healing, but also a locus of charity and salvation; moreover, Rawcliffe presents the sick as liminal beings, who are between life and death.[253] In a similar vein, I trace the marsh dwellers in their liminal environment as being themselves liminal through endemic malaria, which left one neither healthy nor ill, but instead subjected the sufferer to cyclical periods of fevers and relative good health. Finally, I provide an analysis of medieval English medical literature to explore the types of treatments that were available for malaria at the time.

3.1.1 Malaria, Anopheles atroparvus, and Plasmodium s.p.p.

The prevalence and transmission of malaria is entirely dependent upon the surrounding environmental conditions. Malaria is caused by the protozoan parasites of the genus

[253] Carole Rawcliffe, *Medicine for the Soul: The Life, Death and Resurrection of an English Medieval Hospital*, (Stroud: Sutton, 1999).

Plasmodium, which is spread by the bite of mosquitos; since mosquitos require stagnant water to breed, the environmental conditions determine where malaria can thrive.[254] There are five *Plasmodium* species which cause malaria, but the species which was most likely endemic in Britain was *Plasmodium vivax.*[255] Malaria is non-contagious, because the only way a person can contract the disease is through the bite of an infected mosquito; once the infected mosquito bites the human host, it transfers thousands of the parasites into the human bloodstream.[256] The parasites quickly migrate to the liver, where they reproduce asexually in the hepatic cells, and eventually, the infected liver cells burst and release the parasite into the bloodstream, where they go on to infect red blood cells.[257] The parasite multiplies within the red blood cells, which causes the infected blood cells to expand and eventually rupture, and the release of the parasites and their waste products into the bloodstream results in the characteristic fever and chills of malaria.[258] Other symptoms may include sweating, headache, nausea, vomiting, and convulsions.[259] The parasites are then able to infect new red blood cells, multiply, and rupture the cells, which results in the characteristic intermittent fevers of malaria.[260] Over time, the presence of the parasite can lead to serious complications. The continual destruction of red blood cells can result in hemolytic anemia, which can cause fatigue, an enlarged heart, and heart failure.[261] Finally, the spleen often becomes enlarged in malaria, and the liver may also be damaged.[262]

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[254]Phyllis E. Kozarsky, Deborah J. Nicolls, and Jay S. Keystone, "Malaria: Treatment and Prophylaxis" in *Clinical Infectious Disease* ed. David Schlossberg (Cambridge: Cambridge University Press, 2008), 1371.
[255]Ethne Barnes, *Diseases and Human Evolution* (Albuquerque: University of New Mexico Press, 2005),78.
[256] Kozarsky et. al., *Infectious Disease,* 1371.
[257] Kozarsky et. al., *Infectious Disease,* 1371.
[258]Barnes, *Diseases,* 82.
[259]Kozarsky et. al., *Infectious Disease,* 1371.
[260]Barnes, *Diseases,* 82.
[261]Aniruddha Ghosh, Saurav Sharma and Jaydeep Choudhury, "Autoimmune Hemolytic anemia in *Plasmodium vivax* malaria", *The Indian Journal of Pediatrics,*84, no. 6, (2017), 483-484.
[262] A.M.A. de Schepper, *Medical Imaging of the Spleen,* (New York: Springer Science and Business Media, 2000),78.

The disease is spread further when a healthy mosquito bites an infected human or animal. The mosquito then incubates the parasite for a time, and passes it on to another human or animal host when it takes a blood meal.[263] *Anopheles atroparvus* is the only species of mosquito vector of malaria that could have survived in England in sufficient numbers to transmit malaria, and which lived in close association to human settlements.[264] *A. atroparvus* can only breed in shallow, stagnant water, and prefers water which is slightly saline, such as the brackish water of coastal marshes; *A. atroparvus* also has a relatively limited flight range, meaning that only people who reside near its habitat are at risk of contracting malaria.[265] This means that the transmission of malaria is dependent upon environmental conditions, and that the prevalence of malaria increases and decreases in accordance with the amount of shallow, stagnant water available to *A. atroparvus.*

3.1.2 Illness and Medicine in Medieval England

Illness of course refers to the disease, ailment, malady, or sickness that is being experienced, whereas medicine refers to the diagnosis, treatment, and prevention of illness. It is of course very difficult to explore medieval illness, particularly amongst illiterate populations who did not leave behind written accounts of their experiences. In some cases, archaeology can be employed to see the impact of illness on the body, since skeletal remains can show evidence of disease; however, for malaria, skeletal evidence is quite difficult to discern.[266] For this reason,

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[263] Kozarsky et. al., *Infectious Disease,* 1371.
[264] Dobson, *Contours,* 320.
[265] Becker, *Mosquitoes,* 175.
[266] As stated above, cribra orbitalia and porotic hyperostosis can be caused by malaria; however, these conditions only occur in very advanced cases, where the individual lived with the parasites for many years. Therefore, those who caught malaria and died shortly after would show no record of their infection in their skeletal remains. Furthermore, cribra orbitalia and porotic hyperostosis are only visible in the eye sockets and cranium, respectively; thus, if the top of the skull is missing, there is no way to check at all.

to gain a better understanding of the lived experience of malaria, I have turned to medical literature. While most of the people in my study would not have been able to read, and would not have had access to medical manuals or physicians, this literature still provides invaluable insight into the understanding and experience of illness. Medieval medical literature incorporates both longstanding models of disease which were shared broadly across society and forms of therapy which changed little over time, and which were in many cases empirical.[267] Therefore, a study of medieval medical literature is not only or necessarily a study of elite culture, but also reflects widely shared social and cultural understanding of disease, and quite consistent treatments and remedies. Hence, I will be examining medieval English medical literature to understand malaria in this time and place.

Any study of medieval English medicine must begin with Anglo-Saxon medical literature, which is some of the earliest vernacular medical litature in Europe in the Middle Ages. Early scholarship tended to portray Anglo-Saxon medicine as mainly superstitious.[268] However, in 1979 Voigts argued that Anglo-Saxon medical texts were pragmatic and empirical in nature, and that they were similar to the methodist ideology of classical medicine, in that the causes of disease were deemphasised, and instead the focus was on symptoms and therapeutics.[269] In light of this research, it is likely that malaria treatment would have followed Methodist ideology, whereby the symptoms were the focus, rather than the specific diagnosis. Therefore, not only will treatments for "malaria" or other names for this disease (i.e. tertian and quartan fever, ague, lencten addle) be considered, but also remedies for fevers generally and complaints of the spleen. Furthermore, Jolly examined the role of charms in the Anglo-Saxon medical corpus, and argued

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[267]John M. Riddle, "Theory and Practice in Medieval Medicine," *Viator* 5 (1974): 157-170.
[268] For example, see Bonser, Wilfred. *The Medical Background of Anglo-Saxon Medicine*. Publications of the Wellcome Historical Medical Library, new ser. 3. *London: Wellcome Historical Medical Library*, 1963.
[269] Linda E. Voigts, "Anglo-Saxon Plant Remedies and the Anglo-Saxons", *Isis* 70, no. 2,(1979): 250-268.

that the charms used in the medical literature were consistent with a Christian worldview, given the use of Christian prayers and symbols in these rituals, and the medieval Chrisitan understanding that the curative powers of herbs were a gift from God.[270] In this way, Anglo-Saxon medicine was no longer seen by scholars as pagan superstition, but instead as empirical, therapy-focused sources which were consistent with early medieval Christianity, and view which will be employed in this thesis. Then, Cameron examined the Anglo-Saxon medical corpus to differentiate between the various sources, and found that while all of the sources use empirical methods, the Lacnunga and Leechbook III sources relied less on continental medicine, while sources such as Leechbook I and II incorporated more Mediterranean ingredients and concepts, such as humoural theory. [271] In this way, Leechbook III and the Lacnunga will likely display more localised approaches to malaria treatment, whereas Leechbook I and II will likely be more reflective of continental medicine. Ayoub went on to argue that humoural theory was specialised medical knowledge in Anglo-Saxon England, and would not have been common knowledge to the masses.[272] However, the basic framework behind humoralism – the notion that the body and the environment interpenetrated, and that extremes (e.g. the very wet environments of marshes) were morbific – forms part of a much broader and more persistent "folk physiology" that influenced humoralism itself. Osbourne explored the ways in which the Anglo-Saxon medical corpus dealt with women's reproductive health, and argued that the herbal remedies were chemically potent, and that the use of native plants in many of these recipes indicates that the recipes for women's medicine were locally sourced; in the same volume, Rusche discussed the

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[270] Jolly, Karen. "Anglo-Saxon Charms in the Context of a Christian World View" *Journal of Medieval History* 11 (1985): 279-293.
[271] M. L. Cameron, *Anglo-Saxon Medicine*, (Cambridge: Cambridge University Press, 1993).
[272] Lois Ayoub, "Old English wæta and the Medical Theory of the Humours", *The Journal of English and Germanic Philology*, Vol. 94, No. 3 (1995):332-346.

origins of the plant names in the Anglo-Saxon medical corpus, and argued that the names of plants shifted over time to reflect differing source material. [273] In light of this scholarship, it is likely that remedies for malaria were just as empirically based. These works display the ways in which close readings of the medical corpus were employed to understand the particularities of the ways in which medicine was practised, compiled, and understood. Meaney conducted a quantitative analysis of the Anglo-Saxon medical corpus to determine how many of the remedies employed "extra-medical elements," which were classified as rituals, amulets, incantations, or other actions or items deems religious or ritual in nature; Meaney determined that even in the Lacnunga, the source with the most extra-medical elements, these practices were only used in 28% of the remedies, and argued that the previous focus on "superstition" far overemphasised the proportion of these remedies.[274] Similarly, this chapter will view these "extra-medical" elements not as "superstitious", but as part of a framework of medicine that included both the natural and the "supernatural". Finally, Kesling examined the Anglo-Saxon medical corpus and situated it within the broader literary culture of the period, and argued that each of the medical sources display connections to elite intellectual culture, indicating that these sources were likely created in ecclesiastic centres with the support of literate elites.[275] However, as stated above, these remedies and concepts were practiced across all of society, and so the medical literature is reflective of both elite and common experiences.

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[273] Marijane Osborne, "Anglo-Saxon Ethnobotany: Women's Reproductive Medicine in Leechbook III,"in *Health and Healing from the Medieval Garden*, Ed. Peter Dendle and Alain Touwaide, (Woodbridge: Boydell, 2008):145-161; and Philip G. Rusche, "The Sources for Plant Names in Anglo-Saxon England and the Laud Herbal Glossary," in *Health and Healing from the Medieval garden*, ed. Peter Dendle and Alain Touwaide, (Woodbridge: Boydell, 2008): 128-144.

[274]Audrey L. Meany, "Extra-Medical Elements in Anglo-Saxon Medicine," *Social History of Medicine* 24 (2011): 41-56.

[275]Emily Kesling, *Medical Texts in Anglo-Saxon Literary Culture*, (Woodrbridge, Suffolk: Boydell & Brewer, 2020).

After the Norman Conquest, continental medicine in the Latin tradition had a greater influence in England. Siraisi explored the importance of the study of medieval medicine, arguing that it played a key role in the development of science and technology in Europe, displays social and cultural attitudes of the time, such as ideas about the body, sexaulity, illness, stages of life, and gender, and it sheds light on the intellectual and philosophical traditions of medical education that lasted well into the early modern period.[276] In a similar vein, this chapter examines medicine and illness not only as an end unto itself, but as part of a broader social and cultural milieu. Getz has explored medicine in medieval England specifically, presenting a portrait of the people and ideas that made up the practice of medicine in the English Middle Ages; Getz traces how medical care was provided by people of all social ranks, the role of courts, universities, hospitals, and the church, and how learned medicine gained an audience and established itself legally.[277] Similarly, French focused on the ways that medieval physicians organised themselves into a professional structure, and argued that physicians in the Middle Ages built their reputations by endowing their work with ever more elaborate theories and presenting themselves as authorities.[278] In light of this scholarship, this chapter considers medical literature as reflective of the whole of society, rather than only of elite or learned culture. Demaitre has examined medieval medical manuals, and argued that the purpose of these manuals was to act as a reference for physicians, and not as mere theoretical exercises; furthermore, Demaitre traces the theory and application of medicine, and how the body was understood in

[276]Nancy G. Siraisi, *Medieval and Early Renaissance Medicine, (*Chicago: Chicago Press, 1990).
[277] Faye Getz, *Medicine in the English Middle Ages, (*Princeton: Princeton University Press, 1998).
[278]Roger French, *Medicine Before Science: The Business of Medicine from the Middle Ages to the Enlightenment,* (Cambridge: Cambridge University Press, 2003).

relationship to the macrocosm of the universe.[279] These works display the ways in which medical history can shed light on social, legal, intellectual, religious, and cultural histories.

Moreover, while other epidemic and endemic diseases like leprosy and plague have benefitted from extensive research and fundamental re-thinking, malaria has been largely neglected. The research on medieval malaria seems confined to long-range diachronic studies like Bruce-Chwatt,[280] local studies like Franklin on malaria in medieval Gloucestershire,[281] and archaeologists like David Soren.[282] In contrast, plague has received much more attention. Platt examined the plague and its aftermath in England, and focuses on the realities of living through this disease.[283] Similarly, this chapter will focus on the lived realities of malaria. There have been a number of edited volumes focusing on the plague, including Nutton,[284] Rawcliffe,[285] and Green.[286] Similarly, Demaitre explored both the medical and social perceptions of medieval leprosy, and argued that physicians were important allies to their patients in avoiding complete ostracization, while also displaying the medical understanding of this "cancer of the whole body".[287] Likewise, Rawcliffe discussed leprosy in medieval England, and presented a portrait of the religious and cultural realities of the disease; Rawcliffe displayed how leprosy was well

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[279]Luke E. Demaitre, *Medieval Medicine : The Art of Healing, from Head to Toe*, Praeger Series on the Middle Ages, (Santa Barbara, California: Praeger, 2013).
[280]Leonard J. Bruce-Chwatt, "History of malaria from prehistory to eradication," *Malaria: principles and practice of malariology*. *Volume 1*. (1988): 1-59.
[281]Peter Franklin, "Malaria in medieval Gloucestershire: an essay in epidemiology," *Transactions-Bristol and Gloucestershire Archaeological Society*. *Bristol and Gloucestershire Archaeological Society* 101 (1983): 111-122.
[282]David Soren, "Can archaeologists excavate evidence of malaria?," *World Archaeology* 35, no. 2 (2003): 193-209.
[283] Colin Platt, *King Death: the Black Death and its Aftermath in late-medieval England,* (Toronto: University of Toronto Press, 1996).
[284] Vivian Nutton,ed., *Pestilential Complexities: Understanding Medieval Plague*, Medical History Supplement 27, (London: Wellcome Trust Centre for the History of Medicine at UCL, 2008).
[285] Carole Rawcliffe, ed., *Society in an Age of Plague*, (Woodbridge: Boydell and Brewer, 2013).
[286] Monica Green, ed., *Pandemic Disease in the Medieval World: Rethinking the Black Death*, (Yorkshire: Arc Humanities Press, 2015).
[287] Luke E. Demaitre, *Leprosy in Premodern Medicine: a Malady of the Whole Body,* (Baltimore: Johns Hopkins University Press, 2007).

understood in the Middle Ages and could be correctly diagnosed even by lay people, that lepers experienced a variety of conditions in society that ranged from isolation to admiration, the treatments available, and the ways that legal, medical, environmental, and social changes all led to the decline of the disease.[288] No such studies exist for malaria in medieval England, and while this chapter is by no means comprehensive, it follows a similar vein of focusing on one particular disease in a particular time and place, and using it as a case study to understand the lived experience of this environment.

3.2 Liminality: The Body, The Sick, The Marsh

As has been discussed previously, the wetland was a liminal space, where boundaries were obscured and the landscape was one of transition. Similarly, the porosity of the body meant that people both impacted and were impacted by their environment. Carrying this forward, illness in the wetland was another dimension of liminality. The sick were understood to be liminal beings, between life and death, and between illness and health.[289] In this way, it could be said that not only were the body and the landscape in dialogue with one another, but were also reflective of one another. Life in the wetland physically changed those who dwelt there, and as seen in the Kentish proverb, made it physically difficult for outsiders to make a home in that environment. In this way, wetland communities could be seen as distinct and removed from the outside world; the lived experience would have been one that was deeply tied to the local landscape, with communities that were in many ways impenetrable to outsiders. Kowaleski has argued that maritime communities in medieval England had their own subculture, and lived in a

[288]Carole Rawcliffe, *Leprosy in Medieval England,* (Woodbridge: Boydell, 2009).
[289]Carole Rawcliffe,"Curing Bodies and Healing Souls: Pilgrimage and the Sick in medieval East Anglia," in *Pilgrimage: the English experience from Becket to Bunyan*, ed. Collin Morris and Peter Roberts, 108-140. (Cambridge: Cambridge University Press, 2002), 118.

distinct society as compared to their agrarian counterparts, due to the differences in the types of work and the nature of maritime communities.[290] In light of this, wetland communities could be seen in much the same way; they lived in a distinctive landscape and thus engaged in by-occupations that were not practiced in upland regions. Furthermore, the presence of malaria would have created a physical barrier to outsiders, thus reinforcing the distinct nature of the regions.

Living with malaria would have posed significant challenges. The cyclical fevers and chills would have been debilitating and difficult to endure. Various medical remedies would have been employed, which are discussed below. The presence of this endemic, debilitating disease also had an impact on local religious life. For example, St Mildrith's shrine lay on the isle of Thanet, a small marshy island in Kent. She was renowned for curing fevers, and pilgrims journeyed to Thanet to visit the imprint of her footstep on a stone, scrape off some of the rock, and drink it in water, which was said to cure their fevers.[291] In this way, life in the marsh impacted the religious practices of the people who dwelt in the area, as the need to cope with debilitating disease drove the popularity of a saint who was said to cure the cyclical fevers.

In light of this situation of endemic disease, one would think that perhaps part of the drive to drain the wetlands was for the needs of public health. Indeed, medieval towns and took measures to ensure the continued good health of their populations;[292] therefore, it is tempting to

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[290]Maryanne Kowaleski, "Peasants and the Sea in medieval England," In *Peasants and Lords in the Medieval English Economy: Essays in Honour of Bruce MS Campbell*, pp. 353-376. Turnhout: Brepols, 2015.

[291]Hilary Powell, ""Once Upon a Time There Was a Saint…": Re-evaluating Folklore in Anglo-Latin Hagiography." *Folklore* 121, no. 2 (2010): 171-189, and Hilary Powell, "Following in the Footsteps of Christ: Text and Context in the Vita Mildrethae," *Medium aevum* 82, no. 1 (2013): 23-43.

[292]For discussions of public health measures in medieval England, see , Isla Fay, *Health and the City: Disease, Environment and Government in Norwich, 1200-1575* (York: York Medieval Press, 2015); Carole Rawcliffe, *Urban Bodies: Communal Health in Late Medieval Towns and Cities, (*Woodbridge: Boydell Press, 2013); Sally Crawford and Christina Lee, eds. *Social Dimensions of Medieval Disease and Disability*, (Bar International Series, 2668. Oxford: Archaeopress, 2014); Carole Rawcliffe, *Leprosy in*

view the draining of marshes and swamps as a form of public health measures. However, this does not appear to be the case, at least not in Romney Marsh and the Pevensey Levels.[293] None of the documents relating to drainage in these regions mentions health as even a passing factor.[294] Indeed, the reasons for drainage include political interests, economic benefits, defence, social status, and demographic pressure, but at no point is malaria or even general health discussed in these documents.

In this way, the lived reality of the wetland was profoundly tied to the bodily changes wrought by this environment. The presence of malaria kept away outsiders, who could not cope with the disease. The landscape fundamentally changed the bodies of those who lived there, resulting in debilitating, endemic disease. This constant, cyclical illness placed the people who lived in the marshes in a liminal state, where they were neither sickly nor healthy, just as their home was neither water nor earth. Furthermore, while this illness does not appear to have had any impact on the impetus of drainage, it does appear to have influenced popular piety and religious practice. Finally, living with malaria means that people would have required medical remedies for the fevers and spleen pain that accompany the disease; the types of remedies that were available are discussed below.

3.3 Medicine in England Before the Conquest: Anglo-Saxon Medicine

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Medieval England, (Woodbridge: Boydell, 2009); Colin Platt, *King Death: the Black Death and its Aftermath in late-medieval England,* (Toronto: University of Toronto Press, 1996); and John Hatcher, "England in the Aftermath of the Black Death" *Past and Present* 144 (1994): 3-35.

[293] For the draining of swamps to as a public health measure in Medieval Valencia, see Abigail Agresta, ""The Nourishment of Infections": Disease and Waterscape in Late Medieval Valencia." In Lori Jones, ed., *Disease and the Environment in the Medieval and Early Modern Worlds*, pp. 38-51, (London: Routledge, 2022).

[294] For a full exploration of the drainage of the Pevensey Levels and Romeny Marsh, see Chapters 4 and 5 of this dissertation.

The Anglo-Saxon period lasted from the arrival of the Angles and Saxons in Britain in the early fifth century until the Norman conquest in 1066. The arrival of the Normans did not, of course, immediately result in the disappearance of Anglo-Saxon medical practices. Indeed, the first Anglo-Norman medical receipts and charms do not appear until the mid-twelfth century, implying that Anglo-Saxon medicine remained distinct for at least a century after the conquest.[295] Each of these sources will be considered in turn with regards to likely malaria treatments, with the exception of Leechbook III, since no remedies for malarial symptoms were present in the document. During this period, malaria was also known as "tertian fever" or "ague", and thus remedies for these complaints will be discussed.. Likewise, recipes for general fevers will also be included, since these remedies may have been employed in the treatment of malarial fevers.[296] Recipes for sore spleens will also be considered, since the enlargement of the spleen is also characteristic of malaria. While not everyone would have had access to such medical writings, this literature can provide an idea of what sorts of medical remedies could have been available at the time.

3.3.1 Sources of Anglo-Saxon Medicine

The Leechbook of Bald, Leechbook III, the Lacnunga, and translated Latin herbals comprise the main body of Anglo-Saxon medical literature.[297] The oldest of these is The Leechbook of Bald, which has an extant manuscript dating to the mid-tenth century.[298] However,

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[295] Tony Hunt, *Popular Medicine in Thirteenth-Century England, (*Cambridge: D. S. Brewer, 1990), 25.
[296] For more on the methodist practice of medicine in the Middle Ages, whereby the focus was on treating the symptoms as presented and exact diagnoses were of less importance, see for example , Luke Demaitre *Medieval Medicine: The Art of Healing, from Head to Toe: The Art of Healing, from Head to Toe*, (Santa Barbara, California: Praeger, 2013), and Linda E. Voigts, "Anglo-Saxon Plant Remedies and the Anglo-Saxons", *Isis* 70, no. 2,(1979): 250-268.
[297] Hunt, *Popular Medicine,* 24-25.
[298] Meaney, "Extra-Medical Elements", 42.

the original text probably pre-dates this manuscript, and may have been part of King Alfred's desire to produce books in the vernacular.[299] The Leechbook is separated into two parts; Leechbook I (LB1) focuses mostly on external complaints, while Leechbook II (LB2) is primarily concerned with internal ailments. Leechbook III (LB3) was found at the end of The Leechbook of Bald, but appears to be independent of LB1 and LB2.[300] While LB1 and LB2 are compilations of remedies, most of which originated in Latin sources before being translated into the vernacular, most of the remedies of LB3 employ only native ingredients and use English names, which suggests that LB3 represents the native healing practices, rather than translations of Latin medical literature.[301] Likewise, Ayoub found that while LB1 and LB2 referenced the humours, LB3 virtually never mentions that concept, which further supports the idea that LB3 represents native British, rather than continental, medical knowledge.[302] The Old English Herbarium appears to have been compiled after the Leechbooks, since the Leechbooks make no reference to it, but before the end of the tenth century, given that the earliest extant manuscript dates to the year 1000.[303] The Old English Herbarium is comprised of the translations of *De Herba Vettonica, Herbarium of Apuleius,* and *Liber medicinae ex herbis feminis.*[304] These translated works provide insight into the use of translated Latin texts in Anglo-Saxon England. Finally, the Lacnunga dates to approximately the year 1000, and is regarded as a medical "commonplace book".[305] It is highly unorganised, and appears to be a compilation and translation of all of the medical literature that was available in the scriptorium at the time of

[299] Meaney, "Extra-Medical Elements", 45.
[300] Meaney, "Extra-Medical Elements", 49.
[301] Meaney, "Extra-Medical Elements", 51.
[302] Ayoub, "Old English", 344
[303] Meaney, "Extra-Medical Elements", 43.
[304] Hunt, *Popular Medicine,* 24.
[305] Meaney, "Extra-Medical Elements", 41.

writing.[306] While the lack of sorting makes the Lacnunga very disorganised, it has also preserved a great deal of folkloric material that would have otherwise been lost.[307]

3.3.2 Malaria in the Anglo-Saxon Medical Corpus

The *Herbarium of Apuleius,* as recorded in the *Old English Herbarium,* contains many remedies specifically for tertian fever. In one instance, the herbal recommends that to treat a fever which comes "on the third day", one should crush three sprouts of waybroad (also known as plantain herb)[308] into water or wine, and then administer this mixture to the patient the night before the fever is due to return.[309] For a fever which comes "on the second day", waybroad is to be pounded "very small" and mixed with ale.[310] Moreover, the reader is assured that hound's tongue "shall cure" tertian and quartan fever.[311] The root of hound's tooth is to be collected when it only has three or four seedstalks, after which one must "seethe" the root in water and have the patient drink the resulting liquid.[312] There are also a few remedies that are applied externally. The author writes that scordion tied to the patient's body "removes the quotidian and the tertian fever".[313] Likewise, the reader is instructed to treat tertian fever with pennyroyal, also called dwarf dwosle, by folding the sticks of this plant into wool and to"incense" it "as with a censer" before the fever is due to return.[314]

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[306]Meaney, "The Practice", 231.
[307]Meaney, "The Practice", 231.
[308]Waybroad and Plantain herb are two common names for Plantago Major, a common weed. For more information on this plant and its various names, see for example Amanda Amour-Lynx and Chris Gismondi,"" Waybroad" and Lessons in New Territories," *Esse* 99 (2020): 54-61; Mária Rábai, Nóra Veronika Nagy, Zoltán May, and Klára Szentmihályi, "Microelements in drug and extracts of Plantago lanceolata L," *ECB* 1, no. 7 (2012): 280-283; and Shirley Kinney, "Anglo-Saxon Medicine: Cures or Catastrophe?" *Primary Source* 2, no. 2 (2012): 37-42.
[309]Cockayne, *Leechdoms,* vol. 1, 85.
[310]Cockayne, *Leechdoms,* vol. 1, 85.
[311]Cockayne, *Leechdoms,* vol. 1, 145.
[312]Cockayne, *Leechdoms,* vol. 1, 145.
[313] Cockayne, *Leechdoms,* vol. 1, 175.
[314] Cockayne, *Leechdoms,* vol. 1, 205.

The *Herbarium of Apuleius* also contains various recipes for alleviating or curing sore or swollen spleens. For a sore spleen, also known as a sore milt, the reader is instructed to combine one cup of the juice of sowbread with five spoonfuls of vinegar, and to have the patient drink this for nine days.[315] The text also states that a sore spleen "will be healed" if one takes the root of sowbread and hangs it around the patient's neck on a long string so that the root would dangle in front of the spleen.[316] Garlic clove mixed into wine, earth gall or curmel seethed in water, or strawberry juice combined with honey are all recommended as cures for a sore spleen.[317] Likewise, young gladiolus pounded into a dust and mixed with wine, pulegium seethed in vinegar are both listed as ways to alleviate pain in the spleen.[318] The treatment spleen disease includes the dust of brownwort mixed into "soft wine".[319] Hyssop may be used as a substitute for brownwort, but only if it is collected when it is in full bloom.[320] The consumption of hymele with meat is supposed to remove pain in the spleen such that the ailment will "gently go forth through his urine".[321] The leaves of quick grass, seethed and smeared upon a cloth, are to be applied externally to the spleen in order to cure the pain.[322]

As seen in these examples, the *Herbarium of Apuleius* relies mostly upon herbal drinks in order to treat fevers and ailments of the spleen. Occasionally, the text recommends topical applications, or in the case of the pennyroyal, the inhalation of specific scents. In some cases, the specifies when to gather the necessary plants in order to increase their efficacy. There appears to be very little in the way of ritualistic elements, such as the use of incantations of written charms.

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[315] Cockayne, *Leechdoms,* vol. 1, 111.
[316] Cockayne, *Leechdoms,* vol. 1, 111.
[317] Cockayne, *Leechdoms,* vol. 1, 131, 135, and 139.
[318] Cockayne, *Leechdoms,* vol. 1, 183 and 209.
[319] Cockayne, *Leechdoms,* vol. 1, 159.
[320] Cockayne, *Leechdoms,* vol. 1, 159.
[321] Cockayne, *Leechdoms,* vol. 1, 173.
[322] Cockayne, *Leechdoms,* vol. 1, 183.

Binding scodion to the body in order to remove fever, or hanging the root of sowbread before the spleen, may be interpreted as the use of amulets in medical practice. Alternatively, such practices could be seen as merely a topical application of medicinal herbs.

Leechbook I contains multiple remedies for various types of fevers. For a condition called "fever disease", LB1 instructs the reader to pound lupins, githrife, and waybroad into ale, allow the mixture to stand for two nights, and then administer the drink to the patient.[323] The remedy for a general fever is to "drink betony much" and to eat "three bits of it".[324] The patient can also drink wormwood, githrife, betony, bishopwort, and marrubium in ale for thirty days.[325] The afflicted could also ingest a drink made from betony, springwort, attorlothe, vervain, everthroat, houndstongue, dwarf dwosle, and wormwood, or could simply opt to drink marrubium alone.[326] For tertian fever specifically, LB1 instructs the reader to administer "ten sups of betony" in warm water "when the fever is approaching".[327] Quartan fever was to be alleviated by having the patient drink waybroad juice in sweetened water two hours before the fever was likely to begin.[328] Quotidian fever could be prevented by drinking cold water mixed with "so much of the dust of betony as may weigh a penny" along with "as much more of waybroad".[329] A remedy for "lent addle" is also included, which Cockayne translates as "typhus"; however, more recent scholarship suggests that "lent addle" (or *lencten-ádl*) was more likely tertian malaria.[330] The recipe provided to cure "lent addle" instructs the reader to combine wormwood, everthroat, lupin, waybroad, ribwort, cherril, attorlothe, feverfue, alexander,

[323] Cockayne, *Leechdoms,* vol. 2, 135.
[324] Cockayne, *Leechdoms,* vol. 2, 135.
[325] Cockayne, *Leechdoms,* vol. 2, 135.
[326] Cockayne, *Leechdoms,* vol. 2, 135.
[327] Cockayne, *Leechdoms,* vol. 2, 135.
[328] Cockayne, *Leechdoms,* vol. 2, 135.
[329] Cockayne, *Leechdoms,* vol. 2, 135.
[330] Bonser, *The Medical Background,* 404.

bishopwort, lovage, sage, and cassock with "foreign ale", add holy water and springwort, and then have the patient drink the mixture.[331] Much like the *Apuleius Herbarium,* LB1 primarily prescribes ingested herbal remedies for fevers. Interestingly, some of the recipes include specific instructions for the preparation of the remedies. For example, the instruction to use as much betony "as may weight a penny" suggests that at least some of the remedies required specific proportions. Likewise, one of the remedies for fever includes the instruction to allow the mixture to sit for two nights before administering it to the patient.[332]

Leechbook II contains only one recipe that may have been used to treat malarial symptoms. This recipe is purportedly effective against "yellow disease", fever, typhus, poison, and"evil air".[333] The reader must weigh out equal measures of sage, savine, and dyeweed, then to combine these with a larger amount of frankincense and myrrh in a mortar.[334] The reader must then grind the ingredients into a dust, and then placed beneath the altar of a church "in Christmastide".[335] Three masses must be sung over the dust for three days, after which the dust will be "powerful against fever".[336]

The Lacnunga provides the fewest remedies for malarial symptoms, and also includes the most use of rituals and charms. The first recipe "against fever" is quite straightforward. The practitioner is told to "take a snail and purify him", then take the resulting "clean foam" and combine it with "woman's milk".[337] The patient is then meant to eat the mixture and "it will be well with him".[338] The use of human milk and an animal in a remedy stand in stark contrast to

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[331] Cockayne, *Leechdoms,* vol. 2, 135-137.
[332]Cockayne, *Leechdoms,* vol. 2, 135.
[333] Cockayne, *Leechdoms,* vol. 2, 295-297.
[334] Cockayne, *Leechdoms,* vol. 2, 295-297.
[335] Cockayne, *Leechdoms,* vol. 2, 295-297.
[336] Cockayne, *Leechdoms,* vol. 2, 295-297.
[337] Cockayne, *Leechdoms,* vol. 3, 71.
[338] Cockayne, *Leechdoms,* vol. 3, 71.

the mostly herbal remedies found in Bald's Leechbook and the *Herbarium.* The second possible malaria remedy in the Lacnunga is a recipe that are to be used "against a dwarf". "Dweorh" or "dwarf" were words used to describe a fever that was accompanied by delirium.[339] First, the practitioner is instructed to write three crosses, a T to represent the holy trinity, and alpha and omega on the patient's arms.[340] Then the practitioner is to "rub down celandine into ale", write St. Machutus and St. Victricius along with "some crosses" on the patient's arms as further protection, and then "powder celandine into ale" once again.[341] The Lacnunga presents the fewest potential remedies against malaria, but also the greatest variety, from ingested mixtures to written charms to protective amulets. The Lacnunga draws heavily from folkloric practices, so these types of charms and remedies may be the closest reflection of how the average person dealt with malarial symptoms. Overall, while the Lacnunga does not provide very many recipes indicative of malaria, the ones that are included provide insight into the combination of medical practices, religious beliefs, and ancient superstitions that ordinary people may have used in an attempt to treat disease.

The Anglo-Saxons medical texts provide a wide variety of remedies which may have been used against malaria. However, there are some commonalities. The use of waybroad, otherwise known as plantain herb, is quite frequent, as is the use of betony. These ingredients will remain consistent after the conquest as well. Furthermore, while there are some "extra medical" elements used, overall there are very few religious or ritual elements. Indeed, in the vast majority of cases, the remedies used are simply herbal remedies.

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[339] Meaney, "The Practice", 234.
[340] Cockayne, *Leechdoms,* vol. 3, 39-41.
[341] Cockayne, *Leechdoms,* vol. 3, 39-41.

3.4 Post Conquest Medicine

This section considers the medical practices and treatments available in England between the Norman conquest of 1066 and c.1400. The medical literature of medieval England is analysed to determine what kinds of treatment were available for malarial symptoms. While this is by no means a comprehensive analysis of the extant medical literature of the period, this section seeks to provide some insight into the medical knowledge available in post-conquest England. While the Anglo-Norman period began with the Norman Conquest in 1066, the first Anglo-Norman remedies do not appear until the mid-twelfth century.[342] The texts under consideration in this section date from the mid-thirteenth century to circa 1400, and consider Latin, Anglo-Norman, and Middle English materials. What follows is by no means a comprehensive study Medieval English medical literature, but is instead an overview of a variety of materials from the period. The next section will provide a chronological discussion of the malaria, fever, and spleen treatments of a selection of medieval English medical literature.

3.4.1 Malaria in Post-Conquest Medical Literature

To begin, Gilbertus Anglicus was a prominent English physician, who wrote his hugely influential *Compendia Medicinae* c.1230-1240.[343] This encyclopedic work included the following instructions:

"sugar of violets […] is good for all manner of unknind heats, and for sickness of the breast, and of the sides, and of the light, and of the liver, and for the heart, and for tertian fever."

sugir of violettis […] is gode for al maner of vnkynde hetis, and for sekenes of Þe breest, and of Þe sydis, and of Þe lyte, and of Þe lyver, and for Þe cardiacle, and for Þe feuer tercian."[344]

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[342] Hunt, *Popular,* 25.
[343] Faye Getz, *Healing and Society in Medieval England: A Middle English Translation of the Pharmaceutical Writings of Gilbertus Agnlicus*, (Madison, Wisconsin: University of Wisconsin Press, 1991), XV-LXXIV.
[344] Getz, *Healing and Society,* 2; my translation.

When explaining the cause of tertian fever, Gilbertus stated that,

"they are rigid when the choleric moves through the whole body, and one by one the interpolations purge through the necessary fever."

"rigores sunt cum colera mouetur et per totut corpus effluens in unaquoque interpolatiomnis purgat unde necesse est ut febris."[345]

In this way, the tertian fever is seen as a result of an excess of choleric humour which must be purged through fever. The use of violets is quite unique, but it is yet another herbal remedy that could be made from easy available plants.

The Lettre d'Hippocrate was one of the pseudo-Hippocratic collections of receipts written in the medieval period. It was one of the most important vernacular medical texts in use before 1300.[346] The Lettre d'Hippocrate was compiled between the year 1240 and the late thirteenth-century.[347] The text includes a remedy for tertian fever, which instructs the reader to collect three plantain herbs after the sun sets while chanting the Pater Noster.[348] Then the plants are to be combined with holy water and thus made into a drink.[349] The reader is then instructed to administer the drink to the patient when the patient is trembling, presumably from the chills that accompany malarial fevers.[350] The use of plantain herb is important, as it shows continuity from the use of waybroad/plantain herb in the Anglo-Saxon medical corpus.

The Physique Rimée is a collection medical of remedies written in verse that dates to the third quarter of the thirteenth century.[351] It is one of the earliest medical texts written in the

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[345] Gilbertus Anglicus, *Compendium Medicin Gilberti Anglici,* Early European Books, images reproduced by courtesy of the Wellcome Library, London, folio v; my translation.
[346] Hunt, *Popular,* 101.
[347] Hunt, *Popular,* 101.
[348] Hunt, *Popular,* 123.
[349] Hunt, *Popular,* 123.
[350]Hunt, *Popular,* 123.
[351] Hunt, *Popular,* 142-143.

Anglo-Norman vernacular.[352] This section considers Hunt's transcription of the Physique Rimée as recorded in MS Cambridge, Trinity College, 0.1.20 (1044).[353] The Physique Rimée contains a remedy for tertian fever, which instructs the reader to consume three plantain herbs in the form of a drink before the "attack of illness", and to repeat this thrice each morning and each evening for nine days in order to be restore health.[354]

"For tertian fever: Well known is the tertian fever/ Much harm is done to people by its hand:/ Drink three plantain herbs /Before the attack of illness, if you will be healthy,/ Three times in the morning and three in the evening,/ For nine days if you are to have good health."

"Por Fievre Tersaine: Bien sai ke la fevre tersaine/ Mult malement plusors gens maine:/ Bevez .iii. plauntes de plauntaine/ Devant l'accés, si seres sain,/Treis au matin et .iii. au seir,/ Nuef jors si volez saunté aveir."[355]

Very similar verses are found in MS B.L. Sloane 146 and the Rawlinson Compendium. Once again, plantain herb is recorded as a remedy for malaria, although this prescription lasts for far longer than that found in the Lettre d'Hippocrate.

The MS Oxford, Bodleian Library, Digby 86 is one of the most important vernacular manuscripts, and dates from between 1271 and 1283.[356] The first charm is for fevers in general, and instructs the reader to collect twelve plantain herbs, including all of the roots and leaves.[357] Then, for twelve days the patient is to consume one plant daily.[358] On the first day, the patient is instructed to pray the Pater Noster twelve times; the next day, the patient is instructed to pray the same prayer eleven times, and so on.[359] This process is to be repeated until all of the herbs have

[352] Hunt, *Popular,* 142.
[353] Hunt, *Popular,* 142.
[354] Hunt, *Popular,* 190.
[355] Hunt, *Popular,* 190; translation mine.
[356] Marilyn Corrie, "The Compilation of Oxford Bodlein Library, MS Digby 86", *Medium Aevum,* 66, no. 2 (1997): 236.
[357]Hunt, *Popular,* 84.
[358]Hunt, *Popular,* 84.
[359]Hunt, *Popular,* 84.

been consumed.[360] The second, third and fourth charms all instruct the reader to recite various prayers, and assures the reader that this will end the fever by the grace of God.[361] Once again, plantain herbs are recommended as a remedy for fevers. However, in direct contrast to the Physique Rimée, Digby 86 leans heavily upon religious practices as a form of healing, rather than employing mostly herbal remedies.

The MS London B.L. Sloane 146 is a collection of medical receipts recorded in Latin, Anglo-Norman, and Middle English, and dates to the end of the thirteenth-century.[362] The first remedy for tertian fever found in the collection is nearly identical to the verse found in the Physique Rimée and the Rawlinson Compendium.

"A tertian fever:/ Well known is the tertian fever/ It is bad for several days/ Drink three plantain herbs / Before the attack of illness, if you will be healthy,/ Three times in the morning and three in the evening,/ In nine days you will have your health."

"A fevre terceine:/Bien sai que la fevre terceine/ Malement plusurs demeine./Bevez .iii. plantes de plantain/ Devant l'accés, si serra sain,/ Treis al matin e .iii. al seir,/ Noef jurs s'il volt santé aveir."[363]

The second and third remedies for fevers are Christian charms, which instruct the reader to recite various prayers in order to end all manner of fevers.[364] The MS B.L. Sloane appears to have either used the Physique Rimée as a source for the verse, or otherwise had access to other, earlier materials which used the same verse. The inclusion of both a medicinal recipe and religious charms indicates that this manuscript would have been a compilation of assorted types of remedies, rather than focussing specifically on either charms or medicinal recipes.

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[360]Hunt, *Popular,* 84.
[361]Hunt, *Popular,* 84.
[362]Hunt, *Popular,* 264-265.
[363]Hunt, *Popular,* 286; translation mine.
[364]Hunt, *Popular,* 286-287.

The Anglo-Irish Receipt Collection, otherwise known as MS London, British Library, Additional 15236, is a collection of medical texts dated to c.1300.[365] The manuscript also includes botanical glossaries and prognostic texts.[366] The receipt collection includes a single remedy for tertian fever. The reader is instructed to collect three plantain herbs while reciting an unspecified Christian prayer.[367] Then, the plants are to be combined with the amount of salt that can be lifted between two fingers.[368] The reader is then told to break apart the herbs until they combine with the salt, and then administer the mixture as a drink to the patient.[369] The use of plantains is consistent with the other medical texts discussed previously. Moreover, the instruction to use the amount of salt that can be lifted with two fingers (presumably the equivalent of a "pinch" of salt), is a noteworthy example of a remedy which indicates the specific amounts of ingredients to be used, rather than merely listing the ingredients and leaving the reader to decide what quantities are to be used. Also, the recitation of prayers while gathering herbs once again inserts religious ritual into medical remedies, and displays how religious and medical healing were often deeply intertwined.

MS London B.L. Sloane 3550 is a collection of medical writings from England which date to circa 1300.[370] The receipts are written primarily in the vernacular, along with a few Latin receipts. MS Sloane 3550 contains one remedy for tertian fever, and two remedies for fevers in general. The remedy for tertian fever instructs the reader to make and administer a drink made from *Scabiosa pratensis,* commonly called "devil's bit scabious".[371] The first remedy for general

[365]Hunt, *Popular,* 217.
[366]Hunt, *Popular,* 217.
[367]Hunt, *Popular,* 249.
[368]Hunt, *Popular,* 249.
[369]Hunt, *Popular,* 249.
[370]Hunt, *Popular,* 297.
[371]Hunt, *Popular,* 303.

fevers instructs the reader to combine rue, wormwood, pepper, and strong ale in a drink.[372] This drink is then meant to be administered to the patient before the fever occurs.[373] The final remedy calls for belladonna and treebark to be served in wine to the patient in order to restore health.[374] These remedies present a distinct break from the trend of using plantain herbs as a remedy for fever. Moreover, the receipts do not specify the quantity of ingredients to be used, or how much of the remedy is to be administered to the patient.

John of Gaddesden, a medieval English physicains, wrote the famous *Rosa Medicinae* between 1304 and 1317, which became known as the first English medical textbook.[375] Gaddesden begins his section on fevers by stating,

"Since he [Galen] speaks first of common diseases, and since it is fever that is commonest amongst them, and amongst fevers tertian fever, therefore it is meet for us to speak of it first."

"Os dona heaslaintibh coitceanna labras (se ar dus 7 OS e an fiabras as coitcinna aturru sin 7 idir na fiabrasaibh fiabras tersiana, masead as de sin) as coir duind labairt (ar dus)."[376]

He goes on to describe the diagnosis of the disease, stating,

"understand that tertian [fever] afflicts a man from one tierce to the other, i.e. that afflicts every third day or the third hour of every day."

"tuig gu congmand tersiana neach on tres go ceili gu congmand la no an tres uair do gach lo oir is bis tigernas ag lind ruadh."[377]

He also explains the etiology of the disease, writing that it is caused by an increase in choleric humour, and that

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[372]Hunt, *Popular,* 303.
[373]Hunt, *Popular,* 303.
[374]Hunt, *Popular,* 303.
[375]John Pearn, "Two medieval doctors: Gilbertus Anglicus (c1180–c1250) and John of Gaddesden (1280–1361)," *Journal of Medical Biography* 21, no. 1 (2013): 3-7.
[376]John of Gaddesden and Winifred Wulff, ed., *Rosa Anglica Sev Rosa Medicinæ Johannis Anglici: An Early Modern Irish Translation of a Section of the Mediaeval Medical Text-book of John of Gaddesden* (Dublin: Irish texts society, 1929), 3.
[377]Gaddesden, *Rosa Anglica,* 5.

"This fever is recognised by unnaturals, for it often comes in summer, and when the air turns to heat and dryness."

"Aitinter an fiabras sin o raod nach nadurdha, oir is minic tic se a samrad a nuair impaiges an taer a tesaidecht a tirmacht,." [378]

Similarly to Gilbertus Anglicus, John of Gaddesden states that fevers are a part of purging the disease, and adds also vomiting, sweating, and defecating as ways that the body will purge the illness; as such, he recommends a laxative, stating that

"And if anyone say it is not meet to give a laxative in tertian fever, since Hali says there is no laxative that purges red blood, I say there is no laxative that purges pure sanguine humour without an alteration though sanguine humour is purged on being changed, or else, I say that that part of choler is purged that is along with the blood."

"Et da nabra neach nach du leiges lagtach do tobairt isin tersiana oir adeir Hali nach fuil leiges lagtach glanas fuil [derg] aderimsi nach fuil leiges lagtach glanas fuil derg glan gan claochlod gidh eadh glantar fuil derg arna claochlod, no aderim co nglantar in rann do lind ruad bis a farrad na fola." [379]

While an exact recipe is not provided, suffice it to say that Gaddesden's recommendation was consistent with other medical writing at the time, and some form of purging was likely taken as a route to cope with malarial symptoms.

Moreover, there are the First and Second Corpus Compendia, which date from between 1320-1330, and are some of the most extensive extant collections of medical recipes from medieval England.[380] Some of the recipes are recorded in Latin, others in English, and a few were recorded in French.[381] The First Corpus Compendium (CC1) includes a single recipe for the

[378]Gaddesden, *Rosa Anglica,* 13.
[379]Gaddesden, *Rosa Anglica,* 9.
[380]Hunt, *Three Receptaria,* 85.
[381]Hunt, *Three Receptaria,* 85, 161.

treatment of tertian fever. The reader is instructed to gather the leaves of waybroad after the sun has set while reciting the Pater Noster.[382] Then the leaves are to be tempered with ale or water, and given to the patient to drink before the "evil" takes him.[383] The Second Corpus Compendium (CC2) contains two remedies for tertian fever, along with recipes to cure "all fevers". The first recipe for tertian fever instructs the reader to place rhubarb in a cup of cold water, allow it to stand overnight, and administer the water to the patient in the morning.[384] The second remedy for tertian fever is a syrup called "terceres syrup", which is to be prepared by placing one part spik and one part rhubarb in a vessel, and then boiling it until the plants have dissolved.[385] Then the mixture is to be strained and combined with sugar until it has the consistency of honey.[386] The reader is then told to administer one or two spoonfuls to the patient, along with hot water, each morning and evening.[387] The inclusion of rhubarb in both recipes displays consistency within the CC2 in what was prescribed to treat tertian fever.

The medicines for "all fevers" include far less specific ingredients, and use a wider variety of ingredients. The first remedy for all fevers (174) instructs the reader to take equal amounts of fennel root, parsley root, celery root, lovage root, and radish root, wash them well, cut them, and place them in a vessel overnight.[388] In the morning, the combination must be diluted and then boiled until one third of the mixture is dissolved, after which the contents of the vessel are to be strained through a cloth.[389] Then the resulting mixture is to be combined with

[382]Hunt, *Three Receptaria,* 151.
[383]Hunt, *Three Receptaria,* 151.
[384]Hunt, *Three Receptaria,* 183.
[385]Hunt, *Three Receptaria,* 183-184.
[386]Hunt, *Three Receptaria,* 183-184.
[387]Hunt, *Three Receptaria,* 183-184.
[388]Hunt, *Three Receptaria,* 183.
[389]Hunt, *Three Receptaria,* 183.

honey and boiled until it achieves the consistency of honey.[390] The author notes that if the patient is constipated, royal fern can also be added.[391] Finally, two or three spoonfuls of the medicine are to be administered to the patient, along with water, each morning and evening as needed.[392] The second medicine for all fevers instructs the reader to take equal amounts of betony, ambrose, horse-hoof, tansey, mogwort, wormwood, rowe, and asueyne, boil them in water and wine until one third of the mixture is dissolved, and then to add two parts of wine and another third part of water.[393] The patient is to drink this medicine before the "evil" takes him.[394] Once again, both of these recipes rely primarily upon various herbs and vegetables and are meant to be ingested. The recipes also display careful attention to procedure. In both cases, the reader is told the proportions of ingredients that are to be used in relation to one another. In 174, the reader is even reminded to wash the root vegetables that are to be used in the remedy, which displays an uncommon attention to detail. Furthermore, both remedies include instructions for when to administer the medicine and how much the patient should consume. Finally, the last cure for all fevers (178) is a topical ointment, or unguent, rather than a syrup or drink. The reader is instructed to take a handful of linseed, boil it in water, and then strain the resulting mixture through a cloth.[395] Then it is to be combined with an equal amount of rose oil and applied to the patient's entire body, with the exception of the head and feet.[396] Once again, this recipe displays careful attention to detail, both in giving specific instructions for the preparation of the remedy, and in providing instructions for how to administer the ointment.

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[390]Hunt, *Three Receptaria,* 183.
[391]Hunt, *Three Receptaria,* 183.
[392]Hunt, *Three Receptaria,* 183.
[393]Hunt, *Three Receptaria,* 184.
[394]Hunt, *Three Receptaria,* 184.
[395]Hunt, *Three Receptaria,* 184.
[396]Hunt, *Three Receptaria,* 184.

The next source considered is the Rawlinson Compendium dates from the first half of the fourteenth-century.[397] It is written mostly in Anglo-Norman, and is notable for its inclusion of a comprehensive index.[398] The first remedy for tertian fever in the Rawlinson Compendium (RC) is nearly identical to the recipe provided in the PR:

"For tertian fever:/ Well known is the tertian fever/ It is bad for several days/ Drink three plantain herbs/ Before the attack of illness, if you wish to be healthy/ Three times in the morning and three in the evening,/ In nine days you will have your health."

"Pur fevere terciene:/ Ben sai que la fevere terceine/ Mut malement plusours demeine/ Beive .iii. plauntes de plauntaine/ Devaunt les accés, si ert seine,/ Treis al matin e treis al seir,/ Nef jours si il vodra saunté avoir"[399]

With the exception of a few differences in spelling, this verse is the same as the one found in the PR. Given that the verses immediately preceding this remedy in the RC are likewise nearly identical to the ones found immediately preceding the verse for tertian fever in PR, it seems highly likely that the author of the Rawlinson Compendium had access to at least a partial copy of the PR. The Rawlinson Compendium also includes various other remedies for tertian fever. One remedy instructs the reader to gather three plants of plantain after the sun sets.[400] While gathering the plantains, the Pater Noster and Ave Maria are each to be recited three times.[401]. Then the plantains are to be made into a drink and administered to the patient at the beginning of the fever.[402] Another remedy instructs the patient to drink the juice of betony and warns the reader not to use any other things on that day.[403] While the remedy itself is simple, it is notable

[397]Hunt, *Three Receptaria,* 1.
[398]Hunt, *Three Receptaria,* 1.
[399]Hunt, *Three Receptaria,* 40; my translation.
[400]Hunt, *Three Receptaria,* 41.
[401]Hunt, *Three Receptaria,* 41.
[402]Hunt, *Three Receptaria,* 41.
[403]Hunt, *Three Receptaria,* 41.

for instructing the reader not to administer anything else that day. This warning seems to indicate that there was knowledge of how different medicinal recipes could potentially interact.

Lastly, Glasgow, University Library MS Hunter 185 [H], is a Middle English remedy book that was copied circa 1400. The remedy book contains one remedy for fevers, which could have been used against malaria. The first is a prayer, recorded in Latin, which asks for divine intervention in ending tertian fever, along with other intermittent fevers.[404] After the prayer, the remedy book lists a recipe to be used for the same fever if prayer alone proves ineffective.[405] The patient is instructed to consume thirteen sage leaves and thirteen peppercorns; the next day, the patient is to eat either twelve sage leaves or twelve peppercorns, and the quantity of sage or peppercorns, depending on the chosen remedy, continues to diminish until thirteen days have passed.[406]

In this way, post-conquest medicine in England shows some remarkable consistency with earlier trends. The use of betony and platain herb continues, as does the occasional use of "extra medical" elements. Indeed, the instances of religious elements in the remedies increases as compared to the Anglo-Saxon medical corpus. Thus, similarly to pilgrimages to St Mildrith's shrine, the presence of malaria impacted religious life and practice. Furthermore, humoural theory becomes more prominent in this later period, as seen particularly in the works of Gilbertus Anglicus and John of Gaddesden.

3.5 Continuity and Change in Medical Remedies

[404] Francisco Alonso Almeida, *A Middle English Medical Remedy Book,* (Heodelberg: Universitatsverlag, 2014), 75-76.
[405]Almeida, *A Middle English,* 75-76.
[406]Almeida, *A Middle English,* 75-76.

While there were a wide variety of medical recipes that dealt with tertian and quartan fever, fevers more broadly, and complaints of the spleen, there are some general similarities.

Total Number of Recipes	Recipes using Waybroad/Plantain	Recipes using Betony	Recipes Using both Waybroad/Plantain and Betony
36	12	6	1

Table 1: Recipe Ingredients for treating tertian and quartan fever, fevers generally, and spleen ailments.

As seen in Table 1, there is notable continuity across the medical literature in medieval England. When examining the treatment of malaria and malarial symptoms, it is apparent that Waybroad/Plantain herb were regularly used to treat such ailments; indeed, recipes containing plantain account for 13/36 recipes, meaning that approximately 36% of remedies included plantain. Similarly, betony was used frequently in the recipes, accounting for 7/36 or approximately 20% of all remedies. These similarities indicate that those writing the medical texts had access to each others' works, and indeed, in some cases outright copied one another, as is the case with the remedy in verse see in multiple instances above. These similarities also indicate that these herbs were likely popular ingredients and the recipes were at least somewhat widespread; indeed, both plants would likely have been easy to access almost anywhere, since they are common weeds. Furthermore, plantain herb appears to be at least somewhat affective against malaria.[407] It is likely, then, that plantain herbs in particular formed the basis of malaria management in the Pevensey Levels and Romney Marsh in the Middle Ages.

[407]Ali Nazarizadeh, Peyman Mikaili, Milad Moloudizargari, Shahin Aghajanshakeri, and Soheil Javaherypour, "Therapeutic uses and Pharmacological properties of Plantago major L. and its active Constituents," *J Basic Appl Sci Res* 3, no. 9 (2013): 212-221; Awadh A. N. Ali, K. Al-Rahwi, and U. Lindequist, "Some medicinal plants used in Yemeni herbal medicine to treat malaria," *African Journal of Traditional, Complementary and Alternative Medicines* 1, no. 1 (2004): 72-76; and Anne Samuelsen, Berit, "The traditional uses, chemical constituents and biological activities of Plantago major L. A review," *Journal of ethnopharmacology* 71, no. 1-2 (2000): 1-21.

3.6 Conclusion

In conclusion, malaria was an endemic, debilitating disease and was a major factor of living in the wetland landscape. The medical literature reflects a high degree of continuity in its description and treatment of this disease. While the demons and monsters of the marsh might have been in the imagination, the danger of malaria was very real. As seen in Aldhelm's letter, the disease could ravage the body years after being contracted, and could keep outsiders away from the wetland landscape. The sickness would have been debilitating, and coping with malaria impacted daily life and left one's body in a liminal state that reflected the liminality of the environment. The presence of endemic malaria also impacted religious observances. Furthermore, the reality of malaria would have resulted in the need to treat fevers and complaints of the spleen. As seen above, the remedies used to manage malaria were remarkably consistent throughout the period, and indicate that the treatments used against this disease were likely well known and based on empirical knowledge. However, the presence of this disease does not seem to have been one of the reasons for drainage of these landscapes, which will be discussed in the following chapters.

Chapter 4: Draining the Wetlands c.800-1280: High Risk, High Reward

4.1 Introduction

Despite the myriad ways that wetland environments could be exploited by communities in their undrained, 'natural' state, vast tracts of wetland were drained in the Middle Ages. This chapter will focus on the medieval drainage of wetlands in East Sussex and Kent between c.800 - 1280. During this timeframe, the drainage of the wetlands was driven by local peasants and elites alike. The warm, stable climate of the Medieval Climate Optimum (MCO) made drainage relatively easy in this period, and was undertaken on local initiative. In contrast, 1270 was the start of what environmental historians have called "The Age of Storms," which then led into the Little Ice Age (LIA).[408] This period will be discussed in the following chapter, when drainage and sea defence was seriously threatened, and when royal authorities issued the commissions *de wallis et fossatis* to address the ecological crisis.[409] In other words, after 1280, many of these wetlands environments were already reclaimed, and new legislature and drainage projects were in response to the changing climatic and weather conditions, and as a means of defence during the Hundred Years War. In contrast, the initial drainage of these wetlands took place in a time of relative climatic stability and were done for reasons outside of extreme weather events.

This chapter will focus on the initial drainage of these wetlands during the MCO. The drainage of these wetlands did not occur all at once, but rather, was the result of centuries of work and maintenance. The drainage of the Pevensey Levels did not truly begin until the 13th

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[408] B.M.S Campbell, *The Great Transition*, (Cambridge: Cambridge University Press, 2016), 23-24.

[409] The commissions *de wallis et fossatis* (of walls and ditches) were commissions issued by royal authority to investigate matters of wetland drainage, coastal flooding, and general flood defence. The commissioners had the power to compel labourers to repair or build drainage infrastructure, as well as compel landowners to pay for these repairs. These commissions will be discussed in detail in Chapter 5.

century and took place in a piecemeal fashion,[410] whereas parts of Romney Marsh proper was drained between 800-1100 C.E., and the adjacent Walland Marsh was drained in the twelfth century.[411] The drainage of coastal wetlands is a high-risk endeavour, since there is a constant threat of inundation by the sea. It is also an enormously expensive undertaking, requiring not only a huge upfront cost in materials and labour, but also constant maintenance to prevent reflooding of the area. How, exactly, did medieval communities accomplish this drainage? Who was willing to take on these risks? Why would they take on these costly, risky endeavours? Finally, what was there to gain, and lose, by draining the wetlands?

This chapter explores the engineering required to turn wetlands into dryland arable and meadows, and the people who pursued these land reclamation projects. I argue that the reasons for wetland reclamation were threefold. First, there were pragmatic reasons for wetland drainage, such as population pressure, the desire for a more easily navigable landscape, and concerns over health. Secondly, there was pressure from free peasants and elites, who wanted to increase the productivity and value of their lands. Finally, there were symbolic and cultural reasons to drain the wetlands, which would have added to the power and prestige of those involved. I will further argue that the drainage of wetlands was not universally desired or supported, and that the impetus for these projects came from elites and wealthier peasants, while unlanded or otherwise poorer people lost valuable resources in these projects. I will also argue that the drainage of wetlands created a much more precarious environment, that left these regions ecologically damaged, and less able to withstand adverse conditions.

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[410] Salzmann, "The Inning of the Pevensey Levels," 34-35.
[411] Jill Eddison, *Romney Marsh : Survival of a Frontier*, (Stroud: History Press, 2000), 55-65.

4.2 Timeline, Extent, and Methods of Drainage

The process of land reclamation evolved differently in Sussex's Pevensey Levels as compared to Kent's Romney Marsh. Much of Romney Marsh proper was settled by peasant households between the 800-1100, as evidenced by both documentary and archaeological evidence.[412] The wetland would have been largely used for sheep pasture at this time, rather than arable land.[413] Indeed, Rippon suggests that while Romney Marsh was well populated by the start of the twelfth century, this does not indicate that the entire marsh was fully drained, and argues that parts of the marsh could have still been inundated for at least part of the year. [414] In any case, there were certainly parts of the wetland outside of Romney Marsh proper that remained undrained and sparsely inhabited until much later. For example, Walland Marsh remained undrained and unsettled until the twelfth century. [415] Similarly, the Pevensey Levels of East Sussex were left in a more or less 'natural' state until the early thirteenth century, when concerted drainage efforts began.[416] Indeed, salt production in the levels is attested as late as 1240, indicating that at that time, salt water still flowed freely in at least parts of the levels.[417] But how, exactly, were these wetlands drained? And what caused such a discrepancy in the timeline of drainage, in two wetlands that were so nearby?

In the early medieval period, when Romney Marsh proper was being drained and settled, embankments and flood defences were not built right next to the sea, and were not able to withstand severe weather events; rather, their purpose was to prolong the grazing season, or in

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[412]Eddison, *Romney Marsh,* 57.
[413]Nicholas Brooks, "Romney Marsh in the Early Middle Ages," in R. T. Rowley, ed., *Romney Marsh: Evolution, Occupation, Reclamation,* (Oxford: Oxford University Department for External Studies, 1988), 93; and Eddison, *Romney Marsh,* 53.
[414]Rippon, *Coastal Wetlands,* 161-165.
[415]Eddison, *Romney Marsh,* 65.
[416]Salzmann, "The Inning of the Pevensey Levels," 34-35.
[417]Dulley, "The Level and Port of Pevensey," 29.

some cases, to grow salt tolerant crops.[418] In these conditions, the marsh could flood during the winter, which helps to replenish the soil, and prevents erosion.[419] In other words, this land was drained in the summer, and reverted to marshland in the winter. This level of drainage can be achieved through the construction of drainage ditches, drains, and low embankments, which are simple and affordable to construct and maintain.[420] Indeed, in Romney Marsh proper, the natural creeks were used as drainage ditches by simply digging out silt; so long as silt continued to be removed from the creeks, the land would stay relatively dry, and the piles of silt next to the creeks formed low embankments, which prevented inundation, and were also used as both causeways through the marsh, and as property boundaries for estates.[421] However, by the twelfth century, wetland reclamation became both more extensive and more intensive. As Rippon explains, the transformation and full reclamation of coastal wetlands entails the complete drainage of a wetland; the drainage is meant to be permanent, and stop the wetland from flooding year round. The drained wetland soil is very rich, having been fertilised by the wetland plants and animals, and the elimination of winter flooding means that the soils warms up faster in the spring, and also has better aeration. Together, these factors result in excellent soil that can produce a high quality and quantity of crops. However, these benefits come at a high cost. The land must be protected from both the saltwater tides and the upland freshwater runoff, and the land must be drained in order to permanently lower the local water table. The tides can be controlled by the construction of high sea walls, which can hold the water back even at its highest point in winter; these seawalls would typically start out as simple embankments made

[418]Mark Gardiner, "Archaeological evidence for the exploitation, reclamation and flooding of salt marshes," Památky Archeologické: Ruralia 5 (2005), 77, and Rippon, *Coastal Wetlands,* 46-48.
[419]Rippon, *Coastal Wetlands,* 46.
[420]Rippon, *Coastal Wetlands,* 1.
[421]Eddison, *Romney Marsh*, 53-54.

from marshland clay, and would then be reinforced and heightened with wooden stakes, stone, straw, and wattle fencing. The next concern was the freshwater upland runoff. The rivers from the upland had to be either raised in a watercourse through the wetland, or be redirected into deep coastal channels in the higher coastal regions; in some instances, a combination of these methods were needed to prevent freshwater flooding. Having prevented flooding, the attention would then turn to draining the wetland itself, through a variety of measures. Drainage channels could be dug, which also served to demarcate the boundaries between fields, provide water to livestock, and prevent farm animals from leaving their designated areas; the water collected through drainage would then be sent through a sluice built under the sea wall, thus allowing the water to flow into the sea.[422] Reclamation was, then, an expensive, labour intensive, risky project that was not taken on lightly. The risk had to be worth the reward. Furthermore, drainage required extensive organisation and cooperation. At the smallest scale, peasant families would work together to drain out small areas of marsh on adjacent plots; these would have been small embankments and not as protective or extensive as drainage on a larger scale. For drainage to be completed on a larger scale, there had to be cooperation between a number of communities and landlords. While this drainage could be performed in a top down or bottom up manner, in all cases the work required the participation and cooperation of all involved.

4.3 The Drivers of Drainage: Elite and Peasant, Lay and Ecclesiastic

The differences in the timelines of drainage of these wetlands involve a variety of factors. To begin, there was a question of the geological and environmental aspects of the landscape. For example, Romney Marsh proper had deeper, better drained soils than other areas of the marsh, which may have resulted in it being more quickly colonised and partially drained than other parts

[422]Rippon, *Coastal Wetlands,* 47-48.

of the marsh, which would have been less appealing.[423] The Pevensey Levels may not have been seen as worth the effort of draining, since there was plenty of income to be made from salt production, without the need for drainage.[424] Furthermore, there was the consideration of location. For example, Eddison argues that Walland Marsh was both literally and figuratively a "backwater area," making it less desirable for drainage and settlement in the early Middle Ages.[425] However, perhaps the most important factor was who went about draining the respective regions. The draining of the wetlands was a monumental task that was driven by both peasants and elites, and by both lay and ecclesiastic actors.

4.3.1 The Role of Peasants

Of course, it was peasants and other non-elites who did the actual work of draining wetlands, whether it was digging ditches, constructing seawalls, or engineering the drains and sluices required to move the water. However, particularly in early Medieval Kent, peasants were often the ones deciding to drain marshland. Indeed, Sweetinburgh argues that Kent was characterised by a bottom-up rather than a top-down land management system.[426] This had been the case from the early Middle Ages, where the settlement of Kent was led by the slow expansion of individually owned peasant farmsteads. According to Draper, the oldest settlements in Kent were in the western foothills, and then from c.800-1220, the population spread slowly into the south and north.[427] The settlements were normally individual farmsteads or small hamlets, rather than nucleated villages, and settlements grew by "filling in" the land between

[423]Eddison, *Romney Marsh*, 57.
[424]See Chapter 2 of this thesis for a discussion of salt production in the Pevensey Levels.
[425]Eddison, *Romney Marsh*, 65.
[426]Sweetinburgh, "Introduction" in *Early Medieval Kent,* 10.
[427]Gillian Draper, "Land and Marsh: Settlement, Colonisation, and Consolidation, c.800-1220" in *Early Medieval Kent 800-1200* ed. Sheila Sweetinburgh, (Woodbridge: Boydell Press, 2016), 44.

these homes.[428] In this way, an individual or a family group could acquire marshland and work together with other farmers to drain and maintain these new holdings.[429] Rather than a top-down directive, peasants in Kent drained marshes of their own accord through collective action. But how and why did they take on this work?

The peasant directed reclamation of marshland was the result of the system of land tenure in Kent. Gavelkind tenure meant that when a tenant died, his widow could use half of her late husband's land, and the other half was equally divided amongst their sons, or their daughters in the absence of sons.[430] The gavelmen were personally free, and had the right to alienate their land as they saw fit; they did owe some labour services, but it was less time consuming than the group directly below them in status, the cottars.[431] In practice, this meant that gavelmen had more time to invest in draining wetlands, the freedom to do so, and more incentive to do so of their own volition. Partible inheritance meant that the plots of land could be tiny, and therefore, draining any wetlands on the property was a way to increase the amount of arable land available, or to extend the grazing season for one's livestock; since partible inheritance was common, brothers, sisters, or neighbours could work together to drain the wetlands of their collective holdings, and thus all benefit from the reclaimed land. Furthermore, draining a marsh increased the value of the land, so gavelkind had an incentive to drain their land before selling it. There was a thriving peasant land market in Kent throughout the early Middle Ages and into the fourteenth century, so peasants improving their land could see economic rewards.[432] In this way,

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[428]Draper, "Land and Marsh", 44.
[429]Sweetinburgh, "Introduction" in *Early Medieval Kent,* 9.
[430]Mavis Mate, "The Economy of Kent, 1200-1500: An Age of Expansion, 1200-1348" in *Later Medieval Kent 1220-1540,* ed. Sheila Sweetinburgh (Woodbridge: Boydell Press, 2010), 1; and Sweetinburgh, "Introduction" in *Early Medieval Kent,* 9.
[431]Mate, "The Economy of Kent, 1200-1500: An Age of Expansion, 1200-1348", 2.
[432]Mate, "The Economy of Kent, 1200-1500: An Age of Expansion, 1200-1348", 2; and Sweetinburgh, "Introduction" in *Early Medieval Kent,* 9.

the gavelkind were able to benefit from draining the wetlands, and so took it upon themselves to do so, particularly between c.800-1100.

In contrast, the drainage of the Pevensey Levels appears to have been a top-down initiative. The land was left undrained until the early thirteenth century, and by and large, it appears to have been for the benefit of and at the behest of local elites. Moore has shown that even after the Pevensey Levels were drained, few tenants moved onto the land, and argues that the reclaimed land was likely added to the demesne of local lords, who could either bring in more tenant farmers or use the land for grazing.[433] This is not to say, however, that peasants never chose to drain this land. For example, there are instances of tenants and landowners coming to agreements about drainage in the Pevensey Levels. For example,

> " An early agreement for the Wartling area, from c. 1230, stipulates that William de St. Leger provide to some tenants a watercourse through his marsh and up to 'Wodedike', for the purposes of drainage. In return, the tenants agreed to construct, at their own expense, sufficient structures like watercourses, "watergangs", and sluices to drain the area."[434]

However, by and large, the peasants around Pevensey did not drive the drainage of the region. This may be because the production of salt provided enough income to make wetland drainage undesirable. Furthermore, since the peasants were tenants, who did not have the rights of the gavelkind in Kent, there was less incentive to drain the land for the purposes of sale.

4.3.2 Elite Driven Drainage: Lay and Ecclesiastic Lordship

In most cases, the drainage of the Pevensey Levels was driven by elite interests. Both lay lords and ecclesiastic institutions took an active role in drainage in the thirteenth century, and even then, they only made sporadic, dispersed attempts at drainage. Rippon argues that this

[433]Andrew Moore, "Manorial Regulation and Negotiation in a Late Medieval Environment: Land and Community at Herstmonceux, 1308-1440," PhD diss., (University of Waterloo, 2021), 118.
[434]Moore, "Manorial Regulation," 122.

piecemeal drainage pattern may have been the result of fragmented landholding in the region; while wetlands like those in Glastonbury and Somerset were drained systemically by the major landlords of their respective regions, the Pevensey Levels had no one major landholder.[435] Furthermore, there was not the peasant-driven drainage as seen in Romney Marsh. Instead, drainage was mostly done at the impetus of local elites, who would reclaim bits and pieces of wetlands. For example, in c.1220, there was a grant of easement to Battle Abbey, which stipulated that,

"Henry, prior, and the monks of St Martin de Bosco [St Martin-au-Bois, Normandy], to the abbot and convent of Battle, that Battle may have a watergang sixteen feet wide through the middle of their manor of Hooe (Ho) to the sea, through the wall which their farmer, Henry Clericus, made on the west side of the mill which was in the marsh, to sew their land of Hooe and the land of Battle abbey where they march together. Another watergang of sixteen feet is to form the boundary between the two estates, which now runs in a straight line as a result of an exchange made between the parties, by the view and assent of the prior and the whole hallmoor of Hooe. The abbot and convent may not fish in the watergang without the licence of the prior or his bailiff, who retain the fishery; the abbot and convent to make and maintain the watergang from the Black Wall to the wall which Henry made, which, with its gutters, the prior will warrant and maintain, without any repairs to the mill to the nuisance of the abbot and convent; if the prior fail in the maintenance, the abbot and convent may undertake it by the view of two lawful men, one from each side, and recover the costs from the prior, according to the law of the marsh in those parts by the view of the two men."[436]

This passage displays the ways in which landowners negotiated with one another in order to construct and maintain drainage. In this instance, the prior and monks of St Martin-au-Bois, Normandy, are allowing the abbot and convent of Battle to drain water through the land that they own in Sussex. The duties of maintaining the drainage infrastructure were divided between the two respective landowners, with Battle's abbot and convent responsible for maintaining "the watergang from Black Wall to the wall which Henry made," while the prior of St Martin-au-

[435]Rippon, The Transformation of Coastal Wetlands, 188-189.
[436]Christopher Whittick, ed., *The Calendar of the Battle Abbey Archive* (San Marino: The Huntington Library, 2017), 237.

Bois was responsible for the maintenance of Henry's wall and the local mill, and Battle was able to recover the costs should the prior neglect this maintenance. However, since the land still belonged to the prior and monks of St Martin-au-Bois, they retained the fishing rights to the water, and stipulated that "the abbot and convent may not fish in the watergang without the licence of the prior or his bailiff." Through these types of agreements, landlords were able to cooperate to drain and maintain the drainage infrastructure of wetlands.

In another example, in the early twelfth century, Battle Abbey drained part of the marsh around their estate at Barnhorn.[437] Then, in 1248, they granted some of their marshlands in the area to William de Northeye, and in exchange,

"The abbot and convent may, at their own expense, sew Scuttesmersse through the middle of William's demesne as far as their gutter of Babbingeflet or, if they cannot, through his gutter of Swanflet; they may sew their marshes between Bercham and The Trade by Swanflet, and if they wish put a gutter between Bradeteghe and Northye, provided they do not impede William's way; they may make another gutter where it seems best."[438]

Once again, the land was being drained through quid pro quo agreements between local landlords. In this case, William de Northeye was granted land by Battle Abbey. In exchange, he allowed the abbot and convent to construct drainage infrastructure through his demesne. Both landowners were able to benefit in this case, as Battle Abbey was able to drain the wetlands they held in the area, and William de Northeye was able to gain more land. In another instance, a Conveyance from 1250 states that,

"Tristram, son of Luke, to the abbot and convent of Battle: A quarter of an English acre of his land in Renger's marsh (SE: the corner of his field called Middlefield; S: Robert ater Pudele's land; E: Walter Irand's land), with a sufficient way to it across his land; To hold [of Tristram] by an annual rent of 12 pence, payable at his capital messuage in the same marsh, free and quit of the maintenance of walls and watergangs; if they do him any damage by their use of the way, they are bound to restore it by the view of good and lawful men."[439]

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[437]Searle, *The Chronicle of Battle Abbey*, 211.

[438]Whittick,*The Calendar of the Battle Abbey Archive,* 256.

[439]Whittick, *The Calendar of the Battle Abbey Archive,* 230.

In this case, Tristram rented a quarter acre of marshland to the abbot and convent of Battle for 12 pence per annum. As part of the rental agreement, Battle was to be responsible for the maintenance of walls and watergangs in that quarter of an acre. In this way, Tristram was able to gain rental income and be free of some of the obligations of infrastructure maintenance, and Battle Abbey was able to access and use the marshland in question, likely for the grazing of animals. Finally, a grant in free alms from 1250 states that,

"William Fillokt, son of William Fillol, to the abbot and convent of Battle: Ten acres of land within a ditch in his marsh of Pevensey (Pevenesel) (W: Thomas de Chilly; E: the road from Wartling (Wertling') to the ferry of Pevensey; N: the chaplain of Manxeye (Manekes)'; S: William's demesne land) The monks are to make a ditch ten feet wide between the land and William's demesne, clean it when necessary and throw the mud towards their land."[440]

Once again, this is a quid pro quo agreement between landlords for the drainage of wetlands. In this instance, William Fillokt granted ten acres of land within the Pevensey Levels to Battle Abbey; in exchange, the monks were responsible for digging and maintaining a ditch between the wetland and William's demesne. In this way, William was displaying charity towards an ecclesiastic institution, while simultaneously having the monks construct and clean a drainage ditch beside his own lands. Battle Abbey benefitted as well by receiving ten acres of wetland, which could be used for pasturage or even arable agriculture, provided the land was properly drained first. These sorts of quid pro quo agreements between local elites, both ecclesiastic and lay landlords, who agreed to take responsibility for drainage and maintenance in various locations throughout the levels, resulted in the drainage of the Pevensey Levels.

Romney Marsh, while having much peasant-driven drainage, also had its share of elite interest in the area, particularly in the twelfth century with regards to Walland Marsh. For

[440]Whittick, *The Calendar of the Battle Abbey Archive,* 235.

example, Misleham, which was given to Christ Church Priory in the ninth century, saw no attempts at reclamation until the mid-twelfth century. At this time,

"Prior Wibert (c.1152-67), who was renowned in Canterbury as an innovator, contracted with a leading tenant Baldwin Scadeway and his sons to hold as much land at Misleham 'as he could enclose against the sea at his own expense'. In 1191 Prior Osburn gave a similar charter to Baldwin's son Simon. Then sometime between 1191 and 1213 Prior Geoffrey gave the 'Men of Misleham' five charters each concerned with an area of 35 acres (14ha), which they were to defend 'against salt and fresh water with walls and waterganges'. Four of these blocks of land have been identified with the 138 acres (55.85ha) which lie on the north-west side of Misleham lane. From this it is apparent that the main drain, Baldwin's sewer (which today still bears the name of the twelfth-century tenant), ran down the centre of the estate, collecting water from the minor ditches on either side."[441]

These examples show the ways in which elites drove the drainage of the Pevensey Levels and parts of Romney Marsh. By coming to agreements with other local elites and with high ranking tenants, they were able to drain the parts of the marshlands that were advantageous to them.

4.4 Reasons for Drainage

The reasons for drainage were as diverse as the populations who were involved with reclamation. There were the seemingly ordinary, pragmatic reasons to drain, such as population pressure, ease of navigation, and concerns over health. There were also economic incentives for reclamation, including increases in land value, and a perceived increase in land productivity. Finally, there was a symbolic power in draining wetlands, whereby the drainers were bringing wild, untamed places to heel.

[441]Eddison, *Romney Marsh,* 69.

4.4.1 Physical Demands: Food and Transport

First and foremost, the demand for more arable land was an important reason for drainage, particularly in the High Middle Ages, when improved climate led to intensified and market-oriented agriculture, which in turn led to population growth.[442] The period from c. 950-1300 C.E. is known as the Medieval Climate Optimum (MCO); it was a period of warm, dry summers, mild winters, and a 2-4℃ increase in average temperature.[443] The warm, dry summers provided the necessary conditions to reliably produce wheat, barley, and other staple crops, and the environmental and climatic conditions brought about by the MCO led to the ebbing of famines and malnutrition.[444] By the ninth century, the population of Europe had grown substantially, perhaps even doubling since the sixth century, and while crop failures still happened occasionally, the trend of population growth and increased food production would

[442]For more detailed study of the intensification of medieval agriculture and subsequent medieval population growth, see for example Brittany S. Walter and Sharon N. DeWitte, "Urban and rural mortality and survival in Medieval England," *Annals of Human Biology* 44, no. 4 (2017): 338-348; John A. F. Thomson, *The Transformation of Medieval England 1370-1529,* (London: Routledge, 2014); Gerald A. Hodgett, *A Social and Economic History of Medieval Europe*, (London:Routledge, 2013); R. H. Britnell, ed., *Commercial Activity, Markets and Entrepreneurs in the Middle Ages: Essays in Honour of Richard Britnell*, (Woodbridge: Boydell & Brewer, 2011); Gregory Clark,"The long march of history: Farm wages, population, and economic growth, England 1209–1869," *The Economic History Review* 60, no. 1 (2007): 97-135; John Langdon and James Masschaele, "Commercial activity and population growth in medieval Englandm," *Past & Present* 190, no. 1 (2006): 35-81; Mark Bailey, "Historiographical essay: The commercialisation of the English economy, 1086–1500," *Journal of Medieval History* 24, no. 3 (1998): 297-311; Richard Hugh Britnell, *The Commercialisation of English Society: 1000-1500*, (Manchester: Manchester University Press, 1996); Christopher Dyer, *Standards of Living in the later Middle Ages: Social change in England c. 1200-1520*, (Cambridge: Cambridge University Press, 1989); W. C. Robinson, "Money, population and economic change in late medieval Europe," *The Economic History Review* 12, no. 1 (1959): 63-76.

[443]Behringer, *A Cultural History of Climate,* 75-77.

[444]Behringer, *A Cultural History of Climate,* 79. This growth in population and reduction of famines was not only due to climate change, of course; improved technologies were also crucial to the increased agricultural yields The horse collar and the head yoke for ox were both developed in the eleventh-century, and allowed the draft animals to gain better traction while ploughing. Shoeing animals provided even better traction and fewer accidents. Furthermore, the heavy wheeled plough and the harrow allowed for better cultivation of the dense, heavy soils of Northern Europe. Finally, the introduction of legumes (peas, beans, lentils), and their use in three field crop rotation, revolutionised agriculture. One field would be sown with grain, another with legumes, and a third would be left fallow; the legumes fixed nitrogen in the soil, and the fallow field would gain the manure of grazing animals. By rotating crops through these fields, medieval farmers were able to avoid soil exhaustion and increase agriculture yield, while also diversifying their diet and adding much needed protein and complex carbohydrates.

remain.[445] By 1050 C.E., Europe had a population of approximately 46 million, by 1200 there were 61 million people, and by 1300, 73 million.[446] As such, this was a period of intense landscape change, as medieval people brought more and more land under cultivation, including clearing woodlands and draining wetlands. The population pressure, brought about by more and better food, resulted in the continuing need to produce more food for more people.

This appears to have been at least part of the case in Romney Marsh. As discussed above, partible inheritance drove settlement and at least partial drainage of Romney Marsh proper, between c.800-1100, and Walland Marsh appears to have been colonised in the early twelfth century in response to a growing population. Furthermore, between c.1100-1200, settlement on Romney Marsh proper grew more dense.[447] Clearly, the wetlands were being used as a frontier where a growing population could settle, but these landscapes were not immediately used as arable land. Indeed, both Romney and Walland marsh were used mostly as pasture until the early thirteenth century, and were not fully drained; however, as the century progressed, tenants saw their standard of living decline, since their holdings shrank with each generation of partible inheritance, which resulted in new sea walls, drainage channels, and water courses being built in the wetlands in order to fully drain Romney Marsh proper, which was then ploughed and sown with beans, oats, and wheat.[448] Walland Marsh continued to be used as pasture for both sheep and cattle, but cereals were also sown in the newly drained land.[449] Thus the wetland was transformed from a pastoral region to an arable landscape order to keep pace with the demand for food.

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[445]Behringer, *A Cultural History of Climate,* 79.
[446]Behringer, *A Cultural History of Climate,* 80.
[447] Eddison, *Romney Marsh,* 69.
[448]Mavis Mate, "The Economy of Kent, 1200-1500: An Age of Expansion, 1200-1348", 2.
[449]Mate, "The Economy of Kent 1200-1500: An Age of Expansion, 1200-1348", 2; and Eddison, *Romney Marsh,* 71.

This transformation is in line with much of Europe at this point, which was undergoing a period of "cerealisation".[450] As Hoffmann notes,

> "By around 1200 inhabitants of central Europe were obtaining from grain twice the portion of their calories as had their early medieval ancestors. [...] The cereal-based diets of 1200 supported more than twice as many people, too."[451]

However, not all wetland drainage was necessarily driven by population pressure. As Moore has shown, very few peasants moved onto the drained Pevensey Levels, and the reclaimed land seems to have become demesne for local lords, and was either worked by their existing tenants or was used as pasturage.[452] That being said, the motivation behind the drainage could still be related to food, specifically, the type and quality of food that could be produced. Elites in the Middle Ages increasingly demanded a diet of white wheat bread and meat.[453] Indeed, in the early Middle Ages in England, isotopic evidence shows that elites and peasants alike had a mostly vegetarian diet, with meat as a more occasional, celebratory food, and it was not until the settlement of the Vikings that meat became a more typical part of the elite diet.[454] In practice, this meant that as peasants consumed more and more grains, typically in the form of pottage, porridge, and ale, elites in contrast expected fresh meat and white wheat bread.

For example, c.1130 Withelard de Balliol gifted the Battle Abbey with some of his own marshland at Barnhorn in the Pevensey Levels, and the Chronicle of Battle Abbey records that

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[450]Hoffmann, *An Environmental History of Medieval Europe,* 114-116.
[451]Hoffmann, *An Environmental History of Medieval Europe,* 116.
[452] Moore, Manorial Regulation, 115.
[453]Hoffmann, *An Environmental History of Medieval Europe,* 116-118.
[454]S. Leggett and T. O. M. Lambert, "Food and Power in Early Medieval England: a lack of (isotopic) enrichment", *Anglo-Saxon England* (2022), 1-33.

"Much labour and expense were then put into land reclamation and building, improving the holding greatly. An excellent mill was built in the marsh, and it was expected to be very profitable, since it lay only five miles from the abbey."[455]

In this instance, the land was reclaimed for the purposes of supplying the monastery with grain, as evidenced by the construction of a mill on site, and from later accounts of Barnhorn.[456] The demand for grain, particularly wheat, thereby drove the reclamation of this parcel of land. Indeed, the reclaimed land became so productive that Balliol returned to retroactively demand payment for the land, and when he was refused, "withdrew the entire property from the church of Battle, as if bringing it back under his legal control, and gave it in gage for money to Siward of Hastings."[457] The Balliol family was able to hold onto the reclaimed land through The Anarchy, but Battle Abbey did not give up their rights to the land. Once King Henry II was on the throne, the Abbott took the case to the king himself, who ruled in the Abbey's favour.[458] This is only one example, but it displays the importance that was put in the rich lands of reclaimed marshes, both as a source of food, and as a source of revenue. Therefore, the drainage of the Pevensey Levels could have been driven less by the pressure to feed a growing population, and more by the demand from elites who wanted to use the land available to them to grow wheat for bread and raise animals for meat for their own tables. Hence, both the need for food generally, and the demands of specific diets, drove wetland reclamation.

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[455]Searle. *The Chronicle of Battle Abbey*, 211; "Cum uero multo iam labore multisque expensis, in domibus, in agriculturis instaurata esset eadem terra, molendino etiam optimo in marisco facto, iamque plurimum commodi expectaretur, precipue cum esset ecclesie contigua, quasi quinque milibus distans"

[456]Searle notes that "The monks of the early twelfth century had little arable land within carting distance. Barnhorn was throughout the Middle Ages a chief supplier of corn." Searle. *The Chronicle of Battle Abbey*, 211.

[457]Searle. *The Chronicle of Battle Abbey*, 212; "Cernens idem exactor se quesita pro uelle assequi non posse, totam prefatam possessionem, quasi in ius suum redigens, ecclesie de Bello subduxit, eamque cuidam Hastingensium Siwardo nomine Sigari filio, accepta ab eo pecunia, in uadimonium tradidit."

[458]Searle. *The Chronicle of Battle Abbey*, 212 - 221. It is worth noting that Richard de Luci, the abbot's brother, was the king's chief justiciar at that time, and the abbey may have been biding their time until the suit would be likely to be decided in their favour.

Furthermore, reclaiming a marsh had practical implications for travel and transport. Of course, in their undrained states, wetlands can be effectively used for water transportation. However, the watercourses of wetlands are unpredictable and meandering, changing with the seasons and forcing one to take roundabout routes. In contrast, when a wetland is drained, the water can be redirected into canals, which make transport more predictable and efficient. The ease of navigation and transport improved access to these lands by the local community, allowed them to import vital materials, and increased economic revenue by making exports easier. [459] For example, the town of Romney had originated in the eighth century as a fishing settlement and trading post, and would grow throughout the Middle Ages; around that same time, the timber from the weald was already being felled and shipped down the river Rother to Romney.[460] In general, access to the town of Romney through water transport was incredibly important, so much so that the Rhee Wall (an embanked artificial watercourse) was constructed in the mid thirteenth century across the reclaimed marshland, in order to divert water from the River Rother to prevent the build-up of silt in the estuaries around the town. As Rippon discusses, the waterway was not used for drainage, and was exclusively used to ensure that water transport would remain uninterrupted; the embankments seen in the Pevensey Levels were also canal-like in structure, although they may or may not have been deliberately built to be used as canals.[461] However, Pevensey Castle operated a ferry in the Pevensey Levels into the late thirteenth century, and also transported hay, timber, and straw over water in the levels.[462] This evidence of

[459]Stephen Rippon, "Waterways and Water Transport on Reclaimed Coastal Marshlands: The Somerset Levels and Beyond" in John Blair, ed. *Waterways and canal-building in medieval England*, (Oxford: Oxford University Press, 2007), 208-209.
[460]Draper, "Land and Marsh", 48.
[461]Rippon, "Waterways and Water Transport", 213.
[462]Mark Gardiner, "Hythes, Small Ports, and Other Landing Places in Later Medieval England," in *Waterways and Canal-Building in Medieval England*, (Oxford: Oxford University Press, 2007), 94-97.

water transport after the point when the levels would have been mostly drained indicates that the embanked canal-like structures were being used for transportation. The management of water in the wetlands could therefore rationalise routes and make transport generally more efficient. This would allow for easier travel, and would allow for the movement of goods both within and between estates and markets. Therefore, part of the impetus for marsh drainage was the ability to control the waterways of the landscape, and thereby make them more useful for travel, trade, and transport.

4.4.2 Economic Interests: Productivity and the Land Market

Besides meeting the needs of food, transport, and health, wetlands were also drained for their economic value. Reclaimed wetlands were economically productive both as a source of crops and as an environment for grazing animals, whereby the rich environment yielded a surplus of meat, milk, wool, and cash crops that could be sold for income.[463] Indeed, reclaimed wetlands boast rich, fertile soils, which results in high yields for crops, and excellent pasture for sheep and other ruminants, which can both be sold for income. Furthermore, the land itself became more valuable once it was reclaimed.[464] In fact, drained wetlands were often valued even higher than naturally dry land.[465] In this way, drainage was part of the commodification of the land itself, where one could buy marshland cheap and sell it off for a profit once it was drained.

To begin, the high productivity of these reclaimed landscapes could result in surplus. For example, in the book *Le Dite de Hosebondrie,* written c.1280, Walter of Henley wrote that,

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[463]That is not to say that wetlands in their undrained state were necessarily unproductive (see Chapter 2 of this thesis for a discussion of the uses of undrained wetlands), but rather, that reclaimed wetlands were more valuable with regards to liquid assets.

[464]Michael Williams, "Marshland and Waste," in Leonard M. Cantor, ed. *The English Medieval Landscape*, (London: Routledge, 1982), 90-91.

[465]Rippon, "Waterways and Water Transport", 207.

"If your cows were sorted out, so that the bad were taken away, and your cows fed in a pasture of salt marsh, then ought two cows to yield a wey of cheese and a half gallon of butter a week. And if they were fed in a pasture of wood, or in meadows after mowing, or in stubble, then three cows ought to yield a wey of cheese and a half gallon of butter a week between Easter and Michaelmas without rewayn. And twenty ewes which are fed in pasture of salt marsh ought to and can yield cheese and butter as the two cows before named. And if your sheep were fed with fresh pasture of fallow, then ought thirty ewes to yield butter and cheese as the three cows before named."

"Si vos vaches seyend tries issi ke les malueyses seynt ostes e vos casches seynt puez en pasture de mareys saline donc deyuent deus vaches responder de une peyse de furmage e de demy gallon de bure la semayne. E si il seynt peuz en pasture de boys our en pres apres fauchisons ou en estuble donc deyuent treys vaches responder de une peyse e la seynt michel sanz rewayn. E xx mere berbyz ke sunt peuz en pasture de mareys saline dey e ben poent responder de furmage e de bure so cum les ij vaches auant nomes. E si vos berbyz seynt peuz de freche e de waret done deyuent xxx mere berbyz responder de bure e de formage sicum les treys vaches auant nomes."[466]

Therefore, according to Henley, both cows and ewes produce about thirty percent more dairy products when they are fed on salt marsh, as compared to other meadows. While these figures may not be exact, they give an idea of how profitable salt marsh could be with regards to dairy farming, especially when that land had been fully or even partially drained. Draining the wetlands prolonged the grazing season, since it eliminated the winter flooding, thus allowing sheep and cattle to graze earlier in the spring and later into the autumn. Furthermore, even fully drained marshes which were never allowed to flood retained their increased nutrient content, since the rich wetland soils produced excellent meadow. In this way, the drainage of wetlands allowed for economies of scale, where larger herds and flocks could be grazed for longer periods, and could therefore produce more meat, milk, and wool. Indeed, starting in at least the early thirteenth century, Canterbury was using its marshland estates to produce cheese and milk

[466]Walter de Henley, and Elizabeth Lamond and Robert Grosseteste (translators), *Walter of Henley's Husbandry, Together with an Anonymous Husbandry, Seneschaucie, and Robert Grosseteste's Rules*, (London: Longmans, Green, 1890), 27.

for both the monks and for the market.[467] Furthermore, the rich marshland pasture was also used to fatten sheep and help them grow more wool, which was mainly sold to the Italian market.[468] Clearly, there was money to be made on a reclaimed marsh, which would have factored into the decision to drain. Given that drainage was such an expensive, time-consuming endeavour, the payoff had to outweigh the expenses. In the case of Canterbury's use of Romney Marsh, there is evidence to suggest that drainage was used as a means of economic advancement, whereby surplus wool and dairy products were used as liquid assets.

This reasoning can somewhat explain why the Pevensey Levels were reclaimed later. There is extensive archaeological and documentary evidence to show that the Pevensey Levels were used for salt production in the early and high Middle Ages.[469] However, as the Levels were reclaimed, the salt industry shrank, since salt production requires constant inundation. The question is, then, did the drainage cause the decline of the salt industry, or, did the decline of the salt industry lead to drainage? Dulley argues that salt stopped being produced in the levels because of the drainage, stating that,

> "There were several causes at work to bring about the decline of the industry, but most important was undoubtedly the progressive reclamation of the tidal fiats, which first reduced the original lagoon to a network of narrow creeks and then cut these off from the sea [...] The decreasing salinity of the water in the creeks and the lack of extensive mud-flats were no doubt crucial factors, as well as the increased distance from which the large quantities of fuel needed had to be fetched."[470]

However, Dulley also acknowledges that,

"Some of these [salt] works were valuable assets to their lords, two at Eastbourne being together rated at 40s., more than the total worth of many of the smaller manors of the district. The general

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[467]R. A. L. Smith, C*anterbury Cathedral Priory A Study in Monastic Administration* (Cambridge: The University Press, 1943), 157-160.
[468]Smith, C*anterbury Cathedral Priory,* 148.
[469]See Chapter 2 of this dissertation for a discussion of salt making in the Pevensey Levels.
[470]Dulley, "The Level and Port of Pevensey," 29-30.

scale of production was smaller than this, however, the entries having a median value of 2s. 5d. per unit."[471]

In other words, while some of the saltworks in the Pevensey Levels were incredibly profitable, most of them generated more modest incomes. Therefore, as the thirteenth century progressed, and fuel became harder to come by due to woodland clearance, salt production in the region would have become less economically viable than in centuries prior. In this way, the decline of the salt industry drove reclamation, rather than the other way around, as the landowners who drove the reclamation of the Pevensey Levels made an economic decision to forgo salt making, since acquiring sufficient fuel became more difficult and more expensive, and chose instead to drain the land and add it to their demesne. Rather than salt production declining because of reclamation, the declining profitability of salt production actually drove the drainage of the levels.

Furthermore, drained wetlands fetched higher prices than undrained wetlands on the land market. In Kent, there was a thriving peasant land market, because gavelkind were able to alienate and sell their land. In particular, Kent's practice of partible inheritance drove the sale of land; the division of land amongst heirs could of course result in poverty, from people trying to farm tiny plots of land, so often peasants could buy up other plots of land on the market or from their siblings, and thus consolidate a larger holding.[472] As discussed above, draining wetlands was a way to expand the arable land available on one's holding, and thus alleviate the poverty that could result from lack of land. However, it was also a way to increase the land's value on the market. In medieval England, drained wetland was often valued as much as, or even higher than, nearby drylands.[473] Therefore, one could drain their wetland holding and sell it for a profit on the

[471]Dulley, "The Level and Port of Pevensey," 29.
[472]Sweetinburgh, "Introduction" in *Early Medieval Kent,* 9.
[473]Rippon, "Waterway and Water Transport," 207.

land market. This way, wetland drainage could be used to increase the value of land and create income for the landholder.

4.4.3 Symbolic Power: Civilisation, Creation, and Dominion

Finally, there were symbolic, religious, and cultural reasons to drain wetlands. To begin with, draining the wetlands to use them for grain cultivation was seen as a civilising process. A wetland in its natural state cannot be neatly divided into fields and cultivated, and in many ways grain cultivation was *the* litmus test of civilisation. Secondly, taking these "wild" places and turning them into neatly ordered arable land was seen as a way to participate in creation itself. God had created the heavens and the earth, but humanity participated in this process by completing and perfecting their landscapes. Finally, draining and reclaiming land was a way to display one's dominion and power over the natural world. Much like the royal hunt, draining a wetland could show the legitimacy and power of elites by displaying their mastery over nature and the land itself.

As discussed above, the grain consumption of Europeans, particularly in Northern Europe, increased from the early to the high Middle Ages. In part, this was due to the need to feed a growing population. However, this trend towards increasing grain consumption began in the eighth century, long before population pressure would have forced a shift in diet.[474] So why, exactly, did such a change occur? The reason appears to be the cultural and religious status of grains, and in particular, bread. Since antiquity, grain cultivation and the baking and eating of bread was seen as a cornerstone of civilised society. As Montanari explains,

"In the language of Homer, "bread-eaters" (sitòfagoi) is synonymous with "men." Eating this food is essential and sufficient to being man—not men in general but the men of Homer: the

[474]Hoffmann, *An Environmental History,* 116.

Greeks, the bearers of civilization. Those who do not eat bread are for that very reason 'barbarians.'"[475]

Grain cultivation, then, is what allowed one to become civilised. Grains can be stored long term, thus allowing for the creation of a reliable food surplus, which in turn allows for increased investment in cultural and artistic pursuits. Furthermore, the cultivation of grains requires a concentration of population, another mark of a 'civilised' society. Therefore, even though wetlands provide a variety of seasonal foods, from fish and eels, to fowl and their eggs, and a variety of edible vegetation, because grain cannot be grown there, it was seen as an uncivilised 'wilderness'.[476]

Indeed, in Anglo-Saxon England, the social order was expressly tied to grain, and in particular, bread. As Brown explains,

"The words denoting the lord and the lady of the hall derive from the duty of feeding their people. The Old English lord was a *hlaford*, a title deriving from the compound *hlaf-weard*, or 'bread-guardian'[...] Similarly, the lady was a *hlafdige*, or 'bread-maker'. An old English word for 'dependant', *hlafæta*, literally means 'bread-eater'. Servants' wages and land-rents might be paid in so many loaves of bread, a standard Anglo-Saxon unit of food."[477]

The provision of bread was of vital cultural importance, and was a key component of Anglo-Saxon conceptions of the social order. The introduction of Christianity would have elevated the importance of bread even further, taking bread from earthly sustenance to the locus of divinity. In the Mass, bread became the body of Christ through transubstantiation, allowing the faithful to

[475]Massimo Montanari, *Medieval Tastes: Food, Cooking, and the Table*, (New York: Columbia University Press, 2015), 54.
[476]For a discussion of English wetlands as wilderness in the medieval imagination, see Chapter 1 of this thesis.
[477]Marjorie A. Brown, "The Feast Hall in Anglo-Saxon Society", in Martha Carlin and Joel T. Rosenthal, eds., *Food and Eating in Medieval Europe* (London: Bloomsbury Publishing, 1998), 2.

receive the eucharist into their bodies. Thus, the connection of bread to divinity made the cultivation of grains, particularly wheat, of central importance in the Middle Ages.[478]

In this cultural context, transforming 'wilderness' land into arable land to grow grain was nothing short of heroic, and the failure to cultivate grains was seen as subhuman. For example, when discussing the pastoral Irish people in the twelfth century in *History and Topography of Ireland*, Gerald of Wales wrote,

"They have not progressed at all from the primitive habits of pastoral living. While man usually progresses from the woods to the fields, and from the fields to settlements and communities of citizens, this people despises work on the land, has little use for the money-making of towns [...] They use the fields generally as pasture, but pasture in poor condition. Little is cultivated, and even less sown. The fields cultivated are so few because of the neglect of those who should cultivate them. But many of them are naturally very fertile and productive. The wealth of the soil is lost, not through the fault of the soil, but because there are no farmers to cultivate even the best land: the fields demand, but there are no hands."[479]

Of course, this account is written by an outsider who wants to portray the Irish as negatively as possible. However, it is still of note that the lack of cultivation and the animal based diet is one of the main criticisms of the people, and sheds light onto the views of pastoral life. Gerald describes such a way of life as "primitive" and argues that people should "progress" to settlements and towns, casting negative judgements. However, he takes it a step further by saying that the land is "neglected" by those who "should" cultivate the fields. Therefore, he is not portraying the people of Ireland as simply unaware of how to cultivate grain, and a people who could "progress" from their "primitive" ways. Rather, he portrays them shirking their responsibilities and defying the natural order. By not cultivating the land, they are neglecting

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[478] For further discussions of the importance of bread in the Middle ages, see for example C. M. Woolgar, "Bread, Meat and Dairy Foods," in *The Culture of Food in England 1200–1500*, (New Haven: Yale University Press, 2016) and Montanari, *Medieval Tastes,* 56-57.

[479] Giraldus Cambrensis, and John J O'Meara (trans.) *The History and Topography of Ireland*, (London: Penguin UK, 1982), 101-102.

their duty to tame and civilise the land. Indeed, he goes on to write that, "They are a wild and inhospitable people. They live on beasts only, and live like beasts."[480] Here the connection is made explicit: people whose diets are based around animal products are themselves animalistic. An untamed landscape is therefore not morally neutral, but rather, is used to display the perceived shortcomings and uncivilised nature of those who neglect to tame the land. Therefore, draining a wetland was a way to symbolically and culturally bring a wild landscape into civilisation, and a way to civilise the people who lived there.

In contrast, those who were able to cultivate the wilderness and thus bring it into civilisation were seen as nothing short of heroic. For example, William of Malmesbury, writing in the twelfth century, described Thorney Abbey, a place "surrounded by swamps", as follows:

"In the parish of the bishop of Ely is the monastery of Thorney. I place it after Ely, and it is certainly smaller; but it has a higher claim to praise. It is the image of paradise, and its loveliness gives an advance idea of heaven itself. For all the swamps surrounding it, it supports an abundance of trees, whose tall smooth trunks strain towards the stars. The flat countryside catches the eye with its green carpet of grass; those who hurry across the plain meet nothing that offends. No part of the land, however tiny, is uncultivated. In one place you come across tall fruit trees, in another fields bordered with vines, which creep along the earth or climb high on their props. Nature and art are in competition: what the one forgets the other brings forth."

"In eius, Heliensis dico, episcopi parrochia est Thorneie cenobium. Thorneia ulterior scripto et contractior spatio, sed prior laudum titulo: paradisi simulacrum, quod amenitate iam caelos ipsos imaginetur. In ipsis paludibus arborum ferax, quae enodi proceritate luctantur ad sidera. Aequorea planities herbarum uiridantibus comis oculos auocat, currentibus per campum nullus offensioni datur locus. Nulla ibi uel exigua terrae portio uacat. Hic in pomiferas arbores terra se subrigit, hie pretexitur ager uineis, quae uel per terram repunt uel per baiulos palos in celsum surgu[nt]. Mutuum certamen naturae et cultus, ut quod obliuiscitur ilia producat iste."[481]

In this instance, the transformation of the wetlands into arable land was not merely about securing a food supply, or even about economic gain. Rather, the cultivation of the land

[480]Giraldus, *The History and Topography of Ireland,* 102.
[481]William Of Malmesbury, *Gesta Pontificum Anglorum*, 493.

transforms it into an art form, and creates a paradise on earth. The cultivation of the land thus brings civilisation into the wild wetlands.

Furthermore, this example displays the ways that participation in creation was a key component of the drainage of wetlands. By the high Middle Ages, bringing order to the natural world as seen as part of the divine plan; by transforming the landscape into anthropogenic environments, humanity could complete God's creation, and thus partake in divine nature and bring themselves closer to the Creator.[482] Therefore, by clearing land and using it for agriculture, humanity was able to participate in the divine role of creation. Since grain cultivation was seen as a civilising force, and since bread was a vital part of religious life, draining a wetland and using it for grain cultivation was a way to display a connection to the divine plan. Indeed, as seen above, drained and cultivated wetlands gave "an advance idea of heaven," thus making an explicit connection between the divine and the landscape.[483] Therefore, the drainage of wetlands was driven by the concept of needing to participate in divine creation and bring order to the natural world.

Finally, such management of water could be used in the Middle Ages as a way to show power in the local area. [484] In many ways, then, land reclamation could be seen as similar to hunting in the Middle Ages, particularly when it was done by elites. Elite hunting in the Middle Ages was a way for elites to symbolically demonstrate their power. By killing wild animals such as boars or deer, royalty and aristocracy legitimised their rule by showing power over the land

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[482]For further discussions of the concept of medieval participation in creation, see John Aberth, *An Environmental History of the Middle Ages: The Crucible of Nature*, (New York: Routledge, 2012), and James Schaefer, *Theological Foundations for Environmental Ethics: Reconstructing Patristic and Medieval Concepts* (Washington D.C., Georgetown University Press, 2009).
[483]William Of Malmesbury, *Gesta Pontificum Anglorum,* 493.
[484]See for example, Ellen F. Arnold, "Engineering miracles: water control, conversion and the creation of a religious landscape in the medieval Ardennes," *Environment and History* 13, no. 4 (2007): 477-502.

and the beasts that dwelt upon it, therefore showing that their reign was not merely over their populations, but over the land itself.[485] Indeed, the forest law imposed by the Normans was a way to display their dominion over the local population; in pre-Conquest Britain, " perceptions of game followed the Roman concept that, until caught, wild animals were *res nullius*, nobody's property".[486] In contrast, when the Normans arrived, they applied forest law to vast tracts of land, which restricted hunting, and those who disobeyed these laws could be punished by being imprisoned or maimed.[487] This was a way to display lordship over the land, and show the legitimacy of their reign. The rule of the Normans would apply not only to the people of England, but also to wild animals and to the land itself. Taken in this context, draining a wetland was a powerful symbol of authority over the landscape. The ability to transform the natural world was a way to display dominion over the land, and by extension, everything and everyone who lived in the region.

4.5 The Consequences of Drainage

Clearly, there were many reasons to drain wetlands in the Middle Ages. From an increase in arable land, to increased land values, to the symbolic importance of reclaiming land, many people would have seen the drainage of the land as overwhelmingly positive. While the drainage of these wetlands landscapes would have been viewed as an improvement by many people at the time, this was not necessarily a universally accepted position. For many people, the drainage of wetlands would have meant a loss of key resources. Furthermore, wetland reclamation led to

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[485] For further discussions of hunting in the Middle Ages, see for example Richard Almond, *Medieval Hunting,* (Cheltenham, Gloucestershire: The History Press, 2011); Stephen Mileson, *Parks in Medieval England*, (Oxford: Oxford University Press, 2009); and William Perry Marvin, *Hunting Law and Ritual in Medieval English Literature*, (Woodbridge: DS Brewer, 2006).

[486] N.J.Sykes, "The Impact of the Normans on Hunting Practices in England" in C. M. Woolgar, D. Serjeanston, and T. Waldron (eds.), *Food in Medieval England*, (Oxford: Oxford University Press, 2006), 162.

[487] Sykes, "The Impact of the Normans,"162.

degraded diets, particularly during periods of famine. Finally, drainage of wetlands led to a loss of floodplains in the region, which left it more vulnerable to flooding in the long term.

4.5.1 The Disadvantages of Drainage

To begin, for the landless, or for those with little land, the drainage of the wetlands would have meant a loss of by-occupations and income. As discussed above, the drainage of the Pevensey Levels could have been driven by the falling price of salt. Elites took the opportunity to drain the land and bring it into their demesne. However, salt production was a seasonal task, and would have been a by-occupation for peasants who needed the additional income.[488] By draining this land and making it part of the demesne, these peasants would have lost an important way to supplement their incomes. Similarly, in Romney Marsh, drainage of the wetlands benefitted the gavelkind at the expense of the cottars. The cottars generally had holdings too small to survive off of and had to turn to by-occupations to supplement their income.[489] While some of them could have become shepherds on the parts of the reclaimed wetlands that became pasturage, the loss of the fish, fowl, and forage would have been a loss for many such tenants. In essence, the drainage of wetlands benefited elites and wealthy peasants, at the expense of those who were more reliant upon the natural resources of the wetland for their survival.

Furthermore, the reclamation of wetlands correlated with a degradation of the diets of peasants. By the twelfth century, elites were demanding more wheat bread and consuming more meat, and the demand to meet these dietary desires was placed upon the peasantry; this in turn led to more and more land being put to the plough, and peasants had to cultivate more grain. This

[488] For a discussion of salt production in the Pevensey Levels, see Chapter 2 of this thesis.
[489]Mate, “The Economy of Kent, 1200-1500: An Age of Expansion, 1200-1348”, 2.

meant, in turn, a reduction in the availability of game, and reduced agricultural diversity.[490] The trouble with this system was threefold. To begin with, as stated above, peasant diets degraded as they consumed more grain, and less in the way of protein and produce. This diet was therefore less varied and had poorer health implications. Secondly, growing fewer types of crops made harvest failure more likely, since a bad year for grains would mean a severe decrease in the amount of food available, whereas a more varied collection of crops would have been more resilient to different weather conditions. Finally, the loss of game and forage made such food shortages more dangerous. Hunting and foraging were important famine foods in the Middle Ages, so the loss of the fish, fowl, and forage of the wetland would have exacerbated the problems of a crop failure. For example, in 1258 the chronicler of Bury St Edmunds wrote,

> "There was a great shortage of everything because of the floods of the previous year, and corn, which was very scarce, cost from 15s to as much as 20s a quarter. Famine resulted so that the poor had to eat horsemeat, the bark of trees and even worse things. Innumerable folk died of hunger."[491]

In other instances, medieval people ate field greens, foraged greens, nuts, and any available meat as a form of famine food.[492] In other words, the reduction of these resources, along with the increased chances of crop failure, created a situation where less food was available at times of famine, and posed a threat to those who could not afford to buy grain in times of shortage.

In short, while wetland reclamation was viewed as an improvement of the land, for many people, especially the poor, it was a loss.

4.6 Conclusion

[490]Hoffmann, *An Environmental History of Medieval Europe,* 118.
[491]Antonia Gransden, *A History of the Abbey of Bury St Edmunds, 1257-1301: Simon of Luton and John of Northwold*. Vol. 42. (London: Boydell & Brewer, 2015), 128.
[492]Montanari, *Medieval Tastes,* 37-38.

While the rewards of farming on reclaimed wetlands were high, so too were the costs and risks; furthermore, not everyone benefited from this drainage, as the poor and the landless, who most needed the by-occupations and natural resources of the wetlands lost these benefits. To begin with, the complete drainage of a wetland is astronomically expensive, both in terms of material and labour; workers needed to dig for clay in the wetlands, fell trees, and collect stone; then the lumber and stone would then need to be transported through the wetland, across deep creeks and waterlogged soil; finally, they would then need to build the embankments, walls, bridges, and sluices.[493] Once completed, the sea walls and drainage systems required regular maintenance, particularly after the winter and after storms, since the damage to the walls, drains, and sluices would require repair, and drainage ditches also needed to be scoured on a regular basis to avoid flooding.[494] No matter how well the defences were maintained, flooding was a constant threat, and reclaimed wetlands were always one bad storm away from ruin. People were willing to take on these risks for pragmatic reasons, for economic value, and for symbolic power. However, not everyone benefited from the drained wetlands, and as the climate worsened, the problems associated with wetland reclamation became ever more apparent.

[493]Rippon, *Coastal Wetlands,* 49.
[494]Rippon, *Coastal Wetlands,* 49.

Chapter 5: The Wetland in Crisis: Flooding, Famine, and Plague

5.1 Introduction

From the twelfth century until the middle of the thirteenth, Old Winchelsea was a thriving coastal town in East Sussex, standing adjacent to Romney Marsh. The town was both a centre of trade and a place of anchorage for the Cinque Ports fleet, and boasted a Franciscan monastery, two churches, and fifty inns and taverns in the mid thirteenth century.[495] However, this prosperity was not to last, as the climate changed and storms grew more violent. The first onslaught occurred in 1250, when Matthew Paris recorded,

"The unusual swelling and commotion of the sea: In the volumes of the same period, in the month of October, when the moon was first, on the first day of the month, a swollen and red moon appeared as a sign of future storms, according to the documented experiences of that philosopher and poet:
'A glowing red typically promises fresh winter winds, unless it is laid out by strong heat or north wind; The clouds are swollen, but pale bright sunny.'
The thunderstorm began daily during the first week of the moon's growth, greatly disturbed by a thick mist and a hurricane; The winds have begun to tear and pluck the branches and leaves, which then grow dry on the trees, and carry them away through long stretches of air. And because it was more damaging, the sea, when disturbed from its usual bounds, flowing twice without ebb, passing through it, uttered such a horrible bellow with a roar, that it resounded through the remote reaches of the earth, not without the astonishment of the hearers, even the ancients, which none of the moderns remembers to have foreseen.It seemed also during the dark night that the sea itself was burning, as it were on fire, and the waves gathered together to fight against the waves, so that the skill of the sailors could not come to the aid of the perishing ships. [...] At the Winchelsea port on the east, besides the salt huts and fishermen's reservoirs and bridges and mills, three hundred houses in the same village, along with some churches, were destroyed by the violent ascent of the sea."

"De insolita maris inflatione et commotione: Sub ejusdem temporis voluminibus, mense videlicet Octobris, luna existente prima, die mensis prima, apparuit novilunium turgens et rubicundum in signum futurarum tempestatum, secundum illa philosophi et versificatoris documenta experimentalia:
'Promittit de more rubens nova cintia ventos, Caumate vel Borea valido nisi praependiatur; turgida dat nimbos, sed pallida clara serenum.'

[495]Margaret Brentnall, *The Cinque Ports and Romney Marsh,* (London: John Glifford, 1972), 142-3.

Coepit igitus aer cotidie in prima incrementi lunaris septimana densa caligine et ventorum turbine vehementer commoveri; coeperuntque venti ramos et folia, quae tunc in arboribus emarcuere, dilacerare et evellere et per longos tractus aereos asportare. Et quod dampnosius erat, mare perturbatum fines solitos, bis fluens sine refluxu, pertransiens, tam horribilem mugitum cum fremitu edidit, ut per remota terrae spatia, non sine stupore audientium, etiam senum, reboaret, quod nullus modernorum se meminit praevidisse. Visum est etiam sub opaca nocte ipsum fretum quasi accensum ardere, et fluctus fluctibus conglomeratos dimicare, ita ut non posset nautarum peritia perituris navibus subvenire. [...] Apud Winchelese autem quendam portum orientalem, exceptis tuguriis salinariis et piscatorum receptaculis et pontibus et molendinis, plasquam trecentae domus in ipso pago cum quibusdam ecclesiis per maris violentum ascensum sunt subversae."[496]

And as if this were not enough to shake the foundations of a town, just two years later, Winchelsea faced further destruction. Matthew Paris once again recorded how,

"At the port of Winchelsea, very necessary for the English, and especially for the Londoners, the sea waves, disdainful and furious, as it were, from the repulse of yesterday, seized mills and houses bordering on shore, and carried off several men who were drowned."

"Apud portum de Winchelese, Anglis et maxime Londoniensibus valde necessarium, fluctus marinus, quasi ex repulsu herterno dedignans et furibundus, litorum confina occupando, molendina et domos occupavit, et homines quamplures submersos asportavit."[497]

As conditions continued to worsen in Winchelsea, it became apparent that the inhabitants would have to seek higher ground. King Edward I intervened, and on November 11th 1280, the following commission was issued:

"Commission to Ralph de Sandwyco, king's Steward, to extend and buy or obtain by exchange certain lands of John de Langherst and Jon le Bon which are suitable for the new town of Winchelsea, which is to be built upon a hill called Yhamme (Iham), the old town being for the most part submerged by the sea."[498]

Two years later, the charters of the Cinque Ports included the results of that commission:

"Edward, by the grace of God, king of England, Lord of Ireland, and Duke of Aquitaine, to Stephen de Pencestor, his beloved and faithful followers of Angoulême, and to Henry Wallace, greetings. Know that we have pledged you to secure favors with Iham (Yhamme) and to execute

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[496]Henry Richards Luard, ed. *Matthaei Parisiensis, monachi sancti Albani, chronica majora*. Vol. 2. (London: Longman, 1874), 175-6, trans. SP.
[497]Luard, *Matthaei Parisiensis,* 272-3.
[498]Great Britain Public Record Office, *Calendar of the Patent Rolls Preserved In the Public Record Office, Vol XII, Edward I , 1272-1281. (*London: H.M.S.O., 1891), 414.

them by means of a fixed assessment, just legal proceedings extended by you from there, to be entrusted to our barons and good men from Wynch to build and inhabit according to your discretion. And therefore we order you, that all you, or two of you, whom you shall have the chance to attend to in your own persons, approach and reside there at Iham, and reside there, and present them to the Barons, and entrust them to build and dwell in the form aforesaid, save with the immediate owners of the aforesaid parcels with reasonable stretches of any acre assessed by you and entrusted to dwelling in accordance with your aforesaid discretions as stated above. In testimony of which matter we have caused these, our letters, to be made patent, by testimony at Wesim on 27 November, in the tenth year of our reign."

"Edwardus dei gratia, rex Angliae, Dominus Hiberniae, et Dux Aquitaine, dilestis et fidelibus suis Stephano de Pencestor, iter engolisma, et Henrico de Waleys, salutem. Sciatis quod affignavimus vos ad affidend placias apud Ihame et eas per certam arrentationem, justa legalem extentem per vos inde faciend. Baronibus et probis hominibus nostris de Wynch edificand et inhabitand juxta discretiones vestras commitend et ideo vobis mandamus, quod vos omnes, vel duo vestrum, quos ad hoc, vacare contigerit in propriis personis vestris apud Ihame accedatis et placias ibidem assideatis et eas praesatis Baronibus edificand et inhabitand committatis in forma praedicta, salva cum dominis immediatis placiarum praedictarum rationabili extenta cujuslibet acrae per vos assessae et ad inhabitan commissae juxta discretiones vestras praedictras sicut praedictum est. In cujus rei testimonium has literas nostras fieri fecimus patentes teste me ipso apud Wesim xxvii die novembris anno regni nostri decimo." [499]

However, it of course takes time to build a town, and people continued to live and work where they always had, but it was not to last. In 1287, the sea completely reclaimed the town of Old Winchelsea, and the town charter recorded, "Be it remembered, that in the year of our Lord 1287, on the eve of St Agatha the Virgin, was the town of Winchelsea drowned, and all the lands between Climesden and the voucher of Hythe."[500] All that had remained of Old Winchelsea had been swept into the English Channel in the Great Storm of 1287, and at that point, any survivors would have made their way to New Winchelsea. The charter states that "Old Winchelsea being drowned, the inhabitants, by favour of the King, and authority of his charters and grants aforesaid, brought the name of Winchelsea to their new plantation at Iham [...] and there built a town of about forty squares, called quarters, after the pattern of the old town."[501]

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[499]Samuel Jeake (ed. & trans.), *Charters of the cinque ports, two ancient towns, and their members: Translated into English, with annotations historical and critical thereupon,* (London, 1737), 105.
[500]Jeake, *Charters,* 104.
[501]Jeake, *Charters,* 104.

The drowning and rebirth of Winchelsea is but one example of the responses to catastrophic climate and weather. In this case, we see both how people had used the landscape to their advantage, making their livings off of seaborne trade and naval activity, but also how that landscape was both a blessing and a curse, swallowing the town whole with a change in the weather. There is the resilience of a community, working to rebuild their lives in a new settlement, further upland and safe from the ravages of the sea, while the land became inundated once more and transformed into shoreline and wetland. And finally, this is an excellent example of the increasing power of royal authority and of state formation. It was no mere coincidence that Edward I took a personal interest in Winchelsea. The town was important militarily and economically, and the commissions and charters indicate that the Crown planned ahead for the eventuality of the original town one day being submerged.

Old Winchelsea was far from the only town that was threatened by increasing storms and rising sea levels. The onset of the Little Ice Age in the late thirteenth century created a climate crisis in the medieval world. While previously, the drainage of coastal wetlands had been left up to peasant landholders or local elites, the Crown took more and more interest in this endeavour. In 1280, the Commission of Sewers was formed, a public body established by royal decree, whose purpose was to inspect systems of drainage and flood defence. Members were drawn from local landowners, along with court officials and civil servants, and their jurisdictions could be as large as entire counties.[502] These commissions were not only a reaction to environmental realities, but were also an instrument of state formation, whereby a centralised government could use its bureaucracy to assert its authority. Parallel to these developments, local elites and peasants alike continued to maintain and build their own flood defences as they saw fit, which

[502]James A.Galloway and Jonathan S. Potts, "Marine flooding in the Thames Estuary and tidal river c. 1250–1450: impact and response," *Area* 39, no. 3 (2007): 376-377.

could sometimes lead to friction with the royal authorities. Furthermore, the dawn of the fourteenth century brought with it both cattle murrain and the Great Famine, resulting in smaller, weakened populations attempting to maintain drainage. The arrival of the Black Death in 1348 was a final catastrophic blow for many areas, where the death toll left too few people to tend to the drains, and land was inundated and lost. This chapter outlines the crises faced by the people of Romney Marsh and the Pevensey Levels from c.1280-1400 C.E., from the Little Ice Age to famine to plague. Then, the responses to these challenges are explored. In some cases, the land had to be abandoned, as was the case with Old Winchelsea, and new settlements had to be created. In other cases, the land was transformed from arable fields into meadows or parks, which were less damaged by occasional floods. Furthermore, whether through bureaucratic state formation, local elite initiatives, or the combined efforts of landholding peasants, some of this land was able to remain arable land against all odds. However, not everyone welcomed the drainage of the wetlands and the increase in Crown authority. This chapter explores the ways that negligence of drainage defences and outright intentional destruction of this infrastructure was a site of resistance from both local elites and peasants.

5.2 Environmental Conditions

The dawn of the Little Ice Age resulted in a variety of environmental changes that had a profound impact in the Middle Ages.[503] The change in climate brought about an increase in

[503]The Little Ice Age was a period of cooling, particularly in the North Atlantic, which lasted from the late thirteenth century until the mid-nineteenth century. For further discussion of the Little Ice Age, see for example Christian Rohr, Chantal Camenisch, and Kathleen Pribyl, "The European Middle Ages," In *The Palgrave Handbook of Climate History*, 247-263, (London: Palgrave Macmillan, 2018); Brigitte Van Vliet-Lanoë, Tobias Lauer, Murielle Meurisse-Fort, Guillaume Gosselin, and Manfred Frechen, "Late Holocene coastal dune activity along the Dover Strait, Northern France–Insights into Middle Ages and Little Ice Age coastal dynamics constrained by optically stimulated luminescence dating," *Zeitschrift der Deutschen Gesellschaft für Geowissenschaften* (2017): 53-66; Samuli Helama, Phil D. Jones, and Keith R. Briffa, "Dark Ages Cold Period: A literature review and directions for future research," *The Holocene* 27, no. 10

storms and less favourable conditions for crop growth. These same conditions also led to livestock death and widespread famine in the fourteenth century. The combination of worsening climate and food shortages created a perfect storm, where more labour was needed to defend the land from inundation, but there were fewer people to tend the walls, and those who remained were weakened from famine.

5.2.1 Climate Change: The Little Ice Age, Storm Surges, and Drought

As discussed in previous chapters, the Medieval Climate Optimum was a period of mild winters and warm summers, when sea levels fell and crop yields rose. However, this came to an end in the mid thirteenth century, when the climate shifted and led to the Little Ice Age (LIA). A decrease in solar irradiance began c.1270, which led to a global cooling of temperatures.[504] The temperature at this time decreased by an estimated two degrees celsius, and resulted in prolonged winters and a shortened growing season.[505] Indeed, winters could be two or even three months longer than in the early thirteenth century.[506] This change in climate resulted in an increase of storm activity in England in the thirteenth century, continuing into the fourteenth.[507] Droughts

(2017): 1600-1606; Gifford H. Miller, Áslaug Geirsdóttir, Yafang Zhong, Darren J. Larsen, Bette L. Otto-Bliesner, Marika M. Holland, David A. Bailey et al., "Abrupt onset of the Little Ice Age triggered by volcanism and sustained by sea-ice/ocean feedbacks," *Geophysical research letters* 39, no. 2 (2012); John A. Matthews and Keith R. Briffa, "The 'Little Ice Age': re-evaluation of an evolving concept." *Geografiska Annaler: Series A, Physical Geography* 87, no. 1 (2005): 17-36; Jean M. Grove, "The initiation of the" Little Ice Age" in regions round the North Atlantic," *Climatic change* 48, no. 1 (2001): 53-82; Christian Pfister, Jürg Luterbacher, Gabriela Schwarz-Zanetti, and Milène Wegman, "Winter air temperature variations in western Europe during the Early and High Middle Ages (AD 750–1300)," *The Holocene* 8, no. 5 (1998): 535-552; Hubert H. Lamb, "Climatic variation and changes in the wind and ocean circulation: the Little Ice Age in the northeast Atlantic," *Quaternary Research* 11, no. 1 (1979): 1-20.

[504]Campbell, *The Great Transition*, 3.

[505]Behringer, *Cultural History,* 88-103.

[506]Hoffmann, *Environmental History,* 328.

[507]James A. Galloway and J.S. Potts, "Marine Flooding in the Thames Estuary and Tidal River c.1250-1450: Impact and Response*," Area* 39 (2007), 370-379; James A Galloway, "Storm flooding, coastal defense and land use around the Thames estuary and tidal river c.1250- 1450*," Journal of Medieval History* 35 (2009): 171-188; Mark Bailey,"Per Impetum Maris: Natural Disaster and Economic Decline in Eastern England, 1275-1350" in *Before the Black Death: Studies in the Crises of the Early Fourteenth Century*, edited by B. M. S. Campbell ,188-191. (Manchester: Manchester University Press, 1991).

were also a problem in England during the Little Ice Age, leading to decreased crop yields and increased mortality. [508] The most severe crop failures happened between 1315-1317, which became known as The Great Famine.

5.2.2 Food Shortages: The Great Famine:1315-1317 & The Cattle Plague: 1318-1320

The Great Famine was the first catastrophe of the fourteenth century crisis.[509] In the year 1315, unrelenting rain resulted in crop failure throughout most of Europe; 1316 proved to be even worse, with seemingly endless rain all through the spring, summer, and fall.[510] In 1317, the rains subsided slightly, but normal levels of crop yields were not achieved again until 1322.[511] Indeed, dendrochronological analysis reveals that the period from 1314-1316, when the crops of the famine years were being sown, was the fifth wettest period in all of Europe from 1300 to 2012 C.E.[512] These back to back crop failures had an enormous impact on all aspects of life. To begin, there was mass death, with an estimated 10% of people perishing across England.[513] The scarcity of grain also led to enormous price increases.[514] Finally, the lack of food meant that animal feed grain was being consumed by desperate people, which weakened livestock. The

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[508] Kathleen Pribyl and Richard C. Cornes, “Droughts in Medieval and Early Modern England, Part 1: The Evidence,” Weather 75, no. 6 (2020): 168–72; David Stone, "The impact of drought in early fourteenth-century England," *The Economic History Review* 67, no. 2 (2014), 435-462.

[509] For broader discussion of The Great Famine, see for example William Rosen, *The Third Horseman: Climate Change and the Great Famine of the 14th Century*, (New York: Viking, 2014); Ian. Kershaw, "The Great Famine and Agrarian Crisis in England 1315-1322." *Past & Present* 59 (1973): 3-50; Henry S. Lucas, "The Great European Famine of 1315, 1316, and 1317." *Speculum* 5, no. 4 (1930): 343-377.

[510] William Chester Jordan, *The Great Famine: Northern Europe in the Early Fourteenth Century*. (Princeton, N.J.: Princeton University Press, 1998), 18-19.

[511] Jordan, *The Great Famine,* 19-20.

[512] Seung H. Baek, Jason E. Smerdon, George-Costin Dobrin, Jacob G. Naimark, Edward R. Cook, Benjamin I. Cook, Richard Seager, Mark A. Cane, and Serena R. Scholz, "A quantitative hydroclimatic context for the European Great Famine of 1315–1317," *Communications Earth & Environment* 1, no. 1 (2020): 1-7.

[513] Kathleen Pribyl, "The Study of the Climate of Medieval England: A Review of Historical Climatology's Past Achievements and Future Potential," *Weather* 69, no. 5 (2014): 119.

[514] Bruce M. S. Campbell and Cormac Ó. Gráda, "Harvest Shortfalls, Grain Prices, and Famines in Pre Industrial England," *The Journal of Economic History* 71, no. 4 (2011): 870.

famine resulted in oat and barley allotments for cattle being reduced, which would have weakened them, since bovids acquire some of their vital nutrients from fodder grains.[515] Furthermore, the wet weather meant that there was also a hay shortage, since it was impossible to dry grasses without sunny summer days.[516] The lack of food likely weakened cattle, which worsened the cattle plague of 1318-1320.

Widespread cattle murrain was the next shock of the fourteenth century. Murrain is not a specific disease, but rather a term used in the Middle Ages to describe diseases with high mortality rates that affect sheep and cattle; these diseases could have been, but were not limited to, anthrax, rinderpest, and foot-and-mouth disease.[517] Cattle plagues had not been a major problem in Europe since the tenth century, but starting in the 1290s, a cattle plague began to spread again, potentially as a result of the increased movement in Eurasia under Mongol rule.[518] The murrain reached England in 1318 and quickly devastated cattle herds, killing both oxen and cows. Indeed, between 1319-1320, an estimated 62% of all cattle in England and Wales died.[519] This loss of cattle was catastrophic. For one thing, oxen were the main draught animal in England at this time, and the manure of cattle was the main source of fertiliser, meaning that the deaths of these animals made ploughing the fields and replenishing the soils all the more

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[515]Philip Slavin, "The Great Bovine Pestilence and its Economic and Environmental Consequences in England and Wales, 1318–50," *The Economic History Review* 65, no. 4 (2012): 1254.
[516]Slavin, "The Great Bovine Pestilence", 1254.
[517] For further discussion of cattle murrain in the medieval world, see for example Philip Slavin, "Climate, pathogens and mammals: England in the age of emerging diseases, c. 1275–1362," In *The Routledge Handbook of Medieval Rural Life*, 153-174 (Oxfordshire: Routledge, 2021); Louisa J. Gidney, "Recognising Catastrophic Cattle-Mortality Events in England and their Repercussions," In *Waiting for the End of the World?*, 328-344 (Oxfordshire: Routledge, 2020); Sam White, "A Model Disaster: From the great Ottoman Panzootic to the Cattle Plagues of Early Modern Europe," *Plague and Contagion in the Islamic Mediterranean, Medieval Institute Publications/Arc Humanities Press, Kalamazoo* (2017): 91-116; T. Newfield, "Domesticates, Disease and Climate in early post-classical Europe: The Cattle Plague of c. 940 and its Environmental Context," *Post-Classical Archaeologies* 5 (2015): 95-126.
[518]Dyer, *Great Transition,* 7.
[519]Slavin,"The Great Bovine Pestilence",1239.

difficult.[520] Furthermore, the loss of cattle resulted in a dearth of dairy resources that lasted until the 1330s.[521] Dairy products were the main source of protein in the peasant diet in England, and Slavin has argued that the loss of cattle, and the time it took to restock the herds, resulted in a 12 year "protein famine".[522] Finally, the economic impacts were substantial, as loss of cattle was a loss of movable wealth; furthermore, the loss of oxen in particular would have impacted trade, given a shortage of animals to pull carts, and the loss of meat, milk, and leather would have impacted everyone involved in the buying, selling, and processing of these resources.[523]

In short, the end of the thirteenth and the beginning of the fourteenth century was a time of upheaval and crisis. Worsening storms and flooding, combined with food shortages and animal deaths, resulted in a period of instability, deprivation, and widespread death. However, these circumstances only made the maintenance of wetland drainage and sea defenses all the more vital. Local elites and landholding peasants both went to great lengths to keep the land reclaimed, as they had for centuries. However, these worsening conditions led to the Commission of Sewers, whereby the Crown became involved in local drainage.

5.3 Before the Black Death: Wetland Conditions c.1280-1348

The time between the start of the Little Ice Age and the arrival of the plague was a time of transition. On one hand, while many people died in the Great Famine, the population stayed relatively high, and labour was readily available to build and maintain drainage infrastructure and sow the newly drained fields. Therefore, while the weather grew wetter and the sea rose

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[520]Timothy P. Newfield, "A cattle panzootic in early fourteenth–century Europe," *Agricultural History Review* 57, no. 2 (2009): 156.
[521]Sharon DeWitte and Philip Slavin, "Between Famine and Death: England on the eve of the Black Death—Evidence from Paleoepidemiology and Manorial Accounts," *Journal of Interdisciplinary History* 44, no. 1 (2013): 38.
[522]Slavin,"The Great Bovine Pestilence",1263.
[523]Louisa J. Gidney, "Recognising Catastrophic Cattle-Mortality Events in England and their Repercussions," In *Waiting for the End of the World?*, (London: Routledge, 2020), 328.

higher, wetland communities were able to adapt their land use strategies relatively easily in order to work with the new climactic realities, although some land was inevitably lost to inundation. Furthermore, the commissions of sewers were being issued regularly in order to ensure the constant maintenance of flood defenses. Indeed, while the drainage of the wetlands likely resulted in worse flooding overall since the watershed area had been lost, most manors appear to have doubled down and invested more and more into defensive measures, especially before the Black Death. However, there were people who resisted the imposition of Crown authority, and even more so local communities who were not pleased with the drainage of wetland. When the wetlands were drained, they went from being common land where fishing, fowling, and other such activities could be conducted, to enclosed regions that mainly benefited the landholders. As such, local communities were sometimes disinclined to maintain these drainage systems, and in some cases outright sabotaged them, making the wetlands a place of resistance to authority and enclosure.

5.3.1 Land Use in Romney Marsh and the Pevensey Levels c.1280-1347: Flooding, Increasing Demesnes, Decreasing Peasant Holdings

As a result of worsening climatic conditions, the low lying wetland regions of Romney Marsh and the Pevensey Levels were at increased risk of inundation. For example, in Sussex, between 1291-1341, 4000 acres of arable land had been lost to flooding.[524] Areas in the Pevensey Levels were disproportionately affected. In Hooe between 1291-1341, approximately 400 acres of land was lost to flooding.[525] Similarly, at Wartling, 200 acres of arable land were submerged by 1341.[526] In order to deal with the flooding, both lay and ecclesiastic landholders

[524]Moore and Bednarski, "Draining the Swamp", 329.
[525]Barbara F. Harvey, "The Population Trend in England between 1300 and 1348," *Transactions of the Royal Historical Society* 16 (1966): 34.
[526]Moore and Bednarski, "Draining the Swamp", 329.

were willing to spend large sums to drain and re-drain the land. For example, in 1288 Christchurch Priory spent £8,7s. on new walls and ditches to recover inundated pasture on its marshland manor of Ebony, and spent another £124, 2s. in 1293-4 to construct a new wall at Appledore, also in Romney Marsh.[527] In another instance, King Edward granted land to Robert de Sapy and his wife Aline in July of 1317, whereby they could " enclose, as much as they are able, of the king's marsh of Pevenese, which is inundated by the flow of the tide and is in the tenancy of no person, and that they may hold the same so enclosed for their lives by rendering yearly to the king a pair of gilt spurs at the feast day of St John the Baptist, with reversion upon their deaths to the king."[528]

The consequences of this drainage were far reaching. As seen in the grant to Robert de Sapy and Aline, in order to drain the wetland, the king allowed them to enclose it for themselves, since there were no tenants living in the area. In other words, marshland that was previously either used for by-occupations such as salt-making, fishing, and fowling, or which was held in common or as wasteland, was suddenly no longer available for use by the peasantry.[529] Moreover, since landlords were investing heavily in drainage infrastructure, they were incentivised to maximise the profits of that drained land. In practice, this meant that ever increasing proportions of drained marshland were being added to desmenses, and that the land was being increasingly managed directly. For example, from the mid thirteenth century, Battle Abbey was buying up plots of land to enlarge and consolidate their demesne holdings, and

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[527]Luke Barber and Greg Priestley-Bell, *Medieval Adaptation, Settlement and Economy of a Coastal Wetland: The Evidence from Around Lydd, Romney Marsh, Kent,* (Oxford: Oxbow Books, 2008), 15.
[528]CPR, 1317-1321, 17.
[529] Though there were no tenants living there at the time, this does not necessarily mean that no tenants had ever lived there. However, as discussed in previous chapters, most of the Pevensey Levels were used for by-occupations and were only drained when they became demesne land. In all likelihood, this drainage would have constituted a loss for the local population, as they could not fish, catch fowl, or produce salt for income.

purchased significant acreage on Denge Marsh, a part of Romney Marsh. From at least 1257, as dated in a charter, Battle Abbey was directly managing their demesne holdings, and used the drained wetland to grow grains and legumes, graze sheep, cows, and pigs, and also rented out grazing land for additional income.[530] Christchurch priory followed a similar pattern in their wetland holdings by directly managing the drained lands for mixed-use agriculture.[531] For those who could afford to maintain drainage infrastructure, the rewards could be very rich indeed.

However, this prosperity came at a cost. Paradoxically, the drainage of these wetlands only made the regions more vulnerable to flooding and inundation. When wetlands are drained, the peat and soil of the region becomes compacted. This compacting of the land increases flood risk in two ways. First, the land is no longer able to act as water storage. A wetland in its natural state can absorb water from both flooding and excessive precipitation, and thus acts as a form of natural flood control, meaning that when the land is drained, it loses this function and is more prone to flooding not only that land, but the surrounding areas as well.[532] Secondly, draining wetlands actually lowers the land level due to the compaction. This makes flooding more likely, as the water levels of the sea or other watercourses have to rise less in order to cause a flood.[533] Therefore, ever more investment had to be made in order to keep wetlands drained in this period. Furthermore, the enclosure and direct management of wetlands occurred at the expense of peasants, particularly those who were smallholders or landless and would have relied on the natural resources of the marshes for sustenance and income. The loss of these resources would

[530]Barber and Priestley-Bell, *Medieval adaptation,* 17-18.
[531]Barber and Priestley-Bell, *Medieval adaptation,* 17-18.
[532]M. Acreman and J. Holden, "How Wetlands Affect Floods," *Wetlands* 33, no. 5 (2013): 773-786, and William J. Mitsch and James G. Gosselink, "The Value of Wetlands: Importance of Scale and Landscape Setting," *Ecological economics* 35, no. 1 (2000): 25-33.
[533]Tim Soens, “Flood Security in the Medieval and Early Modern North Sea Area: A Question of Entitlement?” Environment and History 19 (2013), 211.

have made it even more difficult for them to recover from crop failure, flooding of their lands, and the deaths of the animals. Furthermore, the problem was exacerbated by local elites buying up land from poorer peasants. In bad years, these people would have had little recourse, especially given the loss of common land, and would have sold their lands in order to survive. For example, peasants in Broomhill often sold land to Battle Abbey and were left landless or with very small holdings during this period.[534] The result was an increase in demesne land and tenant land, and a decrease in the number of peasant freeholders. Thus, the poorest people lost both their own lands and access to much common land, just as environmental conditions were worsening and causing food shortages. Finally, the Crown was able to use these commissions to assert their interests and develop the bureaucracy of a state system.

5.3.2 Commissions of Sewers in Romney Marsh and Pevensey Levels 1280-1348

The Crown took an active interest in the drainage of Romney Marsh and the Pevensey Levels beginning in at least the late 1280s. These two regions will be considered together, as they are geographically close and faced similar weather and climate. On November 16 1288, a commission de walliis et fossatis was issued for "the coast of Kent."[535] By January 25 1289, a commission was issued for "the sea coast and parts adjacent in the county of Sussex."[536] 1289 saw no fewer than four commissions issued for the Romeny Marsh region between August 20th and December 8th.[537] By examining the issuing of commission of sewers, it is possible to discern the times of worsening conditions, as well as the responses to increased risk of inundation. To

[534]M. Gardiner, 'Medieval Settlement and Society in the Broomhill area and Excavations at Broomhill Church', in J. Eddison and C. Green (eds.), *Romney Marsh: Evolution, Occupation and Reclamation* (Oxford: Oxford Committee for Archaeology, 1988), 118.
[535] Calendar of the Patent Rolls, Edward I, A.D. 1281-1292.H.M. Stationery Office, 1893, 309.
[536] CPR, A.D. 1281-1292, 329.
[537] CRP, A.D. 1281-1292, 320, 331, 390, & 395.

begin with, as seen in Figure 5, commissions were most likely to be issued in November, with 10 out of 61 being issued in that month alone. March and May were tied at 7 each for second place. Recalling that the commissions of sewers were mostly reactive rather than proactive, this data would indicate that flooding tended to take place in the early autumn rains of September and October, and then commissions to respond to the damage would be issued in November. Similarly, March commissions were likely in response to damage from winter storms, and May commissions would have been issued as a response to springtime flooding and runoff. Unsurprisingly, from May until September there is a downward trend, given that the summers would have been the driest season.

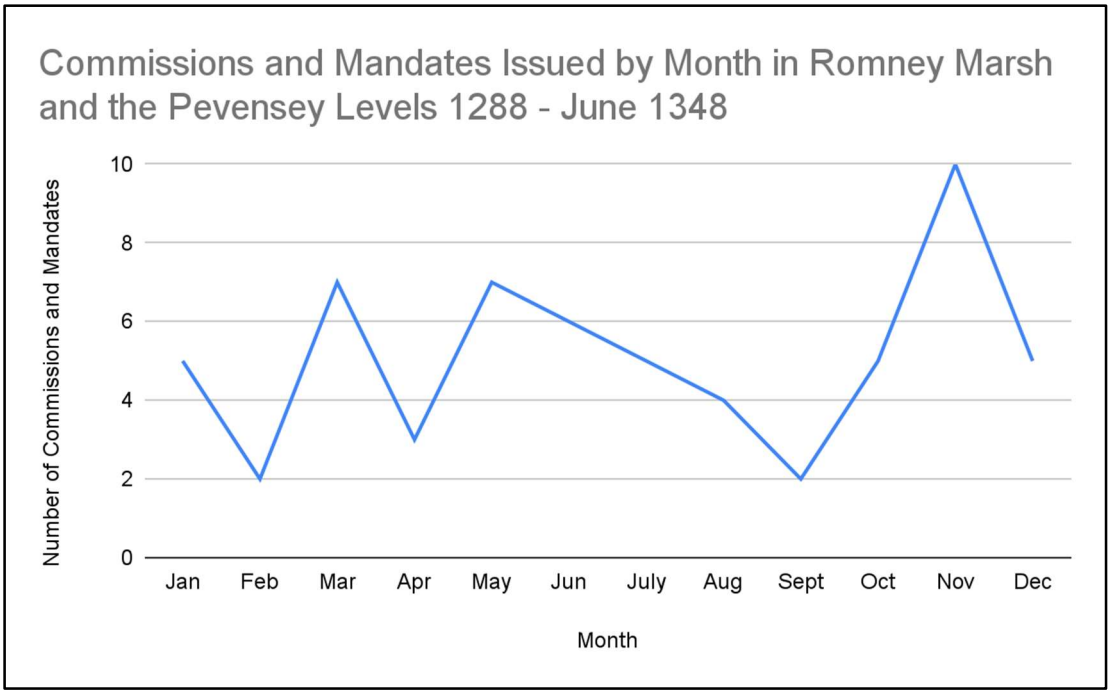

Figure 5: The total number of commissions issued in each month between 1288 (the first commission of sewers issued in the region) and June 1348.

Furthermore, as seen in Figure 6, between 1288 and 1302, commissions would be issued for the areas at risk of flooding, with gaps of two to five years between commissions. This would indicate that while maintenance was required for drainage systems and sea defense, this work was only needed every few years, and the infrastructure was otherwise able to withstand the

conditions. However, beginning in 1303, there was at least one commission issued each year until 1311, inclusive. The period from 1303-1311 saw no fewer than seventeen commissions for the region, indicating that during these years, the weather conditions were particularly bad, resulting in the need for constant maintenance and building of sea walls and other flood defences.

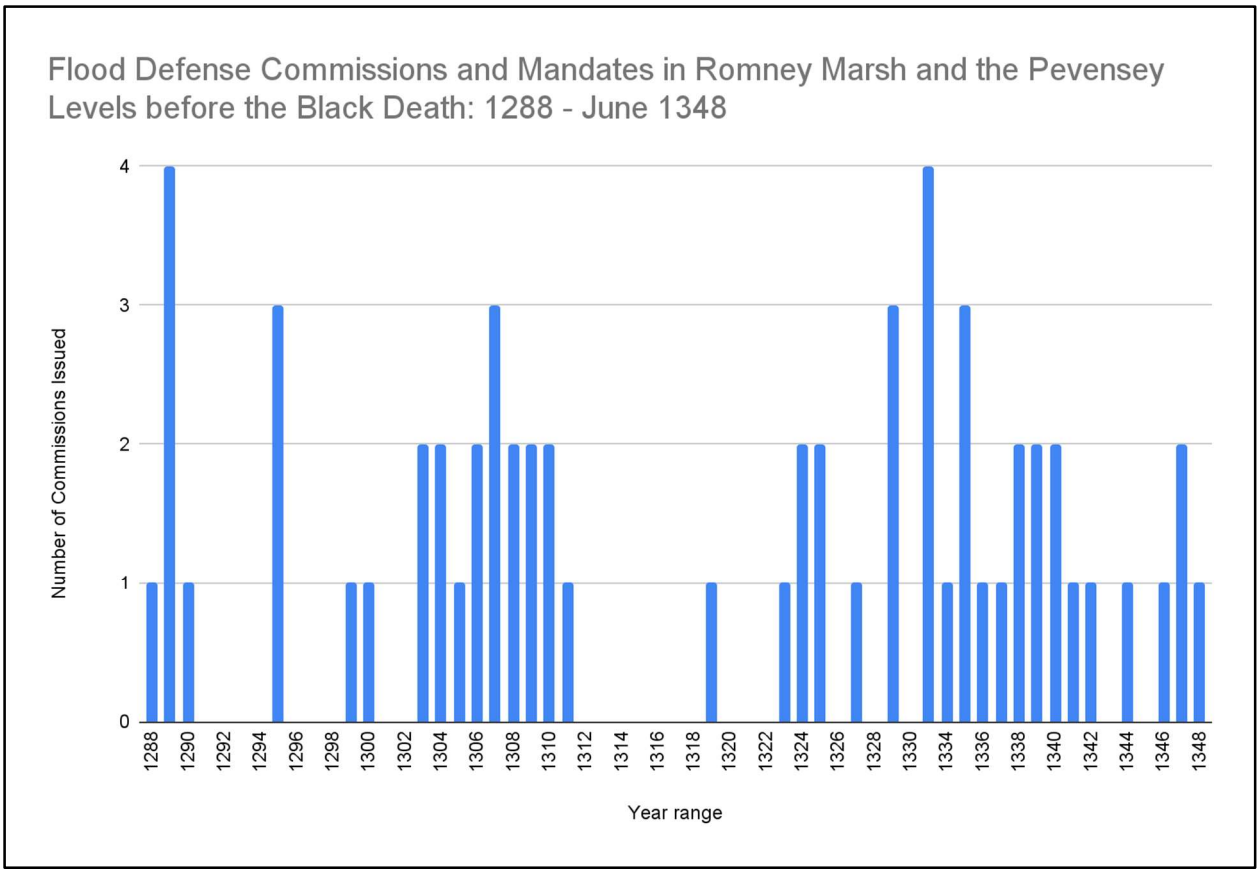

Figure 6: Commissions of sewers in Romney Marsh and the Pevensey Levels, from the first commissions of 1288 until June 1348.

However, between 1312 and 1318, no commissions at all were issued, despite a known incidence of increased rainfall between 1314-1317 which led to the Great Famine. Indeed, it would seem that this gap was likely not caused by improved weather, but rather by a lack of available labour due to the deaths of both people and draught animals during the famine and cattle murrain. While the years 1312 and 1313 could have been a more normal two year gap in

commissions, it is likely that between 1314 and 1318, the combination of flooding and famine was too much and commissions were not possible. In 1319, there were two commissions issued "for the seacoast in the parts of Pevensey and Hastynges, co. Sussex", with one issued in August to Henry Beaufiz, Andrew Peverel, and John de Dallingrigg and one issued in December to Henry Beaufuiz, John de Berghamme, and John de Dallyngrigg.[538] In other words, while there were two commissions in that year, it was for the same stretch of land, and the second commission was only issued to change out commissioners, so for the purposes of this study it only counts as one instance of flood defence. After this, no more commissions were issued in the area at all until 1323, likely still because of the repercussions of the famine and cattle plague.

After this point, the commissions of sewers are issued almost every year, with at most one year gaps in between. 1329-1345 displays a clear peak, with 11 commissions issued in 7 years, and after that point it tapers off, with 1-2 commissions per year at most. This would potentially indicate that at this point, the weather conditions were deteriorating, but the Crown was able to take an active role in flood defences, and there was still enough of a labour pool to address the building and maintenance needs. Indeed, one pertinent example is the commission from May 30, 1342:

"Commission de walliis et fossatis to John de Fenes, knight, John de Betenham, John Paulyn, Stephen Donet, Stephen de Forsham, William de Wyghtersham, and Laurence Curboil between a place called 'Knelleflete,' on the confines of the counties of Kent and Sussex and Robertsbridge, co. Sussex. By inquisition lately taken by William Trussel, escheator on this side Trent, it was found that 650 acres of the land of Geoffrey de Knelle and Isabella Aucher and others at that place had been submerged, and other land would soon be submerged unless a sea wall were built there, and the king by letters patent granted license for the said Geoffrey and Isabella and others interested to build such a wall. Afterwards, he appointed Roger de Bavent, Roger de Hegham, Thomas de Lincoln and William de Northo to supervise the building of the wall and to compel all persons who should contribute to its cost to pay their share, but he is informed that the walls and dykes planned and built by them now require extensive repairs, otherwise further inundations will ensure."[539]

[538]CPR, 1317-1321, 466 & 472.
[539]CPR, 1340-1343, 538.

This brief passage displays three important points. First, the stakes are very clear. Over 650 acres of land were at risk of flooding should the proper construction work not be completed, showing the importance of drainage in the region. Secondly, it shows the way that the Crown was able to work with and recruit local elites to maintain and build infrastructure. Finally, it shows the coercive power that could be exercised, in that people could be compelled to pay for whatever was deemed as their share of the work. Indeed, paying for and maintaining drainage was not always desired by local elites and peasants alike, and there is evidence that drainage was a site of resistance to authority, and commissions of sewers were used by people to compel their neighbours to keep land drained.

5.3.3 Localised Use of Bureaucratic Structures, c.1280-1348

Mandates and commissions did not always come from a top-down imperative. Indeed, from at least 1289, local landholders were using the bureaucracy of the commissions of sewers as leverage against their neighbours and against royal agents. For example, on August 21st 1289, the following commission was issued:

" Commission de walliis, fossatis, etc to Henry de Appeltrefeld, Robert de Savaunz and Henry de Ledes, on complaint by William Barry of Rouyndenne that William de Poton has neglected to repair his lands in the marsh of Neubrok in Rolvinden, near the sea coast between Smalbede and Mayhamme, co. Kent, whereby inundations have been caused over the lands of other tenants."[540]

A little over a year later, on October 13 1290, William Barry of Rouyndenne brought a complaint once again, and another commission was issued to resolve the concern:

"Commission de walliis, fossatis, etc to Henry Appeltrefeld and Bertram Tancre, on complaint by William Barry of Rolvyndenne, co. Kent, that John Maleneins refuses to repair and maintain the walls, ditches, gutters, bridges and sewers which his is bound to do by reason of his lands in

[540]CPR, 1281-1292, 320.

the marsh of Westbrok in Rolvindenne by the sea-shore between Mayhamme and Newendenne, whereby the lands of the said William and his tenants suffer by inundation of the sea."[541]

In this example, William Barry is using government bureaucracy to compel his neighbours to use their lands as he saw fit. It is very likely that he would have first attempted to discuss the drainage of the land with the landholders directly, and when that failed, proceeded to lodge a formal complaint. It is possible that people were able to use the state to enforce drainage on others, even if those being complained against would have preferred to revert their land to marsh. In either case, the rising sea levels and increased storm activity led to friction over drainage and who was responsible for maintaining the infrastructure of any given locale.

The commissions could also be used to hold officers accountable with the Crown. For example, on July 15 1324, there was a

" Commission to Henry de Cobham, Waresius de Valoignes, and William de Ponte Roberti to audit the accounts of Richard Frilamb, late common bailif (sic) of that marsh, and Geoffrey atte Chapele, now bailiff there, John de Wyvenford, Walter Wyberd, and others appointed to collect sums for the repair of the walls and watergangs there, it having been shown on behalf of Robert Alard of Wynchelse, Thomas de Maidenstone, Hamo Colebrond, and William de Lewes of Romenhale, and others having lands in the Marsh of Romenhale, that they have neglected to apply these sums to the repair."[542]

In this case, local landholders were able to join together to bring complaints against the bailiffs of the marsh. When the bailiffs collected money for repairs but then failed to actually put those resources towards infrastructure maintenance, these men were able to use the bureaucratic structures to ensure that the bailiffs did not get away with theft and negligence of their duties. In this way, the commissions could both be used by landholders against each other, or they could work together and use the commissions to ensure that their lands remained drained.

[541]CPR, 1281-1292, 390.
[542]CPR, 1324-1327, 7.

5.3.4 Drainage Destruction and Negligence as Resistance, c.1280-1348

Furthermore, as discussed in the previous chapter, not everyone would have benefitted from the drainage of wetlands. Indeed, those who benefitted the most were local elites and landholding peasants, whereas the poor and landless suffered from the loss of resources. Therefore, it is unsurprising that neglect of this infrastructure or even intentional destruction is recorded in the patent rolls. On October 15 1304, there was a

"Commission of oyer and terminer to Robert de Burhersh and Henry de Gilford touching the persons who broke the park of John de Uvedale at Laughton, co. Sussex, hunted therein and carried away deer, cut down and carried away trees, drove away his beasts to places unknown, broke his dykes, and assaulted his men."[543]

This example displays people resisting the enclosure of what was once land that was available for use by the local peasantry.[544] John de Uvedale likely had dykes built to drain the area, and then turned it into a park for his own use.[545] This destruction could be seen as an act of resistance to land enclosure, where unknown persons hunted the deer and took the timber of the park for themselves, reclaiming resources that had been taken from them, and broke the dykes which had been used to transform the common marsh into a private park. This sort of resistance to authority

[543]CPR, 1301-1307, 287.

[544]It is unclear if the former wetland was designated as common land, waste, or had previously been used for grazing or even arable agriculture; however, in any of these cases the local peasants could have reaped some benefit from the land, whereas a private deer park only benefited Uvedale.

[545]This passage seems like it could be referring to two separate areas, whereby the park and the dykes were in different places. However, these commissions normally explicitly state the locations in question. Since the commission is about John of Uvedale's park, and the breaking of dykes is mentioned as part and parcel of the destruction of the park, it is almost certain that the dykes in question were in fact around the park. Indeed, for an example of waterlogged land being transformed into a deerpark in Sussex in the Middle Ages, see Steven Bednarski, Andrew Moore, and Timothy P. Newfield, "New Interdisciplinary Approaches to Life, Land, and Environment at Herstmonceux," In *The Routledge Handbook of Medieval Rural Life*, 303-319 (London: Routledge, 2021).

happened in other wetlands as well. For example, on June 8 1342, Henry, the Abbot of Croyland, complained that,

"others broke a dyke raised in his marsh at Depyng, co Lincoln, to protect the same against the flow of fresh water there, whereby the marsh was inundated, his turves dug therein were destroyed, and he lost his profit of the marsh for a great while, fished in his free fishery there and took and carried away fish."[546]

In another case, in 1346, the prior of Bermondsey in Surrey stated that a group of men,

"broke and threw down his close and dykes in Bermundeseye (sic) and dug so much in his several soil there that by the throwing down and digging 140 acres of meadow were inundated by the Thames and he totally lost his profit thereof, felled his trees and carried them away with other goods and assaulted his men and servants where by he lost their service for a great time."[547]

Likewise, in Northampton in 1347, William de Bohun complained that,

"some evildoers broke a dyke at Pecham, whereby the water issuing from the same so inundated his meadow at Camerwelle (sic) and West Grenewich (sic) that he entirely lost the profit thereof, to the value of 1000 marks."[548]

Of course, these later examples are from regions beyond the scope of this study, but they are included to display a trend, whereby drainage infrastructure was not damaged as a result of poor weather conditions or the simple passage of time, but rather, through intentional destruction. These examples display the ways in which the breaking of dykes and embankments was potentially used against large landholders in order to access resources, and as a show of resistance to land transformation and enclosure.

In some cases, it was local elites who broke drainage infrastructure as a means of showing their resistance to crown authority. In one notable example, the statute of Northampton stated that no one could ride or otherwise travel while armed, except for the sergeants and

[546]CPR, 1340-1343, 541.
[547]CPR, 1345-1348, 176-7.
[548]CPR, 1345-1348, 308.

ministers of the king.[549] However, John de Midelton and his wife Eufemia, along with at least twenty accomplices, went to Ingelton, which belonged to the abbot of Fourneys, and "not fearing the statute, came armed and broke by force his close and dykes there, carried away his goods and assaulted his men and servants.[550] John de Midelton held the barony of Kendal, and had an estate in the region.[551] As such, he would not have been adversely affected by the drainage of a wetland in the way that a landless or otherwise poor peasant would have been, Rather, it appears that the breaking of the dykes was more of a symbolic act. While he and his party surely benefitted from carrying off goods, the destruction of a water management system could have also served to show that they, not the abbott, had control over the land. On the other hand, the dykes may have been a relatively easy target, as their destruction would have yielded much damage with little risk to the perpetrators. Furthermore, coming armed displayed resistance to the growing reach of crown authority, by acting in direct violation of the statute. Again, this instance occurred outside the regional focus of this study, but it provides an example of the ways that destruction of flood defences could be symbolic as much as they were pragmatic.

However, resistance to authorities and disapproval of landscape management could also be more passive, For examples, on March 30 1305, there was a

"Mandate to Thomas Alard, bailiff of Wynchelse, to distrain by their lands both within and without the marsh of Winchelse (sic) all persons who by their tenure are, by custom of the marsh, bound to contribute proportionately to the repair of the walls and dykes of the marsh, and who have driven away their beasts therefrom that they may not be distrained for the same."[552]

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[549]CPR, 1345-1348, 233-4

[550]CPR, 1345-1348, 233-4.

[551]"Middleton," in *Records Relating To the Barony of Kendale: Volume 2*, ed. William Farrer and John F Curwen (Kendal: Titus Wilson and Son, 1924), 398-415. *British History Online*, accessed July 22, 2022, http://www.british-history.ac.uk/kendale-barony/vol2/pp398-415.

[552]CPR, 1301-1307, 324.

This is another example where those harmed by the drainage of wetlands pushed back on this change of land use. The unnamed people in this passage had "driven away their beasts", indicating that they were grazing their animals on the former wetlands near Winchelsea. These same people were, as part of the customs of their tenure, meant to repair the walls and dykes, but chose not to do so. In fact, rather than be forced to repair those defences, they drove their animals away so that they could avoid being distrained. In this instance, it appears that the people who were grazing their animals on the former wetland did not see much benefit in the drainage, and therefore did not wish to contribute to the flood defences; after all, for these people, the undrained wetland had likely been more useful to them as a source of fish, fowl, forage, and other materials, and they would have been able to graze their animals on the marsh besides. While draining a wetland prolongs the grazing season, this is only a net benefit if one is not using the marsh for anything besides grazing. Therefore, in the cost benefit analysis, the people of the marshes near Winchelsea seem to have decided that they were better off allowing the wetlands to become inundated once again, and were willing to flee with their animals to avoid being made to maintain the flood defences that they neither wanted nor needed.

5.4 The Black Death in the Wetlands: Impacts and Responses

The Black Death arrived in England in June 1348, and ravaged the country until early 1350, killing an estimated 40-60% of the population, and outbreaks of the plague continued to occur throughout the fourteenth century.[553] Such a steep decline in population impacted every

[553]For more about the Black Death in England, see for example Mark Bailey, *After the Black Death : Economy, Society, and the Law in Fourteenth-Century England* (Oxford: Oxford University Press, 2021); John Hatcher, *The Black Death : A Personal History*. 1st ed.(Cambridge, MA: Da Capo Press, 2008); Elizabeth A. Lehfeldt, ed.,*The Black Death*, (Boston: Houghton Mifflin, 2005);Stuart J. Borsch, *The Black Death in Egypt and England : A Comparative Study,* (Austin: University of Texas Press, 2005); Norman F. Cantor, *In the Wake of the Plague : The Black Death and the World It Made*, (New York: Free Press, 2001); Colin Platt, *King Death : The Black Death and Its Aftermath in Late-Medieval England*, (Toronto: University of Toronto Press, 1996).

aspect of society, and the responses to climate change had to be adjusted. While dealing with the dual crises of plague and climate change, medieval people used three land use strategies. The first is continued land defence, where the Commissions of Sewers sought to prevent flooding and inundation through the building and maintenance of drainage infrastructure. Secondly, there were changes in land usage; the period after the Black Death saw a move away from arable farming on reclaimed wetlands and a rise in mixed arable or pastoral farming. Such practices were both less harmed by flooding, and were able to be carried out with less labour. Alternatively, some of this land was also converted to parks or other usages when farming on it was no longer possible. Finally, there were cases of land abandonment, where land was reclaimed by the sea and the marsh. However, land desertion was relatively rare in the wetlands, and people preferred to either maintain the drainage or to find other uses for the land. Furthermore, purposeful destruction and negligence of drainage infrastructure continued to be a site of resistance to both Crown and local authority as people asserted their own interests.

5.4.1 Land Defence: Commissions of Sewers c. June 1348-1400

After the Black Death, the Commissions of Sewers were less active than they were before. In the period between 1288 - June 1348, 61 commissions were issued in the region, which translates to an average of approximately one commission per year. In contrast, as seen in Figure 7, there were only 40 total commissions issued between June 1348 - 1400, which amounts to an average of 0.77 commissions per year, indicating that there was a 23% drop in commissions issued between the periods, as shown in Figure 8.

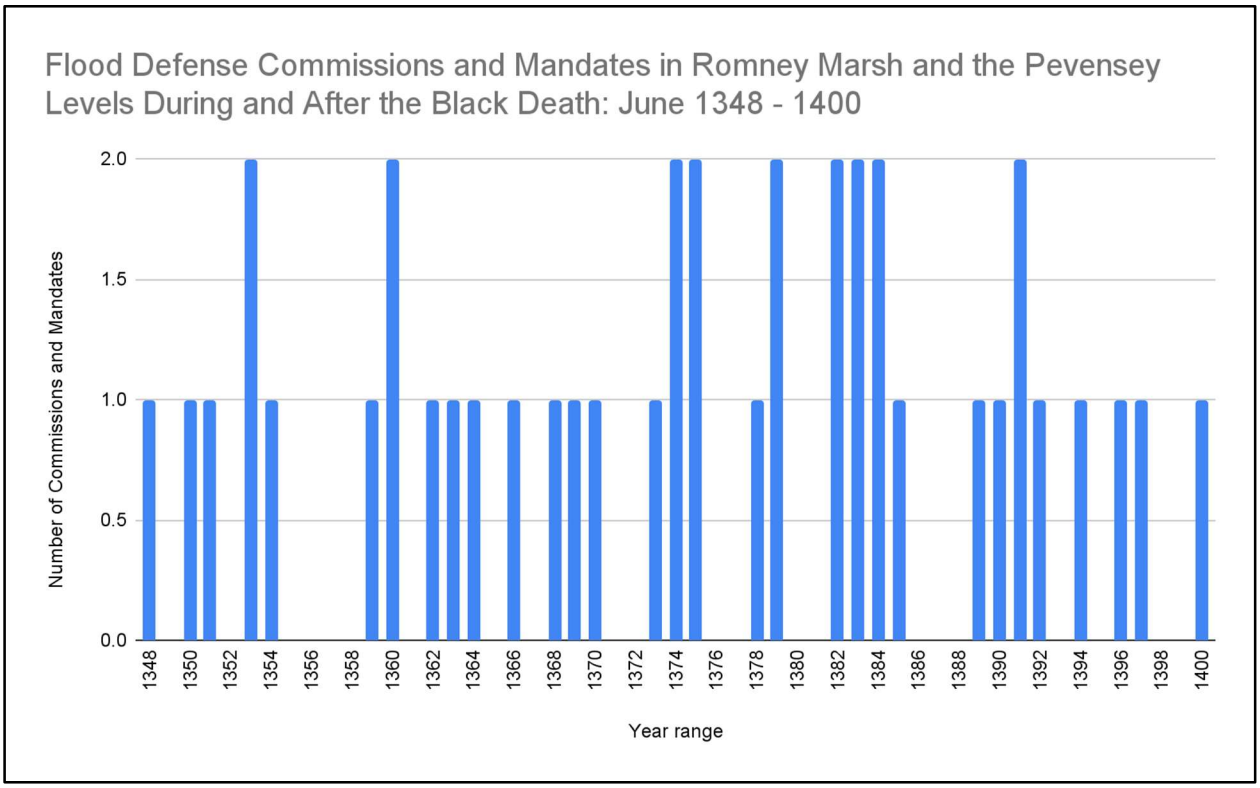

Figure 7: The activity of the Commission of Sewers in Romney Marsh and the Pevensey Levels after the Black Death; note that no year has more than 2 commissions.

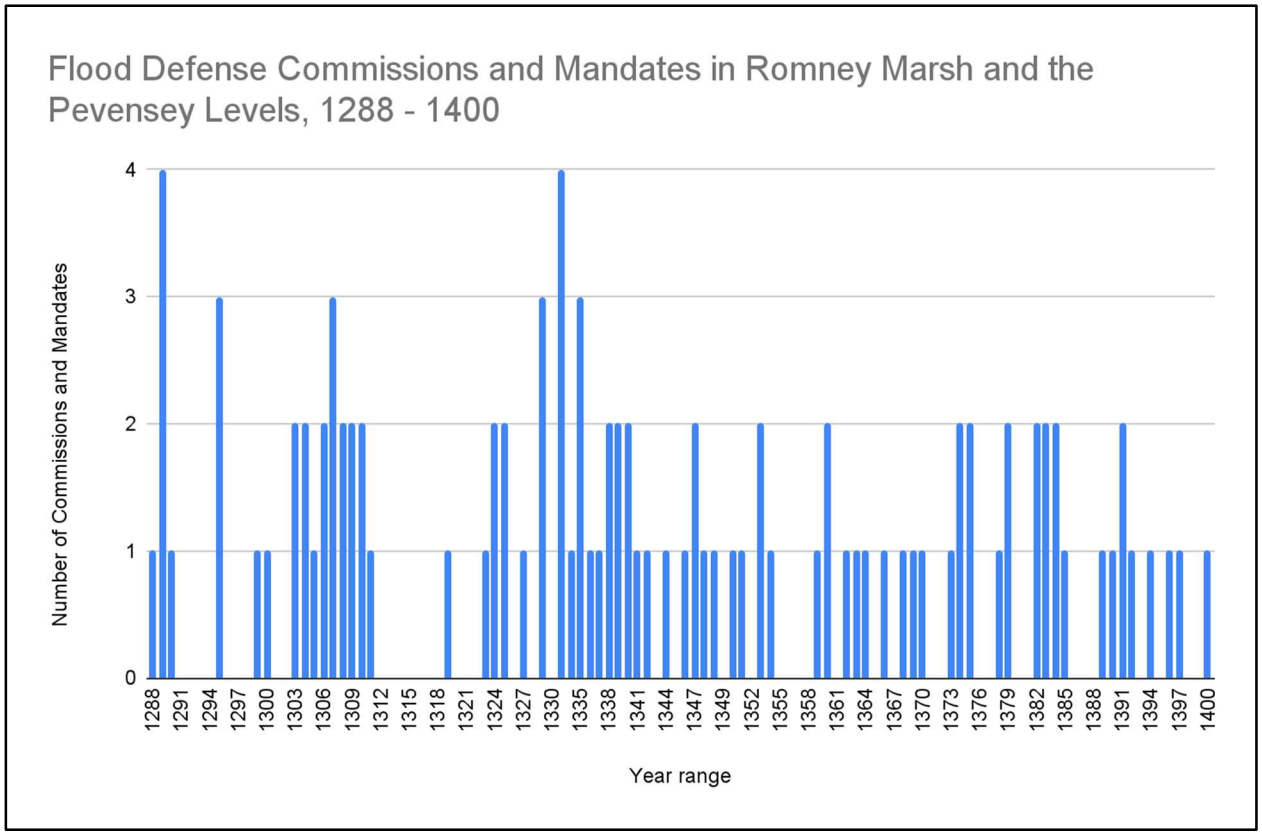

Figure 8: All commissions of sewers; there is a steep dropoff after 1335, after which point there are never more than 2 commissions in a given year. However, the commissions become more consistent from 1331 onward, in that there are smaller gaps between commissions.

While there appear to be many more gaps, and longer gaps, in the earlier period, in actuality the rate of commissions remained about the same. In the 59 and a half years between 1288 - June 1348, there were 24 years when no commissions were issued, meaning that approximately 40% of years saw no commissions. Similarly, in the 51 and a half years between June 1348 - 1400, there were 22 years with no commissions, meaning that approximately 43% of years had no commissions. This is an approximately 7.2% increase in the number of years with no commissions. Taken with the 23% drop in commissions, it is clear that less work was being mandated by the Crown. However, this does not necessarily indicate that land defences were being neglected, as seen in Figure 9. Of the 40 commissions issued in the later period, 9 of them

were issued in July, accounting for 22.5%, nearly a quarter of all works. Indeed, in the later period, a full 40% of the commissions are issued between May and July, whereas in the earlier period, only about 30% of the commissions took place during those months. It appears that by the later period, the commissions of sewers were becoming more proactive, issuing mandates and commissions in the drier summer months to prepare for winter precipitation.

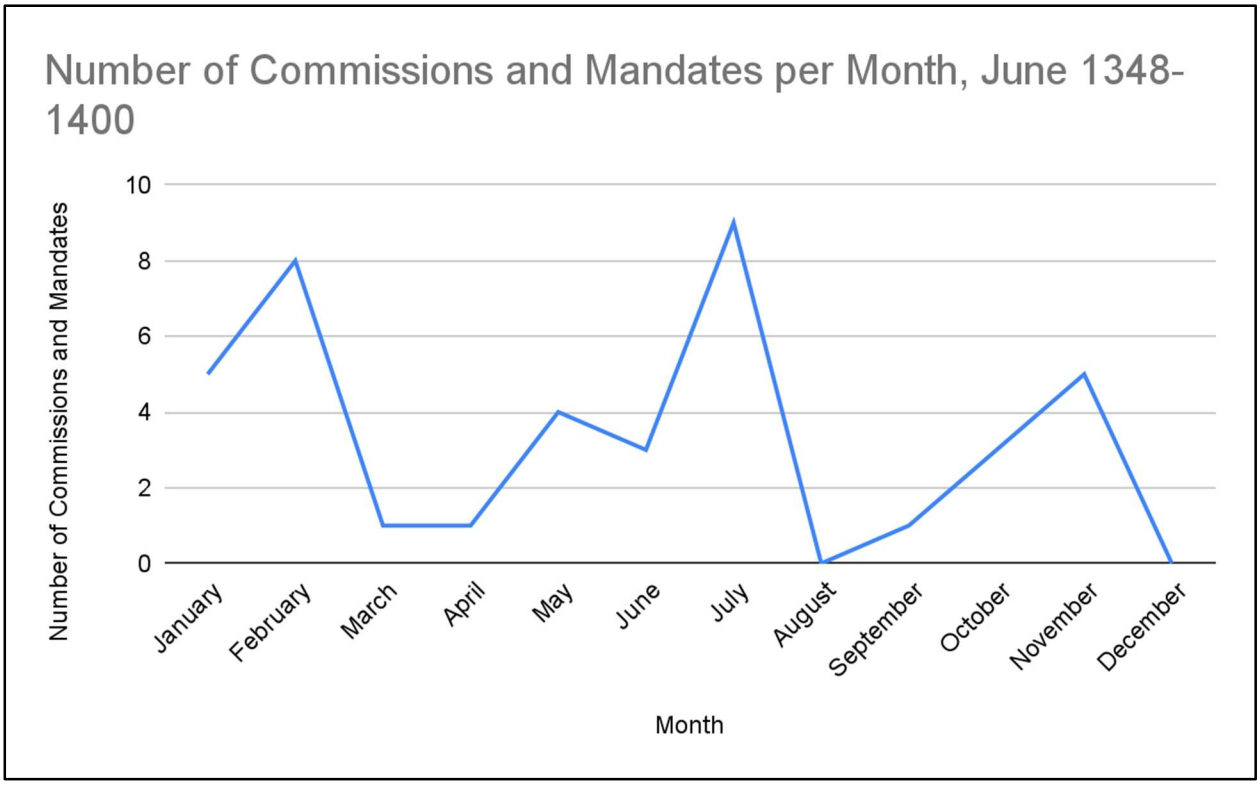

Figure 9: Commissions and mandates by month; note the increased summer activity.

This proactive approach was likely a result of experience since 1288, along with the realities of population decline, and finally, with shifting priorities. After nearly sixty years of commissions, it is possible that the value of proactive management was considered more strongly. Furthermore, as discussed below, flooding could make transportation of goods and people more difficult, and in light of the Hundred Years War, the flood defences had to be maintained to ensure good supply lines. Furthermore, in the earlier period, there was a large population available to provide labour for damaged flood defences. As such, it was possible to defend the land from inundation in a reactive way, dealing with issues as they arose, because many people could be recruited. However, in the aftermath of the Black Death, more careful planning was required. The available workforce was smaller, so a proactive approach had to be

taken to make sure they were not overwhelmed after a flood event. However, there is also the possibility that priorities for drainage simply shifted. For example, Galloway has shown that the Thames estuary region of Kent, just north of the region of this study, received relatively little attention from the commissions of sewers prior to the 1350s, but that from 1350-1379 there were 67 commissions for the area.[554] This would indicate an average of 2.3 commissions per year, far above the rates in Romney Marsh or the Pevensey Levels during this same time frame. However, the relative paucity of commissions in this period can also be explained by the increased emphasis local elites placed on drainage at this time.

In many cases, local landholders took it upon themselves to defend their lands without the need for commissions to be issued to them. After investing so much into draining the marshlands in the first place, it makes sense that landlords did what they could to maintain and even expand their defences. For example, the Archbishop of Canterbury's manor of Aldington in Romney Marsh was continually expanded from the twelfth through the sixteenth century by continuously reclaiming salt marsh.[555] In another case, Robertsbridge Abbey, Christ Church Priory, and the Archbishop of Canterbury spent £222 in 1390 to enclose 107 acres of marshland in Kent, and a few years later spent another £359 to enclose 566 acres in Romney Marsh.[556] Similarly in Sussex in the Pevensey Levels, the manor of Barnhorne built and repaired sea walls in 1353, 1374, and 1375, so that by the 1380s 40% of their arable land was on former marshlands, and by 1396, 60% of their arable land was formerly marsh.[557] In another case

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[554]Galloway, "Storms, economics, and environmental change," 10.
[555]T. Tatton-Brown, "Church building on Romney Marsh in the later Middle Ages," *Archaeologia Cantiana* 107 (1989), 261.
[556]Mark Gardiner, "Settlement Change on Denge and Walland Marshes, 1400–1550," in *Romney Marsh: Environmental Change and Human Occupation in a Coastal Lowland* (Oxford: Oxford University Committee for Archaeology, 1998), 130.
[557]Stephen Rippon, "Adaptation to a Changing Environment: The Response of Marshland Communities to the late Medieval 'Crisis'," *Journal of Wetland Archaeology* 1, no. 1 (2001), 22.

c.1400, Battle Abbey spent 45s. on ditching (*fossatum*) at Barnehorne.[558] Similarly, they spent 12s. in ditching at Bodiam,[559] and in 1366, Battle spent 47s. on repairing the walls (*walliis)* near Gateberg.[560]Where such investments could be made, they could be very profitable. As grain prices rose in the second half of the fourteenth century, landowners who could afford to invest heavily in flood defences could enjoy substantial profits off of their grain harvests, provided they had enough labour available, especially since drained wetland soils produced high crop yields. Indeed, selling grain both within England and across the channel was the impetus for the continued demesne drainage of Appledore and Fairfield in the late fourteenth century, two Romney marsh manors held by Christ Church Priory.[561] Of course, this strategy was only possible for wealthy landholders who had the resources to invest in flood defence. Therefore, in many cases, these same defences were destroyed or intentionally neglected as a form of resistance to these authorities and their interests.

5.4.2 Drainage Destruction and Negligence as Resistance After the Black Death

Similarly to the period before the Black Death, the later fourteenth century also saw drainage infrastructure become a site of destruction and negligence, possibly as a show of resistance and retribution towards both the Crown and towards local elites. However, these instances are relatively few and far between as compared to the earlier period. For example, on February 18 1352, a commission of oyer and terminer was issued with regards to

" the persons who broke Queen Philippa's parks and closes at Bristol, Radcliff, Kingeswode, Fittelwode, Istelworth, Langele Marreys, Wyrardesbury, Bray, Cokham, Stratfield, Mortimer, **Pevenseye,** Wylyndon, Marsfeld, Saham, Estwode, Rayleigh, Rocheford, Haveryng atte Boure, Rokyngham, Dyvyses, Melkesham, Cippenham, Peusham, Roude, Marlebergh, Selkele, Savernak, Sevenhampton, Stratton, Crickelade, Hauteworth, Feckenham, Gillyngham, Banstede,

[558] ESRO: AMS 4925.
[559] ESRO: AMS 4919.
[560] ESRO: AMS 4906.
[561]Bruce M. S. Campbell, "Matching Supply to Demand: Crop Production and Disposal by English Demesnes in the century of the Black Death," *The Journal of Economic History* 57, no. 4 (1997), 847.

Southampton, Lyndhurst, Odiham, Rodebrigge, Ludegarshale, Tiderle, Lokerlee, Middleton, Newenton, Wyghton, Northgrenehoo, Hodesdon, Wykes and Fraunketon, and entered her free warren there, hunted in the parks and warrens and in her free chaces, felled her trees, fished in her several fisheries there and carried away fish therefrom, the said trees and other goods, as well as royal fish and wreck of the sea pertaining to her, deer from the parks and chaces and bares, rabbits, pheasants and partridges from the warrens, trode down and consumed her crops, rescued distraints taken by her servants and ministers, and assaulted her men and servants whereby she lost their service for a great time."[562] (emphasis mine)

These damages were extensive and far afield, and display an attack on the Queen's lands. With regards to Pevensey in particular, the damages would have likely been the taking of fish from both the sea and any undrained portions of the marsh. Considering the extent of the damages to the Queen's lands, these acts appear to have been politically motivated. Indeed, in 1351 parliament passed the Statute of Labourers, which limited the movement of workers searching for better conditions, and prohibited both requesting and offering wages higher than pre-Black Death compensation.[563] It is likely that these damages were in response to the attempt to curtail any gains labourers had attained after the plague.

Another instance of purposeful destruction occurred in York in 1390.[564] With regards to negligence, there was a complaint from Wynchelsea on July 16 1379

" that a common way called 'Copgreys' leading from Wynchelse to Bataille, and a marsh called 'Dynsdale' between Wynchelse and Hastings, for want of repair are destroyed by inundations of the sea, not only to the damage of the inhabitants, but to the great danger of the town in the event of invasions, as succour from people of the neighbourhood would be cut off; with power to compel by distrant and fines those who refuse to contribute, as in the case in respect to Romeney marsh."[565]

To rectify the situation, a commission of oyer and terminer was issued to the abbot of Battle, Robert Bealknap, and William Battesford.[566] While the commission notes that the destruction of

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[562]CPR, 1350-1354, 288.
[563]L.R. Poos, "The Social Context of Statute of Labourers Enforcement," *Law and History Review* 1, no. 1 (1983): 27–52.
[564]CPR, 1388 - 1392, 219.
[565]CPR, 1377-1381, 416.
[566]CPR, 1377-1381, 416.

these defences would harm the inhabitants, the real concern appears to be that the towns would be cut off from one another by flooding, which would leave them vulnerable during times of invasion. Once again, it is possible that the inhabitants of the region did not actually benefit from the drainage of the former wetlands, and would have preferred to allow the area to become inundated once again. Indeed, in an instance in Lincoln on May 15 1376, the citizens and merchants of the town complained that

> " a dyke called "Fosdyke" extending from the water of Trente to the city of Lincoln, by which ships and boats with merchandise and victuals used to pass to and from that city, is now obstructed by some of those parts who have meadows and pastures on both sides of the dyke taking their cattle in the summer across the dykes to pasture, and also by grass growing therein unusual quantity and the rising of the sant there, so that there now is no passage for ships and boats."[567]

While this example is outside of the scope of this study, it does provide a useful example of the ways in which the priorities of townsfolk and the priorities of peasants could be contradictory. In this case, the peasants were taking their animals to pasture, and did not benefit from the drainage infrastructure; indeed, it was in their best interests to allow the dykes to silt up and grow grass, making it easier for their livestock to move between pastures.[568] A similar situation is likely the case in the commission between Winchelsea and Hastings, where the local peasants did not benefit from the drainage, and so would not maintain it without being forced to do so.

Furthermore, commissions could be leveraged in order to avoid being recruited into other forms of service. For example, on January 17, 1391, there was

> "confirmation to the good men of Romeney Marsh of letters patent dated 28 November, 7 Edward II (CPR 7 Edward II pg 75-76), and granting in addition that no bailiff or jurate of Romeney Marsh shall be put on assizes, juries, inquisitions or recognitions in Kent or elsewhere, unless they concern the king, nor be made sheriff, escheator, bailiff, collector of tenths, fifteenths or other subsidies, officer or minister of the king, against his will, so long as he holds the office

[567]CPR, 1374-1377, 322.

[568]It seems that the land in question was either peasant holdings or common land, given that no individual is named; had this been demesne land, the landlord most likely would have been named as the one the complaint was being filed against. For examples, see William Barry's complaints above.

of bailiff or jutate of Romney, as through his absence, as the king is informed, the whole marsh might be flooded in a very short time."[569]

In this passage, the Crown agrees that the bailiffs and jurates of Romney Marsh will not be restationed or assigned additional positions, given that they are needed there constantly to maintain the drainage infrastructure of the wetland. In this way, the local administration was able to have its own priorities codified and guaranteed, and was able to protect their own interests.

While there are fewer examples of the destruction of drainage and its negligence in this period, as well as fewer instances of people using the commissions to pursue their own agendas, this does not mean that popular resistance did not occur. The Peasant's Revolt of 1381 is of course the prime example of popular uprisings at this time, but in general there was a rise in tensions between peasants and their landlords, whether through popular uprisings, or through increased instances of trespassing, poaching, and labour refusal.[570] Methods of resistance may simply have changed, and damage to drainage may have become a less popular way to show discontent or to assert priorities.

5.4.3 Land Use Alterations: Mixed Use Agriculture and Meadows

No matter the causes, the reality is that drainage infrastructure could not always be built and maintained well enough to reliably keep the land fully drained. In order to deal with the changing landscape, many manors had to alter their agricultural strategies. Of course, some regions of drained wetland continued to be defended and used exclusively for arable agriculture, as discussed above. However, by and large there was a trend towards changing land use

[569]CPR, 1388-1392, 368.

[570]For example, see Andrew Moore, "Manorial Regulation," 179 for discussion of an increase of trespass in areas adjacent to the Pevensey Levels; see also, Susan Kilby, "Mapping Peasant Discontent: Trespassing on Manorial Land in Fourteenth-Century Walsham-le-Willows," *Landscape History* 36, no. 2 (2015), 69-88; M. Muller, "Conflict and Revolt: The Bishop of Ely and his Peasants at the Manor of Brandon in Suffolk c. 1300-81," *Rural History, 23*(1) (2012), 1-19.

strategies to mitigate the risks of climate change and flooding. These different strategies can be broadly defined as switching from arable land to mixed-use agriculture, converting arable land into meadows for grazing, or turning the land into parks.

To begin, the shift from arable to mixed-use agriculture was seen across England in the later Middle Ages. When discussing demesne farming, Campbell has shown that before 1350, 20% of desmenses relied entirely on arable husbandry, with their only livestock being working animals; however, after 1349, only 10% relied entirely on arable.[571] As seen in figures 10 and 11, the demesne lands of Romney Marsh and the Pevensey Levels all used either extensive mixed farming or mixed-farming with sheep. In either case, the reclaimed wetlands were being used to rear animals as well as grow crops. The rich alluvial soil would have provided nutritious grazing for a variety of livestock, and raising livestock would have minimised the risks of flooding and crop failure, since livestock can still graze on an inundated wetland, so long as the area is not completely submerged into the sea, whereas crops would be damaged by even minor flooding. Furthermore, raising livestock required fewer labourers than arable husbandry. This land use strategy was used by landlords both to make up for the smaller population after the Black Death, and to cut costs on wages.

[571]Bruce M. S. Campbell, Kenneth C. Bartley, and John P. Power, "The Demesne-Farming Systems of post-Black Death England: A Classification," *The Agricultural History Review* (1996): 171.

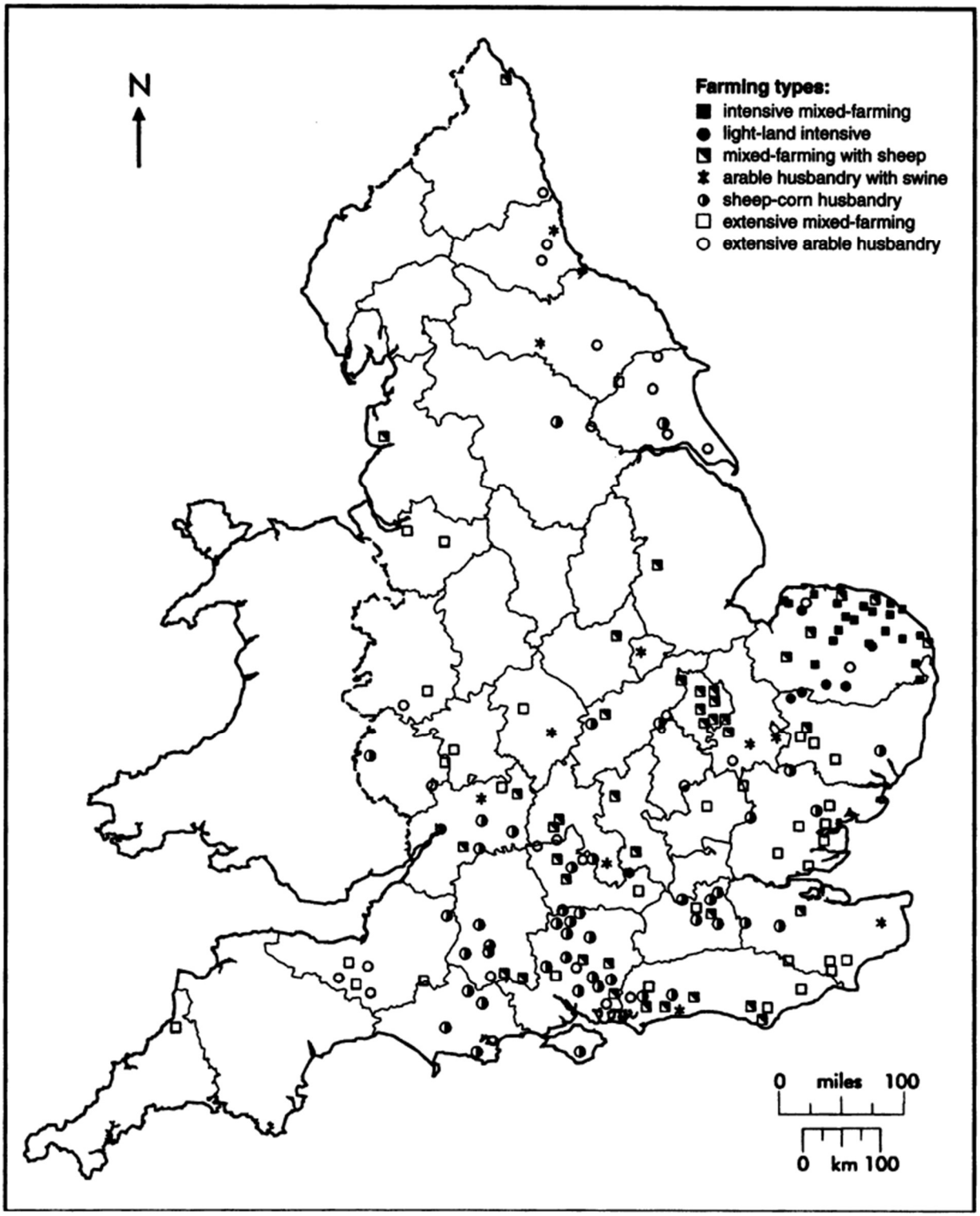

Figure 10: National farming types on core demesnes, 1350-1449, taken from Campbell, Bruce MS, Kenneth C. Bartley, and John P. Power. "The demesne-farming systems of post-Black Death England: a classification." *The Agricultural History Review* (1996): 145.

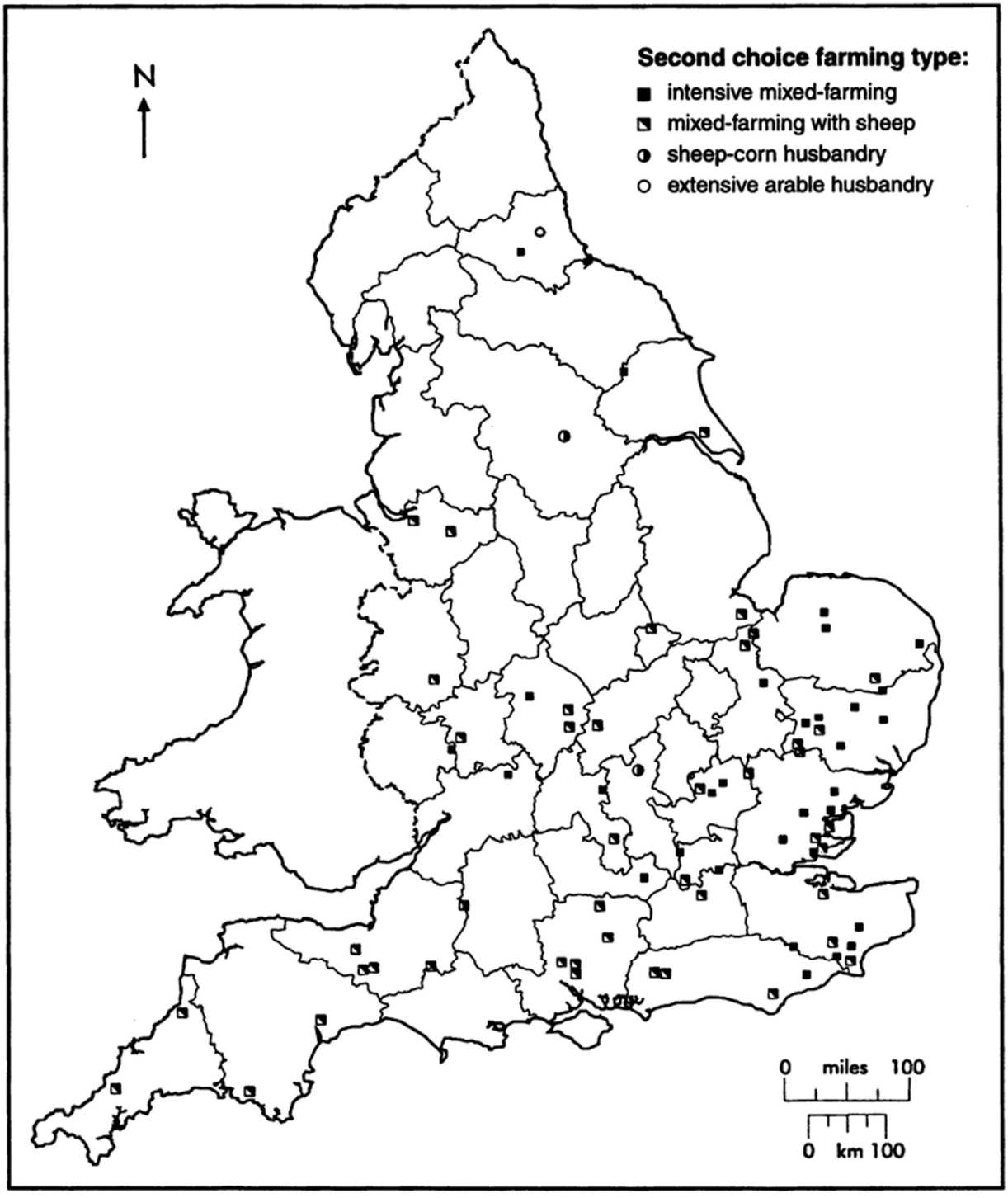

Figure 11: Extensive mixed-farming demesnes, 1350-1449 (core and peripheral demesnes indicating second choice), taken from Campbell, Bruce MS, Kenneth C. Bartley, and John P. Power. "The demesne-farming systems of post-Black Death England: a classification." *The Agricultural History Review* (1996): 168.

Of course, elite landholders were not the only ones to change their land use strategies when faced with the crises of the second half of the fourteenth century. As the prices of meat, dairy, and wool steadily rose, peasant landholders in Kent invested in mixed used agriculture, so that even if their crops failed, they could sell their animal products for income.[572] Likewise in the Pevensey Levels, sheep became increasingly important, and flocks grew larger in the late fourteenth century while the amount of land used for arable cultivation grew smaller.[573] Through reducing the reliance on grain crops and instead pursuing a program of mixed use agriculture, the risk of flooding was able to be mitigated, at least to a degree.

5.4.4 Land Abandonment: Deserted Settlements, Rising Sea Levels, and Marshlands Restored

Of course, there were situations where it was simply not possible to defend the land from the encroaching sea and relentless storms, and in those instances villages were left deserted and land reverted to saltmarsh and sea. Adding to the environmental conditions was the shrinking population created by the Black Death and subsequent outbreaks of plague. With the water levels rising and the labour force shrinking, it was simply not possible in some cases to maintain drainage. For example, when the French invaded the Sussex coast in 1380, it was difficult to repel them since "the numbers of the Commons had been terribly reduced by the devastations of the Black Death in 1349, and the two later outbreaks of plague in 1361 and 1366, so much so indeed that nine townships on the sea coast within the rape of Pevensey which had formerly been of great assistance in repelling invasions became desolate and uninhabited."[574] While efforts were made to keep the Pevensey Levels drained, as discussed above with regards to Barnhorn, it

[572]Mate, The Economy of Kent, 1200-1500: The Aftermath of the Black Death, 11.
[573]Gardiner, "Settlement Change", 131.
[574]Page, *Victoria County History: Sussex,* 601.

eventually became impossible. Indeed, by the early fifteenth century, there was a withdrawal from the Pevensey Levels, and even Barnhorn had given up arable agriculture by 1421.[575] The encroachment of the sea also forced the depopulation and desertion of villages such as Northeye and Hydneye.[576] In some instances, marshland landlords were able to rent out their remaining land to townsfolk, who then used the land for pasture and parks. For example, on September 29th, 1400, John Chitecroft, esqire, leased his park in the Pevensey Levels to John Stanynden of Rye, a nearby town, for £10; the lease makes no mention of agriculture, and only stipulates that John of Standynden may "may hunt foxes and hares and hawk and fish."[577] In this instance, then, the Pevensey Levels were not being inhabited and used by communities, but were instead a place for a townsman to hunt and fish for sport. In this way, by c.1400, the Pevensey Levels were depopulated and served as parks and pastures.

However, in some cases only the settlements were abandoned, while the land itself remained in use. For example, Romney Marsh's population in 1400 was only 66% of what it had been in 1348, yet all the land was still being used as either grazing land or for arable agriculture.[578] For example, the villages of Midley, Eastbridge, Orgarswick, Blackmanstone, and Orlestone were all deserted.[579] After the Black Death and into the late fourteenth century, many settlements in the marsh were left deserted, but in a strange pattern. Indeed, Beresford commented that it was rare for a deserted village to have "other deserted villages on every side

[575]P. Brandon, 'Agriculture and the Effects of Floods and Weather at Barnhorne, Sussex, during the later Middle Ages', *Sussex Archaeological Collections* 109 (1971), 69–93.
[576]G. R. Burleigh, "An Introduction to Deserted Medieval Villages in East Sussex," *Sussex Archaeological Collections* 111 (1973), 72.
[577] ESRO: AMS 5592/98; "venari vulpes et lepores et accipiter et piscem." My translation.
[578]Mate, The Economy of Kent, 1200-1500: The Aftermath of the Black Death, 16.
[579]Maurice Warwick Beresford and John G. Hurst, *Deserted Medieval Villages,* (London: Lutterworth press, 1971), 191.

of it," yet that was the case in Romney Marsh.[580] By the end of the fourteenth century, then, Romney Marsh was significantly depopulated, and collections of villages were deserted, yet all the land remained embanked and in use. The reason this was possible was because of the decline of the gavelkind family holdings paired with the growth of large ecclesiastic holdings. Many settlements of smallholders would have seen their populations greatly reduced by the Black Death, and in desperation many people would have had to sell their land. Large ecclesiastic landlords had the wealth and resources to withstand the shocks of both the plague and the worsening environment. As discussed above, Christ Church Priory and the Archbishop of Canterbury invested heavily in Romney Marsh. Battle Abbey also continued to directly manage their holdings in Romney Marsh through the late fourteenth century, only leasing them sporadically.[581] There were some emerging yeomen farmers who were able to rent out grazing land on the marsh from the large ecclesiastic landholders, and made income off of being graziers and butchers, but even they typically lived off the marsh.[582] In the end, by the beginning of the fifteenth century, Romney Marsh had been almost entirely converted into sheep pasture.[583]

5.5 Conclusion

The period from the late thirteenth century until the end of the fourteenth was a volatile era, with a cooling climate, worsening weather, famine, plague, and war creating a crisis. The wetlands were not spared from the turmoil of the time; indeed, the extensive drainage efforts of the thirteenth century left these regions even more vulnerable to storms and flooding. While extensive efforts were made by the Crown and at the local level, it was not always possible to

[580]Beresford and Hurst, *Deserted Medieval Villages,* 20.
[581]Barber and Priestley-Bell, *Medieval Adaptation,* 21.
[582]Rippon, "Adapting to a changing environment," 27.
[583]Tatton-Brown, "Church building on Romney Marsh," 259.

maintain drainage, and some of the land was swallowed by the sea or reverted back to marshland. While elite landholders were able to capitalise on the crises of the fourteenth century, smallholders and the landless were hit the hardest by these forces, and were often pushed off the land. However, as seen in the patent rolls, they did find ways to resist encroachments on their way of life, at least for a short while. In the end, both the Pevensey Levels and Romney Marsh became, by and large, pasturage for large landholders, while the smallholders, saltmakers, fishers and foragers had to seek out other means of subsistence.

Conclusion

A wetland is not merely mud and earth and watery courses; it is a landscape teeming with life, whether fish or fowl or rushes and reeds. It is an ecosystem that supports not only the local flora and fauna, but also the people who make there homes in this environment. While medieval literary descriptions of wetlands tended towards the negative, there was a certain ambivalence. While these regions were acknowledged as being dangerous for both their physical realities and the imagined monsters within, they could also be sites of refuge and sanctity. The wetlands thus existed as a paradox, where the same environment could be a place of good or evil, depending upon the understanding and intentions of those involved. Furthermore, the risks and trials of the wetland seems to have been exaggerated by the monastic communities who dwelt in or near these regions, and was used as a way to signal their piety and faith.

However, no matter how ambivalent the views towards this landscape skewed, the lived reality was often one of prosperity. People from all social statuses benefitted from the wetland environment. Whether through fishing, fowling, foraging, salt production, or grazing animals, there was a great deal of profit to be made in the marsh. Wealthy landlords could access high status foods such as crane and whale in the coastal wetlands, and their ownership of high quality pasture and salt pans could yield high financial rewards. Likewise, peasants benefitted from the by-occupations available to them, as well as the wild resources of the environment. Indeed, particularly for the poor and the landless, the wild foods of the wetland and the occupations associated therein would have been key to survival.

That is not to say, of course, that there were no real drawbacks to living in the marshes. Endemic malaria was a debilitating factor of life for those who lived in these environments. The presence of abundant mosquitos allowed the parasite that causes malaria to spread in these regions, resulting a population who had to cope with cyclical fevers and chills, as well as

complaints of the spleen. The presence of this disease made it difficult for outsiders to live in the wetlands, as catching the disease as an adult left one more likely to die as a result. As such, wetland communities were distinct and removed from their upland counterparts; the environment thus made them physically different from outsiders, and the liminal state of their bodies, which were not quite healthy and not quite sick, reflected the liminal nature of the marshlands. The presence of this disease impacted local religious practice, and involved knowledge of how to care for the symptoms of malaria. Indeed, the remedies for this disease and its associated symptoms remained quite consistent over the period, suggesting a long running tradition of medical care for these ailments. It would be tempting to believe that endemic malaria was one of the reasons these wetlands were eventually drained, but this does not appear to be the case.

In the earlier period of this study, prior to c.1280, drainage was driven by both peasants and elites. Elite landlords would created ad hoc agreements to drain certain portions of their land and defend it from inundation. Similarly, particularly in Romney Marsh, landholding peasants could work together to drain land on adjacent holdings, thus extending the grazing season or creating more arable land. The motivations behind this drainage were mainly financial, as peasants and elites alike could sell drained land for a higher price than a natural wetland. Furthermore, elites were able to gain status from draining these areas, since wetlands were viewed as less civilised than drained, preferably arable, land. There were drawbacks to this drainage, in that it made the land more vulnerable to coastal flooding, and also deprived the poorest peasants of their means of subsistence. However, as the Little Ice Age began and storms increased in frequency and intensity, the drive to drain only increased.

By 1280, the Commissions of Sewers were being used by the Crown to enforce drainage in the Pevensey Levels and Romney Marsh. The Crown had a vested interest in coastal defence

in particular, as flooding in these regions could cut off towns from supplies and thus leave them vulnerable to attacks and invasion. Furthermore, it was in the best interest of elite landlords to enclose and drain land and add it to their desmense; thus, the elites benefitted at the expense of the poor. While there was resistance to this drainage by way of neglect and outright destruction of drainage infrastructure, it was not enough to stop the draining of the wetlands. Indeed, particularly after the Black Death, resistance waned due to the decrease in population. Those peasants who survived often had to sell their land to cope with the devastation of the fourteenth-century crisis, thus further enriching elite landlords. By c.1400, the Pevensey Levels and Romney Marsh were no longer diverse ecosystems that supported people from all levels of society; instead, they were either lost to the sea due to the land being compacted by drainage, or were drained and levelled to be used by elites for pasture or other demesne agriculture. The peasants who had once been intimately tied to their landscape were forced to move on, and eke out a living elsewhere.

Thus, the story of drainage is not necessarily one of "improvement". Rather, it was a net benefit for elites in society, and a devastating loss for the poorest. The transformation of the wetlands from biologically diverse ecosystems which offered a variety of resources to all members of society, to flattened landscapes which only benefitted the wealthiest, was a precursor of what was to come with widespread enclosure. The story of the wetlands, then, is the story of how common people were alienated from the land they had lived upon since time immemorial, and how, though they tried to resist, were ultimately forced away, and the connection of people and their landscape was irrevocably severed.

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